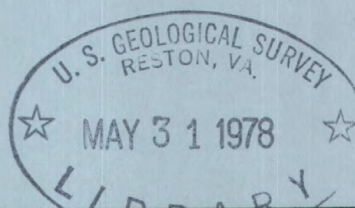
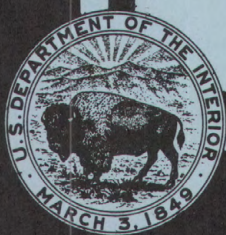


R
(200)
Ga3
OH10
1977
v.1

Water Resources Data for Ohio Water Year 1977

Volume 1. Ohio River Basin



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT OH-77-1

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

CALENDAR FOR WATER YEAR 1977

1 9 7 6

O C T O B E R

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

N O V E M B E R

| S | M | T | W | T | F | S |
|----|----|----|----|----|----|----|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | | | | |

D E C E M B E R

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

1 9 7 7

J A N U A R Y

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

F E B R U A R Y

| S | M | T | W | T | F | S |
|----|----|----|----|----|----|----|
| | | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | | | | | |

M A R C H

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

A P R I L

| S | M | T | W | T | F | S |
|----|----|----|----|----|----|----|
| | | | | | 1 | 2 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |

M A Y

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

J U N E

| S | M | T | W | T | F | S |
|----|----|----|----|----|----|----|
| | | | 1 | 2 | 3 | 4 |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 26 | 27 | 28 | 29 | 30 | | |

J U L Y

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

A U G U S T

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

S E P T E M B E R

| S | M | T | W | T | F | S |
|----|----|----|----|----|----|----|
| | | | | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 | |

Water Resources Data for Ohio

Water Year 1977

Volume 1. Ohio River Basin



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT OH-77-1

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

UNITED STATES DEPARTMENT OF THE INTERIOR

CECIL D. ANDRUS, Secretary

GEOLOGICAL SURVEY

W. A. Radlinski, Acting Director

For information on the water program in Ohio write to
District Chief, Water Resources Division
U.S. Geological Survey
975 West Third Avenue
Columbus, Ohio 43212

1978

PREFACE

This report was prepared by personnel of the Ohio district of the Water Resources Division of the U.S. Geological Survey under the supervision of J.F. Blakey, District Chief, succeeded by D.E. Click, and J.T. Llahan, Regional Hydrologist, Northeastern Region, succeeded by J.E. Biesecker. It was done in cooperation with the State of Ohio and with other agencies.

This report is one of a series issued by State. General direction for the series is by J.S. Cragwall, Jr., Chief Hydrologist, U.S. Geological Survey, and G.W. Whetstone, Assistant Chief Hydrologist for Scientific Publications and Data Management.

III

Data for Ohio are in two volumes as follows:

- Volume 1. Ohio River basin
- Volume 2. St. Lawrence River basin

| | | | |
|---|-------------------------------------|---|------------------------------|
| BIBLIOGRAPHIC DATA SHEET | 1. Report No. USGS/WRD/HD-78/010 | 2. | 3. Recipient's Accession No. |
| 4. Title and Subtitle Water Resources Data for Ohio, 1977 Volume 1. Ohio River basin | | 5. Report Date May 1978 | |
| | | 6. | |
| 7. Author(s) | | 8. Performing Organization Rept. No. USGS-WDR-OH-77-1 | |
| 9. Performing Organization Name and Address U.S. Geological Survey, Water Resources Division 975 West Third Avenue Columbus, Ohio 43212 | | 10. Project/Task/Work Unit No. | |
| | | 11. Contract/Grant No. | |
| 12. Sponsoring Organization Name and Address U.S. Geological Survey, Water Resources Division 975 West Third Avenue Columbus, Ohio 43212 | | 13. Type of Report & Period Covered Annual - Oct. 1, 1976 to Sept. 30, 1977 | |
| | | 14. | |
| 15. Supplementary Notes Prepared in cooperation with the State of Ohio and with other agencies. | | | |
| 16. Abstracts Water resources data for the 1977 water year for Ohio consist of records of stage discharge, and water quality of streams; stage, contents and water quality of lakes and reservoirs; and water levels and water quality of ground water. This report in the two volumes, contains discharge records for 164 gaging stations, stage and contents for 32 lakes and reservoirs; water quality for 157 gaging stations, 69 partial-record stations and 54 wells; and water levels for 54 observation wells. Also included are 67 crest-stage partial-record stations and 65 low-flow partial-record stations. Additional water data were collected at various sites, not involved in the systematic data collection program, and are published as miscellaneous measurements. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Ohio. | | | |
| 17. Key Words and Document Analysis. 17a. Descriptors *Ohio, *Hydrologic data, *Surface water, *Ground water, *Water quality, Flow rate, Gaging Stations, Lakes, Chemical analyses, Sediments, Water temperatures, Sampling sites, Water levels, Water analyses. | | | |
| 17b. Identifiers/Open-Ended Terms | | | |
| 17c. COSATI Field/Group | | | |
| 18. Availability Statement No restriction on distribution. This report may be purchased from: National Technical Information Service Springfield, VA 22161 | | 19. Security Class (This Report) UNCLASSIFIED | 21. No. of Pages |
| | | 20. Security Class (This Page) UNCLASSIFIED | 22. Price |

CONTENTS

| | Page |
|--|-------------------|
| Preface..... | III |
| List of hydrologic stations, in downstream order, for which records are published..... | VI |
| Introduction..... | 1 |
| Cooperation..... | 1 |
| Hydrologic conditions..... | 2 |
| Definition of terms..... | 2 |
| Downstream order and station number..... | 6 |
| Numbering system for wells and miscellaneous sites..... | 6 |
| Special network and programs..... | 7 |
| Explanation of water-discharge records..... | 7 |
| Collection and computation of data..... | 7 |
| Accuracy of field data and computed results..... | 9 |
| Other data available..... | 9 |
| Records of discharge collected by agencies other than the Geological Survey..... | 9 |
| Explanation of water-quality records..... | 10 |
| Collection and examination of data..... | 10 |
| Water analysis..... | 10 |
| Water temperature..... | 10 |
| Sediment..... | 10 |
| Explanation of ground-water level records..... | 11 |
| Collection of data..... | 11 |
| Publications on techniques of water-resources investigations..... | 12 |
| Station records..... | 16 |
| Discharge at partial-record stations and miscellaneous sites..... | 384 |
| Low-flow partial-record stations..... | 384 |
| Crest-stage partial-record stations..... | 414 |
| Discharge measurements at miscellaneous sites..... | 418 |
| Water-quality assessment of Rattlesnake Creek in the Scioto River basin..... | 419 |
| Ground-water records..... | 426 |
| Ground-water records in strip-mines..... | 473 |
| Chemical characteristics and biological indices of selected lakes..... | 513 |
| Index..... | 515 |
| Factors for converting English units to International System units (SI)..... | INSIDE BACK COVER |

ILLUSTRATIONS

| | |
|---|----|
| Figure 1. System for numbering wells and miscellaneous sites (latitude and longitude)..... | 6 |
| Figure 2. Map showing location of data collection stations..... | 14 |

VI HYDROLOGIC STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

[Letter after station name designates type of data: (d) discharge, (c) chemical, (b) biological, (m) microbiological, (t) water temperature, (s) sediment]

| | Page |
|--|------|
| <u>OHIO RIVER BASIN</u> | |
| Ohio River: | |
| BEAVER RIVER BASIN | |
| Mahoning River (head of Beaver River) at Alliance (dc)..... | 16 |
| Mahoning River below Berlin Dam, near Berlin Center (dc)..... | 18 |
| Mahoning River at Pricetown (dc)..... | 20 |
| Kale Creek near Pricetown (dc)..... | 22 |
| West Branch Mahoning River near Ravenna (dct)..... | 24 |
| West Branch Mahoning River below M.J. Kirwan Dam, at Wayland (dc)..... | 28 |
| West Branch Mahoning River near Newton Falls (dc)..... | 30 |
| Eagle Creek at Phalanx Station (dc)..... | 32 |
| Mahoning River above Duck Creek at Leavittsburg (ct)..... | 34 |
| Mahoning River at Leavittsburg (d)..... | 39 |
| Mosquito Creek below Mosquito Creek Dam, near Cortland (dc)..... | 40 |
| Mahoning River at Youngstown (dc)..... | 42 |
| Mahoning River at Lowellville (d)..... | 44 |
| Mahoning River at OH-PA State line below Lowellville (ct)..... | 46 |
| Shenango River: | |
| Pymatuning Creek at Kinsman (dc)..... | 52 |
| Reservoirs in Beaver River basin..... | 54 |
| LITTLE BEAVER CREEK BASIN | |
| Middle Fork Little Beaver Creek (head of Little Beaver Creek): | |
| West Fork Little Beaver Creek: | |
| Stateline Creek near Negley (dct)..... | 56 |
| Little Beaver Creek near East Liverpool (dct)..... | 64 |
| YELLOW CREEK BASIN | |
| Yellow Creek near Hammondsville (dc)..... | 68 |
| SHORT CREEK BASIN | |
| Short Creek near Dillonvale (dc)..... | 70 |
| CAPTINA CREEK BASIN | |
| Captina Creek at Armstrongs Mills (dc)..... | 72 |
| LITTLE MUSKINGUM RIVER BASIN | |
| Little Muskingum River at Bloomfield (dc)..... | 74 |
| MUSKINGUM RIVER BASIN | |
| Tuscarawas River (head of Muskingum River) at Clinton (dc)..... | 76 |
| Chippewa Creek at Easton (dc)..... | 78 |
| Tuscarawas River at Massillon (dc)..... | 80 |
| Tuscarawas River at Navarre (ct)..... | 82 |
| Sandy Creek at Waynesburg (dc)..... | 88 |
| <u>OHIO RIVER BASIN--Continued</u> | |
| MUSKINGUM RIVER BASIN--Continued | |
| Tuscarawas River--Continued | |
| Sandy Creek--Continued | |
| Middle Branch Nimishillen Creek (head of Nimishillen Creek) at Canton (dc)..... | 90 |
| Nimishillen Creek at North Industry (d)..... | 92 |
| Conotton Creek: | |
| McGuire Creek below Leesville Dam, near Leesville (dc)..... | 94 |
| Tuscarawas River below Dover Dam, near Dover (dc)..... | 96 |
| Sugar Creek below Beach City Dam, near Beach City (dc)..... | 98 |
| Sugar Creek at Strasburg (dc)..... | 100 |
| Beaver Dam Creek: | |
| Home Creek near New Philadelphia (dc)..... | 102 |
| Stillwater Creek at Piedmont (dc)..... | 104 |
| Stillwater Creek at Tippecanoe (dc)..... | 106 |
| Stillwater Creek at Uhrichsville (dc)..... | 108 |
| Little Stillwater Creek below Tappan Dam, at Tappan (dc)..... | 110 |
| Tuscarawas River at Newcomerstown (dc)..... | 112 |
| Black Fork (head of Walhonding River) below Charles Mill Dam, near Mifflin (dc)... | 114 |
| Rocky Fork: | |
| Touby Run at Mansfield (dc)..... | 116 |
| Black Fork at Loudonville (dct)..... | 118 |
| Clear Fork below Pleasant Hill Dam, near Perrysville (dc)..... | 120 |
| Mohican River (continuation of Black Fork): | |
| Lake Fork below Mohicanville Dam, near Mohicanville (dc)..... | 122 |
| Kokosing River: | |
| North Branch Kokosing River near Fredericktown (dc)..... | 124 |
| Kokosing River at Mount Vernon (dc)..... | 126 |
| Walhonding River (continuation of Mohican River) below Mohawk Dam, at Nellie (dc). | 128 |
| Killbuck Creek at Killbuck (dc)..... | 130 |
| Mill Creek near Coshocton (dc)..... | 132 |
| Muskingum River (continuation of Tuscarawas River) near Coshocton (dc)..... | 134 |
| <u>OHIO RIVER BASIN--Continued</u> | |
| MUSKINGUM RIVER BASIN--Continued | |
| Wills Creek: | |
| Seneca Fork below Senecaville Dam, near Senecaville (dc)..... | 136 |
| Wills Creek at Cambridge (d)..... | 138 |
| Salt Fork below Salt Fork Dam, near Cambridge (dc)..... | 140 |
| Wills Creek below Wills Creek Dam, at Wills Creek (dc)..... | 142 |
| Wakatomika Creek near Frazeyburg (dc)..... | 144 |
| Muskingum River at Dresden (dc)..... | 146 |
| South Fork Licking River (head of Licking River) near Hebron (dc)..... | 148 |
| North Fork Licking River at Utica (dc)..... | 150 |
| Licking River near Newark (dct)..... | 152 |
| Licking River below Dillon Dam, near Dillon Falls (dc)..... | 158 |
| Muskingum River at McConnellsville (dcbmts)..... | 160 |
| Reservoirs in Muskingum River basin..... | 169 |
| HOCKING RIVER BASIN | |
| Hocking River: | |
| Hunters Run at Lancaster (dc)..... | 174 |

| HYDROLOGIC STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED | VII |
|---|-----|
| Clear Creek near Rockbridge (dc)..... | 176 |
| Hocking River at Enterprise (dc)..... | 178 |
| Sunday Creek: | |
| East Branch Sunday Creek: | |
| Burr Oak Reservoir at Burr Oak..... | 180 |
| Sunday Creek at Gloucester (dc)..... | 182 |
| Hocking River below Athens (dct)..... | 184 |
| SHADE RIVER BASIN | |
| Shade River near Chester (dc)..... | 192 |
| RACCOON CREEK BASIN | |
| Raccoon Creek: | |
| Sandy Run above Big Four Hollow Creek near Lake Hope (dcts)..... | 194 |
| Big Four Hollow Creek near Lake Hope (dcts)..... | 200 |
| Sandy Run near Lake Hope (dcts)..... | 206 |
| Raccoon Creek at Adamsville (dct)..... | 212 |
| SCIOTO RIVER BASIN | |
| Scioto River near Prospect (dc)..... | 218 |
| Mill Creek near Bellepoint (dc)..... | 220 |
| Scioto River below O'Shaughnessy Dam near Dublin (dc)..... | 222 |
| Olentangy River at Claridon (dc)..... | 224 |
| Olentangy River near Delaware (dc)..... | 226 |
| Olentangy River near Worthington (dc)..... | 228 |
| Scioto River at Columbus (dc)..... | 230 |
| <u>OHIO RIVER BASIN--Continued</u> | |
| SCIOTO RIVER BASIN--Continued | |
| Big Walnut Creek at Central College (dc)..... | 232 |
| Alum Creek near Kilbourne (dc)..... | 234 |
| Alum Creek at Africa (dc)..... | 236 |
| Alum Creek at Columbus (dc)..... | 238 |
| Big Walnut Creek at Rees (dc)..... | 240 |
| Scioto River below Shadeville (ct)..... | 242 |
| Big Darby Creek at Darbyville (dc)..... | 248 |
| Scioto River at Circleville (dc)..... | 250 |
| Deer Creek at Mount Sterling (dc)..... | 252 |
| Deer Creek near Pancoastburg (dc)..... | 254 |
| Deer Creek at Williamsport (dc)..... | 256 |
| Scioto River at Chillicothe (dct)..... | 258 |
| Paint Creek near Greenfield (dct)..... | 264 |
| Rattlesnake Creek at Centerfield (dct)..... | 268 |
| Paint Creek below Paint Creek Dam, near Bainbridge (dc)..... | 272 |
| Rocky Fork near Barretts Mills (dc)..... | 274 |
| Paint Creek near Bourneville (dc)..... | 276 |
| Scioto River at Higby (dcbmts)..... | 278 |
| Salt Creek: | |
| Pike Run: | |
| Tar Hollow Creek at Tar Hollow State Park (dc)..... | 286 |
| Reservoirs in Scioto River basin..... | 288 |
| UPPER TWIN CREEK BASIN | |
| Upper Twin Creek at McGaw (dcbmts)..... | 292 |
| OHIO BRUSH CREEK BASIN | |
| Ohio Brush Creek near West Union (dc)..... | 300 |
| WHITEOAK CREEK BASIN | |
| Whiteoak Creek near Georgetown (dc)..... | 302 |
| LITTLE MIAMI RIVER BASIN | |
| Little Miami River near Oldtown (dc)..... | 304 |
| Massies Creek at Wilberforce (dc)..... | 306 |
| Little Miami River near Spring Valley (dct)..... | 308 |
| <u>OHIO RIVER BASIN--Continued</u> | |
| LITTLE MIAMI RIVER BASIN--Continued | |
| Caesar Creek near Xenia (dc)..... | 314 |
| Anderson Fork near New Burlington (dc)..... | 316 |
| Little Miami River at Milford (dcbmts)..... | 318 |
| East Fork Little Miami River near Marathon (dc)..... | 326 |
| East Fork Little Miami River near Batavia (dc)..... | 328 |
| East Fork Little Miami River at Perintown (dc)..... | 330 |
| MILL CREEK BASIN | |
| Mill Creek at Reading (dc)..... | 332 |
| West Fork Mill Creek Lake near Greenhills..... | 334 |
| West Fork Mill Creek at Woodlawn (dc)..... | 336 |
| Mill Creek at Carthage (dc)..... | 338 |
| GREAT MIAMI RIVER BASIN | |
| Great Miami River: | |
| Bokengehalas Creek near De Graff (d)..... | 340 |
| Great Miami River at Sidney (d)..... | 341 |
| Loramie Creek near Newport (d)..... | 342 |
| Loramie Creek at Lockington (d)..... | 343 |
| Great Miami River at Troy (d)..... | 344 |
| Great Miami River at Taylorsville (d)..... | 345 |
| Stillwater River: | |
| Greenville Creek near Bradford (d)..... | 346 |
| Stillwater River at Pleasant Hill (d)..... | 347 |
| Stillwater River at Englewood (d)..... | 348 |
| Mad River at Zanesfield (dc)..... | 350 |
| Mad River near Urbana (d)..... | 352 |
| Mad River (at St. Paris Pike) at Eagle City (dc)..... | 354 |
| C.J. Brown Reservoir near Springfield..... | 356 |
| Mad River near Springfield (d)..... | 357 |
| Mad River near Dayton (dct)..... | 358 |
| Great Miami River at Dayton (d)..... | 364 |
| Wolf Creek at Trotwood (d)..... | 365 |
| Great Miami River at Miamisburg (d)..... | 366 |
| Great Miami River near Miamisburg (ct)..... | 367 |
| Twin Creek near Ingomar (d)..... | 372 |
| Twin Creek near Germantown (d)..... | 373 |

VIII HYDROLOGIC STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

| | |
|---|-----|
| Fourmile Creek: | |
| Sevenmile Creek at Camden (d)..... | 374 |
| Great Miami River at Hamilton (dt)..... | 375 |
| Great Miami River at New Baltimore (cbmts)..... | 376 |

WATER RESOURCES DATA FOR OHIO, 1977

INTRODUCTION

Water resources data for the 1977 water year for Ohio consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and water levels and water quality of ground water. This report, in two volumes, contains discharge records for 164 gaging stations; stage and contents for 32 lakes and reservoirs; water quality for 157 gaging stations, 69 partial-record stations, and 54 wells; and water levels for 54 observation wells. Also included are 67 crest-stage partial-record stations and 65 low-flow partial-record stations. Additional water data were collected at various sites, not involved in the systematic data collection program, and are published as miscellaneous measurements. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Ohio.

Records of discharge or stage of streams, and contents or stage of lakes and reservoirs were first published in a series of U.S. Geological Survey water-supply papers entitled "Surface Water Supply of the United States." Through September 30, 1960, these water-supply papers were in an annual series and then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperatures, and suspended sediment were published from 1941 to 1970 in an annual series of water-supply papers entitled "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1974 in a series of water-supply papers entitled "Ground-Water Levels in the United States." Water-supply papers may be consulted in the libraries of the principal cities in the United States or may be purchased from Branch of Distribution, U.S. Geological Survey, 604 South Pickett Street, Alexandria, Va. 22304.

For water years 1961 through 1974, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records for water years 1964 through 1974 were similarly released either in separate reports or in conjunction with streamflow records. Beginning with the 1975 water year, water data for streamflow, water quality, and ground water are published as an official Survey report on a State-boundary basis. These official Survey reports carry an identification number consisting of the two letter State abbreviation, the last two digits of the water year, and the volume number. For example, this report is identified as "U.S. Geological Survey Water-Data Report OH-77-1." Water-Data reports are for sale by the National Technical Information Service, U.S. Department of Commerce, Springfield, Va. 22161.

COOPERATION

The U.S. Geological Survey and organizations of the State of Ohio have had cooperative agreements for the systematic collection of streamflow records since 1898, for ground-water levels since 1936, and for water-quality records since 1946. Organizations that assisted in collecting data through cooperative agreement with the Survey are:

Ohio Department of Natural Resources, R.W. Teater, director, through Division of Water, W.S. Nichols, chief.

Ohio Environmental Protection Agency, N.E. Williams, director, through Division of Surveillance and Laboratory Services, Terry Voss, chief.

Ohio Department of Transportation, R.D. Jackson, director, through Division of Highway, L.R. Talbert, engineer for research and development.

Miami Conservancy District, L.B. Coy, general manager and secretary.

Three Rivers Watershed District, G.H. Watkins, secretary-treasurer.

City of Columbus Department of Public Service, R.C. Parkinson, director, through Division of Water, Jack Holt, superintendent.

City of Toledo, J.B. Daken, city manager, through Department of Public Utilities, M.B. Tennant, commissioner of water reclamation.

City of Canton Water Department, J.D. Williams, superintendent.

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army in collecting records for 142 hydrologic-data stations in this report, by the Agricultural Research Service, U.S. Department of Agriculture for 40 stations, by the Soil Conservation Service, U.S. Department of Agriculture for 7 stations, by the Environmental Protection Agency for 3 stations, and by the International Joint Commission, U.S. Department of State for 1 station.

Organizations that supplied data are acknowledged in station descriptions.

HYDROLOGIC CONDITIONS

At the start of the 1977 water year, streamflow was excessive in the central and eastern parts of the State. Below normal precipitation during the fall months gradually reduced streamflow until all index stations were reporting runoff well below average except in the most eastern part of the State.

One of the severest winters of record resulted in all stations reporting deficient runoff during January and most of February. A warming trend starting February 21 accompanied by precipitation starting on the 23rd resulted in a gradual movement of ice out of the channels and by March all streams were reporting normal runoff.

Heavy rains during the latter part of April caused excessive runoff in northwest and eastern Ohio. Below normal precipitation resulted in deficient runoff throughout the State during June and July. Increased precipitation resulted in excessive runoff in all but western Ohio at the close of the water year.

Ground-water levels in general reflected seasonal changes except for the northeastern area where a record low for the month of May occurred.

DEFINITION OF TERMS

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

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

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

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

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

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

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

Fecal streptococcal bacteria are bacteria found also in intestines of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C \pm 1.0°C on M-enterococcus medium (nutrient medium for

bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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

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

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

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

Bottom material: See Bed material.

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

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

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

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

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

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

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

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

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

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

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

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

Dissolved refers to the amount of substance present in true chemical solution. In practice, however, the term includes all forms of substance that will pass through a 0.45-micrometer membrane filter, and thus may include some very small (colloidal) suspended particles. Analyses are performed on filtered samples.

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

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

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

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

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

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

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

Micrograms per gram (UG/G, ug/g) is a unit expressing the concentration of a chemical element as the mass (micrograms) of the element sorbed per unit mass (gram) of sediment.

Micrograms per kilogram (UG/KG, ug/kg) is a unit expressing the concentration of a chemical element as the mass (micrograms) of the element sorbed per unit mass (kilogram) of bottom material.

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

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

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

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

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

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

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

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

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

The classification is as follows:

| Classification | Size (mm) | Method of analysis |
|----------------|-----------------|-------------------------|
| Clay..... | 0.00024 - 0.004 | Sedimentation. |
| Silt..... | .004 - .062 | Sedimentation. |
| Sand..... | .062 - 2.0 | Sedimentation or sieve. |
| Gravel..... | 2.0 - 64.0 | Sieve. |

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

WRD is used as an abbreviation for "Water-Resources Data" in the REVISED RECORDS paragraph to refer to State annual basic-data reports published before 1976.

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

DOWNSTREAM ORDER AND STATION NUMBER

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

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete 8-digit number for each station such as 03041000, which appears just to the left of the station name, includes the 2-digit part number "03" plus the 6-digit downstream order number "041000".

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

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.

The well and miscellaneous site numbering system of the U.S. Geological Survey 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, the next 7 digits denote degrees, minutes, and seconds of longitude, and the last 2 digits (assigned sequentially) identify the wells or other sites within a 1-second grid. See figure 1.

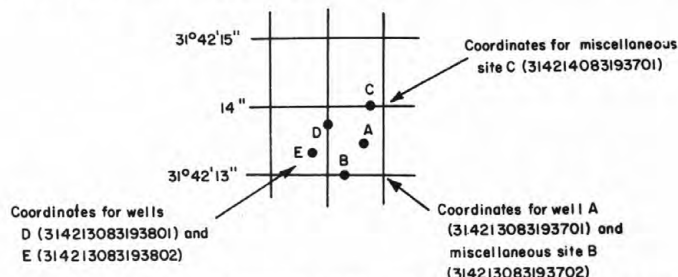


Figure 1.--System for numbering wells and miscellaneous sites (latitude and longitude)

SPECIAL NETWORKS AND PROGRAMS

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

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

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

EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and computation of data

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents 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 either direct readings on a nonrecording gage or from a water-stage recorder that gives either a continuous graph of the fluctuations or a tape punched at selected time intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey. These methods are described in standard text-books, in Water-Supply Paper 888, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6.

For stream-gaging stations, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharge greater than measured, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs), step-back water techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage height and rating tables, then the monthly and yearly mean discharge are computed from the daily figures. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is computed by the shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in 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 control, the daily mean discharge is computed by what is basically the shifting-control method.

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

At some northern stream-gaging stations, the stage-discharge relation is affected by ice in the winter, and it becomes impossible to compute the discharge in the usual manner. 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 for other stations in the same or nearby basins.

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

The data in this report generally comprise a description of the station and tabulations of daily and monthly figures. For gaging stations on streams or canals a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs, a monthly summary table of stage and contents is given. Records are published for the water year, which begins on October 1 and ends on September 30.

The description of the gaging station gives the location, drainage area, period of record, notations of revisions of previously published records, type and history of gages, general remarks, average discharge and extremes of discharge or contents. The location of the gaging station and the drainage area are obtained from the most accurate maps available. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD."

Previously published streamflow records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISED RECORDS" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1965 stands for the water year October 1, 1964, to September 30, 1965. If no daily, monthly, or annual figures of discharge are affected by the revision, the fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given. It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revision of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from a revision of the drainage area only are usually not published in the annual series of reports.

The type of gage currently in use, the datum of the present gage above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE". In references to datum of gage, the phrase "mean sea level" denotes "Sea Level Datum of 1929" as used by the Topographic Division of the Geological Survey unless otherwise qualified.

Information pertaining to the accuracy of the discharge records and to conditions which affect the natural flow of the gaging station is given under "REMARKS." For reservoir stations information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir is given under "REMARKS."

The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE"; it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. Under "EXTREMES" are given first, the extremes for period of record, second, information available outside the period of record, and last, those for the current year. Unless otherwise qualified, the maximum discharge (or contents) is the instantaneous maximum corresponding to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum discharge (or contents), it is given separately. Similarly, the minimum is the instantaneous minimum unless otherwise qualified. For some stations peak discharges are listed with "EXTREMES FOR THE CURRENT YEAR"; if they are, all independent peaks, including the maximum for the year, above the selected base with the time of occurrence and corresponding gage heights are published in tabular format. The base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. The minimums for these stations are published in a separate paragraph following the table of peaks.

The daily table for stream-gaging stations gives the mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also may be expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion. In the yearly summary, below the monthly summary the figures shown are the appropriate daily discharges for the calendar and water years.

Footnotes to the table of daily discharge are introduced by the word "NOTE." Footnotes are used to indicate periods for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-relation, or of any other unusual condition at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

Data collected at partial-record stations follow the information for continuous record sites. Data for partial-record stations are presented in two tables. The first is a table of discharge measurements and water-quality data at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage 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. Occasionally, a series of discharge measurements are made or water-quality samples are taken to investigate the seepage gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements and chemical analyses are also given in special tables following the tables of partial-record stations.

For gaging stations on lakes and reservoirs the data presented comprise a description of the station and a monthly summary table of stage and contents.

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 station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good", within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures 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 cfs; to tenths between 1.0 and 10 cfs; to whole numbers between 10 and 1,000 cfs; and to 3 significant figures above 1,000 cfs. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures 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, figures of cubic feet per second per square mile and of runoff in inches are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other data available

Information of a more detailed nature than that published for most of the gaging stations such as observations of water temperatures, discharge measurements, gage-height records, and rating tables is on file in the district office. Also most 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.

Records of discharge collected by agencies other than the Geological Survey

Records of discharge not published by the Geological Survey were collected during water year 1977 at many sites in Ohio by the National Weather Service, NOAA, U.S. Department of Commerce, by

the Corps of Engineers, U.S. Army and by other agencies. The National Water Data Exchange, Water Resources Division, U.S. Geological Survey, National Center, Reston, Va. 22092, maintains an index of such sites. Information on records available at specific sites can be obtained upon request.

EXPLANATION OF WATER-QUALITY RECORDS

Collection and examination of data

Surface water samples for analyses usually are collected at or near 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, pH, dissolved oxygen, water temperature, sediment discharge, etc.); extremes for the period of daily record; extremes for the current year; and general remarks.

For ground-water records, descriptive statements are given; the well number, depth of well, date of sampling and/or other pertinent data are given in the table containing the chemical analyses of the ground water.

Water analysis

Most methods for collecting and analyzing water samples are described in the U.S. Geological Survey Techniques of Water-Resources Investigations listed on a following page.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

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 for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the district office.

Water temperature

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

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

Sediment

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

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment 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 loads of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed

immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

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

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

EXPLANATION OF GROUND-WATER LEVEL RECORDS

Collection of the data

Ground-water level data from a basic network of observation wells are published herein. This basic network contains observation wells so located that the most significant data are obtained from the fewest wells in the most important aquifers.

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 provided for local needs. See figure 2.

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.

Water-level measurements in this report are given in feet with reference to either mean sea level (msl) or land-surface datum (lsd). Mean sea level is the datum plane on which the national network of precise levels is based; land-surface datum is a datum plane that is approximately at land surface at each well. If known, the altitude of the land-surface datum above mean 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 are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error 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.

Thirty-four manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) is on surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises. The reports listed below are for sale by the U.S. Geological Survey, Branch of Distribution, 1200 South Eads Street, Arlington, VA 22202 (authorized agent of the Superintendent of Documents, Government Printing Office. Prices are effective January 1978 but are subject to change.

NOTE: When ordering any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations".

- 1-D1. *Water temperature-influential factors, field measurement, and data presentation*, by H. H. Stevens Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages. \$1.60.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W.W.Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages. \$0.85
- 2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages. \$1.90.
- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages. \$1.75.
- 3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages. \$1.00.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages. \$0.35.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages. \$0.40.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages. \$1.00.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages. \$0.35.
- 3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages. \$1.00.
- 3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages. \$1.40.
- 3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages. \$1.25.
- 3-A11. *Measurement of discharge by moving-boat method*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages. \$1.20.
- 3-A12. *Fluorometric procedures for dye tracing*, by J. F. Wilson Jr.: USGS--TWRI Book 3, Chapter A12. 1968. 31 pages. \$0.35. Not currently available.
- 3-B1. *Aquifer-test design, observation, and data analysis*, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages. \$0.70.
- 3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages. \$2.50.
- 3-C1. *Fluvial sediment concepts*, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages. \$0.65.
- 3-C2. *Field methods for measurement of fluvial sediment*, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages. \$2.50.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages. \$2.10.
- 4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4 Chapter A1. 1968. 39 pages. \$1.60.
- 4-A2. *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages. \$0.35.
- 4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages. \$0.65.
- 4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages. \$0.75.
- 4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages. \$0.65.
- 4-D1. *Computation of rate and volume of stream depletion by wells*, by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages. \$1.10.
- 5-A1. *Methods for collection and analysis of water samples for dissolved minerals and gases*, by Eugene Brown, M. W. Skougstad, and M. J. Fishman: USGS--TWRI Book 5, Chapter A1. 1970. 160 pages. \$2.40.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages. \$0.80.
- 5-A3. *Methods for analysis of organic substances in water*, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages. \$0.90.
- 5-A4.* *Methods for collection and analysis of aquatic biological and microbiological samples*, edited by P.E. Greeson, T.A. Ehlke, G.A. Irwin, B.W. Lium, and K.V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages. \$20.00.
- 5-A5.* *Methods for determination of radioactive substances in water and fluvial sediments*, by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages. \$16.00.
- 5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages. \$2.10.
- 7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages. \$2.30.
- 8-A1. *Methods of measuring water levels in deep wells*, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages. \$0.70.
- 8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages. \$1.10.

*These publications are available ONLY from Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. They are in looseleaf format and are subscription items. Additional supplements will be issued to subscribers at no extra cost. Checks should be made payable to Superintendent of Documents. Requester should emphasize to Superintendent of Documents that this is a subscription item.

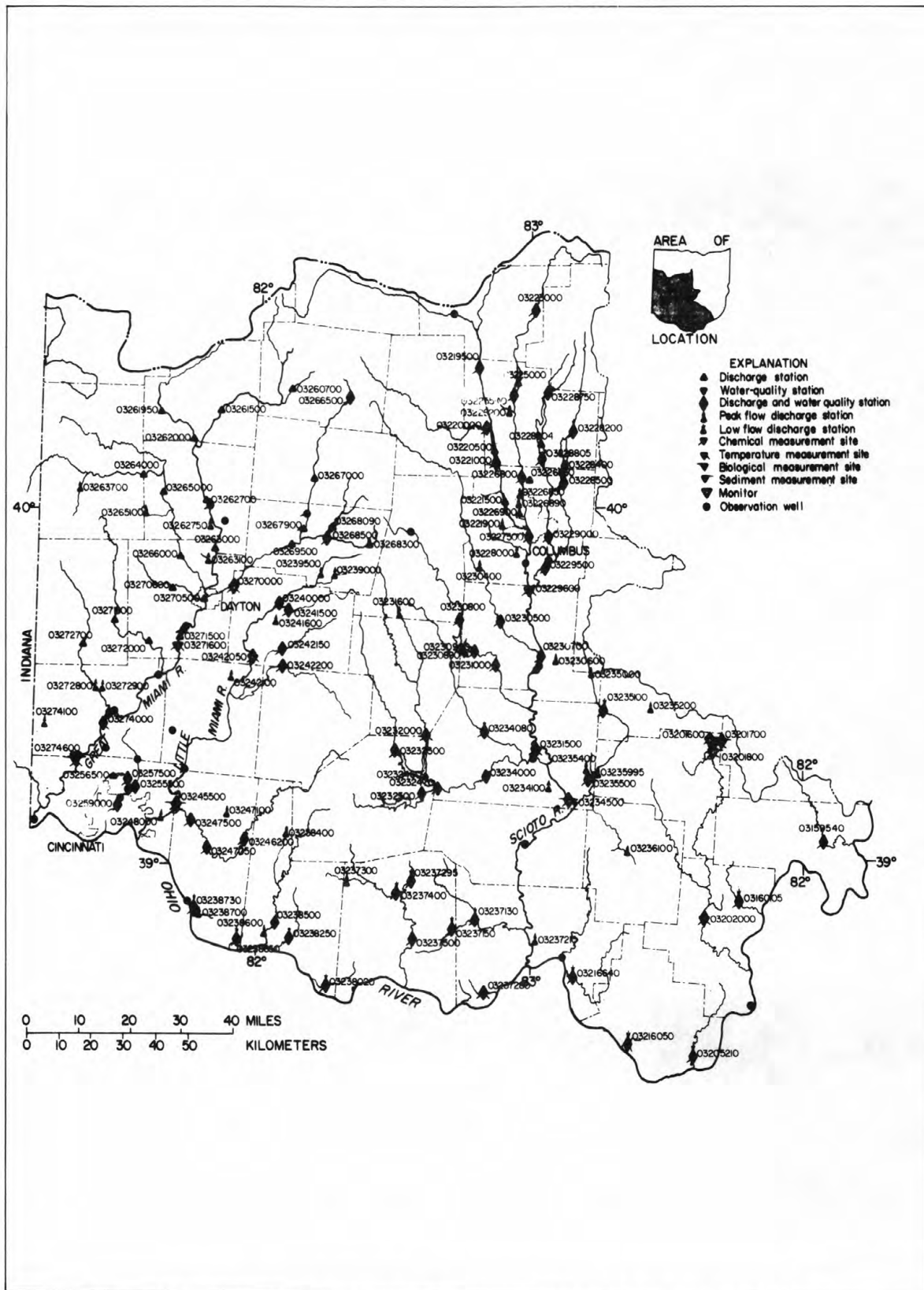


FIGURE 2a.--Location of data-collection stations

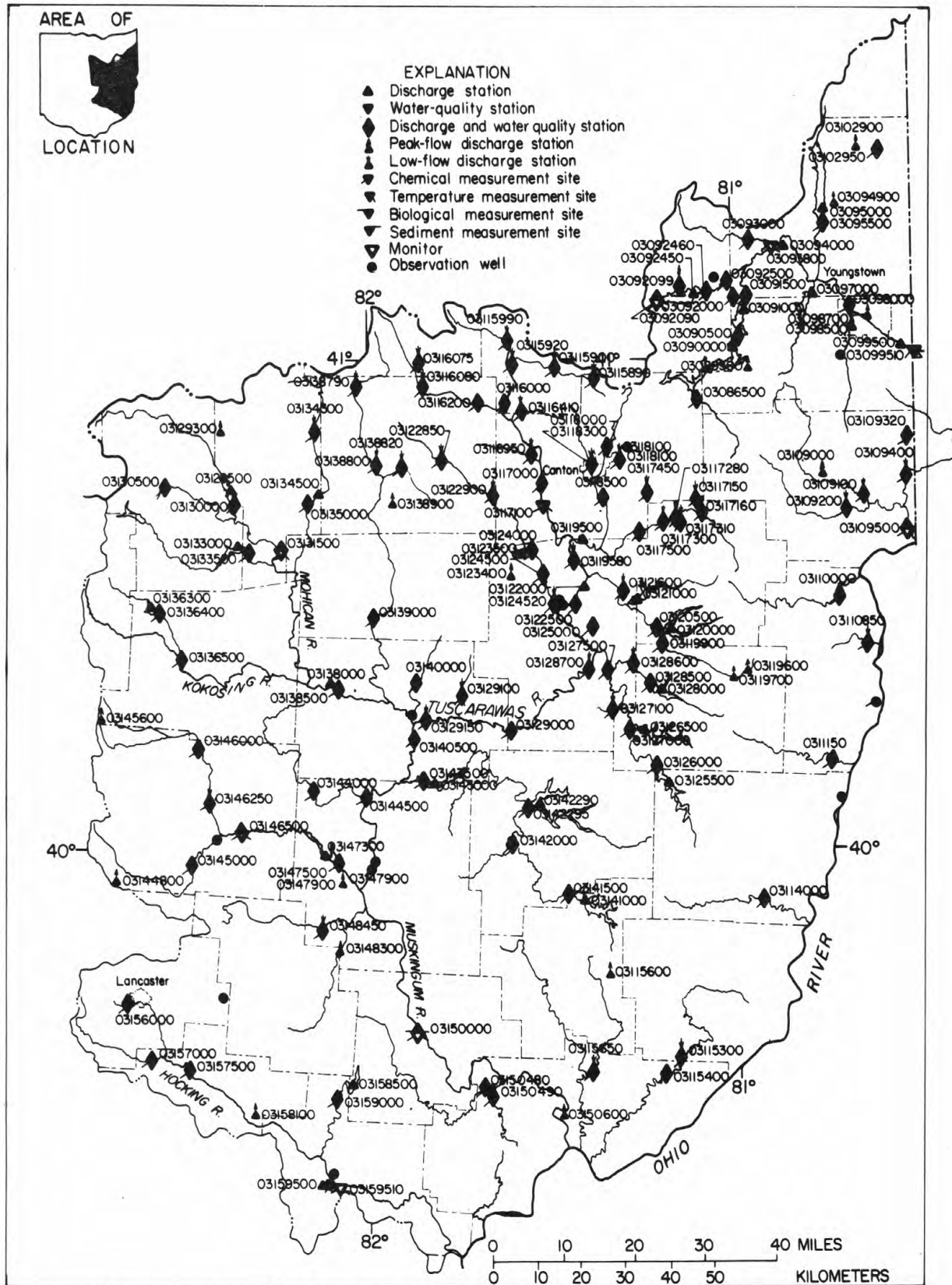


FIGURE 2b.--Location of data-collection stations

HYDROLOGIC-DATA STATION RECORDS

OHIO RIVER BASIN

BEAVER RIVER BASIN

03086500 MAHONING RIVER AT ALLIANCE, OH

LOCATION.--Lat 40°55'58", long 81°05'41", in SE 1/4 sec. 24, T.19 N., R.6 W., Stark County, Hydrologic Unit 05030103, on right bank 15 ft (5 m) upstream from Webb Avenue Bridge in Alliance, 0.2 mi (0.3 km) upstream from waterworks dam, and 4 mi (6 km) upstream from Beech Creek.

DRAINAGE AREA.--89.2 mi² (231 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1907: Drainage area.

GAGE.--Water-stage recorder and concrete dam. Datum of gage is 1,037.3 ft (316.17 m) above mean sea level, adjustment of 1912.

REMARKS.--Records good. Flow slightly regulated by Westville Reservoir 9.3 mi (15.0 km) upstream from station.

AVERAGE DISCHARGE.--36 years, 84.9 ft³/s (2.404 m³/s), 12.93 in/yr (328 mm/yr), unadjusted for diversion 1941-55.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,740 ft³/s (276 m³/s) Jan. 21, 1959, gage height, 9.11 ft (2.777 m), from rating curve extended above 3,300 ft³/s (93.5 m³/s) on basis of computation of peak flow over dam; no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 900 ft³/s (25.5 m³/s) and maximums (*):

| Date | Time | Discharge (ft ³ /s) | Discharge (m ³ /s) | Gage height (ft) | Gage height (m) | Date | Time | Discharge (ft ³ /s) | Discharge (m ³ /s) | Gage height (ft) | Gage height (m) |
|---------|------|-----------------------------------|----------------------------------|---------------------|--------------------|--------|------|-----------------------------------|----------------------------------|---------------------|--------------------|
| Feb. 25 | 0100 | 1610 | 45.6 | 4.18 | 1.274 | Apr. 3 | 0700 | *3010 | 85.2 | *5.54 | 1.689 |
| Mar. 19 | 0400 | 1200 | 34.0 | 3.68 | 1.122 | | | | | | |

Minimum daily discharge, 8.1 ft³/s (0.23 m³/s) Aug. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|-------|--------|
| 1 | 27 | 112 | 24 | 21 | 17 | 136 | 84 | 49 | 12 | 48 | 15 | 19 |
| 2 | 23 | 74 | 22 | 21 | 17 | 98 | 522 | 58 | 11 | 27 | 12 | 21 |
| 3 | 21 | 59 | 22 | 21 | 17 | 88 | 2270 | 128 | 12 | 15 | 9.3 | 58 |
| 4 | 19 | 50 | 22 | 21 | 17 | 155 | 710 | 102 | 11 | 23 | 8.1 | 65 |
| 5 | 19 | 46 | 23 | 21 | 17 | 265 | 773 | 132 | 14 | 24 | 14 | 24 |
| 6 | 20 | 42 | 25 | 21 | 17 | 143 | 534 | 109 | 23 | 21 | 14 | 19 |
| 7 | 21 | 40 | 112 | 20 | 17 | 98 | 260 | 74 | 16 | 29 | 181 | 14 |
| 8 | 23 | 38 | 118 | 20 | 17 | 74 | 207 | 55 | 12 | 53 | 155 | 11 |
| 9 | 30 | 37 | 66 | 20 | 17 | 65 | 143 | 43 | 58 | 27 | 82 | 10 |
| 10 | 53 | 42 | 47 | 20 | 17 | 65 | 109 | 38 | 52 | 17 | 43 | 9.3 |
| 11 | 39 | 45 | 62 | 19 | 18 | 58 | 95 | 35 | 23 | 16 | 27 | 9.3 |
| 12 | 29 | 41 | 71 | 19 | 34 | 74 | 84 | 33 | 16 | 17 | 25 | 9.2 |
| 13 | 27 | 36 | 50 | 19 | 95 | 640 | 68 | 30 | 16 | 23 | 20 | 13 |
| 14 | 25 | 35 | 39 | 19 | 155 | 563 | 65 | 28 | 16 | 16 | 17 | 121 |
| 15 | 22 | 32 | 36 | 19 | 136 | 229 | 58 | 25 | 14 | 13 | 16 | 146 |
| 16 | 24 | 32 | 34 | 19 | 109 | 133 | 49 | 23 | 16 | 23 | 15 | 74 |
| 17 | 23 | 30 | 34 | 19 | 90 | 90 | 49 | 21 | 14 | 74 | 38 | 181 |
| 18 | 24 | 30 | 32 | 19 | 75 | 429 | 46 | 21 | 19 | 60 | 27 | 125 |
| 19 | 23 | 29 | 30 | 19 | 62 | 953 | 50 | 23 | 25 | 28 | 16 | 64 |
| 20 | 31 | 27 | 62 | 19 | 55 | 368 | 48 | 23 | 18 | 34 | 14 | 209 |
| 21 | 39 | 26 | 93 | 19 | 49 | 306 | 71 | 19 | 15 | 36 | 16 | 295 |
| 22 | 34 | 25 | 54 | 19 | 49 | 192 | 61 | 17 | 14 | 105 | 45 | 107 |
| 23 | 29 | 25 | 42 | 19 | 235 | 181 | 104 | 16 | 12 | 47 | 35 | 64 |
| 24 | 57 | 23 | 31 | 19 | 990 | 124 | 240 | 14 | 11 | 24 | 19 | 49 |
| 25 | 131 | 25 | 29 | 21 | 1280 | 91 | 143 | 14 | 13 | 65 | 18 | 216 |
| 26 | 95 | 27 | 28 | 21 | 570 | 74 | 95 | 12 | 15 | 73 | 19 | 269 |
| 27 | 59 | 32 | 26 | 19 | 320 | 65 | 81 | 12 | 12 | 33 | 19 | 151 |
| 28 | 47 | 32 | 24 | 18 | 226 | 132 | 71 | 11 | 17 | 25 | 18 | 69 |
| 29 | 42 | 34 | 24 | 19 | --- | 270 | 84 | 11 | 29 | 24 | 19 | 41 |
| 30 | 40 | 27 | 22 | 17 | --- | 139 | 65 | 11 | 18 | 23 | 20 | 33 |
| 31 | 78 | --- | 22 | 17 | --- | 113 | --- | 12 | --- | 19 | 19 | --- |
| TOTAL | 1174 | 1153 | 1326 | 604 | 4718 | 6411 | 7239 | 1199 | 554 | 1062 | 995.4 | 2495.8 |
| MEAN | 37.9 | 38.4 | 42.8 | 19.5 | 169 | 207 | 241 | 38.7 | 18.5 | 34.3 | 32.1 | 83.2 |
| MAX | 131 | 112 | 118 | 21 | 1280 | 953 | 2270 | 132 | 58 | 105 | 181 | 295 |
| MIN | 19 | 23 | 22 | 17 | 17 | 58 | 46 | 11 | 11 | 13 | 8.1 | 9.2 |
| CFSM | .43 | .43 | .48 | .22 | 1.90 | 2.32 | 2.70 | .43 | .21 | .39 | .36 | .93 |
| IN. | .49 | .48 | .55 | .25 | 1.97 | 2.67 | 3.02 | .50 | .23 | .44 | .42 | 1.04 |

CAL YR 1976 TOTAL 32728.1 MEAN 89.4 MAX 1290 MIN 7.0 CFSM 1.00 IN 13.65
WTR YR 1977 TOTAL 28931.2 MEAN 79.3 MAX 2270 MIN 8.1 CFSM .89 IN 12.07

BEAVER RIVER BASIN

17

03086500 MAHONING RIVER AT ALLIANCE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | |
|--------------|------|--|--|---|------------------------------------|--|--------------------------------------|--|---|--|--|---|---|
| DATE | TIME | (CFS) | | (UNITS) | | | | | | | | | |
| MAR 17... | 1000 | 92 | 530 | 7.8 | 8.0 | 10.2 | 86 | 2.4 | 230 | 140 | 61 | 18 | |
| JUL 11... | 1130 | 13 | 765 | 7.6 | 25.5 | 6.4 | 77 | 6.2 | 320 | 170 | 84 | 26 | |
| | | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | | | | | | | | | | | | |
| MAR 17... | 18 | 4.6 | 100 | 0 | 82 | 2.5 | 120 | 31 | .2 | 6.9 | 309 | 2.2 | |
| JUL 11... | 29 | 5.6 | 178 | 0 | 146 | 7.2 | 170 | 39 | .3 | 9.4 | 452 | .74 | |
| | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | | | | | | | | | | | | |
| MAR 17... | .03 | .24 | .13 | 2 | 10 | 10 | 70 | 6 | 340 | .0 | 40 | 5.1 | |
| JUL 11... | .08 | .75 | .30 | 4 | 20 | 3 | 40 | 6 | 450 | .0 | 10 | 8.3 | |

BEAVER RIVER BASIN

03090500 MAHONING RIVER BELOW BERLIN DAM, NEAR BERLIN CENTER, OH

LOCATION.--Lat 41°02'54", long 81°00'05", in T.1 N., R.6 W., Mahoning County, Hydrologic Unit 05030103, on left bank 600 ft (183 m) downstream from Berlin Dam, and 3.2 mi (5.1 km) northwest of Berlin Center.

DRAINAGE AREA.--24 mi² (642 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1930 to current year. Prior to October 1942, published as "near Berlin Center".

REVISED RECORDS.--WSP 743: 1932. WSP 853: 1936. WSP 873: 1932-34, 1935(M), 1936-38. WSP 1907: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 958.00 ft (291.998 m) above mean sea level, levels by Corps of Engineers. Prior to Oct. 1, 1942, at site 1.8 mi (2.9 km) upstream at datum 966.15 ft (294.482 m) above mean sea level, adjustment of 1912, levels by Mahoning Valley Sanitary District. Oct. 1, 1942, to May 11, 1949, at site 200 ft (61 m) downstream from present site at datum 8.00 ft (2.438 m) lower than present datum.

REMARKS.--Records good. Flow regulated since 1942 by Berlin Lake (see station 03090000). Small diversion since 1958 from Berlin Lake to Meander Creek Reservoir (see station 03097000) by the Berlin pipeline.

COOPERATION.--Four discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE.--47 years, 229 ft³/s (6.485 m³/s) (unadjusted).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,630 ft³/s (244 m³/s) Jan. 25, 1937, gage height, 10.97 ft (3.344 m), site and datum then in use; no flow at times during 1948-49, 1967, 1970-71.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,000 ft³/s (56.6 m³/s) Apr. 7, gage height, 4.46 ft (1.359 m); minimum daily, 50 ft³/s (1.42 m³/s) Feb. 7-11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|-------|------|------|------|-------|-------|------|------|------|------|------|
| 1 | 219 | 316 | 228 | 76 | 51 | 106 | 429 | 285 | 215 | 126 | 161 | 291 |
| 2 | 219 | 316 | 197 | 76 | 51 | 152 | 443 | 285 | 215 | 126 | 131 | 291 |
| 3 | 219 | 316 | 167 | 76 | 51 | 151 | 484 | 285 | 191 | 126 | 162 | 291 |
| 4 | 219 | 328 | 122 | 74 | 51 | 151 | 427 | 285 | 163 | 126 | 178 | 291 |
| 5 | 219 | 340 | 120 | 72 | 51 | 151 | 503 | 285 | 163 | 144 | 194 | 291 |
| 6 | 219 | 340 | 121 | 52 | 51 | 151 | 1110 | 265 | 163 | 162 | 211 | 303 |
| 7 | 219 | 340 | 119 | 52 | 50 | 151 | 1840 | 242 | 163 | 163 | 219 | 317 |
| 8 | 219 | 340 | 119 | 52 | 50 | 151 | 1930 | 242 | 147 | 166 | 187 | 317 |
| 9 | 219 | 340 | 121 | 52 | 50 | 172 | 1870 | 219 | 117 | 166 | 175 | 307 |
| 10 | 219 | 334 | 185 | 51 | 50 | 197 | 1800 | 139 | 103 | 166 | 175 | 296 |
| 11 | 219 | 334 | 256 | 51 | 50 | 195 | 1030 | 78 | 103 | 189 | 175 | 284 |
| 12 | 219 | 334 | 256 | 51 | 51 | 196 | 227 | 78 | 103 | 215 | 175 | 270 |
| 13 | 242 | 334 | 260 | 51 | 51 | 209 | 151 | 78 | 117 | 215 | 175 | 270 |
| 14 | 260 | 334 | 190 | 51 | 51 | 223 | 152 | 78 | 147 | 205 | 175 | 270 |
| 15 | 260 | 436 | 119 | 51 | 51 | 293 | 155 | 78 | 163 | 194 | 185 | 261 |
| 16 | 260 | 598 | 119 | 51 | 52 | 358 | 155 | 78 | 163 | 195 | 198 | 251 |
| 17 | 260 | 590 | 116 | 51 | 53 | 358 | 155 | 78 | 162 | 188 | 208 | 251 |
| 18 | 260 | 590 | 116 | 51 | 53 | 376 | 116 | 78 | 149 | 178 | 241 | 251 |
| 19 | 256 | 582 | 116 | 51 | 53 | 403 | 73 | 79 | 134 | 178 | 265 | 251 |
| 20 | 256 | 574 | 118 | 51 | 53 | 415 | 72 | 79 | 134 | 160 | 265 | 258 |
| 21 | 256 | 574 | 119 | 51 | 54 | 494 | 69 | 79 | 134 | 143 | 277 | 256 |
| 22 | 265 | 566 | 119 | 51 | 53 | 574 | 68 | 79 | 134 | 145 | 291 | 280 |
| 23 | 275 | 566 | 119 | 51 | 53 | 576 | 69 | 79 | 150 | 145 | 291 | 306 |
| 24 | 280 | 566 | 121 | 51 | 63 | 574 | 73 | 79 | 166 | 145 | 291 | 307 |
| 25 | 280 | 550 | 118 | 51 | 62 | 569 | 183 | 79 | 166 | 145 | 291 | 312 |
| 26 | 300 | 544 | 117 | 51 | 62 | 561 | 285 | 79 | 166 | 145 | 291 | 374 |
| 27 | 316 | 394 | 120 | 51 | 62 | 552 | 285 | 79 | 166 | 145 | 291 | 440 |
| 28 | 316 | 256 | 120 | 51 | 62 | 548 | 285 | 79 | 166 | 145 | 291 | 440 |
| 29 | 316 | 257 | 120 | 51 | --- | 550 | 285 | 147 | 142 | 145 | 291 | 440 |
| 30 | 316 | 262 | 120 | 51 | --- | 550 | 285 | 215 | 126 | 145 | 291 | 440 |
| 31 | 316 | --- | 91 | 51 | --- | 491 | --- | 215 | --- | 145 | 291 | --- |
| TOTAL | 7918 | 12551 | 4449 | 1704 | 1495 | 10598 | 15009 | 4523 | 4531 | 4981 | 7042 | 9207 |
| MEAN | 255 | 418 | 144 | 55.0 | 53.4 | 342 | 500 | 146 | 151 | 161 | 227 | 307 |
| MAX | 316 | 598 | 260 | 76 | 63 | 576 | 1930 | 285 | 215 | 215 | 291 | 440 |
| MIN | 219 | 256 | 91 | 51 | 50 | 106 | 68 | 78 | 103 | 126 | 131 | 251 |

CAL YR 1976 TOTAL 97931 MEAN 268 MAX 2060 MIN 64
WTR YR 1977 TOTAL 84008 MEAN 230 MAX 1930 MIN 50

Note: No diversion during the year by Mahoning Valley Sanitary District.

BEAVER RIVER BASIN

19

03090500 MAHONING RIVER BELOW BERLIN DAM, NEAR BERLIN CENTER, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA, MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|------|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| DATE | TIME | | | | | | | | | | | |
| MAR 17... | 1200 | 350 | 470 | 8.0 | 7.0 | 13.0 | 110 | 2.5 | 170 | 99 | 45 | 14 |
| JUL 11... | 1350 | 198 | 450 | 7.4 | 18.5 | 10.0 | 110 | 2.9 | 170 | 98 | 46 | 13 |
| | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 17... | 24 | 5.2 | 86 | 0 | 71 | 1.4 | 85 | 43 | .1 | 4.9 | 264 | 1.7 |
| JUL 11... | 18 | 4.3 | 86 | 0 | 71 | 5.5 | 82 | 32 | .2 | 2.8 | 241 | .99 |
| | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 17... | .04 | .78 | .08 | 2 | 10 | 9 | 50 | 7 | 380 | .0 | 100 | 4.8 |
| JUL 11... | .01 | .19 | .04 | 2 | <10 | 2 | 20 | 3 | 450 | .0 | 0 | 7.4 |

BEAVER RIVER BASIN

03091500 MAHONING RIVER AT PRICETOWN, OH

LOCATION.--Lat 41°07'53", long 80°58'17", in T.2 N., R.5 W., Mahoning County, Hydrologic Unit 05030103, on left bank 0.3 mi (0.5 km) downstream from Milton Dam, 0.5 mi (0.8 km) southwest of Pricetown, and 3 mi (5 km) upstream from Kale Creek.

DRAINAGE AREA.--273 mi² (707 km²).

WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder. Datum of gage is 905.00 ft (275.844 m) above mean sea level, adjustment of 1912. Prior to Aug. 14, 1929 nonrecording gage at same site and datum.

REMARKS.--Records good. Flow regulated by Berlin Lake beginning 1942 and Milton Reservoir (see stations 03090000 and 03091000). Diversion upstream from station from Berlin Lake for part of municipal supply of Mahoning Valley Sanitary District (see station 03090500).

COOPERATION.--Six discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE.--48 years, 252 ft³/s (7.137 m³/s) (unadjusted).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,770 ft³/s (192 m³/s) Jan. 25, 1937, gage height, 15.01 ft (4.575 m), from rating curve extended above 4,200 ft³/s (119 m³/s) on basis of velocity-area studies; minimum daily, 0.4 ft³/s (0.011 m³/s) Nov. 9, 1941, Feb. 19, 20, Oct. 11, 1945.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,060 ft³/s (58.3 m³/s) Apr. 9, gage height, 6.84 ft (2.085 m); minimum daily, 61 ft³/s (1.73 m³/s) Jan. 29 to Feb. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|-------|------|------|------|------|-------|------|------|------|------|------|
| 1 | 212 | 409 | 273 | 93 | 61 | 64 | 610 | 235 | 110 | 135 | 133 | 228 |
| 2 | 269 | 406 | 270 | 93 | 61 | 64 | 617 | 243 | 149 | 135 | 147 | 228 |
| 3 | 269 | 403 | 270 | 91 | 61 | 64 | 620 | 249 | 144 | 135 | 158 | 225 |
| 4 | 269 | 403 | 270 | 91 | 61 | 64 | 459 | 255 | 147 | 135 | 167 | 225 |
| 5 | 269 | 403 | 267 | 91 | 61 | 65 | 568 | 261 | 149 | 149 | 167 | 225 |
| 6 | 269 | 403 | 267 | 91 | 61 | 65 | 914 | 267 | 151 | 165 | 167 | 252 |
| 7 | 269 | 403 | 267 | 91 | 61 | 65 | 946 | 270 | 151 | 165 | 153 | 294 |
| 8 | 269 | 400 | 267 | 91 | 61 | 65 | 1830 | 273 | 153 | 156 | 129 | 294 |
| 9 | 269 | 400 | 264 | 91 | 61 | 65 | 2230 | 276 | 149 | 140 | 138 | 282 |
| 10 | 269 | 400 | 264 | 91 | 61 | 65 | 2180 | 276 | 138 | 140 | 153 | 249 |
| 11 | 269 | 397 | 264 | 91 | 61 | 65 | 1810 | 279 | 140 | 149 | 163 | 249 |
| 12 | 252 | 397 | 264 | 90 | 61 | 65 | 906 | 279 | 142 | 156 | 165 | 249 |
| 13 | 233 | 397 | 264 | 90 | 61 | 68 | 890 | 279 | 153 | 156 | 163 | 252 |
| 14 | 233 | 394 | 197 | 90 | 61 | 67 | 648 | 279 | 165 | 153 | 163 | 252 |
| 15 | 233 | 472 | 91 | 90 | 61 | 67 | 246 | 276 | 165 | 151 | 172 | 249 |
| 16 | 233 | 664 | 93 | 90 | 61 | 67 | 205 | 210 | 163 | 151 | 187 | 249 |
| 17 | 233 | 882 | 93 | 90 | 61 | 67 | 205 | 112 | 156 | 153 | 197 | 249 |
| 18 | 247 | 878 | 91 | 90 | 61 | 72 | 205 | 114 | 151 | 144 | 207 | 246 |
| 19 | 269 | 874 | 93 | 90 | 61 | 68 | 207 | 112 | 129 | 133 | 212 | 246 |
| 20 | 269 | 870 | 93 | 90 | 61 | 69 | 207 | 110 | 129 | 118 | 217 | 235 |
| 21 | 269 | 870 | 93 | 88 | 61 | 297 | 210 | 108 | 129 | 91 | 222 | 222 |
| 22 | 313 | 862 | 93 | 88 | 61 | 603 | 210 | 104 | 131 | 90 | 230 | 220 |
| 23 | 364 | 858 | 93 | 88 | 61 | 603 | 212 | 98 | 144 | 90 | 230 | 220 |
| 24 | 364 | 854 | 93 | 88 | 65 | 603 | 215 | 95 | 163 | 98 | 230 | 225 |
| 25 | 364 | 850 | 93 | 88 | 65 | 603 | 215 | 91 | 165 | 102 | 228 | 225 |
| 26 | 385 | 746 | 93 | 88 | 64 | 606 | 215 | 90 | 165 | 90 | 228 | 288 |
| 27 | 412 | 456 | 93 | 88 | 64 | 606 | 217 | 88 | 165 | 88 | 228 | 393 |
| 28 | 409 | 273 | 93 | 75 | 64 | 606 | 222 | 86 | 170 | 95 | 228 | 393 |
| 29 | 409 | 273 | 93 | 61 | --- | 610 | 228 | 86 | 158 | 104 | 228 | 393 |
| 30 | 409 | 270 | 93 | 61 | --- | 610 | 230 | 86 | 135 | 112 | 228 | 393 |
| 31 | 409 | --- | 93 | 61 | --- | 610 | --- | 88 | --- | 120 | 228 | --- |
| TOTAL | 9211 | 16567 | 5245 | 2689 | 1725 | 7678 | 18677 | 5675 | 4459 | 3999 | 5866 | 7950 |
| MEAN | 297 | 552 | 169 | 86.7 | 61.6 | 248 | 623 | 183 | 149 | 129 | 189 | 265 |
| MAX | 412 | 882 | 273 | 93 | 65 | 610 | 2230 | 279 | 170 | 165 | 230 | 393 |
| MIN | 212 | 270 | 91 | 61 | 61 | 64 | 205 | 86 | 110 | 88 | 129 | 220 |

CAL YR 1976 TOTAL 110355 MEAN 302 MAX 2210 MIN 85
WTR YR 1977 TOTAL 89741 MEAN 246 MAX 2230 MIN 61

BEAVER RIVER BASIN

21

03091500 MAHONING RIVER AT PRICETOWN, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY | HARD- NESS (CA+MG) | NON- CAR- BONATE HARD- NESS | DIS- SOLVED CAL- CIUM | DIS- SOLVED MAG- NE- SIUM |
|--------------|------|---------------------------------------|--|------------------|------------------------|--------------------------|---------------------------------|--|----------------------------------|---|---|---------------------------------------|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | | (MG/L) | (MG/L) | (MG/L) | (CA) | (MG/L) |
| MAR 16... | 1515 | 64 | 625 | 7.9 | 8.0 | 12.8 | 108 | 3.3 | 220 | 120 | 57 | 19 |
| JUL 12... | 1325 | 148 | 435 | 7.8 | 26.0 | 7.6 | 93 | 3.8 | 160 | 85 | 44 | 12 |
| | | DIS- SOLVED PO- TAS- SIUM | BICAR- BONATE | CAR- BONATE | ALKA- LINITY AS | CARBON DIOXIDE | DIS- SOLVED SULFATE | DIS- SOLVED CHLO- RIDE | DIS- SOLVED FLUO- RIDE | DIS- SOLVED SILICA | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) | TOTAL NITRATE |
| DATE | | (NA) (MG/L) | (HCO3) (MG/L) | (CO3) (MG/L) | CACO3 (MG/L) | (CO2) (MG/L) | (SO4) (MG/L) | (CL) (MG/L) | (F) (MG/L) | (SI02) (MG/L) | (MG/L) | (N) (MG/L) |
| MAR 16... | 32 | 5.0 | 120 | 0 | 98 | 2.4 | 120 | 51 | .2 | 2.9 | 347 | .88 |
| JUL 12... | 19 | 4.4 | 90 | 0 | 74 | 2.3 | 78 | 35 | .2 | 1.8 | 240 | .49 |
| | | TOTAL AMMONIA NITRO- GEN | TOTAL PHOS- PHORUS | TOTAL ARSENIC | TOTAL CHRO- MIUM | TOTAL COPPER | DIS- SOLVED IRON | TOTAL LEAD | DIS- SOLVED MAN- GANESE | TOTAL MERCURY | TOTAL ZINC | TOTAL ORGANIC CARBON |
| DATE | | (N) (MG/L) | (P) (MG/L) | (AS) (UG/L) | (CR) (UG/L) | (CU) (UG/L) | (FE) (UG/L) | (PB) (UG/L) | (MN) (UG/L) | (HG) (UG/L) | (ZN) (UG/L) | (C) (MG/L) |
| MAR 16... | .03 | .74 | .07 | 2 | 10 | 7 | 40 | 6 | 350 | .0 | 50 | 3.4 |
| JUL 12... | .02 | .21 | .08 | 2 | <10 | 3 | 200 | 13 | 580 | .0 | 10 | 7.1 |

BEAVER RIVER BASIN

03092000 KALE CREEK NEAR PRICETOWN, OH

LOCATION.--Lat 41°08'23", long 80°59'43", in T.3 N., R.5 W., Trumbull County, Hydrologic Unit 05030103, on right bank at downstream side of county line road bridge, 0.4 mi (0.6 km) north of Mahoning-Trumbull County line, 1.5 mi (2.4 km) northwest of Pricetown, 2.2 mi (3.5 km) upstream from mouth, and 3.5 mi (5.6 km) south of Newton Falls.

DRAINAGE AREA.--21.9 mi² (56.7 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1940 to current year. Prior to June 1941 monthly discharge only, published in WSP 1305.

REVISED RECORDS.--WSP 973: 1942. WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 914.70 ft (278.800 m) above mean sea level, adjustment of 1912. Prior to June 27, 1941, nonrecording gage at same site and datum.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--37 years, 22.6 ft³/s (0.640 m³/s), 14.02 in/yr (356 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,890 ft³/s (110 m³/s) Jan. 21, 1959, gage height, 8.52 ft (2.597 m); no flow at times in 1952-55, 1962-66.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft³/s (14.2 m³/s) and maximums (*):

| Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) | Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) |
|---------|------|---|-------------------------|---------|------|---|-------------------------|
| Feb. 24 | 2100 | ice jam ice jam | *5.77 1.759 | Mar. 18 | 2100 | 830 23.5 | 5.10 1.554 |
| Feb. 25 | 0200 | *1220 34.6 | 5.76 1.756 | Apr. 2 | 2330 | 1120 31.7 | 5.60 1.707 |
| Mar. 13 | 1130 | 667 18.9 | 4.76 1.451 | Aug. 7 | 1930 | 640 18.1 | 4.70 1.433 |

Minimum discharge, no flow part of day June 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|------|--------|--------|--------|-------|--------|--------|--------|--------|
| 1 | 5.0 | 33 | 3.4 | 3.0 | 2.5 | 41 | 16 | 6.2 | 1.8 | 20 | 3.5 | 4.6 |
| 2 | 4.2 | 14 | 3.1 | 2.8 | 2.5 | 32 | 380 | 5.6 | 1.8 | 10 | 3.1 | 7.7 |
| 3 | 3.5 | 8.4 | 2.8 | 2.8 | 2.5 | 20 | 497 | 8.4 | 1.5 | 5.2 | 2.5 | 12 |
| 4 | 3.2 | 6.5 | 2.6 | 2.8 | 2.5 | 41 | 50 | 13 | 1.5 | 3.8 | 2.3 | 10 |
| 5 | 3.4 | 5.2 | 2.5 | 2.8 | 2.5 | 93 | 97 | 14 | 1.3 | 3.2 | 2.0 | 11 |
| 6 | 3.4 | 4.7 | 2.5 | 2.8 | 2.5 | 38 | 41 | 13 | 1.3 | 3.2 | 2.9 | 12 |
| 7 | 4.4 | 4.4 | 17 | 2.8 | 2.5 | 24 | 24 | 7.7 | 1.3 | 3.2 | 317 | 12 |
| 8 | 5.0 | 4.2 | 37 | 2.8 | 2.5 | 18 | 17 | 5.4 | 1.2 | 3.2 | 151 | 11 |
| 9 | 5.2 | 4.0 | 17 | 2.7 | 2.5 | 15 | 12 | 4.2 | .82 | 4.3 | 5.1 | 11 |
| 10 | 7.7 | 4.4 | 8.4 | 2.7 | 2.7 | 14 | 9.2 | 3.5 | 1.1 | 3.8 | 1.6 | 10 |
| 11 | 7.0 | 5.2 | 9.7 | 2.7 | 4.0 | 13 | 7.7 | 3.2 | .82 | 2.8 | 2.0 | 9.3 |
| 12 | 4.5 | 5.9 | 17 | 2.7 | 5.4 | 17 | 6.3 | 2.9 | .74 | 1.2 | 2.5 | 8.9 |
| 13 | 3.4 | 5.2 | 13 | 2.7 | 14 | 451 | 5.2 | 2.8 | .49 | 1.3 | 1.3 | 9.1 |
| 14 | 2.5 | 4.5 | 9.0 | 2.7 | 39 | 84 | 4.7 | 2.6 | .30 | 1.3 | .31 | 34 |
| 15 | 2.1 | 4.2 | 6.1 | 2.7 | 28 | 38 | 4.4 | 2.4 | .33 | .82 | .09 | 33 |
| 16 | 1.8 | 3.8 | 5.2 | 2.7 | 24 | 26 | 4.0 | 2.2 | .40 | .90 | .06 | 30 |
| 17 | 1.6 | 3.5 | 5.0 | 2.7 | 20 | 17 | 3.7 | 2.1 | 1.1 | 2.5 | 5.1 | 60 |
| 18 | 1.4 | 3.4 | 4.9 | 2.7 | 17 | 352 | 3.5 | 2.0 | 7.2 | 9.5 | 3.0 | 40 |
| 19 | 1.3 | 3.2 | 4.7 | 2.7 | 15 | 279 | 3.5 | 1.9 | 4.1 | 6.7 | .41 | 26 |
| 20 | 1.4 | 3.2 | 7.9 | 2.7 | 13 | 61 | 3.7 | 1.9 | 1.5 | 8.2 | .21 | 105 |
| 21 | 1.8 | 3.1 | 22 | 2.6 | 12 | 73 | 5.2 | 1.8 | .90 | 7.9 | 1.8 | 78 |
| 22 | 1.9 | 3.1 | 14 | 2.5 | 10 | 40 | 7.0 | 1.8 | .12 | 9.2 | 11 | 38 |
| 23 | 2.0 | 2.9 | 7.0 | 2.5 | 30 | 48 | 37 | 2.2 | .08 | 6.0 | 8.8 | 19 |
| 24 | 5.0 | 2.9 | 5.0 | 2.5 | 380 | 23 | 166 | 2.0 | .16 | 5.0 | 1.8 | 26 |
| 25 | 33 | 2.8 | 4.2 | 2.5 | 750 | 14 | 58 | 1.8 | .16 | 123 | .90 | 231 |
| 26 | 25 | 3.1 | 4.0 | 2.5 | 157 | 10 | 24 | 1.9 | .18 | 39 | .82 | 100 |
| 27 | 11 | 3.5 | 3.8 | 2.5 | 90 | 8.2 | 16 | 1.8 | .21 | 11 | .50 | 49 |
| 28 | 7.2 | 4.0 | 3.6 | 2.5 | 64 | 54 | 11 | 1.6 | 56 | 4.6 | .80 | 14 |
| 29 | 5.4 | 4.4 | 3.4 | 2.5 | --- | 108 | 9.5 | 1.8 | 53 | 3.7 | 1.9 | 8.2 |
| 30 | 4.7 | 4.0 | 3.2 | 2.5 | --- | 29 | 8.4 | 1.8 | 17 | 4.6 | 2.7 | 5.9 |
| 31 | 11 | --- | 3.2 | 2.5 | --- | 24 | --- | 1.8 | --- | 4.4 | 3.4 | --- |
| TOTAL | 180.0 | 164.7 | 252.2 | 82.6 | 1697.6 | 2105.2 | 1532.0 | 125.3 | 158.41 | 313.52 | 540.40 | 1025.7 |
| MEAN | 5.81 | 5.49 | 8.14 | 2.66 | 60.6 | 67.9 | 51.1 | 4.04 | 5.28 | 10.1 | 17.4 | 34.2 |
| MAX | 33 | 33 | 37 | 3.0 | 750 | 451 | 497 | 14 | 56 | 123 | 317 | 231 |
| MIN | 1.3 | 2.8 | 2.5 | 2.5 | 2.5 | 8.2 | 3.5 | 1.6 | .08 | .82 | .06 | 4.6 |
| CFSM | .27 | .25 | .37 | .12 | 2.77 | 3.10 | 2.33 | .18 | .24 | .46 | .80 | 1.56 |
| IN. | .31 | .28 | .43 | .14 | 2.88 | 3.58 | 2.60 | .21 | .27 | .53 | .92 | 1.74 |

CAL YR 1976 TOTAL 12923.16 MEAN 35.3 MAX 1800 MIN .44 CFSM 1.61 IN 21.95
WTR YR 1977 TOTAL 8177.63 MEAN 22.4 MAX 750 MIN .06 CFSM 1.02 IN 13.89

BEAVER RIVER BASIN

23

03092000 KALE CREEK NEAR PRICETOWN, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|------|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| MAR 16... | 1630 | 24 | 385 | 7.4 | 11.0 | 10.4 | 94 | 2.6 | 120 | 86 | 29 | 12 |
| JUL 12... | 1445 | 1.2 | 930 | 7.8 | 25.5 | 7.8 | 94 | 3.6 | 370 | 220 | 85 | 39 |
| | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | DIS- SOLVED SODIUM (NA) (MG/L) | | | | | | | | | | |
| MAR 16... | 21 | 3.9 | 44 | 0 | 36 | 2.8 | 84 | 31 | .1 | 5.9 | 209 | .56 |
| JUL 12... | 50 | 5.0 | 189 | 0 | 155 | 4.8 | 240 | 47 | .2 | 2.1 | 562 | .03 |
| | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | TOTAL NITRITE (N) (MG/L) | | | | | | | | | | |
| MAR 16... | .01 | .01 | .04 | 2 | 10 | 9 | 100 | 6 | 100 | .0 | 50 | 3.8 |
| JUL 12... | .01 | .05 | .06 | 3 | 20 | 3 | 40 | 6 | 270 | .0 | 20 | 9.1 |

BEAVER RIVER BASIN

03092090 WEST BRANCH MAHONING RIVER NEAR RAVENNA, OH

LOCATION.--Lat 41°09'41", long 81°11'50", in T.3 N., R.8 W., Portage County, Hydrologic Unit 05030103, on left bank at downstream side of bridge on Newton Falls Road, 2.5 mi (4.0 km) east of Ravenna.

DRAINAGE AREA.--21.8 mi² (56.5 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,011.8 ft (308.40 m) above mean sea level, Portage County bench mark.

REMARKS.--Records fair except those for winter periods, which are poor.

AVERAGE DISCHARGE.--12 years, 27.1 ft³/s (0.767 m³/s), 16.88 in/yr (429 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,090 ft³/s (59.2 m³/s) Apr. 15, 1972, gage height, 8.81 ft (2.685 m); minimum, 0.45 ft³/s (0.013 m³/s) Sept. 11, 1972.

EXTREMES FOR CURRENT YEAR.--Peak discharge 568 ft³/s (16.1 m³/s) Mar. 18, gage height, 5.31 ft (1.618 m) above base of 450 ft³/s (12.7 m³/s); minimum discharge, 1.8 ft³/s (0.051 m³/s) July 11, 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------------|--------|-------|-------|-----------|---------|---------|-----------|----------|-------|-------|-------|-------|
| 1 | 8.4 | 19 | 9.4 | 5.5 | 4.4 | 22 | 23 | 9.5 | 3.8 | 12 | 3.8 | 4.4 |
| 2 | 7.4 | 14 | 9.0 | 5.0 | 4.4 | 17 | 219 | 12 | 3.3 | 5.0 | 3.5 | 5.0 |
| 3 | 7.1 | 12 | 8.4 | 5.0 | 4.4 | 13 | 200 | 17 | 3.5 | 3.0 | 3.3 | 4.1 |
| 4 | 6.6 | 12 | 8.0 | 5.0 | 4.4 | 47 | 63 | 23 | 3.0 | 3.3 | 2.8 | 3.5 |
| 5 | 6.0 | 11 | 8.0 | 5.0 | 4.4 | 53 | 91 | 33 | 3.8 | 3.0 | 3.3 | 3.3 |
| 6 | 5.5 | 10 | 8.0 | 4.8 | 4.4 | 23 | 51 | 18 | 10 | 2.5 | 13 | 8.0 |
| 7 | 6.0 | 10 | 22 | 4.8 | 4.4 | 18 | 32 | 13 | 6.0 | 3.0 | 36 | 6.0 |
| 8 | 5.5 | 11 | 20 | 4.8 | 4.4 | 21 | 25 | 10 | 4.4 | 8.0 | 14 | 4.7 |
| 9 | 6.0 | 12 | 14 | 4.8 | 4.4 | 19 | 19 | 8.0 | 8.5 | 4.1 | 7.0 | 3.8 |
| 10 | 6.9 | 15 | 12 | 4.8 | 5.0 | 18 | 17 | 7.5 | 7.0 | 2.5 | 6.0 | 3.5 |
| 11 | 6.3 | 18 | 18 | 4.6 | 10 | 15 | 15 | 7.0 | 4.4 | 2.1 | 12 | 2.8 |
| 12 | 4.9 | 15 | 18 | 4.6 | 20 | 34 | 13 | 6.0 | 3.5 | 2.3 | 27 | 2.5 |
| 13 | 4.3 | 13 | 14 | 4.6 | 30 | 229 | 11 | 5.7 | 3.5 | 2.8 | 12 | 6.0 |
| 14 | 3.9 | 12 | 11 | 4.6 | 36 | 70 | 10 | 5.7 | 3.3 | 2.3 | 6.5 | 52 |
| 15 | 3.7 | 11 | 9.5 | 4.6 | 42 | 39 | 9.0 | 5.0 | 3.3 | 2.1 | 5.7 | 15 |
| 16 | 3.1 | 11 | 9.0 | 4.6 | 34 | 27 | 8.5 | 4.7 | 3.3 | 2.5 | 4.7 | 30 |
| 17 | 3.1 | 10 | 8.5 | 4.6 | 28 | 18 | 8.5 | 4.4 | 4.1 | 5.3 | 5.3 | 45 |
| 18 | 2.7 | 10 | 8.0 | 4.6 | 26 | 326 | 9.5 | 4.4 | 8.0 | 3.8 | 4.1 | 22 |
| 19 | 2.9 | 10 | 8.0 | 4.6 | 24 | 165 | 10 | 4.7 | 5.0 | 17 | 3.3 | 18 |
| 20 | 3.5 | 10 | 18 | 4.6 | 22 | 98 | 8.5 | 4.4 | 3.8 | 13 | 3.0 | 15 |
| 21 | 5.2 | 9.7 | 24 | 4.6 | 19 | 83 | 8.0 | 4.4 | 3.3 | 11 | 9.0 | 10 |
| 22 | 4.5 | 9.4 | 12 | 4.6 | 17 | 75 | 8.5 | 4.1 | 2.8 | 20 | 52 | 8.0 |
| 23 | 3.9 | 9.4 | 10 | 4.6 | 70 | 67 | 29 | 3.5 | 2.8 | 7.0 | 16 | 6.0 |
| 24 | 12 | 9.0 | 9.0 | 4.6 | 123 | 45 | 51 | 3.8 | 2.5 | 4.7 | 7.5 | 7.0 |
| 25 | 22 | 9.0 | 8.0 | 4.6 | 217 | 28 | 30 | 4.1 | 4.7 | 31 | 5.3 | 6.5 |
| 26 | 17 | 11 | 7.0 | 4.4 | 92 | 22 | 23 | 4.1 | 3.5 | 16 | 4.4 | 8.0 |
| 27 | 14 | 14 | 6.5 | 4.4 | 71 | 19 | 20 | 3.5 | 3.0 | 6.0 | 5.3 | 7.5 |
| 28 | 13 | 13 | 6.0 | 4.4 | 49 | 66 | 15 | 3.5 | 7.0 | 4.4 | 4.1 | 6.5 |
| 29 | 12 | 12 | 6.0 | 4.4 | --- | 72 | 14 | 3.0 | 7.5 | 4.1 | 3.5 | 6.0 |
| 30 | 12 | 10 | 5.5 | 4.4 | --- | 37 | 11 | 3.0 | 4.4 | 6.5 | 3.3 | 5.7 |
| 31 | 20 | --- | 5.5 | 4.4 | --- | 34 | --- | 3.3 | --- | 4.4 | 3.3 | --- |
| TOTAL | 239.4 | 352.5 | 340.3 | 144.9 | 974.6 | 1820 | 1052.5 | 243.3 | 137.0 | 214.7 | 290.0 | 325.8 |
| MEAN | 7.72 | 11.8 | 11.0 | 4.67 | 34.8 | 58.7 | 35.1 | 7.85 | 4.57 | 6.93 | 9.35 | 10.9 |
| MAX | 22 | 19 | 24 | 5.5 | 217 | 326 | 219 | 33 | 10 | 31 | 52 | 52 |
| MIN | 2.7 | 9.0 | 5.5 | 4.4 | 4.4 | 13 | 8.0 | 3.0 | 2.5 | 2.1 | 2.8 | 2.5 |
| CFSM | .35 | .54 | .51 | .21 | 1.60 | 2.69 | 1.61 | .36 | .21 | .32 | .43 | .50 |
| IN. | .41 | .60 | .58 | .25 | 1.66 | 3.11 | 1.80 | .42 | .23 | .37 | .49 | .56 |
| CAL YR 1976 TOTAL | 9268.5 | | | MEAN 25.3 | MAX 515 | MIN 2.2 | CFSM 1.16 | IN 15.82 | | | | |
| WTR YR 1977 TOTAL | 6135.0 | | | MEAN 16.8 | MAX 326 | MIN 2.1 | CFSM .77 | IN 10.47 | | | | |

BEAVER RIVER BASIN

25

03092090 WEST BRANCH MAHONING RIVER NEAR RAVENNA, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1965 to current year.

INSTRUMENTATION.--Water temperature recorder since October 1965.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 28.0°C Aug. 24, 1968; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 27.5 °C July 7; minimum, 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND | HARD- NESS | NON- CAR- BONATE HARD- NESS | DIS- SOLVED CAL- CIUM | DIS- SOLVED MAG- NE- SIUM | |
|--------------|------|--------------------------------------|--|--------------------------|------------------|--------------------------|---------------------------------|---|---------------------------------|---|--------------------------------|---|----------------------------|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | | 5 DAY | (CA,MG) | (MG/L) | (CA) | (MG/L) | |
| MAR 15... | 1400 | 39 | 365 | 7.6 | 9.5 | 11.0 | 96 | 1.8 | 110 | 62 | 31 | 7.8 | |
| JUL 11... | 1530 | 2.4 | 545 | 8.1 | 24.5 | 9.8 | 120 | 1.7 | 180 | 44 | 52 | 13 | |
| | | DIS- SOLVED SODIUM | DIS- SOLVED PO- TAS- SIUM | BICAR- BONATE | CAR- BONATE | ALKA- LINITY AS | CARBON DIOXIDE | DIS- SOLVED SULFATE | DIS- SOLVED CHLO- RIDE | DIS- SOLVED FLUO- RIDE | DIS- SOLVED SILICA | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) | TOTAL NITRATE |
| DATE | | (NA) (MG/L) | (K) (MG/L) | (HCO3) (MG/L) | (CO3) (MG/L) | CACO3 (MG/L) | (CO2) (MG/L) | (SO4) (MG/L) | (CL) (MG/L) | (F) (MG/L) | (SIO2) (MG/L) | (MG/L) | (N) (MG/L) |
| MAR 15... | 23 | 3.5 | 58 | 0 | 48 | 2.3 | 44 | 44 | .1 | 6.9 | 189 | .90 | |
| JUL 11... | 35 | 2.7 | 170 | 0 | 139 | 2.2 | 36 | 57 | .2 | 8.0 | 288 | .12 | |
| | | TOTAL NITRITE | TOTAL AMMONIA NITRO- GEN | TOTAL PHOS- PHORUS | TOTAL ARSENIC | TOTAL CHRO- MIUM | TOTAL COPPER | DIS- SOLVED IRON | TOTAL LEAD | DIS- SOLVED MAN- GANESE | TOTAL MERCURY | TOTAL ZINC | TOTAL ORGANIC CARBON |
| DATE | | (N) (MG/L) | (N) (MG/L) | (P) (MG/L) | (AS) (UG/L) | (CR) (UG/L) | (CU) (UG/L) | (FE) (UG/L) | (PB) (UG/L) | (MN) (UG/L) | (HG) (UG/L) | (ZN) (UG/L) | (C) (MG/L) |
| MAR 15... | .01 | .05 | .05 | 1 | 10 | 6 | 110 | 4 | 60 | .0 | 30 | 1.2 | |
| JUL 11... | .01 | .07 | .06 | 3 | 20 | 4 | 160 | 7 | 210 | .0 | 30 | 7.8 | |

03092090 WEST BRANCH MAHONING RIVER NEAR RAVENNA, OH--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|------|------|------|------|------|------|------|--------|------|-----------|------|------|
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 11.5 | 8.0 | 17.5 | 10.5 | 21.5 | 19.0 | 24.0 | 19.0 | 23.5 | 21.0 | 23.5 | 20.5 |
| 2 | 11.5 | 8.0 | 15.5 | 14.5 | 19.0 | 15.5 | 23.5 | 19.0 | 22.5 | 18.5 | 23.5 | 21.0 |
| 3 | 12.0 | 9.5 | 18.0 | 13.0 | 18.5 | 13.5 | 22.5 | 18.5 | 23.0 | 18.5 | 23.5 | 21.0 |
| 4 | 10.5 | 8.5 | 15.5 | 14.0 | 19.5 | 14.0 | 21.5 | 19.5 | 24.5 | 20.5 | 22.5 | 19.0 |
| 5 | 9.5 | 7.0 | 19.0 | 14.5 | 18.0 | 16.5 | 25.0 | 20.5 | 24.0 | 21.5 | 23.0 | 19.5 |
| 6 | 7.0 | 5.0 | 20.5 | 17.0 | 16.5 | 14.0 | 27.0 | 22.0 | 23.0 | 22.0 | 22.0 | 20.0 |
| 7 | 6.0 | 4.0 | 21.0 | 15.5 | 15.5 | 12.5 | 27.5 | 23.0 | 22.0 | 19.5 | 21.5 | 18.0 |
| 8 | 7.5 | 4.0 | 17.5 | 12.5 | 14.0 | 11.5 | 25.5 | 23.0 | 23.0 | 21.5 | 21.5 | 18.0 |
| 9 | 8.5 | 2.5 | 14.0 | 10.5 | 15.0 | 12.5 | 25.0 | 22.5 | 23.5 | 21.0 | 22.0 | 18.5 |
| 10 | 9.5 | 5.0 | 14.5 | 9.5 | 17.0 | 12.0 | 25.0 | 21.0 | 23.0 | 21.5 | 22.0 | 19.0 |
| 11 | 15.5 | 8.0 | 16.5 | 9.5 | 17.5 | 13.0 | 25.0 | 22.0 | 24.5 | 21.5 | 20.0 | 17.5 |
| 12 | 18.0 | 11.5 | 16.0 | 11.0 | 16.0 | 14.5 | 25.0 | 22.5 | 23.0 | 21.0 | 18.5 | 15.5 |
| 13 | 18.5 | 13.0 | 18.5 | 13.5 | 18.0 | 14.0 | 26.5 | 22.5 | 23.0 | 20.5 | 17.5 | 16.5 |
| 14 | 18.5 | 14.0 | 20.0 | 14.5 | 21.0 | 16.5 | 25.5 | 21.5 | 23.5 | 21.0 | 18.5 | 17.5 |
| 15 | 16.5 | 11.0 | 19.5 | 13.5 | 21.5 | 17.0 | 25.0 | 21.5 | 23.0 | 19.5 | 18.5 | 15.5 |
| 16 | 13.5 | 11.5 | 20.5 | 14.5 | 21.5 | 17.5 | 26.5 | 21.0 | 22.5 | 19.5 | 17.0 | 15.5 |
| 17 | 16.0 | 10.5 | 21.5 | 16.5 | 23.0 | 19.0 | 25.5 | 22.0 | 23.0 | 21.0 | 18.5 | 17.0 |
| 18 | 16.0 | 12.5 | 23.0 | 18.5 | 21.5 | 18.5 | 26.5 | 22.0 | 21.0 | 18.5 | 19.5 | 18.0 |
| 19 | 18.5 | 13.5 | 23.5 | 18.5 | 23.0 | 18.5 | 24.0 | 21.5 | 19.0 | 16.5 | 20.0 | 18.5 |
| 20 | 20.5 | 15.5 | 23.5 | 18.0 | 21.5 | 18.5 | 26.0 | 22.5 | 19.5 | 15.5 | 19.0 | 17.5 |
| 21 | 20.5 | 16.5 | 23.5 | 18.5 | 22.5 | 17.5 | 25.0 | 23.5 | 18.0 | 17.0 | 17.5 | 16.0 |
| 22 | 18.5 | 17.0 | 24.0 | 19.5 | 21.5 | 17.0 | 24.0 | 21.0 | 19.0 | 17.5 | 17.5 | 15.5 |
| 23 | 17.0 | 15.0 | 23.5 | 20.5 | 21.0 | 16.5 | 23.0 | 19.0 | 19.5 | 17.0 | 18.0 | 15.5 |
| 24 | 14.5 | 11.5 | 23.0 | 20.5 | 21.0 | 18.0 | 23.0 | 18.5 | 18.5 | 17.0 | 18.0 | 16.5 |
| 25 | 12.0 | 10.5 | 24.0 | 19.0 | 22.5 | 18.5 | 23.0 | 20.5 | 19.0 | 15.0 | 19.0 | 17.0 |
| 26 | 12.0 | 9.5 | 23.5 | 18.5 | 23.5 | 19.0 | 21.5 | 19.0 | 18.5 | 15.0 | 20.0 | 17.5 |
| 27 | 14.5 | 8.0 | 23.0 | 18.0 | 23.0 | 19.0 | 21.0 | 17.0 | 22.0 | 17.5 | 18.5 | 16.5 |
| 28 | 13.0 | 8.5 | 23.5 | 18.0 | 22.5 | 20.5 | 21.5 | 16.5 | 23.5 | 20.0 | 16.5 | 15.5 |
| 29 | 13.5 | 7.0 | 22.5 | 18.5 | 23.5 | 19.0 | 20.5 | 19.0 | 23.5 | 21.5 | 15.5 | 13.5 |
| 30 | 15.5 | 8.0 | 22.0 | 18.0 | 21.0 | 19.0 | 23.0 | 19.0 | 24.0 | 21.0 | 16.5 | 14.0 |
| 31 | --- | --- | 22.5 | 18.0 | --- | --- | 23.0 | 19.5 | 23.0 | 20.5 | --- | --- |
| MONTH | 20.5 | 2.5 | 24.0 | 9.5 | 23.5 | 11.5 | 27.5 | 16.5 | 24.5 | 15.0 | 23.5 | 13.5 |
| YEAR | 27.5 | 0.0 | | | | | | | | | | |

LOCATION.--Lat 41°09'25", long 81°04'19", in T.3 N., R.6 W., Portage County, Hydrologic Unit 05030103, on right bank 200 ft (61 m) upstream from bridge on Wayland Road, 0.4 mi (0.6 km) downstream from Michael J. Kirwan Dm, and 0.2 mi (0.3 km) south of Wayland.

DRAINAGE AREA.--81.7 mi² (212 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1968 to current year. Prior to October 1969 published as "West Branch Mahoning River below West Branch Dam, at Wayland."

GAGE.--Water-stage recorder. Datum of gage is 926.44 ft (282.379 m) above mean sea level, levels by Corps of Engineers. Prior to October 1971 at datum 0.89 ft (0.271 m) higher.

REMARKS.--Records good. Flow completely regulated by Michael J. Kirwan Reservoir (see station 03092450).

COOPERATION.--Four discharge measurements furnished by Corps of Engineers.

AVERAGE DISCHARGE.--9 years, 104 ft³/s (2.945 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,380 ft³/s (39.1 m³/s) Feb. 25, 1971, gage height, 11.82 ft (3.603 m) present datum; minimum daily, 2.5 ft³/s (0.071 m³/s) Apr. 9, 1969.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, , 156 ft³/s (4.42 m³/s) Nov. 30, gage height, 4.56 ft (1.390 m);
minimum daily, 21 ft³/s (0.59 m³/s) Mar. 16, 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|-------|------|------|------|------|------|------|------|------|------|------|
| 1 | 69 | 114 | 150 | 140 | 62 | 24 | 22 | 23 | 112 | 106 | 102 | 23 |
| 2 | 69 | 113 | 151 | 141 | 62 | 24 | 45 | 23 | 99 | 105 | 106 | 23 |
| 3 | 69 | 113 | 150 | 140 | 62 | 24 | 27 | 23 | 99 | 115 | 106 | 23 |
| 4 | 69 | 112 | 146 | 139 | 61 | 28 | 24 | 24 | 98 | 133 | 106 | 23 |
| 5 | 69 | 112 | 149 | 140 | 60 | 25 | 24 | 24 | 99 | 132 | 106 | 22 |
| 6 | 71 | 112 | 146 | 139 | 60 | 24 | 23 | 24 | 100 | 132 | 99 | 22 |
| 7 | 72 | 112 | 150 | 138 | 60 | 23 | 23 | 23 | 99 | 135 | 72 | 22 |
| 8 | 72 | 112 | 147 | 139 | 60 | 23 | 23 | 24 | 99 | 137 | 42 | 22 |
| 9 | 72 | 112 | 145 | 139 | 60 | 24 | 23 | 24 | 93 | 137 | 29 | 22 |
| 10 | 72 | 111 | 144 | 137 | 59 | 24 | 23 | 24 | 85 | 137 | 29 | 22 |
| 11 | 71 | 111 | 146 | 136 | 59 | 24 | 23 | 24 | 85 | 137 | 29 | 22 |
| 12 | 71 | 111 | 143 | 136 | 59 | 29 | 23 | 24 | 85 | 137 | 31 | 22 |
| 13 | 72 | 110 | 146 | 136 | 62 | 41 | 23 | 24 | 92 | 138 | 28 | 23 |
| 14 | 73 | 109 | 143 | 136 | 61 | 25 | 23 | 24 | 106 | 132 | 27 | 24 |
| 15 | 73 | 109 | 141 | 136 | 51 | 23 | 23 | 24 | 113 | 125 | 27 | 23 |
| 16 | 74 | 109 | 141 | 136 | 41 | 21 | 23 | 64 | 113 | 126 | 27 | 26 |
| 17 | 73 | 108 | 141 | 93 | 33 | 21 | 23 | 112 | 114 | 127 | 27 | 25 |
| 18 | 73 | 108 | 141 | 102 | 23 | 47 | 23 | 112 | 109 | 127 | 26 | 23 |
| 19 | 74 | 108 | 140 | 102 | 23 | 24 | 23 | 112 | 102 | 128 | 26 | 23 |
| 20 | 74 | 108 | 141 | 99 | 23 | 25 | 23 | 112 | 102 | 119 | 25 | 23 |
| 21 | 75 | 107 | 144 | 96 | 23 | 23 | 23 | 112 | 102 | 112 | 25 | 23 |
| 22 | 83 | 107 | 141 | 95 | 23 | 24 | 24 | 112 | 102 | 111 | 25 | 23 |
| 23 | 94 | 106 | 141 | 95 | 34 | 23 | 27 | 112 | 103 | 110 | 24 | 23 |
| 24 | 97 | 107 | 142 | 95 | 62 | 22 | 26 | 112 | 112 | 117 | 24 | 29 |
| 25 | 96 | 106 | 139 | 81 | 34 | 22 | 24 | 119 | 128 | 124 | 24 | 26 |
| 26 | 104 | 106 | 141 | 62 | 27 | 22 | 24 | 127 | 128 | 110 | 24 | 45 |
| 27 | 113 | 106 | 142 | 62 | 27 | 22 | 24 | 126 | 128 | 110 | 24 | 78 |
| 28 | 113 | 106 | 140 | 62 | 25 | 25 | 24 | 126 | 128 | 109 | 24 | 86 |
| 29 | 112 | 124 | 141 | 62 | --- | 23 | 23 | 126 | 118 | 109 | 24 | 95 |
| 30 | 112 | 151 | 139 | 62 | --- | 22 | 23 | 126 | 107 | 109 | 24 | 95 |
| 31 | 115 | --- | 142 | 62 | --- | 22 | --- | 125 | --- | 108 | 23 | --- |
| TOTAL | 2546 | 3340 | 4453 | 3438 | 1296 | 773 | 729 | 2191 | 3160 | 3794 | 1335 | 981 |
| MEAN | 82.1 | 111 | 144 | 111 | 46.3 | 24.9 | 24.3 | 70.7 | 105 | 122 | 43.1 | 32.7 |
| MAX | 115 | 151 | 151 | 141 | 62 | 47 | 45 | 127 | 128 | 138 | 106 | 95 |
| MIN | 69 | 106 | 139 | 62 | 23 | 21 | 22 | 23 | 85 | 105 | 23 | 22 |
| CAL YR 1976 | TOTAL | 37312 | MEAN | 102 | MAX | 474 | MIN | 38 | | | | |
| WTR YR 1977 | TOTAL | 28036 | MEAN | 76.8 | MAX | 151 | MIN | 21 | | | | |

BEAVER RIVER BASIN

29

03092460 WEST BRANCH MAHONING RIVER BELOW MICHAEL J. KIRWAN DAM, AT WAYLAND, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND | HARD- NESS | NON- CAR- BONATE HARD- NESS | DIS- SOLVED CAL- CIUM | DIS- SOLVED MAG- NE- SIUM |
|--------------|------|---------------------------------------|--|------------------|------------------------|--------------------------|---------------------------------|---|----------------------------------|---|---|---------------------------------------|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | | 5 DAY | (CA+MG) | (MG/L) | (CA) | (MG/L) |
| MAR 15... | 1615 | 22 | 415 | 7.6 | 6.0 | 11.8 | 94 | 1.9 | 140 | 66 | 37 | 12 |
| JUL 11... | 1700 | 139 | 390 | 7.6 | 20.0 | 8.9 | 97 | 2.4 | 130 | 58 | 35 | 10 |
| | | DIS- SOLVED PO- TAS- SIUM | BICAR- BONATE | CAR- BONATE | ALKA- LINITY AS | CARBON DIOXIDE | DIS- SOLVED SULFATE | DIS- SOLVED CHLO- RIDE | DIS- SOLVED FLUO- RIDE | DIS- SOLVED SILICA | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) | TOTAL NITRATE |
| DATE | | (NA) (MG/L) | (HCO3) (MG/L) | (CO3) (MG/L) | CAC03 (MG/L) | (CO2) (MG/L) | (SO4) (MG/L) | (CL) (MG/L) | (F) (MG/L) | (SI02) (MG/L) | (MG/L) | (N) (MG/L) |
| MAR 15... | 24 | 3.2 | 92 | 0 | 75 | 3.7 | 61 | 39 | .1 | 3.4 | 225 | .50 |
| JUL 11... | 18 | 2.9 | 86 | 0 | 71 | 3.5 | 53 | 32 | .1 | 2.3 | 196 | .54 |
| | | TOTAL AMMONIA NITRO- GEN | TOTAL PHOS- PHORUS | TOTAL ARSENIC | TOTAL CHRO- MIUM | TOTAL COPPER | DIS- SOLVED IRON | TOTAL LEAD | DIS- SOLVED MAN- GANESE | TOTAL MERCURY | TOTAL ZINC | TOTAL ORGANIC CARBON |
| DATE | | (N) (MG/L) | (P) (MG/L) | (AS) (UG/L) | (CR) (UG/L) | (CU) (UG/L) | (FE) (UG/L) | (PB) (UG/L) | (MN) (UG/L) | (HG) (UG/L) | (ZN) (UG/L) | (C) (MG/L) |
| MAR 15... | .00 | .12 | .03 | 2 | 10 | 12 | 30 | 5 | 100 | .0 | 60 | 4.2 |
| JUL 11... | .00 | .02 | .01 | 2 | <10 | 6 | 10 | 11 | 60 | .0 | 0 | 6.4 |

BEAVER RIVER BASIN

03092500 WEST BRANCH MAHONING RIVER NEAR NEWTON FALLS, OH

LOCATION.--Lat 41°10'18", long 81°01'16", in T.3 N., R.6 W., Portage County, Hydrologic Unit 05030103, on right bank 250 ft (76 m) downstream from bridge on Newton Falls Road, 2.5 mi (4.0 km) southwest of Newton Falls, 6 mi (10 km) upstream from mouth, and 5 mi (8 km) downstream from Michael J. Kirwan Dam.

DRAINAGE AREA.--96.3 mi² (249 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1926 to current year.

REVISED RECORDS.--WSP 973: 1926-30, 1933, 1934(M), 1936-38, 1939(M), 1940. WSP 1385: 1929(M), 1945. WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 912.2 ft (278.04 m) above mean sea level, Corps of Engineers bench mark. Prior to Aug. 30, 1929, nonrecording gage at site 75 ft (23 m) upstream at same datum.

REMARKS.--Records good. Flow regulated by Michael J. Kirwan Reservoir (see station 03092450) since December 1966.

AVERAGE DISCHARGE.--51 years, 98.0 ft³/s (2.775 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,340 ft³/s (236 m³/s) Jan. 22, 1959, gage height, 13.60 ft (4.145 m); minimum daily, 3.0 ft³/s (0.085 m³/s) Sept. 19, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 596 ft³/s (16.9 m³/s) Feb. 24, gage height, 4.97 ft (1.515 m); minimum daily, 22 ft³/s (0.62 m³/s) Aug. 27, 29, 30, Sept. 5-12, 23, 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 71 | 120 | 139 | 131 | 70 | 45 | 34 | 30 | 123 | 106 | 90 | 23 |
| 2 | 71 | 112 | 139 | 130 | 69 | 38 | 218 | 34 | 102 | 99 | 93 | 24 |
| 3 | 71 | 111 | 170 | 131 | 70 | 36 | 208 | 36 | 100 | 102 | 93 | 25 |
| 4 | 71 | 111 | 132 | 129 | 70 | 61 | 70 | 37 | 100 | 125 | 93 | 23 |
| 5 | 71 | 109 | 134 | 131 | 69 | 74 | 77 | 42 | 100 | 125 | 93 | 22 |
| 6 | 71 | 109 | 132 | 131 | 69 | 45 | 52 | 34 | 105 | 125 | 92 | 22 |
| 7 | 71 | 109 | 148 | 129 | 67 | 39 | 42 | 31 | 100 | 126 | 80 | 22 |
| 8 | 71 | 109 | 146 | 129 | 72 | 35 | 39 | 30 | 100 | 129 | 47 | 22 |
| 9 | 72 | 109 | 135 | 130 | 69 | 34 | 35 | 28 | 98 | 126 | 26 | 22 |
| 10 | 74 | 111 | 132 | 130 | 69 | 34 | 33 | 28 | 84 | 125 | 26 | 22 |
| 11 | 72 | 111 | 137 | 127 | 69 | 33 | 33 | 28 | 82 | 125 | 28 | 22 |
| 12 | 72 | 111 | 137 | 127 | 72 | 42 | 32 | 28 | 82 | 125 | 37 | 22 |
| 13 | 71 | 109 | 137 | 127 | 75 | 274 | 31 | 28 | 86 | 127 | 28 | 23 |
| 14 | 71 | 109 | 132 | 128 | 90 | 88 | 30 | 28 | 102 | 122 | 25 | 34 |
| 15 | 71 | 109 | 128 | 128 | 65 | 57 | 29 | 28 | 113 | 112 | 24 | 27 |
| 16 | 71 | 107 | 128 | 129 | 50 | 42 | 29 | 46 | 113 | 112 | 23 | 36 |
| 17 | 71 | 107 | 128 | 86 | 44 | 34 | 29 | 121 | 114 | 116 | 27 | 52 |
| 18 | 71 | 106 | 130 | 149 | 38 | 263 | 29 | 123 | 118 | 115 | 25 | 34 |
| 19 | 71 | 106 | 129 | 110 | 34 | 132 | 29 | 123 | 102 | 121 | 23 | 27 |
| 20 | 72 | 106 | 138 | 110 | 30 | 81 | 30 | 121 | 98 | 117 | 23 | 25 |
| 21 | 74 | 106 | 144 | 110 | 28 | 74 | 36 | 121 | 90 | 100 | 25 | 24 |
| 22 | 77 | 107 | 136 | 110 | 26 | 67 | 33 | 120 | 98 | 104 | 39 | 23 |
| 23 | 91 | 107 | 132 | 110 | 81 | 66 | 71 | 120 | 104 | 97 | 31 | 22 |
| 24 | 96 | 107 | 134 | 110 | 391 | 47 | 106 | 120 | 127 | 98 | 25 | 22 |
| 25 | 100 | 106 | 130 | 80 | 274 | 38 | 62 | 123 | 127 | 138 | 24 | 65 |
| 26 | 100 | 107 | 130 | 70 | 110 | 34 | 45 | 136 | 127 | 122 | 23 | 50 |
| 27 | 111 | 107 | 133 | 70 | 84 | 32 | 40 | 136 | 126 | 99 | 22 | 86 |
| 28 | 109 | 107 | 130 | 70 | 64 | 68 | 36 | 136 | 132 | 96 | 23 | 83 |
| 29 | 109 | 114 | 132 | 70 | --- | 85 | 35 | 132 | 131 | 95 | 22 | 95 |
| 30 | 109 | 141 | 129 | 70 | --- | 47 | 32 | 129 | 104 | 96 | 22 | 94 |
| 31 | 116 | --- | 132 | 70 | --- | 38 | --- | 132 | --- | 95 | 23 | --- |
| TOTAL | 2519 | 3300 | 4193 | 3462 | 2319 | 2083 | 1605 | 2409 | 3188 | 3520 | 1275 | 1093 |
| MEAN | 81.3 | 110 | 135 | 112 | 82.8 | 67.2 | 53.5 | 77.7 | 106 | 114 | 41.1 | 36.4 |
| MAX | 116 | 141 | 170 | 149 | 391 | 274 | 218 | 136 | 132 | 138 | 93 | 95 |
| MIN | 71 | 106 | 128 | 70 | 26 | 32 | 29 | 28 | 82 | 95 | 22 | 22 |

CAL YR 1976 TOTAL 42051 MEAN 115 MAX 955 MIN 36
WTR YR 1977 TOTAL 30966 MEAN 84.8 MAX 391 MIN 22

BEAVER RIVER BASIN

31

03092500 WEST BRANCH MAHONING RIVER NEAR NEWTON FALLS, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | |
|--------------|------|---|--|---|--|--|--|--|--|--|---|---|---|
| | | | | | | | | | | | | | |
| MAR 15... | 1730 | 51 | 390 | 7.4 | 9.0 | 10.9 | 94 | 2.2 | 130 | 65 | 34 | 11 | |
| JUL 11... | 1945 | 132 | 385 | 7.7 | 20.5 | 8.6 | 94 | 2.4 | 140 | 65 | 36 | 11 | |
| DATE | | DIS- SOLVED PO- TAS- SIUM (NA) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | |
| MAR 15... | 21 | 3.4 | 80 | 0 | 66 | 5.1 | 63 | 36 | .1 | 5.7 | 214 | .58 | |
| JUL 11... | 19 | 2.9 | 86 | 0 | 71 | 2.7 | 54 | 32 | .1 | 2.3 | 200 | .51 | |
| DATE | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 15... | .01 | .06 | .04 | 2 | 10 | 12 | 110 | 8 | 20 | .0 | 50 | 1.8 | |
| JUL 11... | .00 | .01 | .02 | 2 | 10 | 7 | 10 | 2 | 50 | .0 | 0 | 7.3 | |

BEAVER RIVER BASIN

03093000 EAGLE CREEK AT PHALANX STATION, OH

LOCATION.--Lat 41°15'40", long 80°57'16", Trumbull County, Hydrologic Unit 05030103, on right bank 75 ft (23 m) downstream from county road bridge, 1 mi (2 km) north of Phalanx Station, 2 mi (3 km) downstream from Tinkers Creek, and 4 mi (6 km) upstream from mouth.

DRAINAGE AREA.--97.6 mi² (253 km²).

WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder. Datum of gage is 887.42 ft (270.485 m) above mean sea level, adjustment of 1912, levels by Mahoning Valley Sanitary District. Prior to Sept. 14, 1929, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are fair. Low flow flightly regulated by mill several miles upstream from station.

AVERAGE DISCHARGE.--48 years, 106 ft³/s (3.002 m³/s), 14.75 in/yr (375 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,700 ft³/s (190 m³/s) Jan. 22, 1959, gage height, 13.12 ft (3.999 m); minimum daily, 0.9 ft³/s (0.025 m³/s) Aug. 4, 1939.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,300 ft³/s (36.8 m³/s) and maximums (*):

| Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) | Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) |
|---------|------|---|-------------------------|--------|------|---|-------------------------|
| Feb. 25 | 1100 | *2780 78.7 | *11.97 3.648 | Apr. 3 | 1200 | 1470 41.6 | 10.52 3.206 |
| Mar. 19 | 1030 | 1380 39.1 | 10.46 3.188 | | | | |

Minimum daily discharge, 13 ft³/s (0.37 m³/s) June 28, Sept. 7, 9-10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 33 | 108 | 20 | 30 | 24 | 228 | 120 | 79 | 15 | 68 | 26 | 20 |
| 2 | 28 | 72 | 19 | 28 | 24 | 137 | 238 | 72 | 15 | 69 | 19 | 27 |
| 3 | 23 | 48 | 19 | 28 | 24 | 118 | 1180 | 95 | 15 | 29 | 17 | 31 |
| 4 | 21 | 39 | 19 | 28 | 24 | 154 | 560 | 94 | 17 | 20 | 16 | 27 |
| 5 | 21 | 33 | 19 | 27 | 24 | 306 | 350 | 195 | 17 | 17 | 15 | 22 |
| 6 | 19 | 32 | 19 | 26 | 24 | 238 | 355 | 162 | 21 | 15 | 26 | 18 |
| 7 | 21 | 31 | 55 | 27 | 24 | 137 | 242 | 109 | 27 | 16 | 159 | 13 |
| 8 | 24 | 28 | 127 | 27 | 24 | 108 | 197 | 77 | 21 | 52 | 113 | 16 |
| 9 | 26 | 27 | 92 | 27 | 24 | 93 | 160 | 62 | 23 | 44 | 58 | 13 |
| 10 | 43 | 36 | 59 | 26 | 30 | 90 | 139 | 54 | 42 | 26 | 39 | 13 |
| 11 | 41 | 46 | 83 | 26 | 44 | 79 | 131 | 50 | 26 | 18 | 108 | 17 |
| 12 | 32 | 49 | 115 | 26 | 65 | 74 | 112 | 42 | 23 | 15 | 94 | 15 |
| 13 | 31 | 42 | 70 | 26 | 118 | 574 | 97 | 37 | 20 | 28 | 105 | 21 |
| 14 | 26 | 39 | 50 | 26 | 191 | 729 | 87 | 42 | 17 | 40 | 59 | 167 |
| 15 | 23 | 33 | 42 | 26 | 193 | 292 | 76 | 41 | 19 | 21 | 66 | 173 |
| 16 | 23 | 27 | 40 | 26 | 157 | 179 | 69 | 35 | 15 | 17 | 38 | 125 |
| 17 | 21 | 25 | 38 | 26 | 131 | 120 | 66 | 37 | 17 | 24 | 26 | 232 |
| 18 | 21 | 25 | 36 | 26 | 118 | 300 | 73 | 32 | 55 | 35 | 25 | 168 |
| 19 | 27 | 26 | 35 | 26 | 107 | 1050 | 78 | 29 | 50 | 27 | 19 | 98 |
| 20 | 24 | 25 | 54 | 26 | 95 | 487 | 65 | 31 | 26 | 150 | 17 | 57 |
| 21 | 33 | 25 | 124 | 26 | 81 | 485 | 60 | 32 | 18 | 60 | 21 | 50 |
| 22 | 40 | 24 | 80 | 26 | 72 | 353 | 56 | 27 | 16 | 114 | 172 | 45 |
| 23 | 36 | 21 | 60 | 26 | 146 | 399 | 110 | 22 | 15 | 54 | 157 | 40 |
| 24 | 39 | 19 | 50 | 26 | 668 | 276 | 357 | 17 | 15 | 29 | 63 | 38 |
| 25 | 102 | 19 | 42 | 28 | 2340 | 180 | 337 | 20 | 16 | 62 | 38 | 42 |
| 26 | 85 | 26 | 38 | 30 | 1050 | 128 | 237 | 19 | 21 | 177 | 28 | 45 |
| 27 | 58 | 50 | 36 | 28 | 484 | 104 | 207 | 17 | 17 | 68 | 24 | 39 |
| 28 | 42 | 56 | 34 | 26 | 354 | 162 | 153 | 16 | 13 | 29 | 25 | 34 |
| 29 | 33 | 40 | 32 | 25 | --- | 364 | 114 | 15 | 23 | 27 | 22 | 27 |
| 30 | 33 | 30 | 31 | 24 | --- | 258 | 93 | 16 | 33 | 27 | 18 | 27 |
| 31 | 50 | --- | 31 | 24 | --- | 167 | --- | 17 | --- | 36 | 21 | --- |
| TOTAL | 1079 | 1101 | 1569 | 823 | 6660 | 8369 | 6119 | 1593 | 668 | 1414 | 1634 | 1660 |
| MEAN | 34.8 | 36.7 | 50.6 | 26.5 | 238 | 270 | 204 | 51.4 | 22.3 | 45.6 | 52.7 | 55.3 |
| MAX | 102 | 108 | 127 | 30 | 2340 | 1050 | 1180 | 195 | 55 | 177 | 172 | 232 |
| MIN | 19 | 19 | 19 | 24 | 24 | 74 | 56 | 15 | 13 | 15 | 15 | 13 |
| CFSM | .36 | .38 | .52 | .27 | 2.44 | 2.77 | 2.09 | .53 | .23 | .47 | .54 | .57 |
| IN. | .41 | .42 | .60 | .31 | 2.54 | 3.19 | 2.33 | .61 | .25 | .54 | .62 | .63 |

| CAL YR 1976 | TOTAL | 41826 | MEAN 114 | MAX 2750 | MIN 12 | CFSM 1.17 | IN 15.94 |
|-------------|-------|-------|-----------|----------|--------|-----------|----------|
| WTR YR 1977 | TOTAL | 32689 | MEAN 89.6 | MAX 2340 | MIN 13 | CFSM .92 | IN 12.46 |

BEAVER RIVER BASIN

33

03093000 EAGLE CREEK AT PHALANX STATION, OH--Continued

WATER-QUALITY RECCRDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|------|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| MAR 17... | 1015 | 119 | 323 | 7.6 | 8.0 | 9.6 | 81 | 2.2 | 110 | 54 | 30 | 8.2 |
| JUL 12... | 1125 | 14 | 445 | 7.8 | 23.0 | 7.2 | 83 | 2.7 | 180 | 44 | 49 | 13 |
| | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 17... | 17 | 2.8 | 67 | 0 | 55 | 2.7 | 49 | 32 | .1 | 7.3 | 180 | .59 |
| JUL 12... | 18 | 2.8 | 161 | 0 | 132 | 4.1 | 36 | 26 | .2 | 8.3 | 233 | .33 |
| | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 17... | .01 | .08 | .06 | 1 | 10 | 5 | 170 | 0 | 150 | .0 | 70 | -- |
| JUL 12... | .01 | .06 | .13 | 3 | 20 | 58 | 120 | 3 | 340 | .0 | 0 | 8.7 |

BEAVER RIVER BASIN

03093800 MAHONING RIVER ABOVE DUCK CREEK, AT LEAVITTSBURG, OH

LOCATION.--Lat 41°14'22", long 80°52'56", Trumbull County, Hydrologic Unit 05030103, on left bank 10 ft (3 m) upstream from Ohio Edison Company diversion dam, 30 ft (9 m) upstream from Duck Creek, and 330 ft (101 m) upstream from gaging station at bridge on Leavitt Road in Leavittsburg.

DRAINAGE AREA.--542 mi² (1,404 km²).

PERIOD OF RECORD.--Water years 1952-53, July 1967 to September 1968 (published as "at Leavittsburg"), water years 1968 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1967 to current year.

pH: July 1967 to current year.

WATER TEMPERATURES: July 1967 to current year.

DISSOLVED OXYGEN: July 1967 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. See records of daily discharge for gaging station at Leavittsburg (station 03C94000).

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 780 micromhos May 27, 1969; minimum, 107 micromhos July 12, 1976.

pH: Maximum, 8.5 units Aug. 5, 1968; minimum, 5.2 units Jan. 8, 1973.

WATER TEMPERATURES: Maximum, 28.0°C June 29, 30, 1952; minimum, 0.0°C on many days during winter periods.

DISSOLVED OXYGEN: Maximum, 15.0 mg/L or higher Dec. 31, 1972, Jan. 1-3, 1973; minimum, 4.2 mg/L June 12, 13, 197

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 660 micromhos Feb. 18; minimum, 219 micromhos Mar. 19.

pH: Maximum, 8.1 units Nov. 25; minimum, 6.6 units Feb. 26.

WATER TEMPERATURES: Maximum, 26.5°C July 20; minimum, 0.0°C on many days during winter period.

DISSOLVED OXYGEN: Maximum recorded, 12.0 mg/L Nov. 25, Jan. 9, 10, 13; minimum recorded, 4.8 mg/L Aug. 15.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA, MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|------|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| DATE | TIME | | | | | | | | | | | |
| MAR 16... | 1145 | 470 | 330 | 7.2 | 9.5 | 8.9 | 77 | 2.8 | 110 | 66 | 30 | 8.3 |
| JUL 12... | 0945 | 301 | 425 | 7.7 | 22.5 | 6.1 | 69 | 3.2 | 150 | 77 | 42 | 12 |
| | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- RONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 16... | 20 | 3.5 | 53 | 0 | 43 | 5.4 | 53 | 33 | .1 | 7.0 | 181 | .68 |
| JUL 12... | 20 | 3.7 | 94 | 0 | 77 | 3.0 | 67 | 33 | .1 | 2.8 | 227 | .56 |
| | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHROM- IUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 16... | .01 | .13 | .09 | 1 | 10 | 5 | 140 | 3 | 190 | .0 | 10 | 7.0 |
| JUL 12... | .01 | .10 | .10 | 2 | 10 | 23 | 30 | 3 | 200 | .0 | 10 | 9.1 |

35

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|-----|-----------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 416 | 378 | 456 | 434 | 515 | 476 | --- | --- | 563 | 540 | 338 | 285 |
| 2 | 411 | 387 | 467 | 446 | --- | --- | --- | --- | 555 | 537 | 324 | 300 |
| 3 | 416 | 389 | 455 | 435 | --- | --- | --- | --- | 545 | 539 | 372 | 324 |
| 4 | 419 | 392 | 462 | 449 | --- | --- | --- | --- | 543 | 528 | 408 | 369 |
| 5 | 416 | 392 | 462 | 449 | --- | --- | --- | --- | 545 | 536 | 408 | 363 |
| 6 | 414 | 405 | 462 | 446 | --- | --- | 503 | 473 | 546 | 531 | 366 | 345 |
| 7 | 417 | 410 | 465 | 452 | --- | --- | 510 | 488 | 546 | 521 | 372 | 332 |
| 8 | 420 | 416 | 476 | 458 | --- | --- | 510 | 482 | 560 | 524 | 398 | 366 |
| 9 | 428 | 420 | 476 | 456 | --- | --- | 527 | 479 | 554 | 527 | 414 | 396 |
| 10 | 434 | 416 | 467 | 455 | --- | --- | 548 | 513 | 546 | 525 | 437 | 390 |
| 11 | 435 | 410 | 470 | 456 | --- | --- | 516 | 503 | 575 | 536 | 453 | 420 |
| 12 | 438 | 410 | 476 | 462 | --- | --- | 510 | 501 | 618 | 575 | 509 | 453 |
| 13 | 426 | 405 | 477 | 458 | --- | --- | 540 | 489 | 659 | 618 | 518 | 285 |
| 14 | 432 | 411 | 482 | 453 | --- | --- | 486 | 476 | 641 | 602 | 273 | 243 |
| 15 | 429 | 416 | 482 | 453 | --- | --- | 485 | 476 | 642 | 599 | 308 | 266 |
| 16 | 438 | 423 | 486 | 456 | --- | --- | 501 | 477 | 606 | 581 | 363 | 311 |
| 17 | 444 | 428 | 479 | 468 | --- | --- | 506 | 494 | 656 | 584 | 392 | 354 |
| 18 | 449 | 435 | 488 | 473 | --- | --- | 507 | 476 | 660 | 563 | 414 | 327 |
| 19 | 452 | 431 | 495 | 471 | --- | --- | 543 | 498 | 575 | 543 | 332 | 219 |
| 20 | 443 | 438 | 504 | 482 | --- | --- | 540 | 494 | 570 | 549 | 270 | 237 |
| 21 | 452 | 441 | 503 | 486 | --- | --- | 540 | 528 | 566 | 545 | 288 | 252 |
| 22 | 456 | 447 | 509 | 497 | --- | --- | 548 | 519 | 596 | 551 | 420 | 290 |
| 23 | 461 | 437 | 515 | 494 | --- | --- | 558 | 509 | 603 | 498 | 426 | 380 |
| 24 | 450 | 441 | 525 | 507 | --- | --- | 507 | 501 | 495 | 290 | 464 | 408 |
| 25 | 453 | 440 | 518 | 503 | --- | --- | 515 | 507 | 282 | 230 | 486 | 450 |
| 26 | 477 | 452 | 513 | 497 | --- | --- | 519 | 503 | 254 | 221 | 503 | 465 |
| 27 | 485 | 456 | 509 | 489 | --- | --- | 531 | 512 | 293 | 252 | 510 | 470 |
| 28 | 468 | 438 | 510 | 506 | --- | --- | 573 | 531 | 326 | 296 | 503 | 435 |
| 29 | 461 | 431 | 527 | 504 | --- | --- | 579 | 557 | --- | --- | 434 | 371 |
| 30 | 453 | 444 | 528 | 500 | --- | --- | 584 | 569 | --- | --- | 410 | 377 |
| 31 | 449 | 443 | --- | --- | --- | --- | 579 | 560 | --- | --- | 434 | 413 |
| MONTH | 485 | 378 | 528 | 434 | --- | --- | 584 | 473 | 660 | 221 | 518 | 219 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 456 | 428 | 416 | 377 | 423 | 411 | 437 | 411 | 452 | 432 | 470 | 446 |
| 2 | 453 | 353 | 405 | 395 | 434 | 423 | 450 | 416 | 464 | 432 | 468 | 452 |
| 3 | 339 | 263 | 414 | 386 | 453 | 423 | 449 | 422 | 461 | 435 | 473 | 452 |
| 4 | 327 | 276 | 410 | 401 | 456 | 410 | 450 | 428 | 458 | 432 | 479 | 449 |
| 5 | 368 | 321 | 410 | 377 | 438 | 431 | 438 | 399 | 453 | 434 | 479 | 450 |
| 6 | 423 | 369 | 392 | 372 | 452 | 438 | 426 | 395 | 453 | 440 | 474 | 453 |
| 7 | 449 | 420 | 404 | 380 | 458 | 428 | 423 | 398 | 450 | 425 | 480 | 452 |
| 8 | 459 | 426 | 426 | 389 | 452 | 434 | 431 | 408 | 465 | 393 | 482 | 455 |
| 9 | 458 | 419 | 432 | 411 | 456 | 446 | 434 | 404 | 386 | 332 | 480 | 455 |
| 10 | 456 | 432 | 435 | 405 | 467 | 419 | 437 | 413 | 417 | 356 | 480 | 462 |
| 11 | 452 | 416 | 437 | 399 | 455 | 411 | 437 | 410 | 449 | 420 | 489 | 453 |
| 12 | 441 | 393 | 435 | 399 | 461 | 446 | 431 | 410 | 468 | 447 | 497 | 470 |
| 13 | --- | --- | 420 | 396 | 453 | 417 | 426 | 411 | 473 | 447 | 488 | 476 |
| 14 | --- | --- | 425 | 395 | 444 | 410 | 438 | 401 | 467 | 453 | 489 | 465 |
| 15 | 419 | 384 | 434 | 393 | 450 | 408 | 432 | 408 | 476 | 452 | 477 | 456 |
| 16 | 429 | 404 | 432 | 387 | 443 | 405 | 432 | 411 | 474 | 458 | 477 | 470 |
| 17 | 434 | 395 | 423 | 386 | 435 | 408 | 434 | 416 | 474 | 458 | 471 | 449 |
| 18 | 431 | 401 | 416 | 384 | 437 | 407 | 435 | 405 | 485 | 459 | 476 | 465 |
| 19 | 426 | 396 | 398 | 366 | 438 | 410 | 432 | 417 | 485 | 471 | 479 | 462 |
| 20 | 422 | 393 | 396 | 362 | 443 | 408 | 444 | 410 | 485 | 452 | 488 | 474 |
| 21 | 425 | 399 | 395 | 366 | 447 | 422 | 444 | 411 | 482 | 459 | --- | --- |
| 22 | 422 | 408 | 390 | 366 | 449 | 413 | 461 | 432 | 479 | 452 | --- | --- |
| 23 | 429 | 402 | 390 | 363 | 447 | 417 | 447 | 429 | 467 | 435 | --- | --- |
| 24 | 402 | 345 | 390 | 368 | 444 | 414 | 458 | 441 | 462 | 449 | --- | --- |
| 25 | 347 | 312 | 392 | 369 | 434 | 402 | 456 | 323 | 476 | 449 | --- | --- |
| 26 | 351 | 324 | 425 | 378 | 435 | 399 | 461 | 425 | 482 | 446 | --- | --- |
| 27 | 365 | 333 | 437 | 395 | 435 | 404 | 453 | 387 | 465 | 443 | 453 | 435 |
| 28 | 387 | 357 | 432 | 392 | 426 | 416 | 414 | 396 | 456 | 438 | 545 | 455 |
| 29 | 407 | 369 | 429 | 401 | 434 | 414 | 447 | 417 | 456 | 444 | 524 | 467 |
| 30 | 413 | 372 | 431 | 405 | 447 | 417 | 447 | 429 | 465 | 449 | 489 | 464 |
| 31 | --- | --- | 428 | 402 | --- | --- | 452 | 426 | 470 | 446 | --- | --- |
| MONTH | 459 | 263 | 437 | 362 | 467 | 399 | 461 | 323 | 485 | 332 | 545 | 435 |
| YEAR | 660 | 219 | | | | | | | | | | |

03093800 MAHONING RIVER ABOVE DUCK CREEK, AT LEAVITTSBURG, OH--Continued

PH (UNITS), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|-----|-------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 7.6 | 7.4 | 7.5 | 7.4 | 7.8 | 7.6 | --- | --- | 7.7 | 7.5 | 7.1 | 6.8 |
| 2 | 7.6 | 7.5 | 7.6 | 7.5 | --- | --- | --- | --- | 7.6 | 7.4 | 7.2 | 7.0 |
| 3 | 7.7 | 7.5 | 7.7 | 7.5 | --- | --- | --- | --- | 7.5 | 7.5 | 7.4 | 7.2 |
| 4 | 7.7 | 7.5 | 7.6 | 7.5 | --- | --- | --- | --- | 7.5 | 7.3 | 7.4 | 7.4 |
| 5 | 7.7 | 7.6 | 7.7 | 7.6 | --- | --- | --- | --- | 7.7 | 7.5 | 7.5 | 7.4 |
| 6 | 7.6 | 7.6 | 7.7 | 7.6 | --- | --- | 7.5 | 7.3 | 7.7 | 7.5 | 7.5 | 7.3 |
| 7 | 7.7 | 7.6 | 7.7 | 7.6 | --- | --- | 7.7 | 7.6 | 7.7 | 7.4 | 7.4 | 7.3 |
| 8 | 7.7 | 7.6 | 7.7 | 7.6 | --- | --- | 7.9 | 7.5 | 7.8 | 7.4 | 7.4 | 7.3 |
| 9 | 7.7 | 7.6 | 7.7 | 7.6 | --- | --- | 7.7 | 7.4 | 7.7 | 7.3 | 7.5 | 7.4 |
| 10 | 7.6 | 7.5 | 7.7 | 7.6 | --- | --- | 7.7 | 7.5 | 7.5 | 7.0 | 7.6 | 7.3 |
| 11 | 7.7 | 7.6 | 7.8 | 7.6 | --- | --- | 7.7 | 7.6 | 7.4 | 7.2 | 7.6 | 7.5 |
| 12 | 7.8 | 7.6 | 7.8 | 7.6 | --- | --- | 7.7 | 7.6 | 7.5 | 7.2 | 7.6 | 7.5 |
| 13 | 7.7 | 7.6 | 7.8 | 7.6 | --- | --- | 7.7 | 7.5 | 7.6 | 7.3 | 7.6 | 7.1 |
| 14 | 7.7 | 7.6 | 7.8 | 7.6 | --- | --- | 7.7 | 7.4 | 7.5 | 7.3 | 7.1 | 6.9 |
| 15 | 7.6 | 7.5 | 7.8 | 7.7 | --- | --- | 7.8 | 7.5 | 7.5 | 7.3 | 7.2 | 6.9 |
| 16 | 7.5 | 7.4 | 7.8 | 7.7 | --- | --- | 7.8 | 7.8 | 7.6 | 7.1 | 7.4 | 7.2 |
| 17 | 7.6 | 7.4 | 7.9 | 7.8 | --- | --- | 7.8 | 7.7 | 7.6 | 7.3 | 7.5 | 7.3 |
| 18 | 7.6 | 7.5 | 8.0 | 7.9 | --- | --- | 7.8 | 7.6 | 7.6 | 7.0 | 7.5 | 7.2 |
| 19 | 7.6 | 7.5 | 7.9 | 7.9 | --- | --- | 7.8 | 7.6 | 7.2 | 6.8 | 7.3 | 6.9 |
| 20 | 7.5 | 7.5 | 7.9 | 7.9 | --- | --- | 7.8 | 7.5 | 7.3 | 7.0 | 7.1 | 7.0 |
| 21 | 7.5 | 7.5 | 7.9 | 7.9 | --- | --- | 7.7 | 7.6 | 7.4 | 7.1 | 7.1 | 6.9 |
| 22 | 7.6 | 7.5 | 8.0 | 7.9 | --- | --- | 7.7 | 7.5 | 7.5 | 7.1 | 7.4 | 7.1 |
| 23 | 7.7 | 7.5 | 8.0 | 7.7 | --- | --- | 7.8 | 7.5 | 7.5 | 7.3 | 7.4 | 7.3 |
| 24 | 7.6 | 7.5 | 8.0 | 7.9 | --- | --- | 7.6 | 7.5 | 7.4 | 6.9 | 7.6 | 7.4 |
| 25 | 7.5 | 7.5 | 8.1 | 7.9 | --- | --- | 7.6 | 7.5 | 6.9 | 6.7 | 7.7 | 7.5 |
| 26 | 7.6 | 7.4 | 8.0 | 7.9 | --- | --- | 7.7 | 7.5 | 6.8 | 6.6 | 7.7 | 7.5 |
| 27 | 7.6 | 7.5 | 7.9 | 7.8 | --- | --- | 7.7 | 7.6 | 7.0 | 6.8 | 7.7 | 7.6 |
| 28 | 7.7 | 7.5 | 7.9 | 7.7 | --- | --- | 7.8 | 7.6 | 7.1 | 7.0 | 7.7 | 7.5 |
| 29 | 7.7 | 7.5 | 7.8 | 7.6 | --- | --- | 7.8 | 7.7 | --- | --- | 7.5 | 7.4 |
| 30 | 7.7 | 7.6 | 7.8 | 7.6 | --- | --- | 7.8 | 7.7 | --- | --- | 7.6 | 7.4 |
| 31 | 7.6 | 7.5 | --- | --- | --- | --- | 7.7 | 7.6 | --- | --- | 7.6 | 7.5 |
| MONTH | 7.8 | 7.4 | 8.1 | 7.4 | --- | --- | 7.9 | 7.3 | 7.8 | 6.6 | 7.7 | 6.8 |

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-----|-------|-----|-----|-----|------|-----|------|-----|--------|-----|-----------|-----|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 7.7 | 7.5 | 7.6 | 7.4 | 7.7 | 7.6 | 7.4 | 7.3 | 7.6 | 7.4 | 7.5 | 7.3 |
| 2 | 7.6 | 7.5 | 7.6 | 7.4 | 7.7 | 7.6 | 7.4 | 7.3 | 7.6 | 7.4 | 7.5 | 7.3 |
| 3 | --- | --- | 7.6 | 7.3 | 7.7 | 7.5 | 7.4 | 7.2 | 7.6 | 7.5 | 7.5 | 7.4 |
| 4 | --- | --- | 7.6 | 7.5 | 7.7 | 7.6 | 7.3 | 7.3 | 7.5 | 7.3 | 7.5 | 7.4 |
| 5 | --- | --- | 7.6 | 7.4 | 7.7 | 7.6 | 7.4 | 7.3 | 7.5 | 7.4 | 7.5 | 7.2 |
| 6 | --- | --- | 7.6 | 7.4 | 7.7 | 7.6 | 7.5 | 7.3 | 7.5 | 7.4 | 7.5 | |

37

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | | | | |
|-------|---------|------|------|------|----------|------|------|------|----------|------|------|------|---------|-----|-----|--------|----------|--|-----|-----------|-------|--|--|--|
| | OCTOBER | | | | NOVEMBER | | | | DECEMBER | | | | JANUARY | | | | FEBRUARY | | | | MARCH | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 15.5 | 13.5 | 7.0 | 6.0 | 0.5 | 0.0 | --- | --- | --- | --- | 0.5 | 0.5 | 2.5 | 0.5 | | | | | | | | | | |
| 2 | 16.0 | 15.0 | 6.0 | 5.5 | --- | --- | --- | --- | --- | --- | 1.0 | 0.5 | 2.0 | 1.0 | | | | | | | | | | |
| 3 | 17.0 | 16.0 | 7.5 | 6.0 | --- | --- | --- | --- | --- | --- | 0.5 | 0.5 | 2.0 | 1.0 | | | | | | | | | | |
| 4 | 17.0 | 15.5 | 6.5 | 5.5 | --- | --- | --- | --- | --- | --- | 0.5 | 0.5 | 3.5 | 2.0 | | | | | | | | | | |
| 5 | 17.0 | 16.0 | 6.0 | 5.5 | --- | --- | --- | --- | --- | --- | 0.5 | 0.5 | 3.5 | 3.0 | | | | | | | | | | |
| 6 | 17.0 | 16.5 | 5.5 | 5.0 | --- | --- | 1.0 | 0.0 | 0.5 | 0.5 | 4.0 | 2.5 | | | | | | | | | | | | |
| 7 | 17.0 | 16.0 | 5.5 | 4.5 | --- | --- | 0.5 | 0.0 | 0.5 | 0.0 | 4.0 | 3.0 | | | | | | | | | | | | |
| 8 | 16.0 | 15.0 | 5.0 | 4.0 | --- | --- | 0.5 | 0.0 | 0.5 | 0.0 | 4.5 | 3.0 | | | | | | | | | | | | |
| 9 | 15.0 | 14.0 | 4.5 | 3.5 | --- | --- | 0.5 | 0.0 | 1.0 | 0.5 | 6.5 | 4.0 | | | | | | | | | | | | |
| 10 | 14.0 | 13.0 | 5.0 | 4.0 | --- | --- | 0.0 | 0.0 | 1.0 | 0.5 | 7.5 | 6.0 | | | | | | | | | | | | |
| 11 | 13.5 | 12.5 | 5.0 | 3.5 | --- | --- | 0.0 | 0.0 | 1.0 | 0.5 | 8.5 | 7.0 | | | | | | | | | | | | |
| 12 | 14.0 | 12.5 | 4.5 | 4.0 | --- | --- | 0.0 | 0.0 | 1.0 | 0.5 | 9.5 | 8.0 | | | | | | | | | | | | |
| 13 | 14.5 | 13.5 | 4.5 | 4.0 | --- | --- | 0.5 | 0.0 | 0.5 | 0.5 | 10.0 | 9.5 | | | | | | | | | | | | |
| 14 | 14.0 | 13.5 | 4.0 | 3.5 | --- | --- | 0.5 | 0.5 | 1.0 | 0.5 | 10.5 | 9.0 | | | | | | | | | | | | |
| 15 | 13.5 | 13.0 | 4.0 | 3.0 | --- | --- | 0.5 | 0.5 | 0.5 | 0.5 | 10.0 | 8.0 | | | | | | | | | | | | |
| 16 | 13.0 | 12.5 | 4.0 | 3.0 | --- | --- | 0.5 | 0.0 | 1.0 | 0.5 | 10.5 | 9.5 | | | | | | | | | | | | |
| 17 | 12.5 | 11.0 | 4.5 | 1.5 | --- | --- | 0.0 | 0.0 | 0.5 | 0.0 | 10.0 | 9.0 | | | | | | | | | | | | |
| 18 | 11.0 | 10.0 | 4.0 | 3.5 | --- | --- | 0.5 | 0.0 | 1.0 | 0.0 | 8.5 | 5.0 | | | | | | | | | | | | |
| 19 | 10.5 | 9.5 | 4.0 | 3.5 | --- | --- | 0.5 | 0.0 | 1.0 | 0.5 | 5.5 | 3.5 | | | | | | | | | | | | |
| 20 | 10.5 | 10.0 | 4.0 | 3.5 | --- | --- | 0.5 | 0.0 | 0.5 | 0.0 | 4.5 | 3.5 | | | | | | | | | | | | |
| 21 | 10.5 | 9.5 | 3.5 | 3.0 | --- | --- | 0.5 | 0.0 | 0.5 | 0.5 | 5.5 | 3.0 | | | | | | | | | | | | |
| 22 | 9.5 | 8.5 | 3.0 | 2.5 | --- | --- | 0.5 | 0.0 | 0.5 | 0.0 | 6.0 | 5.0 | | | | | | | | | | | | |
| 23 | 8.5 | 8.0 | 3.5 | 2.5 | --- | --- | 0.5 | 0.0 | 0.0 | 0.0 | 5.5 | 4.5 | | | | | | | | | | | | |
| 24 | 9.0 | 8.0 | 2.5 | 2.0 | --- | --- | 0.5 | 0.5 | 0.5 | 0.0 | 5.5 | 4.0 | | | | | | | | | | | | |
| 25 | 9.0 | 9.0 | 2.5 | 2.0 | --- | --- | 0.5 | 0.5 | 1.0 | 0.0 | 5.5 | 4.0 | | | | | | | | | | | | |
| 26 | 9.0 | 8.0 | 3.0 | 2.0 | --- | --- | 0.5 | 0.0 | 2.0 | 0.5 | 6.5 | 4.5 | | | | | | | | | | | | |
| 27 | 8.0 | 7.0 | 4.5 | 3.0 | --- | --- | 0.5 | 0.0 | 1.5 | 0.5 | 6.5 | 6.0 | | | | | | | | | | | | |
| 28 | 7.5 | 6.5 | 4.5 | 4.0 | --- | --- | 0.5 | 0.0 | 1.0 | 0.5 | 8.5 | 6.5 | | | | | | | | | | | | |
| 29 | 8.0 | 6.0 | 3.5 | 1.5 | --- | --- | 0.5 | 0.0 | --- | --- | 11.5 | 8.5 | | | | | | | | | | | | |
| 30 | 7.5 | 6.5 | 0.5 | 0.0 | --- | --- | 0.5 | 0.0 | --- | --- | 13.0 | 11.5 | | | | | | | | | | | | |
| 31 | 7.5 | 7.0 | --- | --- | --- | --- | 0.5 | 0.0 | --- | --- | 11.0 | 10.0 | | | | | | | | | | | | |
| MONTH | 17.0 | 6.0 | 7.5 | 0.0 | --- | --- | 1.0 | 0.0 | 2.0 | 0.0 | 13.0 | 0.5 | | | | | | | | | | | | |
| DAY | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | | | | |
| APRIL | | | | MAY | | | | JUNE | | | | JULY | | | | AUGUST | | | | SEPTEMBER | | | | |
| 1 | 10.0 | 9.0 | 15.5 | 13.0 | 19.5 | 18.5 | 22.5 | 21.0 | 24.5 | 23.5 | 23.5 | 22.5 | | | | | | | | | | | | |
| 2 | 10.5 | 9.0 | 15.5 | 15.0 | 19.0 | 17.0 | 22.5 | 21.0 | 24.0 | 23.0 | 24.0 | 23.0 | | | | | | | | | | | | |
| 3 | 11.5 | 10.0 | 17.0 | 15.0 | 18.5 | 16.5 | 23.0 | 21.0 | 24.0 | 23.0 | 24.0 | 23.0 | | | | | | | | | | | | |
| 4 | 10.5 | 9.5 | 16.5 | 16.0 | 18.5 | 16.5 | 23.0 | 22.0 | 24.5 | 23.0 | 23.5 | 22.0 | | | | | | | | | | | | |
| 5 | 10.0 | 9.0 | 17.5 | 16.0 | 18.0 | 17.5 | 23.5 | 22.0 | 25.5 | 24.5 | 22.5 | 22.0 | | | | | | | | | | | | |
| 6 | 8.5 | 7.0 | 18.5 | 17.0 | 17.5 | 16.5 | 25.0 | 23.0 | 25.0 | 24.5 | 23.0 | 22.0 | | | | | | | | | | | | |
| 7 | 7.5 | 7.0 | 20.0 | 18.5 | 16.5 | 15.0 | 26.0 | 24.5 | 24.5 | 24.0 | 22.5 | 21.5 | | | | | | | | | | | | |
| 8 | 8.5 | 7.0 | 18.5 | 16.5 | 15.0 | 14.0 | 25.5 | 24.5 | 24.5 | 23.5 | 22.0 | 21.0 | | | | | | | | | | | | |
| 9 | 9.0 | 7.5 | 16.5 | 14.5 | 15.0 | 14.0 | 25.0 | 24.0 | 24.0 | 23.0 | 22.0 | 21.5 | | | | | | | | | | | | |
| 10 | 9.0 | 8.0 | 15.0 | 13.5 | 16.0 | 14.0 | 25.0 | 23.5 | 24.5 | 23.5 | 22.5 | 22.0 | | | | | | | | | | | | |
| 11 | 10.5 | 8.5 | 15.5 | 13.5 | 17.0 | 15.0 | 24.0 | 22.5 | 25.5 | 24.0 | 22.0 | 21.0 | | | | | | | | | | | | |
| 12 | 12.5 | 10.0 | 16.0 | 14.5 | 16.5 | 16.0 | 24.5 | 23.0 | 25.5 | 24.0 | 20.0 | 19.5 | | | | | | | | | | | | |
| 13 | 13.0 | 12.0 | 17.5 | 15.5 | 18.0 | 16.0 | 25.5 | 23.0 | 25.0 | 24.0 | 19.5 | 19.5 | | | | | | | | | | | | |
| 14 | 14.0 | 13.0 | 18.5 | 16.0 | 18.5 | 17.0 | 26.0 | 24.0 | 24.5 | 23.5 | 20.0 | 19.0 | | | | | | | | | | | | |
| 15 | 14.5 | 12.5 | 19.5 | 17.0 | 19.5 | 17.5 | 25.5 | 24.5 | 24.5 | 23.0 | 19.0 | 18.5 | | | | | | | | | | | | |
| 16 | 14.0 | 13.0 | 19.5 | 17.5 | 20.0 | 18.5 | 26.0 | 24.5 | 24.0 | 23.0 | 19.0 | 18.5 | | | | | | | | | | | | |
| 17 | 14.0 | 13.0 | 20.5 | 18.0 | 20.5 | 19.0 | 26.0 | 24.5 | 24.5 | 23.5 | 20.0 | 19.0 | | | | | | | | | | | | |
| 18 | 14.5 | 13.0 | 21.5 | 19.5 | 21.0 | 19.0 | 26.5 | 25.0 | 23.5 | 22.5 | 21.0 | 19.5 | | | | | | | | | | | | |
| 19 | 15.5 | 14.0 | 22.0 | 20.5 | 21.5 | 19.5 | 26.0 | 25.0 | 23.0 | 21.0 | 21.5 | 20.0 | | | | | | | | | | | | |
| 20 | 17.0 | 15.0 | 22.5 | 21.0 | 21.0 | 20.0 | 26.5 | 24.5 | 21.5 | 20.5 | 21.0 | 20.5 | | | | | | | | | | | | |
| 21 | 18.5 | 16.5 | 23.0 | 21.0 | 21.5 | 20.0 | 26.0 | 25.0 | 21.0 | 20.5 | --- | --- | | | | | | | | | | | | |
| 22 | 18.0 | 17.5 | 23.0 | 21.5 | 21.0 | 19.5 | 25.5 | 24.5 | 21.5 | 20.0 | --- | --- | | | | | | | | | | | | |
| 23 | 18.0 | 16.0 | 23.0 | 22.0 | 20.5 | 19.0 | 24.5 | 23.0 | 21.0 | 20.0 | --- | --- | | | | | | | | | | | | |
| 24 | 15.5 | 13.5 | 23.0 | 22.5 | 20.0 | 19.0 | 24.0 | 22.5 | 21.0 | 20.5 | --- | --- | | | | | | | | | | | | |
| 25 | 13.5 | 11.5 | 23.5 | 22.0 | 21.0 | 19.5 | 23.5 | 23.0 | 21.5 | 19.0 | --- | --- | | | | | | | | | | | | |
| 26 | 11.5 | 11.0 | 22.5 | 20.5 | 22.5 | 20.0 | 23.5 | 22.0 | 21.0 | 19.5 | --- | --- | | | | | | | | | | | | |
| 27 | 13.0 | 10.5 | 20.5 | 19.0 | 22.5 | 20.5 | 23.0 | 21.0 | 23.0 | 20.5 | 20.5 | 19.5 | | | | | | | | | | | | |
| 28 | 12.5 | 12.0 | 20.5 | 18.5 | 22.0 | 21.0 | 22.0 | 20.5 | 25.0 | 22.5 | 20.0 | 19.0 | | | | | | | | | | | | |
| 29 | 13.5 | 11.5 | 19.5 | 18.5 | 22.5 | 20.5 | 22.0 | 21.0 | 25.5 | 24.5 | 19.0 | 18.0 | | | | | | | | | | | | |
| 30 | 14.0 | 11.5 | 19.5 | 18.5 | 21.5 | 21.0 | 23.5 | 21.5 | 25.5 | 23.5 | 19.5 | 17.5 | | | | | | | | | | | | |
| 31 | --- | --- | 19.5 | 18.5 | --- | --- | 24.5 | 22.5 | 23.5 | 22.5 | --- | --- | | | | | | | | | | | | |
| MONTH | 18.5 | 7.0 | 23.5 | 13.0 | 22.5 | 14.0 | 26.5 | 20.5 | 25.5 | 19.0 | 24.0 | 17.5 | | | | | | | | | | | | |
| YEAR | 26.5 | 0.0 | | | | | | | | | | | | | | | | | | | | | | |

03093800 MAHONING RIVER ABOVE DUCK CREEK, AT LEAVITTSBURG, OH--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-----------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 8.0 | 7.4 | 10.0 | 9.2 | 11.9 | 11.6 | --- | --- | 9.8 | 9.6 | 10.2 | 9.8 |
| 2 | 8.0 | 7.5 | 10.3 | 10.0 | --- | --- | --- | --- | 9.8 | 9.5 | 11.3 | 10.0 |
| 3 | 8.0 | 7.8 | 10.3 | 10.1 | --- | --- | --- | --- | 9.6 | 9.5 | 11.3 | 11.2 |
| 4 | 8.0 | 7.7 | 10.3 | 10.0 | --- | --- | --- | --- | 9.6 | 9.5 | 11.2 | 10.8 |
| 5 | 8.0 | 7.7 | 10.4 | 10.1 | --- | --- | --- | --- | 9.5 | 9.3 | 10.9 | 10.7 |
| 6 | 7.8 | 7.5 | 10.6 | 10.2 | --- | --- | 11.5 | 11.2 | 9.3 | 9.1 | 11.2 | 10.9 |
| 7 | 7.7 | 7.2 | 10.5 | 10.2 | --- | --- | 11.8 | 11.3 | 9.5 | 9.1 | 11.1 | 10.9 |
| 8 | 7.8 | 7.3 | 10.8 | 10.1 | --- | --- | 11.8 | 11.1 | 9.6 | 9.3 | 11.1 | 10.9 |
| 9 | 8.0 | 7.5 | --- | --- | --- | --- | 12.0 | 11.2 | 9.6 | 9.4 | 11.0 | 10.8 |
| 10 | 7.8 | 7.6 | --- | --- | --- | --- | 12.0 | 11.7 | 9.6 | 9.4 | 10.8 | 10.4 |
| 11 | 8.3 | 7.8 | 10.9 | 10.1 | --- | --- | 11.7 | 11.1 | 9.6 | 9.5 | 10.5 | 10.1 |
| 12 | 8.5 | 8.1 | 11.2 | 10.9 | --- | --- | 11.7 | 11.1 | 9.6 | 9.3 | 10.3 | 9.7 |
| 13 | 8.3 | 8.0 | 11.3 | 11.1 | --- | --- | 12.0 | 11.7 | 9.5 | 9.2 | 9.4 | 8.1 |
| 14 | 8.1 | 7.8 | 11.3 | 11.1 | --- | --- | 11.9 | 11.5 | 9.3 | 9.1 | 8.2 | 7.7 |
| 15 | 8.3 | 7.6 | 11.3 | 11.2 | --- | --- | 11.7 | 11.2 | 9.8 | 9.3 | 8.8 | 8.2 |
| 16 | 8.3 | 7.9 | 11.4 | 11.1 | --- | --- | 11.4 | 10.8 | 9.9 | 9.6 | 9.6 | 8.8 |
| 17 | 8.7 | 7.9 | 11.6 | 11.3 | --- | --- | 11.1 | 10.6 | 10.0 | 9.7 | 9.8 | 9.3 |
| 18 | 8.9 | 8.4 | 11.4 | 11.2 | --- | --- | 11.4 | 11.0 | 10.0 | 9.3 | 9.9 | 9.5 |
| 19 | 9.1 | 8.6 | 11.4 | 11.2 | --- | --- | 11.5 | 10.4 | 9.6 | 9.1 | 9.5 | 8.2 |
| 20 | 8.9 | 8.5 | 11.7 | 11.3 | --- | --- | 10.8 | 10.2 | 9.4 | 8.9 | 9.5 | 8.9 |
| 21 | 8.8 | 8.4 | 11.4 | 11.2 | --- | --- | 10.4 | 10.1 | 9.1 | 8.9 | --- | --- |
| 22 | 9.0 | 8.5 | 11.6 | 11.2 | --- | --- | 10.4 | 10.1 | 9.7 | 9.0 | --- | --- |
| 23 | 9.5 | 8.9 | 11.7 | 11.5 | --- | --- | 10.5 | 10.2 | 10.0 | 9.5 | --- | --- |
| 24 | 9.5 | 9.3 | 11.9 | 11.7 | --- | --- | 10.5 | 10.3 | 11.1 | 10.1 | --- | --- |
| 25 | 9.0 | 8.6 | 12.0 | 11.7 | --- | --- | 10.8 | 10.5 | 10.7 | 8.9 | --- | --- |
| 26 | 9.3 | 8.9 | 11.8 | 11.4 | --- | --- | 10.5 | 9.9 | 10.5 | 8.4 | --- | --- |
| 27 | 9.9 | 9.3 | 11.4 | 11.0 | --- | --- | 10.4 | 9.7 | 10.0 | 8.3 | --- | --- |
| 28 | 10.3 | 9.8 | 10.9 | 10.4 | --- | --- | 10.1 | 9.7 | 10.0 | 9.5 | --- | --- |
| 29 | 10.4 | 10.0 | 10.9 | 10.2 | --- | --- | --- | --- | --- | --- | --- | --- |
| 30 | 10.3 | 10.1 | 11.6 | 10.9 | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | 10.1 | 9.4 | --- | --- | --- | --- | --- | --- | --- | --- | 10.2 | 9.0 |
| MONTH | 10.4 | 7.2 | 12.0 | 9.2 | --- | --- | 12.0 | 9.7 | 11.1 | 8.3 | 11.3 | 6.8 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 11.0 | 10.3 | 7.9 | 6.6 | 7.3 | 6.7 | 6.7 | 5.9 | 8.0 | 6.5 | 7.2 | 6.2 |
| 2 | --- | --- | 7.0 | 5.9 | 7.0 | 6.2 | 6.8 | 5.6 | 7.8 | 6.4 | 6.8 | 6.1 |
| 3 | --- | --- | 6.1 | 5.3 | 6.8 | 5.9 | 6.9 | 5.9 | 8.4 | 6.5 | 6.6 | 5.8 |
| 4 | --- | --- | 7.1 | 5.4 | 7.3 | 6.4 | 6.6 | 5.8 | 8.1 | 6.3 | 6.6 | 5.8 |
| 5 | --- | --- | 7.5 | 6.1 | 7.1 | 6.4 | 7.1 | 5.9 | 7.6 | 6.0 | 6.5 | 5.8 |
| 6 | --- | --- | 7.4 | 5.9 | 6.4 | 5.9 | 7.4 | 6.2 | 6.9 | 5.9 | 6.9 | 5.9 |
| 7 | --- | --- | 7.6 | 5.7 | 6.8 | 5.9 | 7.2 | 6.0 | 6.2 | 5.5 | 6.9 | 6.1 |
| 8 | --- | --- | 7.2 | 5.6 | 7.6 | 6.7 | 6.9 | 5.8 | 6.5 | 5.8 | 6.9 | 6.5 |
| 9 | --- | --- | 7.0 | 4.9 | --- | --- | 6.7 | 5.3 | 6.0 | 5.5 | 7.1 | 6.4 |
| 10 | --- | --- | 7.4 | 5.5 | --- | --- | 7.3 | 5.7 | 5.5 | 5.0 | 6.8 | 5.2 |
| 11 | --- | --- | 9.9 | 6.6 | --- | --- | 7.2 | 6.0 | 6.6 | 5.2 | 7.1 | 6.2 |
| 12 | --- | --- | 9.8 | 8.9 | --- | --- | 7.5 | 6.0 | 6.9 | 5.5 | 7.2 | 6.8 |
| 13 | 10.5 | 9.8 | 9.3 | 8.4 | --- | --- | 7.9 | 6.2 | 6.4 | 5.7 | 7.0 | 6.6 |
| 14 | 10.8 | 9.1 | 8.7 | 8.0 | --- | --- | 8.1 | 6.3 | 6.3 | 5.6 | 6.9 | 6.5 |
| 15 | 10.5 | 9.6 | 8.7 | 7.7 | --- | --- | 7.6 | 6.1 | 7.1 | 4.8 | 7.5 | 6.7 |
| 16 | 9.9 | 9.2 | 8.7 | 7.7 | --- | --- | 7.2 | 6.0 | 7.6 | 6.3 | 7.5 | 7.2 |
| 17 | 10.0 | 8.9 | 8.6 | 7.8 | --- | --- | 7.0 | 6.1 | 6.9 | 5.9 | 7.5 | 7.3 |
| 18 | 10.0 | 9.2 | 8.4 | 7.3 | --- | --- | 6.7 | 5.4 | 7.3 | 6.0 | 7.5 | 7.2 |
| 19 | 9.6 | 8.9 | 8.2 | 7.0 | --- | --- | 6.3 | 5.4 | 7.2 | 6.4 | 7.3 | 7.0 |
| 20 | 9.2 | 8.2 | 8.3 | 6.9 | --- | --- | 5.9 | 5.1 | 7.4 | 6.5 | 7.2 | 6.9 |
| 21 | 8.6 | 7.7 | 8.4 | 6.9 | --- | --- | 6.3 | 5.1 | 7.2 | 6.7 | --- | --- |
| 22 | 7.9 | 6.9 | 8.3 | 7.0 | --- | --- | 6.3 | 5.4 | 7.4 | 6.4 | --- | --- |
| 23 | 7.0 | 6.4 | 8.2 | 7.0 | --- | --- | 6.7 | 5.6 | 7.4 | 6.7 | --- | --- |
| 24 | 7.4 | 6.7 | 7.9 | 6.8 | --- | --- | 6.6 | 5.9 | 7.1 | 6.8 | --- | --- |
| 25 | 7.9 | 7.4 | 7.7 | 6.5 | --- | --- | 6.8 | 6.3 | 7.2 | 6.5 | --- | --- |
| 26 | 8.5 | 7.9 | 7.8 | 6.5 | --- | --- | 7.1 | 6.2 | 7.2 | 6.7 | --- | --- |
| 27 | 9.9 | 8.4 | 7.8 | 6.7 | 8.0 | 6.8 | 6.8 | 5.9 | 7.6 | 6.6 | 8.0 | 7.9 |
| 28 | 9.7 | 9.2 | 7.8 | 6.9 | 7.4 | 6.6 | 6.6 | 5.8 | 7.5 | 6.5 | 8.2 | 7.8 |
| 29 | 9.1 | 6.8 | 7.7 | 6.9 | 7.1 | 6.3 | 6.7 | 6.3 | 8.0 | 6.3 | 8.5 | 8.0 |
| 30 | 8.0 | 7.3 | 7.5 | 6.7 | 6.9 | 5.9 | 6.8 | 6.4 | 7.5 | 6.3 | 8.6 | 8.3 |
| 31 | --- | --- | 7.4 | 6.7 | --- | --- | 7.4 | 6.2 | 7.4 | 6.2 | --- | --- |
| MONTH | 11.0 | 6.4 | 9.9 | 5.3 | 8.0 | 5.9 | 8.1 | 5.1 | 8.4 | 4.8 | 8.6 | 5.2 |
| YEAR | 12.0 | 4.8 | | | | | | | | | | |

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

BEAVER RIVER BASIN

39

03094000 MAHONING RIVER AT LEAVITTSBURG, OH

LOCATION.--Lat 41°14'21", long 80°52'51", in T.4 N., R.4 W., Trumbull County, Hydrologic Unit 05030103, on right bank at upstream side of Leavitt Road Bridge at Leavittsburg, 300 ft (91 m) downstream from Duck Creek and 1.2 mi (1.9 km) downstream from Eagle Creek.

DRAINAGE AREA.--575 mi² (1,489 km²).

PERIOD OF RECORD.--October 1940 to current year. Prior to June 1941 monthly discharge only, published in WSP 1305.

REVISED RECORDS.--WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 871.25 ft (265.557 m) above mean sea level, adjustment of 1912. Prior to July 2, 1941, nonrecording gage, and July 2, 1941, to July 22, 1952, water-stage recorder, at site 50 ft (15 m) downstream at same datum.

REMARKS.--Records good except those for winter periods, which are fair. Flow regulated by Berlin Lake, 25 mi (40 km) upstream, beginning in 1942, by Milton Reservoir, 17 mi (27 km) upstream, and by Michael J. Kirwan Reservoir, 20 mi (32 km) upstream on West Branch, beginning in 1966 (see stations 03090000, 03091000 and 03092450). Diversion upstream from station from Berlin Lake for part of municipal supply of Mahoning Valley Sanitary District (see station 03090500). Water-quality data collected at this site 1943 to 1971.

COOPERATION.--One discharge measurement furnished by Corps of Engineers.

AVERAGE DISCHARGE.--37 years, 560 ft³/s (15.86 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,300 ft³/s (575 m³/s) Jan. 22, 1959, gage height, 19.37 ft (5.904 m); minimum daily, 60 ft³/s (1.70 m³/s) July 6, 1952.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 26, 1913 reached a stage of about 24 ft (7 m). Flood of Jan. 25 or 26, 1937 reached a stage of 17.8 ft (5.43 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,140 ft³/s (146 m³/s) Feb. 25, gage height, 11.55 ft (3.520 m); minimum daily, 130 ft³/s (3.68 m³/s) Jan. 30, 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|------|-------|-------|-------|------|-------|------|------|-------|
| 1 | 328 | 769 | 457 | 309 | 140 | 643 | 882 | 356 | 275 | 345 | 264 | 279 |
| 2 | 407 | 721 | 454 | 309 | 150 | 423 | 1350 | 342 | 307 | 349 | 268 | 287 |
| 3 | 418 | 661 | 422 | 308 | 160 | 349 | 3490 | 359 | 314 | 286 | 272 | 302 |
| 4 | 411 | 633 | 468 | 290 | 170 | 411 | 2180 | 374 | 321 | 282 | 289 | 296 |
| 5 | 408 | 618 | 449 | 280 | 170 | 713 | 1180 | 446 | 321 | 289 | 293 | 288 |
| 6 | 407 | 608 | 451 | 270 | 150 | 636 | 1490 | 458 | 342 | 300 | 314 | 286 |
| 7 | 404 | 607 | 563 | 260 | 140 | 419 | 1310 | 390 | 342 | 310 | 490 | 341 |
| 8 | 406 | 604 | 648 | 250 | 140 | 336 | 1450 | 343 | 335 | 328 | 633 | 348 |
| 9 | 429 | 598 | 599 | 250 | 140 | 297 | 2010 | 319 | 366 | 321 | 292 | 348 |
| 10 | 457 | 604 | 529 | 250 | 170 | 277 | 2100 | 314 | 338 | 289 | 242 | 312 |
| 11 | 453 | 612 | 541 | 250 | 220 | 262 | 2020 | 299 | 314 | 286 | 293 | 306 |
| 12 | 433 | 616 | 586 | 250 | 271 | 277 | 1330 | 293 | 307 | 300 | 338 | 308 |
| 13 | 402 | 610 | 559 | 250 | 357 | 1490 | 1040 | 292 | 303 | 333 | 332 | 324 |
| 14 | 384 | 604 | 507 | 250 | 452 | 1960 | 1000 | 294 | 331 | 320 | 272 | 478 |
| 15 | 377 | 605 | 356 | 250 | 528 | 904 | 521 | 294 | 349 | 296 | 258 | 534 |
| 16 | 373 | 722 | 317 | 250 | 495 | 534 | 363 | 291 | 349 | 288 | 260 | 470 |
| 17 | 375 | 951 | 315 | 240 | 434 | 375 | 342 | 272 | 345 | 312 | 263 | 649 |
| 18 | 371 | 984 | 311 | 240 | 388 | 1110 | 345 | 285 | 508 | 321 | 297 | 592 |
| 19 | 397 | 981 | 308 | 240 | 342 | 2680 | 356 | 289 | 490 | 318 | 277 | 460 |
| 20 | 410 | 976 | 343 | 230 | 305 | 1530 | 353 | 286 | 338 | 391 | 272 | 485 |
| 21 | 417 | 971 | 406 | 230 | 273 | 1220 | 370 | 289 | 300 | 323 | 285 | 530 |
| 22 | 428 | 964 | 390 | 220 | 258 | 1370 | 363 | 282 | 286 | 324 | 417 | 374 |
| 23 | 511 | 957 | 363 | 220 | 440 | 1360 | 535 | 268 | 279 | 285 | 484 | 345 |
| 24 | 556 | 954 | 351 | 210 | 2160 | 1220 | 1130 | 256 | 317 | 247 | 357 | 339 |
| 25 | 642 | 951 | 325 | 210 | 4600 | 978 | 1050 | 259 | 338 | 332 | 312 | 688 |
| 26 | 665 | 948 | 317 | 200 | 2820 | 865 | 705 | 265 | 338 | 522 | 296 | 697 |
| 27 | 657 | 741 | 318 | 200 | 1370 | 810 | 599 | 268 | 331 | 313 | 290 | 756 |
| 28 | 630 | 501 | 313 | 180 | 941 | 943 | 494 | 268 | 335 | 245 | 286 | 643 |
| 29 | 614 | 457 | 309 | 150 | --- | 1440 | 421 | 272 | 478 | 245 | 283 | 607 |
| 30 | 607 | 457 | 288 | 130 | --- | 1240 | 383 | 268 | 386 | 254 | 278 | 594 |
| 31 | 678 | --- | 299 | 130 | --- | 976 | --- | 275 | --- | 266 | 277 | --- |
| TOTAL | 14455 | 21985 | 12862 | 7306 | 18184 | 28048 | 31162 | 9566 | 10283 | 9620 | 9784 | 13266 |
| MEAN | 466 | 733 | 415 | 236 | 649 | 905 | 1039 | 309 | 343 | 310 | 316 | 442 |
| MAX | 678 | 984 | 648 | 309 | 4600 | 2680 | 3490 | 458 | 508 | 522 | 633 | 756 |
| MIN | 328 | 457 | 288 | 130 | 140 | 262 | 342 | 256 | 275 | 245 | 242 | 279 |

CAL YR 1976 TOTAL 243046 MEAN 664 MAX 5330 MIN 233
WTR YR 1977 TOTAL 186521 MEAN 511 MAX 4600 MIN 130

BEAVER RIVER BASIN

03095500 MOSQUITO CREEK BELOW MOSQUITO CREEK DAM, NEAR CORTLAND, OH

LOCATION.--Lat 41°17'59", long 80°45'31", in T.5 N., R.3 W., Trumbull County, Hydrologic Unit 05030103, on right bank 100 ft (30 m) downstream from Mosquito Creek Dam, 0.8 mi (1.3 km) upstream from Confusion Run, and 2.5 mi (4.0 km) southwest of Cortland.

DRAINAGE AREA.--97.5 mi² (253 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1926 to September 1929 (published as "near Cortland"), May 1943 to current year.

REVISED RECORDS.--WSP 1907: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 873.98 ft (266.389 m) above mean sea level (Corps of Engineers bench mark). Prior to Aug. 23, 1943, nonrecording gage, and Aug. 23, 1943 to Feb. 14, 1951, water-stage recorder, at site 900 ft (274 m) downstream at datum 6.63 ft (2.021 m) lower.

REMARKS.--Records good. Flow completely regulated by Mosquito Creek Lake beginning 1943 (see station 03095000). Diversion at lake outlet for municipal supply of city of Warren since May 1954; diversion not included in figures of daily discharge.

COOPERATION.--One discharge measurement furnished by Corps of Engineers.

AVERAGE DISCHARGE.--37 years, 86.1 ft³/s (2.438 m³/s) (unadjusted).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,890 ft³/s (53.5 m³/s) Jan. 19, 1929, gage height, 11.5 ft (3.51 m), from floodmark, site and datum then in use; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 196 ft³/s (5.55 m³/s) Apr. 26, 27, 28, 29, 30, May 1, 2, 3, 4, 8, 9, 10, gage height, 2.32 ft (0.707 m) (affected by erratic gate openings); minimum daily, 13 ft³/s (0.37 m³/s) Oct. 1, Jan. 18-27, Jan. 30 to Feb. 7, Feb. 9-12, June 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 13 | 47 | 167 | 160 | 13 | 16 | 21 | 193 | 17 | 16 | 88 | 83 |
| 2 | 15 | 47 | 167 | 160 | 13 | 16 | 21 | 193 | 17 | 15 | 97 | 83 |
| 3 | 15 | 66 | 167 | 160 | 13 | 16 | 21 | 196 | 17 | 15 | 97 | 83 |
| 4 | 15 | 88 | 167 | 160 | 13 | 16 | 21 | 193 | 17 | 32 | 97 | 84 |
| 5 | 15 | 88 | 167 | 160 | 13 | 15 | 21 | 193 | 17 | 48 | 97 | 84 |
| 6 | 15 | 88 | 165 | 117 | 13 | 15 | 22 | 193 | 17 | 48 | 95 | 84 |
| 7 | 15 | 88 | 165 | 83 | 13 | 15 | 22 | 193 | 17 | 33 | 95 | 84 |
| 8 | 15 | 88 | 165 | 83 | 14 | 16 | 22 | 196 | 17 | 18 | 89 | 84 |
| 9 | 15 | 88 | 165 | 83 | 13 | 16 | 18 | 196 | 17 | 18 | 84 | 83 |
| 10 | 15 | 86 | 165 | 83 | 13 | 16 | 17 | 146 | 17 | 18 | 84 | 83 |
| 11 | 15 | 86 | 165 | 83 | 13 | 16 | 18 | 76 | 17 | 17 | 84 | 84 |
| 12 | 15 | 86 | 165 | 83 | 13 | 16 | 18 | 57 | 16 | 19 | 84 | 71 |
| 13 | 15 | 86 | 165 | 83 | 14 | 16 | 18 | 37 | 13 | 19 | 84 | 58 |
| 14 | 15 | 86 | 165 | 83 | 14 | 16 | 20 | 18 | 21 | 48 | 84 | 58 |
| 15 | 15 | 107 | 165 | 83 | 14 | 16 | 21 | 18 | 29 | 77 | 84 | 58 |
| 16 | 15 | 126 | 165 | 83 | 14 | 16 | 18 | 18 | 29 | 77 | 84 | 58 |
| 17 | 15 | 126 | 165 | 46 | 14 | 17 | 16 | 17 | 29 | 64 | 84 | 58 |
| 18 | 15 | 126 | 165 | 13 | 14 | 21 | 16 | 16 | 24 | 51 | 84 | 58 |
| 19 | 15 | 126 | 162 | 13 | 14 | 21 | 19 | 19 | 17 | 74 | 84 | 58 |
| 20 | 15 | 126 | 162 | 13 | 14 | 21 | 21 | 20 | 17 | 57 | 84 | 58 |
| 21 | 16 | 126 | 162 | 13 | 14 | 21 | 21 | 20 | 17 | 17 | 84 | 58 |
| 22 | 16 | 126 | 162 | 13 | 14 | 21 | 18 | 20 | 19 | 20 | 84 | 58 |
| 23 | 16 | 126 | 162 | 13 | 14 | 22 | 16 | 19 | 25 | 22 | 83 | 58 |
| 24 | 16 | 126 | 162 | 13 | 15 | 21 | 17 | 19 | 48 | 28 | 83 | 58 |
| 25 | 16 | 124 | 162 | 13 | 15 | 22 | 61 | 19 | 57 | 27 | 83 | 58 |
| 26 | 16 | 124 | 162 | 13 | 16 | 20 | 152 | 19 | 57 | 21 | 83 | 57 |
| 27 | 16 | 124 | 162 | 13 | 16 | 20 | 196 | 18 | 57 | 21 | 83 | 57 |
| 28 | 33 | 124 | 162 | 14 | 15 | 20 | 196 | 18 | 38 | 78 | 83 | 58 |
| 29 | 47 | 145 | 162 | 14 | --- | 20 | 196 | 17 | 17 | 79 | 84 | 58 |
| 30 | 47 | 167 | 162 | 13 | --- | 19 | 196 | 17 | 15 | 79 | 84 | 58 |
| 31 | 47 | --- | 160 | 13 | --- | 20 | --- | 14 | --- | 79 | 84 | --- |
| TOTAL | 584 | 3167 | 5084 | 1977 | 388 | 559 | 1460 | 2388 | 732 | 1235 | 2681 | 2032 |
| MEAN | 18.8 | 106 | 164 | 63.8 | 13.9 | 18.0 | 48.7 | 77.0 | 24.4 | 39.8 | 86.5 | 67.7 |
| MAX | 47 | 167 | 167 | 160 | 16 | 22 | 196 | 196 | 57 | 79 | 97 | 84 |
| MIN | 13 | 47 | 160 | 13 | 13 | 15 | 16 | 14 | 13 | 15 | 83 | 57 |
| CFSM | .19 | 1.09 | 1.68 | .65 | .14 | .19 | .50 | .79 | .25 | .41 | .89 | .69 |
| IN. | .22 | 1.21 | 1.94 | .75 | .15 | .21 | .56 | .91 | .28 | .47 | 1.02 | .78 |
| (+) | 21.1 | 20.4 | 20.5 | 21.4 | 23.5 | 21.2 | 21.0 | 22.4 | 23.0 | 24.4 | 23.7 | 24.0 |

| | | | | | | | | | | | | | | |
|-------------|-------|---------|------|------|-----|-----|-----|-----|------|-----|----|-------|-----|------|
| CAL YR 1976 | TOTAL | 26215.0 | MEAN | 71.6 | MAX | 358 | MIN | 8.6 | CFSM | .73 | IN | 10.00 | (+) | 21.6 |
| WTR YR 1977 | TOTAL | 22287.0 | MEAN | 61.1 | MAX | 196 | MIN | 13 | CFSM | .63 | IN | 8.50 | (+) | 22.2 |

BEAVER RIVER BASIN

41

03095500 MOSQUITO CREEK BELOW MOSQUITO CREEK DAM, NEAR CORTLAND, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND | HARD- NESS | NON- CAR- BONATE HARD- NESS | DIS- SOLVED CAL- CIUM | DIS- SOLVED MAG- NE- SIUM | |
|--------------|------|---------------------------------------|--|--------------------------|-----------------------|--------------------------|---------------------------------|---|---------------------------------|---|---|---------------------------------------|----------------------------|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | | 5 DAY | (CA+MG) (MG/L) | (MG/L) | (CA) (MG/L) | (MG/L) | |
| MAR 16... | 0930 | 16 | 285 | 7.5 | 6.5 | 10.8 | 88 | 3.3 | 100 | 42 | 28 | 7.2 | |
| JUL 12... | 0830 | 20 | 270 | 7.6 | 25.0 | 6.6 | 78 | 3.4 | 86 | 35 | 25 | 5.8 | |
| | | DIS- SOLVED PO- TAS- SIUM | BICAR- BONATE | CAR- BONATE | ALKA- LINITY AS | CARBON DIOXIDE | DIS- SOLVED SULFATE | DIS- SOLVED CHLO- RIDE | DIS- SOLVED FLUO- RIDE | DIS- SOLVED SILICA | DIS- SOLVED SOLIDS (SUM OF CONSUME- TENTS) | TOTAL NITRATE | |
| DATE | | (NA) (MG/L) | (HCO3) (MG/L) | (CO3) (MG/L) | CACO3 (MG/L) | (CO2) (MG/L) | (SO4) (MG/L) | (CL) (MG/L) | (F) (MG/L) | (SI02) (MG/L) | (MG/L) | (N) (MG/L) | |
| MAR 16... | 17 | 3.3 | 70 | 0 | 57 | 3.5 | 37 | 26 | .1 | 1.3 | 155 | .34 | |
| JUL 12... | 14 | 3.1 | 63 | 0 | 52 | 2.5 | 33 | 24 | .1 | .9 | 137 | .02 | |
| | | TOTAL NITRITE | TOTAL AMMONIA NITRO- GEN | TOTAL PHOS- PHORUS | TOTAL ARSENIC | TOTAL CHRO- MIUM | TOTAL COPPER | DIS- SOLVED IRON | TOTAL LEAD | DIS- SOLVED MAN- GANESE | TOTAL MERCURY | TOTAL ZINC | TOTAL ORGANIC CARBON |
| DATE | | (N) (MG/L) | (N) (MG/L) | (P) (MG/L) | (AS) (UG/L) | (CR) (UG/L) | (CU) (UG/L) | (FE) (UG/L) | (PB) (UG/L) | (MN) (UG/L) | (HG) (UG/L) | (ZN) (UG/L) | (C) (MG/L) |
| MAR 16... | .01 | .29 | .03 | 0 | 10 | 0 | 30 | 2 | 150 | .0 | 10 | 6.5 | |
| JUL 12... | .01 | .15 | .10 | 2 | 20 | 5 | 10 | 14 | 130 | .0 | 0 | 4.8 | |

BEAVER RIVER BASIN

03098000 MAHONING RIVER AT YOUNGSTOWN, OH

LOCATION.--Lat 41°06'40", long 80°40'23", Mahoning County, Hydrologic Unit 05030103, on left bank 400 ft (122 m) upstream from Bridge Street bridge in Youngstown, and 0.8 mi (1.3 km) upstream from Mill Creek.

DRAINAGE AREA.--898 mi² (2,326 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1921 to current year. Records for May 1903 to July 1906, published in WSP 98, 128, 169, and 205, are unreliable and should not be used.

REVISED RECORDS.--WSP 623: 1924(M). WSP 1907: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 826.53 ft (251.926 m) above mean sea level, adjustment of 1912, levels by Mahoning Valley Sanitary District. Prior to Nov. 16, 1926, nonrecording gage at site 400 ft (122 m) downstream at same datum.

REMARKS.--Records good. 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, 48 mi (77 km) upstream, beginning in 1942, by Milton Reservoir, 40 mi (64 km) upstream, by Michael J. Kirwan Reservoir, 43 mi (69 km) upstream on West Branch, beginning in 1966, by Mosquito Creek Lake, 22 mi (35 km) upstream, beginning in 1943, by Meander Creek Reservoir, 11 mi (18 km) upstream, beginning in 1929, and by reservoir on Squaw Creek, 5 mi (8 km) upstream.

COOPERATION.--Two discharge measurements furnished by the Corps of Engineers.

AVERAGE DISCHARGE.--56 years, 852 ft³/s (24.13 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,600 ft³/s (498 m³/s) Jan. 25, 1937, gage height, 14.92 ft (4.548 m); maximum gage height, 18.62 ft (5.675 m) Jan. 22, 1959 (backwater from Mill Creek); minimum daily discharge, 30 ft³/s (0.85 m³/s) Aug. 16, 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 26, 1913 reached a stage of 26.5 ft (8.08 m), discharge, 42,500 ft³/s (1,200 m³/s), estimated by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,300 ft³/s (178 m³/s) Apr. 3; maximum gage height, 10.44 ft (3.182 m) Apr. 3 (backwater from Mill Creek); minimum daily discharge, 200 ft³/s (5.66 m³/s) Feb. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 418 | 1050 | 678 | 484 | 200 | 1010 | 1380 | 692 | 306 | 585 | 400 | 424 |
| 2 | 430 | 993 | 699 | 496 | 230 | 657 | 3260 | 692 | 318 | 478 | 389 | 502 |
| 3 | 466 | 867 | 598 | 502 | 240 | 508 | 6150 | 699 | 340 | 372 | 406 | 484 |
| 4 | 460 | 832 | 671 | 508 | 250 | 598 | 4670 | 755 | 334 | 323 | 412 | 454 |
| 5 | 454 | 825 | 706 | 496 | 260 | 1010 | 2890 | 832 | 350 | 367 | 460 | 442 |
| 6 | 454 | 804 | 699 | 490 | 230 | 993 | 2550 | 874 | 490 | 383 | 598 | 436 |
| 7 | 460 | 790 | 1060 | 448 | 220 | 657 | 2110 | 748 | 378 | 572 | 1240 | 472 |
| 8 | 454 | 790 | 1090 | 398 | 220 | 490 | 1890 | 650 | 345 | 591 | 1260 | 514 |
| 9 | 598 | 783 | 1010 | 398 | 210 | 418 | 2390 | 598 | 591 | 442 | 776 | 520 |
| 10 | 611 | 783 | 860 | 399 | 260 | 398 | 2500 | 572 | 430 | 383 | 559 | 496 |
| 11 | 565 | 790 | 853 | 398 | 392 | 396 | 2440 | 508 | 350 | 367 | 478 | 448 |
| 12 | 526 | 797 | 909 | 397 | 399 | 406 | 1850 | 430 | 312 | 383 | 727 | 454 |
| 13 | 484 | 797 | 909 | 397 | 637 | 2520 | 1290 | 400 | 306 | 585 | 692 | 578 |
| 14 | 442 | 776 | 825 | 399 | 671 | 3530 | 1220 | 398 | 312 | 430 | 533 | 1370 |
| 15 | 424 | 776 | 699 | 406 | 720 | 2350 | 790 | 340 | 340 | 424 | 442 | 965 |
| 16 | 412 | 874 | 565 | 399 | 713 | 909 | 490 | 340 | 367 | 478 | 424 | 944 |
| 17 | 406 | 1130 | 552 | 394 | 611 | 598 | 418 | 312 | 741 | 604 | 514 | 1150 |
| 18 | 406 | 1280 | 539 | 391 | 539 | 2560 | 400 | 312 | 2010 | 466 | 448 | 1070 |
| 19 | 418 | 1280 | 533 | 340 | 460 | 4070 | 617 | 323 | 936 | 572 | 442 | 797 |
| 20 | 472 | 1250 | 598 | 360 | 400 | 3260 | 650 | 306 | 502 | 559 | 424 | 1300 |
| 21 | 526 | 1250 | 699 | 360 | 396 | 2300 | 630 | 301 | 367 | 611 | 508 | 986 |
| 22 | 484 | 1250 | 706 | 350 | 397 | 2210 | 526 | 296 | 323 | 494 | 944 | 643 |
| 23 | 533 | 1240 | 643 | 330 | 1050 | 2070 | 1190 | 296 | 306 | 424 | 888 | 533 |
| 24 | 706 | 1230 | 578 | 350 | 3350 | 1850 | 2470 | 306 | 323 | 328 | 664 | 552 |
| 25 | 811 | 1220 | 559 | 360 | 5390 | 1420 | 2090 | 312 | 430 | 843 | 514 | 2020 |
| 26 | 853 | 1230 | 552 | 350 | 6200 | 1170 | 1580 | 296 | 412 | 762 | 472 | 1610 |
| 27 | 790 | 1090 | 533 | 300 | 2510 | 1060 | 1240 | 306 | 400 | 520 | 454 | 1180 |
| 28 | 755 | 832 | 539 | 290 | 1570 | 1570 | 1050 | 301 | 630 | 345 | 442 | 965 |
| 29 | 734 | 678 | 526 | 230 | --- | 2430 | 867 | 301 | 860 | 384 | 448 | 825 |
| 30 | 734 | 650 | 490 | 205 | --- | 2090 | 762 | 296 | 637 | 424 | 448 | 790 |
| 31 | 916 | --- | 484 | 205 | --- | 1760 | --- | 301 | --- | 384 | 436 | --- |
| TOTAL | 17202 | 28937 | 21362 | 11830 | 28725 | 47268 | 52360 | 14093 | 14746 | 14883 | 17842 | 23924 |
| MEAN | 555 | 965 | 689 | 382 | 1026 | 1525 | 1745 | 455 | 492 | 480 | 576 | 797 |
| MAX | 916 | 1280 | 1090 | 508 | 6200 | 4070 | 6150 | 874 | 2010 | 843 | 1260 | 2020 |
| MIN | 406 | 650 | 484 | 205 | 200 | 396 | 400 | 296 | 306 | 323 | 389 | 424 |
| CAL YR 1976 | TOTAL | 369545 | MEAN | 1010 | MAX | 9260 | MIN | 304 | | | | |
| WTR YR 1977 | TOTAL | 293172 | MEAN | 803 | MAX | 6200 | MIN | 200 | | | | |

BEAVER RIVER BASIN

43

03098000 MAHONING RIVER AT YOUNGSTOWN, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951, 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA, MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|--|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| MAR 16... | 1715 | 832 | 450 | 7.4 | 12.5 | 8.7 | 81 | 6.3 | 130 | 82 | 39 | 8.7 |
| JUN 27... | 1600 | 406 | 540 | 7.2 | 28.5 | 5.8 | 74 | 3.6 | 160 | 84 | 45 | 11 |
| DATE | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 16... | 27 | 4.8 | 62 | 0 | 51 | 3.9 | 70 | 48 | .3 | 7.6 | 237 | .85 |
| JUN 27... | 30 | 7.4 | 90 | 0 | 74 | 9.1 | 89 | 51 | .5 | 4.4 | 283 | .64 |
| DATE | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 16... | .04 | .78 | .23 | 2 | 10 | 9 | 930 | 27 | 200 | .0 | 140 | 5.8 |
| JUN 27... | .11 | 1.7 | .19 | 3 | 10 | 9 | 150 | 42 | 330 | .0 | 90 | 11 |

BEAVER RIVER BASIN

03099500 MAHONING RIVER AT LOWELLVILLE, OH

LOCATION.--Lat 41°02'12", long 80°32'11", in T.1 N., R.1 W., Mahoning County, Hydrologic Unit 05030103, on left bank 100 ft (30 m) upstream from First Street Bridge at Lowellville, 1 mi (2 km) upstream from Ohio-Pennsylvania State line, and 3 mi (5 km) downstream from Yellow Creek.

DRAINAGE AREA.--1,073 mi² (2,779 km²).

PERIOD OF RECORD.--October 1942 to current year. Prior to August 1943 monthly discharge only, published in WSP 1305.

REVISED RECORDS.--WSP 1555: 1946(M), 1952(M), 1955(M), 1956. WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 796.84 ft (242.877 m) above mean sea level, adjustment of 1912. Prior to Oct. 26, 1944, nonrecording gage at site 300 ft (91 m) downstream at same datum.

REMARKS.--Records good. Flow regulated by 5 flood control reservoirs at points 21 mi (34 km) to 58 mi (93 km) upstream (see REMARKS for station 03098000), and by reservoirs on Squaw Creek, 15 mi (24 km) upstream, on Dry Run, 9 mi (14 km) upstream, and on Yellow Creek, 5 mi (8 km) upstream. Water-quality data collected at this site 1949 to 1973.

AVERAGE DISCHARGE.--35 years, 1,065 ft³/s (30.16 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 21,000 ft³/s (595 m³/s) Jan. 21, 1959, gage height, 14.43 ft (4.398 m); minimum daily, 155 ft³/s (4.39 m³/s) Feb. 5, 1944.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 17.8 ft (5.43 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,740 ft³/s (248 m³/s) Apr. 3, gage height, 8.41 ft (2.563 m); minimum daily, 305 ft³/s (8.64 m³/s) Feb. 2, 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 586 | 1260 | 803 | 594 | 320 | 1490 | 1820 | 1220 | 347 | 930 | 530 | 522 |
| 2 | 530 | 1210 | 830 | 602 | 305 | 1090 | 4650 | 1180 | 340 | 704 | 514 | 634 |
| 3 | 586 | 1040 | 740 | 610 | 305 | 840 | 8230 | 1250 | 354 | 522 | 514 | 668 |
| 4 | 570 | 970 | 758 | 634 | 368 | 1000 | 6130 | 1330 | 361 | 490 | 506 | 562 |
| 5 | 562 | 970 | 812 | 650 | 442 | 1500 | 4300 | 1480 | 368 | 498 | 586 | 522 |
| 6 | 554 | 950 | 812 | 626 | 442 | 1530 | 3150 | 1520 | 970 | 490 | 767 | 522 |
| 7 | 562 | 930 | 1350 | 602 | 418 | 1160 | 2780 | 1380 | 578 | 758 | 3170 | 546 |
| 8 | 554 | 920 | 1330 | 506 | 382 | 920 | 2490 | 1250 | 498 | 920 | 2190 | 594 |
| 9 | 803 | 910 | 1240 | 498 | 361 | 776 | 2670 | 1160 | 1050 | 731 | 1380 | 594 |
| 10 | 840 | 920 | 1070 | 498 | 396 | 740 | 2930 | 1140 | 1060 | 570 | 1040 | 570 |
| 11 | 749 | 920 | 1050 | 498 | 538 | 704 | 2900 | 1110 | 704 | 530 | 794 | 514 |
| 12 | 668 | 930 | 1110 | 482 | 713 | 731 | 2660 | 980 | 474 | 530 | 960 | 522 |
| 13 | 618 | 920 | 1120 | 474 | 1170 | 3310 | 2020 | 890 | 474 | 686 | 870 | 830 |
| 14 | 554 | 900 | 1030 | 498 | 1170 | 3840 | 1830 | 860 | 482 | 554 | 722 | 2190 |
| 15 | 522 | 890 | 950 | 538 | 1150 | 3030 | 1630 | 776 | 482 | 506 | 602 | 1220 |
| 16 | 498 | 940 | 767 | 514 | 1060 | 1480 | 1160 | 713 | 498 | 546 | 562 | 1350 |
| 17 | 490 | 1150 | 731 | 482 | 900 | 1140 | 960 | 668 | 1120 | 1040 | 713 | 1570 |
| 18 | 482 | 1360 | 713 | 466 | 812 | 3410 | 870 | 610 | 4410 | 940 | 578 | 1380 |
| 19 | 490 | 1370 | 686 | 466 | 767 | 5080 | 880 | 578 | 2140 | 910 | 546 | 1140 |
| 20 | 570 | 1360 | 749 | 466 | 695 | 4130 | 990 | 538 | 1200 | 920 | 514 | 2190 |
| 21 | 704 | 1350 | 910 | 474 | 626 | 3010 | 940 | 506 | 900 | 812 | 530 | 1380 |
| 22 | 618 | 1350 | 920 | 466 | 659 | 2760 | 850 | 482 | 530 | 1160 | 1140 | 980 |
| 23 | 634 | 1330 | 830 | 466 | 1560 | 2720 | 1180 | 450 | 482 | 880 | 990 | 767 |
| 24 | 860 | 1330 | 731 | 466 | 4400 | 2570 | 3110 | 474 | 490 | 586 | 812 | 812 |
| 25 | 1000 | 1330 | 686 | 466 | 6520 | 2000 | 2700 | 506 | 562 | 2170 | 634 | 2580 |
| 26 | 1040 | 1350 | 695 | 474 | 5910 | 1480 | 2310 | 434 | 570 | 1370 | 570 | 2230 |
| 27 | 950 | 1270 | 686 | 474 | 3010 | 1360 | 1950 | 410 | 522 | 990 | 546 | 1540 |
| 28 | 890 | 1010 | 695 | 474 | 2060 | 1890 | 1700 | 389 | 960 | 570 | 530 | 1220 |
| 29 | 850 | 821 | 686 | 458 | --- | 2700 | 1500 | 375 | 1390 | 594 | 578 | 1020 |
| 30 | 850 | 794 | 634 | 389 | --- | 2480 | 1360 | 361 | 1030 | 668 | 586 | 950 |
| 31 | 1150 | --- | 610 | 340 | --- | 2280 | --- | 354 | --- | 546 | 522 | --- |
| TOTAL | 21334 | 32755 | 26734 | 15651 | 37459 | 63151 | 72650 | 25374 | 25346 | 24121 | 25496 | 32119 |
| MEAN | 688 | 1092 | 862 | 505 | 1338 | 2037 | 2422 | 819 | 845 | 778 | 822 | 1071 |
| MAX | 1150 | 1370 | 1350 | 650 | 6520 | 5080 | 8230 | 1520 | 4410 | 2170 | 3170 | 2580 |
| MIN | 482 | 794 | 610 | 340 | 305 | 704 | 850 | 354 | 340 | 490 | 506 | 514 |
| CAL YR 1976 | TOTAL | 444164 | MEAN | 1214 | MAX | 11500 | MIN | 426 | | | | |
| WTR YR 1977 | TOTAL | 402190 | MEAN | 1102 | MAX | 8230 | MIN | 305 | | | | |

BEAVER RIVER BASIN

46

03099510 MAHONING RIVER AT OHIO-PENNSYLVANIA STATE LINE, BELOW LOWELLVILLE, OH

LOCATION.--Lat 41°01'53", long 80°31'10", Mahoning County, Hydrologic Unit 05030103, on left bank 800 ft (244 m) upstream from Ohio-Pennsylvania State line, just below Lowellville, 0.9 mi (1.4 km) downstream from gaging station at Lowellville, and 3.9 mi (6.3 km) downstream from Yellow Creek.

DRAINAGE AREA.--1,075 mi² (2,784 km²).

PERIOD OF RECORD.--January 1967 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1967 to current year.

pH: January 1967 to current year.

WATER TEMPERATURES: January 1967 to current year.

DISSOLVED OXYGEN: January 1967 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. See records of daily discharge for gaging station at Lowellville (station 03099500).

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,500 micromhos Feb. 11-13, 1977; minimum, 204 micromhos July 13, 1976.

pH: Maximum, 9.9 units Jan. 26, 1969; minimum, 3.0 units Jan. 24, 1967.

WATER TEMPERATURES: Maximum, 39.0°C June 29, 1971; minimum, 1.5°C Feb. 26, 1977.

DISSOLVED OXYGEN: Maximum, 14.2 mg/L Mar. 25, 1970; minimum, 0.0 mg/L June 1, 1975, June 17, 1977.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,500 micromhos Feb. 11-13; minimum, 306 micromhos Feb. 26.

pH: Maximum, 8.2 units Apr. 1; minimum, 6.7 units Feb. 22.

WATER TEMPERATURES: Maximum, 36.5°C July 16; minimum, 1.5°C Feb. 26.

DISSOLVED OXYGEN: Maximum, 12.3 mg/L Mar. 1; minimum, 0.0 mg/L June 17.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE | PH | TEMPERATURE (DEG C) | DISSOLVED OXYGEN (MG/L) | PERCENT SATURATION | BIO-CHEMICAL OXYGEN DEMAND | HARDNESS (CA+MG) | NON-CARBONATE HARDNESS (MG/L) | DISSOLVED CALCIUM (CA) (MG/L) | DISSOLVED MAGNESIUM (MG) | |
|-----------|------|-------------------------------|--------------------------|--------------------|---------------------|-------------------------|----------------------|----------------------------|-------------------------|-------------------------------|-------------------------------|--|----------------------|
| | | | (MICROMHOS) | | | | | 5 DAY (MG/L) | | | | | |
| MAR 09... | 1700 | 658 | 700 | 7.2 | 13.5 | 8.7 | 83 | 8.4 | 200 | 130 | 56 | 14 | |
| JUN 27... | 1340 | 542 | 680 | 7.5 | 30.0 | 4.1 | 54 | 4.8 | 190 | 96 | 54 | 14 | |
| DATE | | DIS-SOLVED SODIUM (NA) | DIS-SOLVED POTASSIUM (K) | BICARBONATE (HCO3) | CARBONATE (CO3) | ALKALINITY AS CaCO3 | CARBON DIOXIDE (CO2) | DISSOLVED SULFATE (SO4) | DISSOLVED CHLORIDE (CL) | DISSOLVED FLUORIDE (F) | DISSOLVED SILICA (SiO2) | DISSOLVED SOLIDS (SUM OF CONSTITUENTS) | TOTAL NITRATE (N) |
| | | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) |
| MAR 09... | 46 | 7.0 | | 88 | 0 | 72 | 8.9 | 120 | 86 | .5 | 8.3 | 382 | 1.1 |
| JUN 27... | 42 | 9.0 | | 118 | 0 | 97 | 6.0 | 110 | 66 | .5 | 6.2 | 360 | .65 |
| DATE | | TOTAL NITRITE | TOTAL AMMONIA NITROGEN | TOTAL PHOSPHORUS | TOTAL ARSENIC | TOTAL CHROMIUM | TOTAL COPPER | DISSOLVED IRON | TOTAL LEAD | DISSOLVED MANGANESE | TOTAL MERCURY | TOTAL ZINC | TOTAL ORGANIC CARBON |
| | | (N) (MG/L) | (N) (MG/L) | (P) (MG/L) | (AS) (UG/L) | (CR) (UG/L) | (CU) (UG/L) | (FE) (UG/L) | (PB) (UG/L) | (MN) (UG/L) | (HG) (UG/L) | (ZN) (UG/L) | (C) (MG/L) |
| MAR 09... | .08 | 3.4 | | .71 | 3 | 30 | 20 | 120 | 33 | 380 | .0 | 180 | 9.0 |
| JUN 27... | .21 | 3.8 | | .45 | 3 | <10 | 12 | 90 | 34 | 350 | .0 | 70 | 13 |

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|------|-----------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 614 | 573 | 564 | 542 | 648 | 618 | 660 | 623 | 873 | 828 | 530 | 471 |
| 2 | 632 | 597 | 590 | 552 | 617 | 581 | 647 | 611 | 933 | 864 | 570 | 491 |
| 3 | 612 | 590 | 605 | 576 | 597 | 576 | 677 | 627 | 948 | 894 | 623 | 564 |
| 4 | 599 | 581 | 597 | 582 | 608 | 579 | 702 | 639 | 1060 | 911 | 797 | 603 |
| 5 | 600 | 579 | 615 | 579 | 599 | 569 | 672 | 641 | 1100 | 938 | 747 | 675 |
| 6 | 611 | 581 | 594 | 570 | 614 | 566 | 666 | 642 | 975 | 896 | 684 | 633 |
| 7 | 612 | 582 | 605 | 551 | 825 | 627 | 734 | 651 | 902 | 882 | 671 | 626 |
| 8 | 653 | 576 | 582 | 552 | 645 | 600 | 749 | 705 | 947 | 879 | 695 | 654 |
| 9 | 612 | 476 | 605 | 564 | 624 | 603 | 708 | 683 | 911 | 878 | 717 | 686 |
| 10 | 545 | 503 | 614 | 593 | 599 | 593 | 734 | 699 | 1100 | 888 | 767 | 696 |
| 11 | 576 | 522 | 606 | 578 | --- | --- | 759 | 684 | 1500 | 1070 | 776 | 735 |
| 12 | 606 | 564 | 599 | 560 | 642 | 611 | 714 | 686 | 1500 | 1370 | 771 | 743 |
| 13 | 606 | 582 | 591 | 557 | 624 | 584 | 743 | 690 | 1500 | 1370 | 758 | 590 |
| 14 | 704 | 588 | 593 | 564 | 647 | 587 | 743 | 717 | 1430 | 1210 | 584 | 435 |
| 15 | 684 | 654 | 596 | 564 | 632 | 602 | 759 | 716 | 1210 | 1150 | 555 | 443 |
| 16 | 693 | 653 | 599 | 566 | 650 | 629 | 740 | 717 | 1140 | 1020 | 566 | 536 |
| 17 | 681 | 647 | 590 | 540 | 672 | 630 | 734 | 704 | 1030 | 921 | 615 | 554 |
| 18 | 671 | 645 | 555 | 522 | 663 | 623 | --- | --- | 935 | 899 | 630 | 486 |
| 19 | 683 | 654 | 557 | 528 | 641 | 594 | --- | --- | 959 | 891 | 483 | 375 |
| 20 | 675 | 651 | 558 | 531 | 693 | 597 | --- | --- | 950 | 911 | 408 | 342 |
| 21 | 653 | 594 | 549 | 530 | 662 | 624 | --- | --- | 933 | 891 | 459 | 414 |
| 22 | 653 | 618 | 557 | 533 | 681 | 641 | --- | --- | 1050 | 906 | 473 | 446 |
| 23 | 669 | 618 | 561 | 533 | 666 | 638 | --- | --- | 978 | 825 | 536 | 467 |
| 24 | 656 | 561 | 570 | 519 | 669 | 624 | --- | --- | 806 | 561 | 561 | 531 |
| 25 | 603 | 579 | 615 | 546 | 635 | 608 | --- | --- | 552 | 350 | 774 | 536 |
| 26 | 618 | 566 | 587 | 549 | 722 | 617 | --- | --- | 345 | 306 | 626 | 572 |
| 27 | 648 | 591 | 615 | 555 | 711 | 675 | --- | --- | 438 | 344 | 632 | 605 |
| 28 | 638 | 602 | 602 | 564 | 683 | 647 | --- | --- | 483 | 438 | 621 | 566 |
| 29 | 636 | 600 | 710 | 594 | 690 | 656 | --- | --- | --- | --- | 602 | 564 |
| 30 | 611 | 582 | 753 | 623 | 710 | 648 | --- | --- | --- | --- | 570 | 534 |
| 31 | 597 | 524 | --- | --- | 659 | 635 | 872 | 831 | --- | --- | 548 | 533 |
| MONTH | 704 | 476 | 753 | 519 | 825 | 566 | 872 | 611 | 1500 | 306 | 797 | 342 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 599 | 540 | 599 | 554 | 746 | 717 | 677 | 606 | 668 | 645 | 708 | 662 |
| 2 | 573 | 449 | 602 | 579 | 756 | 711 | 663 | 647 | 683 | 657 | 693 | 648 |
| 3 | 461 | 384 | 603 | 569 | 756 | 704 | 696 | 653 | 695 | 644 | 656 | 612 |
| 4 | 393 | 354 | 611 | 585 | 723 | 693 | 717 | 690 | 690 | 660 | 666 | 639 |
| 5 | 468 | 395 | 612 | 585 | 722 | 681 | 746 | 704 | 680 | 627 | 666 | 632 |
| 6 | 488 | 467 | 597 | 584 | 681 | 500 | 726 | 707 | 665 | 537 | 672 | 632 |
| 7 | 515 | 462 | 615 | 573 | 680 | 660 | 720 | 642 | 552 | 432 | 671 | 648 |
| 8 | 531 | 509 | 597 | 566 | 726 | 669 | 662 | 593 | 501 | 440 | 662 | 633 |
| 9 | 525 | 507 | 617 | 564 | 710 | 567 | 659 | 633 | 563 | 491 | 671 | 647 |
| 10 | 533 | 513 | 618 | 585 | 704 | 629 | 684 | 644 | 600 | 552 | 674 | 644 |
| 11 | 540 | 510 | 624 | 591 | 734 | 680 | 720 | 680 | 639 | 566 | 666 | 633 |
| 12 | 554 | 515 | 651 | 617 | 734 | 689 | 710 | 657 | 645 | 554 | 653 | 621 |
| 13 | 588 | 542 | 680 | 647 | 774 | 717 | 720 | 663 | 614 | 582 | 666 | 477 |
| 14 | 582 | 546 | 695 | 675 | 764 | 728 | 693 | 668 | 623 | 603 | 569 | 419 |
| 15 | 617 | 549 | 710 | 680 | 756 | 716 | 695 | 650 | 654 | 618 | 582 | 546 |
| 16 | 650 | 602 | 740 | 692 | 747 | 731 | 762 | 687 | 678 | 650 | 597 | 561 |
| 17 | 687 | 638 | 752 | 714 | 765 | 434 | 663 | 512 | 669 | 605 | 579 | 552 |
| 18 | 708 | 668 | 743 | 720 | 498 | 401 | 726 | 530 | 669 | 627 | 596 | 561 |
| 19 | 729 | 668 | 747 | 714 | 513 | 446 | 692 | 569 | 674 | 644 | 618 | 587 |
| 20 | 666 | 564 | 771 | 731 | 597 | 518 | 678 | 612 | 693 | 671 | 612 | 426 |
| 21 | 662 | 605 | 785 | 749 | 626 | 567 | 680 | 627 | 681 | 639 | 596 | 552 |
| 22 | 693 | 659 | 770 | 732 | 687 | 618 | 666 | 615 | 630 | 546 | 666 | 596 |
| 23 | 686 | 548 | 764 | 737 | 737 | 680 | 663 | 639 | 593 | 530 | 654 | 605 |
| 24 | 548 | 483 | 762 | 714 | 758 | 725 | 675 | 630 | 630 | 593 | 674 | 560 |
| 25 | 492 | 464 | 1080 | 581 | 764 | 716 | 704 | 392 | 678 | 624 | 501 | 407 |
| 26 | 492 | 456 | 768 | 720 | --- | --- | 608 | 542 | 678 | 635 | 536 | 443 |
| 27 | 534 | 486 | 773 | 720 | 690 | 678 | 620 | 563 | 684 | 659 | 560 | 513 |
| 28 | 533 | 507 | 768 | 752 | 680 | 525 | 690 | 618 | 671 | 636 | 563 | 527 |
| 29 | 569 | 518 | 765 | 723 | 623 | 530 | 686 | 647 | 674 | 639 | 623 | 557 |
| 30 | 588 | 549 | 746 | 723 | 635 | 590 | 707 | 650 | 662 | 588 | 644 | 590 |
| 31 | --- | --- | 752 | 717 | --- | --- | 668 | 641 | 693 | 650 | --- | --- |
| MONTH | 729 | 354 | 1080 | 554 | 774 | 401 | 762 | 392 | 695 | 432 | 708 | 407 |
| YEAR | 1500 | 306 | | | | | | | | | | |

PH (UNITS), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|-----|-----------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | --- | --- | 7.5 | 7.2 | 7.5 | 7.2 | 7.8 | 7.5 | 7.8 | 7.6 | 7.7 | 7.5 |
| 2 | --- | --- | 7.4 | 7.1 | 7.5 | 7.3 | 7.6 | 7.5 | 7.6 | 7.5 | 7.8 | 7.6 |
| 3 | --- | --- | 7.3 | 6.9 | 7.4 | 7.3 | 7.6 | 7.4 | 7.6 | 7.4 | 7.7 | 7.4 |
| 4 | --- | --- | 7.4 | 7.2 | 7.5 | 7.2 | 7.6 | 7.5 | 7.6 | 7.4 | 7.7 | 6.9 |
| 5 | --- | --- | 7.5 | 7.3 | 7.4 | 7.3 | 7.6 | 7.5 | 7.6 | 7.4 | 7.7 | 7.2 |
| 6 | --- | --- | 7.4 | 7.1 | 7.5 | 7.3 | 7.6 | 7.5 | 7.5 | 7.5 | 7.7 | 7.2 |
| 7 | --- | --- | 7.5 | 7.2 | 7.4 | 7.1 | 7.6 | 7.3 | 7.6 | 7.4 | 7.8 | 7.5 |
| 8 | --- | --- | 7.6 | 7.3 | 7.4 | 7.2 | 7.7 | 7.5 | 7.5 | 7.3 | 7.8 | 7.4 |
| 9 | --- | --- | 7.4 | 7.1 | 7.5 | 7.3 | 7.7 | 7.5 | 7.5 | 7.4 | 7.7 | 7.1 |
| 10 | --- | --- | 7.2 | 7.1 | 7.4 | 7.2 | 8.1 | 7.6 | 7.6 | 7.4 | 7.3 | 7.2 |
| 11 | --- | --- | 7.3 | 7.0 | --- | --- | 7.6 | 7.5 | 7.7 | 7.4 | 7.3 | 6.9 |
| 12 | --- | --- | 7.5 | 6.8 | 7.2 | 7.0 | 7.6 | 7.5 | 7.6 | 7.4 | 7.5 | 7.2 |
| 13 | --- | --- | 7.6 | 7.2 | 7.4 | 7.2 | 7.6 | 7.3 | 7.5 | 7.5 | 7.6 | 7.4 |
| 14 | --- | --- | 7.3 | 7.2 | 7.4 | 6.8 | 7.6 | 7.3 | 7.9 | 7.5 | 7.6 | 7.3 |
| 15 | 7.2 | 7.1 | 7.4 | 7.2 | 7.4 | 7.0 | 7.5 | 7.3 | 7.9 | 7.8 | 7.9 | 7.6 |
| 16 | 7.5 | 7.2 | 7.3 | 7.1 | 7.4 | 7.2 | 7.6 | 7.5 | 7.8 | 7.6 | 7.9 | 7.6 |
| 17 | 7.6 | 7.5 | 7.3 | 7.1 | 7.4 | 6.9 | 7.7 | 7.5 | 7.8 | 7.3 | 7.6 | 7.5 |
| 18 | 7.6 | 7.3 | 7.3 | 7.2 | 7.3 | 7.1 | --- | --- | 7.9 | 7.7 | 7.8 | 7.4 |
| 19 | 7.4 | 7.3 | 7.7 | 7.0 | 7.5 | 7.3 | --- | --- | 7.9 | 7.7 | 7.8 | 7.5 |
| 20 | 7.3 | 7.1 | 7.3 | 7.0 | 7.5 | 7.4 | --- | --- | 7.8 | 7.6 | 7.5 | 7.3 |
| 21 | 7.5 | 7.1 | 7.3 | 7.1 | 7.6 | 7.4 | --- | --- | 7.8 | 7.5 | 7.8 | 7.5 |
| 22 | 7.5 | 7.1 | 7.5 | 6.9 | 7.5 | 7.4 | --- | --- | 7.6 | 6.7 | 7.5 | 7.3 |
| 23 | --- | --- | 7.4 | 7.1 | 7.5 | 7.1 | --- | --- | 7.8 | 7.1 | 7.5 | 7.2 |
| 24 | --- | --- | 7.4 | 7.2 | 7.4 | 7.2 | --- | --- | 8.1 | 7.8 | 7.7 | 7.3 |
| 25 | --- | --- | 7.6 | 7.1 | 7.5 | 7.5 | --- | --- | 8.0 | 7.5 | 7.6 | 7.4 |
| 26 | --- | --- | 7.4 | 7.1 | 7.6 | 7.3 | --- | --- | 7.7 | 7.4 | 7.6 | 7.4 |
| 27 | --- | --- | 7.4 | 7.0 | 7.6 | 7.5 | --- | --- | 7.8 | 7.5 | 7.6 | 7.5 |
| 28 | 7.3 | 7.0 | 7.4 | 7.0 | 7.5 | 7.3 | --- | --- | 7.7 | 7.5 | 7.7 | 7.5 |
| 29 | 7.3 | 7.2 | 7.5 | 7.0 | 7.5 | 7.1 | --- | --- | --- | --- | 7.9 | 7.5 |
| 30 | 7.5 | 7.2 | 7.5 | 7.3 | 7.5 | 7.2 | --- | --- | --- | --- | 7.9 | 7.4 |
| 31 | 7.4 | 7.3 | --- | --- | 7.5 | 7.3 | 7.7 | 7.7 | --- | --- | 7.7 | 7.2 |
| MONTH | 7.6 | 7.0 | 7.7 | 6.8 | 7.6 | 6.8 | 8.1 | 7.3 | 8.1 | 6.7 | 7.9 | 6.9 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 8.2 | 7.5 | 7.4 | 7.0 | 7.4 | 7.2 | 8.0 | 7.2 | 7.3 | 7.2 | 7.4 | 7.3 |
| 2 | 7.9 | 7.6 | 7.4 | 7.3 | 7.3 | 7.0 | 7.3 | 7.2 | 7.3 | 7.2 | 7.4 | 7.2 |
| 3 | 8.1 | 7.9 | 7.5 | 7.3 | 7.5 | 7.3 | 7.5 | 7.3 | 7.3 | 7.2 | 8.1 | 7.3 |
| 4 | 7.9 | 7.6 | 7.4 | 6.9 | 7.4 | 7.3 | 7.5 | 7.3 | 7.3 | 7.2 | 7.6 | 7.5 |
| 5 | 7.9 | 7.5 | 7.5 | 7.2 | 7.4 | 7.3 | 7.5 | 7.3 | 7.3 | 7.1 | 7.5 | 7.4 |
| 6 | 7.9 | 7.4 | 7.4 | 7.2 | 7.6 | 7.3 | 7.5 | 7.4 | 7.3 | 7.1 | 7.5 | 7.3 |
| 7 | 7.7 | 7.2 | 7.4 | 7.2 | 7.5 | 7.4 | 7.5 | 7.3 | 7.6 | 7.2 | 7.4 | 7.3 |
| 8 | 7.7 | 7.3 | 7.6 | 7.4 | 7.5 | 7.2 | 7.5 | 7.3 | 7.4 | 7.1 | 7.4 | 7.3 |
| 9 | 7.7 | 7.5 | 7.5 | 7.4 | 7.5 | 7.3 | 7.4 | 7.2 | 7.4 | 7.2 | 7.4 | 7.2 |
| 10 | 7.9 | 7.7 | 7.4 | 7.3 | 7.5 | 7.4 | 7.5 | 7.4 | 7.3 | 7.2 | 7.4 | 7.3 |
| 11 | 7.9 | 7.5 | 7.4 | 7.3 | 7.4 | 7.2 | 7.5 | 7.3 | 7.3 | 7.1 | 7.5 | 7.3 |
| 12 | 7.6 | 7.4 | 7.4 | 7.3 | 7.5 | 7.3 | 7.5 | 7.3 | 7.4 | 7.2 | 7.6 | 7.3 |
| 13 | 7.6 | 7.0 | 7.4 | 7.3 | 7.5 | 7.2 | 7.5 | 7.4 | 7.3 | 7.1 | 7.6 | 7.4 |
| 14 | 7.5 | 7.3 | 7.4 | 7.3 | 7.4 | 7.2 | 7.5 | 7.4 | 7.4 | 7.1 | 7.8 | 7.3 |
| 15 | 7.6 | 7.3 | 7.4 | 7.2 | 7.4 | 6.9 | 7.4 | 7.4 | 7.4 | 7.4 | 7.4 | 7.1 |
| 16 | 7.5 | 7.4 | 7.4 | 7.3 | 7.3 | 7.2 | 7.5 | 7.3 | 7.4 | 7.4 | 7.3 | 7.1 |
| 17 | 7.5 | 7.4 | 7.6 | 7.3 | 8.0 | 7.2 | 7.6 | 7.3 | 7.5 | 6.8 | 7.5 | 7.2 |
| 18 | 7.5 | 7.3 | 7.5 | 7.2 | 7.8 | 7.3 | 7.8 | 7.4 | 7.5 | 7.3 | 7.4 | 7.1 |
| 19 | 7.4 | 7.1 | 7.5 | 7.3 | 7.8 | 7.4 | 7.6 | 7.4 | 7.5 | 7.4 | 7.3 | 7.2 |
| 20 | 7.5 | 6.8 | 7.5 | 7.4 | 7.6 | 7.3 | 7.6 | 7.5 | 7.4 | 7.3 | 7.4 | 7.2 |
| 21 | 7.5 | 7.2 | 7.4 | 7.3 | 7.5 | 7.3 | 7.5 | 7.2 | 7.5 | 7.4 | 7.4 | 7.1 |
| 22 | 7.4 | 7.1 | 7.7 | 7.3 | 7.5 | 7.3 | 7.5 | 7.2 | 7.5 | 7.4 | 7.3 | 7.1 |
| 23 | 7.5 | 7.1 | 7.6 | 7.4 | 7.5 | 7.3 | 7.9 | 7.3 | 7.4 | 7.3 | 7.3 | 7.0 |
| 24 | 7.6 | 7.4 | 7.5 | 7.3 | 7.4 | 7.2 | 7.4 | 7.2 | 7.5 | 7.1 | 7.3 | 7.1 |
| 25 | 7.6 | 7.1 | 7.5 | 7.3 | 7.4 | 7.3 | 7.6 | 7.3 | 7.8 | 7.0 | 7.4 | 7.1 |
| 26 | 7.5 | 7.3 | 7.6 | 7.3 | --- | --- | 7.5 | 7.3 | 7.5 | 7.3 | 7.4 | 7.2 |
| 27 | 7.6 | 7.3 | 7.4 | 7.2 | 7.6 | 7.4 | 7.3 | 7.0 | 7.4 | 7.2 | 7.3 | 7.1 |
| 28 | 7.6 | 7.3 | 7.5 | 7.2 | 7.5 | 7.4 | 7.3 | 7.2 | 7.4 | 7.3 | 7.3 | 7.1 |
| 29 | 7.5 | 7.3 | 7.5 | 7.3 | 7.4 | 7.3 | 7.3 | 7.2 | 7.4 | 7.3 | 7.3 | 7.0 |
| 30 | 7.5 | 7.3 | 7.5 | 7.4 | 7.5 | 7.0 | 7.2 | 6.9 | 7.5 | 7.2 | 7.2 | 7.1 |
| 31 | --- | --- | 7.5 | 7.3 | --- | --- | 7.3 | 7.1 | 7.4 | 7.4 | --- | --- |
| MONTH | 8.2 | 6.8 | 7.7 | 6.9 | 8.0 | 6.9 | 8.0 | 6.9 | 7.8 | 6.8 | 8.1 | 7.0 |
| YEAR | 8.2 | 6.7 | | | | | | | | | | |

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | |
|-------|---------|------|----------|------|----------|-----|---------|-----|----------|------|-------|------|-----|--|-----|--|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | | | | | |
| | | | | | | | | | | | | | | | | |
| 1 | 25.5 | 24.0 | 12.5 | 11.0 | 9.0 | 8.5 | 5.0 | 4.5 | 9.5 | 7.5 | 7.0 | 5.0 | | | | |
| 2 | 25.5 | 24.0 | 13.5 | 12.0 | 9.0 | 6.0 | 7.0 | 5.0 | 11.0 | 8.0 | 9.0 | 6.0 | | | | |
| 3 | 26.5 | 24.0 | 14.0 | 12.5 | 7.0 | 5.5 | 9.0 | 7.0 | 12.5 | 10.5 | 10.0 | 7.5 | | | | |
| 4 | 26.5 | 25.0 | 13.5 | 12.0 | 6.5 | 5.5 | 11.0 | 9.0 | 13.0 | 12.0 | 11.5 | 10.5 | | | | |
| 5 | 27.0 | 25.5 | 14.0 | 12.5 | 7.0 | 5.5 | 10.0 | 8.5 | 13.5 | 12.0 | 11.0 | 9.0 | | | | |
| 6 | 26.0 | 24.5 | 13.0 | 11.0 | 8.5 | 6.5 | 10.5 | 9.5 | 12.5 | 11.0 | 9.5 | 7.5 | | | | |
| 7 | 26.0 | 25.0 | 12.0 | 10.5 | 8.5 | 6.5 | 9.5 | 8.5 | 13.0 | 10.5 | 10.0 | 8.0 | | | | |
| 8 | 26.0 | 24.5 | 10.0 | 9.0 | 6.5 | 5.5 | 10.0 | 7.5 | 10.5 | 8.5 | 12.5 | 9.0 | | | | |
| 9 | 25.0 | 20.0 | 11.0 | 9.0 | 6.5 | 5.0 | 9.5 | 8.5 | 11.5 | 8.5 | 14.0 | 11.5 | | | | |
| 10 | 20.0 | 17.5 | 12.5 | 11.5 | 5.5 | 5.5 | 9.0 | 7.5 | 15.5 | 11.5 | 15.5 | 13.5 | | | | |
| 11 | 20.5 | 17.5 | 12.0 | 11.0 | --- | --- | 7.5 | 5.5 | 15.0 | 13.5 | 16.5 | 14.5 | | | | |
| 12 | 22.0 | 20.0 | 11.5 | 10.5 | 6.5 | 6.0 | 7.0 | 5.5 | 13.0 | 12.0 | 17.5 | 16.0 | | | | |
| 13 | 24.0 | 22.0 | 11.0 | 10.0 | 6.0 | 5.5 | 8.0 | 7.0 | 12.0 | 7.5 | 16.5 | 10.5 | | | | |
| 14 | 24.0 | 23.0 | 10.0 | 8.5 | 8.0 | 6.0 | 9.0 | 8.0 | 8.0 | 7.0 | 11.0 | 10.5 | | | | |
| 15 | 25.0 | 22.5 | 8.5 | 8.0 | 9.5 | 7.5 | 9.0 | 8.5 | 7.0 | 6.5 | 12.0 | 9.5 | | | | |
| 16 | 23.0 | 20.5 | 9.5 | 8.5 | 11.0 | 9.0 | 8.5 | 6.5 | 8.0 | 6.0 | 14.5 | 12.0 | | | | |
| 17 | 20.5 | 19.5 | 9.5 | 8.5 | 10.0 | 9.0 | 6.5 | 4.5 | 7.0 | 5.5 | 15.0 | 13.5 | | | | |
| 18 | 20.5 | 19.0 | 8.5 | 7.5 | 10.5 | 8.5 | --- | --- | 8.5 | 6.0 | 15.0 | 7.5 | | | | |
| 19 | 21.5 | 19.0 | 8.0 | 7.5 | 10.0 | 9.0 | --- | --- | 10.0 | 8.5 | 7.5 | 6.5 | | | | |
| 20 | 22.0 | 20.0 | 9.0 | 8.0 | 10.5 | 9.0 | --- | --- | 10.0 | 8.5 | 6.5 | 6.0 | | | | |
| 21 | 20.5 | 19.0 | 8.5 | 7.0 | 8.5 | 8.0 | --- | --- | 10.5 | 8.0 | 8.5 | 6.5 | | | | |
| 22 | 19.0 | 18.0 | 7.5 | 6.0 | 8.0 | 6.5 | --- | --- | 14.0 | 9.5 | 9.0 | 8.0 | | | | |
| 23 | 18.5 | 17.5 | 8.0 | 6.5 | 7.5 | 6.0 | --- | --- | 12.0 | 6.5 | 9.0 | 7.5 | | | | |
| 24 | 18.5 | 15.5 | 8.0 | 6.5 | 7.0 | 5.5 | --- | --- | 6.5 | 3.0 | 9.0 | 8.0 | | | | |
| 25 | 15.5 | 15.0 | 7.5 | 7.0 | 8.0 | 6.5 | --- | --- | 3.0 | 2.0 | 9.5 | 7.5 | | | | |
| 26 | 15.0 | 14.0 | 8.0 | 7.5 | 8.0 | 7.5 | --- | --- | 2.5 | 1.5 | 11.5 | 9.0 | | | | |
| 27 | 15.0 | 14.0 | 9.0 | 8.0 | 8.0 | 7.0 | --- | --- | 4.5 | 2.5 | 12.5 | 10.0 | | | | |
| 28 | 16.0 | 14.5 | 9.0 | 8.5 | 8.5 | 7.5 | --- | --- | 6.0 | 4.0 | 12.5 | 12.0 | | | | |
| 29 | 16.0 | 13.5 | 9.5 | 7.5 | 9.0 | 7.0 | --- | --- | --- | --- | 13.5 | 11.5 | | | | |
| 30 | 14.0 | 13.5 | 9.0 | 7.5 | 7.0 | 6.5 | --- | --- | --- | --- | 15.5 | 13.0 | | | | |
| 31 | 13.5 | 12.0 | --- | --- | 6.5 | 5.0 | 8.5 | 7.5 | --- | --- | 14.5 | 14.0 | | | | |
| MONTH | 27.0 | 12.0 | 14.0 | 6.0 | 11.0 | 5.0 | 11.0 | 4.5 | 15.5 | 1.5 | 17.5 | 5.0 | | | | |

| DAY | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|-----|--|-----|--|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | | | | |
| | | | | | | | | | | | | | | | | |
| 1 | 15.0 | 13.5 | 21.5 | 18.0 | 32.0 | 30.5 | 30.0 | 27.0 | 30.5 | 29.0 | 34.5 | 31.5 | | | | |
| 2 | 15.0 | 11.0 | 22.0 | 21.0 | 30.5 | 28.5 | 29.5 | 27.5 | 31.5 | 27.5 | 34.5 | 31.5 | | | | |
| 3 | 11.5 | 10.5 | 24.5 | 21.0 | 31.0 | 26.0 | 30.5 | 27.5 | 33.0 | 29.0 | 31.5 | 29.5 | | | | |
| 4 | 11.5 | 11.0 | 22.5 | 22.0 | 30.5 | 26.5 | 30.0 | 28.5 | 35.0 | 31.5 | 31.5 | 29.5 | | | | |
| 5 | 12.0 | 10.5 | 24.5 | 22.0 | 29.0 | 26.5 | 33.5 | 29.5 | 34.5 | 32.0 | 32.0 | 30.0 | | | | |
| 6 | 11.0 | 10.0 | 25.5 | 22.5 | 26.5 | 20.0 | 34.5 | 31.0 | 32.5 | 29.0 | 32.0 | 29.5 | | | | |
| 7 | 10.5 | 9.5 | 25.0 | 23.5 | 24.5 | 21.5 | 35.0 | 31.5 | 29.0 | 23.5 | 33.0 | 29.5 | | | | |
| 8 | 10.5 | 9.0 | 24.0 | 21.5 | 25.5 | 22.5 | 33.5 | 31.5 | 26.0 | 24.0 | 32.5 | 30.5 | | | | |
| 9 | 10.5 | 9.0 | 21.5 | 20.0 | 23.5 | 20.5 | 33.5 | 31.5 | 28.5 | 26.0 | 32.0 | 30.0 | | | | |
| 10 | 10.5 | 9.5 | 23.0 | 20.0 | 24.0 | 19.0 | 33.0 | 30.5 | 30.5 | 28.0 | 31.5 | 29.0 | | | | |
| 11 | 13.5 | 10.0 | 25.0 | 21.0 | 26.0 | 22.5 | 34.0 | 31.0 | 32.0 | 29.0 | 29.0 | 27.0 | | | | |
| 12 | 15.5 | 13.0 | 25.5 | 22.0 | 25.0 | 24.0 | 35.0 | 31.5 | 31.0 | 29.0 | 28.0 | 26.0 | | | | |
| 13 | 19.5 | 15.5 | 27.0 | 24.0 | 28.0 | 24.0 | 33.5 | 32.0 | 30.5 | 29.0 | 29.0 | 25.0 | | | | |
| 14 | 20.0 | 18.0 | 27.5 | 25.5 | 28.5 | 25.5 | 34.0 | 31.0 | 29.5 | 28.5 | 24.0 | 21.5 | | | | |
| 15 | 20.0 | 17.0 | 28.5 | 25.5 | 31.0 | 26.0 | 35.0 | 32.0 | 30.5 | 27.5 | 23.5 | 22.5 | | | | |
| 16 | 20.0 | 18.0 | 30.5 | 26.5 | 31.5 | 28.0 | 36.5 | 33.5 | 31.5 | 29.0 | 23.5 | 22.5 | | | | |
| 17 | 21.5 | 18.5 | 32.5 | 28.0 | 31.0 | 22.5 | 33.5 | 29.5 | 31.0 | 29.5 | 23.5 | 22.0 | | | | |
| 18 | 23.0 | 20.5 | 33.0 | 30.0 | 22.0 | 19.5 | 32.5 | 29.0 | 30.5 | 29.0 | 23.5 | 22.5 | | | | |
| 19 | 25.0 | 21.5 | 34.5 | 31.0 | 23.0 | 20.5 | 32.5 | 30.5 | 30.5 | 28.5 | 25.0 | 23.0 | | | | |
| 20 | 25.0 | 21.5 | 35.0 | 31.5 | 25.5 | 22.5 | 34.5 | 31.0 | 30.5 | 28.0 | 25.0 | 21.5 | | | | |
| 21 | 25.5 | 22.5 | 34.5 | 31.5 | 27.0 | 24.0 | 34.5 | 32.0 | 29.0 | 28.0 | 24.0 | 22.5 | | | | |
| 22 | 26.5 | 25.0 | 34.0 | 31.5 | 28.0 | 25.5 | 32.0 | 29.5 | 27.5 | 24.5 | 25.0 | 23.5 | | | | |
| 23 | 26.0 | 20.0 | 35.5 | 32.0 | 31.0 | 26.0 | 31.5 | 28.5 | 28.0 | 24.5 | 26.5 | 24.5 | | | | |
| 24 | 19.5 | 16.0 | 36.0 | 33.5 | 30.5 | 28.0 | 31.5 | 28.5 | 28.0 | 26.5 | 27.0 | 25.0 | | | | |
| 25 | 16.0 | 15.5 | 35.5 | 29.5 | 31.0 | 28.5 | 30.5 | 24.0 | 28.0 | 26.0 | 23.5 | 21.0 | | | | |
| 26 | 15.5 | 14.0 | 34.0 | 32.0 | --- | --- | 28.5 | 24.5 | 29.0 | 26.0 | 22.0 | 20.5 | | | | |
| 27 | 17.0 | 14.0 | 33.5 | 30.0 | 31.5 | 30.5 | 29.0 | 25.5 | 31.0 | 27.5 | 23.5 | 21.5 | | | | |
| 28 | 16.5 | 16.0 | 33.0 | 30.0 | 30.5 | 27.5 | 29.5 | 26.0 | 33.0 | 30.5 | 23.0 | 21.5 | | | | |
| 29 | 19.0 | 16.0 | 32.0 | 29.5 | 28.5 | 26.0 | 30.0 | 29.0 | 34.0 | 31.5 | 22.5 | 21.0 | | | | |
| 30 | 19.5 | 16.5 | 32.0 | 29.0 | 29.0 | 26.0 | 30.0 | 28.0 | 33.0 | 30.5 | 23.5 | 21.5 | | | | |
| 31 | --- | --- | 32.5 | 29.5 | --- | --- | 32.0 | 29.5 | 32.5 | 31.0 | --- | --- | | | | |
| MONTH | 26.5 | 9.0 | 36.0 | 18.0 | 32.0 | 19.0 | 36.5 | 24.0 | 35.0 | 23.5 | 34.5 | 20.5 | | | | |

| YEAR | 36.5 | 1.5 |
|------|------|-----|
|------|------|-----|

03099510 MAHONING RIVER AT OHIO-PENNSYLVANIA STATE LINE, BELCW LOWELLVILLE, OH--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|-----|----------|-----|-----------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 4.9 | 4.4 | 7.9 | 7.2 | 9.5 | 9.3 | 10.5 | 9.9 | 7.8 | 7.0 | 12.3 | 11.6 |
| 2 | 4.9 | 4.3 | 7.6 | 7.0 | 10.4 | 9.4 | 10.4 | 9.5 | 7.5 | 6.5 | 11.6 | 10.7 |
| 3 | 4.9 | 4.3 | 7.3 | 6.9 | 10.5 | 9.8 | 9.6 | 8.7 | --- | --- | 10.7 | 10.0 |
| 4 | 4.7 | 4.3 | 7.3 | 6.9 | 10.8 | 10.0 | 8.7 | 7.6 | --- | --- | 10.0 | 8.6 |
| 5 | 4.4 | 3.8 | 7.0 | 6.6 | 10.8 | 10.5 | 8.8 | 8.5 | --- | --- | 10.2 | 9.1 |
| 6 | 4.5 | 4.0 | 7.7 | 6.7 | 10.4 | 9.7 | 8.5 | 8.0 | --- | --- | 10.6 | 10.1 |
| 7 | 4.4 | 3.9 | 8.0 | 7.4 | 10.5 | 9.0 | 8.5 | 7.8 | --- | --- | 10.5 | 10.1 |
| 8 | 4.4 | 4.0 | 8.4 | 7.9 | 10.8 | 10.5 | 8.7 | 7.8 | --- | --- | 10.0 | 8.7 |
| 9 | 5.3 | 4.2 | 8.4 | 7.4 | 10.9 | 10.7 | 8.2 | 7.9 | --- | --- | 8.8 | 8.3 |
| 10 | 6.4 | 5.4 | 7.4 | 7.1 | 10.9 | 10.6 | 8.6 | 7.6 | --- | --- | 8.2 | 7.6 |
| 11 | 6.3 | 5.5 | 7.8 | 7.1 | --- | --- | 9.9 | 9.0 | --- | --- | 7.5 | 7.1 |
| 12 | 5.4 | 5.0 | 8.0 | 7.4 | 10.5 | 10.2 | 9.9 | 9.0 | --- | --- | 7.0 | 5.7 |
| 13 | 5.0 | 4.5 | 8.1 | 7.7 | 10.8 | 10.5 | 9.3 | 8.9 | --- | --- | 9.1 | 5.7 |
| 14 | 4.8 | 4.2 | 8.6 | 7.9 | 10.5 | 9.6 | 9.5 | 8.8 | 8.8 | 8.2 | 9.2 | 9.0 |
| 15 | 4.8 | 4.4 | 8.7 | 8.4 | 9.9 | 9.5 | 8.6 | 8.2 | 9.3 | 8.8 | 9.6 | 7.9 |
| 16 | 5.2 | 4.6 | 8.7 | 8.1 | 9.5 | 8.7 | 8.2 | 7.3 | 9.3 | 8.8 | 7.9 | 6.9 |
| 17 | 5.4 | 5.0 | 8.8 | 8.2 | 9.5 | 8.7 | 7.7 | 6.7 | 9.7 | 8.8 | 7.0 | 6.5 |
| 18 | 5.4 | 5.0 | 9.2 | 8.7 | 9.3 | 8.8 | --- | --- | 8.8 | 8.0 | 8.7 | 6.2 |
| 19 | 5.2 | 4.8 | 9.2 | 8.8 | 9.4 | 8.8 | --- | --- | 7.9 | 7.3 | 9.2 | 8.4 |
| 20 | 5.0 | 4.2 | 9.0 | 8.5 | 9.1 | 8.7 | --- | --- | 7.5 | 7.1 | 8.7 | 8.4 |
| 21 | 5.2 | 3.3 | 9.1 | 8.7 | 9.6 | 8.9 | --- | --- | 7.4 | 6.8 | 8.8 | 7.7 |
| 22 | 5.7 | 4.7 | 9.6 | 8.9 | 10.1 | 9.0 | --- | --- | 6.8 | 5.6 | 7.7 | 7.4 |
| 23 | 5.8 | 5.5 | 10.4 | 8.9 | 10.2 | 9.4 | --- | --- | 7.1 | 5.8 | --- | --- |
| 24 | 6.5 | 5.4 | 10.4 | 10.1 | 10.2 | 9.7 | --- | --- | 7.7 | 6.6 | --- | --- |
| 25 | 6.7 | 6.3 | 10.6 | 10.2 | 9.8 | 9.3 | --- | --- | 8.2 | 7.3 | --- | --- |
| 26 | 7.2 | 6.2 | 10.6 | 10.2 | 9.5 | 9.2 | --- | --- | 8.0 | 7.1 | --- | --- |
| 27 | 7.2 | 6.8 | 10.3 | 9.4 | 9.6 | 9.3 | --- | --- | --- | --- | --- | --- |
| 28 | 6.8 | 6.1 | 9.8 | 9.3 | 9.2 | 8.8 | --- | --- | --- | --- | --- | --- |
| 29 | 7.0 | 6.5 | 9.8 | 9.0 | 9.4 | 8.4 | --- | --- | --- | --- | --- | --- |
| 30 | 7.5 | 6.7 | 9.9 | 9.5 | 9.6 | 9.0 | --- | --- | --- | --- | --- | --- |
| 31 | 7.6 | 6.4 | --- | --- | 9.8 | 9.4 | 7.9 | 7.7 | --- | --- | 8.6 | 7.7 |
| MONTH | 7.6 | 3.3 | 10.6 | 6.6 | 10.9 | 8.4 | 10.5 | 6.7 | 9.7 | 5.6 | 12.3 | 5.7 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 7.7 | 7.2 | 7.7 | 7.2 | 3.3 | 2.0 | 4.3 | 3.4 | 3.3 | 2.6 | 3.5 | 2.6 |
| 2 | 8.1 | 7.1 | 7.0 | 6.5 | 3.4 | 2.4 | 4.2 | 3.3 | 3.0 | 2.4 | 3.3 | 2.5 |
| 3 | 8.0 | 7.8 | 6.9 | 6.1 | 3.8 | 2.5 | 4.2 | 3.3 | 3.1 | 2.0 | 3.9 | 2.4 |
| 4 | 8.1 | 7.9 | 6.7 | 6.3 | 4.0 | 2.4 | 3.9 | 3.2 | 2.9 | 1.6 | 3.6 | 2.9 |
| 5 | 9.9 | 7.6 | 6.7 | 6.1 | 3.2 | 2.4 | 5.3 | 2.7 | 2.6 | 1.8 | 3.5 | 2.8 |
| 6 | 10.2 | 9.6 | 6.6 | 5.9 | 5.0 | 2.5 | 3.1 | 2.3 | 2.7 | 1.6 | 3.1 | 2.3 |
| 7 | 10.3 | 9.8 | 6.5 | 5.7 | 4.6 | 3.7 | 3.3 | 1.8 | 4.3 | 2.8 | 3.2 | 2.1 |
| 8 | 10.6 | 10.0 | 6.1 | 5.7 | 4.1 | 3.2 | 3.6 | 1.9 | --- | --- | 3.1 | 2.4 |
| 9 | 10.6 | 10.2 | 6.1 | 5.4 | 5.6 | 3.8 | 3.4 | 2.3 | --- | --- | 3.2 | 2.5 |
| 10 | 10.7 | 10.2 | 5.9 | 5.4 | 5.6 | 4.2 | 3.5 | 2.4 | --- | --- | 3.3 | 2.4 |
| 11 | 11.0 | 10.1 | 5.6 | 5.3 | 4.3 | 2.8 | 3.4 | 2.4 | --- | --- | 2.9 | 2.7 |
| 12 | 10.1 | 9.1 | 5.1 | 4.4 | 3.5 | 2.5 | 2.9 | 1.7 | --- | --- | --- | --- |
| 13 | --- | --- | 4.5 | 3.8 | 3.6 | 2.8 | 3.2 | 2.2 | --- | --- | --- | --- |
| 14 | --- | --- | 4.4 | 3.1 | 3.0 | 2.1 | 3.0 | 2.2 | --- | --- | --- | --- |
| 15 | --- | --- | 4.3 | 3.4 | 3.2 | 2.5 | 2.6 | 1.8 | --- | --- | 6.1 | 5.3 |
| 16 | --- | --- | 3.8 | 2.9 | 2.9 | 2.4 | 2.2 | 1.5 | --- | --- | 6.3 | 5.3 |
| 17 | --- | --- | 3.9 | 3.0 | 3.3 | .0 | 2.7 | 0.7 | --- | --- | 6.7 | 5.5 |
| 18 | --- | --- | 3.5 | 2.8 | 6.9 | 3.8 | 2.9 | 1.7 | 4.4 | 3.8 | 6.6 | 5.5 |
| 19 | --- | --- | 3.3 | 2.5 | 7.7 | 6.8 | 1.7 | 1.3 | 4.6 | 3.9 | 6.0 | 4.8 |
| 20 | --- | --- | 3.3 | 2.1 | 6.7 | 4.9 | 1.7 | 1.3 | 4.5 | 3.6 | 7.1 | 5.0 |
| 21 | --- | --- | 3.2 | 1.7 | 5.2 | 4.5 | 3.4 | 2.3 | 4.5 | 3.4 | 6.5 | 5.6 |
| 22 | --- | --- | 4.1 | 1.9 | 4.7 | 3.8 | 4.4 | 2.3 | 5.5 | 3.6 | 5.8 | 5.2 |
| 23 | --- | --- | 3.6 | 2.1 | 4.0 | 3.8 | 4.3 | 3.4 | 5.1 | 4.3 | 5.3 | 4.7 |
| 24 | --- | --- | 3.1 | 1.5 | 3.5 | 3.1 | 3.8 | 2.9 | 4.6 | 4.3 | 5.2 | 4.5 |
| 25 | --- | --- | 3.2 | 1.3 | 3.9 | 2.9 | 5.4 | 2.4 | 4.5 | 3.7 | 7.4 | 4.4 |
| 26 | --- | --- | 3.4 | 1.7 | --- | --- | 5.0 | 4.0 | 4.3 | 3.7 | 7.4 | 6.5 |
| 27 | 8.7 | 7.7 | 3.2 | 2.0 | 4.2 | 3.2 | 4.2 | 3.4 | 3.9 | 3.4 | 7.0 | 6.2 |
| 28 | 8.3 | 7.7 | 4.1 | 2.0 | 4.0 | 3.0 | 3.4 | 2.7 | 3.4 | 2.8 | 7.0 | 6.3 |
| 29 | 8.3 | 7.8 | 4.2 | 2.3 | 5.2 | 3.7 | 2.7 | 1.9 | 3.6 | 2.3 | 6.8 | 6.3 |
| 30 | 8.6 | 7.3 | 3.7 | 2.2 | 4.7 | 3.9 | 3.0 | 2.3 | 3.5 | 2.1 | 6.4 | 5.8 |
| 31 | --- | --- | 3.4 | 2.2 | --- | --- | 3.1 | 2.2 | 3.6 | 2.6 | --- | --- |
| MONTH | 11.0 | 7.1 | 7.7 | 1.3 | 7.7 | .0 | 5.4 | 0.7 | 5.5 | 1.6 | 7.4 | 2.1 |
| YEAR | 12.3 | .0 | | | | | | | | | | |

BEAVER RIVER BASIN

03102950 PYMATUNING CREEK AT KINSMAN, OH

LOCATION.--Lat 41°26'34", long 80°35'18", in T.7 N., R.1 W., Trumbull County, Hydrologic Unit 05030102, on left bank at downstream side of bridge on State Highway 7 at Kinsman, 0.8 mi (1.3 km) downstream from Sugar Creek, and 1.2 mi (1.9 km) upstream from Stratton Creek.

DRAINAGE AREA.--96.7 mi² (250 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 906.8 ft (276.39 m) above mean sea level.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--12 years, 118 ft³/s (3.342 m³/s), 16.57 in/yr (421 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,420 ft³/s (68.5 m³/s) Feb. 17, 1976, gage height, 12.27 ft (3.740 m) from rating curve extended above 800 ft³/s (22.7 m³/s); minimum discharge, 0.10 ft³/s (0.003 m³/s) Aug. 8, 1972.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 700 ft³/s (19.8 m³/s) and maximums (*):

| Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) | Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) |
|---------|------|---|-------------------------|---------|------|---|-------------------------|
| Feb. 25 | 2300 | *1590 45.0 | *11.47 3.496 | Mar. 21 | 0500 | 749 21.2 | 10.22 3.115 |

Minimum discharge, 2.2 ft³/s (0.062 m³/s) May 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|---------|----------|----------|---------|-----------|----------|--------|-------|--------|--------|--------|
| 1 | 43 | 123 | 49 | 34 | 20 | 600 | 171 | 134 | 2.7 | 26 | 23 | 12 |
| 2 | 32 | 124 | 32 | 29 | 20 | 450 | 188 | 89 | 3.3 | 29 | 17 | 28 |
| 3 | 22 | 123 | 18 | 26 | 20 | 323 | 492 | 91 | 3.9 | 19 | 9.8 | 47 |
| 4 | 18 | 107 | 10 | 25 | 20 | 260 | 434 | 82 | 4.1 | 10 | 5.4 | 65 |
| 5 | 18 | 82 | 6.5 | 24 | 20 | 320 | 448 | 110 | 4.2 | 6.0 | 5.2 | 76 |
| 6 | 16 | 62 | 4.7 | 22 | 20 | 308 | 403 | 131 | 6.8 | 4.2 | 7.2 | 65 |
| 7 | 14 | 49 | 51 | 22 | 20 | 289 | 318 | 119 | 11 | 36 | 26 | 46 |
| 8 | 16 | 40 | 106 | 21 | 20 | 239 | 267 | 91 | 14 | 138 | 49 | 28 |
| 9 | 31 | 35 | 103 | 19 | 20 | 176 | 225 | 61 | 26 | 200 | 81 | 17 |
| 10 | 80 | 34 | 104 | 20 | 30 | 134 | 207 | 42 | 38 | 236 | 86 | 11 |
| 11 | 88 | 36 | 111 | 21 | 40 | 113 | 186 | 29 | 29 | 244 | 86 | 8.3 |
| 12 | 84 | 39 | 117 | 20 | 49 | 101 | 153 | 19 | 20 | 208 | 73 | 8.5 |
| 13 | 79 | 44 | 112 | 19 | 78 | 352 | 117 | 13 | 15 | 158 | 68 | 11 |
| 14 | 65 | 48 | 100 | 19 | 114 | 528 | 86 | 11 | 10 | 107 | 105 | 68 |
| 15 | 50 | 49 | 83 | 20 | 142 | 525 | 64 | 8.8 | 7.8 | 68 | 162 | 107 |
| 16 | 41 | 46 | 68 | 21 | 162 | 434 | 50 | 7.2 | 6.0 | 51 | 173 | 142 |
| 17 | 34 | 40 | 59 | 21 | 176 | 301 | 38 | 5.4 | 7.2 | 46 | 159 | 201 |
| 18 | 24 | 36 | 53 | 21 | 180 | 368 | 30 | 4.6 | 9.8 | 41 | 124 | 244 |
| 19 | 19 | 33 | 48 | 20 | 176 | 692 | 25 | 9.5 | 13 | 36 | 91 | 226 |
| 20 | 18 | 28 | 65 | 20 | 166 | 656 | 37 | 12 | 14 | 47 | 65 | 209 |
| 21 | 26 | 24 | 84 | 20 | 152 | 708 | 63 | 7.4 | 12 | 57 | 46 | 178 |
| 22 | 33 | 21 | 103 | 19 | 137 | 584 | 60 | 4.4 | 9.3 | 76 | 65 | 152 |
| 23 | 43 | 16 | 108 | 19 | 162 | 511 | 126 | 4.3 | 7.2 | 107 | 108 | 155 |
| 24 | 64 | 13 | 100 | 19 | 577 | 438 | 381 | 3.9 | 5.4 | 103 | 160 | 148 |
| 25 | 93 | 11 | 83 | 21 | 1490 | 370 | 469 | 4.4 | 3.7 | 85 | 200 | 115 |
| 26 | 109 | 18 | 70 | 20 | 1450 | 280 | 487 | 3.7 | 3.2 | 83 | 186 | 81 |
| 27 | 119 | 43 | 61 | 20 | 1050 | 187 | 441 | 3.1 | 3.3 | 80 | 133 | 63 |
| 28 | 115 | 61 | 55 | 20 | 789 | 162 | 366 | 2.5 | 5.0 | 74 | 76 | 83 |
| 29 | 92 | 79 | 50 | 20 | --- | 230 | 309 | 2.6 | 12 | 58 | 43 | 124 |
| 30 | 68 | 75 | 44 | 20 | --- | 223 | 216 | 2.8 | 14 | 41 | 25 | 137 |
| 31 | 77 | --- | 39 | 20 | --- | 206 | --- | 2.4 | --- | 29 | 15 | --- |
| TOTAL | 1631 | 1539 | 2097.2 | 662 | 7300 | 11068 | 6857 | 1111.0 | 320.9 | 2503.2 | 2472.6 | 2855.8 |
| MEAN | 52.6 | 51.3 | 67.7 | 21.4 | 261 | 357 | 229 | 35.8 | 10.7 | 80.7 | 79.8 | 95.2 |
| MAX | 119 | 124 | 117 | 34 | 1490 | 708 | 492 | 134 | 38 | 244 | 200 | 244 |
| MIN | 14 | 11 | 4.7 | 19 | 20 | 101 | 25 | 2.4 | 2.7 | 4.2 | 5.2 | 8.3 |
| CFSM | .54 | .53 | .70 | .22 | 2.70 | 3.69 | 2.37 | .37 | .11 | .84 | .83 | .98 |
| IN. | .63 | .59 | .81 | .25 | 2.81 | 4.26 | 2.64 | .43 | .12 | .96 | .95 | 1.10 |
| CAL YR 1976 | TOTAL | 41908.2 | MEAN 115 | MAX 2240 | MIN 1.1 | CFSM 1.19 | IN 16.12 | | | | | |
| WTR YR 1977 | TOTAL | 40417.7 | MEAN 111 | MAX 1490 | MIN 2.4 | CFSM 1.15 | IN 15.55 | | | | | |

BEAVER RIVER BASIN

53

03102950 PYMATUNING CREEK AT KINSMAN, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|------|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| MAR 16... | 1400 | 408 | 215 | 7.1 | 10.5 | 6.3 | 56 | 2.4 | 77 | 39 | 22 | 5.4 |
| JUN 27... | 1800 | 3.4 | 350 | 7.1 | 20.5 | 3.5 | 38 | 3.4 | 140 | 24 | 40 | 9.8 |
| | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) |
| MAR 16... | 8.0 | 4.0 | 47 | 0 | 39 | 6.0 | 34 | 17 | .1 | 4.6 | 118 | .80 |
| JUN 27... | 8.2 | 1.8 | 142 | 0 | 116 | 18 | 25 | 15 | .1 | 8.0 | 179 | .16 |
| | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (MG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (MG/L) |
| MAR 16... | .01 | .04 | .10 | 2 | 10 | 10 | 170 | 5 | 20 | .0 | 20 | 4.1 |
| JUN 27... | .02 | .14 | .13 | 5 | 10 | 23 | 60 | 11 | 850 | .0 | 40 | -- |

BEAVER RIVER BASIN

RESERVOIRS IN BEAVER RIVER BASIN, CH

- 03090000 BERLIN LAKE NEAR BERLIN CENTER.--Lat 41°02'46", long 81°00'10", in T.1 N., R.6 W., Portage County, Hydrologic Unit 05030103, at dam on Mahoning River, 3.2 mi (5.1 km) northwest of Berlin Center. DRAINAGE AREA, 248 mi² (642 km²). PERIOD OF RECORD, December 1942 to current year. Prior to October 1971 published as Berlin Reservoir. GAGE, water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).
Lake is formed by earthfill dam with concrete spillway; storage began in December 1942. Usable capacity 91,150 acre-ft (112 hm³) between elevations 956.5 ft (291.54 m) (invert of lowest outlet) and 1,032 ft (315 m) (top of taintor gates on controlled section) of which 1,800 acre-ft (2.22 hm³) is in the conservation pool, elevation, 980.0 ft (298.70 m). No dead storage. Flow is normally controlled by sluiceways through dam but additional releases can be made through gates on controlled section of spillway. Lake is used for flood control and to augment flow of Mahoning River during periods of low flow. Water used for industrial purposes in vicinity of Warren and Youngstown. Gage-heights and capacity curve furnished by Corps of Engineers.
EXTREMES FOR PERIOD OF RECORD: Maximum contents, 91,150 acre-ft (112 hm³) July 9, 1943, elevation, 1,032.0 ft (315.51 m); minimum, 1,540 acre-ft (1.90 hm³) Jan. 10, 1944, elevation, 978.82 ft (298.344 m).
EXTREMES FOR CURRENT YEAR: Maximum contents, 71,370 acre-ft (88.0 hm³) Apr. 6, elevation, 1,027.99 ft (313.331 m); minimum, 10,350 acre-ft (12.8 hm³) Feb. 10, elevation, 997.73 ft (304.168 m).
- 03091000 MILTON RESERVOIR NEAR PRICETOWN.--Lat 41°07'38", long 80°58'40", in T.2 N., R.5 W., Mahoning County, Hydrologic Unit 05030103, at dam on Mahoning River, 0.8 mi (1.3 km) southwest of Pricetown. DRAINAGE AREA, 273 mi² (707 km²). PERIOD OF RECORD, December 1923 to current year. Month-end contents for some periods published in WSP 1305. GAGE, water-stage recorder. Datum of gage is at mean sea level (levels by city of Youngstown). Prior to Oct. 7, 1941, nonrecording gage at same site and datum.
Reservoir is formed by earthfill dam with concrete spillway; storage began in 1916. Usable capacity 29,150 acre-ft (35.9 hm³) between elevations 906.0 ft (276.15 m) (bottom of gates) and 951.0 ft (289.86 m) (top of gates). No dead storage. Flow is regulated by two 16-inch and four 36-inch gates on spillway. Reservoir is used to augment flow of Mahoning River during periods of low flow. Water used for industrial purposes in vicinity of Warren and Youngstown. Capacity table computed from base data furnished by city of Youngstown, Division of Water.
EXTREMES FOR PERIOD OF RECORD: Maximum contents, 35,020 acre-ft (43.2 hm³) June 29, 1924, elevation, 953.8 ft (290.72 m), of which 5,870 acre-ft (7.24 hm³) was in uncontrolled storage; minimum, 1,220 acre-ft (1.50 hm³) Jan. 23, 1954, elevation, 924.27 ft (281.717 m), from graph based on gage readings.
EXTREMES FOR CURRENT YEAR: Maximum contents, 30,360 acre-ft (37.4 hm³) Apr. 9 elevation, 951.59 ft (290.045 m); minimum, 12,790 acre-ft (15.8 hm³) Feb. 12, elevation, 940.45 ft (286.649 m).
- 03092450 MICHAEL J. KIRWAN RESERVOIR AT WAYLAND.--Lat 41°09'24", long 81°04'47", in T.3 N., R.6 W., Portage County, Hydrologic Unit 05030103, at dam on West Branch Mahoning River, 0.5 mi (0.8 km) southwest of Wayland. DRAINAGE AREA, 80.5 mi² (208 km²). PERIOD OF RECORD, December 1966 to current year. Prior to October 1971 published as West Branch Reservoir. GAGE, water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).
Reservoir is formed by earthfill dam with concrete spillway; storage began in December 1966. Usable capacity 78,660 acre-ft (97.0 hm³) between elevations 936.8 ft (285.54 m) (lowest outlet) and 993.0 ft (302.67 m) (crest of spillway) of which 3,740 acre-ft (4.61 hm³) is in conservation pool. Dead storage below elevation 936.8 ft (285.54 m), 85 acre-ft (105,000 m³). Figures given herein represent usable contents. Flow is controlled by gates in concrete conduits in dam. Reservoir is used for flood control and to augment flow of Mahoning River during periods of low flow. Gage-heights and capacity curve furnished by Corps of Engineers.
EXTREMES FOR PERIOD OF RECORD: Maximum contents, 66,940 acre-ft (82.5 hm³) Apr. 18, 1972, elevation, 989.19 ft (301.505 m); minimum, 5,370 acre-ft (6.62 hm³) Jan. 5, 1967, elevation, 953.50 ft (290.627 m).
EXTREMES FOR CURRENT YEAR: Maximum contents, 59,260 acre-ft (73.1 hm³) May 6-8, elevation, 986.47 ft (300.676 m); minimum, 30,030 acre-ft (37.0 hm³) Feb. 11, 12, elevation, 973.55 ft (296.738 m).
- 03095000 MOSQUITO CREEK LAKE NEAR CORTLAND.--Lat 41°17'58", long 80°45'31", in T.5 N., R.3 W., Trumbull County, Hydrologic Unit 05030103, at dam on Mosquito Creek, 3.0 mi (4.8 km) southwest of Cortland. DRAINAGE AREA, 97.5 mi² (253 km²). PERIOD OF RECORD, October 1943 to current year. Prior to October 1971 published as Mosquito Creek Reservoir. GAGE, water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).
Lake is formed by earthfill dam. A natural wasteway, elevation, 903.5 ft (275.39 m), discharges into the Grand River basin; storage began in October 1943. Usable capacity 102,200 acre-ft (126 hm³) between elevations 881.0 ft (268.53 m) (lowest outlet), and 904.00 ft (275.539 m), (lake-full level). Dead storage below 881.0 ft (268.53 m), 2,000 acre-ft (2.47 hm³). Figures given herein represent usable contents. Flow is controlled by gates in concrete conduits through dam. Lake is used for flood control and to augment flow of Mahoning River during periods of low flow. Water is used for industrial purposes in vicinity of Warren and Youngstown, and for municipal supply of city of Warren. Gage-heights and capacity curve furnished by Corps of Engineers.
EXTREMES FOR PERIOD OF RECORD: Maximum contents, 99,100 acre-ft (122 hm³) June 3, 1947, elevation, 903.65 ft (275.432 m); minimum, 8,600 acre-ft (10.6 hm³) Nov. 16, 1944, elevation, 886.97 ft (270.348 m).
EXTREMES FOR CURRENT YEAR: Maximum contents, 85,980 acre-ft (106 hm³) Apr. 27, elevation, 902.10 ft (274.960 m); minimum, 48,680 acre-ft (60.0 hm³) Feb. 12, elevation, 896.81 ft (273.348 m).
- 03097000 MEANDER CREEK RESERVOIR NEAR MINERAL RIDGE.--Lat 41°09'12", long 80°46'45", in T.3 N., R.3 W., Trumbull County, Hydrologic Unit 05030103, on right side of spillway near center of dam on Meander Creek, 0.8 mi (1.3 km) northwest of Mineral Ridge. DRAINAGE AREA, 83.9 mi² (217 km²). PERIOD OF RECORD, November 1929 to current year. Month-end contents for some periods published in WSP 1305. GAGE, water-stage recorder. Datum of gage is at mean sea level (levels by Mahoning Valley Sanitary District).
Reservoir is formed by earthfill dam with concrete spillway; storage began in 1929. Usable capacity at spillway level, elevation, 905 ft (276 m), 32,410 acre-ft (40.0 hm³). No dead storage. Figures given herein represent usable contents. Water is used for municipal supply of cities of Niles and Youngstown. Gage-heights furnished by Mahoning Valley Sanitary District. Capacity table computed from base data furnished by Mahoning Valley Sanitary District.
EXTREMES FOR PERIOD OF RECORD: Maximum contents, 41,800 acre-ft (51.5 hm³) Jan. 21, 1959, elevation, 909.25 ft (277.139 m); minimum, 9,370 acre-ft (11.6 hm³) Feb. 28, 1954, elevation, 888.78 ft (270.900 m).
EXTREMES FOR CURRENT YEAR: Maximum contents, 38,280 acre-ft (47.2 hm³) Apr. 3, elevation, 907.76 ft (276.685 m); minimum, 23,150 acre-ft (28.5 hm³) Feb. 12, elevation, 899.79 ft (274.256 m).

BEAVER RIVER BASIN

55

RESERVOIRS IN BEAVER RIVER BASIN, OH--Continued

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| Date | 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) |
|---------------|---------------------|-----------------------------|--------------------------------------|---------------------|-----------------------------|--------------------------------------|---------------------|-----------------------------|--------------------------------------|
| | 03090000 | BERLIN LAKE | | 03091000 | MILTON RESERVOIR | | 03092450 | MICHAEL J. KIRWAN RESERVOIR | |
| Sept. 30..... | 1020.12 | 44000 | - | 948.19 | 23520 | - | 983.08 | 50430 | - |
| Oct. 31..... | 1015.80 | 33720 | -10280 | 946.88 | 21590 | -1930 | 981.48 | 46550 | -3880 |
| Nov. 30..... | 1001.71 | 13600 | -20120 | 942.43 | 15200 | -6390 | 979.30 | 41550 | -5000 |
| Dec. 31..... | 998.79 | 11160 | -2440 | 942.07 | 14740 | -460 | 976.64 | 35930 | -5620 |
| CAL YR 1976 | - | - | -10860 | - | - | -840 | - | - | -1670 |
| Jan. 31..... | 997.94 | 10510 | -650 | 940.60 | 12970 | -1770 | 974.05 | 30940 | -4990 |
| Feb. 28..... | 1017.10 | 36540 | +26030 | 942.67 | 15510 | +2540 | 978.24 | 39240 | +8300 |
| Mar. 31..... | 1022.94 | 52310 | +15770 | 949.07 | 25450 | +9940 | 983.60 | 51740 | +12500 |
| Apr. 30..... | 1025.03 | 59480 | +7170 | 948.50 | 24420 | -1030 | 986.24 | 58640 | +6900 |
| May 31..... | 1024.15 | 56360 | -3120 | 947.67 | 22950 | -1470 | 984.99 | 55300 | -3340 |
| June 30..... | 1022.48 | 50870 | -5490 | 947.48 | 22620 | -330 | 983.20 | 50730 | -4570 |
| July 31..... | 1021.29 | 47280 | -3590 | 947.10 | 21960 | -660 | 981.38 | 46310 | -4420 |
| Aug. 31..... | 1020.17 | 44140 | -3140 | 948.57 | 24550 | +2590 | 981.48 | 46550 | +240 |
| Sept. 30..... | 1019.20 | 41590 | -2550 | 948.81 | 24980 | +430 | 981.69 | 47050 | +500 |
| WTR YR 1977 | - | - | -2410 | - | - | +1460 | - | - | -3380 |

| Date | 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) |
|---------------|---------------------|-----------------------------|--------------------------------------|---------------------|-----------------------------|--------------------------------------|---------------------|-----------------------------|--------------------------------------|
| | 03095000 | MOSQUITO CREEK LAKE | | 03097000 | MEANDER CREEK RESERVOIR | | | | |
| Sept. 30..... | 899.80 | 68370 | - | 905.36 | 33140 | - | | | |
| Oct. 31..... | 899.75 | 68010 | -360 | 904.39 | 31230 | -1910 | | | |
| Nov. 30..... | 898.90 | 62040 | -5970 | 903.08 | 28750 | -2480 | | | |
| Dec. 31..... | 897.53 | 53110 | -8930 | 902.25 | 27260 | -1490 | | | |
| CAL YR 1976 | - | - | -250 | - | - | -9100 | | | |
| Jan. 31..... | 896.86 | 48970 | -4140 | 900.50 | 24290 | -2970 | | | |
| Feb. 28..... | 898.78 | 61240 | +12270 | 904.25 | 30960 | +6670 | | | |
| Mar. 31..... | 901.09 | 77970 | +16730 | 906.64 | 35810 | +4850 | | | |
| Apr. 30..... | 901.99 | 85070 | +7100 | 906.41 | 35310 | -500 | | | |
| May 31..... | 901.24 | 79150 | -5920 | 904.37 | 31190 | -4120 | | | |
| June 30..... | 900.96 | 76960 | -2190 | 904.83 | 32080 | +890 | | | |
| July 31..... | 900.61 | 74340 | -2620 | 904.14 | 30740 | -1340 | | | |
| Aug. 31..... | 900.12 | 70680 | -3660 | 905.12 | 32650 | +1910 | | | |
| Sept. 30..... | 899.74 | 67940 | -2740 | 906.12 | 34690 | +2040 | | | |
| WTR YR 1977 | - | - | -430 | - | - | +1550 | | | |

LITTLE BEAVER CREEK BASIN

03109320 STATELINE CREEK NEAR NEGLEY, OH

LOCATION.--Lat 40°47'33", long 80°31'20", Columbiana County, Hydrologic Unit 05030101, on left bank downstream side of bridge on Township Road 1024 (Darlington Road), 80 ft (24 m) downstream from confluence of East and West Fork, 500 ft (152 m) upstream from mouth, 800 ft (244 m) west of Pennsylvania state line, and 1.3 mi (2 km) east of Negley.

DRAINAGE AREA.--3.09 mi² (8.00 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January to September 1977.

GAGE.--Water-stage recorder and modified v-notch sharp crested weir. Datum of gage is 836.24 ft (255 m) above mean sea level.

REMARKS.--Records fair except those for winter periods, which are poor.

EXTREMES FOR PERIOD JANUARY TO SEPTEMBER 1977.--Peak discharge above base of 30 ft³/s (0.850 m³/s) and maximums (*):

| Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) | Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) |
|---------|------|---|-------------------------|---------|------|---|-------------------------|
| Mar. 18 | 1230 | 38 1.08 | 2.09 0.637 | July 21 | 1545 | 38 1.08 | 2.15 0.655 |
| Apr. 2 | 1845 | *46 1.30 | *2.16 0.658 | | | | |

Minimum daily discharge, 0.65 ft³/s (0.018 m³/s) Jan. 22 to Feb. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, JANUARY TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-----|-----|-----|-------|-------|-------|-------|-------|------|------|------|------|
| 1 | | | | .90 | .65 | 4.1 | 5.8 | 4.1 | 1.7 | 2.6 | 1.3 | 1.5 |
| 2 | | | | .85 | .65 | 3.7 | 25 | 5.0 | 1.4 | 1.5 | 1.2 | 1.8 |
| 3 | | | | .85 | .65 | 3.5 | 23 | 5.5 | 1.4 | 1.4 | 1.1 | 1.8 |
| 4 | | | | .85 | .65 | 5.0 | 17 | 5.2 | 1.4 | 1.4 | 1.1 | 1.7 |
| 5 | | | | .80 | .65 | 4.5 | 19 | 5.5 | 1.5 | 1.6 | 1.4 | 1.8 |
| 6 | | | | .80 | .65 | 4.1 | 16 | 6.6 | 2.0 | 1.6 | 1.6 | 2.0 |
| 7 | | | | .80 | .65 | 3.7 | 15 | 6.9 | 1.7 | 2.7 | 5.2 | 1.6 |
| 8 | | | | .80 | .65 | 3.7 | 13 | 6.0 | 1.4 | 3.7 | 2.7 | 1.4 |
| 9 | | | | .80 | .65 | 3.1 | 12 | 5.0 | 2.8 | 2.2 | 2.3 | 1.4 |
| 10 | | | | .75 | .75 | 3.1 | 11 | 4.5 | 1.9 | 2.1 | 1.8 | 1.4 |
| 11 | | | | .75 | .90 | 3.1 | 9.6 | 4.1 | 1.6 | 1.9 | 1.7 | 1.3 |
| 12 | | | | .75 | 1.6 | 3.9 | 8.5 | 3.9 | 1.5 | 2.5 | 2.0 | 1.3 |
| 13 | | | | .75 | 2.2 | 14 | 8.0 | 3.7 | 1.4 | 2.0 | 1.7 | 1.6 |
| 14 | | | | .75 | 1.8 | 8.6 | 7.5 | 3.5 | 1.4 | 1.7 | 1.6 | 3.3 |
| 15 | | | | .70 | 1.5 | 7.4 | 7.0 | 3.3 | 1.4 | 1.6 | 1.4 | 1.8 |
| 16 | | | | .70 | 1.4 | 6.6 | 6.6 | 3.1 | 1.4 | 1.5 | 1.4 | 2.6 |
| 17 | | | | .70 | 1.2 | 5.8 | 6.3 | 2.9 | 4.5 | 1.4 | 2.4 | 2.7 |
| 18 | | | | .70 | 1.1 | 20 | 6.1 | 3.1 | 5.8 | 1.3 | 1.7 | 2.4 |
| 19 | | | | .70 | 1.0 | 14 | 5.8 | 3.3 | 2.9 | 1.5 | 1.6 | 2.3 |
| 20 | | | | .70 | 1.4 | 13 | 5.2 | 2.8 | 2.3 | 1.6 | 1.3 | 2.1 |
| 21 | | | | .70 | 1.5 | 10 | 4.5 | 2.6 | 2.0 | 8.3 | 1.4 | 1.9 |
| 22 | | | | .65 | 2.0 | 9.9 | 4.5 | 2.6 | 1.8 | 4.2 | 1.8 | 1.9 |
| 23 | | | | .65 | 4.3 | 8.3 | 6.3 | 2.4 | 1.7 | 2.8 | 2.4 | 1.8 |
| 24 | | | | .65 | 12 | 7.7 | 8.0 | 2.2 | 1.5 | 2.6 | 1.8 | 1.7 |
| 25 | | | | .65 | 9.9 | 7.1 | 5.8 | 2.1 | 1.4 | 4.0 | 1.8 | 1.7 |
| 26 | | | | .65 | 6.9 | 6.6 | 5.5 | 2.1 | 1.4 | 4.9 | 1.6 | 1.6 |
| 27 | | | | .65 | 6.1 | 6.6 | 5.2 | 2.1 | 1.3 | 2.5 | 1.6 | 1.5 |
| 28 | | | | .65 | 4.7 | 8.0 | 4.8 | 2.0 | 1.6 | 1.9 | 1.6 | 1.4 |
| 29 | | | | .65 | --- | 7.4 | 4.3 | 1.8 | 1.4 | 1.5 | 1.6 | 1.4 |
| 30 | | | | .65 | --- | 7.1 | 4.1 | 1.8 | 1.3 | 1.6 | 1.8 | 1.4 |
| 31 | | | | .65 | --- | 6.9 | --- | 1.8 | --- | 1.4 | 1.7 | --- |
| TOTAL | | | | 22.60 | 68.10 | 220.5 | 280.4 | 111.5 | 56.8 | 73.5 | 55.6 | 54.1 |
| MEAN | | | | .73 | 2.43 | 7.11 | 9.35 | 3.60 | 1.89 | 2.37 | 1.79 | 1.80 |
| MAX | | | | .90 | 12 | 20 | 25 | 6.9 | 5.8 | 8.3 | 5.2 | 3.3 |
| MIN | | | | .65 | .65 | 3.1 | 4.1 | 1.8 | 1.3 | 1.3 | 1.1 | 1.3 |
| CFSM | | | | .24 | .79 | 2.30 | 3.03 | 1.17 | .61 | .77 | .58 | .58 |
| IN. | | | | .27 | .82 | 2.65 | 3.37 | 1.34 | .68 | .88 | .67 | .65 |

LITTLE BEAVER CREEK BASIN

57

03109320 STATELINE CREEK NEAR NEGLEY, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1976 to September 1977.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January to September 1977

pH: January to September 1977.

WATER TEMPERATURES: January to September 1977.

DISSOLVED OXYGEN: January to September 1977.

INSTRUMENTATION.--Water-quality monitor.

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

EXTREMES FOR PERIOD JANUARY TO SEPTEMBER 1977.--

SPECIFIC CONDUCTANCE: Maximum, 8,760 micromhos Aug. 25; minimum, 1,260 micromhos May 11.

pH: Maximum, 8.1 units Sept. 30; minimum, 6.1 units Aug. 28.

WATER TEMPERATURES: Maximum, 29.0°C July 20; minimum, 0.0°C Jan. 13, 29.

DISSOLVED OXYGEN: Maximum, 14.9 mg/L Feb. 7; minimum, 6.7 mg/L June 17.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA, MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|------|--|--|---------------|-----------------------------|------------------------------------|---------------------------------|--|-------------------------------------|---|--|---|
| NOV 18... | 1615 | -- | 5600 | 7.2 | 5.0 | 10.0 | 78 | -- | 340 | -- | -- | -- |
| JAN 12... | 1630 | .75 | 5500 | 6.2 | .0 | 12.0 | 82 | -- | 2700 | 2600 | -- | -- |
| FEB 11... | 1355 | .89 | 5560 | 6.1 | .0 | 14.3 | 98 | -- | 2600 | 2500 | -- | -- |
| MAR 09... | 1000 | 3.0 | 4200 | 7.0 | 6.0 | 11.5 | 92 | 8.2 | 1800 | 1700 | 590 | 77 |
| APR 06... | 1930 | 16 | 4200 | 6.9 | 6.5 | 11.1 | 90 | -- | 1800 | 1700 | -- | -- |
| 08... | 1300 | 15 | 3400 | 7.0 | 10.5 | 10.0 | 89 | -- | 1500 | 1400 | -- | -- |
| 22... | 1105 | 4.5 | 4300 | 7.2 | 15.0 | 9.2 | 90 | -- | -- | -- | -- | -- |
| MAY 05... | 1350 | 5.7 | 3100 | 7.3 | 17.5 | 9.0 | 94 | -- | 1400 | 1300 | -- | -- |
| 18... | 1100 | 3.1 | 4100 | 7.0 | 20.5 | 8.2 | 90 | -- | -- | -- | -- | -- |
| JUN 03... | 1330 | 1.5 | 4890 | 7.0 | 17.0 | 8.4 | 87 | -- | 2260 | 2200 | -- | -- |
| JUL 05... | 1240 | 1.6 | 6000 | 6.5 | 25.0 | 6.8 | 81 | -- | 2800 | 2700 | -- | -- |
| 14... | 1135 | 1.8 | 6350 | 6.4 | 21.0 | 7.4 | 82 | 6.2 | 2800 | 2700 | 940 | 100 |
| AUG 04... | 1550 | 1.3 | 6600 | 6.3 | 27.0 | 7.0 | 86 | -- | 3140 | 3100 | -- | -- |
| 31... | 1140 | 1.6 | 6350 | 6.7 | 18.5 | 8.0 | 85 | -- | 2980 | 2900 | -- | -- |

03109320 STATELINE CREEK NEAR NEGLEY, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
|-----------|-----------------------------------|--|---|------------------------------------|--|-----------------------------------|--|---------------------------------|--|------------------------------------|---------------------------------|---|
| NOV 18... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JAN 12... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| FEB 11... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAR 09... | .09 | 5.4 | .02 | 4 | 10 | 4 | 30000 | 6 | 7300 | .0 | 50 | 8.7 |
| APR 06... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 08... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 22... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAY 05... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 18... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUN 03... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 05... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 14... | .14 | 8.4 | .02 | 2 | 30 | 2 | 58000 | 12 | 9600 | .0 | 100 | 11 |
| AUG 04... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 31... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| DATE | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
|-----------|--|--|--------------------------------------|-----------------------------------|--|--------------------------------------|--|---|--|--|--|-----------------------------------|
| NOV 18... | -- | -- | -- | -- | -- | -- | 550 | 1700 | -- | -- | -- | -- |
| JAN 12... | -- | -- | 74 | 0 | 61 | 75 | 580 | 1500 | -- | -- | -- | -- |
| FEB 11... | -- | -- | 66 | 0 | 54 | 84 | 540 | 1490 | -- | -- | -- | -- |
| MAR 09... | 100 | 6.3 | 103 | 0 | 84 | 16 | 390 | 1200 | .2 | 6.9 | 2460 | 3.4 |
| APR 06... | -- | -- | 85 | 0 | 70 | 17 | 370 | 1100 | -- | -- | -- | -- |
| 08... | -- | -- | 82 | 0 | 67 | 13 | 410 | 900 | -- | -- | -- | -- |
| 22... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAY 05... | -- | -- | 84 | -- | 69 | 6.7 | 440 | 730 | -- | -- | -- | -- |
| 18... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUN 03... | -- | -- | 104 | 0 | 85 | 17 | 540 | 1450 | -- | -- | -- | -- |
| JUL 05... | -- | -- | 110 | 0 | 90 | 56 | 495 | 1850 | -- | -- | -- | -- |
| 14... | 170 | 10 | 119 | 0 | 98 | 76 | 470 | 1900 | .3 | 7.7 | 3720 | 3.5 |
| AUG 04... | -- | -- | 106 | 0 | 87 | 85 | 520 | 2150 | -- | -- | -- | -- |
| 31... | -- | -- | 117 | 0 | 96 | 37 | 560 | 2000 | -- | -- | -- | -- |

LITTLE BEAVER CREEK BASIN

59

03109320 STATELINE CREEK NEAR NEGLEY, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), JANUARY TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-----------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | | | | | | | --- | --- | 6850 | 4720 | 4450 | 4270 |
| 2 | | | | | | | --- | --- | 6450 | 4650 | 4740 | 4060 |
| 3 | | | | | | | --- | --- | 6630 | 4650 | 4810 | 4350 |
| 4 | | | | | | | --- | --- | 6360 | 4690 | 4350 | 3540 |
| 5 | | | | | | | --- | --- | 6510 | 4750 | 4140 | 3760 |
| 6 | | | | | | | --- | --- | 7350 | 4920 | 4240 | 4060 |
| 7 | | | | | | | --- | --- | 7440 | 5100 | 4330 | 4140 |
| 8 | | | | | | | --- | --- | 6450 | 4870 | 4350 | 4170 |
| 9 | | | | | | | --- | --- | 6990 | 4660 | 4380 | 4170 |
| 10 | | | | | | | --- | --- | 5040 | 4330 | 4380 | 4150 |
| 11 | | | | | | | --- | --- | 6070 | 4030 | 4330 | 4110 |
| 12 | | | | | | | 5970 | 5350 | 5290 | 4110 | 4270 | 2910 |
| 13 | | | | | | | 6600 | 4620 | 4890 | 4150 | 3010 | 1740 |
| 14 | | | | | | | 6510 | 4830 | 5050 | 4690 | 3810 | 3030 |
| 15 | | | | | | | 6390 | 4560 | 5470 | 4290 | 4690 | 3850 |
| 16 | | | | | | | 6940 | 6460 | 5490 | 4150 | 4530 | 4470 |
| 17 | | | | | | | 6970 | 5830 | 5740 | 4230 | --- | --- |
| 18 | | | | | | | 7150 | 5200 | 5880 | 4260 | 3420 | 1890 |
| 19 | | | | | | | 6850 | 4710 | 5500 | 3850 | 4990 | 3460 |
| 20 | | | | | | | 6880 | 4440 | 6160 | 5460 | 5110 | 4180 |
| 21 | | | | | | | 6870 | 4390 | 6540 | 5980 | 5170 | 4630 |
| 22 | | | | | | | 7290 | 5580 | 7030 | 4270 | 4990 | 4270 |
| 23 | | | | | | | 7480 | 7200 | 4360 | 2440 | 4890 | 4390 |
| 24 | | | | | | | 7290 | 5040 | 2590 | 1600 | 4740 | 4360 |
| 25 | | | | | | | 6850 | 4860 | 2860 | 1870 | 4710 | 4300 |
| 26 | | | | | | | 6900 | 4530 | 3850 | 2940 | 4630 | 3840 |
| 27 | | | | | | | 7510 | 5230 | 4110 | 3870 | 4260 | 4030 |
| 28 | | | | | | | 7480 | 5250 | 4320 | 4000 | 4180 | 3390 |
| 29 | | | | | | | 7500 | 6480 | --- | --- | 3940 | 3670 |
| 30 | | | | | | | 8140 | 7140 | --- | --- | 3910 | 3610 |
| 31 | | | | | | | 7720 | 5640 | --- | --- | 4030 | 3840 |
| MONTH | | | | | | | 8140 | 4390 | 7440 | 1600 | 5170 | 1740 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 4120 | 3840 | 3840 | 2080 | 4710 | 3960 | 4290 | 2370 | 6750 | 6100 | 8040 | 7060 |
| 2 | 4140 | 1660 | 2820 | 2410 | 4590 | 3750 | 5370 | 3940 | 6760 | 5400 | 7990 | 5700 |
| 3 | 4960 | 2470 | 3340 | 2290 | 5290 | 3390 | 5400 | 4110 | 6900 | 6060 | 7140 | 6510 |
| 4 | 5100 | 3540 | 2550 | 2250 | 4530 | 3790 | 4960 | 4360 | 6790 | 6010 | 7470 | 7030 |
| 5 | 4450 | 3700 | 3640 | 2080 | 4110 | 3570 | 5620 | 4390 | 6640 | 6000 | 7480 | 4500 |
| 6 | 4450 | 4140 | 3720 | 2290 | 3750 | 3150 | 5880 | 4890 | 6270 | 4210 | 6960 | 4890 |
| 7 | 4270 | 3910 | 3310 | 1870 | 4300 | 3420 | 6550 | 2490 | 5020 | 2650 | 7140 | 6930 |
| 8 | 4200 | 3940 | 3180 | 1590 | 4240 | 3460 | 4740 | 2640 | 5730 | 4560 | 6990 | 6180 |
| 9 | 4590 | 4110 | 2430 | 1500 | 4110 | 2250 | 5170 | 4360 | 6510 | 5610 | 6670 | 6400 |
| 10 | 4450 | 4020 | 2190 | 1320 | 4020 | 3220 | 5730 | 4710 | 6670 | 6100 | 6600 | 6060 |
| 11 | 4150 | 3700 | 2820 | 1260 | 4170 | 3400 | 6210 | 4420 | 6850 | 5890 | 7170 | 6400 |
| 12 | 4380 | 3490 | 3000 | 1320 | 3750 | 3570 | 5220 | 3910 | 6300 | 5110 | 7260 | 6900 |
| 13 | 4350 | 3640 | 2940 | 1600 | 4200 | 3600 | 5970 | 4710 | 6640 | 6270 | 7240 | 3990 |
| 14 | 4930 | 3600 | 3520 | 1690 | 4290 | 3760 | 6490 | 5310 | 6700 | 6480 | 6730 | 3250 |
| 15 | 4920 | 3870 | 3630 | 1590 | 4570 | 3760 | 6420 | 5100 | 7150 | 5940 | 7320 | 6640 |
| 16 | 4860 | 4230 | 3780 | 1770 | 4600 | 3780 | 6030 | 4860 | 7350 | 6550 | --- | --- |
| 17 | 4680 | 4140 | 4170 | 2010 | 5380 | 1420 | 5920 | 5100 | 6760 | 4290 | --- | --- |
| 18 | 4720 | 4330 | 4440 | 2470 | 3640 | 2050 | 6300 | 5040 | 6870 | 6300 | --- | --- |
| 19 | 4740 | 4170 | 4300 | 3850 | 4530 | 3580 | 6120 | 4980 | 7980 | 6730 | 8130 | 6240 |
| 20 | 4630 | 4090 | 4530 | 4200 | 5050 | 4150 | 6870 | 5580 | 8230 | 7600 | 8040 | 6960 |
| 21 | 4420 | 3970 | 4480 | 3940 | 5110 | 4200 | 6580 | 1680 | 7950 | 7270 | 7390 | 6450 |
| 22 | 4590 | 4230 | 4410 | 4000 | 5010 | 4090 | 5620 | 3030 | 7600 | 6280 | 8100 | 7270 |
| 23 | 4440 | 3570 | 4140 | 3910 | 5110 | 4050 | 6210 | 5430 | 8130 | 7450 | 7900 | 5940 |
| 24 | 4030 | 3690 | 4360 | 3850 | 5370 | 4180 | 6600 | 5890 | 7960 | 7110 | 6030 | 5430 |
| 25 | 4090 | 3150 | 4840 | 4140 | 5280 | 4570 | 6480 | 3450 | 8760 | 5880 | 5580 | 5280 |
| 26 | 3420 | 2730 | 4860 | 4380 | 5440 | 4420 | 5820 | 5070 | 7890 | 7200 | 5580 | 4960 |
| 27 | 4000 | 2350 | 5790 | 4410 | 5290 | 4270 | 8140 | 5530 | 8610 | 7210 | 5670 | 5260 |
| 28 | --- | --- | 5050 | 4860 | 4800 | 3610 | 8530 | 6270 | 7890 | 7530 | 5580 | 5460 |
| 29 | 3900 | 2580 | 5070 | 4720 | 5160 | 4380 | 6760 | 6240 | 7740 | 6030 | 5730 | 5580 |
| 30 | 3820 | 2110 | 4810 | 4660 | 5130 | 3990 | 6720 | 5190 | 7110 | 6010 | 6210 | 5800 |
| 31 | --- | --- | 4860 | 4570 | --- | --- | 6760 | 6510 | 8520 | 6910 | --- | --- |
| MONTH | 5100 | 1660 | 5790 | 1260 | 5440 | 1420 | 8530 | 1680 | 8760 | 2650 | 8130 | 3250 |
| YEAR | 8760 | 1260 | | | | | | | | | | |

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

LITTLE BEAVER CREEK BASIN

03109320 STATELINE CREEK NEAR NEGLEY, OH--Continued

PH (UNITS), JANUARY TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|-----|-----------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | | | | | | | --- | --- | --- | --- | 7.1 | 6.9 |
| 2 | | | | | | | --- | --- | --- | --- | 7.2 | 6.9 |
| 3 | | | | | | | --- | --- | --- | --- | 7.2 | 6.9 |
| 4 | | | | | | | --- | --- | 7.1 | 6.9 | 7.2 | 7.0 |
| 5 | | | | | | | --- | --- | 7.4 | 7.1 | 7.2 | 7.0 |
| 6 | | | | | | | --- | --- | 7.3 | 7.0 | 7.2 | 6.8 |
| 7 | | | | | | | --- | --- | 7.4 | 7.0 | 7.2 | 7.1 |
| 8 | | | | | | | --- | --- | 7.5 | 7.2 | 7.2 | 7.0 |
| 9 | | | | | | | --- | --- | 7.4 | 7.0 | 7.1 | 7.0 |
| 10 | | | | | | | --- | --- | 7.5 | 7.3 | 7.1 | 6.9 |
| 11 | | | | | | | --- | --- | 7.4 | 7.0 | 7.1 | 6.8 |
| 12 | | | | | | | 7.4 | 7.2 | 7.1 | 7.0 | 7.2 | 7.0 |
| 13 | | | | | | | 7.4 | 7.2 | 7.1 | 7.0 | 7.2 | 7.0 |
| 14 | | | | | | | 7.3 | 7.1 | 7.3 | 7.1 | 7.1 | 6.9 |
| 15 | | | | | | | 7.3 | 7.1 | 7.5 | 7.1 | 7.1 | 6.8 |
| 16 | | | | | | | 7.2 | 7.1 | 7.4 | 7.1 | 6.8 | 6.8 |
| 17 | | | | | | | 7.3 | 7.1 | 7.4 | 7.0 | --- | --- |
| 18 | | | | | | | 7.3 | 7.0 | 7.4 | 7.1 | 7.1 | 7.0 |
| 19 | | | | | | | 7.4 | 7.1 | 7.5 | 7.2 | 7.1 | 6.9 |
| 20 | | | | | | | 7.4 | 7.1 | 7.3 | 7.1 | 7.1 | 6.9 |
| 21 | | | | | | | 7.4 | 7.1 | 7.2 | 7.1 | 7.0 | 6.7 |
| 22 | | | | | | | 7.2 | 7.1 | 7.2 | 7.0 | 7.1 | 6.7 |
| 23 | | | | | | | 7.1 | 7.0 | 7.3 | 7.0 | 7.0 | 6.7 |
| 24 | | | | | | | 7.3 | 7.0 | 7.3 | 7.2 | 7.1 | 6.8 |
| 25 | | | | | | | 7.4 | 7.1 | 7.3 | 7.2 | 7.2 | 6.9 |
| 26 | | | | | | | 7.4 | 7.1 | 7.2 | 7.0 | 7.1 | 6.8 |
| 27 | | | | | | | --- | --- | 7.1 | 6.9 | 7.1 | 6.8 |
| 28 | | | | | | | --- | --- | 7.1 | 6.9 | 7.0 | 6.8 |
| 29 | | | | | | | --- | --- | --- | --- | 6.9 | 6.6 |
| 30 | | | | | | | --- | --- | --- | --- | 6.9 | 6.6 |
| 31 | | | | | | | --- | --- | --- | --- | 7.0 | 6.7 |
| MONTH | | | | | | | 7.4 | 7.0 | 7.5 | 6.9 | 7.2 | 6.6 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 7.0 | 6.7 | --- | --- | 7.0 | 6.6 | --- | --- | 6.5 | 6.4 | 6.7 | 6.3 |
| 2 | 6.9 | 6.8 | --- | --- | 7.0 | 6.7 | --- | --- | 6.5 | 6.3 | 6.8 | 6.3 |
| 3 | 6.9 | 6.6 | --- | --- | 7.0 | 6.5 | --- | --- | 6.5 | 6.3 | 6.8 | 6.3 |
| 4 | 6.9 | 6.7 | --- | --- | 6.9 | 6.5 | --- | --- | 6.5 | 6.3 | 6.6 | 6.3 |
| 5 | 6.9 | 6.7 | --- | --- | 6.9 | 6.6 | --- | --- | --- | --- | 6.7 | 6.3 |
| 6 | 7.0 | 6.7 | --- | --- | 7.0 | 6.7 | --- | --- | --- | --- | 6.8 | 6.4 |
| 7 | 7.0 | 7.0 | --- | --- | 6.9 | 6.6 | --- | --- | --- | --- | 6.7 | 6.3 |
| 8 | 7.0 | 7.0 | 7.2 | 6.9 | 6.9 | 6.6 | --- | --- | --- | --- | 7.0 | 6.6 |
| 9 | --- | --- | 7.2 | 6.9 | 7.1 | 6.5 | --- | --- | --- | --- | 6.9 | 6.5 |
| 10 | --- | --- | 7.1 | 6.9 | 6.9 | 6.6 | --- | --- | 7.1 | 6.9 | 7.0 | 6.6 |
| 11 | --- | --- | 7.1 | 6.7 | 6.9 | 6.4 | --- | --- | 7.1 | 6.8 | 6.8 | 6.4 |
| 12 | --- | --- | 7.2 | 6.8 | 6.9 | 6.5 | --- | --- | 7.1 | 6.8 | 6.8 | 6.4 |
| 13 | --- | --- | 7.2 | 6.8 | 6.8 | 6.4 | --- | --- | 6.9 | 6.7 | 6.8 | 6.4 |
| 14 | --- | --- | 7.2 | 6.7 | 6.8 | 6.4 | --- | --- | 6.8 | 6.7 | 7.1 | 6.6 |
| 15 | --- | --- | 7.1 | 6.7 | 6.8 | 6.3 | --- | --- | 6.9 | 6.6 | 6.9 | 6.4 |
| 16 | --- | --- | 7.1 | 6.7 | 6.7 | 6.4 | --- | --- | 6.9 | 6.8 | --- | --- |
| 17 | --- | --- | 7.1 | 6.6 | --- | --- | --- | --- | 7.0 | 6.7 | --- | --- |
| 18 | --- | --- | 7.0 | 6.8 | --- | --- | --- | --- | 7.0 | 6.8 | --- | --- |
| 19 | --- | --- | 7.1 | 6.7 | --- | --- | 6.7 | 6.6 | 7.0 | 6.8 | 6.7 | 6.3 |
| 20 | --- | --- | 6.9 | 6.6 | --- | --- | 6.8 | 6.5 | 7.0 | 6.8 | 6.9 | 6.3 |
| 21 | --- | --- | 6.8 | 6.5 | --- | --- | 7.1 | 6.5 | 6.9 | 6.7 | 7.1 | 6.6 |
| 22 | --- | --- | 7.1 | 6.6 | --- | --- | 7.2 | 6.7 | 6.8 | 6.7 | 7.0 | 6.6 |
| 23 | --- | --- | 7.1 | 6.6 | --- | --- | 6.9 | 6.6 | 6.9 | 6.7 | 7.3 | 6.5 |
| 24 | --- | --- | 7.1 | 6.7 | --- | --- | 6.8 | 6.5 | 6.7 | 6.5 | 7.6 | 7.3 |
| 25 | --- | --- | 7.2 | 6.6 | --- | --- | 6.6 | 6.5 | 6.9 | 6.4 | 7.7 | 7.6 |
| 26 | --- | --- | 7.1 | 6.5 | --- | --- | 6.6 | 6.5 | 6.8 | 6.4 | 7.8 | 7.6 |
| 27 | --- | --- | 6.9 | 6.6 | --- | --- | 6.6 | 6.4 | 6.9 | 6.3 | 7.9 | 7.6 |
| 28 | --- | --- | 7.0 | 6.6 | --- | --- | 6.6 | 6.3 | 6.5 | 6.1 | 8.0 | 7.8 |
| 29 | --- | --- | 7.0 | 6.5 | --- | --- | 6.5 | 6.4 | 6.9 | 6.3 | 7.9 | 7.9 |
| 30 | --- | --- | 7.0 | 6.6 | --- | --- | 6.5 | 6.4 | 7.0 | 6.4 | 8.1 | 7.8 |
| 31 | --- | --- | 7.0 | 6.6 | --- | --- | 6.5 | 6.4 | 7.0 | 6.4 | --- | --- |
| MONTH | 7.0 | 6.6 | 7.2 | 6.5 | 7.1 | 6.3 | 7.2 | 6.3 | 7.1 | 6.1 | 8.1 | 6.3 |
| YEAR | 8.1 | 6.1 | | | | | | | | | | |

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

LITTLE BEAVER CREEK BASIN

61

03109320 STATELINE CREEK NEAR NEGLEY, OH--Continued

TEMPERATURE (DEG. C) OF WATER, JANUARY TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-----------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | | | | | | | --- | --- | 0.5 | 0.5 | 7.5 | 1.5 |
| 2 | | | | | | | --- | --- | 1.0 | 0.5 | 7.5 | 0.5 |
| 3 | | | | | | | --- | --- | 1.0 | 0.5 | 8.0 | 1.0 |
| 4 | | | | | | | --- | --- | 1.0 | 0.5 | 8.0 | 4.5 |
| 5 | | | | | | | --- | --- | 0.5 | 0.5 | 6.0 | 3.5 |
| 6 | | | | | | | --- | --- | 0.5 | 0.5 | 10.0 | 3.5 |
| 7 | | | | | | | --- | --- | 0.5 | 0.5 | 6.0 | 3.0 |
| 8 | | | | | | | --- | --- | 0.5 | 0.5 | 10.5 | 1.5 |
| 9 | | | | | | | --- | --- | 0.5 | 0.5 | 12.5 | 2.5 |
| 10 | | | | | | | --- | --- | 0.5 | 0.5 | 13.0 | 4.5 |
| 11 | | | | | | | --- | --- | 0.5 | 0.5 | 13.5 | 4.0 |
| 12 | | | | | | | 0.5 | 0.5 | 0.5 | 0.5 | 10.5 | 6.5 |
| 13 | | | | | | | 0.5 | 0.0 | 0.5 | 0.5 | 10.5 | 7.5 |
| 14 | | | | | | | 0.5 | 0.5 | 2.5 | 0.5 | 9.0 | 7.5 |
| 15 | | | | | | | 0.5 | 0.5 | 1.0 | 0.5 | 14.5 | 6.0 |
| 16 | | | | | | | 0.5 | 0.5 | 0.5 | 0.5 | 9.0 | 8.0 |
| 17 | | | | | | | 0.5 | 0.5 | 0.5 | 0.5 | --- | --- |
| 18 | | | | | | | 0.5 | 0.5 | 0.5 | 0.5 | 8.0 | 5.5 |
| 19 | | | | | | | 0.5 | 0.5 | 0.5 | 0.5 | 11.0 | 5.0 |
| 20 | | | | | | | 0.5 | 0.5 | 1.0 | 0.5 | 8.0 | 5.5 |
| 21 | | | | | | | 0.5 | 0.5 | 0.5 | 0.5 | 12.0 | 4.5 |
| 22 | | | | | | | 0.5 | 0.5 | 1.5 | 0.5 | 8.0 | 4.5 |
| 23 | | | | | | | 0.5 | 0.5 | 3.5 | 1.5 | 11.5 | 3.5 |
| 24 | | | | | | | 0.5 | 0.5 | 4.0 | 2.5 | 9.5 | 4.0 |
| 25 | | | | | | | 0.5 | 0.5 | 6.5 | 2.5 | 11.0 | 3.0 |
| 26 | | | | | | | 0.5 | 0.5 | 7.0 | 2.5 | 12.5 | 3.5 |
| 27 | | | | | | | 0.5 | 0.5 | 7.0 | 3.5 | 13.0 | 4.5 |
| 28 | | | | | | | 0.5 | 0.5 | 5.5 | 2.5 | 12.0 | 9.0 |
| 29 | | | | | | | 0.5 | 0.0 | --- | --- | 17.5 | 9.0 |
| 30 | | | | | | | 0.5 | 0.5 | --- | --- | 18.5 | 9.0 |
| 31 | | | | | | | 0.5 | 0.5 | --- | --- | 12.0 | 9.0 |
| MONTH | | | | | | | 0.5 | 0.0 | 7.0 | 0.5 | 18.5 | 0.5 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 15.0 | 7.5 | 20.5 | 8.0 | 23.0 | 17.5 | 25.0 | 19.0 | 24.5 | 18.5 | 26.0 | 17.5 |
| 2 | 11.0 | 8.5 | 15.0 | 13.0 | 18.5 | 14.5 | 24.5 | 16.0 | 24.0 | 15.5 | 23.5 | 19.0 |
| 3 | 13.5 | 9.0 | 17.5 | 12.5 | 21.5 | 11.5 | 24.0 | 14.5 | 24.5 | 15.5 | 24.0 | 18.0 |
| 4 | 10.5 | 9.0 | 15.0 | 12.5 | 23.0 | 10.5 | 22.5 | 17.0 | 26.0 | 17.0 | 23.5 | 16.0 |
| 5 | 11.0 | 8.0 | 19.5 | 13.0 | 17.0 | 15.0 | 25.5 | 18.5 | 25.0 | 18.5 | 24.0 | 17.0 |
| 6 | 10.5 | 6.5 | 22.0 | 14.0 | 18.5 | 13.5 | 27.5 | 19.5 | 23.0 | 19.5 | 23.0 | 18.5 |
| 7 | 9.5 | 6.0 | 21.0 | 12.0 | 17.0 | 11.0 | 28.5 | 20.0 | 22.5 | 20.0 | 24.0 | 15.5 |
| 8 | 9.5 | 6.0 | 19.5 | 9.0 | 16.0 | 9.5 | 26.5 | 21.0 | 22.5 | 19.5 | 23.5 | 17.0 |
| 9 | 13.0 | 6.5 | 16.0 | 8.5 | 14.5 | 12.5 | 25.0 | 19.5 | 24.0 | 19.5 | 24.0 | 16.5 |
| 10 | 12.5 | 6.0 | 15.0 | 8.5 | 19.0 | 10.5 | 24.5 | 17.5 | 24.0 | 19.5 | 23.5 | 17.5 |
| 11 | 18.5 | 7.5 | 19.0 | 7.5 | 21.0 | 11.0 | 26.5 | 18.5 | 25.5 | 19.5 | 20.5 | 14.0 |
| 12 | 19.5 | 9.5 | 19.0 | 8.5 | 17.0 | 13.0 | 25.5 | 19.5 | 22.5 | 19.5 | 19.0 | 12.0 |
| 13 | 19.5 | 10.0 | 20.0 | 12.0 | 21.0 | 14.5 | 27.5 | 20.0 | 22.0 | 18.5 | 21.0 | 16.0 |
| 14 | 19.0 | 10.5 | 21.5 | 13.0 | 21.0 | 16.0 | 26.5 | 17.5 | 23.5 | 19.5 | 21.5 | 16.0 |
| 15 | 18.5 | 8.0 | 21.5 | 10.0 | 23.5 | 14.5 | 27.5 | 18.0 | 24.0 | 17.5 | 20.5 | 14.0 |
| 16 | 15.5 | 9.0 | 22.5 | 10.5 | 23.0 | 15.0 | 27.5 | 20.0 | 24.0 | 17.5 | --- | --- |
| 17 | 18.5 | 9.5 | 23.0 | 12.0 | 25.0 | 16.0 | 27.0 | 20.0 | 23.0 | 18.0 | --- | --- |
| 18 | 17.5 | 10.0 | 23.0 | 15.0 | 23.0 | 17.5 | 28.5 | 20.0 | 22.0 | 15.5 | --- | --- |
| 19 | 19.0 | 11.0 | 24.5 | 15.5 | 23.0 | 16.5 | 25.0 | 20.0 | 19.5 | 13.5 | 21.5 | 19.0 |
| 20 | 20.5 | 12.5 | 25.0 | 15.0 | 22.0 | 15.5 | 29.0 | 20.5 | 22.0 | 13.5 | 19.5 | 17.0 |
| 21 | 21.5 | 12.5 | 25.5 | 15.0 | 22.5 | 15.0 | 25.5 | 20.5 | 20.0 | 14.5 | 17.0 | 15.5 |
| 22 | 17.5 | 14.5 | 24.5 | 15.5 | 21.5 | 13.0 | 25.0 | 18.5 | 23.0 | 16.5 | 18.0 | 15.0 |
| 23 | 17.5 | 14.0 | 24.0 | 15.5 | 22.5 | 13.0 | 23.5 | 16.0 | 23.5 | 15.0 | 20.0 | 14.5 |
| 24 | 13.5 | 11.0 | 24.0 | 16.0 | 22.0 | 14.5 | 23.5 | 15.5 | 19.5 | 15.0 | 20.0 | 16.0 |
| 25 | 15.0 | 10.0 | 24.5 | 16.5 | 24.0 | 17.0 | 24.0 | 18.5 | 21.5 | 12.5 | 22.0 | 17.0 |
| 26 | 12.5 | 9.0 | 24.5 | 14.0 | 25.0 | 17.0 | 22.0 | 15.5 | 22.5 | 12.5 | 22.0 | 16.5 |
| 27 | 18.5 | 8.0 | 24.5 | 13.5 | 24.0 | 15.5 | 22.5 | 14.0 | 26.0 | 17.0 | 20.5 | 14.5 |
| 28 | --- | --- | 24.5 | 13.5 | 23.0 | 18.5 | 23.0 | 14.0 | 26.5 | 18.5 | 18.0 | 13.0 |
| 29 | 17.5 | 9.5 | 24.5 | 14.5 | 25.0 | 18.5 | 21.0 | 17.5 | 25.0 | 18.5 | 18.0 | 12.5 |
| 30 | 19.0 | 6.5 | 23.5 | 15.5 | 23.0 | 15.5 | 24.0 | 18.5 | 22.0 | 19.0 | 20.0 | 13.0 |
| 31 | --- | --- | 24.5 | 16.0 | --- | --- | 24.5 | 18.0 | 24.0 | 18.0 | --- | --- |
| MONTH | 21.5 | 6.0 | 25.5 | 7.5 | 25.0 | 9.5 | 29.0 | 14.0 | 26.5 | 12.5 | 26.0 | 12.0 |
| YEAR | 29.0 | 0.0 | | | | | | | | | | |

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

LITTLE BEAVER CREEK BASIN

03109320 STATELINE CREEK NEAR NEGLEY, OH--Continued

DISSOLVED OXYGEN (DO), MG/L JANUARY TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|-----|----------|-----|---------|------|----------|------|-----------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | | | | | | | --- | --- | 14.5 | 14.0 | --- | --- |
| 2 | | | | | | | --- | --- | 14.5 | 14.2 | --- | --- |
| 3 | | | | | | | --- | --- | 14.4 | 13.8 | --- | --- |
| 4 | | | | | | | --- | --- | 14.0 | 13.6 | --- | --- |
| 5 | | | | | | | --- | --- | 14.0 | 13.5 | --- | --- |
| 6 | | | | | | | --- | --- | 14.0 | 13.6 | --- | --- |
| 7 | | | | | | | --- | --- | 14.9 | 13.8 | --- | --- |
| 8 | | | | | | | --- | --- | 14.3 | 13.8 | --- | --- |
| 9 | | | | | | | --- | --- | 14.2 | 13.6 | 10.9 | 9.5 |
| 10 | | | | | | | --- | --- | 14.1 | 13.6 | 11.3 | 9.0 |
| 11 | | | | | | | --- | --- | 13.8 | 12.1 | 11.0 | 8.7 |
| 12 | | | | | | | 12.0 | 11.6 | 12.1 | 11.1 | 10.2 | 9.0 |
| 13 | | | | | | | 12.0 | 11.2 | 12.1 | 11.1 | 9.7 | 8.5 |
| 14 | | | | | | | 11.5 | 10.9 | 11.7 | 10.8 | 10.2 | 9.0 |
| 15 | | | | | | | 12.8 | 10.4 | 11.5 | 10.7 | 10.4 | 8.2 |
| 16 | | | | | | | 12.7 | 12.5 | 11.4 | 10.3 | 9.3 | 9.2 |
| 17 | | | | | | | 12.8 | 12.2 | 11.6 | 10.4 | --- | --- |
| 18 | | | | | | | --- | --- | 12.0 | 11.3 | 9.9 | 8.2 |
| 19 | | | | | | | --- | --- | 12.0 | 11.2 | 10.8 | 8.9 |
| 20 | | | | | | | --- | --- | 11.4 | 10.8 | 10.8 | 7.6 |
| 21 | | | | | | | --- | --- | 11.7 | 10.7 | --- | --- |
| 22 | | | | | | | --- | --- | 11.6 | 10.8 | --- | --- |
| 23 | | | | | | | --- | --- | 10.8 | 9.7 | --- | --- |
| 24 | | | | | | | --- | --- | 10.4 | 8.7 | 10.9 | 8.8 |
| 25 | | | | | | | --- | --- | 12.1 | 10.0 | 10.9 | 9.6 |
| 26 | | | | | | | --- | --- | 12.3 | 10.6 | --- | --- |
| 27 | | | | | | | --- | --- | 11.7 | 10.4 | 10.8 | 9.2 |
| 28 | | | | | | | --- | --- | 11.9 | 10.9 | --- | --- |
| 29 | | | | | | | --- | --- | --- | --- | 10.1 | 7.6 |
| 30 | | | | | | | --- | --- | --- | --- | --- | --- |
| 31 | | | | | | | 14.5 | 14.0 | --- | --- | 10.6 | 8.0 |
| MONTH | | | | | | | 14.5 | 10.4 | 14.9 | 8.7 | 11.3 | 7.6 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 10.7 | 7.8 | 10.6 | 8.2 | 8.3 | 7.1 | | | | | --- | --- |
| 2 | 10.6 | 8.4 | 9.6 | 8.1 | 8.9 | 8.1 | | | | | --- | --- |
| 3 | 10.4 | 9.0 | 9.6 | 8.7 | 9.6 | 7.8 | | | | | --- | --- |
| 4 | 10.7 | 7.3 | 9.4 | 7.9 | 10.0 | 7.2 | | | | | --- | --- |
| 5 | 10.9 | 9.5 | 9.2 | 8.1 | 8.7 | 7.9 | | | | | --- | --- |
| 6 | 11.6 | 9.3 | 9.5 | 7.6 | 8.7 | 7.9 | | | | | --- | --- |
| 7 | 11.5 | 10.2 | 10.3 | 8.1 | 9.1 | 7.9 | | | | | --- | --- |
| 8 | 11.5 | 10.5 | 11.4 | 8.4 | 9.4 | 8.1 | | | | | --- | --- |
| 9 | 12.1 | 9.7 | 11.1 | 9.1 | 9.0 | 7.9 | | | | | --- | --- |
| 10 | 11.6 | 10.0 | 11.6 | 9.1 | 13.1 | 7.9 | | | | | --- | --- |
| 11 | 10.8 | 9.1 | 11.2 | 8.2 | 11.0 | 7.0 | | | | | --- | --- |
| 12 | 10.7 | 8.4 | 11.1 | 8.5 | 9.6 | 8.3 | | | | | --- | --- |
| 13 | 10.5 | 8.4 | 10.8 | 8.0 | 9.6 | 8.4 | | | | | --- | --- |
| 14 | 10.0 | 8.5 | 10.3 | 7.9 | 9.7 | 8.2 | | | | | --- | --- |
| 15 | 10.4 | 8.2 | 10.8 | 8.0 | 10.5 | 8.2 | | | | | --- | --- |
| 16 | 10.7 | 8.8 | 10.6 | 8.2 | 9.9 | 8.4 | | | | | --- | --- |
| 17 | 10.9 | 8.3 | 10.8 | 8.0 | 9.8 | 6.7 | | | | | --- | --- |
| 18 | 10.4 | 8.5 | 11.3 | 9.0 | --- | --- | | | | | --- | --- |
| 19 | 10.4 | 8.5 | 11.7 | 9.0 | --- | --- | | | | | 7.8 | 7.4 |
| 20 | 9.9 | 7.7 | 11.7 | 7.7 | --- | --- | | | | | 7.7 | 7.0 |
| 21 | 9.7 | 8.3 | 10.8 | 8.0 | --- | --- | | | | | 9.2 | 7.6 |
| 22 | 9.2 | 8.5 | 11.0 | 8.1 | --- | --- | | | | | 9.7 | 7.9 |
| 23 | 9.2 | 8.0 | 10.1 | 8.3 | --- | --- | | | | | 9.3 | 7.2 |
| 24 | 10.2 | 9.4 | 9.8 | 8.1 | --- | --- | | | | | 8.3 | 7.2 |
| 25 | 10.0 | 9.0 | 9.6 | 7.8 | --- | --- | | | | | 8.1 | 7.1 |
| 26 | 10.7 | 9.6 | 10.3 | 7.9 | --- | --- | | | | | 8.5 | 7.2 |
| 27 | 10.2 | 9.3 | 10.0 | 7.0 | --- | --- | | | | | 9.1 | 7.7 |
| 28 | --- | --- | 9.9 | 7.3 | --- | --- | | | | | 10.3 | 8.4 |
| 29 | 10.7 | 8.2 | 9.6 | 7.5 | --- | --- | | | | | 9.7 | 8.4 |
| 30 | 11.4 | 9.2 | 9.2 | 7.4 | --- | --- | | | | | 9.7 | 7.8 |
| 31 | --- | --- | 9.0 | 6.9 | --- | --- | | | | | --- | --- |
| MONTH | 12.1 | 7.3 | 11.7 | 6.9 | 13.1 | 6.7 | | | | | 10.3 | 7.0 |
| YEAR | 14.9 | 6.7 | | | | | | | | | | |

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

LITTLE BEAVER CREEK BASIN

03109500 LITTLE BEAVER CREEK NEAR EAST LIVERPOOL, OH

LOCATION.--Lat 40°40'33", long 80°32'27", Columbiana County, Hydrologic Unit 05030101, on right bank at downstream side of Grimms Bridge, 1.5 mi (2.4 km) upstream from Island Run, 4 mi (6 km) upstream from mouth, and 4 mi (6 km) northeast of East Liverpool.

DRAINAGE AREA.--496 mi² (1,285 km²).

WATER-DISCHARGE RECORDS

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 (214.204 m) above mean sea level, adjustment of 1912. Prior to Sept. 22, 1926, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are fair.

AVERAGE DISCHARGE.--62 years, 514 ft³/s (14.56 m³/s), 14.07 in/yr (357 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,000 ft³/s (708 m³/s) July 19, 1941, gage height, 17.4 ft (5.30 m), from rating curve extended above 16,000 ft³/s (453 m³/s) on basis of slope-area measurement of peak flow; minimum, 12 ft³/s (0.34 m³/s) several days in 1918, 1930, 1932, 1936.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,000 ft³/s (142 m³/s) and maximums (*):

| Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) | Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) |
|---------|------|---|-------------------------|--------|------|---|-------------------------|
| Feb. 24 | 2300 | 5930 168 | 9.33 2.844 | Apr. 3 | 0700 | *7230 205 | *10.13 3.088 |
| Mar. 18 | 1900 | 5040 143 | 8.74 2.664 | | | | |

Minimum discharge, 69 ft³/s (1.95 m³/s) Sept. 12, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|-------|-------|-------|-------|------|------|------|------|
| 1 | 230 | 517 | 190 | 140 | 100 | 975 | 648 | 435 | 119 | 471 | 157 | 91 |
| 2 | 190 | 415 | 170 | 140 | 100 | 749 | 2820 | 436 | 112 | 467 | 135 | 88 |
| 3 | 170 | 344 | 160 | 130 | 100 | 647 | 6940 | 732 | 108 | 246 | 120 | 110 |
| 4 | 157 | 304 | 150 | 130 | 100 | 858 | 4000 | 695 | 102 | 183 | 114 | 172 |
| 5 | 146 | 270 | 150 | 130 | 100 | 1140 | 3750 | 824 | 108 | 200 | 105 | 130 |
| 6 | 138 | 249 | 180 | 130 | 100 | 863 | 2760 | 826 | 147 | 215 | 112 | 187 |
| 7 | 132 | 235 | 526 | 120 | 100 | 695 | 1970 | 947 | 158 | 188 | 695 | 140 |
| 8 | 138 | 223 | 670 | 120 | 100 | 616 | 1690 | 725 | 134 | 387 | 1390 | 100 |
| 9 | 197 | 209 | 560 | 120 | 100 | 562 | 1300 | 606 | 216 | 309 | 715 | 89 |
| 10 | 368 | 223 | 460 | 120 | 150 | 524 | 1100 | 527 | 303 | 208 | 446 | 83 |
| 11 | 305 | 233 | 380 | 120 | 200 | 488 | 963 | 474 | 206 | 169 | 312 | 78 |
| 12 | 227 | 218 | 300 | 120 | 343 | 486 | 831 | 420 | 158 | 200 | 251 | 71 |
| 13 | 195 | 200 | 280 | 120 | 631 | 2590 | 728 | 388 | 137 | 266 | 217 | 70 |
| 14 | 175 | 190 | 256 | 120 | 906 | 2380 | 669 | 366 | 128 | 210 | 190 | 482 |
| 15 | 161 | 181 | 240 | 110 | 876 | 1490 | 607 | 331 | 120 | 162 | 170 | 660 |
| 16 | 150 | 180 | 230 | 110 | 714 | 1040 | 541 | 303 | 109 | 132 | 148 | 418 |
| 17 | 142 | 190 | 220 | 110 | 580 | 786 | 499 | 282 | 109 | 132 | 217 | 478 |
| 18 | 136 | 210 | 220 | 110 | 500 | 2650 | 467 | 281 | 1450 | 180 | 242 | 422 |
| 19 | 130 | 206 | 224 | 110 | 450 | 3710 | 481 | 383 | 2370 | 168 | 172 | 393 |
| 20 | 136 | 205 | 296 | 110 | 430 | 2310 | 625 | 326 | 506 | 164 | 140 | 357 |
| 21 | 197 | 199 | 300 | 110 | 420 | 1760 | 483 | 271 | 343 | 449 | 124 | 426 |
| 22 | 217 | 193 | 250 | 110 | 410 | 1510 | 465 | 238 | 257 | 1110 | 138 | 308 |
| 23 | 180 | 194 | 220 | 110 | 3000 | 1310 | 522 | 214 | 199 | 503 | 152 | 233 |
| 24 | 200 | 190 | 200 | 110 | 3960 | 1060 | 871 | 202 | 167 | 281 | 138 | 195 |
| 25 | 393 | 180 | 190 | 110 | 4860 | 866 | 738 | 189 | 158 | 501 | 117 | 185 |
| 26 | 410 | 204 | 180 | 110 | 2930 | 745 | 607 | 175 | 204 | 642 | 105 | 302 |
| 27 | 310 | 220 | 170 | 110 | 1820 | 670 | 558 | 159 | 162 | 343 | 97 | 235 |
| 28 | 252 | 223 | 160 | 100 | 1350 | 896 | 527 | 147 | 185 | 232 | 91 | 190 |
| 29 | 226 | 210 | 150 | 100 | --- | 1180 | 566 | 137 | 243 | 191 | 85 | 159 |
| 30 | 210 | 200 | 150 | 100 | --- | 925 | 492 | 128 | 210 | 197 | 86 | 144 |
| 31 | 384 | --- | 140 | 100 | --- | 757 | --- | 123 | --- | 180 | 89 | --- |
| TOTAL | 6602 | 7015 | 7972 | 3590 | 25430 | 37238 | 39218 | 12290 | 8928 | 9286 | 7270 | 6996 |
| MEAN | 213 | 234 | 257 | 116 | 908 | 1201 | 1307 | 396 | 298 | 300 | 235 | 233 |
| MAX | 410 | 517 | 670 | 140 | 4860 | 3710 | 6940 | 947 | 2370 | 1110 | 1390 | 660 |
| MIN | 130 | 180 | 140 | 100 | 100 | 486 | 465 | 123 | 102 | 132 | 85 | 70 |
| CFSM | .43 | .47 | .52 | .23 | 1.83 | 2.42 | 2.64 | .80 | .60 | .61 | .47 | .47 |
| IN. | .50 | .53 | .60 | .27 | 1.91 | 2.79 | 2.94 | .92 | .67 | .70 | .55 | .52 |

| CAL YR 1976 | TOTAL | 185600 | MEAN 507 | MAX 5970 | MIN 61 | CFSM 1.02 | IN 13.92 |
|-------------|-------|--------|----------|----------|--------|-----------|----------|
| WTR YR 1977 | TOTAL | 171835 | MEAN 471 | MAX 6940 | MIN 70 | CFSM .95 | IN 12.89 |

LITTLE BEAVER CREEK BASIN

03109500 LITTLE BEAVER CREEK NEAR EAST LIVERPOOL, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1976 to current year.

WATER TEMPERATURES: February 1976 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument.
Sediment data collected at this site 1969 to 1974.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,070 micromhos Sept. 5, 1977; minimum, 200 micromhos Apr. 4, 1977.

WATER TEMPERATURES: Maximum recorded, 31.0°C July 20, 1977; minimum, 0.0°C Mar. 18, Nov. 24, Dec. 1, 3, 4, 1976.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,070 micromhos Sept. 5; minimum, 200 micromhos Apr. 4.

WATER TEMPERATURES: Maximum recorded, 31.0°C July 20; minimum, 0.0°C Nov. 24, Dec. 1, 3, 4.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA,MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|--|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| DATE | TIME | (CFS) | | | | | | | | | | |
| MAR 08... | 1400 | 602 | 510 | 7.9 | 5.0 | 11.8 | 92 | 2.6 | 210 | 140 | 57 | 16 |
| JUL 14... | 1355 | 195 | 810 | 8.3 | 26.0 | 10.2 | 120 | 2.0 | 330 | 220 | 94 | 24 |
| | | | | | | | | | | | | |
| | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CAC03 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 08... | 18 | 2.7 | 78 | 0 | 64 | 1.6 | 120 | 37 | .1 | 7.5 | 297 | 2.5 |
| JUL 14... | 28 | 3.5 | 139 | 2 | 117 | 1.1 | 180 | 61 | .2 | 5.2 | 467 | 2.0 |
| | | | | | | | | | | | | |
| | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 08... | .02 | .16 | .02 | 1 | 10 | 8 | 50 | 8 | 220 | .0 | 20 | 10 |
| JUL 14... | .01 | .03 | .06 | 2 | 10 | 6 | 50 | 16 | 50 | .0 | 10 | 5.2 |

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|-----|-----------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 630 | 554 | 590 | 540 | 702 | 648 | --- | --- | 700 | 687 | 433 | 423 |
| 2 | 652 | 631 | 574 | 550 | 712 | 693 | --- | --- | 698 | 683 | 460 | 434 |
| 3 | 679 | 652 | 548 | 531 | 749 | 714 | 789 | 669 | 702 | 687 | 483 | 455 |
| 4 | 693 | 681 | 558 | 535 | 786 | 734 | 668 | 646 | 693 | 681 | 489 | 466 |
| 5 | 700 | 689 | 572 | 547 | 786 | 765 | 666 | 648 | 687 | 671 | 504 | 478 |
| 6 | 710 | 694 | 585 | 566 | 799 | 756 | 687 | 660 | 671 | 658 | 478 | 455 |
| 7 | 717 | 700 | 599 | 579 | 761 | 631 | 712 | 668 | 721 | 671 | 459 | 453 |
| 8 | 719 | 706 | 600 | 590 | 671 | 605 | 702 | 660 | 725 | 702 | 491 | 458 |
| 9 | 716 | 675 | 615 | 595 | 620 | 590 | 710 | 677 | 702 | 679 | 503 | 480 |
| 10 | 673 | 643 | 630 | 617 | --- | --- | 683 | 662 | 719 | 698 | 510 | 491 |
| 11 | 704 | 666 | 637 | 626 | --- | --- | 664 | 656 | 723 | 696 | 524 | 498 |
| 12 | 679 | 650 | 648 | 633 | --- | --- | 666 | 652 | 783 | 719 | 513 | 486 |
| 13 | 654 | 625 | 646 | 631 | --- | --- | 677 | 650 | 875 | 754 | 483 | 371 |
| 14 | 631 | 613 | 689 | 633 | --- | --- | 704 | 675 | 754 | 689 | 374 | 360 |
| 15 | 639 | 628 | 656 | 637 | --- | --- | 700 | 675 | 698 | 628 | 386 | 368 |
| 16 | 654 | 637 | 650 | 623 | --- | --- | 677 | 662 | 626 | 574 | 408 | 386 |
| 17 | 654 | 643 | 620 | 564 | --- | --- | 689 | 662 | 581 | 551 | 419 | 409 |
| 18 | 675 | 652 | 579 | 564 | --- | --- | 681 | 662 | 574 | 547 | 416 | 282 |
| 19 | 677 | 656 | 599 | 576 | --- | --- | 689 | 673 | 550 | 524 | 285 | 273 |
| 20 | 685 | 664 | 607 | 574 | --- | --- | 683 | 673 | 525 | 517 | 308 | 283 |
| 21 | 683 | 654 | 603 | 571 | --- | --- | 677 | 669 | 518 | 516 | 326 | 305 |
| 22 | 673 | 648 | 582 | 571 | --- | --- | 679 | 669 | 531 | 518 | 325 | 318 |
| 23 | 729 | 681 | 581 | 562 | --- | --- | 671 | 662 | 520 | 260 | 344 | 326 |
| 24 | 710 | 671 | 577 | 542 | --- | --- | 687 | 669 | 374 | 289 | 366 | 344 |
| 25 | 669 | 612 | 572 | 545 | --- | --- | 689 | 675 | 287 | 272 | 382 | 364 |
| 26 | 641 | 610 | 597 | 548 | --- | --- | 677 | 668 | 318 | 275 | 391 | 381 |
| 27 | 622 | 594 | 603 | 585 | --- | --- | 693 | 664 | 388 | 325 | 514 | 390 |
| 28 | 594 | 571 | 610 | 595 | --- | --- | 743 | 698 | --- | --- | 516 | 466 |
| 29 | 576 | 567 | 594 | 581 | --- | --- | 721 | 691 | --- | --- | 486 | 470 |
| 30 | 592 | 579 | 646 | 584 | --- | --- | 698 | 689 | --- | --- | 469 | 459 |
| 31 | 590 | 550 | --- | --- | --- | --- | 694 | 685 | --- | --- | 478 | 465 |
| MONTH | 729 | 550 | 689 | 531 | 799 | 590 | 789 | 646 | 875 | 260 | 524 | 273 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 596 | 479 | 544 | 533 | 946 | 887 | 898 | 703 | 840 | 703 | 994 | 763 |
| 2 | 597 | 264 | 664 | 537 | 931 | 903 | 800 | 690 | 727 | 720 | 1020 | 916 |
| 3 | 261 | 204 | 644 | 599 | 921 | 905 | 746 | 686 | 755 | 733 | 979 | 918 |
| 4 | 277 | 200 | 651 | 607 | 939 | 910 | 770 | 742 | 761 | 742 | 1010 | 923 |
| 5 | 289 | 276 | 607 | 568 | 949 | 916 | 776 | 748 | 766 | 744 | 1070 | 910 |
| 6 | 393 | 285 | 581 | 531 | 931 | 890 | 761 | 733 | 768 | 750 | 908 | 831 |
| 7 | 399 | 372 | 533 | 496 | 916 | 875 | 759 | 712 | 759 | 612 | 839 | 785 |
| 8 | 487 | 398 | 503 | 489 | 900 | 877 | 740 | 631 | 597 | 439 | 836 | 807 |
| 9 | 519 | 488 | 508 | 499 | 893 | 815 | 849 | 742 | 520 | 448 | 862 | 817 |
| 10 | 529 | 513 | 520 | 506 | 824 | 802 | 783 | 740 | 555 | 522 | 882 | 857 |
| 11 | 544 | 526 | 546 | 519 | 859 | 813 | 776 | 755 | 601 | 555 | 908 | 877 |
| 12 | 567 | 537 | 565 | 537 | 913 | 854 | 787 | 757 | 619 | 596 | 931 | 905 |
| 13 | 575 | 563 | 589 | 563 | 944 | 916 | 778 | 757 | 655 | 619 | 969 | 923 |
| 14 | 589 | 570 | 619 | 572 | 916 | 862 | 811 | 768 | 686 | 655 | 976 | 647 |
| 15 | 599 | 585 | 642 | 617 | 872 | 859 | 829 | 774 | 698 | 686 | 707 | 576 |
| 16 | 615 | 594 | 638 | 620 | 875 | 857 | 831 | 811 | 718 | 698 | 625 | 575 |
| 17 | 610 | 594 | 642 | 623 | 890 | 834 | 829 | 796 | 727 | 670 | 688 | 625 |
| 18 | 617 | 601 | 651 | 632 | 731 | 415 | 813 | 772 | 683 | 666 | 709 | 685 |
| 19 | 627 | 570 | 662 | 619 | 555 | 401 | 824 | 807 | 729 | 675 | 699 | 631 |
| 20 | 588 | 560 | 675 | 649 | 629 | 563 | 811 | 740 | 729 | 703 | 638 | 627 |
| 21 | 594 | 568 | 712 | 649 | 692 | 632 | 766 | 441 | 716 | 703 | 644 | 622 |
| 22 | 610 | 583 | 729 | 698 | 744 | 696 | 604 | 420 | 707 | 692 | 653 | 607 |
| 23 | 612 | 563 | 733 | 694 | 757 | 722 | 562 | 513 | 714 | 698 | 679 | 649 |
| 24 | 591 | 550 | 729 | 712 | 804 | 744 | 623 | 560 | 742 | 716 | 688 | 677 |
| 25 | 575 | 522 | 733 | 712 | 817 | 789 | 632 | 512 | 768 | 716 | 714 | 685 |
| 26 | 536 | 509 | 768 | 724 | 824 | 804 | 534 | 484 | 744 | 716 | 712 | 679 |
| 27 | 537 | 517 | 804 | 761 | 862 | 807 | 573 | 544 | 759 | 737 | 668 | 638 |
| 28 | 541 | 527 | 831 | 794 | 854 | 766 | 627 | 572 | 772 | 740 | 692 | 647 |
| 29 | 547 | 515 | 822 | 794 | 755 | 707 | 660 | 629 | 794 | 766 | 746 | 698 |
| 30 | 541 | 517 | 807 | 781 | 936 | 727 | 690 | 658 | 794 | 778 | 753 | 742 |
| 31 | --- | --- | 1010 | 804 | --- | --- | 705 | 681 | 785 | 763 | --- | --- |
| MONTH | 627 | 200 | 1010 | 489 | 949 | 401 | 898 | 420 | 840 | 439 | 1070 | 575 |
| YEAR | 1070 | 200 | | | | | | | | | | |

LITTLE BEAVER CREEK BASIN

67

03109500 LITTLE BEAVER CREEK NEAR EAST LIVERFOCI, CH--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-----------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 14.0 | 13.0 | 6.0 | 4.5 | 0.5 | 0.0 | | | | | 4.0 | 2.5 |
| 2 | 14.5 | 13.5 | 5.0 | 3.0 | 0.5 | 0.5 | | | | | 3.5 | 0.5 |
| 3 | 17.0 | 13.5 | 7.0 | 5.0 | 0.5 | 0.0 | | | | | 4.5 | 1.5 |
| 4 | 17.0 | 13.5 | 6.0 | 4.0 | 0.5 | 0.0 | | | | | 6.5 | 3.5 |
| 5 | 16.5 | 13.5 | 4.0 | 2.5 | 0.5 | 0.5 | | | | | 5.5 | 4.5 |
| 6 | 16.0 | 14.5 | 4.5 | 2.0 | 1.0 | 0.5 | | | | | 6.5 | 4.0 |
| 7 | 16.0 | 13.5 | 4.5 | 2.5 | 1.0 | 0.5 | | | | | 5.5 | 4.0 |
| 8 | 14.0 | 13.0 | 4.5 | 2.0 | 0.5 | 0.5 | | | | | 6.0 | 2.5 |
| 9 | 13.0 | 11.0 | 3.5 | 1.0 | 0.5 | 0.5 | | | | | 8.0 | 3.5 |
| 10 | 11.0 | 9.5 | 5.0 | 3.0 | --- | --- | | | | | 9.5 | 6.5 |
| 11 | 12.0 | 10.5 | 5.0 | 4.0 | --- | --- | | | | | 10.0 | 7.0 |
| 12 | 11.5 | 9.5 | 4.5 | 3.5 | --- | --- | | | | | 9.0 | 8.0 |
| 13 | 13.0 | 10.0 | 4.0 | 2.0 | --- | --- | | | | | 10.0 | 9.0 |
| 14 | 12.0 | 10.0 | 3.0 | 1.0 | --- | --- | | | | | 9.0 | 8.0 |
| 15 | 12.5 | 9.0 | 3.5 | 1.0 | --- | --- | | | | | 10.0 | 7.5 |
| 16 | 11.5 | 9.5 | 2.5 | 0.5 | --- | --- | | | | | 11.0 | 8.5 |
| 17 | 9.5 | 8.0 | 2.0 | 0.5 | --- | --- | | | | | 9.0 | 6.5 |
| 18 | 7.5 | 6.5 | 3.0 | 1.0 | --- | --- | | | | | 8.5 | 6.5 |
| 19 | 7.5 | 5.5 | 5.0 | 2.5 | --- | --- | | | | | 7.0 | 4.5 |
| 20 | 7.5 | 6.5 | 3.5 | 1.5 | --- | --- | | | | | 6.5 | 5.5 |
| 21 | 7.5 | 6.0 | 3.0 | 1.5 | --- | --- | | | | | 8.0 | 4.0 |
| 22 | 6.0 | 5.0 | 2.0 | 1.0 | --- | --- | | | | | 7.0 | 5.5 |
| 23 | 6.0 | 3.5 | 1.5 | 0.5 | --- | --- | | | | | 7.0 | 3.5 |
| 24 | 7.5 | 5.5 | 1.0 | 0.0 | --- | --- | | | | | 6.5 | 4.0 |
| 25 | 8.5 | 7.5 | 1.5 | 0.5 | --- | --- | | | | | 7.0 | 2.5 |
| 26 | 8.0 | 6.0 | 4.0 | 1.0 | --- | --- | | | | | 8.0 | 4.0 |
| 27 | 6.0 | 4.0 | 6.5 | 3.5 | --- | --- | | | | | 9.5 | 5.0 |
| 28 | 5.0 | 2.5 | 6.0 | 3.5 | --- | --- | | | | | 10.5 | 9.0 |
| 29 | 5.0 | 2.5 | 3.0 | 0.5 | --- | --- | | | | | 14.0 | 9.5 |
| 30 | 4.5 | 3.0 | 0.5 | 0.5 | --- | --- | | | | | 15.5 | 11.5 |
| 31 | 6.5 | 4.5 | --- | --- | --- | --- | | | | | 14.5 | 11.0 |
| MONTH | 17.0 | 2.5 | 7.0 | 0.0 | 1.0 | 0.0 | | | | | 15.5 | 0.5 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 11.5 | 9.0 | 18.0 | 12.0 | 25.5 | 23.0 | 25.0 | 22.0 | 25.5 | 23.5 | 28.0 | 22.5 |
| 2 | 10.5 | 8.5 | 17.0 | 15.5 | 23.5 | 19.5 | 24.0 | 21.0 | 24.0 | 21.5 | 26.5 | 24.5 |
| 3 | 10.5 | 8.5 | 16.5 | 13.5 | 22.0 | 17.0 | 24.5 | 20.5 | 26.0 | 22.5 | 26.0 | 23.5 |
| 4 | 10.0 | 8.5 | 16.0 | 14.5 | 23.0 | 17.5 | 24.0 | 20.5 | 27.5 | 23.5 | 25.0 | 22.0 |
| 5 | 9.0 | 7.5 | 18.5 | 14.5 | 22.5 | 19.0 | 27.0 | 22.5 | 27.0 | 24.0 | 26.0 | 22.0 |
| 6 | 8.0 | 6.0 | 20.0 | 17.0 | 20.5 | 17.5 | 29.5 | 24.5 | 26.5 | 24.0 | 25.5 | 22.5 |
| 7 | 6.5 | 5.0 | 19.5 | 16.5 | 17.5 | 15.5 | 29.5 | 26.0 | 25.5 | 23.0 | 25.5 | 22.0 |
| 8 | 7.5 | 5.0 | 17.5 | 14.0 | 16.5 | 13.5 | 28.0 | 24.5 | 24.0 | 22.0 | 24.5 | 21.5 |
| 9 | 8.0 | 4.0 | 14.5 | 10.5 | 16.0 | 14.0 | 26.5 | 25.0 | 24.5 | 22.5 | 25.0 | 21.0 |
| 10 | 9.0 | 5.5 | 14.0 | 10.0 | 18.0 | 12.5 | 26.5 | 23.5 | 25.5 | 23.5 | 26.5 | 22.5 |
| 11 | 14.0 | 7.5 | 16.0 | 10.5 | 19.5 | 14.0 | 27.5 | 23.5 | 26.5 | 23.0 | 23.5 | 19.0 |
| 12 | 17.0 | 11.5 | 17.0 | 12.5 | 18.5 | 16.5 | 28.0 | 23.5 | 25.5 | 23.5 | 20.0 | 17.5 |
| 13 | 17.5 | 13.0 | 19.0 | 14.5 | 22.5 | 16.0 | 28.0 | 25.0 | 24.5 | 22.0 | 21.0 | 18.0 |
| 14 | 18.5 | 15.0 | 21.0 | 17.0 | 23.0 | 19.5 | 27.5 | 24.0 | 24.5 | 21.5 | 21.0 | 19.0 |
| 15 | 16.5 | 12.0 | 21.0 | 15.5 | 23.0 | 18.5 | 28.5 | 23.5 | 25.0 | 21.5 | 19.0 | 17.0 |
| 16 | 15.0 | 12.5 | 21.0 | 16.5 | 24.5 | 19.5 | 30.0 | 26.0 | 26.0 | 22.0 | 19.0 | 16.5 |
| 17 | 16.0 | 12.0 | 22.5 | 17.0 | 25.0 | 20.5 | 29.0 | 26.0 | 25.5 | 22.5 | 21.0 | 18.0 |
| 18 | 16.0 | 13.0 | 22.5 | 20.0 | 21.0 | 17.5 | 29.5 | 25.0 | 23.0 | 20.5 | 22.5 | 19.5 |
| 19 | 16.5 | 14.0 | 24.0 | 19.5 | 22.5 | 19.5 | 29.0 | 25.5 | 21.0 | 18.5 | 23.0 | 20.0 |
| 20 | 19.5 | 14.5 | 25.5 | 20.0 | 23.0 | 19.5 | 31.0 | 25.5 | 22.0 | 16.5 | 22.5 | 20.5 |
| 21 | 21.0 | 16.5 | 25.0 | 21.0 | 22.5 | 20.0 | 28.0 | 23.5 | 21.0 | 18.0 | 21.0 | 17.5 |
| 22 | 19.5 | 18.0 | 25.5 | 21.5 | 22.0 | 18.0 | 25.0 | 22.0 | 23.0 | 19.0 | 20.0 | 17.0 |
| 23 | 18.0 | 17.0 | 25.0 | 22.0 | 23.5 | 18.5 | 25.0 | 21.5 | 24.0 | 19.5 | 20.0 | 17.5 |
| 24 | 16.5 | 13.0 | 25.5 | 21.5 | 23.0 | 19.0 | 25.0 | 20.5 | 22.5 | 20.0 | 21.0 | 18.0 |
| 25 | 13.5 | 11.5 | 26.0 | 22.0 | 24.0 | 19.5 | 25.0 | 23.0 | 22.0 | 18.0 | 23.0 | 20.0 |
| 26 | 12.5 | 10.5 | 25.0 | 21.5 | 26.0 | 21.0 | 23.0 | 20.0 | 22.5 | 17.5 | 22.0 | 20.0 |
| 27 | 15.5 | 10.0 | 26.0 | 20.0 | 26.0 | 21.0 | 23.0 | 19.0 | 26.0 | 21.0 | 20.5 | 18.5 |
| 28 | 14.0 | 10.5 | 25.5 | 20.5 | 25.0 | 22.5 | 23.5 | 19.0 | 27.0 | 24.0 | 19.0 | 17.5 |
| 29 | 13.5 | 8.5 | 26.5 | 21.0 | 25.5 | 22.0 | 23.5 | 21.5 | 27.5 | 24.5 | 18.0 | 16.5 |
| 30 | 15.5 | 9.5 | 25.0 | 22.5 | 24.5 | 22.0 | 25.5 | 21.5 | 26.0 | 24.0 | 18.5 | 15.5 |
| 31 | --- | --- | 26.0 | 21.0 | --- | --- | 26.0 | 23.0 | 25.0 | 22.5 | --- | --- |
| MONTH | 21.0 | 4.0 | 26.5 | 10.0 | 26.0 | 12.5 | 31.0 | 19.0 | 27.5 | 16.5 | 28.0 | 15.5 |
| YEAR | 31.0 | 0.0 | | | | | | | | | | |

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

YELLOW CREEK BASIN

03110000 YELLOW CREEK NEAR HAMMONDSVILLE, OH

LOCATION.--Lat 40°32'16", long 80°43'31", in sec. 29, T.8 N., R.2 W., Jefferson County, Hydrologic Unit 05030101, on right bank 1,000 ft (305 m) upstream from Lowery Run, 0.9 mi (1.4 km) upstream from Brush Creek, and 1.6 mi (2.6 km) southwest of Hammondsville.

DRAINAGE AREA.--147 mi² (381 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 692.10 ft (210.952 m) above mean sea level, Ohio State Highway Department bench mark.

REMARKS.--Records good except those for winter periods, which are fair.

AVERAGE DISCHARGE.--37 years, 156 ft³/s (4.418 m³/s), 14.41 in/yr (366 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,580 ft³/s (271 m³/s) Jan. 27, 1952, gage height, 12.17 ft (3.709 m); minimum, 0.8 ft³/s (0.023 m³/s) Sept. 24 to Oct. 1, Oct. 7, 8, 1963.

EXTREMES OUTSIDE PERIOD OF RECORD.--The highest stage observed is reported to have occurred in 1912.

EXTREMES FOR CURRENT YEAR.--Peak discharge, 2,390 ft³/s (67.7 m³/s) Apr. 3, gage height, 6.49 ft (1.978 m), above base of 2,000 ft³/s (56.6 m³/s); minimum discharge, 12 ft (0.34 m³/s) Dec. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|---------|----------|----------|---------|----------|----------|------|------|------|------|------|
| 1 | 24 | 227 | 21 | 26 | 18 | 280 | 206 | 115 | 32 | 87 | 34 | 19 |
| 2 | 22 | 166 | 18 | 25 | 18 | 212 | 877 | 104 | 29 | 77 | 34 | 17 |
| 3 | 20 | 112 | 16 | 24 | 18 | 183 | 1670 | 117 | 26 | 50 | 25 | 18 |
| 4 | 18 | 77 | 16 | 24 | 18 | 251 | 825 | 112 | 24 | 42 | 21 | 39 |
| 5 | 17 | 59 | 16 | 23 | 18 | 318 | 1290 | 203 | 30 | 63 | 19 | 25 |
| 6 | 14 | 51 | 17 | 23 | 18 | 245 | 810 | 230 | 75 | 61 | 39 | 20 |
| 7 | 14 | 45 | 138 | 22 | 18 | 209 | 574 | 725 | 54 | 48 | 139 | 32 |
| 8 | 15 | 42 | 287 | 22 | 18 | 183 | 468 | 376 | 37 | 119 | 129 | 27 |
| 9 | 33 | 38 | 191 | 22 | 18 | 164 | 356 | 267 | 97 | 79 | 228 | 20 |
| 10 | 98 | 38 | 140 | 21 | 30 | 151 | 311 | 221 | 117 | 54 | 112 | 17 |
| 11 | 58 | 38 | 100 | 21 | 81 | 136 | 273 | 189 | 57 | 42 | 78 | 15 |
| 12 | 40 | 34 | 90 | 21 | 146 | 136 | 233 | 159 | 44 | 59 | 60 | 14 |
| 13 | 32 | 31 | 80 | 21 | 300 | 910 | 203 | 141 | 38 | 59 | 55 | 13 |
| 14 | 28 | 28 | 70 | 21 | 587 | 655 | 186 | 131 | 34 | 42 | 48 | 90 |
| 15 | 23 | 26 | 65 | 20 | 524 | 440 | 166 | 112 | 32 | 30 | 62 | 120 |
| 16 | 21 | 26 | 60 | 20 | 404 | 335 | 148 | 97 | 28 | 25 | 53 | 80 |
| 17 | 19 | 23 | 55 | 20 | 320 | 260 | 138 | 85 | 26 | 21 | 61 | 90 |
| 18 | 19 | 22 | 52 | 20 | 290 | 745 | 131 | 93 | 592 | 23 | 94 | 80 |
| 19 | 18 | 24 | 48 | 20 | 260 | 850 | 126 | 194 | 221 | 23 | 60 | 75 |
| 20 | 20 | 24 | 59 | 20 | 240 | 605 | 119 | 119 | 117 | 18 | 48 | 70 |
| 21 | 39 | 22 | 81 | 20 | 230 | 476 | 110 | 93 | 83 | 18 | 40 | 80 |
| 22 | 44 | 22 | 60 | 20 | 220 | 452 | 101 | 79 | 63 | 512 | 40 | 60 |
| 23 | 31 | 22 | 50 | 19 | 400 | 388 | 108 | 70 | 51 | 153 | 39 | 50 |
| 24 | 36 | 21 | 40 | 19 | 1140 | 325 | 141 | 63 | 44 | 87 | 31 | 44 |
| 25 | 124 | 20 | 36 | 19 | 1270 | 273 | 119 | 57 | 42 | 77 | 27 | 36 |
| 26 | 102 | 22 | 34 | 19 | 750 | 239 | 108 | 53 | 40 | 119 | 23 | 55 |
| 27 | 75 | 28 | 32 | 19 | 512 | 212 | 104 | 48 | 34 | 63 | 20 | 42 |
| 28 | 58 | 30 | 30 | 19 | 388 | 270 | 101 | 44 | 110 | 47 | 18 | 36 |
| 29 | 47 | 30 | 29 | 19 | --- | 311 | 175 | 42 | 121 | 39 | 16 | 32 |
| 30 | 44 | 25 | 28 | 18 | --- | 260 | 131 | 38 | 73 | 38 | 17 | 28 |
| 31 | 111 | --- | 27 | 18 | --- | 239 | --- | 36 | --- | 36 | 21 | --- |
| TOTAL | 1264 | 1373 | 1986 | 645 | 8254 | 10713 | 10308 | 4413 | 2371 | 2211 | 1691 | 1344 |
| MEAN | 40.8 | 45.8 | 64.1 | 20.8 | 295 | 346 | 344 | 142 | 79.0 | 71.3 | 54.5 | 44.8 |
| MAX | 124 | 227 | 287 | 26 | 1270 | 910 | 1670 | 725 | 592 | 512 | 228 | 120 |
| MIN | 14 | 20 | 16 | 18 | 18 | 136 | 101 | 36 | 24 | 18 | 16 | 13 |
| CFSM | .28 | .31 | .44 | .14 | 2.01 | 2.35 | 2.34 | .97 | .54 | .49 | .37 | .31 |
| IN. | .32 | .35 | .50 | .16 | 2.09 | 2.71 | 2.61 | 1.12 | .60 | .56 | .43 | .34 |
| CAL YR 1976 | TOTAL | 47296.0 | MEAN 129 | MAX 1470 | MIN 9.3 | CFSM .88 | IN 11.97 | | | | | |
| WTR YR 1977 | TOTAL | 46573.0 | MEAN 128 | MAX 1670 | MIN 13 | CFSM .87 | IN 11.79 | | | | | |

YELLOW CREEK BASIN

69

03110000 YELLOW CREEK NEAR HAMMONDSVILLE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

REMARKS.--Sediment data collected at this site 1969 to 1974.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE (MICHO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|------|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| DATE | TIME | (CFS) | (MHOS) | (UNITS) | | | | | | | | |
| MAR 08... | 1630 | 161 | 350 | 7.5 | 6.0 | 10.0 | 80 | 1.8 | 140 | 98 | 38 | 10 |
| JUL 13... | 1350 | 61 | 540 | 8.0 | 27.5 | 8.4 | 100 | 1.7 | 180 | 140 | 52 | 13 |
| | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) |
| MAR 08... | 14 | 1.8 | 46 | 0 | 38 | 2.3 | 96 | 15 | .1 | 7.7 | 206 | 1.1 |
| JUL 13... | 23 | 2.7 | 50 | 0 | 41 | .8 | 160 | 18 | .1 | 6.1 | 300 | .31 |
| | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (MG/L) |
| MAR 08... | .01 | .06 | .03 | 1 | <10 | 6 | 90 | 4 | 250 | .0 | 20 | 9.5 |
| JUL 13... | .00 | .06 | .01 | 2 | <10 | 0 | 60 | 12 | 60 | .1 | 10 | 6.0 |

SHORT CREEK BASIN

03111500 SHORT CREEK NEAR DILLONVALE, OH

LOCATION.--Lat 40°11'36", long 80°44'04", in sec. 30, T.4 N., R.2 W., Jefferson County, Hydrologic Unit 05030106, on right bank at downstream side of bridge on State Highway 150, 2.1 mi (3.4 km) east of Dillonvale, 2.2 mi (3.5 km) downstream from Jug Run, and 2.9 mi (4.7 km) upstream from Little Short Creek.

DRAINAGE AREA.--123 mi² (319 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1003: 1942-43. WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 676.1 ft (206.08 m) above mean sea level, State of Ohio bench mark. Prior to Oct. 21, 1941, nonrecording gage at same site and datum.

REMARKS.--Records poor.

AVERAGE DISCHARGE.--36 years, 123 ft³/s (3.483 m³/s), 13.58 in/yr (345 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,500 ft³/s (184 m³/s) Mar. 6, 1945, gage height, 8.77 ft (2.673 m); maximum gage height, 10.15 ft (3.094 m) Mar. 5, 1963, from graph based on gage readings; minimum daily discharge, 2.8 ft³/s (0.079 m³/s) Sept. 21, 27, 1947.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft³/s (34.0 m³/s) and maximums (*):

| Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) | Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) |
|---------|------|---|-------------------------|--------|------|---|-------------------------|
| Feb. 15 | 0600 | ice jam | *9.46 2.883 | Apr. 2 | 2300 | *4110 116 | 8.71 2.655 |

Minimum discharge, 20 ft³/s (0.57 m³/s) Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 50 | 150 | 50 | 34 | 26 | 152 | 146 | 130 | 69 | 133 | 62 | 37 |
| 2 | 46 | 90 | 44 | 34 | 26 | 127 | 936 | 132 | 65 | 106 | 54 | 35 |
| 3 | 42 | 70 | 40 | 32 | 26 | 118 | 1260 | 137 | 64 | 85 | 49 | 50 |
| 4 | 40 | 60 | 38 | 32 | 26 | 206 | 545 | 215 | 62 | 90 | 45 | 41 |
| 5 | 38 | 60 | 38 | 32 | 26 | 230 | 659 | 278 | 75 | 135 | 43 | 38 |
| 6 | 36 | 55 | 50 | 30 | 26 | 168 | 455 | 282 | 220 | 193 | 42 | 38 |
| 7 | 36 | 50 | 200 | 30 | 26 | 143 | 360 | 312 | 116 | 109 | 54 | 53 |
| 8 | 43 | 50 | 257 | 30 | 28 | 127 | 312 | 217 | 84 | 109 | 56 | 37 |
| 9 | 134 | 55 | 121 | 30 | 30 | 114 | 267 | 185 | 187 | 165 | 85 | 37 |
| 10 | 131 | 60 | 100 | 30 | 32 | 106 | 247 | 163 | 135 | 130 | 58 | 36 |
| 11 | 72 | 60 | 90 | 30 | 36 | 100 | 227 | 155 | 90 | 104 | 60 | 34 |
| 12 | 53 | 55 | 80 | 30 | 80 | 102 | 203 | 137 | 81 | 157 | 52 | 32 |
| 13 | 48 | 50 | 75 | 28 | 150 | 523 | 189 | 130 | 84 | 151 | 49 | 32 |
| 14 | 39 | 46 | 66 | 28 | 270 | 295 | 177 | 128 | 82 | 110 | 52 | 38 |
| 15 | 38 | 44 | 60 | 28 | 230 | 211 | 163 | 118 | 79 | 93 | 260 | 41 |
| 16 | 36 | 60 | 60 | 28 | 190 | 192 | 151 | 112 | 74 | 86 | 96 | 123 |
| 17 | 34 | 68 | 55 | 28 | 150 | 154 | 149 | 107 | 74 | 82 | 72 | 93 |
| 18 | 32 | 52 | 53 | 28 | 130 | 490 | 145 | 104 | 203 | 110 | 62 | 56 |
| 19 | 32 | 50 | 52 | 28 | 110 | 407 | 141 | 118 | 126 | 86 | 52 | 82 |
| 20 | 36 | 46 | 66 | 28 | 95 | 292 | 130 | 103 | 99 | 77 | 46 | 76 |
| 21 | 44 | 44 | 69 | 28 | 83 | 237 | 123 | 96 | 92 | 92 | 44 | 52 |
| 22 | 55 | 42 | 54 | 28 | 90 | 255 | 118 | 92 | 85 | 435 | 44 | 40 |
| 23 | 46 | 40 | 50 | 28 | 239 | 230 | 121 | 89 | 81 | 110 | 41 | 35 |
| 24 | 60 | 46 | 48 | 28 | 631 | 196 | 147 | 90 | 79 | 79 | 40 | 32 |
| 25 | 180 | 50 | 46 | 28 | 502 | 170 | 128 | 99 | 96 | 159 | 39 | 34 |
| 26 | 110 | 54 | 44 | 26 | 312 | 159 | 118 | 85 | 100 | 181 | 36 | 32 |
| 27 | 80 | 60 | 42 | 26 | 226 | 148 | 116 | 81 | 84 | 92 | 36 | 27 |
| 28 | 60 | 63 | 40 | 26 | 178 | 206 | 143 | 79 | 90 | 75 | 35 | 25 |
| 29 | 55 | 63 | 38 | 26 | --- | 208 | 222 | 75 | 104 | 66 | 34 | 22 |
| 30 | 70 | 55 | 36 | 26 | --- | 174 | 149 | 74 | 85 | 65 | 35 | 21 |
| 31 | 100 | --- | 36 | 26 | --- | 163 | --- | 72 | --- | 60 | 39 | --- |
| TOTAL | 1876 | 1748 | 2098 | 894 | 3974 | 6403 | 8247 | 4195 | 2965 | 3725 | 1772 | 1329 |
| MEAN | 60.5 | 58.3 | 67.7 | 28.8 | 142 | 207 | 275 | 135 | 98.8 | 120 | 57.2 | 44.3 |
| MAX | 180 | 150 | 257 | 34 | 631 | 523 | 1260 | 312 | 220 | 435 | 260 | 123 |
| MIN | 32 | 40 | 36 | 26 | 26 | 100 | 116 | 72 | 62 | 60 | 34 | 21 |
| CFSM | .49 | .47 | .55 | .23 | 1.15 | 1.68 | 2.24 | 1.10 | .80 | .98 | .47 | .36 |
| IN. | .57 | .53 | .63 | .27 | 1.20 | 1.94 | 2.49 | 1.27 | .90 | 1.13 | .54 | .40 |

| CAL YR 1976 | TOTAL | 43814 | MEAN 120 | MAX 1790 | MIN 29 | CFSM .98 | IN 13.25 |
|-------------|-------|-------|----------|----------|--------|----------|----------|
| WTR YR 1977 | TOTAL | 39226 | MEAN 107 | MAX 1260 | MIN 21 | CFSM .87 | IN 11.86 |

SHORT CREEK BASIN

71

03111500 SHORT CREEK NEAR DILLONVALE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964 to current year.

REMARKS.--Sediment data collected at this site 1969 to 1974.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | |
|--------------|------|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|---------------|
| DATE | TIME | (CFS) | (MHOS) | (UNITS) | | | | | | | | | |
| MAR 23... | 1700 | 211 | 1450 | 7.8 | 8.0 | 11.1 | 93 | 1.0 | 760 | 590 | 190 | 70 | |
| JUL 13... | 1240 | 153 | 1780 | 7.9 | 23.0 | 8.3 | 95 | 2.6 | 910 | 740 | 230 | 81 | |
| | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | |
| DATE | | (NA) (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | |
| MAR 23... | 60 | 3.8 | 214 | 0 | 176 | 5.4 | 670 | 31 | .2 | 6.8 | 1140 | .75 | |
| JUL 13... | 85 | 4.8 | 201 | 0 | 165 | 4.0 | 810 | 38 | .2 | 7.2 | 1360 | .42 | |
| | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | |
| DATE | | (N) (MG/L) | (N) (MG/L) | (P) (MG/L) | (AS) (UG/L) | (CR) (UG/L) | (CU) (UG/L) | (FE) (UG/L) | (PB) (UG/L) | (MN) (UG/L) | (HG) (UG/L) | (ZN) (UG/L) | (C) (MG/L) |
| MAR 23... | .01 | .08 | .05 | 2 | 10 | 4 | 50 | 6 | 240 | .0 | 50 | -- | |
| JUL 13... | .02 | .07 | -- | 5 | 10 | 13 | 10 | 20 | 190 | .0 | 100 | 5.8 | |

CAPTINA CREEK BASIN

03114000 CAPTINA CREEK AT ARMSTRONGS MILLS, OH

LOCATION.--Lat 39°54'31", long 80°55'27", in NE 1/4 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 (0.8 km) east of Armstrongs Mills, and 0.7 mi (1.1 km) downstream from Anderson Run.

DRAINAGE AREA.--134 mi² (347 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1926 to September 1935, October 1958 to current year.

REVISED RECORDS.--WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 739.53 ft (225.409 m) above mean sea level. Aug. 20, 1926, to Sept. 30, 1935, nonrecording gage at same site, at datum 1.0 ft (0.30 m) higher.

REMARKS.--Records good except for the winter periods, which are fair.

AVERAGE DISCHARGE.--28 years, 160 ft³/s (4.531 m³/s), 16.21 in/yr (412 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,000 ft³/s (340 m³/s) Sept. 1, 1975, gage height, 13.61 ft (4.148 m); maximum gage height, 14.40 ft (4.389 m), present datum, Aug. 7, 1935; no flow at times during 1929-30, 1932, 1934, 1959, 1963-66, 1972-74.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 3,000 ft³/s (85.0 m³/s) and maximums (*):

| Date | Time | Discharge (ft ³ /s) | Discharge (m ³ /s) | Gage height (ft) | Gage height (m) | Date | Time | Discharge (ft ³ /s) | Discharge (m ³ /s) | Gage height (ft) | Gage height (m) |
|---------|------|--------------------------------|-------------------------------|------------------|-----------------|---------|------|--------------------------------|-------------------------------|------------------|-----------------|
| Feb. 13 | 1630 | ice jam | ice jam | 7.76 | 2.365 | Apr. 2 | 2300 | 5080 | 144 | 8.67 | 2.643 |
| Feb. 23 | 2230 | 3280 | 92.9 | 7.07 | 2.155 | May 6 | 1700 | *5280 | 150 | *8.83 | 2.691 |
| Mar. 18 | 1400 | 3610 | 102 | 7.37 | 2.246 | Aug. 15 | 0300 | 3240 | 91.8 | 7.04 | 2.146 |

Minimum daily discharge, 3.3 ft³/s (0.093 m³/s) June 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|-------|-------|------|------|-------|--------|--------|-------|
| 1 | 36 | 272 | 29 | 48 | 36 | 229 | 157 | 102 | 15 | 29 | 13 | 15 |
| 2 | 36 | 178 | 28 | 46 | 36 | 187 | 1390 | 109 | 13 | 28 | 13 | 27 |
| 3 | 28 | 137 | 26 | 50 | 36 | 162 | 1830 | 107 | 11 | 15 | 7.8 | 52 |
| 4 | 20 | 107 | 24 | 55 | 36 | 699 | 830 | 167 | 9.4 | 14 | 5.5 | 25 |
| 5 | 16 | 87 | 26 | 50 | 36 | 604 | 1430 | 241 | 11 | 35 | 4.0 | 17 |
| 6 | 14 | 74 | 30 | 46 | 36 | 351 | 671 | 1450 | 21 | 22 | 3.5 | 13 |
| 7 | 12 | 63 | 840 | 44 | 36 | 265 | 440 | 776 | 19 | 15 | 419 | 10 |
| 8 | 18 | 56 | 353 | 42 | 36 | 210 | 345 | 328 | 14 | 19 | 342 | 9.1 |
| 9 | 272 | 49 | 209 | 42 | 36 | 180 | 272 | 211 | 93 | 313 | 113 | 7.5 |
| 10 | 217 | 48 | 161 | 42 | 40 | 157 | 244 | 155 | 45 | 93 | 53 | 6.6 |
| 11 | 90 | 45 | 140 | 40 | 100 | 140 | 216 | 123 | 26 | 40 | 41 | 5.7 |
| 12 | 55 | 40 | 120 | 40 | 248 | 137 | 184 | 100 | 21 | 72 | 94 | 4.8 |
| 13 | 40 | 37 | 110 | 40 | 1300 | 1330 | 162 | 84 | 18 | 86 | 86 | 3.7 |
| 14 | 34 | 32 | 100 | 40 | 597 | 517 | 135 | 75 | 16 | 43 | 65 | 4.4 |
| 15 | 28 | 31 | 90 | 40 | 319 | 340 | 127 | 62 | 14 | 26 | 1060 | 8.7 |
| 16 | 26 | 30 | 80 | 38 | 211 | 263 | 113 | 51 | 12 | 19 | 232 | 56 |
| 17 | 24 | 29 | 76 | 38 | 190 | 208 | 107 | 46 | 8.8 | 16 | 144 | 59 |
| 18 | 20 | 33 | 69 | 38 | 180 | 1510 | 100 | 43 | 7.7 | 54 | 98 | 25 |
| 19 | 18 | 30 | 65 | 38 | 170 | 752 | 93 | 120 | 7.7 | 26 | 60 | 18 |
| 20 | 17 | 28 | 72 | 38 | 163 | 489 | 84 | 57 | 6.7 | 15 | 45 | 18 |
| 21 | 50 | 24 | 80 | 36 | 152 | 360 | 78 | 43 | 5.1 | 12 | 37 | 17 |
| 22 | 37 | 24 | 81 | 36 | 175 | 462 | 75 | 37 | 4.5 | 92 | 42 | 12 |
| 23 | 28 | 23 | 75 | 36 | 1410 | 370 | 76 | 33 | 4.2 | 37 | 31 | 9.7 |
| 24 | 95 | 25 | 70 | 36 | 2200 | 290 | 82 | 39 | 3.3 | 20 | 26 | 9.0 |
| 25 | 218 | 27 | 65 | 36 | 998 | 234 | 76 | 42 | 6.3 | 16 | 25 | 12 |
| 26 | 170 | 30 | 60 | 36 | 569 | 201 | 71 | 36 | 22 | 16 | 19 | 85 |
| 27 | 107 | 30 | 60 | 36 | 418 | 176 | 76 | 28 | 12 | 13 | 17 | 32 |
| 28 | 77 | 31 | 55 | 36 | 302 | 290 | 120 | 24 | 36 | 9.1 | 16 | 20 |
| 29 | 62 | 31 | 55 | 36 | --- | 276 | 250 | 22 | 48 | 7.8 | 14 | 15 |
| 30 | 55 | 30 | 53 | 36 | --- | 216 | 132 | 19 | 28 | 17 | 13 | 12 |
| 31 | 430 | --- | 50 | 36 | --- | 185 | --- | 17 | --- | 14 | 21 | --- |
| TOTAL | 2350 | 1681 | 3352 | 1251 | 10066 | 11790 | 9966 | 4747 | 558.7 | 1233.9 | 3159.8 | 609.2 |
| MEAN | 75.8 | 56.0 | 108 | 40.4 | 360 | 380 | 332 | 153 | 18.6 | 39.8 | 102 | 20.3 |
| MAX | 430 | 272 | 840 | 55 | 2200 | 1510 | 1830 | 1450 | 93 | 313 | 1060 | 85 |
| MIN | 12 | 23 | 24 | 36 | 36 | 137 | 71 | 17 | 3.3 | 7.8 | 3.5 | 3.7 |
| CFSM | .57 | .42 | .81 | .30 | 2.69 | 2.84 | 2.48 | 1.14 | .14 | .30 | .76 | .15 |
| IN. | .65 | .47 | .93 | .35 | 2.79 | 3.27 | 2.77 | 1.32 | .16 | .34 | .88 | .17 |

CAL YR 1976 TOTAL 61875.2 MEAN 169 MAX 2470 MIN 3.9 CFSM 1.26 IN 17.18
WTR YR 1977 TOTAL 50764.6 MEAN 139 MAX 2200 MIN 3.3 CFSM 1.04 IN 14.09

CAPTINA CREEK BASIN

73

03114000 CAPTINA CREEK AT ARMSTRONGS MILLS, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

REMARKS.--Sediment data collected at this site 1969 to 1974.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|------|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| DATE | TIME | | | | | | | | | | | |
| MAR 24... | 1100 | 282 | 320 | 8.1 | 5.5 | 12.7 | 100 | .7 | 140 | 47 | 43 | 8.6 |
| JUL 13... | 1535 | 81 | 500 | 8.3 | 27.0 | 8.7 | 110 | 2.0 | 190 | 60 | 57 | 11 |
| | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 24... | 9.9 | 1.6 | 117 | 0 | 96 | 1.5 | 48 | 10 | .1 | 6.0 | 185 | .68 |
| JUL 13... | 18 | 2.8 | 154 | 1 | 128 | 1.3 | 79 | 17 | .2 | 6.0 | 268 | .37 |
| | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 24... | .01 | .01 | .03 | 1 | 20 | 4 | 30 | 3 | 20 | .0 | 30 | 6.2 |
| JUL 13... | .01 | .03 | .18 | 0 | <10 | 5 | 10 | 17 | 0 | .0 | 20 | 7.3 |

LITTLE MUSKINGUM RIVER BASIN

03115400 LITTLE MUSKINGUM RIVER AT BLOOMFIELD, OH

LOCATION.--Lat 39°33'47", long 81°12'14", in sec. 22, T.3 N., R.6 W., Washington County, Hydrologic Unit 05030201, on left bank 400 ft (122 m) upstream from bridge on State Highway 260 at Bloomfield, 2.2 mi (3.5 km) downstream from Wilson Run.

DRAINAGE AREA.--210 mi² (544 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1958 to current year.

REVISED RECORDS.--WSP 1705: 1959.

GAGE.--Water-stage recorder. Datum of gage is 645.99 ft (196.898 m) above mean sea level.

REMARKS.--Records good.

AVERAGE DISCHARGE.--19 years, 248 ft³/s (7.023 m³/s), 16.04 in/yr (407 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,200 ft³/s (600 m³/s) Mar. 5, 1963, gage height, 28.08 ft (8.559 m), from rating curve extended above 8,000 ft³/s (227 m³/s) on basis of velocity-area study and flow over road computations; no flow Sept. 18, 26, 27, 1967.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85.0 m³/s) and maximums (*):

| Date | Time | Discharge (ft ³ /s) | Discharge (m ³ /s) | Gage height (ft) | Gage height (m) | Date | Time | Discharge (ft ³ /s) | Discharge (m ³ /s) | Gage height (ft) | Gage height (m) |
|---------|------|-----------------------------------|----------------------------------|---------------------|--------------------|--------|------|-----------------------------------|----------------------------------|---------------------|--------------------|
| Dec. 7 | 1700 | 3030 | 85.8 | 15.76 | 4.804 | Apr. 3 | 1100 | *5330 | 151 | *20.10 | 6.126 |
| Mar. 13 | 1500 | 3820 | 108 | 17.65 | 5.380 | Apr. 5 | 1100 | 3600 | 102 | 17.20 | 5.243 |
| Mar. 19 | 0100 | 4180 | 118 | 18.30 | 5.578 | May 7 | 0200 | 3840 | 109 | 17.68 | 5.389 |

Minimum discharge, 2.1 ft³/s (0.059 m³/s) Aug. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--------|---------|----------|----------|---------|----------|----------|------|-------|-------|--------|-------|
| 1 | 31 | 672 | 30 | 36 | 24 | 278 | 188 | 254 | 15 | 30 | 6.7 | 11 |
| 2 | 32 | 303 | 26 | 32 | 24 | 224 | 770 | 203 | 12 | 30 | 5.5 | 9.7 |
| 3 | 28 | 207 | 24 | 32 | 24 | 197 | 4090 | 218 | 10 | 25 | 7.1 | 11 |
| 4 | 23 | 147 | 24 | 30 | 24 | 1130 | 1030 | 402 | 9.0 | 16 | 5.3 | 36 |
| 5 | 16 | 112 | 28 | 30 | 24 | 1450 | 2880 | 1700 | 7.9 | 13 | 3.5 | 24 |
| 6 | 11 | 91 | 33 | 30 | 24 | 557 | 1200 | 1450 | 7.9 | 13 | 2.8 | 15 |
| 7 | 9.1 | 77 | 2100 | 30 | 24 | 367 | 692 | 2460 | 6.7 | 14 | 20 | 12 |
| 8 | 10 | 68 | 1170 | 30 | 24 | 287 | 465 | 792 | 7.1 | 11 | 182 | 9.7 |
| 9 | 555 | 59 | 385 | 30 | 24 | 242 | 340 | 412 | 11 | 7.9 | 85 | 8.2 |
| 10 | 828 | 55 | 257 | 30 | 28 | 203 | 287 | 302 | 29 | 6.0 | 38 | 5.8 |
| 11 | 216 | 51 | 200 | 30 | 81 | 177 | 248 | 239 | 30 | 5.3 | 40 | 4.5 |
| 12 | 110 | 45 | 170 | 28 | 560 | 167 | 206 | 192 | 20 | 5.8 | 221 | 4.0 |
| 13 | 75 | 39 | 150 | 28 | 1670 | 2720 | 177 | 162 | 14 | 7.9 | 239 | 4.0 |
| 14 | 56 | 36 | 130 | 28 | 1250 | 1040 | 165 | 140 | 11 | 7.9 | 125 | 5.0 |
| 15 | 44 | 33 | 120 | 28 | 662 | 465 | 152 | 118 | 9.3 | 7.9 | 775 | 10 |
| 16 | 40 | 33 | 110 | 28 | 367 | 342 | 130 | 97 | 8.6 | 7.5 | 332 | 40 |
| 17 | 37 | 30 | 100 | 28 | 251 | 269 | 116 | 83 | 7.5 | 7.5 | 827 | 60 |
| 18 | 29 | 28 | 95 | 28 | 220 | 1670 | 107 | 74 | 6.0 | 13 | 495 | 25 |
| 19 | 22 | 28 | 89 | 26 | 200 | 2150 | 101 | 74 | 5.3 | 7.5 | 200 | 15 |
| 20 | 22 | 27 | 99 | 26 | 180 | 627 | 93 | 76 | 5.0 | 4.5 | 114 | 10 |
| 21 | 40 | 26 | 100 | 26 | 152 | 440 | 85 | 62 | 4.3 | 3.8 | 73 | 9.7 |
| 22 | 50 | 25 | 99 | 26 | 165 | 397 | 80 | 51 | 3.8 | 97 | 55 | 9.0 |
| 23 | 42 | 25 | 95 | 26 | 948 | 355 | 80 | 43 | 3.1 | 66 | 45 | 7.5 |
| 24 | 96 | 22 | 91 | 26 | 2300 | 297 | 93 | 42 | 2.8 | 25 | 36 | 6.0 |
| 25 | 505 | 21 | 69 | 26 | 1790 | 248 | 97 | 44 | 5.0 | 29 | 33 | 5.3 |
| 26 | 432 | 22 | 60 | 26 | 785 | 212 | 85 | 36 | 7.5 | 99 | 28 | 6.0 |
| 27 | 228 | 25 | 50 | 26 | 505 | 188 | 83 | 31 | 11 | 30 | 20 | 9.7 |
| 28 | 137 | 28 | 44 | 26 | 360 | 236 | 160 | 28 | 17 | 16 | 16 | 9.3 |
| 29 | 100 | 36 | 42 | 24 | --- | 310 | 972 | 24 | 45 | 11 | 13 | 8.2 |
| 30 | 83 | 39 | 40 | 24 | --- | 257 | 372 | 20 | 42 | 8.6 | 12 | 7.5 |
| 31 | 1060 | --- | 38 | 24 | --- | 227 | --- | 18 | --- | 6.7 | 12 | --- |
| TOTAL | 4967.1 | 2410 | 6068 | 868 | 12690 | 17729 | 15544 | 9847 | 373.8 | 632.8 | 4066.9 | 398.1 |
| MEAN | 160 | 80.3 | 196 | 28.0 | 453 | 572 | 518 | 318 | 12.5 | 20.4 | 131 | 13.3 |
| MAX | 1060 | 672 | 2100 | 36 | 2300 | 2720 | 4090 | 2460 | 45 | 99 | 827 | 60 |
| MIN | 9.1 | 21 | 24 | 24 | 24 | 167 | 80 | 18 | 2.8 | 3.8 | 2.8 | 4.0 |
| CFSM | .76 | .38 | .93 | .13 | 2.16 | 2.72 | 2.47 | 1.51 | .06 | .10 | .62 | .06 |
| IN. | .88 | .43 | 1.07 | .15 | 2.25 | 3.14 | 2.75 | 1.74 | .07 | .11 | .72 | .07 |
| CAL YR 1976 | TOTAL | 72038.1 | MEAN 197 | MAX 3410 | MIN 1.8 | CFSM .94 | IN 12.76 | | | | | |
| WTR YR 1977 | TOTAL | 75594.7 | MEAN 207 | MAX 4090 | MIN 2.8 | CFSM .99 | IN 13.39 | | | | | |

LITTLE MUSKINGUM RIVER BASIN

75

03115400 LITTLE MUSKINGUM RIVER AT BLOOMFIELD, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964 to current year.

REMARKS.--Sediment data collected at this site 1969 to 1974.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPEC- IFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | |
|--------------|------|---|--|---|------------------------------------|--|--------------------------------------|--|---|--|--|---|---|
| | | | | | | | | | | | | | |
| MAR 24... | 1450 | 291 | 270 | 7.8 | 7.0 | 11.3 | 93 | .6 | 110 | 36 | 33 | 7.6 | |
| JUL 13... | 1935 | 8.4 | 458 | 7.9 | 25.5 | 6.2 | 75 | 1.4 | 170 | 37 | 50 | 10 | |
| DATE | | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 24... | 10 | 1.4 | 95 | 0 | 78 | 2.4 | 35 | 13 | .1 | 6.3 | 153 | .41 | |
| JUL 13... | 20 | 2.4 | 157 | 0 | 129 | 3.2 | 27 | 46 | .1 | 3.4 | 236 | .05 | |
| DATE | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 24... | .00 | .00 | .01 | 1 | 20 | 8 | 30 | 3 | 20 | .0 | 30 | 4.8 | |
| JUL 13... | .00 | .04 | .02 | 2 | <10 | 0 | 10 | 11 | 10 | .0 | 20 | 6.1 | |

MUSKINGUM RIVER BASIN

03116000 TUSCARAWAS RIVER AT CLINTON, OH

LOCATION.--Lat 40°55'40", long 81°37'58", in NW 1/4 sec. 32, T.2 N., R.10 W., Summit County, Hydrologic Unit 05040001, on right bank 100 ft (30 m) downstream from highway bridge at Clinton, and 1 mi (2 km) upstream from Chippewa Creek.

DRAINAGE AREA.--174 mi² (451 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1926 to current year.

REVISED RECORDS.--WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 933.28 ft (284.464 m) above mean sea level, adjustment of 1912. Prior to Nov. 18, 1928, nonrecording gage at site 100 ft (30 m) upstream at datum 4.00 ft (1.219 m) higher. Nov. 18, 1928, to July 24, 1930, nonrecording gage at same site at present datum.

REMARKS.--Records fair. Some water diverted through the Portage Lakes into the Ohio Canal at Long Lake 12 mi (19 km) upstream and 3 mi (5 km) 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 (8.01 hm³), since 1939.

AVERAGE DISCHARGE.--48 years, (1929-77), 147 ft³/s (4.163 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,700 ft³/s (76.5 m³/s) Aug. 8, 1935; maximum gage height, 17.00 ft (5.182 m) July 7, 1969 (backwater from Chippewa Creek); minimum daily discharge, 10 ft³/s (0.28 m³/s) Nov. 6, 1928.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,010 ft³/s (56.9 m³/s) Feb. 25, gage height, 12.75 ft (3.886 m); minimum daily discharge, 60 ft³/s (1.70 m³/s) Sept. 11, 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|-------|-------|------|------|------|------|------|
| 1 | 87 | 194 | 73 | 72 | 74 | 406 | 173 | 128 | 103 | 188 | 70 | 67 |
| 2 | 80 | 139 | 75 | 71 | 74 | 285 | 840 | 125 | 79 | 131 | 70 | 72 |
| 3 | 75 | 117 | 70 | 72 | 75 | 215 | 1810 | 173 | 77 | 82 | 67 | 87 |
| 4 | 76 | 110 | 71 | 73 | 77 | 320 | 1370 | 225 | 72 | 245 | 68 | 67 |
| 5 | 75 | 108 | 70 | 73 | 77 | 443 | 980 | 427 | 113 | 446 | 81 | 64 |
| 6 | 76 | 89 | 72 | 72 | 74 | 260 | 600 | 279 | 176 | 188 | 85 | 75 |
| 7 | 81 | 85 | 144 | 73 | 75 | 202 | 420 | 169 | 111 | 98 | 316 | 69 |
| 8 | 86 | 89 | 122 | 70 | 76 | 174 | 330 | 125 | 88 | 163 | 158 | 67 |
| 9 | 124 | 88 | 96 | 69 | 83 | 155 | 287 | 107 | 163 | 117 | 91 | 65 |
| 10 | 140 | 88 | 92 | 72 | 98 | 147 | 234 | 99 | 144 | 80 | 110 | 63 |
| 11 | 127 | 83 | 87 | 72 | 126 | 152 | 200 | 95 | 83 | 86 | 130 | 60 |
| 12 | 126 | 80 | 88 | 70 | 144 | 177 | 175 | 92 | 76 | 221 | 120 | 60 |
| 13 | 122 | 77 | 83 | 68 | 210 | 1270 | 161 | 89 | 75 | 106 | 100 | 88 |
| 14 | 111 | 75 | 78 | 70 | 207 | 850 | 162 | 86 | 75 | 80 | 88 | 238 |
| 15 | 88 | 75 | 77 | 72 | 153 | 450 | 135 | 82 | 73 | 75 | 78 | 146 |
| 16 | 83 | 75 | 78 | 71 | 110 | 230 | 120 | 80 | 73 | 71 | 75 | 173 |
| 17 | 77 | 73 | 77 | 70 | 98 | 190 | 115 | 82 | 79 | 96 | 113 | 140 |
| 18 | 79 | 77 | 73 | 68 | 91 | 300 | 112 | 81 | 159 | 188 | 100 | 120 |
| 19 | 75 | 77 | 71 | 68 | 86 | 1000 | 109 | 89 | 91 | 123 | 80 | 110 |
| 20 | 77 | 73 | 89 | 72 | 82 | 900 | 104 | 79 | 82 | 96 | 74 | 98 |
| 21 | 95 | 72 | 96 | 72 | 82 | 720 | 102 | 76 | 78 | 80 | 81 | 88 |
| 22 | 77 | 72 | 91 | 71 | 89 | 600 | 101 | 74 | 73 | 88 | 226 | 80 |
| 23 | 73 | 73 | 83 | 69 | 346 | 660 | 192 | 75 | 71 | 73 | 158 | 72 |
| 24 | 111 | 72 | 77 | 71 | 1340 | 542 | 400 | 80 | 71 | 69 | 97 | 80 |
| 25 | 120 | 73 | 73 | 77 | 1970 | 306 | 264 | 80 | 81 | 82 | 84 | 114 |
| 26 | 99 | 77 | 75 | 77 | 1550 | 227 | 234 | 76 | 73 | 76 | 77 | 101 |
| 27 | 95 | 86 | 78 | 78 | 1010 | 194 | 207 | 74 | 68 | 71 | 73 | 84 |
| 28 | 88 | 79 | 79 | 76 | 690 | 356 | 171 | 73 | 76 | 70 | 70 | 79 |
| 29 | 85 | 79 | 77 | 74 | --- | 591 | 185 | 70 | 254 | 72 | 71 | 75 |
| 30 | 82 | 76 | 73 | 72 | --- | 369 | 145 | 69 | 154 | 86 | 71 | 74 |
| 31 | 166 | --- | 73 | 78 | --- | 232 | --- | 72 | --- | 68 | 69 | --- |
| TOTAL | 2956 | 2631 | 2561 | 2233 | 9167 | 12923 | 10438 | 3531 | 2991 | 3715 | 3151 | 2776 |
| MEAN | 95.4 | 87.7 | 82.6 | 72.0 | 327 | 417 | 348 | 114 | 99.7 | 120 | 102 | 92.5 |
| MAX | 166 | 194 | 144 | 78 | 1970 | 1270 | 1810 | 427 | 254 | 446 | 316 | 238 |
| MIN | 73 | 72 | 70 | 68 | 74 | 147 | 101 | 69 | 68 | 68 | 67 | 60 |

CAL YR 1976 TOTAL 76798 MEAN 210 MAX 1880 MIN 60
WTR YR 1977 TOTAL 59073 MEAN 162 MAX 1970 MIN 60

MUSKINGUM RIVER BASIN

77

03116000 TUSCARAWAS RIVER AT CLINTON, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND | HARD- NESS | NON- CAR- BONATE HARD- NESS | DIS- SOLVED CAL- CIUM | DIS- SOLVED MAG- NE- SIUM |
|--------------|------|---------------------------------------|--|------------------|------------------------|--------------------------|---------------------------------|---|----------------------------------|---|---|---------------------------------------|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | | 5 DAY | (CA+MG) | (MG/L) | (CA) | (MG/L) |
| MAR 16... | 0915 | 228 | 5160 | 9.2 | 10.5 | 8.6 | 77 | 7.5 | 670 | 460 | 250 | 12 |
| JUL 14... | 1355 | 83 | 5570 | 8.1 | 30.5 | 5.8 | 76 | 3.2 | 1400 | 1200 | 530 | 16 |
| | | DIS- SOLVED PO- TAS- SIUM | BICAR- BONATE | CAR- BONATE | ALKA- LINITY AS | CARBON DIOXIDE | DIS- SOLVED SULFATE | DIS- SOLVED CHLO- RIDE | DIS- SOLVED FLUO- RIDE | DIS- SOLVED SILICA | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) | TOTAL NITRATE |
| DATE | | (NA) (MG/L) | (HCO3) (MG/L) | (CO3) (MG/L) | CAC03 (MG/L) | (CO2) (MG/L) | (SO4) (MG/L) | (CL) (MG/L) | (F) (MG/L) | (SIO2) (MG/L) | (MG/L) | (N) (MG/L) |
| MAR 16... | 850 | 6.5 | 209 | 28 | 218 | .3 | 190 | 1400 | .2 | 20 | 2860 | 1.1 |
| JUL 14... | 640 | 11 | 172 | 0 | 141 | 2.2 | 120 | 1800 | .2 | 12 | 3210 | .49 |
| | | TOTAL AMMONIA NITRO- GEN | TOTAL PHOS- PHORUS | TOTAL ARSENIC | TOTAL CHRO- MIUM | TOTAL COPPER | DIS- SOLVED IRON | TOTAL LEAD | DIS- SOLVED MAN- GANESE | TOTAL MERCURY | TOTAL ZINC | TOTAL ORGANIC CARBON |
| DATE | | (N) (MG/L) | (P) (MG/L) | (AS) (UG/L) | (CR) (UG/L) | (CU) (UG/L) | (FE) (UG/L) | (PB) (UG/L) | (MN) (UG/L) | (HG) (UG/L) | (ZN) (UG/L) | (C) (MG/L) |
| MAR 16... | .06 | .69 | .28 | 12 | 20 | 19 | 30 | 54 | 140 | .0 | 70 | 3.8 |
| JUL 14... | .11 | 1.2 | .27 | 11 | 10 | 4 | 40 | 13 | 290 | .1 | 60 | 6.1 |

MUSKINGUM RIVER BASIN

03116200 CHIPPEWA CREEK AT EASTON, OH

LOCATION.--Lat 40°56'47", long 81°44'35", in SW 1/4 sec. 17, T.18 N., R.11 W., Wayne County, Hydrologic Unit 05040001, on left bank at downstream side of bridge on State Highway 585, 0.5 mi (0.8 km) southwest of Easton, and 1.5 mi (2.4 km) upstream from Red Run.

DRAINAGE AREA.--146 mi² (378 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 934.40 ft (284.805 m) (revised) above mean sea level. Prior to Oct. 1, 1976; water-stage recorder and prior to June 10, 1960, nonrecording gage at datum 5.32 ft (1.622 m) higher.

REMARKS.--Records fair except those for period of no gage height record, which are poor. Low flow slightly regulated by industry at Rittman 2.5 mi (4.0 km) upstream.

AVERAGE DISCHARGE.--17 years, 128 ft³/s (3.625 m³/s), 11.91 in/yr (303 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,500 ft³/s (354 m³/s) July 5, 1969, gage height, 16.02 ft (4.883 m); minimum daily, 3.2 ft³/s (0.091 m³/s) July 6, 1963.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 21, 1959 reached a stage of 14.71 ft (4.319 m), discharge, 10,100 ft³/s (286 m³/s), by contracted-opening measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft³/s (28.3 m³/s) and maximums (*):

| Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) | Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) |
|---------|------|---|-------------------------|--------|------|---|-------------------------|
| Feb. 25 | 0300 | *2120 60.0 | *12.78 3.895 | Apr. 3 | 0400 | 1700 48.1 | 12.16 3.706 |
| Mar. 18 | 1400 | 1540 43.6 | 11.89 3.624 | | | | |

Minimum daily discharge, 20 ft³/s (0.57 m³/s) Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|-------|------|------|------|------|------|------|
| 1 | 27 | 135 | 51 | 32 | 26 | 290 | 133 | 93 | 31 | 150 | 31 | 34 |
| 2 | 24 | 90 | 48 | 31 | 26 | 214 | 779 | 98 | 27 | 78 | 27 | 35 |
| 3 | 21 | 71 | 40 | 30 | 26 | 173 | 1510 | 125 | 27 | 45 | 26 | 38 |
| 4 | 21 | 62 | 38 | 29 | 25 | 275 | 931 | 169 | 26 | 171 | 25 | 32 |
| 5 | 20 | 58 | 36 | 29 | 25 | 337 | 926 | 316 | 63 | 309 | 34 | 30 |
| 6 | 21 | 51 | 38 | 28 | 25 | 206 | 639 | 218 | 110 | 118 | 36 | 36 |
| 7 | 25 | 47 | 95 | 28 | 26 | 163 | 429 | 139 | 58 | 61 | 219 | 33 |
| 8 | 31 | 45 | 70 | 28 | 26 | 140 | 299 | 104 | 39 | 73 | 109 | 31 |
| 9 | 36 | 47 | 58 | 27 | 28 | 130 | 220 | 87 | 105 | 54 | 63 | 30 |
| 10 | 62 | 50 | 52 | 27 | 30 | 120 | 183 | 76 | 80 | 38 | 67 | 30 |
| 11 | 60 | 48 | 49 | 26 | 34 | 120 | 152 | 65 | 42 | 37 | 93 | 27 |
| 12 | 56 | 45 | 47 | 26 | 44 | 150 | 130 | 58 | 36 | 95 | 116 | 25 |
| 13 | 50 | 43 | 46 | 51 | 72 | 680 | 113 | 54 | 34 | 42 | 84 | 39 |
| 14 | 45 | 41 | 45 | 43 | 130 | 760 | 108 | 51 | 30 | 33 | 55 | 152 |
| 15 | 41 | 40 | 44 | 38 | 100 | 400 | 94 | 45 | 27 | 31 | 45 | 92 |
| 16 | 37 | 40 | 43 | 36 | 90 | 250 | 83 | 42 | 27 | 31 | 41 | 134 |
| 17 | 34 | 39 | 42 | 34 | 80 | 176 | 78 | 42 | 27 | 40 | 74 | 288 |
| 18 | 33 | 39 | 41 | 32 | 72 | 1000 | 74 | 40 | 52 | 93 | 69 | 210 |
| 19 | 34 | 39 | 40 | 31 | 68 | 1090 | 67 | 39 | 42 | 58 | 52 | 203 |
| 20 | 35 | 38 | 48 | 30 | 66 | 739 | 62 | 37 | 34 | 42 | 46 | 172 |
| 21 | 47 | 36 | 54 | 29 | 64 | 544 | 60 | 35 | 31 | 41 | 48 | 128 |
| 22 | 38 | 35 | 48 | 29 | 74 | 510 | 61 | 32 | 29 | 55 | 149 | 103 |
| 23 | 36 | 35 | 45 | 28 | 200 | 537 | 124 | 33 | 27 | 38 | 109 | 86 |
| 24 | 53 | 36 | 42 | 28 | 1430 | 373 | 273 | 34 | 25 | 32 | 71 | 75 |
| 25 | 82 | 37 | 40 | 27 | 1870 | 236 | 194 | 34 | 30 | 37 | 59 | 109 |
| 26 | 67 | 40 | 38 | 27 | 1130 | 184 | 179 | 31 | 26 | 37 | 49 | 75 |
| 27 | 53 | 51 | 36 | 27 | 695 | 156 | 155 | 30 | 26 | 30 | 44 | 57 |
| 28 | 47 | 46 | 35 | 26 | 467 | 266 | 124 | 29 | 31 | 26 | 40 | 48 |
| 29 | 36 | 44 | 35 | 26 | --- | 402 | 139 | 29 | 227 | 26 | 40 | 44 |
| 30 | 42 | 56 | 34 | 26 | --- | 254 | 106 | 27 | 99 | 34 | 40 | 41 |
| 31 | 115 | --- | 33 | 26 | --- | 167 | --- | 27 | --- | 26 | 37 | --- |
| TOTAL | 1329 | 1484 | 1411 | 935 | 6949 | 11042 | 8425 | 2239 | 1468 | 1981 | 1998 | 2437 |
| MEAN | 42.9 | 49.5 | 45.5 | 30.2 | 248 | 356 | 281 | 72.2 | 48.9 | 63.9 | 64.5 | 81.2 |
| MAX | 115 | 135 | 95 | 51 | 1870 | 1090 | 1510 | 316 | 227 | 309 | 219 | 288 |
| MIN | 20 | 35 | 33 | 26 | 25 | 120 | 60 | 27 | 25 | 26 | 25 | 25 |
| CFSM | .29 | .34 | .31 | .21 | 1.70 | 2.44 | 1.93 | .50 | .34 | .44 | .44 | .56 |
| IN. | .34 | .38 | .36 | .24 | 1.77 | 2.81 | 2.15 | .57 | .37 | .50 | .51 | .62 |

CAL YR 1976 TOTAL 40819 MEAN 112 MAX 1860 MIN 12 CFSM .77 IN 10.40
WTR YR 1977 TOTAL 41698 MEAN 114 MAX 1870 MIN 20 CFSM .78 IN 10.62

Note: No gage height record Dec. 1 to Feb. 23.

MUSKINGUM RIVER BASIN

79

03116200 CHIPPEWA CREEK AT EASTON, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

REMARKS.--Sediment data collected at this site 1969 to 1974.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | |
|--------------|------|---|--|---|------------------------------------|--|--------------------------------------|--|---|--|--|--|---|
| | | | | | | | | | | | | | |
| MAR 16... | 1115 | 265 | 645 | 7.5 | 8.5 | 10.0 | 85 | 4.4 | 200 | 100 | 56 | 15 | |
| JUN 28... | 1800 | 25 | 1100 | 7.6 | 29.0 | .6 | 8 | 6.5 | 240 | 23 | 64 | 19 | |
| DATE | | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITU- TENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 16... | 34 | 4.9 | 124 | 0 | 102 | 6.3 | 84 | 61 | .1 | 7.3 | 324 | 3.0 | |
| JUN 28... | 110 | 11 | 264 | 0 | 217 | 11 | 110 | 130 | .3 | 9.1 | 584 | .00 | |
| DATE | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 16... | .05 | .74 | .37 | 3 | 10 | 18 | 40 | 10 | 180 | .0 | 60 | 7.5 | |
| JUN 28... | .04 | 6.8 | .65 | 8 | <10 | 10 | 240 | 13 | 410 | .0 | 80 | 34 | |

MUSKINGUM RIVER BASIN

03117000 TUSCARAWAS RIVER AT MASSILLON, OH

LOCATION.--Lat 40°46'13", long 81°31'27", in sec. 20 T.10 N., R.9 W., Stark County, Hydrologic Unit 05040001, on left bank at sewage-treatment works, 0.7 mi (1.1 km) south of Massillon, and 3 mi (5 km) downstream from Newman Creek.

DRAINAGE AREA.--518 mi² (1,342 km²).

WATER-DISCHARGE RECORDS

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 (279.197 m) above mean sea level, adjustment of 1912. Prior to Aug. 19, 1944, nonrecording gage at same site and datum.

REMARKS.--Records good. Diversion from basin and regulation at Portage Lakes (including Nimisila Reservoir since 1939). See REMARKS for station 03116000.

AVERAGE DISCHARGE.--40 years, 426 ft³/s (12.06 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,700 ft³/s (303 m³/s) July 5, 1969, gage height, 16.43 ft (5.008 m); minimum daily, 57 ft³/s (1.61 m³/s) Oct. 13, 14, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,880 ft³/s (110 m³/s) Apr. 3, gage height, 9.56 ft (2.914 m); minimum daily, 113 ft³/s (3.20 m³/s) Dec. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|----------|----------|---------|-------|-------|------|------|------|------|------|
| 1 | 215 | 471 | 142 | 135 | 148 | 868 | 455 | 325 | 215 | 522 | 133 | 170 |
| 2 | 186 | 355 | 140 | 131 | 148 | 641 | 1720 | 329 | 203 | 369 | 135 | 208 |
| 3 | 168 | 299 | 120 | 137 | 170 | 531 | 3680 | 424 | 177 | 192 | 131 | 325 |
| 4 | 159 | 261 | 115 | 144 | 157 | 641 | 3090 | 452 | 164 | 1200 | 126 | 217 |
| 5 | 157 | 254 | 113 | 146 | 159 | 921 | 2610 | 839 | 268 | 1340 | 142 | 168 |
| 6 | 157 | 222 | 118 | 140 | 157 | 626 | 2050 | 660 | 474 | 560 | 222 | 175 |
| 7 | 164 | 199 | 282 | 142 | 157 | 510 | 1310 | 447 | 376 | 303 | 1010 | 192 |
| 8 | 164 | 192 | 315 | 137 | 155 | 450 | 935 | 348 | 249 | 339 | 620 | 179 |
| 9 | 206 | 197 | 231 | 135 | 157 | 419 | 707 | 294 | 459 | 299 | 457 | 166 |
| 10 | 280 | 201 | 210 | 137 | 164 | 400 | 595 | 261 | 490 | 190 | 273 | 162 |
| 11 | 263 | 197 | 203 | 129 | 238 | 386 | 529 | 238 | 275 | 190 | 395 | 151 |
| 12 | 249 | 188 | 206 | 126 | 313 | 412 | 476 | 224 | 197 | 346 | 348 | 146 |
| 13 | 240 | 175 | 197 | 133 | 433 | 1980 | 433 | 212 | 179 | 229 | 348 | 188 |
| 14 | 231 | 166 | 181 | 135 | 526 | 2220 | 424 | 203 | 173 | 159 | 226 | 457 |
| 15 | 197 | 162 | 175 | 144 | 440 | 1450 | 376 | 192 | 162 | 131 | 184 | 436 |
| 16 | 170 | 164 | 173 | 142 | 355 | 842 | 336 | 181 | 151 | 142 | 170 | 405 |
| 17 | 159 | 159 | 175 | 124 | 308 | 565 | 313 | 175 | 148 | 190 | 233 | 752 |
| 18 | 157 | 162 | 166 | 135 | 287 | 1710 | 303 | 184 | 268 | 308 | 263 | 595 |
| 19 | 155 | 166 | 155 | 142 | 266 | 2840 | 299 | 201 | 242 | 263 | 201 | 931 |
| 20 | 170 | 162 | 188 | 142 | 252 | 2410 | 280 | 206 | 179 | 186 | 179 | 586 |
| 21 | 215 | 151 | 233 | 142 | 245 | 1650 | 275 | 190 | 166 | 188 | 168 | 421 |
| 22 | 197 | 148 | 212 | 140 | 261 | 1220 | 263 | 181 | 151 | 197 | 476 | 339 |
| 23 | 166 | 151 | 203 | 137 | 736 | 1360 | 414 | 175 | 144 | 157 | 428 | 278 |
| 24 | 233 | 140 | 184 | 137 | 2610 | 1060 | 771 | 175 | 137 | 122 | 275 | 245 |
| 25 | 360 | 142 | 162 | 146 | 3580 | 720 | 626 | 210 | 159 | 142 | 226 | 524 |
| 26 | 303 | 155 | 162 | 153 | 3340 | 553 | 538 | 190 | 162 | 159 | 199 | 362 |
| 27 | 252 | 184 | 164 | 159 | 2260 | 488 | 483 | 184 | 131 | 126 | 184 | 247 |
| 28 | 229 | 184 | 168 | 151 | 1370 | 632 | 421 | 179 | 135 | 118 | 170 | 192 |
| 29 | 210 | 177 | 166 | 140 | --- | 1090 | 447 | 166 | 471 | 124 | 173 | 173 |
| 30 | 195 | 157 | 144 | 151 | --- | 813 | 369 | 162 | 447 | 168 | 177 | 164 |
| 31 | 334 | --- | 140 | 153 | --- | 565 | --- | 162 | --- | 142 | 179 | --- |
| TOTAL | 6541 | 5941 | 5543 | 4345 | 19392 | 30973 | 25528 | 8369 | 7152 | 9101 | 8451 | 9554 |
| MEAN | 211 | 198 | 179 | 140 | 693 | 999 | 851 | 270 | 238 | 294 | 273 | 318 |
| MAX | 360 | 471 | 315 | 159 | 3580 | 2840 | 3680 | 839 | 490 | 1340 | 1010 | 931 |
| MIN | 155 | 140 | 113 | 124 | 148 | 386 | 263 | 162 | 131 | 118 | 126 | 146 |
| CAL YR 1976 | TOTAL | 181055 | MEAN 495 | MAX 4980 | MIN 113 | | | | | | | |
| WTR YR 1977 | TOTAL | 140890 | MEAN 386 | MAX 3680 | MIN 113 | | | | | | | |

MUSKINGUM RIVER BASIN

81

03117000 TUSCARAWAS RIVER AT MASSILLON, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA. WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DIS-CHARGE (CFS) | SPECIFIC CONDUCTANCE (MICRO-MHOS) | PH (UNITS) | TEMPERATURE (DEG C) | DIS-SOLVED OXYGEN (MG/L) | PERCENT SATURATION | BIO-CHEMICAL OXYGEN DEMAND 5 DAY (MG/L) | HARDNESS (CA+MG) (MG/L) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | |
|-----------|------|--------------------------------|-----------------------------------|-----------------------------|---------------------------|----------------------------|-----------------------------|---|---------------------------------|----------------------------------|---------------------------------|--|---------------------------------|
| | | | | | | | | | | | | | |
| MAR 14... | 1420 | 2120 | 750 | 7.6 | 9.0 | 8.5 | 73 | 5.0 | 200 | 110 | 60 | 12 | |
| JUL 11... | 1400 | 150 | 2200 | 7.6 | 26.5 | 8.4 | 100 | 5.4 | 600 | 440 | 210 | 19 | |
| DATE | | DIS-SOLVED SODIUM (NA) (MG/L) | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | DIS-SOLVED SILICA (SiO2) (MG/L) | DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 14... | 54 | 5.5 | 106 | 0 | 87 | 4.3 | 66 | 110 | .1 | 7.4 | 369 | 3.3 | |
| JUL 11... | 240 | 5.8 | 204 | 0 | 167 | 8.2 | 88 | 580 | .3 | 10 | 1250 | 2.5 | |
| DATE | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 14... | .06 | .58 | .25 | 8 | 10 | 71 | 1900 | 20 | 200 | .0 | 90 | 5.0 | |
| JUL 11... | .19 | .43 | .18 | 4 | 20 | 6 | 50 | 19 | 320 | .1 | 30 | 7.0 | |

MUSKINGUM RIVER BASIN

03117100 TUSCARAWAS RIVER AT NAVARRE, OH

LOCATION.--Lat 40°43'36", long 81°31'47", Stark County, Hydrologic Unit 05040001, on left bank at Navarre water treatment plant, 800 ft (244 m) upstream from bridge on Elton Road at Navarre, 3.5 mi (5.6 km) downstream from gaging station at Massillon, 1.2 mi (1.9 km) downstream from Pigeon Run, and just upstream from Wolf Creek.

DRAINAGE AREA.--534 mi² (1,383 km²).

PERIOD OF RECORD.--March 1968 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1968 to current year.

pH: March 1968 to current year.

WATER TEMPERATURES: March 1968 to current year.

DISSOLVED OXYGEN: March 1968 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. Dissolved oxygen concentrations listed as 15.0 mg/L represent concentrations of 15.0 mg/L or higher due to instrument limitations. See records of daily discharge for gaging station at Massillon (station 03117000).

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 16,700 micromhos Jan. 27, 1970; minimum, 210 micromhos Mar. 4, 1976.

pH: Maximum, 10.7 units Oct. 27, 1971; minimum, 3.9 units Oct. 26, 1969.

WATER TEMPERATURES: Maximum, 30.0°C June 27, 28, 1969, Aug. 25, 1975, July 7, 16, 20, 1977; minimum, 0.0°C on several days during winter periods.

DISSOLVED OXYGEN: Maximum, 15.0 mg/L or higher May 29-31, June 21, Aug. 3, 1977; minimum, 0.0 mg/L on many days during 1971 to 1973.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 5,850 micromhos Feb. 12; minimum, 300 micromhos Mar. 13.

pH: Maximum, 9.1 units Dec. 25; minimum, 6.7 units July 21.

WATER TEMPERATURES: Maximum, 30.0°C July 7, 16, 20; minimum, 0.0°C on several days during winter period.

DISSOLVED OXYGEN: Maximum, 15.0 mg/L or higher May 29-31, June 21, Aug. 3; minimum, 1.7 mg/L June 30.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|------|---|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| DATE | TIME | | | (UNITS) | | | | | | | | |
| MAR 14... | 1045 | 2550 | 840 | 7.3 | 9.0 | 8.5 | 73 | 7.5 | 200 | 120 | 61 | 12 |
| JUL 11... | 1530 | 198 | 2150 | 7.7 | 26.5 | 8.1 | 100 | 5.4 | 550 | 380 | 190 | 19 |
| | | DIS- SOLVED PO- TAS- SIUM (NA) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTIT- UENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 14... | 60 | 5.7 | 99 | 0 | 81 | 7.9 | 63 | 120 | .2 | 7.4 | 380 | 3.4 |
| JUL 11... | 230 | 5.8 | 214 | 0 | 176 | 6.8 | 92 | 510 | .4 | 11 | 1160 | 2.4 |
| | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 14... | .07 | .48 | .31 | 3 | 20 | 11 | 2100 | 16 | 200 | .0 | 50 | 7.8 |
| JUL 11... | .31 | 1.3 | .35 | 6 | 50 | 6 | 90 | 8 | 290 | .0 | 20 | 7.6 |

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-----------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 3150 | 2460 | 2670 | 1350 | 3270 | 3030 | 3840 | 3330 | 4140 | 3660 | 2310 | 1950 |
| 2 | 2640 | 2070 | 2520 | 1530 | 3360 | 3000 | 3960 | 3270 | 4500 | 3420 | 2700 | 2280 |
| 3 | 2940 | 2340 | 2910 | 2250 | 3690 | 3360 | 4380 | 3690 | 4320 | 3600 | 2820 | 2160 |
| 4 | 3030 | 2550 | 3120 | 2670 | 3540 | 3180 | 4560 | 3510 | 3960 | 3570 | 2100 | 1470 |
| 5 | 3060 | 2760 | 3510 | 2880 | 3630 | 3330 | 4080 | 3630 | 4110 | 3630 | 1500 | 600 |
| 6 | 3090 | 2460 | 3120 | 2100 | 3630 | 3060 | 3900 | 3420 | 4230 | 3450 | 1590 | 1290 |
| 7 | 3300 | 2820 | 2970 | 2340 | 3450 | 2790 | 3810 | 3360 | 3930 | 3450 | 1860 | 1530 |
| 8 | 3060 | 2670 | 3120 | 2550 | 3780 | 2340 | 3900 | 3600 | 4050 | 3600 | 2130 | 1620 |
| 9 | 3150 | 2700 | 2970 | 2550 | 4110 | 3120 | 3960 | 3330 | 3960 | 3480 | 2280 | 1410 |
| 10 | 3330 | 1920 | 2880 | 2430 | 3690 | 3120 | 4050 | 3570 | 4170 | 3840 | 2190 | 1800 |
| 11 | 2010 | 1800 | 3210 | 2430 | 3660 | 3150 | 4200 | 3510 | 5520 | 3750 | 2430 | 1800 |
| 12 | 2190 | 1980 | 3090 | 2550 | 3300 | 2610 | 4110 | 3390 | 5850 | 4950 | 2430 | 1650 |
| 13 | 2370 | 1980 | 3030 | 2550 | 2880 | 2520 | 5130 | 3390 | 5280 | 3930 | 1560 | 300 |
| 14 | 2460 | 2100 | 2910 | 2520 | 2970 | 2550 | 4380 | 3330 | 3840 | 3120 | 1080 | 810 |
| 15 | 2370 | 2160 | 2970 | 2610 | 3030 | 2700 | 4500 | 3480 | 3330 | 2790 | 1410 | 1110 |
| 16 | 2790 | 2100 | 3120 | 2700 | 3210 | 2790 | 4200 | 3810 | 3120 | 2370 | 1920 | 1320 |
| 17 | 2940 | 2520 | 3120 | 2730 | 3390 | 2940 | 4590 | 3480 | 2820 | 2340 | 2190 | 1350 |
| 18 | 3030 | 2520 | 2940 | 2670 | 3240 | 2700 | 4620 | 3840 | 2880 | 2460 | 1920 | 780 |
| 19 | 3270 | 2820 | 3600 | 2940 | 3240 | 2850 | 5100 | 3990 | 2760 | 2370 | 990 | 750 |
| 20 | 3150 | 2730 | 3390 | 3270 | 3240 | 2700 | 4650 | 3450 | 3090 | 2430 | 1260 | 990 |
| 21 | 3210 | 2790 | 3450 | 2970 | 3510 | 2820 | 4410 | 3390 | 3210 | 2730 | 1260 | 1050 |
| 22 | 3510 | 2220 | 3240 | 3030 | 3120 | 2280 | 4260 | 3420 | 3270 | 2670 | 1320 | 1170 |
| 23 | 3030 | 2280 | 3420 | 3090 | 3180 | 2490 | 4140 | 3600 | 2640 | 1110 | 1320 | 690 |
| 24 | 3210 | 2190 | 3450 | 3060 | 3210 | 1290 | 3900 | 3360 | 1380 | 780 | 1560 | 1200 |
| 25 | 3030 | 1830 | 3210 | 3030 | 3210 | 2910 | 3960 | 3450 | 1080 | 870 | 1620 | 1410 |
| 26 | 2190 | 1800 | 3240 | 2880 | 3450 | 3090 | 3960 | 3420 | 1230 | 1050 | 1830 | 1470 |
| 27 | 2640 | 1980 | 3510 | 2940 | 3630 | 3090 | 4410 | 3390 | 1590 | 1200 | 2070 | 1560 |
| 28 | 2820 | 2220 | 3570 | 2580 | 3450 | 2850 | 4710 | 3900 | 1980 | 1590 | 1950 | 1590 |
| 29 | 2640 | 2340 | 3000 | 2700 | 3660 | 3030 | 4140 | 3420 | --- | --- | 1470 | 1040 |
| 30 | 2910 | 2370 | 3060 | 2820 | 3450 | 2910 | 4230 | 3540 | --- | --- | 1620 | 1410 |
| 31 | 3060 | 2400 | --- | --- | 3540 | 3030 | 4710 | 3690 | --- | --- | 1680 | 1320 |
| MONTH | 3510 | 1800 | 3600 | 1350 | 4110 | 1290 | 5130 | 3270 | 5850 | 780 | 2820 | 300 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 1710 | 1380 | 1860 | 1380 | 3510 | 3000 | 2010 | 1020 | 2430 | 1980 | 4110 | 2610 |
| 2 | 1950 | 570 | 1890 | 1560 | 3570 | 3060 | 1740 | 1080 | 2790 | 2460 | 3420 | 2550 |
| 3 | 720 | 450 | 1920 | 1290 | --- | --- | 1770 | 1260 | 2970 | 2490 | 2460 | 1590 |
| 4 | 780 | 450 | 1500 | 1290 | --- | --- | 1740 | 480 | 2880 | 2580 | 2820 | 1890 |
| 5 | 990 | 810 | 1650 | 750 | --- | --- | 1170 | 750 | 3000 | 2640 | 2580 | 2160 |
| 6 | 1260 | 960 | 1740 | 960 | 3000 | 2460 | 1800 | 1080 | 3270 | 2190 | 3210 | 2580 |
| 7 | 1500 | 1260 | 2040 | 1110 | 3630 | 1890 | 2040 | 1500 | 2400 | 690 | 3540 | 2460 |
| 8 | 1530 | 1170 | 1710 | 1320 | 2610 | 1980 | 1950 | 1380 | 990 | 690 | 3300 | 2580 |
| 9 | 1440 | 1170 | 1980 | 1560 | 2550 | 1830 | 2400 | 1170 | 1290 | 720 | 3570 | 3000 |
| 10 | 1530 | 1170 | 2040 | 1680 | 2190 | 1620 | 2730 | 1950 | 1800 | 1140 | 3660 | 2910 |
| 11 | 1560 | 1230 | 2100 | 1830 | 2550 | 2100 | 2070 | 1740 | 2610 | 1260 | 3570 | 3120 |
| 12 | 1590 | 1200 | 2220 | 1860 | 2220 | 1920 | 2790 | 1080 | 2490 | 1290 | 3450 | 2850 |
| 13 | 1770 | 1290 | 2250 | 1860 | 2430 | 2040 | 2430 | 1080 | 2580 | 1680 | 3780 | 2880 |
| 14 | 1770 | 1410 | 2310 | 1860 | 2520 | 2280 | 2580 | 2130 | 2820 | 1770 | 3600 | 1770 |
| 15 | 1740 | 1320 | 2430 | 1830 | 2550 | 2220 | 2580 | 1950 | 2070 | 1680 | 2550 | 1380 |
| 16 | 1920 | 1740 | 2430 | 2100 | 2550 | 2190 | 2640 | 2160 | 2370 | 1980 | 2970 | 2280 |
| 17 | 2190 | 1830 | 2580 | 2040 | 2610 | 2400 | 2490 | 1650 | 2670 | 1710 | 2880 | 1290 |
| 18 | 2190 | 1890 | 2610 | 2220 | 3180 | 2520 | 2370 | 1200 | 2760 | 1410 | 1590 | 1380 |
| 19 | 2280 | 2010 | 2580 | 2310 | 2940 | 1470 | 1560 | 1170 | 2070 | 1710 | 1500 | 510 |
| 20 | 2460 | 1890 | 2640 | 2370 | 2040 | 1740 | 1620 | 1320 | 2370 | 2040 | 1860 | 1320 |
| 21 | 2430 | 2040 | 2610 | 1980 | 2340 | 2100 | 1980 | 1260 | 2850 | 2430 | 2130 | 1710 |
| 22 | 2610 | 2190 | 2730 | 2520 | 2610 | 2220 | 2310 | 1110 | 3120 | 1290 | 2400 | 2100 |
| 23 | 2580 | 2040 | 2880 | 2490 | 2790 | 2130 | 2700 | 1620 | 2430 | 1350 | 2640 | 2250 |
| 24 | 2040 | 1020 | 2880 | 2640 | 2790 | 2310 | 2190 | 1920 | 2580 | 1770 | 2400 | 1950 |
| 25 | 1380 | 510 | 3000 | 2580 | 2610 | 2280 | 2400 | 1500 | 2280 | 1740 | 2250 | 1170 |
| 26 | 1440 | 1200 | 2820 | 2160 | 2790 | 2430 | 3000 | 2160 | 2730 | 2130 | 2220 | 1260 |
| 27 | 1710 | 1320 | 3030 | 2460 | 2820 | 1890 | 3030 | 1920 | 2760 | 2340 | 2730 | 2190 |
| 28 | 2040 | 1710 | 3090 | 2580 | 2460 | 2040 | 2550 | 2130 | 3030 | 2550 | 2310 | 2100 |
| 29 | 2250 | 1560 | 2970 | 2580 | 2970 | 930 | 2910 | 2340 | 3270 | 2580 | 2550 | 2370 |
| 30 | 2070 | 1470 | 2970 | 2760 | 1980 | 1080 | 2670 | 2370 | 3510 | 2640 | 2700 | 2520 |
| 31 | --- | --- | 3030 | 2910 | --- | --- | 3000 | 1950 | 3750 | 2490 | --- | --- |
| MONTH | 2610 | 450 | 3090 | 750 | 3630 | 930 | 3030 | 480 | 3750 | 690 | 4110 | 510 |
| YEAR | 5850 | 300 | | | | | | | | | | |

03117100 TASCARAWAS RIVER AT NAVAPRE, OH--Continued

PH (UNITS), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|---------|-----|----------|-----|----------|-----|---------|-----|----------|-----|-----------|-----|-----|
| OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | | |
| 1 | 7.8 | 7.5 | 8.1 | 7.5 | 7.9 | 7.5 | 8.1 | 7.6 | 7.8 | 7.3 | 7.9 | 7.6 |
| 2 | 7.8 | 7.5 | 7.9 | 7.6 | 8.0 | 7.6 | 8.0 | 7.9 | 7.8 | 7.3 | 8.0 | 7.5 |
| 3 | 7.8 | 7.6 | 8.0 | 7.7 | 8.0 | 7.6 | 7.9 | 7.7 | 7.8 | 7.1 | 8.1 | 7.6 |
| 4 | 7.7 | 7.6 | 8.0 | 7.6 | 7.9 | 7.7 | 7.9 | 7.5 | 7.8 | 7.5 | 7.9 | 7.6 |
| 5 | 7.8 | 7.4 | 8.0 | 7.6 | 8.0 | 7.8 | 8.0 | 7.5 | 8.2 | 7.6 | 7.9 | 7.7 |
| 6 | 7.8 | 7.4 | 8.0 | 7.7 | 7.9 | 7.5 | 7.9 | 7.4 | 8.1 | 7.9 | 8.0 | 7.6 |
| 7 | 7.8 | 7.3 | 8.0 | 7.8 | 7.9 | 7.4 | 8.1 | 7.4 | 8.1 | 7.9 | 8.0 | 7.8 |
| 8 | 7.7 | 7.4 | 8.0 | 7.7 | 8.0 | 7.7 | 8.1 | 7.3 | 8.4 | 7.9 | 8.0 | 7.6 |
| 9 | 7.9 | 7.6 | 8.0 | 7.7 | 7.9 | 7.6 | 8.1 | 7.9 | 8.1 | 7.7 | 8.0 | 7.6 |
| 10 | 8.1 | 7.8 | 8.0 | 7.6 | 8.0 | 7.5 | 8.0 | 7.6 | 8.0 | 7.3 | 7.9 | 7.7 |
| 11 | 7.9 | 7.6 | 7.9 | 7.4 | 8.1 | 7.7 | 7.9 | 7.4 | 7.9 | 7.5 | 7.9 | 7.7 |
| 12 | 8.0 | 7.5 | 7.9 | 7.5 | 8.1 | 7.9 | 7.9 | 7.4 | 8.2 | 7.9 | 8.5 | 7.8 |
| 13 | 7.9 | 7.5 | 8.0 | 7.4 | 8.2 | 7.9 | 8.0 | 7.4 | 8.2 | 8.1 | 7.9 | 7.4 |
| 14 | 7.9 | 7.5 | 8.4 | 7.7 | 8.1 | 7.7 | 7.7 | 7.3 | 8.2 | 7.9 | 7.5 | 7.2 |
| 15 | 7.9 | 7.3 | 7.9 | 7.8 | 8.1 | 7.6 | 7.9 | 7.6 | 8.0 | 7.6 | 7.7 | 7.3 |
| 16 | 7.9 | 7.5 | 7.9 | 7.4 | 8.2 | 7.6 | 8.0 | 7.8 | 8.0 | 7.5 | 7.8 | 7.1 |
| 17 | 8.0 | 7.8 | 7.9 | 7.5 | 8.5 | 7.8 | 8.0 | 7.8 | 7.9 | 7.5 | 8.0 | 7.4 |
| 18 | 7.9 | 7.2 | 7.9 | 7.5 | 8.2 | 8.0 | 7.9 | 7.7 | 7.9 | 7.6 | 7.9 | 7.4 |
| 19 | 7.8 | 7.3 | 7.9 | 7.4 | 8.2 | 8.0 | 8.1 | 7.6 | 7.8 | 7.4 | 7.6 | 7.3 |
| 20 | 7.7 | 7.5 | 8.1 | 7.5 | 8.1 | 7.7 | 7.8 | 7.3 | 7.8 | 7.3 | 7.7 | 7.5 |
| 21 | 7.9 | 7.3 | 8.1 | 7.7 | 8.3 | 7.8 | 7.8 | 7.6 | 7.8 | 7.6 | 7.8 | 7.5 |
| 22 | 7.8 | 7.6 | 7.9 | 7.7 | 8.1 | 7.4 | 7.9 | 7.6 | 7.8 | 7.5 | 7.9 | 7.5 |
| 23 | 8.0 | 7.5 | 7.9 | 7.3 | 8.0 | 7.5 | 7.9 | 7.5 | 7.7 | 7.2 | 8.1 | 7.7 |
| 24 | 7.8 | 7.7 | 8.1 | 7.4 | 8.0 | 7.9 | 7.8 | 7.2 | 8.0 | 7.3 | 8.2 | 7.5 |
| 25 | 7.8 | 7.6 | 7.9 | 7.5 | 9.1 | 8.0 | 7.9 | 7.3 | 7.7 | 7.4 | 8.3 | 7.4 |
| 26 | 7.8 | 7.6 | 7.9 | 7.4 | 8.7 | 8.0 | 7.8 | 7.1 | 7.8 | 7.5 | 8.1 | 7.6 |
| 27 | 7.8 | 7.4 | 8.0 | 7.8 | 8.1 | 7.8 | 8.0 | 7.3 | 7.8 | 7.5 | 8.0 | 7.7 |
| 28 | 7.8 | 7.4 | 7.8 | 7.7 | 8.0 | 7.6 | 8.0 | 7.5 | 7.8 | 7.7 | 8.0 | 7.8 |
| 29 | 7.7 | 7.4 | 8.1 | 7.7 | 8.1 | 7.4 | 8.0 | 7.5 | --- | --- | 8.0 | 7.6 |
| 30 | 7.9 | 7.6 | 8.0 | 7.5 | 8.0 | 7.5 | 7.9 | 7.5 | --- | --- | 7.9 | 7.7 |
| 31 | --- | --- | --- | --- | 7.9 | 7.6 | 7.9 | 7.3 | --- | --- | 9.1 | 7.7 |
| MONTH | 8.1 | 7.2 | 8.4 | 7.3 | 9.1 | 7.4 | 8.1 | 7.1 | 8.4 | 7.1 | 9.1 | 7.1 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 8.2 | 7.5 | 7.6 | 7.3 | 8.4 | 7.2 | 7.4 | 7.2 | 8.1 | 7.4 | 7.8 | 7.4 |
| 2 | 8.1 | 7.4 | 7.6 | 7.3 | 7.7 | 7.3 | 7.4 | 7.2 | 8.1 | 7.3 | 7.9 | 7.5 |
| 3 | 7.6 | 7.3 | 7.6 | 7.4 | --- | --- | 7.5 | 7.3 | 8.1 | 7.3 | 7.6 | 7.4 |
| 4 | 7.6 | 7.3 | 7.5 | 7.2 | --- | --- | 7.4 | 7.1 | 8.1 | 7.3 | 7.8 | 7.5 |
| 5 | 7.6 | 7.0 | 7.6 | 7.3 | --- | --- | 7.3 | 7.1 | 7.8 | 6.9 | 8.0 | 7.6 |
| 6 | 7.5 | 7.3 | 7.6 | 7.4 | 7.9 | 7.5 | 7.4 | 7.1 | 7.5 | 7.1 | 8.0 | 7.4 |
| 7 | 7.7 | 7.4 | 7.6 | 7.3 | 7.9 | 7.5 | 7.4 | 7.2 | 7.4 | 7.2 | 7.8 | 7.3 |
| 8 | 8.0 | 7.5 | 7.7 | 7.4 | 7.8 | 7.4 | 7.4 | 7.3 | 7.4 | 7.2 | 7.9 | 7.5 |
| 9 | 8.1 | 7.6 | 7.7 | 7.6 | 7.8 | 7.5 | 7.6 | 7.3 | 7.4 | 7.3 | 8.0 | 7.5 |
| 10 | 8.0 | 7.6 | 8.5 | 7.5 | 7.7 | 7.4 | 7.7 | 7.5 | 7.5 | 7.3 | 8.1 | 7.6 |
| 11 | 8.1 | 7.6 | 7.9 | 7.5 | 7.7 | 7.7 | 7.6 | 7.4 | 7.5 | 7.3 | 8.1 | 7.6 |
| 12 | 8.0 | 7.7 | 7.6 | 7.5 | 7.7 | 7.5 | 7.5 | 7.2 | 7.5 | 7.3 | 7.9 | 7.5 |
| 13 | 8.1 | 7.6 | 7.5 | 7.4 | 7.9 | 7.5 | 7.5 | 7.1 | 7.7 | 7.3 | 7.7 | 7.5 |
| 14 | 8.4 | 7.7 | 7.6 | 7.3 | 7.7 | 7.4 | 7.8 | 7.2 | 7.6 | 7.5 | 7.8 | 7.5 |
| 15 | 8.2 | 7.7 | 7.6 | 7.4 | 7.8 | 7.4 | 7.6 | 7.2 | 7.5 | 7.4 | 7.8 | 7.6 |
| 16 | 8.1 | 7.7 | 7.8 | 7.4 | 7.9 | 7.3 | 8.1 | 7.1 | 7.6 | 7.4 | 7.8 | 7.6 |
| 17 | 8.3 | 7.9 | 7.9 | 7.5 | 8.1 | 7.3 | 8.0 | 7.2 | 7.6 | 7.3 | 7.7 | 7.4 |
| 18 | 8.1 | 7.6 | 7.9 | 7.5 | 8.2 | 7.2 | 7.6 | 7.3 | 7.6 | 7.4 | 7.7 | 7.5 |
| 19 | 8.1 | 7.7 | 7.9 | 7.4 | 7.8 | 7.2 | 7.7 | 7.1 | 7.6 | 7.4 | 7.6 | 7.4 |
| 20 | 8.2 | 7.8 | 7.7 | 7.5 | 8.1 | 7.5 | 7.5 | 7.3 | 7.7 | 7.4 | 7.7 | 7.5 |
| 21 | 8.3 | 7.9 | 7.7 | 7.4 | 8.3 | 7.3 | 7.7 | 6.7 | 7.8 | 7.6 | 7.7 | 7.6 |
| 22 | 8.0 | 7.8 | 7.8 | 7.4 | 8.2 | 7.3 | 7.7 | 7.2 | 7.6 | 7.5 | 7.7 | 7.5 |
| 23 | 8.0 | 7.8 | 7.7 | 7.4 | 8.1 | 7.3 | 8.0 | 7.4 | 7.6 | 7.4 | 7.7 | 7.3 |
| 24 | 8.0 | 7.8 | 7.7 | 7.3 | 7.9 | 7.2 | 8.0 | 7.5 | 7.6 | 7.3 | 7.7 | 7.5 |
| 25 | 8.1 | 7.7 | 7.7 | 7.3 | 7.7 | 7.3 | 7.7 | 7.1 | 7.7 | 7.3 | 7.6 | 7.4 |
| 26 | 8.1 | 7.4 | 7.7 | 7.3 | 8.0 | 7.4 | 8.0 | 7.4 | 7.6 | 7.2 | 7.7 | 7.5 |
| 27 | 8.0 | 7.4 | 8.0 | 7.4 | 7.9 | 7.5 | 8.0 | 7.3 | 7.9 | 7.5 | 7.6 | 7.3 |
| 28 | 8.0 | 7.4 | 8.2 | 7.4 | 7.8 | 7.2 | 8.0 | 6.8 | 8.1 | 7.5 | 7.6 | 7.4 |
| 29 | 7.8 | 7.6 | 8.7 | 7.5 | 7.5 | 7.2 | 7.8 | 7.0 | 7.9 | 7.5 | 7.6 | 7.5 |
| 30 | 7.7 | 7.4 | 8.5 | 7.5 | 7.4 | 7.2 | 7.8 | 7.4 | 7.8 | 7.4 | 7.6 | 7.5 |
| 31 | --- | --- | 8.5 | 7.1 | --- | --- | 8.1 | 7.4 | 7.8 | 7.2 | --- | --- |
| MONTH | 8.4 | 7.0 | 8.7 | 7.1 | 8.4 | 7.2 | 8.1 | 6.7 | 8.1 | 6.9 | 8.1 | 7.3 |
| YEAR | 9.1 | 6.7 | | | | | | | | | | |

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|------|----------|------|---------|--------|----------|-----------|-------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 6.1 | 5.5 | 8.3 | 7.5 | 11.6 | 10.1 | 11.2 | 9.1 | 8.2 | 6.6 | 9.2 | 9.0 |
| 2 | 5.9 | 5.2 | 9.0 | 8.3 | 11.7 | 9.6 | 11.0 | 9.1 | 8.8 | 6.5 | 10.2 | 8.9 |
| 3 | 6.3 | 5.0 | 8.9 | 8.2 | 11.6 | 10.1 | 10.5 | 8.9 | 7.8 | 6.3 | 9.9 | 9.6 |
| 4 | 6.5 | 4.9 | 8.9 | 8.0 | 11.0 | 9.6 | 10.5 | 8.5 | 7.3 | 6.0 | 9.5 | 9.1 |
| 5 | 6.8 | 4.9 | 8.9 | 8.0 | 12.0 | 9.2 | 11.1 | 8.8 | 8.3 | 6.1 | 9.4 | 9.1 |
| 6 | 5.9 | 4.9 | 9.7 | 8.0 | 11.0 | 9.1 | 10.0 | 9.1 | 8.5 | 6.5 | 9.8 | 9.4 |
| 7 | 5.4 | 4.8 | 9.4 | 8.1 | 9.3 | 8.6 | 11.0 | 9.0 | 8.3 | 6.5 | 9.5 | 9.1 |
| 8 | 5.8 | 4.8 | 9.9 | 8.1 | 9.5 | 8.1 | 11.4 | 9.1 | 8.9 | 6.4 | 9.2 | 8.9 |
| 9 | 6.4 | 4.8 | 10.4 | 8.7 | 10.0 | 9.5 | 11.4 | 9.1 | 9.3 | 6.8 | 8.9 | 8.3 |
| 10 | 8.3 | 5.4 | 9.6 | 8.5 | 10.1 | 9.5 | 10.8 | 8.9 | 9.0 | 6.4 | 8.4 | 7.7 |
| 11 | 7.8 | 6.5 | 10.1 | 8.1 | 10.3 | 9.1 | 11.4 | 8.9 | 7.3 | 6.3 | 8.0 | 7.6 |
| 12 | 8.1 | 6.3 | 10.2 | 7.8 | 9.5 | 8.9 | 10.6 | 8.9 | 7.6 | 7.3 | 7.7 | 7.2 |
| 13 | 7.5 | 5.7 | 10.7 | 8.3 | 10.7 | 9.1 | 9.9 | 8.1 | 7.9 | 7.5 | 7.8 | 7.0 |
| 14 | 7.2 | 5.3 | 11.0 | 8.7 | 11.2 | 9.9 | 8.5 | 6.8 | 8.4 | 7.6 | 8.5 | 7.3 |
| 15 | 7.7 | 5.7 | 11.2 | 8.8 | 11.2 | 9.8 | 8.6 | 6.8 | 8.6 | 8.3 | 8.6 | 8.3 |
| 16 | 7.4 | 5.9 | 11.5 | 8.6 | 10.4 | 9.3 | 9.1 | 7.1 | 8.6 | 8.3 | 8.7 | 8.2 |
| 17 | 7.9 | 5.7 | 11.4 | 8.8 | 10.0 | 8.8 | 9.6 | 7.4 | 8.6 | 8.2 | 9.3 | 8.4 |
| 18 | 8.3 | 6.4 | 11.2 | 8.6 | 11.3 | 8.9 | 9.3 | 7.2 | 9.5 | 8.4 | 10.1 | 8.5 |
| 19 | 8.8 | 6.5 | 11.2 | 8.0 | 11.5 | 9.1 | 8.9 | 7.0 | 9.4 | 8.3 | 9.8 | 8.7 |
| 20 | 7.3 | 6.2 | 11.4 | 8.2 | 9.3 | 8.3 | 7.5 | 6.5 | 9.5 | 8.7 | 8.8 | 8.0 |
| 21 | 7.8 | 6.2 | 11.3 | 8.1 | 11.0 | 8.4 | 7.9 | 6.8 | 9.8 | 8.8 | 9.8 | 8.6 |
| 22 | 8.0 | 6.2 | 11.2 | 8.2 | 11.4 | 9.6 | 8.6 | 7.0 | 9.6 | 9.0 | 9.6 | 8.2 |
| 23 | 8.8 | 6.9 | 11.5 | 8.7 | 11.3 | 10.0 | 9.0 | 7.4 | 9.2 | 8.5 | 10.2 | 8.5 |
| 24 | 7.6 | 6.9 | 11.6 | 9.2 | 11.1 | 9.9 | 8.7 | 7.5 | 9.7 | 9.0 | 10.1 | 9.8 |
| 25 | 6.9 | 6.6 | 11.7 | 9.3 | 10.4 | 9.4 | 9.5 | 7.3 | 9.5 | 9.2 | 10.1 | 9.8 |
| 26 | 7.4 | 6.5 | 9.6 | 8.4 | 11.2 | 9.2 | 9.7 | 7.6 | 9.4 | 8.9 | 9.8 | 9.3 |
| 27 | 8.3 | 7.0 | 10.1 | 7.7 | 11.5 | 9.6 | 9.6 | 8.0 | 8.9 | 8.3 | 9.4 | 8.8 |
| 28 | 8.5 | 6.8 | 8.3 | 7.1 | 11.1 | 9.8 | 10.2 | 8.0 | 9.0 | 8.0 | 8.7 | 8.1 |
| 29 | 9.5 | 7.1 | 11.4 | 7.8 | 11.5 | 9.7 | 10.0 | 8.0 | --- | --- | 8.5 | 8.0 |
| 30 | 8.7 | 7.5 | 12.0 | 9.3 | 10.8 | 9.1 | 8.8 | 7.4 | --- | --- | 8.0 | 6.9 |
| 31 | 7.8 | 7.4 | --- | --- | 10.7 | 8.7 | 9.0 | 7.1 | --- | --- | 10.7 | 6.8 |
| MONTH | 9.5 | 4.8 | 12.0 | 7.1 | 12.0 | 8.1 | 11.4 | 6.5 | 9.8 | 6.0 | 10.7 | 6.8 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 11.5 | 9.9 | 10.1 | 6.9 | 15.0 | 5.8 | 4.4 | 3.0 | 13.2 | 4.2 | 8.8 | 3.6 |
| 2 | 11.1 | 9.8 | 7.5 | 6.1 | 10.4 | 5.9 | 4.4 | 2.6 | 13.8 | 4.4 | 8.5 | 3.5 |
| 3 | 9.7 | 8.6 | 7.3 | 6.0 | --- | --- | 5.6 | 3.8 | 15.0 | 4.5 | 5.3 | 3.3 |
| 4 | 8.8 | 7.7 | 6.6 | 5.3 | --- | --- | 6.3 | 4.0 | 14.9 | 4.3 | 7.1 | 3.5 |
| 5 | 8.1 | 6.7 | 6.2 | 5.3 | --- | --- | 4.9 | 3.6 | 12.0 | 4.0 | 8.5 | 3.6 |
| 6 | 6.9 | 5.8 | 6.2 | 4.7 | 7.2 | 5.4 | 4.5 | 4.0 | 6.3 | 3.1 | 9.8 | 3.5 |
| 7 | 9.3 | 6.1 | 6.9 | 5.0 | 7.6 | 3.7 | 5.2 | 3.8 | 5.0 | 2.7 | 8.5 | 4.2 |
| 8 | 10.0 | 9.3 | 7.2 | 5.4 | 7.3 | 5.3 | 5.4 | 3.9 | 4.7 | 3.0 | 8.3 | 3.9 |
| 9 | 9.7 | 9.1 | 7.9 | 6.2 | 7.2 | 5.7 | 5.1 | 3.1 | 5.2 | 4.6 | 10.5 | 3.8 |
| 10 | 9.3 | 8.3 | 7.4 | 6.5 | 6.5 | 4.8 | 6.8 | 3.6 | 4.7 | 3.8 | 10.6 | 3.9 |
| 11 | 8.9 | 7.6 | 7.8 | 6.4 | 7.1 | 5.2 | 8.0 | 4.4 | 4.3 | 2.8 | 10.9 | 4.4 |
| 12 | 8.7 | 7.1 | 7.4 | 5.6 | 7.0 | 5.4 | 5.2 | 3.0 | 4.5 | 3.1 | 8.3 | 4.5 |
| 13 | 8.7 | 6.4 | 7.5 | 5.0 | 8.2 | 5.3 | 5.5 | 3.3 | 3.9 | 2.9 | 6.6 | 3.9 |
| 14 | 8.9 | 5.8 | 8.9 | 4.6 | 7.6 | 5.1 | 10.0 | 3.3 | 4.3 | 2.8 | 5.1 | 2.2 |
| 15 | 9.3 | 5.9 | 9.8 | 4.5 | 10.5 | 5.3 | 10.0 | 4.4 | 5.4 | 3.6 | 4.5 | 2.8 |
| 16 | 8.6 | 5.9 | 10.2 | 4.6 | 12.2 | 5.3 | 13.6 | 4.2 | 6.3 | 3.7 | 5.0 | 4.3 |
| 17 | 10.0 | 6.2 | 11.6 | 5.0 | 13.4 | 5.5 | 11.9 | 3.7 | 7.2 | 3.8 | 4.9 | 3.9 |
| 18 | 8.7 | 6.2 | 11.8 | 5.2 | 12.6 | 5.4 | 7.5 | 3.6 | 6.2 | 3.3 | 5.1 | 3.9 |
| 19 | 10.0 | 6.2 | 11.7 | 4.1 | 8.3 | 2.7 | 7.9 | 3.1 | 5.8 | 3.7 | 6.0 | 4.9 |
| 20 | 11.0 | 5.7 | 9.0 | 3.8 | 11.9 | 5.2 | 7.0 | 2.9 | 6.8 | 4.2 | 5.1 | 4.8 |
| 21 | 10.1 | 5.2 | 8.4 | 2.1 | 15.0 | 5.7 | 7.8 | 3.2 | 6.6 | 4.4 | 5.1 | 4.6 |
| 22 | 7.2 | 4.8 | 8.3 | 3.4 | 13.1 | 8.0 | 9.6 | 4.6 | 6.0 | 4.0 | 5.3 | 4.9 |
| 23 | 5.7 | 4.2 | 8.4 | 3.2 | 12.3 | 7.3 | 11.4 | 4.2 | 4.6 | 4.1 | 5.9 | 4.8 |
| 24 | 6.0 | 4.5 | 9.4 | 3.2 | 11.3 | 6.4 | 11.6 | 4.4 | 5.0 | 3.8 | 5.5 | 4.4 |
| 25 | 7.0 | 6.1 | 8.3 | 3.6 | 9.5 | 5.4 | 8.1 | 4.2 | 6.4 | 4.3 | 5.4 | 4.4 |
| 26 | 7.4 | 6.8 | 9.4 | 3.6 | 10.5 | 3.8 | 11.9 | 4.5 | 7.5 | 4.4 | 5.2 | 4.4 |
| 27 | 7.8 | 6.4 | 11.4 | 4.3 | 10.1 | 4.9 | 12.2 | 4.5 | 8.4 | 4.4 | 5.3 | 4.4 |
| 28 | 7.3 | 6.0 | 13.6 | 5.4 | 7.8 | 4.5 | 13.3 | 4.5 | 10.4 | 4.2 | 5.5 | 4.4 |
| 29 | 8.9 | 7.1 | 15.0 | 5.8 | 4.9 | 2.0 | 8.9 | 4.5 | 9.0 | 4.2 | 5.7 | 4.7 |
| 30 | 9.6 | 7.4 | 15.0 | 7.0 | 4.4 | 1.7 | 10.3 | 4.2 | 8.1 | 3.8 | 5.6 | 4.7 |
| 31 | --- | --- | 15.0 | 7.7 | --- | --- | 11.1 | 4.2 | 8.7 | 3.9 | --- | --- |
| MONTH | 11.5 | 4.2 | 15.0 | 2.1 | 15.0 | 1.7 | 13.6 | 2.6 | 15.0 | 2.7 | 10.9 | 2.2 |
| YEAR | 15.0 | 1.7 | | | | | | | | | | |

MUSKINGUM RIVER BASIN

03117500 SANDY CREEK AT WAYNEBURG, OH

LOCATION.--Lat 40°40'21", long 81°15'36", in sec. 21, T.17 N., R.7 W., Stark County, Hydrologic Unit 05040001, on upstream side of left pier of bridge on State Highway 183 in Waynesburg, 300 ft (91 m) downstream from Little Sandy Creek, and 0.6 mi (1.0 km) upstream from Indian Run.

DRAINAGE AREA.--253 mi² (655 km²).

WATER-DISCHARGE RECORDS

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 (291.084 m) above mean sea level, adjustment of 1912.

REMARKS.--Records good except those for winter periods, which are fair.

AVERAGE DISCHARGE.--39 years, 261 ft³/s (7.392 m³/s), 14.01 in/yr (356 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,000 ft³/s (425 m³/s) Jan. 22, 1959, gage height, 10.05 ft (3.063 m), from rating curve extended above 8,000 ft³/s (227 m³/s) on basis of contracted-opening and flow over road measurement of peak flow; minimum, 6.9 ft³/s (0.20 m³/s) Sept. 12, 13, 1971.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,800 ft³/s (51.0 m³/s) and maximums (*):

| Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) | Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) |
|---------|------|---|-------------------------|--------|------|---|-------------------------|
| Feb. 25 | 0830 | 3010 85.2 | 6.40 1.951 | Apr. 3 | 1130 | *3950 112 | *7.36 2.243 |
| Mar. 19 | 0230 | 2150 60.9 | 5.22 1.591 | | | | |

Minimum discharge, 41 ft³/s (1.16 m³/s) Sept. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|-------|-------|-------|------|------|------|------|------|
| 1 | 64 | 260 | 62 | 68 | 60 | 595 | 305 | 215 | 64 | 191 | 90 | 51 |
| 2 | 62 | 220 | 59 | 66 | 60 | 435 | 1070 | 210 | 62 | 148 | 80 | 59 |
| 3 | 59 | 190 | 54 | 66 | 60 | 370 | 3650 | 288 | 59 | 95 | 72 | 148 |
| 4 | 56 | 170 | 54 | 66 | 60 | 425 | 2510 | 253 | 59 | 248 | 67 | 87 |
| 5 | 54 | 150 | 56 | 64 | 60 | 609 | 2500 | 311 | 72 | 262 | 64 | 70 |
| 6 | 51 | 140 | 56 | 62 | 60 | 466 | 1790 | 326 | 92 | 191 | 75 | 64 |
| 7 | 51 | 140 | 120 | 60 | 60 | 379 | 1290 | 317 | 85 | 123 | 343 | 64 |
| 8 | 54 | 130 | 190 | 60 | 60 | 323 | 1090 | 285 | 72 | 164 | 367 | 56 |
| 9 | 59 | 123 | 160 | 60 | 60 | 288 | 781 | 231 | 151 | 151 | 296 | 51 |
| 10 | 92 | 128 | 130 | 60 | 60 | 273 | 616 | 207 | 167 | 115 | 199 | 48 |
| 11 | 90 | 133 | 120 | 60 | 65 | 248 | 544 | 188 | 117 | 90 | 156 | 43 |
| 12 | 72 | 125 | 110 | 60 | 80 | 248 | 463 | 172 | 87 | 110 | 141 | 41 |
| 13 | 70 | 117 | 100 | 60 | 100 | 1160 | 397 | 156 | 77 | 125 | 128 | 56 |
| 14 | 67 | 112 | 98 | 60 | 220 | 1080 | 364 | 151 | 72 | 97 | 112 | 696 |
| 15 | 62 | 107 | 94 | 60 | 180 | 825 | 334 | 138 | 67 | 77 | 97 | 419 |
| 16 | 56 | 102 | 86 | 60 | 160 | 577 | 305 | 130 | 62 | 95 | 90 | 290 |
| 17 | 54 | 100 | 84 | 60 | 140 | 431 | 288 | 123 | 62 | 148 | 95 | 370 |
| 18 | 54 | 102 | 78 | 60 | 130 | 1010 | 270 | 117 | 130 | 212 | 97 | 296 |
| 19 | 51 | 100 | 74 | 60 | 130 | 1730 | 262 | 138 | 138 | 123 | 87 | 1040 |
| 20 | 54 | 97 | 100 | 60 | 120 | 1320 | 250 | 128 | 95 | 102 | 72 | 910 |
| 21 | 70 | 95 | 140 | 60 | 120 | 1060 | 253 | 110 | 72 | 128 | 67 | 521 |
| 22 | 72 | 95 | 110 | 60 | 130 | 816 | 228 | 100 | 62 | 560 | 85 | 355 |
| 23 | 64 | 92 | 100 | 60 | 350 | 693 | 253 | 92 | 56 | 302 | 90 | 279 |
| 24 | 110 | 85 | 92 | 60 | 1680 | 560 | 346 | 90 | 54 | 204 | 72 | 228 |
| 25 | 200 | 90 | 84 | 60 | 2920 | 460 | 328 | 85 | 56 | 270 | 64 | 239 |
| 26 | 160 | 95 | 80 | 60 | 2150 | 403 | 279 | 77 | 56 | 302 | 59 | 242 |
| 27 | 140 | 107 | 76 | 60 | 1270 | 364 | 259 | 72 | 51 | 199 | 54 | 204 |
| 28 | 120 | 110 | 74 | 60 | 874 | 406 | 239 | 70 | 51 | 148 | 51 | 164 |
| 29 | 110 | 105 | 72 | 60 | --- | 527 | 282 | 67 | 54 | 115 | 48 | 143 |
| 30 | 130 | 80 | 72 | 60 | --- | 406 | 253 | 64 | 54 | 112 | 59 | 128 |
| 31 | 210 | --- | 70 | 60 | --- | 346 | --- | 64 | --- | 100 | 56 | --- |
| TOTAL | 2618 | 3700 | 2855 | 1892 | 11419 | 18833 | 21799 | 4975 | 2356 | 5307 | 3433 | 7362 |
| MEAN | 84.5 | 123 | 92.1 | 61.0 | 408 | 608 | 727 | 160 | 78.5 | 171 | 111 | 245 |
| MAX | 210 | 260 | 190 | 68 | 2920 | 1730 | 3650 | 326 | 167 | 560 | 367 | 1040 |
| MIN | 51 | 80 | 54 | 60 | 60 | 248 | 228 | 64 | 51 | 77 | 48 | 41 |
| CFSM | .33 | .49 | .36 | .24 | 1.61 | 2.40 | 2.87 | .63 | .31 | .68 | .44 | .97 |
| IN. | .38 | .54 | .42 | .28 | 1.68 | 2.77 | 3.21 | .73 | .35 | .78 | .50 | 1.08 |

| | | | | | | | |
|-------------|-------|-------|----------|----------|--------|-----------|----------|
| CAL YR 1976 | TOTAL | 92074 | MEAN 252 | MAX 2450 | MIN 50 | CFSM 1.00 | IN 13.54 |
| WTR YR 1977 | TOTAL | 86549 | MEAN 237 | MAX 3650 | MIN 41 | CFSM .94 | IN 12.73 |

MUSKINGUM RIVER BASIN

89

03117500 SANDY CREEK AT WAYNESBURG, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964 to current year.

REMARKS.--Sediment data collected at this site 1969 to 1974.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | |
|--------------|------|---|--|---|------------------------------------|--|--------------------------------------|--|---|--|--|---|---|
| | | | | | | | | | | | | | |
| MAR 24... | 1000 | 581 | 310 | 7.4 | 4.5 | 10.8 | 83 | 1.2 | 120 | 74 | 33 | 9.2 | |
| JUN 27... | 1745 | 47 | 600 | 8.2 | 23.5 | 11.4 | 130 | 1.9 | 220 | 93 | 65 | 14 | |
| DATE | | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 24... | 10 | | 2.4 | 56 | 0 | 46 | 3.6 | 62 | 16 | .1 | 7.7 | 168 | 1.6 |
| JUN 27... | 22 | | 3.0 | 153 | 1 | 127 | 1.6 | 97 | 33 | .2 | 6.0 | 317 | .19 |
| DATE | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 24... | .01 | .03 | .05 | 1 | 10 | 3 | 60 | 7 | 170 | .0 | 30 | -- | |
| JUN 27... | .01 | .03 | .09 | 2 | <10 | 3 | 130 | 7 | 280 | .2 | 10 | 7.4 | |

MUSKINGUM RIVER BASIN

03118000 MIDDLE BRANCH NIMISHILLEN CREEK AT CANTON, OH

LOCATION.--Lat 40°50'29", long 81°21'14" in NE 1/4 sec. 27, T.11 N., R.8 W., Stark County, Hydrologic Unit 05040001, on right bank at downstream side of bridge on Martindale Road, 2.4 mi (3.9 km) upstream from mouth, and 0.5 mi (0.8 km) northeast of Canton.

DRAINAGE AREA.--43.1 mi² (112 km²).

WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder. Datum of gage is 1,046.60 ft (319.004 m) above mean sea level, adjustment of 1912.

REMARKS.--Records good except those for winter periods, which are fair. Part of municipal water supply for city of Canton is pumped from its northeast well field; a portion of pumpage is believed to be derived from creek as recharge to aquifer supplying well field. Mean pumpage for water year 1977, 12.0 ft³/s (0.34 m³/s). At times low flow regulated by small pools above station.

AVERAGE DISCHARGE.--36 years, 34.0 ft³/s (0.963 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,470 ft³/s (70.0 m³/s) Jan. 22, 1959, gage height, 6.50 ft (1.981 m), from rating curve extended above 1,600 ft³/s (45.3 m³/s) on basis of contracted-opening measurement of peak flow; minimum daily, 0.2 ft³/s (0.006 m³/s) Nov. 9, 1944, Sept. 19, 1962.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft³/s (11 m³/s) and maximums (*):

| Date | Time | Discharge (ft ³ /s) | Discharge (m ³ /s) | Gage height (ft) | Gage height (m) | Date | Time | Discharge (ft ³ /s) | Discharge (m ³ /s) | Gage height (ft) | Gage height (m) |
|---------|------|-----------------------------------|----------------------------------|---------------------|--------------------|--------|------|-----------------------------------|----------------------------------|---------------------|--------------------|
| Feb. 25 | 0800 | 594 | 16.8 | 5.37 | 1.637 | Apr. 3 | 0800 | *647 | 18.3 | *5.53 | 1.686 |

Minimum daily discharge, 9.5 ft³/s (0.27 m³/s) Dec. 4, 5. (Result of ice).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|-------|------|------|------|------|------|------|------|------|------|
| 1 | 17 | 35 | 12 | 11 | 10 | 54 | 37 | 35 | 15 | 40 | 13 | 12 |
| 2 | 16 | 26 | 11 | 11 | 10 | 41 | 202 | 38 | 15 | 22 | 13 | 14 |
| 3 | 15 | 23 | 10 | 11 | 10 | 37 | 563 | 52 | 14 | 15 | 12 | 38 |
| 4 | 14 | 22 | 9.5 | 11 | 10 | 55 | 200 | 45 | 14 | 43 | 12 | 28 |
| 5 | 15 | 20 | 9.5 | 10 | 10 | 89 | 208 | 61 | 19 | 35 | 16 | 17 |
| 6 | 15 | 19 | 10 | 10 | 10 | 49 | 118 | 50 | 22 | 19 | 18 | 35 |
| 7 | 15 | 18 | 15 | 10 | 10 | 39 | 85 | 38 | 19 | 25 | 133 | 33 |
| 8 | 15 | 17 | 33 | 10 | 10 | 34 | 81 | 31 | 16 | 105 | 57 | 20 |
| 9 | 15 | 18 | 20 | 10 | 10 | 29 | 59 | 26 | 30 | 29 | 45 | 15 |
| 10 | 17 | 19 | 18 | 10 | 14 | 32 | 52 | 25 | 22 | 19 | 26 | 14 |
| 11 | 15 | 21 | 18 | 10 | 21 | 30 | 46 | 24 | 16 | 17 | 24 | 13 |
| 12 | 15 | 20 | 17 | 10 | 28 | 31 | 40 | 23 | 15 | 19 | 21 | 12 |
| 13 | 15 | 19 | 16 | 10 | 37 | 218 | 37 | 22 | 14 | 17 | 17 | 14 |
| 14 | 15 | 18 | 15 | 10 | 42 | 129 | 36 | 21 | 15 | 15 | 15 | 35 |
| 15 | 15 | 16 | 14 | 10 | 36 | 72 | 34 | 20 | 14 | 14 | 14 | 30 |
| 16 | 15 | 17 | 13 | 10 | 28 | 48 | 31 | 18 | 14 | 15 | 14 | 31 |
| 17 | 14 | 16 | 13 | 10 | 24 | 36 | 31 | 18 | 15 | 32 | 20 | 68 |
| 18 | 13 | 16 | 13 | 10 | 22 | 179 | 29 | 18 | 17 | 31 | 15 | 40 |
| 19 | 14 | 17 | 13 | 10 | 21 | 259 | 31 | 18 | 14 | 22 | 14 | 26 |
| 20 | 16 | 16 | 17 | 10 | 20 | 113 | 31 | 18 | 13 | 17 | 13 | 49 |
| 21 | 20 | 16 | 24 | 10 | 21 | 96 | 35 | 16 | 14 | 22 | 13 | 46 |
| 22 | 18 | 15 | 21 | 10 | 28 | 83 | 32 | 13 | 13 | 22 | 21 | 26 |
| 23 | 16 | 15 | 16 | 10 | 35 | 84 | 56 | 15 | 13 | 15 | 17 | 22 |
| 24 | 22 | 15 | 14 | 10 | 350 | 57 | 122 | 13 | 14 | 13 | 14 | 20 |
| 25 | 35 | 15 | 13 | 10 | 502 | 43 | 91 | 15 | 16 | 18 | 13 | 141 |
| 26 | 28 | 15 | 13 | 10 | 189 | 37 | 67 | 16 | 14 | 28 | 13 | 99 |
| 27 | 22 | 18 | 13 | 10 | 117 | 34 | 53 | 16 | 13 | 17 | 13 | 60 |
| 28 | 19 | 17 | 12 | 10 | 87 | 60 | 44 | 15 | 17 | 14 | 12 | 32 |
| 29 | 18 | 16 | 12 | 10 | --- | 97 | 53 | 15 | 31 | 16 | 12 | 24 |
| 30 | 17 | 12 | 12 | 10 | --- | 55 | 40 | 14 | 21 | 17 | 13 | 22 |
| 31 | 26 | --- | 11 | 10 | --- | 43 | --- | 14 | --- | 14 | 12 | --- |
| TOTAL | 542 | 547 | 458.0 | 314 | 1712 | 2263 | 2544 | 763 | 499 | 747 | 665 | 1036 |
| MEAN | 17.5 | 18.2 | 14.8 | 10.1 | 61.1 | 73.0 | 84.8 | 24.6 | 16.6 | 24.1 | 21.5 | 34.5 |
| MAX | 35 | 35 | 33 | 11 | 502 | 259 | 563 | 61 | 31 | 105 | 133 | 141 |
| MIN | 13 | 12 | 9.5 | 10 | 10 | 29 | 29 | 13 | 13 | 13 | 12 | 12 |

CAL YR 1976 TOTAL 16407.9 MEAN 44.8 MAX 523 MIN 8.1
WTR YR 1977 TOTAL 12090.0 MEAN 33.1 MAX 563 MIN 9.5

MUSKINGUM RIVER BASIN

91

03118000 MIDDLE BRANCH NIMISHILLEN CREEK AT CANTCN, CH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | DISSOLVED OXYGEN (MG/L) | PERCENT SATURATION | BIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L) | HARDNESS (CA+MG) (MG/L) | NON-CARBONATE HARDNESS (MG/L) | DISSOLVED CALCIUM (CA) (MG/L) | DISSOLVED MAGNESIUM (MG) | |
|-----------|--------------------------|-----------------------------------|----------------------------------|---------------------------|----------------------------|----------------------------|-----------------------------|--|---------------------------------|-------------------------------|--------------------------------|---|--------------------------|
| | | | | | | | | | | | | | |
| MAR 14... | 1430 | 102 | 565 | 7.6 | 9.0 | 9.4 | 81 | 4.8 | 200 | 120 | 62 | 12 | |
| JUL 11... | 1100 | 14 | 595 | 7.6 | 25.0 | 8.3 | 99 | 2.6 | 250 | 110 | 78 | 14 | |
| DATE | | DISSOLVED SODIUM (NA) (MG/L) | DISSOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED CHLORIDE (CL) (MG/L) | DISSOLVED FLUORIDE (F) (MG/L) | DISSOLVED SILICA (SiO2) (MG/L) | DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| | | | | | | | | | | | | | |
| MAR 14... | 24 | 6.5 | 100 | 0 | 82 | 4.0 | 85 | 55 | .2 | 8.2 | 302 | 4.5 | |
| JUL 11... | 23 | 10 | 178 | 0 | 146 | 7.2 | 87 | 44 | .2 | 9.0 | 353 | 2.9 | |
| DATE | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DISSOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DISSOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | |
| | | | | | | | | | | | | | |
| MAR 14... | .04 | .26 | .20 | 4 | 10 | 12 | 90 | 8 | 110 | .0 | 40 | 5.3 | |
| JUL 11... | .09 | .10 | .13 | 2 | 10 | 2 | 60 | 4 | 70 | .0 | 0 | 8.1 | |

MUSKINGUM RIVER BASIN

03118500 NIMISHILLEN CREEK AT NORTH INDUSTRY, OH

LOCATION.--Lat 40°44'03", long 81°21'08", in sec. 35, T.10 N., R.8 W., Stark County, Hydrologic Unit 05040001, on left bank just downstream from railroad bridge, 1 mi (2 km) southeast of North Industry, and 3 mi (5 km) downstream from Sherrick Run.

DRAINAGE AREA.--175 mi² (453 km²).

WATER-DISCHARGE RECORDS

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 970.77 ft (295.891 m) above mean sea level, adjustment of 1912. Prior to Dec. 13, 1923, nonrecording gage at site 1 mi (2 km) upstream at different datum.

REMARKS.--Records fair. Low flow slightly regulated by plants at Canton. Records include diversion from Sugar Creek well field. Mean pumpage for the 1976 water year, 16.3 ft³/s (0.46 m³/s). See REMARKS for station 03124500.

AVERAGE DISCHARGE.--56 years, 176 ft³/s (4.984 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,600 ft³/s (244 m³/s) Jan. 21, 1959, gage height, 11.29 ft (3.441 m), from rating curve extended above 6,500 ft³/s (184 m³/s) on basis of slope-area measurement of peak flow; minimum, 3.6 ft³/s (0.10 m³/s) Sept. 2, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42.5 m³/s) and maximums (*):

| Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) | Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) |
|---------|------|---|-------------------------|----------|------|---|-------------------------|
| Feb. 23 | 2200 | 2040 57.8 | 5.16 1.573 | July 21 | 2200 | 2660 75.3 | 5.97 1.820 |
| Mar. 17 | 1700 | 1900 53.8 | 4.95 1.509 | Aug. 7 | 0400 | 2180 61.7 | 5.36 1.634 |
| Apr. 3 | 0030 | *3980 113 | *7.53 2.295 | Sept. 2 | 2300 | 2100 59.5 | 5.25 1.600 |
| July 1 | 0030 | 1620 45.9 | 4.56 1.390 | Sept. 19 | 0230 | 2860 81.0 | 6.22 1.896 |
| July 4 | 1330 | 2240 63.4 | 5.44 1.658 | | | | |

Minimum daily, 65 ft³/s (1.84 m³/s) Feb. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|-------|----------|----------|--------|-------|-------|------|------|------|------|------|
| 1 | 125 | 170 | 97 | 78 | 65 | 210 | 219 | 191 | 107 | 492 | 91 | 101 |
| 2 | 113 | 147 | 100 | 83 | 66 | 198 | 1960 | 312 | 102 | 121 | 91 | 364 |
| 3 | 102 | 132 | 92 | 91 | 73 | 311 | 2240 | 289 | 98 | 84 | 91 | 594 |
| 4 | 109 | 122 | 91 | 98 | 78 | 335 | 861 | 290 | 92 | 814 | 91 | 184 |
| 5 | 110 | 118 | 86 | 97 | 75 | 227 | 1100 | 331 | 200 | 318 | 143 | 126 |
| 6 | 113 | 112 | 104 | 97 | 79 | 205 | 556 | 266 | 165 | 143 | 220 | 220 |
| 7 | 110 | 101 | 304 | 98 | 82 | 188 | 446 | 215 | 114 | 167 | 1360 | 161 |
| 8 | 107 | 105 | 158 | 89 | 84 | 189 | 418 | 180 | 104 | 558 | 425 | 121 |
| 9 | 166 | 109 | 128 | 87 | 101 | 172 | 318 | 171 | 429 | 170 | 342 | 108 |
| 10 | 126 | 122 | 118 | 93 | 168 | 163 | 283 | 167 | 128 | 101 | 190 | 99 |
| 11 | 112 | 114 | 121 | 89 | 185 | 266 | 268 | 163 | 90 | 112 | 156 | 84 |
| 12 | 111 | 110 | 113 | 89 | 277 | 1090 | 246 | 157 | 80 | 143 | 161 | 91 |
| 13 | 107 | 102 | 114 | 82 | 271 | 509 | 231 | 152 | 86 | 106 | 114 | 167 |
| 14 | 104 | 96 | 105 | 79 | 227 | 327 | 226 | 145 | 86 | 95 | 97 | 386 |
| 15 | 105 | 101 | 109 | 74 | 202 | 254 | 211 | 133 | 86 | 181 | 97 | 178 |
| 16 | 98 | 103 | 110 | 74 | 169 | 214 | 194 | 139 | 84 | 167 | 99 | 461 |
| 17 | 92 | 102 | 107 | 75 | 156 | 1290 | 183 | 143 | 93 | 465 | 247 | 445 |
| 18 | 93 | 103 | 99 | 75 | 162 | 796 | 189 | 186 | 148 | 229 | 112 | 250 |
| 19 | 100 | 103 | 94 | 75 | 155 | 496 | 196 | 151 | 97 | 130 | 95 | 1060 |
| 20 | 158 | 97 | 173 | 75 | 147 | 398 | 213 | 137 | 86 | 130 | 86 | 816 |
| 21 | 144 | 93 | 143 | 75 | 196 | 423 | 222 | 125 | 84 | 616 | 99 | 343 |
| 22 | 117 | 99 | 121 | 75 | 650 | 367 | 209 | 113 | 84 | 715 | 371 | 245 |
| 23 | 103 | 101 | 114 | 75 | 1600 | 308 | 387 | 120 | 88 | 145 | 128 | 207 |
| 24 | 229 | 98 | 98 | 75 | 1340 | 287 | 483 | 148 | 91 | 101 | 106 | 208 |
| 25 | 248 | 95 | 90 | 76 | 583 | 242 | 370 | 118 | 145 | 265 | 95 | 486 |
| 26 | 160 | 99 | 91 | 75 | 399 | 216 | 296 | 113 | 86 | 148 | 91 | 489 |
| 27 | 134 | 100 | 97 | 73 | 319 | 198 | 258 | 109 | 93 | 106 | 86 | 297 |
| 28 | 124 | 96 | 100 | 66 | 247 | 375 | 274 | 101 | 143 | 95 | 80 | 206 |
| 29 | 115 | 102 | 99 | 66 | --- | 410 | 265 | 91 | 253 | 164 | 181 | 184 |
| 30 | 112 | 93 | 92 | 66 | --- | 274 | 213 | 88 | 145 | 110 | 145 | 169 |
| 31 | 228 | --- | 88 | 66 | --- | 250 | --- | 100 | --- | 86 | 101 | --- |
| TOTAL | 3975 | 3245 | 3556 | 2486 | 8156 | 11188 | 13535 | 5144 | 3687 | 7277 | 5791 | 8850 |
| MEAN | 128 | 108 | 115 | 80.2 | 291 | 361 | 451 | 166 | 123 | 235 | 187 | 295 |
| MAX | 248 | 170 | 304 | 98 | 1600 | 1290 | 2240 | 331 | 429 | 814 | 1360 | 1060 |
| MIN | 92 | 93 | 86 | 66 | 65 | 163 | 183 | 88 | 80 | 84 | 80 | 84 |
| CAL YR 1976 | TOTAL | 88512 | MEAN 242 | MAX 2750 | MIN 84 | | | | | | | |
| WTR YR 1977 | TOTAL | 76890 | MEAN 211 | MAX 2240 | MIN 65 | | | | | | | |

MUSKINGUM RIVER BASIN

93

03118500 NIMISHILLEN CREEK AT NORTH INDUSTRY, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964 to 1969, 1975, 1977.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) |
|--------------|------|---|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| DATE | TIME | | | | | | | | | | | |
| MAR 24... | 1230 | 285 | 960 | 7.6 | 7.0 | 10.7 | 88 | 2.7 | 320 | 170 | 94 | 21 |
| JUN 27... | 1340 | 115 | 1250 | 7.7 | 22.5 | 7.7 | 88 | 5.0 | 430 | 210 | 130 | 26 |
| | | DIS- SOLVED PO- TAS- SIUM (NA) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 24... | 60 | 5.4 | 184 | 0 | 151 | 7.4 | 150 | 110 | .5 | 9.9 | 542 | 2.7 |
| JUN 27... | 100 | 9.5 | 275 | 0 | 226 | 8.8 | 190 | 150 | 1.0 | 12 | 754 | 6.6 |
| | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 24... | .12 | 2.2 | .60 | 2 | 20 | 10 | 50 | 16 | 690 | .0 | 100 | 6.3 |
| JUN 27... | .35 | 1.4 | 2.0 | 2 | 20 | 8 | 120 | 14 | 230 | .2 | 40 | 15 |

MUSKINGUM RIVER BASIN

03120500 MCGUIRE CREEK BELOW LEESVILLE DAM, NEAR LEESVILLE, OH

LOCATION.--Lat 40°28'13", long 81°11'48", in E. 1/2 sec. 36, T.13 N., R.6 W., Carroll County, Hydrologic Unit 05040001, on left bank at outlet of Leesville Dam, 1.3 mi (2.1 km) upstream from mouth, and 1.4 mi (2.3 km) northeast of Leesville.

DRAINAGE AREA.--48.3 mi² (125 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year. Published as McGuire Creek near Leesville 1938-39.

REVISED RECORDS.--WSP 1907: Drainage area.

GAGE.--Water-stage recorder and V-notch weir. Datum of gage is 915.00 ft (278.892 m) above mean sea level. Prior to May 27, 1942, nonrecording gage at site 100 ft (30 m) upstream at present datum.

REMARKS.--Records good. Flow regulated by Leesville Lake (see station 03120000).

AVERAGE DISCHARGE.--39 years, 52.0 ft³/s (1.473 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 740 ft³/s (21.0 m³/s) Mar. 4, 1940; maximum gage height, 7.88 ft (2.402 m) Mar. 4, 1940 (backwater from Conotton Creek); no flow several days during 1939-41.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 222 ft³/s (6.29 m³/s) Apr. 5, gage height, 4.19 ft (1.277 m); minimum daily, 1.2 ft³/s (0.034 m³/s) Apr. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|--------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|-------|
| 1 | 128 | 51 | 12 | 11 | 8.2 | 193 | 1.2 | 43 | 7.6 | 49 | 25 | 9.3 |
| 2 | 45 | 44 | 9.6 | 11 | 8.2 | 144 | 1.4 | 44 | 6.8 | 40 | 19 | 14 |
| 3 | 6.6 | 20 | 8.5 | 11 | 8.2 | 39 | 22 | 44 | 6.2 | 30 | 15 | 42 |
| 4 | 43 | 12 | 8.7 | 11 | 6.4 | 3.2 | 121 | 46 | 5.7 | 32 | 12 | 33 |
| 5 | 144 | 20 | 8.7 | 12 | 5.7 | 3.3 | 207 | 53 | 7.6 | 45 | 20 | 22 |
| 6 | 144 | 18 | 8.7 | 12 | 8.3 | 3.2 | 193 | 63 | 16 | 53 | 40 | 15 |
| 7 | 144 | 14 | 42 | 14 | 9.3 | 2.0 | 186 | 108 | 15 | 48 | 75 | 12 |
| 8 | 144 | 14 | 50 | 14 | 9.6 | 1.5 | 191 | 115 | 12 | 46 | 79 | 11 |
| 9 | 144 | 6.8 | 45 | 14 | 9.6 | 1.4 | 196 | 163 | 33 | 39 | 77 | 9.9 |
| 10 | 141 | 7.1 | 48 | 8.0 | 9.6 | 1.5 | 191 | 171 | 35 | 32 | 69 | 9.3 |
| 11 | 141 | 9.3 | 47 | 7.8 | 9.6 | 1.5 | 189 | 94 | 25 | 25 | 60 | 8.7 |
| 12 | 141 | 9.3 | 29 | 8.5 | 9.6 | 1.5 | 139 | 69 | 18 | 34 | 55 | 8.0 |
| 13 | 62 | 9.3 | 25 | 8.5 | 11 | 62 | 74 | 63 | 15 | 33 | 46 | 7.8 |
| 14 | 11 | 9.3 | 18 | 8.5 | 40 | 163 | 65 | 58 | 14 | 24 | 43 | 11 |
| 15 | 10 | 9.3 | 13 | 12 | 71 | 156 | 60 | 50 | 12 | 17 | 51 | 11 |
| 16 | 9.6 | 9.3 | 13 | 13 | 75 | 93 | 54 | 41 | 11 | 14 | 48 | 16 |
| 17 | 9.6 | 9.3 | 20 | 9.9 | 65 | 53 | 49 | 34 | 11 | 13 | 54 | 22 |
| 18 | 7.3 | 5.5 | 23 | 8.5 | 21 | 56 | 46 | 31 | 144 | 13 | 50 | 20 |
| 19 | 3.3 | 5.8 | 16 | 8.5 | 9.6 | 27 | 42 | 29 | 182 | 11 | 42 | 65 |
| 20 | 2.2 | 8.5 | 28 | 8.5 | 20 | 33 | 37 | 23 | 182 | 9.9 | 34 | 80 |
| 21 | 2.2 | 9.6 | 42 | 8.5 | 33 | 24 | 34 | 19 | 193 | 29 | 28 | 75 |
| 22 | 2.1 | 8.0 | 31 | 8.2 | 37 | 1.8 | 32 | 16 | 193 | 80 | 28 | 67 |
| 23 | 2.1 | 7.3 | 15 | 8.2 | 78 | 1.4 | 37 | 14 | 169 | 72 | 21 | 58 |
| 24 | 12 | 7.3 | 11 | 8.2 | 178 | 1.4 | 46 | 13 | 111 | 60 | 18 | 48 |
| 25 | 39 | 7.3 | 12 | 8.2 | 203 | 1.4 | 44 | 12 | 100 | 51 | 14 | 40 |
| 26 | 48 | 7.3 | 23 | 8.2 | 200 | 1.4 | 40 | 10 | 89 | 40 | 13 | 35 |
| 27 | 41 | 7.3 | 29 | 11 | 189 | 1.4 | 37 | 9.6 | 74 | 28 | 12 | 31 |
| 28 | 17 | 9.0 | 29 | 12 | 189 | 1.4 | 38 | 9.0 | 65 | 18 | 11 | 21 |
| 29 | 9.9 | 12 | 16 | 12 | --- | 1.4 | 48 | 8.7 | 62 | 15 | 10 | 17 |
| 30 | 13 | 12 | 11 | 4.7 | --- | 1.4 | 47 | 8.2 | 50 | 14 | 9.9 | 15 |
| 31 | 37 | --- | 11 | 2.5 | --- | 1.3 | --- | 8.0 | --- | 14 | 9.6 | --- |
| TOTAL | 1703.9 | 378.9 | 703.2 | 303.4 | 1521.9 | 1076.4 | 2467.6 | 1469.5 | 1864.9 | 1028.9 | 1088.5 | 834.0 |
| MEAN | 55.0 | 12.6 | 22.7 | 9.79 | 54.4 | 34.7 | 82.3 | 47.4 | 62.2 | 33.2 | 35.1 | 27.8 |
| MAX | 144 | 51 | 50 | 14 | 203 | 193 | 207 | 171 | 193 | 80 | 79 | 80 |
| MIN | 2.1 | 5.5 | 8.5 | 2.5 | 5.7 | 1.3 | 1.2 | 8.0 | 5.7 | 9.9 | 9.6 | 7.8 |

CAL YR 1976 TOTAL 16659.9 MEAN 45.5 MAX 187 MIN 1.8
WTR YR 1977 TOTAL 14441.1 MEAN 39.6 MAX 207 MIN 1.2

MUSKINGUM RIVER BASIN

95

03120500 MCGUIRE CREEK BELOW LEESVILLE DAM, NEAR LEESVILLE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|--|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| | | | | | | | | | | | | |
| MAR 22... | 1330 | 1.5 | 190 | 7.3 | 7.5 | 10.9 | 91 | 1.2 | 73 | 32 | 21 | 4.9 |
| JUL 12... | 1415 | 35 | 158 | 7.3 | 15.0 | 9.4 | 92 | 1.9 | 67 | 16 | 20 | 4.2 |
| DATE | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CAC03 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIUS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 22... | 6.1 | 2.0 | 49 | 0 | 40 | 3.9 | 28 | 10 | .1 | 5.5 | 102 | .69 |
| JUL 12... | 4.5 | 2.1 | 62 | 0 | 51 | 5.0 | 21 | 8.2 | .1 | 5.4 | 98 | .07 |
| DATE | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 22... | .01 | .05 | .03 | 0 | 20 | 3 | 10 | 5 | 80 | .0 | 50 | -- |
| JUL 12... | .01 | .69 | .03 | 2 | <10 | 0 | 340 | 12 | 1200 | .0 | 60 | 6.4 |

MUSKINGUM RIVER BASIN

03122500 TUSCARAWAS RIVER BELCW DOVER DAM, NEAR DOVER, OH

LOCATION.--Lat 40°31'47", long 81°25'48", in T.9 N., R.2 W., Tuscarawas County, Hydrologic Unit 05040001, on left bank at downstream side of bridge on State Highway 416, 2.2 mi (3.5 km) downstream from Dover Dam, 1.5 mi (2.4 km) east of Dover, and 3.4 mi (5.5 km) upstream from Sugar Creek.

DRAINAGE AREA.--1,405 mi² (3,639 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to current year. Published as Tuscarawas River near Dover 1923-39.

REVISED RECORDS.--WSP 803: 1933(M). WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 861.51 ft (262.588 m) above mean sea level, adjustment of 1912. Prior to Aug. 30, 1930, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are fair. Diversion from basin at Portage Lakes (see REMARKS for stations 03116000 and 03117000). Records include diversion from Sugar Creek well field. Mean pumpage for the 1977 water year, 16.3 ft³/s (0.46 m³/s) (see REMARKS for station 03124500). Flow regulated by four flood-control reservoirs since 1936 at points 2.2 mi (3.5 km) to 25 mi (40 km) upstream (see stations 03119500, 03120000, 03121000, and 03122000).

AVERAGE DISCHARGE.--54 years, 1,392 ft³/s (39.42 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,400 ft³/s (748 m³/s) Jan. 26, 1937, gage height, 15.51 ft (4.727 m); minimum daily, 6.5 ft³/s (0.18 m³/s) Oct. 26, 1948.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,240 ft³/s (177 m³/s) Feb. 25, gage height, 7.28 ft (2.219 m); minimum daily, 388 ft³/s (11.0 m³/s) Sept. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 799 | 1400 | 736 | 520 | 390 | 3600 | 1730 | 1290 | 514 | 1420 | 680 | 502 |
| 2 | 722 | 1250 | 701 | 500 | 390 | 3100 | 2540 | 1140 | 526 | 1300 | 604 | 490 |
| 3 | 610 | 1010 | 743 | 490 | 390 | 2700 | 5370 | 1450 | 508 | 855 | 550 | 1220 |
| 4 | 532 | 869 | 834 | 480 | 390 | 2300 | 4830 | 1430 | 484 | 1120 | 502 | 946 |
| 5 | 544 | 785 | 785 | 470 | 390 | 3200 | 4850 | 1800 | 586 | 3350 | 484 | 598 |
| 6 | 645 | 757 | 722 | 460 | 400 | 2390 | 5650 | 2090 | 1040 | 1960 | 645 | 544 |
| 7 | 652 | 680 | 911 | 460 | 400 | 1680 | 5630 | 1910 | 1020 | 1230 | 1900 | 580 |
| 8 | 659 | 624 | 1290 | 450 | 400 | 1450 | 5470 | 1800 | 743 | 1260 | 2960 | 514 |
| 9 | 680 | 638 | 1170 | 440 | 440 | 1290 | 5770 | 1520 | 995 | 1250 | 2290 | 466 |
| 10 | 904 | 666 | 1010 | 430 | 500 | 1180 | 5690 | 1530 | 1420 | 939 | 1700 | 460 |
| 11 | 904 | 673 | 960 | 420 | 580 | 1100 | 5610 | 1280 | 988 | 778 | 1310 | 424 |
| 12 | 834 | 659 | 974 | 420 | 800 | 1050 | 5710 | 1100 | 736 | 897 | 1210 | 388 |
| 13 | 799 | 631 | 946 | 420 | 1170 | 3520 | 5440 | 1020 | 638 | 1030 | 1120 | 424 |
| 14 | 736 | 598 | 841 | 420 | 1810 | 5490 | 5120 | 967 | 610 | 820 | 953 | 1370 |
| 15 | 645 | 574 | 799 | 420 | 2120 | 4970 | 4660 | 897 | 574 | 694 | 918 | 1730 |
| 16 | 574 | 722 | 617 | 420 | 1800 | 4020 | 3400 | 827 | 550 | 736 | 1070 | 1190 |
| 17 | 532 | 757 | 592 | 420 | 1300 | 2810 | 1870 | 785 | 544 | 1160 | 1100 | 1820 |
| 18 | 514 | 645 | 592 | 420 | 1100 | 3200 | 1530 | 757 | 1410 | 1180 | 1200 | 1890 |
| 19 | 514 | 550 | 580 | 420 | 940 | 4490 | 1330 | 799 | 1760 | 995 | 981 | 2800 |
| 20 | 538 | 544 | 586 | 420 | 800 | 4550 | 1290 | 764 | 1550 | 792 | 806 | 3050 |
| 21 | 701 | 526 | 640 | 420 | 729 | 3970 | 1240 | 701 | 1030 | 1020 | 708 | 3310 |
| 22 | 680 | 526 | 870 | 410 | 729 | 4150 | 1170 | 624 | 876 | 3420 | 904 | 3180 |
| 23 | 617 | 526 | 780 | 410 | 1200 | 4880 | 1200 | 580 | 813 | 2940 | 1130 | 1490 |
| 24 | 659 | 508 | 680 | 410 | 3660 | 4910 | 1910 | 592 | 736 | 2430 | 827 | 1120 |
| 25 | 1110 | 617 | 600 | 400 | 5820 | 4380 | 2180 | 610 | 729 | 1840 | 673 | 1370 |
| 26 | 1170 | 701 | 580 | 400 | 6030 | 4110 | 1830 | 592 | 757 | 1540 | 598 | 1550 |
| 27 | 974 | 743 | 560 | 400 | 5970 | 3150 | 1630 | 556 | 645 | 1090 | 550 | 1250 |
| 28 | 848 | 771 | 540 | 390 | 5180 | 2100 | 1470 | 538 | 592 | 806 | 508 | 883 |
| 29 | 757 | 778 | 540 | 390 | --- | 2820 | 1570 | 514 | 743 | 715 | 484 | 729 |
| 30 | 694 | 757 | 530 | 390 | --- | 2700 | 1500 | 490 | 1130 | 722 | 604 | 645 |
| 31 | 848 | --- | 520 | 390 | --- | 2090 | --- | 484 | --- | 687 | 544 | --- |
| TOTAL | 22395 | 21485 | 23229 | 13310 | 45828 | 97350 | 99190 | 31437 | 25247 | 40976 | 30513 | 36933 |
| MEAN | 722 | 716 | 749 | 429 | 1637 | 3140 | 3306 | 1014 | 842 | 1322 | 984 | 1231 |
| MAX | 1170 | 1400 | 1290 | 520 | 6030 | 5490 | 5770 | 2090 | 1760 | 3420 | 2960 | 3310 |
| MIN | 514 | 508 | 520 | 390 | 390 | 1050 | 1170 | 484 | 484 | 687 | 484 | 388 |
| CAL YR 1976 | TOTAL | 563196 | MEAN | 1539 | MAX | 5600 | MIN | 394 | | | | |
| WTR YR 1977 | TOTAL | 487893 | MEAN | 1337 | MAX | 6030 | MIN | 388 | | | | |

MUSKINGUM RIVER BASIN

97

03122500 TUSCARAWAS RIVER BELOW DOVER DAM, NEAR DOVER, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | |
|--------------|------|---|--|---|------------------------------------|--|--------------------------------------|--|---|--|--|---|---|
| MAR 23... | 0900 | 4600 | 620 | 7.4 | 5.0 | 10.5 | 82 | 2.1 | 180 | 120 | 54 | 12 | |
| JUN 27... | 1030 | 662 | 1200 | 7.8 | 22.0 | 8.5 | 96 | 2.9 | 340 | 230 | 110 | 16 | |
| | | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 23... | 38 | 3.7 | 78 | 0 | 64 | 5.0 | 77 | 87 | .2 | 7.6 | 318 | 1.7 | |
| JUN 27... | 100 | 4.4 | 137 | 0 | 112 | 3.5 | 120 | 240 | .6 | 5.9 | 665 | 1.7 | |
| | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 23... | .02 | .26 | .27 | 3 | 10 | 9 | 30 | 12 | 330 | .0 | 70 | -- | |
| JUN 27... | .09 | .09 | .22 | 2 | 20 | 7 | 150 | 15 | 660 | .2 | 20 | 9.0 | |

MUSKINGUM RIVER BASIN

03124000 SUGAR CREEK BELOW BEACH CITY DAM, NEAR BEACH CITY, OH

LOCATION.--Lat 40°38'08", long 81°33'11", in T10 N., R.3 W., Tuscarawas County, Hydrologic Unit 05040001, on right bank 1,000 ft (305 m) downstream from Beach City Dam, 0.4 mi (0.6 km) downstream from South Fork, and 1.8 mi (2.9 km) southeast of Beach City.

DRAINAGE AREA.--300 mi² (777 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year. Published as Sugar Creek near Beach City prior to 1940.

REVISED RECORDS.--WSP 953: 1941.

GAGE.--Water-stage recorder. Datum of gage is 928.00 ft (282.854 m) above mean sea level, adjustment of 1912. Prior to Mar. 23, 1939, nonrecording gage at site 500 ft (152 m) downstream at datum 1 ft (0.3 m) higher. Mar. 23, 1939, to Sept. 26, 1949, water-stage recorder at site 300 ft (91 m) downstream at present datum.

REMARKS.--Records good. Flood flow regulated by Beach City Lake (see station 03123500).

AVERAGE DISCHARGE.--39 years, 264 ft³/s (7.476 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,520 ft³/s (213 m³/s) July 6, 1969, gage height, 11.26 ft (3.432 m), from floodmark in well; no flow Oct. 7-30, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,860 ft³/s (52.7 m³/s) Apr. 3, gage height, 6.38 ft (1.945 m); minimum daily, 32 ft³/s (0.91 m³/s) Dec. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|-------|----------|----------|--------|-------|-------|------|------|------|------|------|
| 1 | 50 | 219 | 40 | 40 | 35 | 1660 | 258 | 185 | 38 | 58 | 119 | 41 |
| 2 | 46 | 173 | 37 | 37 | 35 | 990 | 432 | 166 | 38 | 60 | 100 | 44 |
| 3 | 42 | 120 | 35 | 38 | 35 | 392 | 1570 | 183 | 35 | 57 | 72 | 79 |
| 4 | 41 | 97 | 33 | 38 | 35 | 356 | 1530 | 181 | 34 | 57 | 58 | 83 |
| 5 | 38 | 83 | 32 | 37 | 35 | 581 | 1040 | 258 | 54 | 894 | 57 | 83 |
| 6 | 38 | 74 | 33 | 37 | 35 | 469 | 982 | 322 | 228 | 1180 | 142 | 83 |
| 7 | 38 | 68 | 56 | 37 | 35 | 341 | 982 | 283 | 223 | 424 | 322 | 82 |
| 8 | 40 | 64 | 122 | 37 | 35 | 274 | 1330 | 217 | 112 | 179 | 501 | 79 |
| 9 | 43 | 59 | 100 | 37 | 40 | 234 | 1620 | 169 | 101 | 120 | 581 | 77 |
| 10 | 63 | 57 | 73 | 36 | 56 | 215 | 1600 | 142 | 110 | 117 | 571 | 76 |
| 11 | 73 | 59 | 67 | 36 | 50 | 193 | 1380 | 127 | 110 | 116 | 336 | 74 |
| 12 | 57 | 57 | 72 | 36 | 48 | 183 | 540 | 115 | 107 | 113 | 138 | 57 |
| 13 | 48 | 53 | 70 | 36 | 80 | 790 | 341 | 105 | 107 | 95 | 95 | 42 |
| 14 | 42 | 50 | 59 | 36 | 361 | 1360 | 281 | 97 | 106 | 66 | 95 | 109 |
| 15 | 39 | 48 | 51 | 36 | 424 | 1130 | 243 | 90 | 83 | 50 | 95 | 314 |
| 16 | 37 | 48 | 50 | 36 | 307 | 610 | 209 | 82 | 56 | 43 | 213 | 279 |
| 17 | 36 | 47 | 52 | 36 | 225 | 405 | 190 | 75 | 47 | 98 | 225 | 363 |
| 18 | 34 | 46 | 51 | 36 | 173 | 534 | 179 | 72 | 75 | 112 | 120 | 374 |
| 19 | 34 | 49 | 47 | 36 | 144 | 1510 | 168 | 72 | 87 | 86 | 93 | 460 |
| 20 | 37 | 48 | 55 | 36 | 132 | 1340 | 156 | 72 | 85 | 61 | 87 | 629 |
| 21 | 54 | 46 | 86 | 36 | 126 | 913 | 149 | 67 | 79 | 61 | 67 | 457 |
| 22 | 70 | 44 | 79 | 36 | 115 | 694 | 141 | 62 | 49 | 438 | 75 | 276 |
| 23 | 57 | 43 | 66 | 36 | 281 | 732 | 156 | 58 | 38 | 925 | 91 | 193 |
| 24 | 57 | 39 | 54 | 36 | 757 | 610 | 279 | 56 | 34 | 954 | 90 | 155 |
| 25 | 129 | 41 | 47 | 36 | 1130 | 446 | 317 | 55 | 38 | 460 | 90 | 207 |
| 26 | 149 | 46 | 44 | 36 | 1590 | 363 | 291 | 52 | 63 | 199 | 87 | 307 |
| 27 | 109 | 54 | 47 | 36 | 1560 | 314 | 243 | 48 | 50 | 138 | 71 | 223 |
| 28 | 83 | 57 | 47 | 35 | 1560 | 312 | 199 | 45 | 38 | 112 | 49 | 149 |
| 29 | 68 | 54 | 49 | 35 | --- | 460 | 263 | 42 | 41 | 83 | 42 | 112 |
| 30 | 61 | 44 | 48 | 35 | --- | 418 | 232 | 39 | 56 | 193 | 52 | 97 |
| 31 | 87 | --- | 42 | 35 | --- | 322 | --- | 38 | --- | 169 | 48 | --- |
| TOTAL | 1800 | 1987 | 1744 | 1126 | 9439 | 19151 | 17301 | 3575 | 2322 | 7718 | 4782 | 5604 |
| MEAN | 58.1 | 66.2 | 56.3 | 36.3 | 337 | 618 | 577 | 115 | 77.4 | 249 | 154 | 187 |
| MAX | 149 | 219 | 122 | 40 | 1590 | 1660 | 1620 | 322 | 228 | 1180 | 581 | 629 |
| MIN | 34 | 39 | 32 | 35 | 35 | 183 | 141 | 38 | 34 | 43 | 42 | 41 |
| CAL YR 1976 | TOTAL | 86144 | MEAN 235 | MAX 1760 | MIN 32 | | | | | | | |
| WTR YR 1977 | TOTAL | 76549 | MEAN 210 | MAX 1660 | MIN 32 | | | | | | | |

MUSKINGUM RIVER BASIN

99

03124000 SUGAR CREEK BELOW BEACH CITY DAM, NEAR BEACH CITY, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | |
|--------------|------|---|--|---|------------------------------------|--|--------------------------------------|--|---|--|--|---|---|
| | | | | | | | | | | | | | |
| MAR 23... | 1300 | 786 | 450 | 7.5 | 5.0 | 11.3 | 88 | 1.9 | 190 | 130 | 48 | 17 | |
| JUN 29... | 1830 | 42 | 780 | 7.9 | 26.0 | 7.6 | 93 | 6.6 | 320 | 160 | 81 | 28 | |
| DATE | | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 23... | 13 | 4.0 | 72 | 0 | 59 | 3.6 | 100 | 27 | .1 | 7.5 | 253 | 4.6 | |
| JUN 29... | 34 | 7.2 | 194 | 0 | 159 | 3.9 | 160 | 54 | .2 | 5.0 | 466 | .45 | |
| DATE | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 23... | .03 | .19 | .13 | 1 | 30 | 3 | 30 | 7 | 490 | .0 | 50 | -- | |
| JUN 29... | .07 | .34 | .28 | 4 | 10 | 5 | 20 | 8 | 1300 | .0 | 30 | 11 | |

MUSKINGUM RIVER BASIN

03124500 SUGAR CREEK AT STRASBURG, OH

LOCATION.--Lat 40°35'15", long 81°31'24", in NW 1/4 sec. 1, T.9 N., R.3 W., Tuscarawas County, Hydrologic Unit 05040001, on left bank 150 ft (46 m) upstream from bridge on State Highway 21, 0.8 mi (1.3 km) upstream from Broad Run, and 0.1 mi (0.2 km) southeast of Strasburg.

DRAINAGE AREA.--311 mi² (805 km²).

WATER-DISCHARGE RECORDS

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 (273.174 m) above mean sea level, adjustment of 1912. July 29, 1931, to Mar. 31, 1933, and Dec. 10, 1934, to July 31, 1939, nonrecording gage, and Oct. 1, 1961, to May 26, 1964, water-stage recorder at datum 2.00 ft (0.610 m) higher.

REMARKS.--Records good except those for period of no gage height record, which are fair. Flood flow regulated by Beach City Lake 5.0 mi (8.0 km) upstream, since August 1937 (see station 03123500). Part of municipal water supply for city of Canton, starting May 1962, is pumped from well field 4.3 mi (6.9 km) upstream; pumpage is returned to Nimishillen Creek. Pumpage is returned to Nimishillen Creek. Mean pumpage for water year 1977, 16.3 ft³/s (0.46 m³/s).

AVERAGE DISCHARGE.--20 years (1931-32, 1935-38, 1961-77), 289 ft³/s (8.184 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,700 ft³/s (558 m³/s) Aug. 7, 1935, gage height, 14.70 ft (4.48 m) (present datum), from rating curve extended above 8,400 ft³/s (238 m³/s); no flow all or part of each day Sept. 29 to Nov. 6, 1963, Sept. 20, Dec. 3, 4, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,050 ft³/s (58.1 m³/s) Apr. 3, gage height, 5.38 ft (1.640 m); minimum daily, 33 ft³/s (0.93 m³/s) Oct. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|-------|-------|------|------|------|------|------|
| 1 | 54 | 218 | 51 | 40 | 35 | 1700 | 262 | 197 | 40 | 76 | 137 | 53 |
| 2 | 50 | 193 | 49 | 39 | 35 | 900 | 462 | 178 | 40 | 66 | 119 | 52 |
| 3 | 47 | 142 | 51 | 38 | 35 | 440 | 1710 | 182 | 37 | 63 | 89 | 79 |
| 4 | 43 | 116 | 45 | 38 | 35 | 312 | 1710 | 186 | 36 | 92 | 72 | 85 |
| 5 | 41 | 101 | 40 | 38 | 34 | 544 | 1130 | 247 | 49 | 872 | 67 | 85 |
| 6 | 39 | 90 | 37 | 38 | 34 | 560 | 1040 | 315 | 204 | 1360 | 144 | 85 |
| 7 | 38 | 83 | 49 | 38 | 34 | 360 | 1030 | 284 | 218 | 473 | 289 | 85 |
| 8 | 38 | 78 | 117 | 38 | 34 | 292 | 1400 | 230 | 119 | 204 | 477 | 85 |
| 9 | 41 | 70 | 114 | 38 | 37 | 252 | 1750 | 184 | 106 | 139 | 592 | 85 |
| 10 | 53 | 71 | 86 | 38 | 47 | 230 | 1740 | 159 | 111 | 135 | 584 | 85 |
| 11 | 71 | 71 | 74 | 38 | 46 | 213 | 1520 | 146 | 111 | 135 | 360 | 83 |
| 12 | 59 | 70 | 78 | 37 | 48 | 199 | 564 | 133 | 111 | 132 | 167 | 71 |
| 13 | 48 | 67 | 75 | 37 | 67 | 759 | 344 | 126 | 111 | 116 | 111 | 54 |
| 14 | 41 | 61 | 65 | 37 | 320 | 1460 | 281 | 117 | 111 | 83 | 111 | 109 |
| 15 | 40 | 58 | 60 | 37 | 380 | 1240 | 247 | 109 | 92 | 66 | 107 | 289 |
| 16 | 38 | 57 | 58 | 37 | 290 | 633 | 218 | 101 | 65 | 59 | 193 | 292 |
| 17 | 36 | 57 | 56 | 37 | 230 | 399 | 199 | 95 | 55 | 98 | 240 | 357 |
| 18 | 35 | 57 | 56 | 37 | 190 | 544 | 186 | 89 | 79 | 130 | 144 | 373 |
| 19 | 33 | 57 | 54 | 36 | 160 | 1620 | 178 | 82 | 90 | 98 | 106 | 451 |
| 20 | 34 | 57 | 60 | 36 | 140 | 1500 | 167 | 79 | 90 | 70 | 103 | 659 |
| 21 | 43 | 57 | 90 | 36 | 130 | 893 | 157 | 72 | 86 | 90 | 83 | 492 |
| 22 | 60 | 55 | 84 | 36 | 120 | 722 | 152 | 66 | 60 | 419 | 83 | 297 |
| 23 | 53 | 54 | 78 | 36 | 290 | 677 | 154 | 62 | 48 | 989 | 98 | 216 |
| 24 | 51 | 52 | 58 | 36 | 800 | 596 | 257 | 59 | 43 | 1030 | 99 | 175 |
| 25 | 111 | 49 | 55 | 36 | 1100 | 335 | 297 | 57 | 44 | 527 | 99 | 197 |
| 26 | 146 | 51 | 53 | 36 | 1600 | 360 | 286 | 54 | 65 | 233 | 98 | 309 |
| 27 | 114 | 58 | 50 | 36 | 1500 | 320 | 250 | 51 | 61 | 157 | 88 | 242 |
| 28 | 85 | 62 | 48 | 35 | 1500 | 312 | 208 | 47 | 47 | 135 | 62 | 169 |
| 29 | 68 | 63 | 46 | 35 | --- | 448 | 247 | 46 | 44 | 101 | 54 | 133 |
| 30 | 61 | 57 | 44 | 35 | --- | 423 | 237 | 43 | 59 | 182 | 59 | 116 |
| 31 | 75 | --- | 42 | 35 | --- | 320 | --- | 40 | --- | 193 | 60 | --- |
| TOTAL | 1746 | 2332 | 1923 | 1144 | 9271 | 19563 | 18383 | 3836 | 2432 | 8523 | 5095 | 5863 |
| MEAN | 56.3 | 77.7 | 62.0 | 36.9 | 331 | 631 | 613 | 124 | 81.1 | 275 | 164 | 195 |
| MAX | 146 | 218 | 117 | 40 | 1600 | 1700 | 1750 | 315 | 218 | 1360 | 592 | 659 |
| MIN | 33 | 49 | 37 | 35 | 34 | 199 | 152 | 40 | 36 | 59 | 54 | 52 |

CAL YR 1976 TOTAL 87301 MEAN 239 MAX 1730 MIN 33
WTR YR 1977 TOTAL 80111 MEAN 219 MAX 1750 MIN 33

Note: No gage height record Dec. 16 to Mar. 5.

MUSKINGUM RIVER BASIN

101

03124500 SUGAR CREEK AT STRASBURG, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND | HARD- NESS | NON- CAR- BONATE HARD- NESS | DIS- SOLVED CAL- CIUM | DIS- SOLVED MAG- NE- SIUM | |
|--------------|------|--------------------------------------|--|--------------------------|------------------|--------------------------|---------------------------------|---|---------------------------------|---|--------------------------------|---|----------------------------|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | | 5 DAY | (CA,MG) | (MG/L) | (CA) | (MG/L) | |
| MAR 23... | 1100 | 788 | 475 | 7.5 | 5.5 | 11.4 | 90 | 1.5 | 190 | 130 | 48 | 17 | |
| JUN 29... | 1730 | 45 | 780 | 7.9 | 26.0 | 8.7 | 110 | 4.6 | 330 | 180 | 81 | 30 | |
| | | DIS- SOLVED SODIUM | DIS- SOLVED PO- TAS- SIUM | BICAR- BONATE | CAR- BONATE | ALKA- LINITY AS | CARBON DIOXIDE | DIS- SOLVED SULFATE | DIS- SOLVED CHLO- RIDE | DIS- SOLVED FLUO- RIDE | DIS- SOLVED SILICA | DIS- SOLVED (SUM OF CONSTI- TUENTS) | TOTAL NITRATE |
| DATE | | (NA) (MG/L) | (K) (MG/L) | (HCO3) (MG/L) | (CO3) (MG/L) | CAC03 (MG/L) | (CO2) (MG/L) | (SO4) (MG/L) | (CL) (MG/L) | (F) (MG/L) | (SIO2) (MG/L) | (MG/L) | (N) (MG/L) |
| MAR 23... | 13 | 3.8 | 70 | 0 | 57 | 3.5 | 110 | 26 | .1 | 7.6 | 261 | 4.2 | |
| JUN 29... | 33 | 6.6 | 178 | 0 | 146 | 3.6 | 190 | 52 | .2 | 5.6 | 486 | .74 | |
| | | TOTAL NITRITE | TOTAL AMMONIA NITRO- GEN | TOTAL PHOS- PHORUS | TOTAL ARSENIC | TOTAL CHRO- MIUM | TOTAL COPPER | DIS- SOLVED IRON | TOTAL LEAD | DIS- SOLVED MAN- GANESE | TOTAL MERCURY | TOTAL ZINC | TOTAL ORGANIC CARBON |
| DATE | | (N) (MG/L) | (N) (MG/L) | (P) (MG/L) | (AS) (UG/L) | (CR) (UG/L) | (CU) (UG/L) | (FE) (UG/L) | (PB) (UG/L) | (MN) (UG/L) | (HG) (UG/L) | (ZN) (UG/L) | (C) (MG/L) |
| MAR 23... | .03 | .16 | .10 | 1 | 30 | 4 | 30 | 5 | 550 | .0 | 60 | -- | |
| JUN 29... | .01 | .05 | .14 | 3 | <10 | 3 | 20 | 10 | 160 | .0 | 50 | 7.2 | |

MUSKINGUM RIVER BASIN

03125000 HOME CREEK NEAR NEW PHILADELPHIA, OH

LOCATION.--Lat 40°28'06", long 81°24'10", Tuscarawas County, Hydrologic Unit 05040001, on right bank 100 ft (30 m) downstream from highway bridge, 0.5 mi (0.8 km) upstream from the mouth, and 1.5 mi (2.4 km) southeast of New Philadelphia.

DRAINAGE AREA.--1.64 mi² (4.25 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1173: 1941(M). WSP 1385: 1951-53(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 872.49 ft (265.935 m) above mean sea level, adjustment of 1912.

REMARKS.--Records fair except those for winter periods, which are poor.

AVERAGE DISCHARGE.--40 years, 1.26 ft³/s (0.036 m³/s) 10.43 in/yr (265 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 378 ft³/s (10.7 m³/s) July 7, 1969, gage height, 5.77 ft (1.759 m); no flow at times in 1938-40, 1942-68, 1970-75.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 50 ft³/s (1.42 m³/s) and maximums (*):

| Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) | Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) |
|---------|------|---|-------------------------|---------|------|---|-------------------------|
| June 17 | 2315 | *136 3.85 | *3.62 1.103 | July 21 | 2115 | 79 2.18 | 2.86 0.872 |

Minimum daily discharge, 0.02 ft³/s (0.001 m³/s) Jan. 9 to Feb. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | .10 | .73 | .08 | .03 | .02 | .13 | .88 | .44 | .07 | .64 | .34 | .09 |
| 2 | .08 | .46 | .08 | .03 | .02 | .11 | 18 | .80 | .05 | .18 | .12 | .33 |
| 3 | .07 | .38 | .07 | .03 | .02 | .10 | 7.1 | .64 | .05 | .11 | .09 | .35 |
| 4 | .06 | .31 | .07 | .03 | .02 | 3.2 | 10 | 1.4 | .04 | 2.5 | .07 | .12 |
| 5 | .06 | .27 | .07 | .03 | .02 | 1.9 | 8.6 | 1.2 | 4.2 | .67 | .31 | .12 |
| 6 | .11 | .24 | .27 | .03 | .02 | 1.4 | 4.3 | 4.1 | 3.1 | .31 | .88 | .09 |
| 7 | .12 | .22 | 2.2 | .03 | .02 | 1.1 | 2.9 | 2.6 | .46 | .34 | 1.4 | .07 |
| 8 | .09 | .21 | .64 | .03 | .02 | .88 | 2.1 | 1.5 | .84 | .26 | .51 | .06 |
| 9 | .84 | .19 | .34 | .02 | .02 | .80 | 1.7 | 1.0 | 3.0 | .16 | .31 | .11 |
| 10 | .31 | .22 | .28 | .02 | .03 | .77 | 1.6 | .80 | .64 | .12 | .21 | .14 |
| 11 | .15 | .18 | .24 | .02 | .30 | .67 | 1.3 | .61 | .40 | 1.1 | .93 | .04 |
| 12 | .12 | .15 | .21 | .02 | 1.2 | 3.8 | 1.0 | .53 | .32 | .64 | 1.6 | .07 |
| 13 | .14 | .13 | .17 | .02 | 1.8 | 8.6 | 1.0 | .48 | .26 | .26 | .39 | .73 |
| 14 | .14 | .11 | .16 | .02 | 1.4 | 3.1 | .88 | .44 | .22 | .14 | 1.2 | 2.1 |
| 15 | .14 | .10 | .14 | .02 | 1.1 | 2.1 | .73 | .36 | .16 | .10 | 1.8 | .30 |
| 16 | .11 | .10 | .12 | .02 | .90 | 1.5 | .64 | .32 | .14 | .08 | .72 | 1.2 |
| 17 | .10 | .09 | .11 | .02 | .78 | 1.3 | .61 | .29 | 6.8 | .38 | 2.8 | .64 |
| 18 | .09 | .16 | .10 | .02 | .68 | 8.8 | .59 | .29 | 10 | .19 | .72 | .49 |
| 19 | .11 | .16 | .09 | .02 | .64 | 3.4 | .53 | .27 | 1.1 | .09 | .43 | 6.1 |
| 20 | .48 | .14 | .09 | .02 | .60 | 3.4 | .48 | .21 | .59 | .07 | .33 | 1.8 |
| 21 | .27 | .12 | .08 | .02 | .56 | 2.3 | .44 | .18 | .36 | 14 | .51 | .77 |
| 22 | .15 | .11 | .07 | .02 | .52 | 3.2 | .44 | .16 | .27 | 3.8 | .54 | .51 |
| 23 | .10 | .09 | .07 | .02 | 1.1 | 2.1 | .92 | .32 | .22 | .88 | .29 | .39 |
| 24 | 1.5 | .08 | .06 | .02 | 8.0 | 1.7 | .61 | .24 | .21 | .51 | .27 | .34 |
| 25 | 1.1 | .14 | .05 | .02 | 12 | 1.4 | .84 | .15 | .73 | .48 | .22 | .30 |
| 26 | .40 | .23 | .05 | .02 | 5.0 | 1.2 | .51 | .11 | .24 | .29 | .18 | .82 |
| 27 | .27 | .25 | .05 | .02 | 1.5 | 1.0 | .42 | .09 | .18 | .19 | .16 | .35 |
| 28 | .21 | .18 | .04 | .02 | .16 | 2.2 | 1.6 | .08 | .29 | .15 | .12 | .26 |
| 29 | .19 | .14 | .04 | .02 | --- | 1.6 | .88 | .07 | .24 | .26 | .09 | .23 |
| 30 | .42 | .09 | .04 | .02 | --- | 1.3 | .56 | .07 | .32 | .21 | .10 | .21 |
| 31 | 2.5 | --- | .04 | .02 | --- | 1.0 | --- | .10 | --- | .36 | .10 | --- |
| TOTAL | 10.53 | 5.98 | 6.12 | .70 | 38.45 | 66.06 | 72.16 | 19.85 | 35.50 | 29.47 | 17.74 | 19.13 |
| MEAN | .34 | .20 | .20 | .023 | 1.37 | 2.13 | 2.41 | .64 | 1.18 | .95 | .57 | .64 |
| MAX | 2.5 | .73 | 2.2 | .03 | 12 | 8.8 | 18 | 4.1 | 10 | 14 | 2.8 | 6.1 |
| MIN | .06 | .08 | .04 | .02 | .02 | .10 | .42 | .07 | .04 | .07 | .07 | .04 |
| CFSM | .21 | .12 | .12 | .01 | .84 | 1.30 | 1.47 | .39 | .72 | .58 | .35 | .39 |
| IN. | .24 | .14 | .14 | .02 | .87 | 1.50 | 1.64 | .45 | .80 | .67 | .40 | .43 |

CAL YR 1976 TOTAL 418.32 MEAN 1.14 MAX 36 MIN .04 CFSM .70 IN 9.49
WTR YR 1977 TOTAL 321.69 MEAN .88 MAX 18 MIN .02 CFSM .54 IN 7.29

MUSKINGUM RIVER BASIN

103

031250000 HOME CREEK NEAR NEW PHILADELPHIA, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD---Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA,MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|------|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| DATE | TIME | | | (UNITS) | | | | | | | | |
| MAR 21... | 1515 | 2.2 | 525 | 7.2 | 13.5 | 9.5 | 90 | .9 | 220 | 180 | 52 | 21 |
| JUN 29... | 1500 | .18 | 630 | 7.6 | 23.5 | 8.3 | 96 | 2.1 | 350 | 270 | 92 | 30 |
| | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) |
| MAR 21... | 12 | 2.7 | 40 | 0 | 33 | 4.0 | 170 | 17 | .1 | 12 | 307 | 2.3 |
| JUN 29... | 30 | 9.8 | 105 | 0 | 86 | 4.2 | 290 | 40 | .3 | 13 | 558 | 1.0 |
| | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (MG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (MG/L) |
| MAR 21... | .01 | .17 | .06 | 1 | 10 | 3 | 50 | 4 | 500 | .0 | 30 | -- |
| JUN 29... | .10 | .20 | .21 | 3 | <10 | 4 | 250 | 5 | 420 | .0 | 50 | 10 |

MUSKINGUM RIVER BASIN

03126000 STILLWATER CREEK AT PIEDMONT, CH

LOCATION.--Lat 40°11'41", long 81°12'56", in sec. 35, T.10 N., R.6 W., Harrison County, Hydrologic Unit 05040001, on left bank 400 ft (122 m) downstream from outlet of Piedmont Dam and Boggs Fork, and 0.7 mi (1.1 km) northwest of Piedmont.

DRAINAGE AREA.--122 mi² (316 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year. Prior to February 1939 monthly discharge only, published in WSP 1305.

GAGE.--Water-stage recorder. Datum of gage is 872.00 ft (265.785 m) above mean sea level, adjustment of 1912. Prior to Sept. 9, 1949, at site 1,000 ft (305 m) downstream at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records good. Flow regulated by Piedmont Lake (see station 03125500).

AVERAGE DISCHARGE.--39 years, 132 ft³/s (3.738 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,470 ft³/s (41.6 m³/s) Dec. 4, 1950; maximum gage height, 11.44 ft (3.487 m) Mar. 5, 1963; minimum daily discharge, 0.2 ft³/s (0.006 m³/s) Sept. 3, 4, 10, 1953.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 732 ft³/s (20.7 m³/s) Apr. 3, gage height, 7.91 ft (2.411 m); minimum daily, 9.0 ft³/s (0.25 m³/s) Feb. 2, 3, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|---------|------|-------|--------|------|------|------|------|------|------|--------|
| 1 | 26 | 101 | 152 | 29 | 9.4 | 45 | 49 | 121 | 34 | 60 | 24 | 28 |
| 2 | 26 | 87 | 152 | 29 | 9.0 | 38 | 236 | 118 | 23 | 51 | 26 | 26 |
| 3 | 23 | 80 | 150 | 19 | 9.0 | 35 | 698 | 120 | 19 | 41 | 23 | 30 |
| 4 | 21 | 75 | 149 | 14 | 9.4 | 56 | 455 | 133 | 17 | 42 | 20 | 29 |
| 5 | 20 | 70 | 148 | 14 | 9.8 | 65 | 369 | 179 | 22 | 50 | 17 | 25 |
| 6 | 19 | 65 | 148 | 14 | 9.8 | 51 | 262 | 172 | 34 | 46 | 13 | 18 |
| 7 | 17 | 59 | 209 | 23 | 9.8 | 41 | 254 | 170 | 30 | 41 | 27 | 15 |
| 8 | 18 | 56 | 154 | 28 | 9.4 | 37 | 335 | 153 | 28 | 39 | 50 | 14 |
| 9 | 34 | 57 | 164 | 28 | 9.0 | 34 | 330 | 180 | 61 | 53 | 65 | 13 |
| 10 | 55 | 53 | 158 | 28 | 9.4 | 31 | 320 | 235 | 59 | 60 | 70 | 11 |
| 11 | 47 | 51 | 161 | 28 | 12 | 29 | 364 | 155 | 49 | 48 | 66 | 10 |
| 12 | 41 | 49 | 160 | 27 | 21 | 33 | 385 | 112 | 44 | 57 | 64 | 9.8 |
| 13 | 38 | 48 | 155 | 26 | 49 | 155 | 372 | 108 | 41 | 55 | 62 | 9.8 |
| 14 | 35 | 45 | 104 | 26 | 51 | 162 | 368 | 109 | 39 | 45 | 64 | 11 |
| 15 | 32 | 125 | 38 | 27 | 42 | 200 | 367 | 100 | 38 | 40 | 95 | 18 |
| 16 | 29 | 164 | 36 | 28 | 34 | 170 | 350 | 93 | 36 | 37 | 90 | 48 |
| 17 | 28 | 161 | 92 | 17 | 26 | 135 | 342 | 86 | 34 | 35 | 80 | 60 |
| 18 | 25 | 160 | 121 | 11 | 22 | 239 | 333 | 82 | 33 | 36 | 73 | 51 |
| 19 | 24 | 160 | 120 | 11 | 20 | 243 | 324 | 87 | 30 | 34 | 67 | 53 |
| 20 | 27 | 158 | 127 | 11 | 19 | 210 | 180 | 84 | 22 | 29 | 61 | 71 |
| 21 | 40 | 157 | 127 | 11 | 18 | 233 | 99 | 77 | 15 | 26 | 54 | 62 |
| 22 | 35 | 156 | 122 | 11 | 22 | 312 | 96 | 70 | 12 | 50 | 49 | 52 |
| 23 | 30 | 156 | 120 | 10 | 52 | 351 | 99 | 65 | 11 | 57 | 47 | 48 |
| 24 | 52 | 155 | 119 | 10 | 160 | 349 | 123 | 63 | 15 | 33 | 45 | 47 |
| 25 | 89 | 156 | 118 | 11 | 170 | 295 | 114 | 64 | 22 | 28 | 42 | 47 |
| 26 | 80 | 156 | 118 | 11 | 121 | 135 | 106 | 60 | 40 | 27 | 39 | 48 |
| 27 | 69 | 156 | 118 | 11 | 73 | 132 | 105 | 56 | 32 | 23 | 36 | 47 |
| 28 | 63 | 155 | 118 | 11 | 54 | 148 | 112 | 51 | 31 | 17 | 35 | 43 |
| 29 | 59 | 157 | 117 | 11 | --- | 159 | 169 | 48 | 39 | 16 | 32 | 40 |
| 30 | 59 | 153 | 82 | 9.8 | --- | 144 | 150 | 45 | 34 | 23 | 32 | 39 |
| 31 | 100 | --- | 31 | 9.4 | --- | 84 | --- | 43 | --- | 21 | 31 | --- |
| TOTAL | 1261 | 3381 | 3888 | 554.2 | 1060.0 | 4351 | 7866 | 3239 | 944 | 1220 | 1499 | 1023.6 |
| MEAN | 40.7 | 113 | 125 | 17.9 | 37.9 | 140 | 262 | 104 | 31.5 | 39.4 | 48.4 | 34.1 |
| MAX | 100 | 164 | 209 | 29 | 170 | 351 | 698 | 235 | 61 | 60 | 95 | 71 |
| MIN | 17 | 45 | 31 | 9.4 | 9.0 | 29 | 49 | 43 | 11 | 16 | 13 | 9.8 |
| CAL YR 1976 | TOTAL | 46292.8 | MEAN | 126 | MAX | 938 | MIN | 9.8 | | | | |
| WTR YR 1977 | TOTAL | 30286.8 | MEAN | 83.0 | MAX | 698 | MIN | 9.0 | | | | |

MUSKINGUM RIVER BASIN

105

03126000 STILLWATER CREEK AT FIEDMONT, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND | HARD- NESS | NON- CAR- BONATE HARD- NESS | DIS- SOLVED CAL- CIUM | DIS- SOLVED MAG- NE- SIUM |
|--------------|------|---------------------------------------|--|------------------|------------------------|--------------------------|---------------------------------|---|----------------------------------|---|--------------------------------|---------------------------------------|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | | 5 DAY | (CA+MG) | (MG/L) | (CA) | (MG/L) |
| MAR 23... | 1400 | 392 | 1000 | 7.9 | 7.5 | 11.2 | 93 | 1.4 | 560 | 450 | 140 | 50 |
| JUN 30... | 1415 | 37 | 1100 | 7.6 | 18.0 | 8.5 | 89 | 1.7 | 550 | 440 | 135 | 51 |
| | | DIS- SOLVED PO- TAS- SIUM | BICAR- BONATE | CAR- BONATE | ALKA- LINITY AS | CARBON DIOXIDE | DIS- SOLVED SULFATE | DIS- SOLVED CHLO- RIDE | DIS- SOLVED FLUO- RIDE | DIS- SOLVED SILICA | DIS- SOLVED SOLIDS | TOTAL NITRATE |
| DATE | | (NA) (MG/L) | (HCO3) (MG/L) | (CO3) (MG/L) | CAC03 (MG/L) | (CO2) (MG/L) | (SO4) (MG/L) | (CL) (MG/L) | (F) (MG/L) | (SI02) (MG/L) | (SUM OF CONSTITUENTS) | (N) (MG/L) |
| MAR 23... | 19 | 3.1 | 132 | 0 | 108 | 2.7 | 470 | 13 | .1 | 4.5 | 765 | .24 |
| JUN 30... | 16 | 3.1 | 136 | 0 | 112 | 5.5 | 450 | 11 | .2 | 4.0 | 739 | .02 |
| | | TOTAL NITRO- GEN | TOTAL PHOS- PHORUS | TOTAL ARSENIC | TOTAL CHRO- MIUM | TOTAL COPPER | DIS- SOLVED IRON | TOTAL LEAD | DIS- SOLVED MAN- GANESE | TOTAL MERCURY | TOTAL ZINC | TOTAL ORGANIC CARBON |
| DATE | | (N) (MG/L) | (P) (MG/L) | (AS) (UG/L) | (CR) (UG/L) | (CU) (UG/L) | (FE) (UG/L) | (PB) (UG/L) | (MN) (UG/L) | (HG) (UG/L) | (ZN) (UG/L) | (C) (MG/L) |
| MAR 23... | .01 | .03 | .04 | 1 | 10 | 8 | 30 | 3 | 130 | .0 | 70 | -- |
| JUN 30... | .00 | .07 | .03 | -- | 10 | 7 | 190 | 7 | 1900 | -- | 20 | 4.9 |

MUSKINGUM RIVER BASIN

03127000 STILLWATER CREEK AT TIPPECANOE, OH

LOCATION.--Lat 40°16'13", long 81°17'26", in NW 1/4 sec. 22, T.12 N., R.7 W., Harrison County, Hydrologic Unit 05040001, on left bank at downstream side of highway bridge at Tippecanoe, 0.4 mi (0.6 km) downstream from Brushy Fork, 3.6 mi (5.8 km) upstream from Weaver Run, 6 mi (10 km) upstream from Laurel Creek, and 9 mi (14 km) south of Dennison.

DRAINAGE AREA.--282 mi² (730 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year. Prior to January 1939 monthly discharge only, published in WSP 1305.

REVISED RECORDS.--WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 849.00 ft (258.775 m) above mean sea level, adjustment of 1912. Prior to Feb. 9, 1939, nonrecording gage at same site and datum.

REMARKS.--Records fair except those for winter periods, which are poor. Flow regulated by Clendening Lake on Brushy Fork, 1.9 mi (3.1 km) upstream, and Piedmont Lake, 16 mi (26 km) upstream (see stations 03126500 and 03125500).

AVERAGE DISCHARGE.--39 years, 307 ft³/s (8.694 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,410 ft³/s (125 m³/s) Mar. 7, 1945, Mar. 5, 1963; maximum gage height, 17.29 ft (5.270 m) Mar. 5, 1963; minimum daily discharge, 1.1 ft³/s (0.031 m³/s) Oct. 4, 1939.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,520 ft³/s (71.4 m³/s) Apr. 4, gage height, 14.75 ft (4.496 m); minimum daily, 21 ft³/s (0.59 m³/s) Sept. 12, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|-------|----------|------|------|--------|-------|------|------|------|------|------|
| 1 | 63 | 268 | 270 | 72 | 32 | 222 | 179 | 288 | 66 | 120 | 59 | 40 |
| 2 | 65 | 206 | 282 | 62 | 32 | 175 | 504 | 255 | 54 | 134 | 57 | 39 |
| 3 | 65 | 170 | 288 | 52 | 32 | 146 | 1920 | 257 | 53 | 96 | 49 | 42 |
| 4 | 62 | 154 | 287 | 46 | 31 | 189 | 2420 | 272 | 55 | 81 | 40 | 43 |
| 5 | 61 | 141 | 286 | 42 | 31 | 291 | 2090 | 457 | 55 | 95 | 35 | 42 |
| 6 | 60 | 131 | 285 | 40 | 31 | 231 | 1480 | 446 | 72 | 96 | 32 | 35 |
| 7 | 61 | 120 | 434 | 39 | 31 | 184 | 904 | 431 | 74 | 81 | 42 | 29 |
| 8 | 60 | 111 | 536 | 38 | 31 | 158 | 781 | 368 | 70 | 72 | 69 | 26 |
| 9 | 72 | 107 | 432 | 37 | 31 | 143 | 924 | 324 | 103 | 70 | 116 | 25 |
| 10 | 134 | 97 | 417 | 37 | 31 | 134 | 903 | 398 | 123 | 96 | 121 | 24 |
| 11 | 137 | 94 | 410 | 36 | 33 | 125 | 924 | 343 | 98 | 90 | 124 | 22 |
| 12 | 114 | 89 | 412 | 35 | 41 | 122 | 1000 | 236 | 84 | 105 | 105 | 21 |
| 13 | 104 | 84 | 415 | 34 | 50 | 585 | 982 | 221 | 75 | 119 | 97 | 21 |
| 14 | 97 | 81 | 389 | 36 | 94 | 709 | 899 | 210 | 70 | 101 | 93 | 22 |
| 15 | 92 | 103 | 264 | 39 | 170 | 704 | 598 | 193 | 68 | 80 | 146 | 23 |
| 16 | 86 | 192 | 241 | 35 | 160 | 756 | 450 | 174 | 66 | 65 | 161 | 40 |
| 17 | 83 | 193 | 261 | 34 | 130 | 736 | 437 | 154 | 62 | 59 | 134 | 90 |
| 18 | 81 | 193 | 335 | 34 | 110 | 777 | 428 | 143 | 61 | 72 | 114 | 87 |
| 19 | 81 | 195 | 334 | 34 | 98 | 949 | 415 | 147 | 59 | 64 | 99 | 94 |
| 20 | 81 | 195 | 345 | 34 | 90 | 785 | 349 | 150 | 54 | 55 | 86 | 123 |
| 21 | 107 | 194 | 298 | 34 | 80 | 729 | 187 | 135 | 44 | 49 | 73 | 125 |
| 22 | 121 | 193 | 221 | 34 | 74 | 912 | 176 | 119 | 37 | 86 | 66 | 98 |
| 23 | 105 | 192 | 201 | 34 | 140 | 996 | 183 | 109 | 34 | 113 | 60 | 84 |
| 24 | 124 | 268 | 200 | 34 | 700 | 778 | 220 | 103 | 34 | 91 | 58 | 78 |
| 25 | 206 | 329 | 201 | 33 | 1240 | 511 | 235 | 98 | 38 | 71 | 54 | 77 |
| 26 | 209 | 329 | 190 | 33 | 996 | 292 | 207 | 93 | 60 | 81 | 49 | 75 |
| 27 | 162 | 332 | 170 | 33 | 462 | 237 | 206 | 85 | 66 | 72 | 46 | 72 |
| 28 | 138 | 303 | 140 | 33 | 272 | 270 | 205 | 80 | 66 | 59 | 44 | 66 |
| 29 | 126 | 282 | 120 | 33 | --- | 360 | 427 | 76 | 95 | 54 | 42 | 58 |
| 30 | 121 | 277 | 100 | 32 | --- | 311 | 385 | 72 | 89 | 61 | 42 | 108 |
| 31 | 198 | --- | 85 | 32 | --- | 271 | --- | 70 | --- | 61 | 41 | --- |
| TOTAL | 3276 | 5623 | 8849 | 1181 | 5253 | 13788 | 21018 | 6507 | 1985 | 2549 | 2354 | 1729 |
| MEAN | 106 | 187 | 285 | 38.1 | 188 | 445 | 701 | 210 | 66.2 | 82.2 | 75.9 | 57.6 |
| MAX | 209 | 332 | 536 | 72 | 1240 | 996 | 2420 | 457 | 123 | 134 | 161 | 125 |
| MIN | 60 | 81 | 85 | 32 | 31 | 122 | 176 | 70 | 34 | 49 | 32 | 21 |
| CAL YR 1976 | TOTAL | 96263 | MEAN 263 | MAX | 1680 | MIN 20 | | | | | | |
| WTR YR 1977 | TOTAL | 74112 | MEAN 203 | MAX | 2420 | MIN 21 | | | | | | |

MUSKINGUM RIVER BASIN

107

03127000 STILLWATER CREEK AT TIPPECANOE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPEC- IFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|------|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| DATE | TIME | (CFS) | | (UNITS) | | | | | | | | |
| MAR 23... | 1100 | 1000 | 800 | 7.7 | 6.0 | 11.0 | 88 | 1.3 | 390 | 310 | 96 | 37 |
| JUN 30... | 1215 | 88 | 940 | 7.6 | 19.5 | 8.0 | 86 | 1.8 | 410 | 320 | 110 | 34 |
| | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSUME- TENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) |
| MAR 23... | 13 | 2.7 | 105 | 0 | 86 | 3.4 | 320 | 11 | .1 | 5.4 | 537 | .35 |
| JUN 30... | 17 | 2.9 | 121 | 0 | 99 | 4.9 | 340 | 12 | .1 | 5.8 | 583 | .36 |
| | | TOTAL NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 23... | .01 | .07 | .02 | 1 | 20 | 18 | 20 | 4 | 110 | .0 | 50 | -- |
| JUN 30... | .01 | .13 | .07 | 2 | 10 | 6 | 620 | 5 | 890 | .0 | 20 | 5.7 |

MUSKINGUM RIVER BASIN

03127500 STILLWATER CREEK AT UHRICHSVILLE, OH

LOCATION.--Lat 40°23'10", long 81°20'50", Tuscarawas County, Hydrologic Unit 05040001, on left bank at concrete dam of Dennison Water Supply Co. at Uhrichsville, 2.2 mi (3.5 km) upstream from Little Stillwater Creek.

DRAINAGE AREA.--367 mi² (951 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1922 to current year.

REVISED RECORDS.--WSP 853: Drainage area. WSP 1113: 1923-24, 1926-31, 1932(M), 1933-35.

GAGE.--Water-stage recorder above concrete dam. Datum of gage is 839.37 ft (255.840 m) above mean sea level, adjustment of 1912. Prior to Oct. 1, 1936, nonrecording gage at site 1.7 mi (2.7 km) upstream at same datum. Auxiliary water-stage recorder below concrete dam at datum 10.00 ft (3.048 m) lower.

REMARKS.--Records good except those for winter periods, which are fair. Flow regulated by Piedmont Lake, 35 mi (56 km) upstream, and Clendening Lake on Brushy Fork, 22 mi (35 km) upstream, beginning in 1938 (see stations 03125500 and 03126500). Water is diverted from Dennison water supply dam 1.7 mi (2.7 km) upstream from station for municipal supply of cities of Dennison and Uhrichsville; diversion not included in figures of daily discharge.

AVERAGE DISCHARGE.--55 years, 423 ft³/s (11.98 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,650 ft³/s (217 m³/s) Aug. 8, 9, 1935, gage height, 14.2 ft (4.33 m) at former site, 12.8 ft (3.90 m) at present site; no flow at times in 1930, 1932, 1936, 1939-40, 1953, 1973.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of about 17.5 ft (5.33 m) at former site, and about 15.5 ft (4.72 m) at present site.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,910 ft³/s (82.4 m³/s) Apr. 5; maximum gage height, 4.87 ft (1.484 m) Apr. 6 (backwater from Tuscarawas River); minimum daily discharge, 12 ft³/s (0.340 m³/s) Sept. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|-------|------|------|-------|-------|------|------|------|------|------|
| 1 | 91 | 500 | 445 | 95 | 42 | 484 | 392 | 525 | 60 | 111 | 80 | 44 |
| 2 | 91 | 461 | 437 | 82 | 42 | 377 | 542 | 430 | 52 | 182 | 72 | 39 |
| 3 | 91 | 346 | 461 | 70 | 41 | 275 | 1800 | 415 | 41 | 159 | 68 | 42 |
| 4 | 91 | 275 | 461 | 58 | 41 | 288 | 2200 | 415 | 34 | 130 | 58 | 42 |
| 5 | 87 | 238 | 461 | 52 | 40 | 550 | 2900 | 656 | 37 | 117 | 47 | 40 |
| 6 | 87 | 216 | 461 | 48 | 40 | 525 | 2500 | 852 | 52 | 124 | 42 | 37 |
| 7 | 87 | 189 | 550 | 47 | 39 | 400 | 2000 | 916 | 58 | 116 | 46 | 30 |
| 8 | 87 | 168 | 742 | 46 | 39 | 317 | 1300 | 663 | 55 | 97 | 93 | 23 |
| 9 | 95 | 153 | 651 | 46 | 39 | 256 | 1170 | 534 | 74 | 85 | 153 | 21 |
| 10 | 138 | 143 | 565 | 46 | 39 | 233 | 1180 | 504 | 139 | 91 | 179 | 20 |
| 11 | 210 | 129 | 550 | 46 | 40 | 210 | 1150 | 524 | 139 | 125 | 186 | 18 |
| 12 | 189 | 120 | 558 | 46 | 56 | 199 | 1180 | 410 | 106 | 121 | 175 | 15 |
| 13 | 143 | 111 | 550 | 48 | 130 | 871 | 1180 | 322 | 86 | 142 | 151 | 12 |
| 14 | 120 | 103 | 533 | 56 | 350 | 1000 | 1140 | 291 | 76 | 150 | 149 | 23 |
| 15 | 107 | 103 | 469 | 66 | 445 | 1090 | 979 | 270 | 71 | 123 | 266 | 30 |
| 16 | 99 | 173 | 346 | 56 | 369 | 1020 | 676 | 237 | 65 | 94 | 264 | 31 |
| 17 | 95 | 288 | 324 | 52 | 270 | 1020 | 604 | 206 | 62 | 78 | 252 | 88 |
| 18 | 91 | 295 | 392 | 50 | 230 | 1160 | 604 | 179 | 67 | 80 | 199 | 137 |
| 19 | 83 | 295 | 445 | 49 | 190 | 1300 | 588 | 169 | 61 | 91 | 152 | 275 |
| 20 | 83 | 295 | 453 | 48 | 170 | 1100 | 573 | 168 | 56 | 73 | 123 | 606 |
| 21 | 91 | 295 | 476 | 47 | 150 | 1000 | 400 | 160 | 48 | 61 | 106 | 371 |
| 22 | 138 | 288 | 362 | 46 | 150 | 1130 | 268 | 139 | 37 | 81 | 91 | 202 |
| 23 | 153 | 288 | 268 | 45 | 280 | 1240 | 262 | 123 | 28 | 135 | 79 | 140 |
| 24 | 143 | 303 | 210 | 45 | 900 | 1220 | 295 | 115 | 25 | 144 | 64 | 109 |
| 25 | 262 | 476 | 262 | 45 | 1700 | 910 | 346 | 107 | 25 | 128 | 61 | 98 |
| 26 | 400 | 509 | 282 | 44 | 1500 | 668 | 339 | 97 | 31 | 108 | 57 | 92 |
| 27 | 331 | 509 | 240 | 44 | 1100 | 445 | 310 | 88 | 58 | 101 | 54 | 83 |
| 28 | 238 | 509 | 200 | 44 | 668 | 422 | 303 | 79 | 67 | 85 | 51 | 76 |
| 29 | 194 | 469 | 170 | 43 | --- | 581 | 492 | 73 | 89 | 70 | 49 | 66 |
| 30 | 173 | 453 | 140 | 43 | --- | 588 | 628 | 71 | 119 | 66 | 53 | 61 |
| 31 | 244 | --- | 110 | 43 | --- | 500 | --- | 65 | --- | 76 | 50 | --- |
| TOTAL | 4532 | 8700 | 12574 | 1596 | 9100 | 21379 | 28301 | 9803 | 1918 | 3344 | 3470 | 2871 |
| MEAN | 146 | 290 | 406 | 51.5 | 325 | 690 | 943 | 316 | 63.9 | 108 | 112 | 95.7 |
| MAX | 400 | 509 | 742 | 95 | 1700 | 1300 | 2900 | 916 | 139 | 182 | 266 | 606 |
| MIN | 83 | 103 | 110 | 43 | 39 | 199 | 262 | 65 | 25 | 61 | 42 | 12 |
| (+) | 1.75 | 1.72 | 1.71 | 2.25 | 2.78 | 2.37 | 1.89 | 1.76 | 1.82 | 1.78 | 1.88 | 1.73 |

CAL YR 1976 TOTAL 131686 MEAN 360 MAX 2200 MIN 13 (+) 1.75
WTR YR 1977 TOTAL 107588 MEAN 295 MAX 2900 MIN 12 (+) 1.95

† Diversion, in cubic feet per second, for municipal supply of cities of Dennison and Uhrichsville, furnished by Dennison Water Supply Company.

MUSKINGUM RIVER BASIN

109

03127500 STILLWATER CREEK AT UHRICHSVILLE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE | DIS- SOLVED | DIS- SOLVED |
|--------------|------|---|---|------------------------------------|--|--------------------------------------|--|---|--|--|---|---|
| | | | (MICRO- MHOS) | | | | | (UNITS) | | OXYGEN DEMAND 5 DAY (MG/L) | (CA+MG) (MG/L) | HARD- NESS (CA) (MG/L) |
| MAR 21... | 1300 | 1020 | 560 | 7.3 | 7.0 | 10.2 | 84 | 1.9 | 250 | 190 | 63 | 22 |
| JUN 30... | 0910 | 128 | 1650 | 7.7 | 22.5 | 7.7 | 88 | 3.2 | 540 | 420 | 140 | 46 |
| DATE | | DIS- SOLVED | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED | TOTAL |
| | | PO- TAS- SIUM (K) (MG/L) | | | | | | | | | (SUM OF CONSTI- TUENTS) (MG/L) | |
| MAR 21... | 13 | 2.7 | 67 | 0 | 55 | 5.4 | 190 | 16 | .1 | 6.7 | 347 | .47 |
| JUN 30... | 140 | 10 | 144 | 0 | 118 | 4.6 | 410 | 220 | .4 | 3.2 | 1040 | .28 |
| DATE | | TOTAL | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| | | AMMONIA NITRO- GEN (N) (MG/L) | | | | | | | MAN- GANESE (MN) (UG/L) | | | |
| MAR 21... | .01 | .10 | .06 | 1 | 10 | 15 | 30 | 9 | 120 | .0 | 40 | -- |
| JUN 30... | .06 | 1.4 | .05 | 2 | 20 | 10 | 1000 | 4 | 930 | .3 | 20 | 8.2 |

MUSKINGUM RIVER BASIN

03128500 LITTLE STILLWATER CREEK BELOW TAPPAN DAM, AT TAPPAN, OH

LOCATION.--Lat 40°21'25", long 81°13'49", in NW 1/4 sec. 4, T.13 N., R.7 W., Harrison County, Hydrologic Unit 05040001, on right bank 150 ft (46 m) downstream from outlet of lake at Tappan Dam, 1 mi (2 km) west of Tappan, and 2 mi (3 km) upstream from Plum Run.

DRAINAGE AREA.--71.1 mi² (184 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year. Published as Little Stillwater Creek at Tappan 1938-39.

REVISED RECORDS.--WSP 1907: Drainage area.

GAGE.--Water-stage recorder and masonry control. Datum of gage is 861.00 ft (262.433 m) above mean sea level, adjustment of 1912. Prior to Jan. 30, 1939, water-stage recorder at gate house of Tappan Dam at datum 9 ft (3 m) higher. Jan. 30 to Mar. 24, 1939, nonrecording gage and Mar. 25, 1939, to Aug. 6, 1944, water-stage recorder, at site 150 ft (46 m) downstream at present datum.

REMARKS.--Records good except those below 6.0 ft³/s (0.17 m³/s), which are fair. Flow completely regulated by Tappan Lake (see station 03128000).

AVERAGE DISCHARGE.--39 years, 74.3 ft³/s (2.104 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,050 ft³/s (29.7 m³/s) Mar. 13, 1939, gage height, 10.00 ft (3.048 m); no flow Sept. 12-15, 18, 19, 21-29, Oct. 13-21, 1939.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 594 ft³/s (16.8 m³/s) Nov. 16, gage height, 6.69 ft (2.039 m); minimum daily, 1.7 ft³/s (0.048 m³/s) Oct. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|--------|--------|-------|-------|--------|--------|--------|-------|------|------|--------|
| 1 | 6.4 | 4.4 | 198 | 2.9 | 12 | 2.4 | 6.2 | 46 | 10 | 40 | 62 | 20 |
| 2 | 5.7 | 4.4 | 198 | 2.9 | 12 | 2.4 | 22 | 48 | 9.1 | 38 | 57 | 24 |
| 3 | 5.2 | 4.6 | 196 | 2.9 | 12 | 2.5 | 103 | 49 | 8.1 | 31 | 51 | 38 |
| 4 | 5.3 | 4.8 | 196 | 2.9 | 12 | 2.6 | 110 | 54 | 7.4 | 32 | 45 | 32 |
| 5 | 5.2 | 5.0 | 195 | 2.9 | 12 | 2.6 | 108 | 66 | 8.3 | 33 | 37 | 28 |
| 6 | 4.9 | 5.0 | 198 | 2.9 | 12 | 2.6 | 105 | 75 | 17 | 25 | 32 | 23 |
| 7 | 4.6 | 5.0 | 158 | 2.9 | 12 | 2.5 | 105 | 89 | 23 | 26 | 36 | 19 |
| 8 | 4.8 | 4.9 | 178 | 2.8 | 11 | 2.6 | 191 | 90 | 24 | 29 | 43 | 17 |
| 9 | 17 | 5.4 | 178 | 3.0 | 10 | 2.6 | 263 | 271 | 40 | 31 | 58 | 16 |
| 10 | 27 | 5.3 | 176 | 2.9 | 9.8 | 2.6 | 261 | 369 | 44 | 25 | 57 | 15 |
| 11 | 28 | 5.5 | 176 | 2.9 | 10 | 2.5 | 332 | 102 | 40 | 26 | 54 | 14 |
| 12 | 29 | 5.5 | 176 | 2.9 | 12 | 2.4 | 451 | 9.6 | 39 | 34 | 50 | 13 |
| 13 | 29 | 5.5 | 176 | 28 | 13 | 2.4 | 448 | 11 | 37 | 32 | 45 | 12 |
| 14 | 29 | 5.6 | 120 | 59 | 13 | 2.4 | 437 | 12 | 34 | 23 | 49 | 17 |
| 15 | 28 | 299 | 13 | 59 | 13 | 2.4 | 305 | 13 | 28 | 20 | 81 | 19 |
| 16 | 26 | 393 | 2.5 | 59 | 6.6 | 2.3 | 66 | 13 | 22 | 19 | 89 | 36 |
| 17 | 26 | 182 | 2.7 | 59 | 3.0 | 2.2 | 35 | 14 | 19 | 18 | 90 | 60 |
| 18 | 26 | 168 | 2.9 | 59 | 2.8 | 5.1 | 37 | 15 | 52 | 18 | 89 | 59 |
| 19 | 17 | 167 | 2.9 | 59 | 2.6 | 38 | 40 | 21 | 57 | 17 | 86 | 78 |
| 20 | 2.0 | 166 | 3.0 | 59 | 2.4 | 71 | 38 | 20 | 53 | 15 | 83 | 166 |
| 21 | 2.5 | 166 | 3.0 | 59 | 2.5 | 269 | 39 | 18 | 47 | 23 | 80 | 196 |
| 22 | 25 | 166 | 3.0 | 58 | 2.4 | 441 | 38 | 17 | 42 | 76 | 76 | 178 |
| 23 | 59 | 183 | 2.9 | 58 | 2.3 | 470 | 41 | 16 | 36 | 81 | 62 | 150 |
| 24 | 60 | 197 | 2.9 | 58 | 2.3 | 480 | 42 | 15 | 30 | 77 | 37 | 137 |
| 25 | 60 | 200 | 2.9 | 24 | 2.4 | 354 | 42 | 14 | 26 | 78 | 24 | 133 |
| 26 | 15 | 200 | 2.9 | 13 | 2.3 | 94 | 41 | 13 | 21 | 81 | 20 | 48 |
| 27 | 1.7 | 202 | 2.9 | 13 | 2.3 | 59 | 39 | 12 | 17 | 77 | 18 | 8.5 |
| 28 | 2.3 | 200 | 2.9 | 12 | 2.4 | 30 | 40 | 12 | 18 | 72 | 16 | 8.6 |
| 29 | 2.6 | 200 | 2.9 | 13 | --- | 13 | 49 | 11 | 37 | 70 | 17 | 8.7 |
| 30 | 2.9 | 200 | 2.9 | 13 | --- | 13 | 48 | 11 | 32 | 68 | 24 | 8.9 |
| 31 | 3.9 | --- | 2.9 | 13 | --- | 14 | --- | 11 | --- | 65 | 23 | --- |
| TOTAL | 561.0 | 3359.9 | 2578.1 | 809.8 | 212.1 | 2393.1 | 3882.2 | 1537.6 | 877.9 | 1300 | 1591 | 1582.7 |
| MEAN | 18.1 | 112 | 83.2 | 26.1 | 7.58 | 77.2 | 129 | 49.6 | 29.3 | 41.9 | 51.3 | 52.8 |
| MAX | 60 | 393 | 198 | 59 | 13 | 480 | 451 | 369 | 57 | 81 | 90 | 196 |
| MIN | 1.7 | 4.4 | 2.5 | 2.8 | 2.3 | 2.2 | 6.2 | 9.6 | 7.4 | 15 | 16 | 8.5 |

CAL YR 1976 TOTAL 23487.04 MEAN 64.2 MAX 456 MIN .84
WTR YR 1977 TOTAL 20685.40 MEAN 56.7 MAX 480 MIN 1.7

MUSKINGUM RIVER BASIN

111

03128500 LITTLE STILLWATER CREEK BELOW TAPPAN DAM, AT TAPPAN, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA, MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|------|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| DATE | TIME | (CFS) | | (UNITS) | | | | | | | | |
| MAR 22... | 1000 | 473 | 690 | 7.8 | 7.0 | 11.2 | 92 | 1.6 | 330 | 240 | 82 | 30 |
| JUN 30... | 1030 | 33 | 690 | 7.6 | 16.5 | 8.6 | 88 | 2.1 | 310 | 220 | 83 | 26 |
| | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSUM- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) |
| MAR 22... | 9.0 | 2.5 | 104 | 0 | 85 | 2.6 | 250 | 10 | .1 | 4.8 | 440 | .29 |
| JUN 30... | 7.9 | 2.4 | 116 | 0 | 95 | 4.7 | 220 | 9.3 | .1 | 4.3 | 412 | .04 |
| | | TOTAL NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (MG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (MG/L) |
| MAR 22... | .00 | .15 | .03 | 1 | 20 | 2 | 10 | 6 | 60 | .0 | 50 | -- |
| JUN 30... | .00 | .14 | .09 | 4 | <10 | 8 | 300 | 2 | 1600 | .0 | 20 | 6.2 |

MUSKINGUM RIVER BASIN

03129000 TUSCARAWAS RIVER AT NEWCOMERSTOWN, OH

LOCATION.--Lat 40°15'41", long 81°36'33", in T.5 N., R.3 W., Tuscarawas County, Hydrologic Unit 05040001, on right bank 150 ft (46 m) upstream from highway bridge, 0.2 mi (0.3 km) south of Newcomerstown, 2 mi (3 km) upstream from Buckhorn Creek, and 4 mi (6 km) downstream from Dunlap Creek.

DRAINAGE AREA.--2,443 mi² (6,327 km²).

WATER-DISCHARGE RECORDS

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 (237.744 m) above mean sea level, adjustment of 1912. Prior to Sept. 28, 1925, and July 18, 1935, to Feb. 13, 1939, nonrecording gage, Sept. 28, 1925, to July 17, 1935, water-stage recorder at site 1.5 mi (2.4 km) upstream at datum 5.03 ft (1.533 m) higher prior to Oct. 1, 1934, and 0.03 ft (0.009 m) higher Oct. 1, 1934, to Feb. 13, 1939.

REMARKS.--Records good except those for winter periods, which are fair. Diversion from basin at Portage 03117000). Flow regulated by eight flood-control reservoirs at points 40 mi (64 km) to 64 mi (103 km) upstream.

AVERAGE DISCHARGE.--56 years, 2,455 ft³/s (69.53 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 46,800 ft³/s (1,330 m³/s) Jan. 26, 1937, gage height, 20.65 ft (6.294 m), site and datum then in use; minimum daily, 170 ft³/s (4.81 m³/s) Aug. 6, 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of about 21.5 ft (6.55 m), at site and datum used prior to Oct. 1, 1934, discharge, 83,000 ft³/s (2,350 m³/s) computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,600 ft³/s (329 m³/s) Apr. 5, gage height, 8.70 ft (2.652 m), maximum 9.78 ft (2.981 m) Feb. 24 (ice jam); minimum daily, 617 ft³/s (17.5 m³/s) Oct. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|-------|-------|-------|--------|--------|-------|-------|-------|-------|-------|
| 1 | 1070 | 1280 | 1320 | 900 | 680 | 6200 | 3010 | 2520 | 739 | 1590 | 1330 | 890 |
| 2 | 980 | 1780 | 1290 | 880 | 680 | 5400 | 3580 | 2230 | 730 | 1920 | 1200 | 833 |
| 3 | 887 | 1670 | 1270 | 860 | 680 | 4800 | 9570 | 2220 | 739 | 1490 | 1080 | 890 |
| 4 | 779 | 1410 | 1190 | 860 | 680 | 4300 | 10500 | 2470 | 694 | 1180 | 968 | 1750 |
| 5 | 698 | 1230 | 1290 | 840 | 680 | 4840 | 11200 | 2700 | 694 | 3170 | 881 | 1160 |
| 6 | 698 | 1120 | 1280 | 820 | 680 | 4530 | 11000 | 3460 | 1350 | 4160 | 978 | 939 |
| 7 | 770 | 1050 | 1360 | 800 | 680 | 3290 | 10300 | 4220 | 1580 | 2840 | 1580 | 919 |
| 8 | 779 | 961 | 1780 | 800 | 680 | 2700 | 9260 | 3570 | 1390 | 1860 | 3580 | 890 |
| 9 | 779 | 887 | 2090 | 780 | 680 | 2370 | 9130 | 2970 | 1250 | 1890 | 3610 | 804 |
| 10 | 887 | 887 | 1900 | 780 | 680 | 2180 | 9440 | 2810 | 1760 | 1560 | 3160 | 758 |
| 11 | 1080 | 897 | 1720 | 780 | 730 | 2040 | 9240 | 2770 | 1810 | 1310 | 2570 | 721 |
| 12 | 1140 | 878 | 1680 | 780 | 1200 | 1940 | 8870 | 2230 | 1380 | 1290 | 2190 | 676 |
| 13 | 1050 | 851 | 1680 | 760 | 1800 | 4250 | 8120 | 1880 | 1140 | 1480 | 1850 | 640 |
| 14 | 970 | 815 | 1620 | 820 | 2900 | 7920 | 7530 | 1740 | 1040 | 1350 | 1680 | 1340 |
| 15 | 878 | 779 | 1480 | 880 | 4000 | 8220 | 7210 | 1640 | 978 | 1140 | 1870 | 2190 |
| 16 | 788 | 906 | 1270 | 840 | 3800 | 6750 | 5870 | 1520 | 900 | 998 | 1960 | 2130 |
| 17 | 716 | 1260 | 1050 | 800 | 3200 | 5310 | 4050 | 1420 | 823 | 1150 | 2040 | 2170 |
| 18 | 653 | 1230 | 990 | 760 | 2700 | 4880 | 2980 | 1330 | 1880 | 1530 | 2130 | 2810 |
| 19 | 626 | 1090 | 1040 | 740 | 2300 | 7760 | 2700 | 1310 | 2490 | 1520 | 1880 | 3090 |
| 20 | 617 | 1030 | 1060 | 720 | 2000 | 8490 | 2520 | 1320 | 2210 | 1210 | 1560 | 5100 |
| 21 | 653 | 1010 | 1160 | 700 | 1700 | 7470 | 2350 | 1270 | 1740 | 1030 | 1370 | 4880 |
| 22 | 752 | 990 | 1280 | 700 | 1600 | 6990 | 2130 | 1180 | 1330 | 3900 | 1290 | 4380 |
| 23 | 788 | 970 | 1150 | 700 | 2100 | 7310 | 2020 | 1100 | 1160 | 4250 | 1440 | 3270 |
| 24 | 833 | 980 | 1060 | 680 | 4800 | 7890 | 2340 | 1140 | 1070 | 4060 | 1550 | 2160 |
| 25 | 990 | 1000 | 1000 | 680 | 7800 | 6990 | 3120 | 1060 | 988 | 3460 | 1310 | 1880 |
| 26 | 1380 | 1200 | 1000 | 680 | 9540 | 6190 | 2980 | 1020 | 1080 | 2640 | 1130 | 2380 |
| 27 | 1480 | 1300 | 980 | 680 | 9500 | 4970 | 2630 | 958 | 978 | 1990 | 1030 | 2220 |
| 28 | 1270 | 1350 | 960 | 680 | 8280 | 3680 | 2430 | 900 | 919 | 1570 | 958 | 1760 |
| 29 | 1080 | 1380 | 940 | 680 | --- | 3760 | 2540 | 852 | 929 | 1330 | 900 | 1450 |
| 30 | 952 | 1370 | 940 | 680 | --- | 4340 | 2800 | 795 | 1220 | 1270 | 881 | 1290 |
| 31 | 970 | --- | 920 | 680 | --- | 3620 | --- | 758 | --- | 1340 | 919 | --- |
| TOTAL | 27993 | 33561 | 39750 | 23740 | 76750 | 161380 | 171420 | 57363 | 36991 | 61478 | 50875 | 56370 |
| MEAN | 903 | 1119 | 1282 | 766 | 2741 | 5206 | 5714 | 1850 | 1233 | 1983 | 1641 | 1879 |
| MAX | 1480 | 1780 | 2090 | 900 | 9540 | 8490 | 11200 | 4220 | 2490 | 4250 | 3610 | 5100 |
| MIN | 617 | 779 | 920 | 680 | 680 | 1940 | 2020 | 758 | 694 | 998 | 881 | 640 |
| CAL YR 1976 | TOTAL | 901517 | MEAN | 2463 | MAX | 9870 | MIN | 545 | | | | |
| WTR YR 1977 | TOTAL | 797671 | MEAN | 2185 | MAX | 11200 | MIN | 617 | | | | |

MUSKINGUM RIVER BASIN

113

03129000 TUSCARAWAS RIVER AT NEWCOMERSTOWN, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1946 to 1949, 1955 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA, MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | |
|--------------|------|---|--|---|------------------------------------|--|--------------------------------------|--|---|--|--|---|---|
| MAR 22... | 1515 | 7250 | 515 | 7.4 | 6.0 | 10.3 | 82 | 2.0 | 200 | 140 | 55 | 15 | |
| JUN 29... | 1440 | 926 | 1200 | 8.5 | 24.5 | 11.1 | 130 | 4.7 | 360 | 250 | 110 | 20 | |
| | | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 22... | 37 | 3.8 | 76 | 0 | 62 | 4.8 | 110 | 67 | .1 | 7.5 | 333 | 2.1 | |
| JUN 29... | 90 | 4.8 | 125 | 5 | 111 | .7 | 190 | 180 | .4 | 3.5 | 667 | .98 | |
| | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 22... | .03 | .14 | .28 | 3 | 10 | 7 | 40 | 12 | 280 | .0 | 150 | -- | |
| JUN 29... | .02 | .10 | .16 | 2 | <10 | 10 | 1600 | 10 | 370 | .5 | 40 | 1.9 | |

MUSKINGUM RIVER BASIN

03130000 BLACK FORK BELOW CHARLES MILL DAM, NEAR MIFFLIN, OH

LOCATION.--Lat 40°44'16", long 82°21'48", in NE 1/4 sec. 35, T.23 N., R.17 W., Ashland County, Hydrologic Unit 05040002, on left bank 700 ft (213 m) downstream from Charles Mill Dam, 2.5 mi (4.0 km) south of Mifflin, and 4 mi (6 km) upstream from Rocky Fork.

DRAINAGE AREA.--217 mi² (562 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year. Prior to October 1940, published as Black Fork near Mifflin. Monthly discharge only for October 1938, published in WSP 1305.

REVISED RECORDS.--WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 981.56 ft (299.179 m) above mean sea level, adjustment of 1912. Dec. 3, 1941, to Dec. 5, 1944, water-stage recorder at site 300 ft (91 m) downstream at same datum.

REMARKS.--Records good. Flow regulated by Charles Mill Lake (see station 03129500).

AVERAGE DISCHARGE.--39 years, 194 ft³/s (5.494 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,800 ft³/s (79.3 m³/s) Mar. 13, 1964 from rating curve extended above 1,900 ft³/s (53.8 m³/s); maximum gage height, 8.45 ft (2.576 m) Mar. 14, 1939; minimum daily discharge, 0.9 ft³/s (0.025 m³/s) Apr. 21, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a discharge of 11,700 ft³/s (331 m³/s), computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,100 ft³/s (31.2 m³/s) Apr. 6, gage height, 5.29 ft (1.612 m); minimum daily, 14 ft³/s (0.40 m³/s) Jan. 22-24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|-------|-------|------|------|------|------|------|
| 1 | 55 | 61 | 148 | 16 | 24 | 901 | 473 | 107 | 23 | 45 | 64 | 30 |
| 2 | 49 | 63 | 143 | 16 | 19 | 874 | 275 | 105 | 22 | 51 | 58 | 31 |
| 3 | 45 | 66 | 141 | 16 | 16 | 717 | 30 | 63 | 21 | 61 | 54 | 40 |
| 4 | 41 | 63 | 137 | 17 | 16 | 547 | 568 | 46 | 19 | 64 | 48 | 38 |
| 5 | 37 | 61 | 130 | 16 | 17 | 488 | 446 | 92 | 20 | 72 | 49 | 40 |
| 6 | 36 | 57 | 128 | 16 | 17 | 480 | 990 | 214 | 23 | 81 | 51 | 40 |
| 7 | 36 | 58 | 128 | 21 | 16 | 469 | 1090 | 278 | 24 | 93 | 70 | 37 |
| 8 | 32 | 54 | 123 | 23 | 21 | 420 | 1070 | 263 | 22 | 128 | 70 | 34 |
| 9 | 36 | 46 | 119 | 23 | 27 | 350 | 1040 | 232 | 31 | 109 | 70 | 31 |
| 10 | 34 | 46 | 115 | 22 | 33 | 293 | 1010 | 195 | 30 | 95 | 66 | 32 |
| 11 | 34 | 45 | 111 | 21 | 38 | 251 | 972 | 139 | 32 | 86 | 63 | 28 |
| 12 | 36 | 44 | 107 | 24 | 41 | 232 | 831 | 137 | 33 | 86 | 63 | 25 |
| 13 | 38 | 41 | 103 | 24 | 44 | 160 | 613 | 109 | 31 | 82 | 59 | 31 |
| 14 | 36 | 38 | 99 | 24 | 45 | 473 | 457 | 64 | 30 | 69 | 59 | 45 |
| 15 | 33 | 36 | 95 | 24 | 46 | 508 | 318 | 38 | 30 | 61 | 57 | 55 |
| 16 | 32 | 34 | 69 | 24 | 32 | 555 | 230 | 40 | 27 | 58 | 54 | 92 |
| 17 | 31 | 33 | 55 | 24 | 21 | 488 | 195 | 41 | 27 | 64 | 51 | 130 |
| 18 | 28 | 32 | 54 | 23 | 21 | 219 | 170 | 42 | 26 | 58 | 45 | 175 |
| 19 | 27 | 32 | 54 | 23 | 21 | 275 | 153 | 41 | 24 | 54 | 40 | 305 |
| 20 | 31 | 31 | 54 | 23 | 22 | 874 | 128 | 37 | 23 | 51 | 36 | 367 |
| 21 | 32 | 31 | 54 | 21 | 22 | 883 | 93 | 36 | 21 | 54 | 37 | 405 |
| 22 | 31 | 30 | 40 | 14 | 22 | 826 | 74 | 33 | 18 | 67 | 49 | 391 |
| 23 | 30 | 27 | 31 | 14 | 30 | 892 | 92 | 38 | 17 | 111 | 49 | 337 |
| 24 | 38 | 28 | 31 | 14 | 40 | 879 | 95 | 37 | 16 | 153 | 52 | 260 |
| 25 | 49 | 77 | 30 | 16 | 134 | 844 | 103 | 37 | 17 | 260 | 49 | 172 |
| 26 | 54 | 148 | 31 | 23 | 646 | 752 | 115 | 34 | 16 | 305 | 44 | 109 |
| 27 | 58 | 160 | 31 | 30 | 888 | 623 | 121 | 32 | 16 | 175 | 40 | 61 |
| 28 | 57 | 172 | 22 | 33 | 905 | 538 | 123 | 30 | 16 | 95 | 36 | 44 |
| 29 | 55 | 170 | 17 | 33 | --- | 496 | 119 | 27 | 20 | 69 | 33 | 41 |
| 30 | 54 | 157 | 17 | 32 | --- | 488 | 113 | 25 | 22 | 67 | 32 | 40 |
| 31 | 64 | --- | 17 | 27 | --- | 496 | --- | 22 | --- | 66 | 31 | --- |
| TOTAL | 1249 | 1941 | 2434 | 677 | 3224 | 17291 | 12107 | 2634 | 697 | 2890 | 1579 | 3466 |
| MEAN | 40.3 | 64.7 | 78.5 | 21.8 | 115 | 558 | 404 | 85.0 | 23.2 | 93.2 | 50.9 | 116 |
| MAX | 64 | 172 | 148 | 33 | 905 | 901 | 1090 | 278 | 33 | 305 | 70 | 405 |
| MIN | 27 | 27 | 17 | 14 | 16 | 160 | 30 | 22 | 16 | 45 | 31 | 25 |

CAL YR 1976 TOTAL 60157 MEAN 164 MAX 1270 MIN 17
WTR YR 1977 TOTAL 50189 MEAN 138 MAX 1090 MIN 14

MUSKINGUM RIVER BASIN

115

03130000 BLACK FORK BELOW CHARLES MILL DAM, NEAR MIPPLIN, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND | HARD- NESS | NON- CAR- BONATE HARD- NESS | DIS- SOLVED CAL- CIUM | DIS- SOLVED MAG- NE- SIUM |
|--------------|------|---------------------------------------|--|------------------|------------------------|--------------------------|---------------------------------|---|----------------------------------|---|---|---------------------------------------|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | | 5 DAY (MG/L) | (CA+MG) (MG/L) | (MG/L) | (CA) (MG/L) | (MG/L) |
| MAR 22... | 0930 | 883 | 400 | 7.8 | 6.0 | 11.0 | 88 | 2.9 | 170 | 74 | 48 | 12 |
| JUN 30... | 1300 | 16 | 490 | 7.8 | 24.0 | 7.8 | 92 | 5.3 | 200 | 51 | 50 | 18 |
| | | DIS- SOLVED PO- TAS- SIUM | BICAR- BONATE | CAR- BONATE | ALKA- LINITY AS | CARBON DIOXIDE | DIS- SOLVED SULFATE | DIS- SOLVED CHLO- RIDE | DIS- SOLVED FLUO- RIDE | DIS- SOLVED SILICA | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) | TOTAL NITRATE |
| DATE | | (NA) (MG/L) | (HCO3) (MG/L) | (CO3) (MG/L) | (MG/L) | (CO2) (MG/L) | (SO4) (MG/L) | (CL) (MG/L) | (F) (MG/L) | (SI02) (MG/L) | (MG/L) | (N) (MG/L) |
| MAR 22... | 15 | 3.6 | 116 | 0 | 95 | 2.9 | 54 | 28 | .1 | 6.3 | 224 | 3.4 |
| JUN 30... | 20 | 3.2 | 180 | 0 | 148 | 4.6 | 58 | 31 | .2 | 5.3 | 274 | .05 |
| | | TOTAL AMMONIA NITRO- GEN | TOTAL PHOS- PHORUS | TOTAL ARSENIC | TOTAL CHRO- MIUM | TOTAL COPPER | DIS- SOLVED IRON | TOTAL LEAD | DIS- SOLVED MAN- GANESE | TOTAL MERCURY | TOTAL ZINC | TOTAL ORGANIC CARBON |
| DATE | | (N) (MG/L) | (N) (MG/L) | (P) (UG/L) | (CR) (UG/L) | (CU) (UG/L) | (FE) (UG/L) | (PB) (UG/L) | (MN) (UG/L) | (HG) (UG/L) | (ZN) (UG/L) | (C) (MG/L) |
| MAR 22... | .04 | .18 | .12 | 2 | 50 | 5 | 60 | 5 | 20 | .0 | 50 | 8.2 |
| JUN 30... | .01 | .18 | .19 | 7 | <10 | 4 | 30 | 14 | 10 | .0 | 50 | 12 |

MUSKINGUM RIVER BASIN

03130500 TOUBY RUN AT MANSFIELD, OH

LOCATION.--Lat 40°45'53", long 82°32'43", in NW 1/4 sec. 20, T.21 N., R.18 W., Richland County, Hydrologic Unit 05040002, on left bank 100 ft (30 m) downstream from West 4th Street Bridge at west edge of Mansfield, and 2 mi (3 km) upstream from mouth.

DRAINAGE AREA.--5.44 mi² (14.1 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1946 to current year.

REVISED RECORDS.--WSP 1907: Drainage area.

GAGE.--Water-stage recorder and broad-crested weir. Datum of gage is 1,216.42 ft (370.765 m) above mean sea level, adjustment of 1912 (levels by city of Mansfield).

REMARKS.--Records fair except those for winter periods, which are poor.

AVERAGE DISCHARGE.--31 years, 5.06 ft³/s (0.143 m³/s), 12.63 in/yr (321 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 965 ft³/s (27.3 m³/s) June 6, 1947, gage height, 4.17 ft (1.271 m), from rating curve extended above 160 ft³/s (4.53 m³/s) on the basis of slope-area measurements at gage heights 2.49 ft (0.759 m) and 4.17 ft (1.27 m) and computation of flow over dam at gage height 3.94 ft (1.201 m); no flow July 29, 1975 and part of each day Sept. 4, 1965, Nov. 10, 1967, July 30, 31, Aug. 1, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 380 ft³/s (10.8 m³/s) July 21 (base 200 ft³/s (5.66 m³/s) gage height, 2.30 ft (0.701 m); minimum discharge, 0.20 ft³/s (0.006 m³/s) Sept. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|------|-------|-------|-------|--------|-------|-------|--------|-------|--------|
| 1 | .97 | 1.9 | 2.3 | 1.2 | .58 | 1.4 | 2.6 | 1.4 | 1.2 | 10 | .79 | .79 |
| 2 | .79 | 1.4 | 2.3 | 1.1 | .56 | 1.2 | 70 | 3.4 | .97 | .79 | .79 | 4.3 |
| 3 | .79 | 1.2 | 1.9 | 1.1 | .54 | 1.2 | 21 | 1.4 | .97 | .50 | .79 | 3.0 |
| 4 | .97 | 1.2 | 1.9 | 1.1 | .54 | 12 | 11 | 25 | .97 | 7.1 | .79 | .40 |
| 5 | .97 | .97 | 1.7 | 1.1 | .52 | 5.9 | 14 | 10 | 2.3 | 1.2 | 9.7 | .40 |
| 6 | 1.9 | .97 | 2.6 | 1.1 | .52 | 2.3 | 9.1 | 3.4 | 1.2 | .64 | 3.0 | .50 |
| 7 | .97 | .97 | 7.1 | 1.1 | .52 | 1.9 | 5.9 | 2.3 | .97 | 13 | 7.8 | .50 |
| 8 | .79 | .97 | 2.6 | 1.1 | .50 | 1.4 | 4.3 | 1.4 | 2.3 | 3.0 | .79 | .50 |
| 9 | 5.9 | 1.4 | 2.3 | 1.1 | .50 | 1.7 | 3.0 | 1.2 | 6.5 | .79 | .79 | .64 |
| 10 | 1.4 | 1.4 | 1.9 | 1.1 | .75 | 1.7 | 2.6 | .97 | .97 | .64 | .79 | 1.7 |
| 11 | .79 | 1.2 | 2.3 | 1.0 | 1.9 | 1.4 | 2.3 | .97 | 1.4 | 7.8 | 12 | .30 |
| 12 | .97 | .96 | 1.7 | 1.0 | 4.7 | 15 | 1.9 | .97 | 1.2 | 1.9 | 5.9 | .79 |
| 13 | 1.2 | .96 | 1.5 | 1.0 | 6.0 | 28 | 1.7 | .79 | .79 | .97 | 2.6 | 13 |
| 14 | 1.4 | .79 | 1.5 | 1.0 | 2.9 | 14 | 1.4 | .79 | .97 | .79 | .97 | 11 |
| 15 | 1.7 | .96 | 1.4 | 1.0 | 1.7 | 9.1 | 1.2 | .79 | .97 | .97 | 1.2 | 1.7 |
| 16 | 1.9 | .79 | 1.4 | 1.0 | 1.1 | 3.8 | 1.2 | .79 | .97 | 1.7 | .97 | 44 |
| 17 | 1.7 | .79 | 1.4 | 1.0 | .75 | 3.4 | 1.2 | .79 | 2.3 | 1.2 | .79 | 24 |
| 18 | 1.9 | .96 | 1.4 | 1.0 | .58 | 67 | .97 | .79 | .79 | .79 | .79 | 20 |
| 19 | 2.3 | .96 | 1.4 | 1.0 | .50 | 17 | .97 | .79 | .64 | .97 | .64 | 20 |
| 20 | 5.3 | .96 | 1.3 | 1.0 | .40 | 13 | .79 | .79 | .64 | .79 | .50 | 3.8 |
| 21 | 1.4 | .96 | 1.3 | .96 | .40 | 7.1 | .79 | .79 | .64 | 61 | 7.1 | 1.7 |
| 22 | 1.2 | 1.1 | 1.3 | .94 | 1.7 | 28 | 3.4 | 4.8 | .64 | 15 | 7.8 | 1.2 |
| 23 | 1.4 | 1.6 | 1.3 | .92 | 19 | 17 | 5.9 | 13 | .64 | 1.9 | .79 | .97 |
| 24 | 9.1 | 1.9 | 1.3 | .90 | 27 | 12 | 3.0 | 3.0 | .64 | 1.2 | .79 | .97 |
| 25 | 5.3 | 2.3 | 1.2 | .88 | 9.7 | 4.8 | 3.4 | .97 | 1.9 | 2.6 | .64 | .97 |
| 26 | 1.9 | 5.9 | 1.2 | .80 | 4.3 | 3.4 | 3.0 | .97 | .64 | .79 | .64 | 1.2 |
| 27 | 1.4 | 4.8 | 1.2 | .75 | 3.8 | 3.0 | 1.4 | .79 | .50 | .79 | .50 | 1.2 |
| 28 | 1.2 | 2.6 | 1.2 | .70 | 2.3 | 25 | 5.9 | .64 | 1.2 | .64 | .64 | 1.4 |
| 29 | 1.2 | 2.3 | 1.2 | .66 | --- | 16 | 2.3 | .64 | 5.3 | 5.3 | .64 | 1.2 |
| 30 | 1.7 | 3.4 | 1.2 | .63 | --- | 5.9 | 1.4 | .64 | 18 | 1.4 | .79 | 1.2 |
| 31 | 7.1 | --- | 1.2 | .61 | --- | 3.4 | --- | 1.2 | --- | .64 | .64 | --- |
| TOTAL | 67.51 | 48.57 | 55.5 | 29.85 | 94.26 | 328.0 | 187.62 | 86.17 | 59.12 | 146.80 | 73.36 | 163.33 |
| MEAN | 2.18 | 1.62 | 1.79 | .96 | 3.37 | 10.6 | 6.25 | 2.78 | 1.97 | 4.74 | 2.37 | 5.44 |
| MAX | 9.1 | 5.9 | 7.1 | 1.2 | 27 | 67 | 70 | 25 | 18 | 61 | 12 | 44 |
| MIN | .79 | .79 | 1.2 | .61 | .40 | 1.2 | .79 | .64 | .50 | .50 | .50 | .30 |
| CFSM | .40 | .30 | .33 | .18 | .62 | 1.95 | 1.15 | .51 | .36 | .87 | .44 | 1.00 |
| IN. | .46 | .33 | .38 | .20 | .64 | 2.24 | 1.28 | .59 | .40 | 1.00 | .50 | 1.12 |

CAL YR 1976 TOTAL 1731.35 MEAN 4.73 MAX 124 MIN .30 CFSM .87 IN 11.84
WTR YR 1977 TOTAL 1340.09 MEAN 3.67 MAX 70 MIN .30 CFSM .68 IN 9.16

MUSKINGUM RIVER BASIN

117

03130500 TOUBY RUN AT MANSFIELD, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPECIFIC CON- DUCTANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | |
|--------------|------|---|--|---|------------------------------------|--|--------------------------------------|--|---|--|--|---|---|
| | | | | | | | | | | | | | |
| MAR 21... | 1315 | 7.1 | 610 | 8.2 | 8.5 | 10.4 | 89 | 2.4 | 220 | 99 | 63 | 16 | |
| JUL 12... | 1200 | 1.7 | 715 | 7.9 | 22.5 | 8.7 | 99 | 2.7 | 250 | 91 | 73 | 17 | |
| DATE | | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 21... | 40 | 2.9 | 152 | 0 | 125 | 1.5 | 71 | 78 | .1 | 7.6 | 354 | 1.9 | |
| JUL 12... | 54 | 4.1 | 197 | 0 | 162 | 4.0 | 69 | 89 | .3 | 8.5 | 412 | 2.3 | |
| DATE | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 21... | .02 | .16 | .10 | 1 | 30 | 3 | 20 | 5 | 60 | .0 | 100 | 7.5 | |
| JUL 12... | .04 | .05 | .16 | 2 | <10 | 5 | 60 | 11 | 40 | .0 | 30 | 7.4 | |

MUSKINGUM RIVER BASIN

03131500 BLACK FORK AT LOUDONVILLE, OH

LOCATION.--Lat 40°38'09", long 82°14'22", in NW 1/4 sec. 1, T.19 N., R.16 W., Ashland County, Hydrologic Unit 05040002, on right bank at upstream side of bridge on State Highway 3 at Loudonville, 1.5 mi (2.4 km) downstream from Big Run.

DRAINAGE AREA.--349 mi² (904 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1931 to current year.

REVISED RECORDS.--WSP 873: 1935. WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 929.16 ft (283.208 m) above mean sea level. Prior to Oct. 23, 1941, nonrecording gage at same site and datum.

REMARKS.--Records good. Flow regulated since 1936 by Charles Mill Lake, 16 mi (26 km) upstream from station (see station 03129500). Records include diversion from Clear Fork Reservoir which enters the Black Fork drainage as sewage effluent from the city of Mansfield (see REMARKS for station 03133500).

AVERAGE DISCHARGE.--46 years, 339 ft³/s (9.600 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,460 ft³/s (240 m³/s) July 5, 1969, gage height, 14.11 ft (4.301 m), from rating curve extended above 4,000 ft³/s (113 m³/s) on basis of contracted-opening measurement of peak flow; minimum daily, 29 ft³/s (0.82 m³/s) Aug. 7, 8, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,750 ft³/s (77.9 m³/s) Apr. 3, gage height, 9.77 ft (2.978 m); minimum daily, 84 ft³/s (2.38 m³/s) Jan. 5-10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|------|------|------|-------|-------|------|------|------|------|------|
| 1 | 136 | 204 | 255 | 85 | 174 | 1080 | 661 | 268 | 121 | 554 | 136 | 99 |
| 2 | 131 | 169 | 252 | 85 | 169 | 1030 | 1480 | 268 | 104 | 170 | 133 | 99 |
| 3 | 126 | 163 | 246 | 85 | 152 | 903 | 1680 | 268 | 102 | 163 | 127 | 187 |
| 4 | 112 | 158 | 240 | 85 | 155 | 878 | 809 | 394 | 95 | 274 | 118 | 121 |
| 5 | 116 | 155 | 234 | 84 | 155 | 890 | 1140 | 406 | 92 | 224 | 178 | 102 |
| 6 | 116 | 149 | 237 | 84 | 142 | 689 | 1210 | 403 | 107 | 199 | 166 | 102 |
| 7 | 126 | 144 | 273 | 84 | 139 | 654 | 1400 | 456 | 102 | 234 | 333 | 102 |
| 8 | 116 | 142 | 237 | 84 | 139 | 602 | 1350 | 423 | 102 | 710 | 227 | 102 |
| 9 | 129 | 136 | 225 | 84 | 134 | 530 | 1290 | 388 | 163 | 289 | 178 | 95 |
| 10 | 174 | 134 | 222 | 84 | 131 | 465 | 1240 | 343 | 124 | 224 | 163 | 107 |
| 11 | 119 | 131 | 222 | 86 | 158 | 413 | 1190 | 283 | 115 | 199 | 152 | 95 |
| 12 | 116 | 129 | 216 | 92 | 249 | 428 | 1060 | 286 | 124 | 330 | 258 | 85 |
| 13 | 116 | 126 | 210 | 92 | 366 | 1140 | 833 | 244 | 115 | 211 | 166 | 102 |
| 14 | 119 | 121 | 201 | 88 | 252 | 825 | 665 | 202 | 115 | 181 | 149 | 286 |
| 15 | 112 | 116 | 198 | 90 | 207 | 757 | 521 | 133 | 110 | 163 | 136 | 142 |
| 16 | 112 | 119 | 172 | 92 | 177 | 744 | 406 | 127 | 107 | 152 | 136 | 403 |
| 17 | 109 | 116 | 140 | 96 | 136 | 695 | 363 | 133 | 110 | 202 | 127 | 509 |
| 18 | 104 | 116 | 130 | 96 | 134 | 1550 | 330 | 133 | 127 | 166 | 118 | 391 |
| 19 | 107 | 116 | 120 | 96 | 126 | 821 | 308 | 133 | 102 | 159 | 107 | 722 |
| 20 | 109 | 114 | 120 | 96 | 124 | 1220 | 286 | 127 | 95 | 142 | 104 | 596 |
| 21 | 147 | 112 | 110 | 96 | 116 | 1150 | 241 | 124 | 95 | 149 | 104 | 586 |
| 22 | 116 | 109 | 110 | 96 | 124 | 1270 | 211 | 118 | 92 | 824 | 286 | 557 |
| 23 | 112 | 116 | 100 | 92 | 425 | 1250 | 286 | 159 | 90 | 274 | 156 | 499 |
| 24 | 183 | 114 | 98 | 88 | 1170 | 1150 | 271 | 178 | 88 | 258 | 133 | 423 |
| 25 | 237 | 112 | 95 | 88 | 757 | 1060 | 274 | 139 | 118 | 347 | 130 | 347 |
| 26 | 169 | 279 | 90 | 94 | 840 | 964 | 268 | 127 | 99 | 420 | 121 | 244 |
| 27 | 155 | 339 | 88 | 110 | 1130 | 830 | 268 | 118 | 85 | 324 | 115 | 184 |
| 28 | 149 | 303 | 86 | 150 | 1120 | 827 | 268 | 112 | 90 | 208 | 110 | 127 |
| 29 | 147 | 285 | 86 | 186 | --- | 867 | 268 | 107 | 136 | 149 | 99 | 121 |
| 30 | 144 | 273 | 86 | 225 | --- | 716 | 268 | 104 | 110 | 178 | 104 | 118 |
| 31 | 234 | --- | 86 | 201 | --- | 693 | --- | 104 | --- | 149 | 102 | --- |
| TOTAL | 4198 | 4800 | 5185 | 3194 | 9101 | 27091 | 20845 | 6808 | 3235 | 8226 | 4672 | 7653 |
| MEAN | 135 | 160 | 167 | 103 | 325 | 874 | 695 | 220 | 108 | 265 | 151 | 255 |
| MAX | 237 | 339 | 273 | 225 | 1170 | 1550 | 1680 | 456 | 163 | 824 | 333 | 722 |
| MIN | 104 | 109 | 86 | 84 | 116 | 413 | 211 | 104 | 85 | 142 | 99 | 85 |
| CAL YR 1976 | TOTAL | 122851 | MEAN | 336 | MAX | 1950 | MIN | 86 | | | | |
| WTR YR 1977 | TOTAL | 105008 | MEAN | 288 | MAX | 1680 | MIN | 84 | | | | |

MUSKINGUM RIVER BASIN

119

03131500 BLACK FORK AT LOUDONVILLE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958, 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|--|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| | | | | | | | | | | | | |
| MAR 22... | 1310 | 1350 | 460 | 7.8 | 5.5 | 10.5 | 83 | 5.8 | 180 | 72 | 49 | 13 |
| JUN 30... | 1230 | 101 | 460 | 7.3 | 20.0 | 6.3 | 68 | 6.5 | 180 | 28 | 50 | 14 |
| DATE | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 22... | 20 | 3.7 | 127 | 0 | 104 | 3.2 | 55 | 35 | .1 | 7.0 | 246 | 3.1 |
| JUN 30... | 24 | 3.0 | 188 | 0 | 154 | 15 | 49 | 34 | .2 | 8.1 | 275 | 1.5 |
| DATE | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 22... | .05 | .45 | .30 | 3 | 40 | 36 | 60 | 8 | 30 | .0 | 90 | -- |
| JUN 30... | .03 | .06 | .36 | 3 | 160 | 35 | 40 | 16 | 120 | .0 | 50 | 8.4 |

MUSKINGUM RIVER BASIN

03133500 CLEAR FORK BELOW PLEASANT HILL DAM, NEAR PERRYSVILLE, OH

LOCATION.--Lat 40°37'13", long 82°19'28", in NE 1/4 sec. 7, T.19 N., R.16 W., Ashland County, Hydrologic Unit 05040002, on right bank 0.2 mi (0.3 km) downstream from Pleasant Hill Dam, 2.8 mi (4.5 km) south of Perryville, and 4.7 mi (7.6 km) upstream from the confluence of Clear Fork and Black Fork.

DRAINAGE AREA.--198 mi² (513 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year. Published as Clear Fork near Perryville prior to 1940. Monthly discharge only for October 1938, published in WSP 1305.

REVISED RECORDS.--WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 967.00 ft (294.741 m) above mean sea level, adjustment of 1912. Prior to May 1, 1947, water-stage recorder at site 0.5 mi (0.8 km) downstream at datum 4.88 ft (1.487 m) lower.

REMARKS.--Records good. Flow regulated by Pleasant Hill Lake (see station 03133000). Water diverted from Clear Fork Reservoir (upstream from Pleasant Hill Lake) for municipal supply of city of Mansfield since 1953; diversion not included in figures of daily discharge.

AVERAGE DISCHARGE.--39 years, 193 ft³/s (5.466 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,340 ft³/s (66.3 m³/s) Jan. 23, 1959, gage height, 4.89 ft (1.490 m); minimum daily, 0.6 ft³/s (0.017 m³/s) Nov. 2, 4, 1938.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,060 ft³/s (30.0 m³/s) Apr. 11, gage height, 3.45 ft (1.052 m); minimum daily, 32 ft³/s (0.906 m³/s) Sept. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|-------|-------|------|------|------|------|------|
| 1 | 44 | 103 | 138 | 84 | 50 | 343 | 290 | 155 | 103 | 150 | 50 | 40 |
| 2 | 41 | 104 | 172 | 60 | 52 | 202 | 375 | 152 | 87 | 168 | 47 | 41 |
| 3 | 40 | 99 | 152 | 50 | 52 | 159 | 690 | 155 | 76 | 124 | 44 | 44 |
| 4 | 39 | 90 | 152 | 50 | 52 | 161 | 890 | 182 | 70 | 118 | 42 | 42 |
| 5 | 39 | 84 | 152 | 52 | 52 | 266 | 1020 | 326 | 64 | 200 | 54 | 40 |
| 6 | 40 | 79 | 152 | 52 | 50 | 322 | 918 | 389 | 67 | 168 | 67 | 38 |
| 7 | 40 | 74 | 192 | 60 | 52 | 248 | 760 | 361 | 61 | 138 | 85 | 36 |
| 8 | 39 | 70 | 197 | 64 | 52 | 177 | 806 | 302 | 58 | 146 | 114 | 34 |
| 9 | 44 | 66 | 180 | 64 | 50 | 168 | 830 | 251 | 76 | 122 | 128 | 33 |
| 10 | 46 | 64 | 177 | 64 | 50 | 168 | 806 | 215 | 73 | 99 | 104 | 34 |
| 11 | 47 | 63 | 177 | 64 | 50 | 161 | 925 | 185 | 68 | 84 | 88 | 32 |
| 12 | 46 | 61 | 177 | 64 | 50 | 172 | 995 | 161 | 67 | 80 | 90 | 35 |
| 13 | 46 | 59 | 177 | 64 | 50 | 482 | 486 | 148 | 64 | 84 | 79 | 42 |
| 14 | 42 | 58 | 177 | 64 | 52 | 522 | 215 | 138 | 61 | 79 | 70 | 47 |
| 15 | 40 | 56 | 175 | 64 | 52 | 526 | 212 | 128 | 58 | 70 | 64 | 44 |
| 16 | 38 | 56 | 175 | 64 | 52 | 650 | 225 | 116 | 55 | 64 | 61 | 52 |
| 17 | 37 | 55 | 175 | 64 | 49 | 695 | 192 | 110 | 54 | 68 | 58 | 67 |
| 18 | 36 | 55 | 175 | 61 | 47 | 584 | 161 | 104 | 56 | 74 | 52 | 77 |
| 19 | 37 | 54 | 175 | 60 | 49 | 670 | 161 | 101 | 56 | 104 | 47 | 163 |
| 20 | 41 | 53 | 172 | 69 | 50 | 750 | 157 | 94 | 53 | 97 | 45 | 195 |
| 21 | 47 | 54 | 172 | 58 | 50 | 755 | 150 | 87 | 47 | 85 | 47 | 152 |
| 22 | 44 | 54 | 172 | 58 | 50 | 755 | 150 | 82 | 44 | 108 | 64 | 118 |
| 23 | 41 | 52 | 172 | 58 | 50 | 750 | 163 | 82 | 42 | 106 | 70 | 97 |
| 24 | 55 | 50 | 172 | 52 | 305 | 735 | 177 | 84 | 42 | 90 | 66 | 85 |
| 25 | 88 | 52 | 170 | 53 | 575 | 690 | 182 | 82 | 58 | 84 | 58 | 82 |
| 26 | 103 | 58 | 170 | 52 | 597 | 482 | 180 | 77 | 59 | 73 | 53 | 73 |
| 27 | 95 | 74 | 124 | 52 | 561 | 354 | 172 | 73 | 54 | 63 | 49 | 64 |
| 28 | 85 | 88 | 84 | 52 | 430 | 275 | 166 | 70 | 49 | 58 | 47 | 58 |
| 29 | 77 | 90 | 84 | 52 | --- | 322 | 168 | 67 | 53 | 54 | 45 | 53 |
| 30 | 73 | 80 | 84 | 50 | --- | 354 | 163 | 64 | 49 | 55 | 42 | 50 |
| 31 | 84 | --- | 84 | 52 | --- | 326 | --- | 67 | --- | 53 | 41 | --- |
| TOTAL | 1614 | 2055 | 4907 | 1817 | 3631 | 13224 | 12785 | 4608 | 1824 | 3066 | 1971 | 1968 |
| MEAN | 52.1 | 68.5 | 158 | 58.6 | 130 | 427 | 426 | 149 | 60.8 | 98.9 | 63.6 | 65.6 |
| MAX | 103 | 104 | 197 | 84 | 597 | 755 | 1020 | 389 | 103 | 200 | 128 | 195 |
| MIN | 36 | 50 | 84 | 50 | 47 | 159 | 150 | 64 | 42 | 53 | 41 | 32 |
| (+) | 15.5 | 14.5 | 14.6 | 15.4 | 16.9 | 16.9 | 14.8 | 14.5 | 14.9 | 14.4 | 14.9 | 14.1 |

CAL YR 1976 TOTAL 67871 MEAN 185 MAX 948 MIN 24 (+) 13.2
WTR YR 1977 TOTAL 53470 MEAN 146 MAX 1020 MIN 32 (+) 15.1

+ Diversion in cubic feet per second, from Clear Fork Reservoir for municipal supply; furnished by city of Mansfield.

MUSKINGUM RIVER BASIN

121

03133500 CLEAR FORK BELOW PLEASANT HILL DAM, NEAR PERRYVILLE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND | HARD- NESS | NON- CAR- BONATE HARD- NESS | DIS- SOLVED CAL- CIUM | DIS- SOLVED MAG- NE- SIUM | |
|--------------|------|--------------------------------------|--|--------------------------|------------------|--------------------------|---------------------------------|---|---------------------------------|---|--------------------------------|---|----------------------------|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | | 5 DAY | (CA+MG) | (MG/L) | (CA) | (MG/L) | |
| MAR 21... | 1645 | 755 | 290 | 7.8 | 7.0 | 11.4 | 93 | 1.9 | 120 | 36 | 32 | 9.3 | |
| JUL 12... | 1500 | 79 | 340 | 7.8 | 26.0 | 7.7 | 94 | 3.9 | 150 | 26 | 38 | 13 | |
| | | DIS- SOLVED SODIUM | DIS- SOLVED PO- TAS- SIUM | BICAR- BONATE | CAR- BONATE | ALKA- LINITY AS | CARBON DIOXIDE | DIS- SOLVED SULFATE | DIS- SOLVED CHLO- RIDE | DIS- SOLVED FLUO- RIDE | DIS- SOLVED SILICA | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) | TOTAL NITRATE |
| DATE | | (NA) (MG/L) | (K) (MG/L) | (HCO3) (MG/L) | (CO3) (MG/L) | CACU3 (MG/L) | (CO2) (MG/L) | (SO4) (MG/L) | (CL) (MG/L) | (F) (MG/L) | (SIO2) (MG/L) | (MG/L) | (N) (MG/L) |
| MAR 21... | 11 | 2.9 | 100 | 0 | 82 | 2.5 | 27 | 20 | .1 | 6.3 | 158 | 1.7 | |
| JUL 12... | 9.8 | 2.2 | 149 | 0 | 122 | 3.8 | 21 | 17 | .1 | 3.2 | 178 | .23 | |
| | | TOTAL NITRO- GEN | TOTAL AMMONIA | TOTAL PHOS- PHORUS | TOTAL ARSENIC | TOTAL CHRO- MIUM | TOTAL COPPER | DIS- SOLVED IRON | TOTAL LEAD | DIS- SOLVED MAN- GANESE | TOTAL MERCURY | TOTAL ZINC | TOTAL ORGANIC CARBON |
| DATE | | (N) (MG/L) | (N) (MG/L) | (P) (MG/L) | (AS) (UG/L) | (CR) (UG/L) | (CU) (UG/L) | (FE) (UG/L) | (PB) (UG/L) | (MN) (UG/L) | (HG) (UG/L) | (ZN) (UG/L) | (C) (MG/L) |
| MAR 21... | .02 | .17 | .07 | 2 | 10 | 2 | 60 | 4 | 10 | .0 | 110 | -- | |
| JUL 12... | .02 | .17 | .04 | 3 | 10 | 0 | 20 | 3 | 20 | .0 | 40 | 5.8 | |

MUSKINGUM RIVER BASIN

03135000 LAKE FORK BELOW MOHICANVILLE DAM, NEAR MOHICANVILLE, OH

LOCATION.--Lat 40°43'24", long 82°09'18", in sec. 3, T.20 N., R.15 W., Ashland County, Hydrologic Unit 05040002, on right bank 800 ft (244 m) downstream from Mohicanville Dam, 2 mi (3 km) east of Mohicanville, and 2.4 mi (3.9 km) downstream from the confluence of Jerome and Muddy Forks.

DRAINAGE AREA.--271 mi² (702 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year. Published as Lake Fork near Mohicanville prior to 1940.

REVISED RECORDS.--WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 930.00 ft (283.464 m) above mean sea level, adjustment of 1912. Prior to July 25, 1949, water-stage recorder at site 500 ft (152 m) downstream at same datum.

REMARKS.--Records good. Flow regulated by Mohicanville Reservoir (see station 03134500).

AVERAGE DISCHARGE.--39 years, 231 ft³/s (6.542 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,490 ft³/s (155 m³/s) July 5, 1969, gage height, 14.32 ft (4.365 m); minimum daily, 1 ft³/s (0.028 m³/s) June 10, 1947, Jan. 25, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,240 ft³/s (35.1 m³/s) Feb. 24, gage height, 7.84 ft (2.390 m); minimum daily, 18 ft³/s (0.51 m³/s) Sept. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|-------|----------|----------|--------|-------|-------|------|------|------|------|------|
| 1 | 37 | 150 | 36 | 30 | 28 | 912 | 217 | 138 | 35 | 188 | 33 | 24 |
| 2 | 33 | 104 | 35 | 30 | 28 | 605 | 596 | 140 | 32 | 68 | 30 | 24 |
| 3 | 30 | 79 | 29 | 30 | 28 | 428 | 954 | 174 | 32 | 40 | 28 | 35 |
| 4 | 29 | 60 | 29 | 29 | 29 | 824 | 944 | 336 | 31 | 278 | 25 | 27 |
| 5 | 27 | 50 | 29 | 30 | 29 | 634 | 924 | 747 | 71 | 370 | 32 | 23 |
| 6 | 28 | 46 | 28 | 28 | 29 | 358 | 920 | 552 | 172 | 134 | 45 | 69 |
| 7 | 30 | 40 | 47 | 27 | 29 | 252 | 914 | 287 | 94 | 89 | 159 | 51 |
| 8 | 30 | 37 | 48 | 28 | 29 | 231 | 924 | 194 | 60 | 495 | 112 | 30 |
| 9 | 34 | 36 | 40 | 27 | 29 | 209 | 924 | 147 | 104 | 149 | 75 | 24 |
| 10 | 67 | 36 | 36 | 26 | 31 | 186 | 927 | 126 | 97 | 85 | 62 | 23 |
| 11 | 52 | 36 | 40 | 25 | 53 | 158 | 914 | 112 | 62 | 63 | 57 | 20 |
| 12 | 45 | 36 | 40 | 25 | 90 | 601 | 883 | 99 | 54 | 269 | 116 | 18 |
| 13 | 40 | 34 | 38 | 25 | 247 | 965 | 744 | 99 | 49 | 147 | 82 | 25 |
| 14 | 39 | 33 | 33 | 29 | 283 | 911 | 397 | 91 | 43 | 71 | 58 | 299 |
| 15 | 45 | 31 | 34 | 27 | 213 | 832 | 264 | 73 | 39 | 50 | 46 | 147 |
| 16 | 47 | 31 | 34 | 26 | 175 | 513 | 182 | 68 | 37 | 43 | 39 | 329 |
| 17 | 36 | 31 | 34 | 26 | 149 | 352 | 158 | 64 | 36 | 56 | 36 | 626 |
| 18 | 34 | 32 | 33 | 27 | 126 | 762 | 140 | 62 | 40 | 94 | 32 | 367 |
| 19 | 36 | 33 | 32 | 28 | 111 | 954 | 126 | 60 | 35 | 59 | 30 | 602 |
| 20 | 41 | 31 | 39 | 28 | 96 | 933 | 114 | 53 | 29 | 41 | 27 | 679 |
| 21 | 68 | 31 | 45 | 28 | 85 | 920 | 93 | 51 | 27 | 62 | 28 | 441 |
| 22 | 54 | 30 | 42 | 29 | 177 | 908 | 102 | 47 | 26 | 696 | 128 | 200 |
| 23 | 47 | 30 | 37 | 29 | 996 | 924 | 161 | 58 | 24 | 222 | 89 | 136 |
| 24 | 59 | 27 | 32 | 27 | 1140 | 920 | 222 | 59 | 24 | 96 | 53 | 105 |
| 25 | 104 | 29 | 30 | 28 | 949 | 917 | 264 | 50 | 37 | 72 | 41 | 94 |
| 26 | 93 | 34 | 30 | 29 | 932 | 818 | 344 | 42 | 34 | 63 | 34 | 79 |
| 27 | 71 | 68 | 31 | 28 | 916 | 518 | 290 | 39 | 24 | 49 | 30 | 67 |
| 28 | 67 | 58 | 32 | 29 | 948 | 484 | 186 | 37 | 24 | 42 | 27 | 59 |
| 29 | 69 | 48 | 32 | 30 | --- | 768 | 220 | 35 | 39 | 37 | 24 | 53 |
| 30 | 64 | 38 | 30 | 30 | --- | 457 | 172 | 32 | 34 | 50 | 24 | 50 |
| 31 | 110 | --- | 30 | 29 | --- | 290 | --- | 32 | --- | 38 | 25 | --- |
| TOTAL | 1566 | 1359 | 1085 | 867 | 7975 | 19544 | 14220 | 4104 | 1445 | 4216 | 1627 | 4726 |
| MEAN | 50.5 | 45.3 | 35.0 | 28.0 | 285 | 630 | 474 | 132 | 48.2 | 136 | 52.5 | 158 |
| MAX | 110 | 150 | 48 | 30 | 1140 | 965 | 954 | 747 | 172 | 696 | 159 | 679 |
| MIN | 27 | 27 | 28 | 25 | 28 | 158 | 93 | 32 | 24 | 37 | 24 | 18 |
| CAL YR 1976 | TOTAL | 71148 | MEAN 194 | MAX 1200 | MIN 16 | | | | | | | |
| WTR YR 1977 | TOTAL | 62734 | MEAN 172 | MAX 1140 | MIN 18 | | | | | | | |

MUSKINGUM RIVER BASIN

123

03135000 LAKE FORK BELOW MOHICANVILLE DAM, NEAR MOHICANVILLE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) |
|--------------|------|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| DATE | TIME | | | | | | | | | | | |
| MAR 17... | 1545 | 367 | 490 | 7.8 | 9.0 | 8.6 | 74 | 3.1 | 200 | 110 | 57 | 15 |
| JUN 30... | 1100 | 30 | 630 | 7.4 | 20.0 | 4.8 | 52 | 4.4 | 250 | 60 | 70 | 18 |
| | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 17... | 21 | 5.0 | 120 | 0 | 98 | 3.0 | 71 | 39 | .1 | 7.6 | 275 | 4.1 |
| JUN 30... | 33 | 4.9 | 230 | 0 | 189 | 15 | 72 | 47 | .3 | 8.2 | 367 | 1.4 |
| | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 17... | .07 | .24 | .18 | 4 | 20 | 90 | 50 | 10 | 100 | .0 | 120 | 4.8 |
| JUN 30... | .12 | .72 | .56 | 4 | 10 | 9 | 100 | 6 | 230 | .0 | 60 | 8.6 |

MUSKINGUM RIVER BASIN

03136400 NORTH BRANCH KOKOSING RIVER NEAR FREDERICKTOWN, OH

LOCATION.--Lat 40°30'15", long 82°33'46", Knox County, Hydrologic Unit 05040003, on left bank, 0.8 mi (1.3 km) downstream from dam at North Branch Kokosing River Lake, 1.7 mi (2.7 km) northwest of Fredericktown, and 2.2 mi (3.5 km) upstream from East Branch.

DRAINAGE AREA.--46.0 mi² (119 km²). Area at site used prior to October 1, 1974, 45.5 mi² (118 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Occasional discharge measurements, water years 1962-72, and annual maximum, water years, 1963-72. July 1973 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,086.07 ft (331.034 m) above mean sea level. Prior to Oct. 1, 1974 at site 0.3 mi (0.5 km) upstream at datum 5.96 ft (1.817 m) higher.

REMARKS.--Records fair except those for winter periods, which are poor. Flow regulated by North Branch Kokosing River Lake 0.8 mi (1.3 km) upstream (see station 03136300), since June 1972.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,000 ft³/s (170 m³/s) May 19, 1969, gage height, 9.95 ft (3.033 m) from rating extended above 3,700 ft³/s (105 m³/s) at site and datum then in use; minimum daily, 0.45 ft³/s (0.013 m³/s) June 12-15, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in January 1959 reached a stage of 13.4 ft (4.08 m) at site and datum then in use, from floodmarks, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 592 ft³/s (16.8 m³/s) Apr. 3, gage height, 5.37 ft (1.637 m); minimum daily, 1.3 ft³/s (0.037 m³/s) Sept. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|--------|------|------|-------|-------|-------|-------|-------|
| 1 | 12 | 65 | 18 | 4.9 | 4.4 | 52 | 39 | 28 | 9.0 | 94 | 6.6 | 2.9 |
| 2 | 10 | 47 | 17 | 4.8 | 4.4 | 44 | 345 | 25 | 8.0 | 64 | 5.3 | 2.6 |
| 3 | 8.0 | 35 | 14 | 4.8 | 4.4 | 39 | 549 | 26 | 7.0 | 34 | 4.9 | 2.6 |
| 4 | 7.5 | 27 | 13 | 4.7 | 4.4 | 86 | 525 | 48 | 7.0 | 57 | 4.2 | 2.4 |
| 5 | 7.0 | 23 | 11 | 4.7 | 4.4 | 183 | 503 | 135 | 6.6 | 111 | 3.8 | 1.9 |
| 6 | 7.5 | 19 | 11 | 4.7 | 4.3 | 76 | 383 | 133 | 7.5 | 64 | 4.5 | 3.8 |
| 7 | 8.0 | 18 | 16 | 4.7 | 4.3 | 61 | 155 | 66 | 7.0 | 35 | 5.7 | 3.8 |
| 8 | 7.0 | 16 | 20 | 4.6 | 4.3 | 47 | 69 | 49 | 7.0 | 32 | 36 | 3.2 |
| 9 | 9.1 | 13 | 18 | 4.6 | 4.3 | 39 | 56 | 38 | 13 | 25 | 64 | 2.4 |
| 10 | 11 | 13 | 15 | 4.6 | 4.3 | 37 | 49 | 33 | 14 | 20 | 30 | 2.1 |
| 11 | 11 | 13 | 15 | 4.6 | 4.3 | 34 | 44 | 29 | 12 | 18 | 19 | 1.7 |
| 12 | 10 | 11 | 15 | 4.5 | 23 | 37 | 40 | 26 | 11 | 16 | 18 | 1.3 |
| 13 | 10 | 11 | 15 | 4.5 | 17 | 402 | 38 | 24 | 10 | 16 | 14 | 1.7 |
| 14 | 7.5 | 10 | 13 | 4.5 | 13 | 203 | 36 | 23 | 9.0 | 13 | 11 | 4.2 |
| 15 | 6.5 | 9.6 | 12 | 4.5 | 17 | 76 | 34 | 21 | 8.0 | 11 | 9.5 | 4.5 |
| 16 | 6.0 | 9.6 | 10 | 4.5 | 20 | 69 | 32 | 19 | 7.0 | 11 | 9.5 | 4.9 |
| 17 | 5.6 | 9.1 | 9.8 | 4.5 | 18 | 51 | 30 | 18 | 7.0 | 16 | 9.0 | 6.6 |
| 18 | 4.8 | 9.1 | 9.0 | 4.5 | 16 | 260 | 30 | 17 | 7.0 | 19 | 7.0 | 6.6 |
| 19 | 5.2 | 9.1 | 8.4 | 4.5 | 15 | 225 | 29 | 16 | 7.0 | 34 | 5.7 | 9.0 |
| 20 | 7.0 | 8.5 | 8.0 | 4.5 | 14 | 106 | 29 | 15 | 6.1 | 28 | 4.9 | 12 |
| 21 | 9.1 | 8.5 | 7.5 | 4.5 | 13 | 79 | 26 | 14 | 4.9 | 29 | 4.5 | 9.0 |
| 22 | 9.1 | 8.5 | 7.0 | 4.5 | 12 | 95 | 25 | 13 | 4.2 | 38 | 4.9 | 6.6 |
| 23 | 9.1 | 7.5 | 6.6 | 4.5 | 69 | 120 | 29 | 12 | 3.8 | 26 | 4.9 | 5.3 |
| 24 | 22 | 7.5 | 6.3 | 4.5 | 664 | 69 | 31 | 12 | 3.8 | 18 | 4.9 | 5.3 |
| 25 | 57 | 7.5 | 6.0 | 4.5 | 756 | 56 | 32 | 13 | 8.5 | 14 | 4.5 | 5.7 |
| 26 | 48 | 9.1 | 5.7 | 4.5 | 271 | 48 | 32 | 12 | 44 | 11 | 4.2 | 5.7 |
| 27 | 33 | 26 | 5.4 | 4.5 | 145 | 43 | 31 | 11 | 28 | 9.5 | 3.8 | 4.5 |
| 28 | 24 | 33 | 5.3 | 4.5 | 76 | 49 | 29 | 10 | 20 | 8.0 | 3.8 | 3.5 |
| 29 | 19 | 29 | 5.2 | 4.5 | --- | 79 | 30 | 9.0 | 58 | 7.0 | 3.5 | 2.9 |
| 30 | 16 | 21 | 5.1 | 4.5 | --- | 64 | 30 | 8.5 | 36 | 7.0 | 3.2 | 2.6 |
| 31 | 37 | --- | 5.0 | 4.5 | --- | 48 | --- | 8.5 | --- | 7.0 | 3.2 | --- |
| TOTAL | 444.0 | 533.6 | 333.3 | 141.7 | 2206.8 | 2877 | 3310 | 912.0 | 381.4 | 892.5 | 318.0 | 131.3 |
| MEAN | 14.3 | 17.8 | 10.8 | 4.57 | 78.8 | 92.8 | 110 | 29.4 | 12.7 | 28.8 | 10.3 | 4.38 |
| MAX | 57 | 65 | 20 | 4.9 | 756 | 402 | 549 | 135 | 58 | 111 | 64 | 12 |
| MIN | 4.8 | 7.5 | 5.0 | 4.5 | 4.3 | 34 | 25 | 8.5 | 3.8 | 7.0 | 3.2 | 1.3 |

CAL YR 1976 TOTAL 19280.22 MEAN 52.7 MAX 803 MIN .45
WTR YR 1977 TOTAL 12481.60 MEAN 34.2 MAX 756 MIN 1.3

MUSKINGUM RIVER BASIN

125

03136400 NORTH BRANCH KOKOSING RIVER NEAR FREDERICKTOWN, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to 1971, 1973 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY | HARD- NESS | NON- CAR- BONATE HARD- NESS | DIS- SOLVED CAL- CIUM | DIS- SOLVED MAG- NE- SIUM |
|--------------|------|---------------------------------------|--|------------------|------------------------|--------------------------|---------------------------------|--|----------------------------------|---|---|---------------------------------------|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | | (MG/L) | (CA+MG) (MG/L) | (MG/L) | (CA) (MG/L) | (MG) |
| MAR 23... | 1145 | 149 | 360 | 8.4 | 8.0 | 12.0 | 100 | .8 | 170 | 48 | 46 | 14 |
| JUL 05... | 1120 | 123 | 375 | 8.4 | 24.0 | 8.6 | 100 | 3.5 | 170 | 36 | 45 | 15 |
| | | DIS- SOLVED PO- TAS- SIUM | BICAR- BONATE | CAR- BONATE | ALKA- LINITY AS | CARBON DIOXIDE | DIS- SOLVED SULFATE | DIS- SOLVED CHLO- RIDE | DIS- SOLVED FLUO- RIDE | DIS- SOLVED SILICA | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) | TOTAL NITRATE |
| DATE | | (NA) (MG/L) | (HCO3) (MG/L) | (CO3) (MG/L) | (CACU3) (MG/L) | (CO2) (MG/L) | (SO4) (MG/L) | (CL) (MG/L) | (F) (MG/L) | (SI02) (MG/L) | (MG/L) | (N) (MG/L) |
| MAR 23... | 6.8 | 2.7 | 148 | 2 | 125 | 1.0 | 35 | 16 | .1 | 6.2 | 202 | 2.5 |
| JUL 05... | 6.2 | 2.8 | 164 | 2 | 138 | 1.1 | 34 | 14 | .1 | 2.0 | 202 | 1.8 |
| | | TOTAL AMMONIA NITRO- GEN | TOTAL PHOS- PHORUS | TOTAL ARSENIC | TOTAL CHRO- MIUM | TOTAL COPPER | DIS- SOLVED IRON | TOTAL LEAD | DIS- SOLVED MAN- GANESE | TOTAL MERCURY | TOTAL ZINC | TOTAL ORGANIC CARBON |
| DATE | | (N) (MG/L) | (P) (MG/L) | (AS) (UG/L) | (CR) (UG/L) | (CU) (UG/L) | (FE) (UG/L) | (PB) (UG/L) | (MN) (UG/L) | (HG) (UG/L) | (ZN) (UG/L) | (C) (MG/L) |
| MAR 23... | .01 | .06 | .05 | 1 | 20 | 3 | 20 | 5 | 30 | .0 | 0 | 3.8 |
| JUL 05... | .05 | .07 | .07 | 3 | <10 | 3 | 20 | 17 | 10 | .0 | 20 | 5.1 |

MUSKINGUM RIVER BASIN

03136500 KOKOSING RIVER AT MOUNT VERNON, OH

LOCATION.--Lat 40°24'20", long 82°30'00", in sec. 2, T.6 N., R.13 W., Knox County, Hydrologic Unit 05040003, on right bank at downstream side of Tilden Avenue Bridge at Mount Vernon, 0.8 mi (1.3 km) downstream from North Branch, and 2.7 mi (4.3 km) upstream from Dry Creek.

DRAINAGE AREA.--202 mi² (523 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WPD Ohio, 1966: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 984.16 ft (299.972 m) above mean sea level, (levels by Corps of Engineers). Prior to Apr. 3, 1953, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods or no gage height record, which are fair. Some regulation by Knox Lake, capacity, 3,750 acre-ft (4.62 hm³), 8.2 mi (13.2 km) upstream on East Branch of North Branch Kokosing River beginning in 1954 and North Branch Kokosing River Lake 10.0 mi (16.1 km) upstream on North Branch Kokosing River, beginning in June 1972. (see station 03136300).

AVERAGE DISCHARGE.--24 years, (1954-77), 204 ft³/s (5.777 m³/s), 13.71 in/yr (348 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,000 ft³/s (1,080 m³/s) Jan. 21, 1959, gage height, 18.19 ft (5.544 m), from rating curve extended above 9,000 ft³/s (255 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 13 ft³/s (0.37 m³/s) Sept. 29, 30, 1954.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft³/s (56.6 m³/s) and maximums (*):

| Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) | Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) |
|---------|------|---|-------------------------|--------|------|---|-------------------------|
| Feb. 25 | 0330 | 2400 68.0 | 5.17 1.576 | Apr. 3 | 0300 | *6790 192 | *8.57 2.612 |

Minimum daily discharge, 32 ft³/s (0.90 m³/s) Sept. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|-------|-------|------|------|------|------|------|
| 1 | 61 | 238 | 88 | 47 | 44 | 386 | 247 | 137 | 66 | 247 | 45 | 38 |
| 2 | 56 | 185 | 77 | 47 | 43 | 306 | 1770 | 132 | 55 | 231 | 41 | 37 |
| 3 | 52 | 150 | 79 | 47 | 43 | 276 | 4620 | 139 | 52 | 130 | 38 | 58 |
| 4 | 49 | 127 | 66 | 47 | 43 | 420 | 1640 | 180 | 48 | 205 | 36 | 66 |
| 5 | 46 | 112 | 69 | 46 | 43 | 687 | 1640 | 475 | 46 | 408 | 35 | 53 |
| 6 | 44 | 101 | 65 | 46 | 43 | 475 | 1060 | 451 | 52 | 243 | 35 | 43 |
| 7 | 40 | 94 | 87 | 46 | 43 | 361 | 636 | 320 | 48 | 154 | 150 | 41 |
| 8 | 39 | 88 | 98 | 46 | 43 | 296 | 467 | 231 | 49 | 137 | 370 | 41 |
| 9 | 48 | 80 | 94 | 46 | 43 | 266 | 375 | 183 | 84 | 117 | 200 | 36 |
| 10 | 64 | 78 | 79 | 46 | 43 | 250 | 327 | 155 | 76 | 94 | 100 | 34 |
| 11 | 67 | 78 | 76 | 46 | 43 | 231 | 286 | 139 | 65 | 78 | 66 | 33 |
| 12 | 60 | 73 | 72 | 46 | 43 | 282 | 253 | 127 | 63 | 83 | 150 | 32 |
| 13 | 53 | 69 | 67 | 45 | 43 | 1590 | 228 | 118 | 58 | 77 | 140 | 40 |
| 14 | 49 | 66 | 62 | 45 | 144 | 959 | 211 | 109 | 53 | 65 | 115 | 150 |
| 15 | 46 | 64 | 59 | 45 | 165 | 561 | 197 | 103 | 50 | 57 | 118 | 120 |
| 16 | 44 | 62 | 57 | 45 | 155 | 412 | 180 | 97 | 48 | 53 | 118 | 250 |
| 17 | 44 | 60 | 55 | 45 | 160 | 327 | 170 | 91 | 49 | 53 | 100 | 325 |
| 18 | 43 | 58 | 54 | 45 | 155 | 792 | 165 | 84 | 52 | 58 | 85 | 163 |
| 19 | 42 | 58 | 53 | 45 | 107 | 941 | 157 | 80 | 49 | 64 | 72 | 205 |
| 20 | 45 | 58 | 52 | 45 | 99 | 614 | 147 | 74 | 44 | 70 | 60 | 292 |
| 21 | 50 | 57 | 51 | 45 | 89 | 519 | 137 | 68 | 40 | 79 | 52 | 165 |
| 22 | 48 | 57 | 51 | 45 | 93 | 515 | 135 | 63 | 37 | 130 | 50 | 111 |
| 23 | 49 | 55 | 50 | 45 | 310 | 596 | 162 | 61 | 36 | 104 | 48 | 84 |
| 24 | 79 | 53 | 50 | 44 | 1560 | 447 | 173 | 70 | 37 | 73 | 46 | 70 |
| 25 | 188 | 54 | 49 | 44 | 2080 | 357 | 165 | 70 | 50 | 59 | 43 | 64 |
| 26 | 184 | 63 | 49 | 44 | 1150 | 310 | 160 | 63 | 105 | 52 | 41 | 60 |
| 27 | 137 | 111 | 48 | 44 | 683 | 276 | 147 | 58 | 97 | 46 | 41 | 54 |
| 28 | 109 | 143 | 48 | 44 | 515 | 310 | 144 | 55 | 78 | 43 | 40 | 50 |
| 29 | 93 | 123 | 48 | 44 | --- | 427 | 178 | 52 | 225 | 43 | 38 | 47 |
| 30 | 87 | 100 | 48 | 44 | --- | 357 | 157 | 50 | 150 | 52 | 39 | 45 |
| 31 | 158 | --- | 48 | 44 | --- | 293 | --- | 52 | --- | 48 | 40 | --- |
| TOTAL | 2174 | 2715 | 1949 | 1403 | 8025 | 14839 | 16334 | 4087 | 1962 | 3353 | 2552 | 2807 |
| MEAN | 70.1 | 90.5 | 62.9 | 45.3 | 287 | 479 | 544 | 132 | 65.4 | 108 | 82.3 | 93.6 |
| MAX | 188 | 238 | 98 | 47 | 2080 | 1590 | 4620 | 475 | 225 | 408 | 370 | 325 |
| MIN | 39 | 53 | 48 | 44 | 43 | 231 | 135 | 50 | 36 | 43 | 35 | 32 |
| CFSM | .35 | .45 | .31 | .22 | 1.42 | 2.37 | 2.69 | .65 | .32 | .54 | .41 | .46 |
| IN. | .40 | .50 | .36 | .26 | 1.48 | 2.73 | 3.01 | .75 | .36 | .62 | .47 | .52 |

CAL YR 1976 TOTAL 64596 MEAN 176 MAX 1980 MIN 35 CFSM .87 IN 11.90
WTR YR 1977 TOTAL 62200 MEAN 170 MAX 4620 MIN 32 CFSM .84 IN 11.45

Note: No gage height record Aug. 4 to Sept. 30.

MUSKINGUM RIVER BASIN

127

03136500 KOKOSING RIVER AT MOUNT VERNON, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|------|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| DATE | TIME | (CFS) | | (UNITS) | | | | | | | | |
| MAR 23... | 0945 | 622 | 380 | 8.0 | 4.0 | 11.3 | 86 | 1.1 | 180 | 59 | 48 | 15 |
| JUL 05... | 1415 | 450 | 425 | 7.9 | 24.0 | 7.5 | 88 | 2.8 | 180 | 46 | 50 | 14 |
| | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) |
| MAR 23... | 8.8 | 2.8 | 150 | 0 | 123 | 2.4 | 40 | 21 | .1 | 6.1 | 216 | 2.5 |
| JUL 05... | 8.3 | 2.8 | 166 | 0 | 136 | 3.3 | 36 | 18 | .1 | 5.5 | 217 | 2.3 |
| | | TOTAL NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (MG/L) |
| MAR 23... | .02 | .06 | .05 | 1 | 10 | 0 | 30 | 5 | 20 | .0 | 0 | 4.2 |
| JUL 05... | .05 | .06 | .19 | 3 | <10 | 11 | 20 | 19 | 10 | .0 | 40 | 8.0 |

MUSKINGUM RIVER BASIN

03138500 WALHONDING RIVER BELOW MOHAWK DAM, AT NELLIE, OH

LOCATION.--Lat 40°20'29", long 82°03'56", in T.6 N., R.8 W., Coshocton County, Hydrologic Unit 05040003, on right bank at upstream side of bridge on U.S. Highway 36 at Nellie, 0.5 mi (0.8 km) upstream from Mohawk Creek, and 1.7 mi (2.7 km) downstream from Mohawk Dam.

DRAINAGE AREA.--1,505 mi² (3,898 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1910 to March 1913 (gage heights and discharge measurements only), September 1921 to current year. Published as Mohican River at Pomerene 1910-13, as Walhonding River at Pomerene 1921-37, and as Walhonding River at Nellie 1938-39.

REVISED RECORDS.--WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 790.00 ft (240.792 m) above mean sea level, adjustment of 1912. Prior to Nov. 7, 1925, nonrecording gage and Nov. 7, 1925, to Sept. 30, 1937, water-stage recorder at site 3.8 mi (6.1 km) upstream at datum 15.53 ft (4.734 m) higher. Oct. 1, 1937, to Sept. 30, 1938, nonrecording gage at present site at datum 2.09 ft (0.637 m) higher.

REMARKS.--Records good except those for winter periods, which are fair. Flow regulated beginning 1936 by 5 flood-control reservoirs at points 1.7 mi (2.7 km) to 54 mi (87 km) upstream (see stations 03129500, 03133000, 03134500, 03136300, and 03138000).

AVERAGE DISCHARGE.--56 years, 1,449 ft³/s (41.04 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge at site at Pomerene, 43,800 ft³/s (1,240 m³/s) Jan. 25, 1937; maximum discharge at present site since regulation began at Mohawk Dam, 24,000 ft³/s (680 m³/s) Jan. 25, 26, 1937, gage height, 18.8 ft (5.73 m), present datum (from floodmarks), from rating curve extended above 13,000 ft³/s (368 m³/s); minimum daily discharge, 19 ft³/s (0.54 m³/s) Feb. 27 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 26.9 ft (8.20 m), discharge, 102,000 ft³/s (2,890 m³/s), present site and datum, from information by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,690 ft³/s (218 m³/s) Feb. 25, gage height, 11.52 ft (3.511 m); minimum daily, 242 ft³/s (6.85 m³/s) Sept. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|-------|------|-------|--------|--------|-------|-------|-------|-------|-------|
| 1 | 401 | 1150 | 530 | 330 | 300 | 4500 | 2040 | 1180 | 434 | 967 | 396 | 279 |
| 2 | 378 | 970 | 540 | 330 | 300 | 3260 | 2860 | 1100 | 456 | 1290 | 360 | 274 |
| 3 | 356 | 803 | 555 | 330 | 300 | 2620 | 5680 | 1110 | 405 | 775 | 332 | 272 |
| 4 | 334 | 710 | 630 | 320 | 300 | 2420 | 5510 | 1100 | 379 | 724 | 311 | 349 |
| 5 | 318 | 635 | 680 | 320 | 300 | 3720 | 4230 | 2290 | 367 | 2330 | 296 | 292 |
| 6 | 307 | 591 | 715 | 320 | 300 | 3310 | 4910 | 2760 | 443 | 1520 | 400 | 271 |
| 7 | 313 | 550 | 740 | 320 | 300 | 2520 | 6880 | 2370 | 536 | 1000 | 498 | 311 |
| 8 | 313 | 516 | 750 | 320 | 300 | 2100 | 6780 | 1910 | 441 | 1340 | 752 | 307 |
| 9 | 307 | 485 | 761 | 320 | 300 | 1740 | 6650 | 1580 | 540 | 1300 | 998 | 273 |
| 10 | 356 | 468 | 725 | 320 | 310 | 1550 | 6510 | 1350 | 617 | 820 | 812 | 260 |
| 11 | 418 | 456 | 700 | 320 | 330 | 1460 | 6710 | 1200 | 517 | 657 | 645 | 260 |
| 12 | 361 | 441 | 680 | 310 | 380 | 1390 | 6910 | 1050 | 465 | 609 | 586 | 242 |
| 13 | 345 | 423 | 660 | 310 | 590 | 5480 | 6820 | 971 | 449 | 857 | 685 | 244 |
| 14 | 323 | 407 | 640 | 310 | 1400 | 6150 | 5650 | 884 | 418 | 622 | 539 | 324 |
| 15 | 313 | 409 | 620 | 310 | 1700 | 4910 | 4860 | 784 | 399 | 500 | 501 | 744 |
| 16 | 297 | 502 | 600 | 310 | 1300 | 3730 | 2510 | 690 | 377 | 444 | 475 | 502 |
| 17 | 292 | 500 | 580 | 310 | 1100 | 3200 | 1570 | 651 | 360 | 434 | 499 | 1220 |
| 18 | 297 | 496 | 556 | 310 | 980 | 4170 | 1410 | 629 | 383 | 478 | 452 | 1310 |
| 19 | 282 | 496 | 530 | 310 | 880 | 6300 | 1280 | 604 | 440 | 486 | 385 | 1920 |
| 20 | 297 | 491 | 522 | 310 | 800 | 5410 | 1200 | 585 | 376 | 476 | 350 | 2440 |
| 21 | 323 | 483 | 541 | 310 | 740 | 5000 | 1100 | 556 | 333 | 439 | 331 | 1820 |
| 22 | 372 | 479 | 560 | 310 | 700 | 4680 | 1020 | 520 | 312 | 1100 | 342 | 1350 |
| 23 | 329 | 470 | 570 | 310 | 1100 | 4960 | 1060 | 484 | 297 | 1410 | 607 | 1070 |
| 24 | 367 | 354 | 579 | 310 | 3800 | 4520 | 1340 | 550 | 287 | 745 | 449 | 902 |
| 25 | 702 | 353 | 520 | 310 | 6330 | 4090 | 1340 | 560 | 300 | 619 | 388 | 808 |
| 26 | 819 | 369 | 460 | 300 | 6500 | 3670 | 1380 | 498 | 421 | 681 | 356 | 698 |
| 27 | 672 | 589 | 420 | 300 | 5660 | 3000 | 1400 | 473 | 410 | 648 | 330 | 577 |
| 28 | 572 | 720 | 390 | 300 | 5020 | 2590 | 1250 | 449 | 379 | 525 | 314 | 476 |
| 29 | 519 | 640 | 360 | 300 | --- | 2940 | 1420 | 429 | 553 | 432 | 303 | 405 |
| 30 | 493 | 566 | 340 | 300 | --- | 2860 | 1320 | 405 | 613 | 417 | 308 | 381 |
| 31 | 695 | --- | 340 | 300 | --- | 2330 | --- | 381 | --- | 432 | 289 | --- |
| TOTAL | 12471 | 16522 | 17794 | 9690 | 42320 | 110580 | 103600 | 30103 | 12707 | 25077 | 14289 | 20581 |
| MEAN | 402 | 551 | 574 | 313 | 1511 | 3567 | 3453 | 971 | 424 | 809 | 461 | 686 |
| MAX | 819 | 1150 | 761 | 330 | 6500 | 6300 | 6910 | 2760 | 617 | 2330 | 998 | 2440 |
| MIN | 282 | 353 | 340 | 300 | 300 | 1390 | 1020 | 381 | 287 | 417 | 289 | 242 |
| CAL YR 1976 | TOTAL | 508717 | MEAN | 1390 | MAX | 6960 | MIN | 282 | | | | |
| WTR YR 1977 | TOTAL | 415734 | MEAN | 1139 | MAX | 6910 | MIN | 242 | | | | |

MUSKINGUM RIVER BASIN

129

03138500 WALHONDING RIVER BELOW MOHAWK DAM, AT NELLIE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|------|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| DATE | TIME | | | (UNITS) | | | | | | | | |
| MAR 14... | 1100 | 6270 | 330 | 8.1 | 8.5 | 11.1 | 95 | 3.7 | 130 | 54 | 37 | 9.8 |
| JUN 27... | 1000 | 414 | 425 | 7.7 | 24.0 | 6.5 | 76 | 2.3 | 220 | 51 | 59 | 18 |
| | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTIT- UENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) |
| MAR 14... | 14 | 3.9 | 96 | 0 | 79 | 1.2 | 35 | 26 | .1 | 7.0 | 180 | 2.8 |
| JUN 27... | 18 | 2.8 | 208 | 0 | 171 | 6.6 | 50 | 28 | .2 | 5.9 | 285 | .88 |
| | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (MG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (MG/L) |
| MAR 14... | .04 | .16 | .21 | 6 | 20 | 15 | 50 | 15 | 20 | .0 | 90 | 8.4 |
| JUN 27... | .01 | .08 | .15 | 3 | 80 | 9 | 90 | 9 | 50 | .0 | 140 | 17 |

MUSKINGUM RIVER BASIN

03139000 KILLBUCK CREEK AT KILLBUCK, OH

LOCATION (REVISED).--Lat 40°28'53", long 81°59'10", Holmes County, Hydrologic Unit 05040003, on right bank at downstream side of U.S. highway 62 bridge south of Killbuck, 1.2 mi (1.9 km) downstream from Black Creek. Prior to Oct. 5, 1976, at site 0.9 mi (1.4 km) upstream.

DRAINAGE AREA.--464 mi² (1,202 km²), revised. Area at site used prior to Oct. 5, 1976, 462 mi² (1,197 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 873: 1935. WSP 1555: 1935. WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 788.05 ft (240.198 m) above mean sea level, adjustment of 1912. Prior to Oct. 1, 1949, nonrecording gage and Oct. 1, 1949 to Oct. 5, 1976, water-stage recorder and nonrecording gage, at site 0.9 mi (1.4 km) upstream at same datum.

REMARKS.--Records fair except those for winter periods, which are poor.

AVERAGE DISCHARGE.--47 years, 397 ft³/s (11.24 m³/s), 11.67 in/yr (296 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,500 ft³/s (1,350 m³/s) July 5, 1969, gage height, 26.40 ft (8.047 m) (from floodmarks), from rating curve extended above 11,000 ft³/s (312 m³/s) on basis of slope-area measurement of peak flow at site then in use; minimum, 23 ft³/s (0.65 m³/s) Sept. 10-15, 28-30, 1954.

EXTREMES FOR CURRENT YEAR.--Peak discharge, 3,830 ft³/s (108 m³/s) Apr. 3 (base 2,000 ft³/s 56.6 m³/s), gage height, 15.33 ft (4.673 m); minimum discharge, 57 ft³/s (1.61 m³/s) Oct. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|-------|-------|-------|------|------|------|------|------|
| 1 | 73 | 268 | 84 | 62 | 60 | 1190 | 502 | 372 | 109 | 460 | 170 | 81 |
| 2 | 68 | 221 | 84 | 62 | 60 | 876 | 1020 | 356 | 108 | 150 | 128 | 81 |
| 3 | 61 | 177 | 82 | 62 | 60 | 660 | 3350 | 381 | 105 | 74 | 108 | 171 |
| 4 | 58 | 151 | 80 | 62 | 60 | 648 | 2580 | 407 | 102 | 800 | 98 | 132 |
| 5 | 59 | 131 | 78 | 62 | 60 | 780 | 2610 | 601 | 124 | 350 | 94 | 95 |
| 6 | 59 | 118 | 78 | 62 | 60 | 692 | 2620 | 690 | 260 | 230 | 154 | 153 |
| 7 | 58 | 110 | 84 | 62 | 60 | 605 | 2270 | 623 | 222 | 180 | 431 | 147 |
| 8 | 60 | 103 | 120 | 62 | 60 | 510 | 1750 | 499 | 165 | 240 | 484 | 106 |
| 9 | 65 | 97 | 110 | 62 | 60 | 438 | 1400 | 400 | 209 | 310 | 568 | 93 |
| 10 | 90 | 98 | 100 | 62 | 60 | 394 | 1170 | 322 | 200 | 250 | 481 | 93 |
| 11 | 90 | 98 | 95 | 62 | 60 | 352 | 923 | 291 | 154 | 210 | 381 | 89 |
| 12 | 76 | 97 | 88 | 62 | 64 | 340 | 750 | 266 | 142 | 192 | 316 | 80 |
| 13 | 66 | 92 | 84 | 60 | 360 | 1380 | 648 | 247 | 130 | 242 | 266 | 85 |
| 14 | 72 | 87 | 80 | 60 | 560 | 1380 | 568 | 230 | 119 | 173 | 221 | 164 |
| 15 | 74 | 86 | 78 | 60 | 480 | 1200 | 494 | 209 | 109 | 142 | 188 | 244 |
| 16 | 70 | 83 | 76 | 60 | 380 | 1070 | 428 | 190 | 103 | 122 | 156 | 224 |
| 17 | 65 | 81 | 74 | 60 | 280 | 852 | 387 | 181 | 100 | 359 | 160 | 431 |
| 18 | 62 | 81 | 74 | 60 | 230 | 1170 | 357 | 174 | 133 | 182 | 133 | 473 |
| 19 | 62 | 83 | 72 | 60 | 210 | 1580 | 339 | 166 | 111 | 142 | 126 | 490 |
| 20 | 68 | 82 | 72 | 60 | 190 | 1480 | 318 | 158 | 96 | 124 | 109 | 544 |
| 21 | 96 | 81 | 70 | 60 | 170 | 1490 | 296 | 144 | 85 | 115 | 103 | 431 |
| 22 | 99 | 79 | 70 | 60 | 190 | 1440 | 281 | 130 | 79 | 778 | 181 | 294 |
| 23 | 84 | 71 | 68 | 60 | 542 | 1340 | 319 | 132 | 79 | 585 | 230 | 218 |
| 24 | 102 | 68 | 68 | 60 | 1470 | 1200 | 446 | 129 | 75 | 500 | 156 | 182 |
| 25 | 174 | 69 | 66 | 60 | 1810 | 1020 | 515 | 130 | 101 | 422 | 122 | 327 |
| 26 | 171 | 68 | 66 | 60 | 1610 | 837 | 516 | 126 | 119 | 326 | 107 | 309 |
| 27 | 137 | 94 | 66 | 60 | 1500 | 702 | 517 | 123 | 86 | 236 | 99 | 218 |
| 28 | 119 | 97 | 64 | 60 | 1390 | 651 | 483 | 116 | 80 | 185 | 92 | 177 |
| 29 | 108 | 88 | 64 | 60 | --- | 677 | 479 | 112 | 172 | 182 | 89 | 150 |
| 30 | 101 | 84 | 64 | 60 | --- | 648 | 427 | 106 | 156 | 391 | 90 | 135 |
| 31 | 174 | --- | 62 | 60 | --- | 590 | --- | 100 | --- | 300 | 83 | --- |
| TOTAL | 2721 | 3143 | 2421 | 1884 | 12096 | 28192 | 28763 | 8111 | 3833 | 8952 | 6124 | 6417 |
| MEAN | 87.8 | 105 | 78.1 | 60.8 | 432 | 909 | 959 | 262 | 128 | 289 | 198 | 214 |
| MAX | 174 | 268 | 120 | 62 | 1810 | 1580 | 3350 | 690 | 260 | 800 | 568 | 544 |
| MIN | 58 | 68 | 62 | 60 | 60 | 340 | 281 | 100 | 75 | 74 | 83 | 80 |
| CFSM | .19 | .23 | .17 | .13 | .93 | 1.96 | 2.07 | .57 | .28 | .62 | .43 | .46 |
| IN. | .22 | .25 | .19 | .15 | .97 | 2.26 | 2.31 | .65 | .31 | .72 | .49 | .51 |

CAL YR 1976 TOTAL 139235 MEAN 380 MAX 3670 MIN 58 CFSM .82 IN 11.16
WTR YR 1977 TOTAL 112657 MEAN 309 MAX 3350 MIN 58 CFSM .67 IN 9.03

MUSKINGUM RIVER BASIN

131

03139000 KILLBUCK CREEK AT KILLBUCK, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND | HARD- NESS | NON- CAR- BONATE HARD- NESS | DIS- SOLVED CAL- CIUM | DIS- SOLVED MAG- NE- SIUM |
|--------------|------|---------------------------------------|--|--------------------------|-----------------------|--------------------------|---------------------------------|---|----------------------------------|---|---|---------------------------------------|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | | 5 DAY | (CA,MG) | (MG/L) | (CA) | (MG) |
| MAR 16... | 1600 | 985 | 425 | 7.6 | 10.5 | 9.1 | 81 | 2.6 | 170 | 81 | 47 | 12 |
| JUN 28... | 0930 | 74 | 485 | 7.5 | 20.5 | 7.2 | 79 | 2.9 | 220 | 49 | 64 | 15 |
| | | DIS- SOLVED PO- TAS- SIUM | BICAR- BONATE | CAR- BONATE | ALKA- LINITY AS | CARBON DIOXIDE | DIS- SOLVED SULFATE | DIS- SOLVED CHLO- RIDE | DIS- SOLVED FLUO- RIDE | DIS- SOLVED SILICA | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) | TOTAL NITRATE |
| DATE | | (NA) (MG/L) | (HCO3) (MG/L) | (CO3) (MG/L) | CACO3 (MG/L) | (CO2) (MG/L) | (SO4) (MG/L) | (CL) (MG/L) | (F) (MG/L) | (SI02) (MG/L) | (MG/L) | (N) (MG/L) |
| MAR 16... | 17 | 4.8 | 104 | 0 | 85 | 4.2 | 54 | 33 | .1 | 7.3 | 227 | 3.4 |
| JUN 28... | 21 | 3.6 | 210 | 0 | 172 | 11 | 53 | 33 | .2 | 7.1 | 301 | .67 |
| | | TOTAL NITRITE | TOTAL AMMONIA NITRO- GEN | TOTAL PHOS- PHORUS | TOTAL ARSENIC | TOTAL CHRO- MIUM | DIS- SOLVED IRON | TOTAL LEAD | DIS- SOLVED MAN- GANESE | TOTAL MERCURY | TOTAL ZINC | TOTAL ORGANIC CARBON |
| DATE | | (N) (MG/L) | (N) (MG/L) | (P) (MG/L) | (AS) (UG/L) | (CR) (UG/L) | (FE) (UG/L) | (PB) (UG/L) | (MN) (UG/L) | (HG) (UG/L) | (ZN) (UG/L) | (C) (MG/L) |
| MAR 16... | .05 | .16 | .17 | 4 | 10 | 11 | 40 | 9 | 80 | .0 | 50 | 3.6 |
| JUN 28... | .01 | .12 | .28 | 3 | <10 | 11 | 50 | 7 | 290 | .0 | 20 | 8.1 |

MUSKINGUM RIVER BASIN

03140000 MILL CREEK NEAR COSHOCTON, OH

LOCATION.--Lat 40°21'46", long 81°51'45", Coshocton County, Hydrologic Unit 05040003, on left bank 0.5 mi (0.8 km) downstream from Little Mill Creek and 6 mi (10 km) north of Coshocton.

DRAINAGE AREA.--27.2 mi² (70.4 km²).

WATER-DISCHARGE RECORDS

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 (238.354 m) above mean sea level, adjustment of 1912.

REMARKS.--Records good except those for winter periods, which are fair.

AVERAGE DISCHARGE.--41 years, 27.4 ft³/s (0.776 m³/s), 13.68 in/yr (347 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,720 ft³/s (247 m³/s) July 5, 1969, gage height, 13.92 ft (4.243 m), from rating curve extended above 2,200 ft³/s (62.3 m³/s) on basis of slope-area measurement of peak flow; no flow Sept. 28, 29, 1954, Aug. 29-31, 1962, and part of each day Dec. 23, 31, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 735 ft³/s (20.8 m³/s) Apr. 2 (base 700 ft³/s 19.8 m³/s) gage height, 8.60 ft (2.621 m); minimum, 0.87 ft³/s (0.025 m³/s) Sept. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|------|------|--------|------|------|-------|------|-------|-------|-------|
| 1 | 2.2 | 13 | 1.8 | 1.8 | 1.4 | 38 | 28 | 24 | 2.8 | 8.7 | 18 | 1.8 |
| 2 | 1.9 | 8.4 | 1.6 | 1.8 | 1.4 | 29 | 374 | 26 | 2.3 | 2.6 | 4.7 | 2.1 |
| 3 | 1.8 | 7.0 | 1.5 | 1.7 | 1.4 | 27 | 236 | 23 | 2.3 | 1.4 | 3.4 | 2.1 |
| 4 | 1.7 | 6.1 | 1.5 | 1.7 | 1.4 | 62 | 182 | 23 | 2.1 | 124 | 2.8 | 1.8 |
| 5 | 1.5 | 5.5 | 1.6 | 1.7 | 1.4 | 54 | 257 | 23 | 2.8 | 21 | 2.5 | 2.2 |
| 6 | 1.4 | 5.0 | 1.9 | 1.6 | 1.4 | 38 | 121 | 39 | 7.8 | 9.2 | 2.4 | 2.6 |
| 7 | 1.5 | 4.6 | 7.4 | 1.6 | 1.4 | 32 | 80 | 39 | 3.3 | 6.2 | 3.5 | 1.8 |
| 8 | 1.7 | 4.3 | 6.5 | 1.6 | 1.4 | 27 | 60 | 28 | 3.0 | 9.7 | 3.2 | 1.5 |
| 9 | 2.5 | 4.0 | 5.2 | 1.5 | 1.4 | 25 | 49 | 23 | 13 | 5.3 | 4.5 | 1.4 |
| 10 | 5.8 | 4.3 | 4.6 | 1.5 | 1.6 | 23 | 43 | 20 | 4.5 | 4.3 | 5.1 | 1.3 |
| 11 | 2.7 | 4.1 | 3.8 | 1.5 | 3.0 | 20 | 38 | 18 | 3.2 | 3.9 | 4.1 | 1.3 |
| 12 | 2.1 | 3.6 | 3.4 | 1.5 | 19 | 50 | 33 | 16 | 4.1 | 6.6 | 8.1 | 1.0 |
| 13 | 1.8 | 3.4 | 3.1 | 1.5 | 40 | 297 | 29 | 15 | 3.3 | 5.4 | 4.2 | 11 |
| 14 | 1.5 | 3.2 | 3.0 | 1.4 | 66 | 96 | 27 | 13 | 2.9 | 3.2 | 7.2 | 80 |
| 15 | 1.6 | 3.4 | 2.9 | 1.4 | 54 | 59 | 24 | 11 | 2.6 | 2.6 | 26 | 9.5 |
| 16 | 1.5 | 3.1 | 2.8 | 1.4 | 34 | 46 | 21 | 9.9 | 2.3 | 13 | 10 | 39 |
| 17 | 1.5 | 3.0 | 2.7 | 1.4 | 24 | 37 | 20 | 9.3 | 2.1 | 53 | 18 | 28 |
| 18 | 1.3 | 3.5 | 2.6 | 1.4 | 17 | 226 | 19 | 8.6 | 7.9 | 12 | 9.7 | 16 |
| 19 | 1.4 | 3.5 | 2.5 | 1.4 | 14 | 112 | 18 | 8.1 | 5.0 | 6.3 | 6.3 | 137 |
| 20 | 1.9 | 3.1 | 2.5 | 1.4 | 12 | 90 | 16 | 7.1 | 2.9 | 4.8 | 5.2 | 130 |
| 21 | 6.0 | 2.8 | 2.4 | 1.4 | 11 | 61 | 16 | 6.5 | 2.1 | 16 | 4.6 | 42 |
| 22 | 2.6 | 2.6 | 2.3 | 1.4 | 10 | 87 | 15 | 5.8 | 1.7 | 28 | 5.7 | 28 |
| 23 | 2.0 | 2.3 | 2.2 | 1.4 | 60 | 63 | 24 | 5.4 | 1.6 | 8.0 | 4.1 | 22 |
| 24 | 12 | 2.1 | 2.2 | 1.4 | 400 | 50 | 23 | 5.2 | 1.5 | 5.7 | 3.6 | 17 |
| 25 | 12 | 2.5 | 2.1 | 1.4 | 207 | 42 | 24 | 5.2 | 1.7 | 5.1 | 3.2 | 16 |
| 26 | 6.3 | 4.0 | 2.1 | 1.4 | 111 | 36 | 23 | 4.5 | 2.1 | 4.1 | 2.6 | 29 |
| 27 | 4.4 | 4.9 | 2.0 | 1.4 | 74 | 32 | 21 | 4.0 | 1.5 | 3.2 | 2.4 | 18 |
| 28 | 3.5 | 3.8 | 2.0 | 1.4 | 48 | 45 | 31 | 3.8 | 1.4 | 2.8 | 2.2 | 14 |
| 29 | 3.2 | 3.2 | 1.9 | 1.4 | --- | 48 | 39 | 3.5 | 2.1 | 3.7 | 1.9 | 12 |
| 30 | 3.2 | 2.3 | 1.9 | 1.4 | --- | 38 | 28 | 3.2 | 1.4 | 11 | 2.0 | 10 |
| 31 | 28 | --- | 1.8 | 1.4 | --- | 32 | --- | 3.1 | --- | 4.4 | 2.1 | --- |
| TOTAL | 122.5 | 126.6 | 85.8 | 46.2 | 1218.2 | 1922 | 1919 | 434.2 | 97.3 | 395.2 | 183.3 | 679.4 |
| MEAN | 3.95 | 4.22 | 2.77 | 1.49 | 43.5 | 62.0 | 64.0 | 14.0 | 3.24 | 12.7 | 5.91 | 22.6 |
| MAX | 28 | 13 | 7.4 | 1.8 | 400 | 297 | 374 | 39 | 13 | 124 | 26 | 137 |
| MIN | 1.3 | 2.1 | 1.5 | 1.4 | 1.4 | 20 | 15 | 3.1 | 1.4 | 1.4 | 1.9 | 1.0 |
| CFSM | .15 | .16 | .10 | .06 | 1.60 | 2.28 | 2.35 | .52 | .12 | .47 | .22 | .83 |
| IN. | .17 | .17 | .12 | .06 | 1.67 | 2.63 | 2.62 | .59 | .13 | .54 | .25 | .93 |

CAL YR 1976 TOTAL 7877.2 MEAN 21.5 MAX 467 MIN 1.3 CFSM .79 IN 10.77
WTR YR 1977 TOTAL 7229.7 MEAN 19.8 MAX 400 MIN 1.0 CFSM .73 IN 9.89

MUSKINGUM RIVER BASIN

133

03140000 MILL CREEK NEAR COSHOCTON, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | |
|--------------|------|---|--|---|------------------------------------|--|--------------------------------------|--|---|--|--|--|---|
| | | | | | | | | | | | | | |
| MAR 14... | 1500 | 79 | 235 | 8.1 | 8.0 | 10.8 | 91 | 1.1 | 94 | 52 | 27 | 6.5 | |
| JUN 27... | 1300 | 1.4 | 335 | 7.3 | 22.0 | 7.4 | 84 | 1.4 | 140 | 39 | 39 | 9.7 | |
| DATE | TIME | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAP- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 14... | 5.5 | 3.1 | 51 | 0 | 42 | .6 | 48 | 9.2 | .1 | 8.4 | 133 | 2.6 | |
| JUN 27... | 14 | 4.4 | 120 | 0 | 98 | 9.6 | 48 | 17 | .2 | 5.4 | 197 | .31 | |
| DATE | TIME | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 14... | .01 | .07 | .09 | 2 | 10 | 9 | 40 | 6 | 170 | .0 | 10 | 6.3 | |
| JUN 27... | .01 | .10 | .03 | 2 | 10 | 4 | 150 | 4 | 270 | .0 | 130 | 8.1 | |

MUSKINGUM RIVER BASIN

03140500 MUSKINGUM RIVER NEAR COSHOCTON, OH

LOCATION.--Lat 40°14'54", long 81°52'23", in T.5 N., R.6 W., Coshocton County, Hydrologic Unit 05040004, on right bank at upstream side of highway bridge, 1 mi (2 km) southwest of Coshocton, and 2 mi (3 km) downstream from confluence of Tuscarawas and Walhonding Rivers.

DRAINAGE AREA.--4,859 mi² (12,585 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 730.00 ft (222.504 m) above mean sea level, adjustment of 1912. Prior to Sept. 19, 1936, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are fair. Flow regulated by 13 flood-control reservoirs at points 19 mi (31 km) to 88 mi (142 km) upstream.

AVERAGE DISCHARGE.--41 years, 4,822 ft³/s (136.6 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 78,700 ft³/s (2,230 m³/s) Jan. 26, 1937, gage height, 21.98 ft (6.700 m); minimum daily, 420 ft³/s (11.9 m³/s) Sept. 13, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of about 28.8 ft (8.78 m), discharge, 202,000 ft³/s (5,720 m³/s), computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 21,200 ft³/s (600 m³/s) Apr. 5, gage height, 10.29 ft (3.136 m); minimum daily, 900 ft³/s (25.5 m³/s) Jan. 12 to Feb. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------------|---------|-------|-------|-----------|-----------|----------|--------|-------|-------|-------|-------|-------|
| 1 | 1660 | 2790 | 1930 | 1000 | 900 | 13600 | 5980 | 4410 | 1280 | 2250 | 2020 | 1220 |
| 2 | 1530 | 3190 | 2050 | 1000 | 900 | 10900 | 7920 | 4010 | 1340 | 3490 | 1870 | 1180 |
| 3 | 1410 | 2830 | 1860 | 1000 | 900 | 9330 | 17200 | 3870 | 1280 | 2480 | 1630 | 1210 |
| 4 | 1250 | 2440 | 1810 | 950 | 900 | 8180 | 19400 | 4060 | 1220 | 2690 | 1470 | 1990 |
| 5 | 1190 | 2170 | 1990 | 950 | 900 | 9020 | 20500 | 4990 | 1180 | 5180 | 1340 | 1740 |
| 6 | 1120 | 1970 | 1970 | 950 | 900 | 8920 | 19000 | 6490 | 1610 | 6380 | 1350 | 1370 |
| 7 | 1190 | 1840 | 2270 | 950 | 900 | 6960 | 20200 | 7110 | 2300 | 4630 | 1940 | 1330 |
| 8 | 1200 | 1710 | 2640 | 950 | 900 | 5730 | 19100 | 6190 | 2140 | 3510 | 3800 | 1360 |
| 9 | 1230 | 1600 | 3130 | 950 | 900 | 4940 | 17600 | 5200 | 2010 | 3770 | 4690 | 1200 |
| 10 | 1350 | 1560 | 2780 | 950 | 950 | 4510 | 17300 | 4610 | 2400 | 2900 | 4390 | 1100 |
| 11 | 1650 | 1550 | 2690 | 950 | 1010 | 4150 | 16700 | 4410 | 2570 | 2370 | 3650 | 1050 |
| 12 | 1670 | 1520 | 2620 | 900 | 1150 | 3960 | 16400 | 3830 | 2110 | 2290 | 3140 | 1010 |
| 13 | 1550 | 1470 | 2580 | 900 | 1620 | 10300 | 15500 | 3350 | 1810 | 2290 | 2880 | 979 |
| 14 | 1440 | 1400 | 2390 | 900 | 2490 | 15100 | 13700 | 3080 | 1640 | 2380 | 2540 | 1660 |
| 15 | 1340 | 1350 | 2310 | 900 | 3220 | 14800 | 12300 | 2870 | 1540 | 1920 | 2590 | 2790 |
| 16 | 1220 | 1530 | 2130 | 900 | 3560 | 12000 | 9590 | 2630 | 1440 | 1680 | 2660 | 3030 |
| 17 | 1130 | 1970 | 1860 | 900 | 3280 | 9980 | 6600 | 2440 | 1340 | 1780 | 2660 | 3240 |
| 18 | 1080 | 1880 | 1730 | 900 | 2760 | 10500 | 5200 | 2310 | 1600 | 2220 | 2790 | 4260 |
| 19 | 1040 | 1740 | 1750 | 900 | 2400 | 15300 | 4710 | 2210 | 2970 | 2160 | 2420 | 4630 |
| 20 | 1040 | 1680 | 1820 | 900 | 2300 | 15600 | 4360 | 2170 | 2690 | 1930 | 2090 | 7930 |
| 21 | 1130 | 1660 | 1920 | 900 | 2200 | 14600 | 4100 | 2070 | 2340 | 1670 | 1850 | 6890 |
| 22 | 1270 | 1630 | 2050 | 900 | 2270 | 13200 | 3790 | 1940 | 1840 | 3520 | 1740 | 5940 |
| 23 | 1290 | 1600 | 1960 | 900 | 2980 | 13600 | 3650 | 1780 | 1600 | 6210 | 2160 | 4950 |
| 24 | 1430 | 1530 | 1680 | 900 | 9350 | 13600 | 3980 | 1830 | 1470 | 5120 | 2250 | 3530 |
| 25 | 1830 | 1520 | 1400 | 900 | 16600 | 12400 | 4820 | 1780 | 1400 | 4490 | 1840 | 3060 |
| 26 | 2470 | 1780 | 1300 | 900 | 18200 | 11000 | 5040 | 1690 | 1490 | 3730 | 1610 | 3290 |
| 27 | 2450 | 2020 | 1200 | 900 | 17100 | 9140 | 4740 | 1610 | 1560 | 3110 | 1470 | 3230 |
| 28 | 2090 | 2230 | 1100 | 900 | 14800 | 7530 | 4420 | 1520 | 1410 | 2500 | 1360 | 2690 |
| 29 | 1820 | 2300 | 1100 | 900 | --- | 7350 | 4740 | 1440 | 1430 | 2100 | 1250 | 2230 |
| 30 | 1660 | 2150 | 1000 | 900 | --- | 7990 | 4750 | 1370 | 1770 | 2100 | 1240 | 1960 |
| 31 | 1900 | --- | 1000 | 900 | --- | 6970 | --- | 1300 | --- | 2070 | 1280 | --- |
| TOTAL | 45630 | 56610 | 60020 | 28600 | 116340 | 311160 | 313290 | 98570 | 52780 | 94920 | 69970 | 82049 |
| MEAN | 1472 | 1887 | 1936 | 923 | 4155 | 10040 | 10440 | 3180 | 1759 | 3062 | 2257 | 2735 |
| MAX | 2470 | 3190 | 3130 | 1000 | 18200 | 15600 | 20500 | 7110 | 2970 | 6380 | 4690 | 7930 |
| MIN | 1040 | 1350 | 1000 | 900 | 900 | 3960 | 3650 | 1300 | 1180 | 1670 | 1240 | 979 |
| CAL YR 1976 TOTAL | 1613360 | | | MEAN 4408 | MAX 21000 | MIN 1000 | | | | | | |
| WTR YR 1977 TOTAL | 1329939 | | | MEAN 3644 | MAX 20500 | MIN 900 | | | | | | |

MUSKINGUM RIVER BASIN

135

03140500 MUSKINGUM RIVER NEAR COSHOCTON, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | |
|--------------|------|---|--|---|------------------------------------|--|--------------------------------------|--|---|--|--|---|---|
| DATE | TIME | | | (UNITS) | | | | | | | | | |
| MAR 21... | 1600 | 15200 | 458 | 7.8 | 7.0 | 11.0 | 90 | 9.3 | 160 | 83 | 43 | 12 | |
| JUL 13... | 1330 | 2530 | 765 | 7.8 | 26.0 | 8.3 | 100 | 5.0 | 260 | 140 | 74 | 19 | |
| | | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | | | | | | | | | | | | |
| MAR 21... | 22 | 3.7 | 90 | 0 | 74 | 2.3 | 63 | 40 | .1 | 7.2 | 236 | 2.6 | |
| JUL 13... | 56 | 4.5 | 156 | 0 | 128 | 4.0 | 120 | 86 | .2 | 7.9 | 445 | 1.3 | |
| | | TOTAL NITRITE (N) (MG/L) | AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | | | | | | | | | | | | |
| MAR 21... | .02 | .12 | .17 | 4 | <10 | 10 | 30 | 8 | 120 | .0 | 50 | -- | |
| JUL 13... | .01 | .04 | .17 | 2 | 30 | 6 | 590 | 7 | 100 | .0 | 60 | 8.5 | |

MUSKINGUM RIVER BASIN

03141500 SENECA FORK BELOW SENECAVILLE DAM, NEAR SENECAVILLE, OH

LOCATION.--Lat 39°55'28", long 81°26'17", Guernsey County, Hydrologic Unit 05040005, on left bank 650 ft (198 m) downstream from Senecaville Dam, and 1.5 mi (2.4 km) southeast of Senecaville.

DRAINAGE AREA.--118 mi² (306 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1938 to current year. Published as Seneca Fork near Senecaville prior to 1940.

REVISED RECORDS.--WSP 1907: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 799.00 ft (243.535 m) above mean sea level, adjustment of 1912. Prior to Jan. 24, 1942, at site 150 ft (46 m) downstream at same datum.

REMARKS.--Records fair. Flow regulated by Senecaville Lake (see station 03141000). Water is diverted from Senecaville Lake for U.S. Fish Hatchery; diversion not included in figures of daily discharge.

AVERAGE DISCHARGE.--39 years, 128 ft³/s (3.625 m³/s) (unadjusted).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 914 ft³/s (25.9 m³/s) Apr. 7, 1964, gage height, 9.35 ft (2.850 m); maximum gage height, 10.35 ft (3.155 m) Feb. 1, 1949; no flow May 3, 4, 1939, Jan. 28, 29, Feb. 4, 5, Apr. 25, 1952.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 628 ft³/s (17.8 m³/s) Apr. 8, gage height, 8.08 ft (2.463 m); minimum daily, 1.8 ft³/s (0.051 m³/s) June 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|----------|--------|-------|-------|--------|--------|------|-------|-------|--------|--------|
| 1 | 4.8 | 91 | 220 | 16 | 6.0 | 51 | 119 | 85 | 9.0 | 4.5 | 6.5 | 8.7 |
| 2 | 4.5 | 91 | 218 | 16 | 4.0 | 62 | 132 | 57 | 1.9 | 4.5 | 5.1 | 8.7 |
| 3 | 4.8 | 91 | 248 | 16 | 4.0 | 65 | 2.2 | 44 | 4.5 | 4.3 | 4.8 | 8.7 |
| 4 | 5.4 | 91 | 216 | 16 | 4.0 | 65 | 2.6 | 44 | 4.3 | 4.0 | 4.0 | 8.7 |
| 5 | 5.1 | 91 | 214 | 16 | 4.0 | 66 | 3.3 | 78 | 1.8 | 4.0 | 5.1 | 8.7 |
| 6 | 4.8 | 91 | 214 | 16 | 4.0 | 66 | 60 | 91 | 1.9 | 4.0 | 6.2 | 8.7 |
| 7 | 4.5 | 91 | 347 | 16 | 4.0 | 162 | 341 | 35 | 3.3 | 3.8 | 6.5 | 8.4 |
| 8 | 4.5 | 35 | 430 | 16 | 4.0 | 375 | 548 | 95 | 4.3 | 3.8 | 65 | 8.7 |
| 9 | 4.8 | 4.0 | 422 | 16 | 4.0 | 405 | 615 | 297 | 3.6 | 4.0 | 188 | 9.0 |
| 10 | 5.1 | 4.3 | 416 | 16 | 34 | 403 | 610 | 463 | 3.6 | 3.6 | 248 | 8.7 |
| 11 | 4.8 | 4.0 | 418 | 16 | 14 | 182 | 603 | 447 | 3.8 | 3.8 | 232 | 8.7 |
| 12 | 4.8 | 3.8 | 323 | 16 | 6.2 | 44 | 610 | 257 | 3.3 | 4.8 | 224 | 8.7 |
| 13 | 4.8 | 3.8 | 190 | 16 | 19 | 44 | 610 | 122 | 3.6 | 4.5 | 154 | 10 |
| 14 | 4.5 | 3.8 | 89 | 16 | 6.0 | 222 | 608 | 43 | 4.3 | 4.8 | 68 | 15 |
| 15 | 4.5 | 216 | 32 | 16 | 5.7 | 447 | 589 | 43 | 4.3 | 4.0 | 47 | 37 |
| 16 | 4.3 | 321 | 48 | 16 | 5.7 | 436 | 542 | 43 | 4.8 | 3.8 | 47 | 87 |
| 17 | 4.8 | 323 | 53 | 16 | 5.7 | 426 | 532 | 32 | 5.1 | 2.9 | 71 | 101 |
| 18 | 4.8 | 244 | 53 | 16 | 5.7 | 218 | 176 | 13 | 4.5 | 2.9 | 162 | 101 |
| 19 | 6.2 | 210 | 53 | 16 | 5.7 | 2.1 | 4.0 | 13 | 4.8 | 3.8 | 137 | 105 |
| 20 | 5.1 | 207 | 69 | 16 | 5.4 | 1.9 | 4.3 | 13 | 4.5 | 4.0 | 49 | 108 |
| 21 | 4.5 | 210 | 63 | 16 | 5.4 | 248 | 4.0 | 13 | 4.3 | 3.8 | 49 | 68 |
| 22 | 4.5 | 210 | 49 | 16 | 5.4 | 458 | 9.9 | 13 | 4.0 | 3.8 | 23 | 48 |
| 23 | 4.8 | 210 | 46 | 16 | 5.4 | 452 | 12 | 13 | 4.0 | 3.6 | 7.8 | 48 |
| 24 | 3.8 | 210 | 7.3 | 16 | 5.7 | 445 | 12 | 13 | 4.5 | 3.6 | 9.3 | 47 |
| 25 | 3.6 | 207 | 3.6 | 16 | 6.2 | 440 | 35 | 14 | 4.5 | 3.6 | 9.6 | 47 |
| 26 | 63 | 205 | 16 | 16 | 8.4 | 444 | 76 | 13 | 4.3 | 3.6 | 9.0 | 33 |
| 27 | 89 | 205 | 16 | 62 | 6.0 | 445 | 164 | 13 | 4.0 | 3.3 | 9.0 | 13 |
| 28 | 89 | 207 | 16 | 81 | 32 | 228 | 129 | 13 | 4.0 | 3.3 | 9.0 | 36 |
| 29 | 89 | 218 | 16 | 80 | --- | 117 | 87 | 13 | 3.3 | 3.3 | 8.7 | 47 |
| 30 | 91 | 222 | 16 | 34 | --- | 119 | 87 | 13 | 2.6 | 3.3 | 8.7 | 18 |
| 31 | 91 | --- | 16 | 6.5 | --- | 119 | --- | 13 | --- | 3.3 | 8.7 | --- |
| TOTAL | 630.1 | 4320.7 | 4537.9 | 679.5 | 225.6 | 7258.0 | 7327.3 | 2459 | 120.7 | 118.3 | 1882.0 | 1073.4 |
| MEAN | 20.3 | 144 | 146 | 21.9 | 8.06 | 234 | 244 | 79.3 | 4.02 | 3.82 | 60.7 | 35.8 |
| MAX | 91 | 323 | 430 | 81 | 34 | 458 | 615 | 463 | 9.0 | 4.8 | 248 | 108 |
| MIN | 3.6 | 3.8 | 3.6 | 6.5 | 4.0 | 1.9 | 2.2 | 13 | 1.8 | 2.9 | 4.0 | 8.4 |
| (+) | 2.38 | 2.27 | 2.36 | 2.35 | 2.45 | 2.40 | 5.77 | 1.78 | 2.64 | 2.49 | 2.44 | 2.28 |
| CAL YR 1976 | TOTAL | 40387.97 | MEAN | 110 | MAX | 550 | MIN | .07 | (+) | 2.25 | | |
| WTR YR 1977 | TOTAL | 30632.50 | MEAN | 83.9 | MAX | 615 | MIN | 1.8 | (+) | 2.63 | | |

+ Diversion for water supply for U.S. Fish Hatchery; furnished by Senecaville National Fish Hatchery.

MUSKINGUM RIVER BASIN

137

03141500 SENECA FORK BELOW SENECAVILLE DAM, NEAR SENECAVILLE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|------|---|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| DATE | TIME | | | (UNITS) | | | | | | | | |
| MAR 23... | 1130 | 440 | 385 | 8.2 | 7.5 | 11.3 | 94 | 1.9 | 180 | 57 | 51 | 12 |
| JUL 14... | 1300 | 4.7 | 380 | 7.6 | 25.0 | 8.2 | 98 | 1.9 | 170 | 46 | 50 | 12 |
| | | DIS- SOLVED PO- TAS- SIUM (NA) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) |
| MAR 23... | 6.8 | 1.9 | 146 | 0 | 120 | 1.5 | 61 | 8.1 | .1 | 2.3 | 215 | .27 |
| JUL 14... | 6.9 | 2.1 | 156 | 0 | 128 | 6.3 | 58 | 6.7 | .1 | 3.3 | 217 | .04 |
| | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (MG/L) |
| MAR 23... | .01 | .05 | .03 | 1 | <10 | 2 | 10 | 5 | 0 | .0 | 100 | -- |
| JUL 14... | .01 | .12 | .04 | 4 | 10 | 0 | 30 | 3 | 890 | .0 | 30 | 7.6 |

MUSKINGUM RIVER BASIN

03142000 WILLS CREEK AT CAMBRIDGE, OH

LOCATION.--Lat 40°00'52", long 81°35'14", Guernsey County, Hydrologic Unit 05040005, on left bank at upstream side of bridge on Campbell Avenue in Cambridge, 0.9 mi (1.4 km) downstream from Leatherwood Creek.

DRAINAGE AREA.--406 mi² (1,052 km²).

WATER-DISCHARGE RECORDS

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 (235.409 m) above mean sea level. Prior to Oct. 6, 1927, nonrecording gage at site 1.5 mi (2.4 km) downstream at different datum. Oct. 6, 1927, to Sept. 30, 1928, and May 22, 1937, to Oct. 18, 1938, nonrecording gage at present site and datum.

REMARKS.--Records good except those for winter periods, which are fair. Flow regulated by Senecaville Lake on Seneca Fork, 22 mi (35 km) upstream, beginning in 1937 (see station 03141000). Water is diverted 2.7 mi (4.3 km) upstream from station for municipal supply of city of Cambridge; diversion not included in figures of daily discharge.

AVERAGE DISCHARGE.--42 years, 439 ft³/s (12.43 m³/s) (unadjusted).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 8,500 ft³/s (241 m³/s) June 6 or 7, 1963; maximum gage height, 22.55 ft (6.873 m) June 6, 1963 (backwater from tributaries); minimum daily discharge, 0.7 ft³/s (0.020 m³/s) Oct. 6, 1960.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 8, 1935, reached a stage of 25.4 ft (7.74 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,320 ft³/s (94.0 m³/s) Apr. 4, gage height, 15.48 ft (4.718 m); minimum daily, 7.8 ft³/s (0.22 m³/s) June 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|-------|-------|-------|------|--------|------|------|------|
| 1 | 26 | 553 | 267 | 58 | 123 | 342 | 462 | 281 | 36 | 90 | 238 | 33 |
| 2 | 33 | 312 | 263 | 56 | 89 | 306 | 905 | 253 | 30 | 144 | 116 | 42 |
| 3 | 32 | 213 | 263 | 54 | 39 | 269 | 2640 | 300 | 26 | 72 | 74 | 77 |
| 4 | 26 | 185 | 298 | 52 | 48 | 420 | 3350 | 314 | 28 | 175 | 55 | 85 |
| 5 | 15 | 170 | 267 | 50 | 46 | 977 | 3180 | 851 | 15 | 405 | 46 | 58 |
| 6 | 16 | 166 | 259 | 50 | 43 | 635 | 2780 | 660 | 16 | 161 | 41 | 41 |
| 7 | 15 | 160 | 350 | 48 | 41 | 418 | 2040 | 1210 | 17 | 76 | 188 | 28 |
| 8 | 17 | 150 | 520 | 48 | 40 | 460 | 1210 | 1170 | 23 | 70 | 1030 | 27 |
| 9 | 47 | 109 | 620 | 48 | 44 | 598 | 981 | 568 | 72 | 175 | 1130 | 24 |
| 10 | 141 | 72 | 570 | 48 | 46 | 592 | 918 | 605 | 114 | 318 | 592 | 34 |
| 11 | 115 | 70 | 562 | 48 | 63 | 572 | 867 | 646 | 77 | 109 | 462 | 33 |
| 12 | 51 | 69 | 589 | 48 | 114 | 336 | 820 | 598 | 47 | 87 | 491 | 27 |
| 13 | 33 | 64 | 467 | 48 | 346 | 844 | 785 | 399 | 35 | 132 | 613 | 14 |
| 14 | 26 | 61 | 296 | 48 | 1000 | 1440 | 762 | 251 | 26 | 115 | 365 | 18 |
| 15 | 25 | 55 | 166 | 48 | 818 | 1010 | 753 | 166 | 26 | 63 | 269 | 26 |
| 16 | 29 | 223 | 114 | 48 | 513 | 820 | 716 | 149 | 27 | 50 | 354 | 79 |
| 17 | 27 | 356 | 128 | 48 | 348 | 716 | 666 | 128 | 37 | 40 | 226 | 212 |
| 18 | 23 | 359 | 137 | 48 | 249 | 1020 | 633 | 112 | 32 | 33 | 194 | 160 |
| 19 | 15 | 298 | 126 | 48 | 217 | 1840 | 271 | 89 | 26 | 20 | 240 | 128 |
| 20 | 20 | 263 | 132 | 48 | 212 | 1780 | 129 | 90 | 20 | 19 | 175 | 116 |
| 21 | 33 | 259 | 173 | 48 | 217 | 940 | 118 | 92 | 9.8 | 25 | 104 | 112 |
| 22 | 67 | 255 | 150 | 48 | 204 | 840 | 112 | 80 | 9.3 | 336 | 97 | 83 |
| 23 | 53 | 244 | 131 | 48 | 695 | 968 | 126 | 70 | 8.8 | 437 | 79 | 67 |
| 24 | 57 | 242 | 119 | 48 | 1620 | 833 | 156 | 59 | 7.8 | 114 | 57 | 70 |
| 25 | 166 | 240 | 90 | 48 | 2140 | 746 | 160 | 57 | 19 | 61 | 58 | 69 |
| 26 | 165 | 242 | 72 | 52 | 1950 | 695 | 149 | 56 | 69 | 97 | 61 | 67 |
| 27 | 138 | 257 | 70 | 56 | 909 | 666 | 181 | 51 | 69 | 83 | 51 | 59 |
| 28 | 138 | 259 | 67 | 70 | 467 | 716 | 300 | 60 | 43 | 59 | 46 | 35 |
| 29 | 129 | 261 | 65 | 122 | --- | 770 | 622 | 57 | 140 | 128 | 44 | 42 |
| 30 | 125 | 265 | 62 | 126 | --- | 524 | 460 | 55 | 107 | 677 | 38 | 64 |
| 31 | 245 | --- | 60 | 126 | --- | 526 | --- | 47 | --- | 691 | 32 | --- |
| TOTAL | 2048 | 6432 | 7453 | 1784 | 12641 | 23619 | 27252 | 9524 | 1212.7 | 5062 | 7566 | 1930 |
| MEAN | 66.1 | 214 | 240 | 57.5 | 451 | 762 | 908 | 307 | 40.4 | 163 | 244 | 64.3 |
| MAX | 245 | 553 | 620 | 126 | 2140 | 1840 | 3350 | 1210 | 140 | 691 | 1130 | 212 |
| MIN | 15 | 55 | 60 | 48 | 39 | 269 | 112 | 47 | 7.8 | 19 | 32 | 14 |
| (+) | 5.49 | 5.63 | 5.50 | 5.87 | 6.39 | 5.75 | 5.37 | 5.99 | 6.25 | 6.63 | 6.48 | 6.39 |

CAL YR 1976 TOTAL 129836.8 MEAN 355 MAX 3010 MIN 9.8 (+) 5.33
WTR YR 1977 TOTAL 106523.7 MEAN 292 MAX 3350 MIN 7.8 (+) 5.98

+ Diversion in cubic feet per second; furnished by city of Cambridge.

MUSKINGUM RIVER BASIN

139

03142000 WILLS CREEK AT CAMBRIDGE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964 to 1975, 1977.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND | HARD- NESS | NON- CAR- BONATE HARD- NESS | DIS- SOLVED CAL- CIUM | DIS- SOLVED MAG- NE- SIUM |
|--------------|------|---------------------------------------|--|------------------|------------------------|--------------------------|---------------------------------|---|----------------------------------|---|---|---------------------------------------|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | | 5 DAY (MG/L) | (CA+MG) (MG/L) | (MG/L) | (CA) (MG/L) | (MG/L) |
| MAR 23... | 1645 | 1010 | 435 | 7.8 | 7.0 | 10.9 | 89 | 1.9 | 200 | 100 | 55 | 16 |
| JUL 21... | 1100 | 8.0 | 900 | 8.0 | 28.0 | 7.1 | 90 | 4.5 | 360 | 210 | 91 | 31 |
| | | DIS- SOLVED PO- TAS- SIUM | BICAR- BONATE | CAR- BONATE | ALKA- LINITY AS | CARBON DIOXIDE | DIS- SOLVED SULFATE | DIS- SOLVED CHLO- RIDE | DIS- SOLVED FLUO- RIDE | DIS- SOLVED SILICA | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) | TOTAL NITRATE (N) |
| DATE | | (NA) (MG/L) | (HCO3) (MG/L) | (CO3) (MG/L) | CAC03 (MG/L) | (CO2) (MG/L) | (SO4) (MG/L) | (CL) (MG/L) | (F) (MG/L) | (SI02) (MG/L) | (MG/L) | (MG/L) |
| MAR 23... | 14 | 2.1 | 124 | 0 | 102 | 3.1 | 110 | 16 | .1 | 4.6 | 279 | .37 |
| JUL 21... | 40 | 3.8 | 174 | 0 | 143 | 2.8 | 250 | 34 | .3 | 7.2 | 544 | .43 |
| | | TOTAL AMMONIA NITRO- GEN | TOTAL PHOS- PHORUS | TOTAL ARSENIC | TOTAL CHRO- MIUM | TOTAL COPPER | DIS- SOLVED IRON | TOTAL LEAD | DIS- SOLVED MAN- GANESE | TOTAL MERCURY | TOTAL ZINC | TOTAL ORGANIC CARBON |
| DATE | | (N) (MG/L) | (P) (MG/L) | (AS) (UG/L) | (CR) (UG/L) | (CU) (UG/L) | (FE) (UG/L) | (PB) (UG/L) | (MN) (UG/L) | (HG) (UG/L) | (ZN) (UG/L) | (C) (MG/L) |
| MAR 23... | .01 | .04 | .07 | 1 | 10 | 13 | 30 | 6 | 110 | .0 | 20 | -- |
| JUL 21... | .01 | .11 | .14 | 2 | 20 | 39 | 10 | 14 | 500 | .0 | 70 | 5.0 |

MUSKINGUM RIVER BASIN

03142295 SALT FORK BELOW SALT FORK DAM, NEAR CAMBRIDGE, OH

LOCATION.--Lat 40°06'15", long 81°33'15", T.3 N., R.3 W., Guernsey County, Hydrologic Unit 05040005, at outlet works near left end of Salt Fork Dam, 0.8 mi (1.3 km) upstream from the mouth and 5.0 mi (8.0 km) north of Cambridge.

DRAINAGE AREA.--159 mi² (412 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1970 to current year.

REVISED RECORDS.--WDR OH-76-1: 1975.

GAGE.--Water-stage recorder and morning-glory spillway control. Datum of gage is 700.00 ft (213.360 m) above mean sea level; gage readings have been reduced to elevations above mean sea level. Same gage and elevations as Salt Fork Reservoir (station 03142290).

REMARKS.--Records good except those for the period Jan. 11 to Mar. 10 and those below 50 ft³/s (1.416 m³/s), which are fair. Flow completely regulated by Salt Fork Reservoir (see station 03142290).

AVERAGE DISCHARGE.--7 years, 172 ft³/s (4.871 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,830 ft³/s (51.8 m³/s) Feb. 25, 1975, elevation, 805.46 ft (245.504 m) from rating curve extended above 650 ft³/s (18.4 m³/s); no flow at times in 1970-71, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,330 ft³/s (37.7 m³/s) Apr. 5, elevation, 804.66 ft (245.260 m); minimum daily, 9.6 ft³/s (0.27 m³/s) Oct. 4-8, 18, 19, Sept. 11-15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|------|------|------|------|------|-------|------|------|------|------|-------|
| 1 | 9.7 | 69 | 24 | 42 | 36 | 400 | 242 | 117 | 33 | 33 | 24 | 24 |
| 2 | 9.7 | 69 | 24 | 41 | 36 | 420 | 294 | 135 | 24 | 33 | 24 | 16 |
| 3 | 9.7 | 69 | 24 | 40 | 36 | 280 | 611 | 135 | 24 | 33 | 16 | 24 |
| 4 | 9.6 | 69 | 24 | 39 | 38 | 280 | 1050 | 154 | 24 | 44 | 16 | 24 |
| 5 | 9.6 | 69 | 24 | 38 | 37 | 290 | 1050 | 174 | 24 | 56 | 16 | 16 |
| 6 | 9.6 | 69 | 24 | 37 | 36 | 300 | 1050 | 174 | 24 | 56 | 16 | 16 |
| 7 | 9.6 | 56 | 33 | 37 | 35 | 270 | 612 | 218 | 16 | 44 | 24 | 16 |
| 8 | 9.6 | 56 | 44 | 37 | 36 | 230 | 610 | 174 | 16 | 44 | 33 | 16 |
| 9 | 9.7 | 56 | 56 | 37 | 35 | 200 | 610 | 174 | 24 | 44 | 44 | 16 |
| 10 | 16 | 56 | 56 | 37 | 32 | 174 | 610 | 154 | 24 | 44 | 44 | 9.7 |
| 11 | 16 | 44 | 56 | 36 | 33 | 174 | 470 | 154 | 24 | 44 | 44 | 9.6 |
| 12 | 16 | 44 | 56 | 36 | 36 | 174 | 351 | 135 | 24 | 44 | 56 | 9.6 |
| 13 | 16 | 44 | 56 | 36 | 46 | 242 | 350 | 135 | 24 | 44 | 56 | 9.6 |
| 14 | 16 | 44 | 56 | 35 | 56 | 294 | 350 | 117 | 24 | 44 | 44 | 9.6 |
| 15 | 16 | 44 | 56 | 35 | 78 | 350 | 294 | 117 | 24 | 44 | 56 | 9.6 |
| 16 | 16 | 44 | 56 | 35 | 78 | 294 | 242 | 117 | 24 | 44 | 56 | 9.7 |
| 17 | 9.7 | 33 | 44 | 35 | 76 | 294 | 242 | 100 | 24 | 33 | 56 | 16 |
| 18 | 9.6 | 33 | 44 | 34 | 74 | 294 | 218 | 100 | 24 | 33 | 56 | 16 |
| 19 | 9.6 | 33 | 44 | 33 | 85 | 351 | 174 | 84 | 24 | 33 | 44 | 16 |
| 20 | 9.7 | 33 | 56 | 32 | 100 | 470 | 174 | 84 | 24 | 24 | 44 | 24 |
| 21 | 9.7 | 33 | 44 | 31 | 100 | 470 | 174 | 69 | 16 | 24 | 44 | 24 |
| 22 | 9.7 | 24 | 56 | 30 | 110 | 350 | 154 | 56 | 16 | 33 | 33 | 24 |
| 23 | 16 | 24 | 44 | 30 | 110 | 350 | 135 | 56 | 16 | 33 | 33 | 24 |
| 24 | 24 | 24 | 56 | 31 | 170 | 350 | 135 | 56 | 16 | 33 | 33 | 24 |
| 25 | 33 | 24 | 56 | 34 | 280 | 350 | 117 | 56 | 16 | 24 | 33 | 24 |
| 26 | 33 | 24 | 54 | 35 | 520 | 294 | 100 | 56 | 16 | 24 | 24 | 24 |
| 27 | 33 | 33 | 52 | 35 | 510 | 294 | 100 | 56 | 16 | 24 | 24 | 16 |
| 28 | 33 | 24 | 50 | 35 | 500 | 242 | 100 | 44 | 24 | 16 | 24 | 16 |
| 29 | 33 | 24 | 48 | 36 | --- | 242 | 117 | 44 | 24 | 16 | 24 | 16 |
| 30 | 33 | 24 | 46 | 36 | --- | 242 | 135 | 33 | 24 | 24 | 24 | 16 |
| 31 | 56 | --- | 44 | 36 | --- | 242 | --- | 33 | --- | 24 | 24 | --- |
| TOTAL | 550.8 | 1292 | 1407 | 1101 | 3319 | 9207 | 10871 | 3311 | 657 | 1093 | 1089 | 515.4 |
| MEAN | 17.8 | 43.1 | 45.4 | 35.5 | 119 | 297 | 362 | 107 | 21.9 | 35.3 | 35.1 | 17.2 |
| MAX | 56 | 69 | 56 | 42 | 520 | 470 | 1050 | 218 | 33 | 56 | 56 | 24 |
| MIN | 9.6 | 24 | 24 | 30 | 32 | 174 | 100 | 33 | 16 | 16 | 16 | 9.6 |

CAL YR 1976 TOTAL 47654.8 MEAN 130 MAX 854 MIN 9.0
WTR YR 1977 TOTAL 34413.2 MEAN 94.3 MAX 1050 MIN 9.6

MUSKINGUM RIVER BASIN

141

03142295 SALT FORK BELOW SALT FORK DAM, NEAR CAMBRIDGE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1971 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|------|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|--|---|
| DATE | TIME | | | | | | | | | | | |
| MAR 24... | 1345 | 441 | 305 | 7.7 | 7.0 | 10.7 | 88 | 1.1 | 120 | 61 | 34 | 9.3 |
| JUL 14... | 1000 | 44 | 255 | 7.6 | 25.5 | 8.0 | 96 | 4.7 | 110 | 58 | 30 | 7.8 |
| | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) |
| MAR 24... | 11 | 2.5 | 76 | 0 | 62 | 2.4 | 61 | 16 | .1 | 4.7 | 176 | .40 |
| JUL 14... | 8.9 | 2.2 | 60 | 0 | 49 | 2.4 | 50 | 13 | .1 | 4.0 | 146 | .00 |
| | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (MG/L) |
| MAR 24... | .01 | .16 | .01 | 0 | 20 | 3 | 30 | 4 | 230 | .0 | 40 | -- |
| JUL 14... | .00 | .06 | .02 | 2 | 10 | 4 | 50 | 3 | 20 | .0 | 40 | 5.8 |

MUSKINGUM RIVER BASIN

03143500 WILLS CREEK BELOW WILLS CREEK DAM, AT WILLS CREEK, OH

LOCATION.--Lat 40°09'34", long 81°50'51", in sec. 22, T.4 N., R.6 W., Coshocton County, Hydrologic Unit 05040005, on left bank 1,200 ft (366 m) downstream from Wills Creek Dam, 1.3 mi (2.1 km) southeast of town of Wills Creek, 2.7 mi (4.3 km) southeast of Conesville, and 6.2 mi (10.0 km) upstream from mouth.

DRAINAGE AREA.--842 mi² (2,181 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year. Prior to October 1939, published as Wills Creek at Wills Creek.

REVISED RECORDS.--WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 717.00 ft (218.542 m) above mean sea level, adjustment of 1912. Prior to Feb. 18, 1939, nonrecording gage and Feb. 18, 1939, to Sept. 30, 1949, water-stage recorder, at site 1,500 ft (457 m) downstream at same datum.

REMARKS.--Records good. Flow regulated by Senecaville Lake on Seneca Fork, 80 mi (129 km) upstream, Salt Fork Reservoir, 43 mi (69 km) upstream, and Wills Creek Lake, 0.2 mi (0.3 km) upstream (see stations 03141000, 03142290, and 03143000).

AVERAGE DISCHARGE.--39 years, 902 ft³/s (25.54 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,930 ft³/s (196 m³/s) Mar. 7, 1940, gage height, 17.40 ft (5.304 m); maximum gage height, 17.50 ft (5.334 m) Mar. 22, 1964 (backwater from Muskingum River); minimum daily discharge, 1.0 ft³/s (0.028 m³/s) Aug. 10, Oct. 27-29, 1948, Jan. 28, 1952, July 6-9, 1969, Apr. 3, 1970, Feb. 25, 1975, Feb. 19, 1976, when gates at Wills Creek Lake were closed.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a discharge of 22,300 ft³/s (632 m³/s), computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,570 ft³/s (158 m³/s) Apr. 11, gage height, 15.95 ft (4.862 m); minimum daily, 64 ft³/s (1.81 m³/s) June 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|----------|-------|------|-------|-------|-------|-------|------|-------|-------|------|
| 1 | 105 | 460 | 354 | 166 | 174 | 2240 | 1160 | 1010 | 123 | 234 | 881 | 118 |
| 2 | 106 | 656 | 353 | 152 | 183 | 1440 | 1440 | 831 | 117 | 259 | 813 | 115 |
| 3 | 98 | 711 | 341 | 150 | 166 | 1120 | 3610 | 709 | 108 | 260 | 517 | 110 |
| 4 | 90 | 589 | 336 | 144 | 145 | 1010 | 3110 | 699 | 98 | 500 | 334 | 107 |
| 5 | 84 | 479 | 345 | 138 | 128 | 1150 | 1920 | 905 | 93 | 1170 | 235 | 139 |
| 6 | 80 | 402 | 355 | 132 | 116 | 1580 | 2180 | 1360 | 97 | 1070 | 176 | 158 |
| 7 | 76 | 357 | 419 | 130 | 111 | 1550 | 2840 | 1530 | 93 | 733 | 147 | 147 |
| 8 | 70 | 329 | 530 | 132 | 109 | 1230 | 3540 | 1680 | 89 | 514 | 201 | 127 |
| 9 | 71 | 306 | 867 | 128 | 108 | 1040 | 4620 | 1850 | 115 | 376 | 699 | 107 |
| 10 | 79 | 288 | 1100 | 137 | 111 | 1060 | 4750 | 1420 | 122 | 307 | 1460 | 90 |
| 11 | 93 | 256 | 967 | 138 | 112 | 1070 | 5140 | 1080 | 134 | 368 | 1320 | 79 |
| 12 | 150 | 216 | 862 | 138 | 124 | 1060 | 5280 | 1030 | 154 | 419 | 1060 | 70 |
| 13 | 187 | 187 | 833 | 135 | 168 | 1460 | 5180 | 984 | 158 | 363 | 1030 | 66 |
| 14 | 170 | 170 | 784 | 132 | 304 | 2170 | 4830 | 861 | 146 | 295 | 1040 | 79 |
| 15 | 138 | 158 | 651 | 127 | 698 | 2640 | 3760 | 697 | 130 | 276 | 975 | 78 |
| 16 | 115 | 148 | 522 | 125 | 1120 | 2410 | 1990 | 554 | 113 | 253 | 871 | 97 |
| 17 | 97 | 143 | 397 | 135 | 1080 | 1940 | 1380 | 456 | 100 | 211 | 711 | 116 |
| 18 | 85 | 215 | 318 | 132 | 820 | 1910 | 1210 | 391 | 92 | 175 | 608 | 151 |
| 19 | 78 | 344 | 286 | 132 | 646 | 2730 | 1120 | 348 | 92 | 147 | 489 | 237 |
| 20 | 80 | 414 | 282 | 134 | 553 | 3260 | 936 | 310 | 87 | 128 | 418 | 316 |
| 21 | 84 | 403 | 281 | 132 | 498 | 3460 | 672 | 274 | 83 | 118 | 391 | 363 |
| 22 | 85 | 377 | 279 | 132 | 482 | 3030 | 528 | 249 | 77 | 136 | 340 | 326 |
| 23 | 86 | 360 | 288 | 132 | 632 | 2400 | 475 | 231 | 71 | 179 | 281 | 276 |
| 24 | 121 | 348 | 271 | 134 | 1420 | 2170 | 455 | 216 | 64 | 503 | 239 | 228 |
| 25 | 181 | 338 | 251 | 132 | 3060 | 1950 | 446 | 202 | 70 | 516 | 206 | 192 |
| 26 | 248 | 336 | 245 | 124 | 3910 | 1690 | 460 | 185 | 79 | 345 | 175 | 170 |
| 27 | 333 | 339 | 228 | 127 | 3950 | 1480 | 449 | 170 | 74 | 236 | 152 | 156 |
| 28 | 350 | 345 | 205 | 128 | 3370 | 1390 | 455 | 158 | 88 | 186 | 139 | 145 |
| 29 | 326 | 355 | 192 | 139 | --- | 1450 | 614 | 147 | 137 | 166 | 133 | 135 |
| 30 | 308 | 358 | 194 | 133 | --- | 1540 | 890 | 139 | 177 | 151 | 133 | 121 |
| 31 | 345 | --- | 170 | 148 | --- | 1360 | --- | 132 | --- | 329 | 124 | --- |
| TOTAL | 4519 | 10387 | 13506 | 4198 | 24298 | 55990 | 65440 | 20808 | 3181 | 10923 | 16298 | 4619 |
| MEAN | 146 | 346 | 436 | 135 | 868 | 1806 | 2181 | 671 | 106 | 352 | 526 | 154 |
| MAX | 350 | 711 | 1100 | 166 | 3950 | 3460 | 5280 | 1850 | 177 | 1170 | 1460 | 363 |
| MIN | 70 | 143 | 170 | 124 | 108 | 1010 | 446 | 132 | 64 | 118 | 124 | 66 |
| CAL YR 1976 | TOTAL | 293946.0 | MEAN | 803 | MAX | 4930 | MIN | 1.0 | | | | |
| WTR YR 1977 | TOTAL | 234167.0 | MEAN | 642 | MAX | 5280 | MIN | 64 | | | | |

MUSKINGUM RIVER BASIN

143

03143500 WILLS CREEK BELOW WILLS CREEK DAM, AT WILLS CREEK, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957, 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | |
|--------------|------|--|--|--------------------------------------|--|--|--|--|--|---|--|---|-----------------------------------|
| | | | | | | | | | | | | | |
| MAR 22... | 1115 | 2950 | 338 | 7.4 | 7.0 | 10.4 | 85 | 1.6 | 140 | 84 | 38 | 11 | |
| JUL 20... | 1800 | 121 | 670 | 7.6 | 26.0 | 6.8 | 83 | 2.2 | 270 | 170 | 69 | 23 | |
| DATE | TIME | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| | | | | | | | | | | | | | |
| MAR 22... | 11 | 2.7 | 68 | 0 | 56 | 4.3 | 81 | 16 | .1 | 6.4 | 200 | .50 | |
| JUL 20... | 24 | 3.7 | 114 | 0 | 94 | 4.6 | 180 | 32 | .2 | 6.8 | 396 | .61 | |
| DATE | TIME | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | |
| | | | | | | | | | | | | | |
| MAR 22... | .02 | .08 | .10 | 1 | 10 | 4 | 30 | 7 | 150 | .0 | 80 | -- | |
| JUL 20... | .04 | .24 | .07 | 1 | 10 | 7 | 10 | 6 | 700 | .0 | 50 | 5.4 | |

MUSKINGUM RIVER BASIN

03144000 WAKATOMIKA CREEK NEAR FRAZEYSEBURG, OH

LOCATION.--Lat 40°07'57", long 82°08'53", in NW 1/4 sec. 13, T.3 N., R.9 W., Muskingum County, Hydrologic Unit 05040004, on right bank 2.0 mi (3.2 km) northwest of Frazeyburg, 2.0 mi (3.2 km) downstream from Fivemile Run, and 2.5 mi (4.0 km) upstream from Black Run.

DRAINAGE AREA.--140 mi² (363 km²).

WATER-DISCHARGE RECORDS

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 (228.027 m) above mean sea level, adjustment of 1912. Prior to Oct. 31, 1936, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are fair.

AVERAGE DISCHARGE.--41 years, 147 ft³/s (4.163 m³/s), 14.26 in/yr (362 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,700 ft³/s (388 m³/s) Jan. 22, 1959, gage height, 13.15 ft (4.008 m), from rating curve extended above 7,700 ft³/s (218 m³/s) on basis of contracted-opening measurement of peak flow; minimum, 2.0 ft³/s (0.057 m³/s) Oct. 3, 1963, gage height, 0.94 ft (0.287 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,600 ft³/s (45.3 m³/s) and maximums (*):

| Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) | Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) | | | | |
|---------|------|--|----------------------------|------|-------|--|----------------------------|-------|------|-------|-------|
| Feb. 24 | 1400 | 2090 | 59.2 | 6.14 | 1.871 | Mar. 18 | 2200 | 1840 | 52.1 | 5.68 | 1.731 |
| Mar. 13 | 1415 | 2000 | 56.6 | 5.91 | 1.801 | Apr. 4 | 0715 | *2900 | 82.1 | *7.26 | 2.213 |

Minimum discharge, 7.0 ft³/s (0.20 m³/s) Sept. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|-------|------|------|------|-------|-------|--------|
| 1 | 25 | 154 | 29 | 30 | 30 | 219 | 152 | 107 | 21 | 48 | 14 | 10 |
| 2 | 23 | 89 | 28 | 30 | 30 | 171 | 791 | 105 | 19 | 43 | 12 | 12 |
| 3 | 21 | 75 | 36 | 30 | 30 | 150 | 2040 | 107 | 18 | 26 | 10 | 21 |
| 4 | 19 | 67 | 23 | 30 | 30 | 228 | 769 | 105 | 17 | 30 | 9.8 | 16 |
| 5 | 17 | 59 | 23 | 30 | 30 | 349 | 1330 | 114 | 17 | 55 | 9.4 | 11 |
| 6 | 18 | 53 | 22 | 30 | 30 | 236 | 770 | 153 | 18 | 36 | 9.0 | 10 |
| 7 | 20 | 51 | 51 | 30 | 30 | 196 | 475 | 281 | 18 | 24 | 14 | 9.7 |
| 8 | 21 | 48 | 58 | 30 | 30 | 163 | 351 | 167 | 18 | 26 | 27 | 9.0 |
| 9 | 22 | 44 | 52 | 30 | 30 | 148 | 260 | 116 | 58 | 21 | 15 | 8.9 |
| 10 | 29 | 47 | 46 | 30 | 30 | 134 | 217 | 96 | 39 | 18 | 19 | 8.6 |
| 11 | 29 | 46 | 51 | 30 | 31 | 120 | 185 | 86 | 25 | 16 | 21 | 7.9 |
| 12 | 23 | 42 | 51 | 30 | 32 | 148 | 154 | 77 | 24 | 34 | 34 | 7.8 |
| 13 | 19 | 38 | 51 | 30 | 32 | 1430 | 135 | 71 | 22 | 68 | 23 | 8.5 |
| 14 | 19 | 35 | 59 | 30 | 348 | 724 | 124 | 67 | 20 | 27 | 19 | 116 |
| 15 | 20 | 36 | 39 | 30 | 263 | 438 | 111 | 62 | 19 | 18 | 38 | 52 |
| 16 | 19 | 33 | 40 | 30 | 191 | 319 | 98 | 56 | 17 | 15 | 40 | 101 |
| 17 | 18 | 31 | 39 | 30 | 158 | 241 | 92 | 52 | 16 | 18 | 28 | 97 |
| 18 | 18 | 36 | 43 | 30 | 131 | 1020 | 87 | 49 | 15 | 15 | 28 | 58 |
| 19 | 18 | 34 | 41 | 30 | 115 | 992 | 84 | 47 | 14 | 12 | 20 | 86 |
| 20 | 21 | 34 | 47 | 30 | 112 | 596 | 80 | 43 | 16 | 11 | 15 | 144 |
| 21 | 38 | 31 | 56 | 30 | 96 | 435 | 78 | 40 | 14 | 12 | 14 | 84 |
| 22 | 35 | 31 | 70 | 30 | 107 | 433 | 73 | 36 | 12 | 21 | 16 | 55 |
| 23 | 25 | 29 | 39 | 30 | 388 | 393 | 87 | 33 | 11 | 14 | 16 | 43 |
| 24 | 60 | 39 | 33 | 30 | 1350 | 309 | 95 | 33 | 11 | 11 | 14 | 36 |
| 25 | 94 | 30 | 30 | 30 | 1060 | 254 | 107 | 34 | 59 | 11 | 12 | 37 |
| 26 | 54 | 34 | 34 | 30 | 598 | 216 | 92 | 32 | 62 | 15 | 11 | 36 |
| 27 | 44 | 43 | 38 | 30 | 405 | 189 | 81 | 28 | 31 | 9.4 | 10 | 30 |
| 28 | 36 | 41 | 39 | 30 | 287 | 222 | 88 | 27 | 37 | 8.6 | 9.5 | 28 |
| 29 | 33 | 38 | 38 | 30 | --- | 260 | 196 | 26 | 48 | 9.4 | 9.3 | 23 |
| 30 | 31 | 31 | 32 | 30 | --- | 201 | 130 | 23 | 28 | 27 | 9.2 | 21 |
| 31 | 127 | --- | 31 | 30 | --- | 176 | --- | 23 | --- | 18 | 10 | --- |
| TOTAL | 1001 | 1399 | 1269 | 930 | 6004 | 11110 | 9332 | 2296 | 744 | 717.4 | 536.2 | 1187.4 |
| MEAN | 32.3 | 46.6 | 40.9 | 30.0 | 214 | 358 | 311 | 74.1 | 24.8 | 23.1 | 17.3 | 39.6 |
| MAX | 127 | 154 | 70 | 30 | 1350 | 1430 | 2040 | 281 | 62 | 68 | 40 | 144 |
| MIN | 17 | 29 | 22 | 30 | --- | 120 | 73 | 23 | 11 | 8.6 | 9.0 | 7.8 |
| CFSM | .23 | .33 | .29 | .21 | 1.53 | 2.56 | 2.22 | .53 | .18 | .17 | .12 | .28 |
| IN. | .27 | .37 | .34 | .25 | 1.60 | 2.95 | 2.48 | .61 | .20 | .19 | .14 | .32 |

CAL YR 1976 TOTAL 50596.0 MEAN 138 MAX 2570 MIN 17 CFSM .99 IN 13.44
WTR YR 1977 TOTAL 36526.0 MEAN 100 MAX 2040 MIN 7.8 CFSM .71 IN 9.71

MUSKINGUM RIVER BASIN

145

03144000 WAKATOMIKA CREEK NEAR PRAZEYSBURG, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1965 to current year.

REMARKS.--Sediment data collected at this site 1969 to 1974.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA,MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | |
|--------------|------|---|--|---|------------------------------------|--|--------------------------------------|--|---|--|--|---|---|
| | | | | | | | | | | | | | |
| MAR 15... | 1530 | 408 | 260 | 7.3 | 10.0 | 10.4 | 92 | 1.3 | 85 | 54 | 22 | 7.3 | |
| JUN 22... | 1600 | 12 | 390 | 7.7 | 21.5 | 9.3 | 100 | 1.8 | 140 | 38 | 35 | 12 | |
| DATE | | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 15... | 12 | | 2.5 | 38 | 0 | 31 | 3.0 | 24 | 35 | .1 | 8.3 | 130 | 1.5 |
| JUN 22... | 22 | | 2.7 | 120 | 0 | 98 | 3.8 | 18 | 55 | .0 | 5.7 | 210 | .17 |
| DATE | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 15... | | .01 | .03 | .03 | 2 | 10 | 9 | 40 | 7 | 70 | .0 | 100 | 2.8 |
| JUN 22... | | .00 | .05 | .01 | 2 | <10 | 2 | 40 | 5 | 90 | .0 | 50 | 6.0 |

MUSKINGUM RIVER BASIN

03144500 MUSKINGUM RIVER AT DRESDEN, OH

LOCATION.--Lat 40°07'13", long 81°59'59", Muskingum County, Hydrologic Unit 05040004, on left bank 70 ft (21 m) downstream from bridge on State Highway 208, 0.5 mi (0.8 km) east of Dresden, and 0.5 mi (0.8 km) downstream from Wakatomika Creek.

DRAINAGE AREA.--5,993 mi² (15,522 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 728: 1927(M). WSP 803: 1935. WSP 1385: 1922-23, 1928(M), 1929, 1930(M). WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 693.15 ft (211.272 m) above mean sea level, adjustment of 1912. Prior to Aug. 24, 1925, nonrecording gage at about same site and datum.

REMARKS.--Records good except those for winter periods, which are fair. Flow regulated by 16 flood-control reservoirs at points 15 mi (24 km) to 105 mi (169 km) upstream.

AVERAGE DISCHARGE.--56 years, 6,164 ft³/s (174.6 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 100,000 ft³/s (2,830 m³/s) Aug. 9, 1935, gage height, 31.6 ft (9.63 m); minimum daily, 335 ft³/s (9.49 m³/s) June 25, 1925.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 46.0 ft (14.02 m), present site and datum, from floodmark, discharge, 228,000 ft³/s (6,460 m³/s), computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 25,700 ft³/s (728 m³/s) Apr. 4, gage height, 16.39 ft (4.996 m); minimum daily, 1,060 ft³/s (30.0 m³/s) Jan. 31, Feb. 2, Feb. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|--------|--------|--------|--------|-------|--------|-------|-------|
| 1 | 2090 | 3640 | 2530 | 1200 | 1130 | 18200 | 8750 | 6660 | 1650 | 2720 | 3200 | 1590 |
| 2 | 1950 | 4350 | 2610 | 1200 | 1160 | 14600 | 9470 | 5990 | 1680 | 4120 | 3200 | 1520 |
| 3 | 1760 | 4180 | 2400 | 1200 | 1150 | 12600 | 21500 | 5610 | 1630 | 3600 | 2580 | 1550 |
| 4 | 1610 | 3580 | 2300 | 1200 | 1150 | 11100 | 25000 | 5760 | 1580 | 3500 | 2150 | 2080 |
| 5 | 1480 | 3130 | 2450 | 1200 | 1130 | 11700 | 24800 | 6620 | 1510 | 6290 | 1890 | 2300 |
| 6 | 1410 | 2780 | 2470 | 1200 | 1110 | 12400 | 23600 | 8780 | 1760 | 8390 | 1720 | 1850 |
| 7 | 1450 | 2540 | 2900 | 1200 | 1120 | 10600 | 24200 | 10300 | 2590 | 6620 | 2180 | 1680 |
| 8 | 1470 | 2340 | 3340 | 1200 | 1080 | 8560 | 24100 | 9490 | 2640 | 4750 | 3890 | 1720 |
| 9 | 1490 | 2190 | 4110 | 1200 | 1060 | 7360 | 23900 | 8500 | 2510 | 4890 | 5820 | 1560 |
| 10 | 1590 | 2090 | 4330 | 1100 | 1080 | 6800 | 23900 | 7360 | 2780 | 3940 | 6590 | 1440 |
| 11 | 1860 | 2050 | 4070 | 1100 | 1160 | 6290 | 23500 | 6680 | 3200 | 3280 | 5880 | 1360 |
| 12 | 2050 | 1970 | 3870 | 1100 | 1310 | 5950 | 23700 | 5990 | 2720 | 3130 | 4960 | 1310 |
| 13 | 2000 | 1880 | 3790 | 1100 | 1680 | 11900 | 22600 | 5280 | 2330 | 3220 | 4570 | 1260 |
| 14 | 1850 | 1780 | 3580 | 1100 | 2780 | 18900 | 21100 | 4830 | 2100 | 3280 | 4180 | 1820 |
| 15 | 1710 | 1700 | 3390 | 1100 | 3940 | 19400 | 18600 | 4380 | 1950 | 2650 | 4140 | 3060 |
| 16 | 1550 | 1740 | 3080 | 1100 | 4760 | 17000 | 14600 | 3920 | 1810 | 2310 | 4210 | 3790 |
| 17 | 1450 | 2250 | 2620 | 1100 | 4600 | 14400 | 10200 | 3560 | 1670 | 2240 | 3920 | 3870 |
| 18 | 1370 | 2300 | 2310 | 1100 | 3840 | 13900 | 8100 | 3310 | 1630 | 2690 | 3990 | 4890 |
| 19 | 1320 | 2300 | 2240 | 1100 | 3530 | 19700 | 7240 | 3110 | 3390 | 2650 | 3560 | 5280 |
| 20 | 1310 | 2280 | 2310 | 1100 | 3370 | 20800 | 6590 | 3000 | 3250 | 2450 | 3060 | 8750 |
| 21 | 1400 | 2270 | 2390 | 1100 | 3060 | 20400 | 6030 | 2850 | 2880 | 2130 | 2700 | 8370 |
| 22 | 1510 | 2210 | 2430 | 1100 | 2850 | 18600 | 5410 | 2650 | 2310 | 2950 | 2500 | 7380 |
| 23 | 1580 | 2160 | 2280 | 1100 | 3730 | 18100 | 5170 | 2450 | 1970 | 7140 | 2580 | 6310 |
| 24 | 1740 | 2090 | 1700 | 1100 | 8990 | 17600 | 5370 | 2370 | 1790 | 6430 | 3050 | 4620 |
| 25 | 2220 | 2020 | 1500 | 1100 | 19400 | 16700 | 6290 | 2370 | 1790 | 5860 | 2510 | 3890 |
| 26 | 2980 | 2240 | 1400 | 1100 | 22800 | 14900 | 6680 | 2240 | 1880 | 4870 | 2130 | 3840 |
| 27 | 3250 | 2530 | 1400 | 1100 | 22600 | 12900 | 6350 | 2100 | 1930 | 4110 | 1950 | 4010 |
| 28 | 2880 | 2800 | 1300 | 1100 | 20600 | 11000 | 6010 | 2000 | 1780 | 3310 | 1780 | 3450 |
| 29 | 2510 | 2950 | 1300 | 1100 | --- | 10400 | 6550 | 1900 | 1790 | 2730 | 1680 | 2850 |
| 30 | 2270 | 2820 | 1200 | 1100 | --- | 11200 | 6800 | 1810 | 2130 | 2540 | 1630 | 2480 |
| 31 | 2480 | --- | 1200 | 1060 | --- | 10200 | --- | 1720 | --- | 2700 | 1610 | --- |
| TOTAL | 57590 | 75160 | 78800 | 34960 | 146170 | 424160 | 426110 | 143590 | 64630 | 121490 | 99810 | 99880 |
| MEAN | 1858 | 2505 | 2542 | 1128 | 5220 | 13680 | 14200 | 4632 | 2154 | 3919 | 3220 | 3329 |
| MAX | 3250 | 4350 | 4330 | 1200 | 22800 | 20800 | 25000 | 10300 | 3390 | 8390 | 6590 | 8750 |
| MIN | 1310 | 1700 | 1200 | 1060 | 1060 | 5950 | 5170 | 1720 | 1510 | 2130 | 1610 | 1260 |

CAL YR 1976 TOTAL 2160010 MEAN 5902 MAX 24000 MIN 1200
WTR YR 1977 TOTAL 1772350 MEAN 4856 MAX 25000 MIN 1060

MUSKINGUM RIVER BASIN

147

03144500 MUSKINGUM RIVER AT DRESDEN, OH--Continued

WATER-QUALITY RECORDS

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

REMARKS.--Water temperatures collected at this site 1952-61, 1963-74; sediment data collected at this site 1952-74.

WATER QUALITY DATA. WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | PER- CENT SATU- RATION | BIO- CHEM- ICAL OXYGEN DEMAND | HARD- NESS | NON- CAR- BONATE HARD- NESS | DIS- SOLVED CAL- CIUM | DIS- SOLVED MAG- NE- SIUM |
|--------------|------|---------------------------------------|--|------------------|--------------------------------|--------------------------|---------------------------------|---|----------------------------------|---|---|---------------------------------------|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | | 5 DAY (MG/L) | (CA, MG) (MG/L) | (MG/L) | (CA) (MG/L) | (MG/L) |
| MAR 21... | 1345 | 19700 | 410 | 7.7 | 7.0 | 11.0 | 90 | 3.6 | 150 | 80 | 41 | 11 |
| JUL 13... | 1000 | 3160 | 640 | 7.7 | 25.0 | 7.6 | 90 | 3.7 | 270 | 150 | 76 | 19 |
| | | DIS- SOLVED PO- TAS- SIUM | BICAR- BONATE | CAR- BONATE | ALKA- LINITY AS CACO3 | CARBON DIOXIDE | DIS- SOLVED SULFATE | DIS- SOLVED CHLO- RIDE | DIS- SOLVED FLUO- RIDE | DIS- SOLVED SILICA | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) | TOTAL NITRATE |
| DATE | | (NA) (MG/L) | (HCO3) (MG/L) | (CO3) (MG/L) | (MG/L) | (CO2) (MG/L) | (SO4) (MG/L) | (CL) (MG/L) | (F) (MG/L) | (SI02) (MG/L) | (MG/L) | (N) (MG/L) |
| MAR 21... | 21 | 3.5 | 83 | 0 | 68 | 2.6 | 68 | 37 | .1 | 6.9 | 230 | 2.4 |
| JUL 13... | 36 | 4.8 | 140 | 0 | 115 | 4.5 | 120 | 75 | .3 | 7.2 | 407 | 1.3 |
| | | TOTAL NITRO- GEN | TOTAL PHOS- PHORUS | TOTAL ARSENIC | TOTAL CHRO- MIUM | TOTAL COPPER | DIS- SOLVED IRON | TOTAL LEAD | DIS- SOLVED MAN- GANESE | TOTAL MERCURY | TOTAL ZINC | TOTAL ORGANIC CARBON |
| DATE | | (N) (MG/L) | (P) (MG/L) | (AS) (UG/L) | (CR) (UG/L) | (CU) (UG/L) | (FE) (UG/L) | (PB) (UG/L) | (MN) (UG/L) | (HG) (UG/L) | (ZN) (UG/L) | (C) (MG/L) |
| MAR 21... | .03 | .10 | .26 | 2 | 10 | 9 | 60 | 9 | 110 | .0 | 50 | -- |
| JUL 13... | .01 | .03 | .28 | 2 | 30 | 18 | 20 | 19 | 60 | .0 | 90 | 7.1 |

MUSKINGUM RIVER BASIN

03145000 SOUTH FORK LICKING RIVER NEAR HEBRON, OH

LOCATION.--Lat 39°59'19", long 82°28'30", in NW 1/4 sec. 3, T.1 N., R.12 W., Licking County, Hydrologic Unit 05040006, on left bank at upstream side of bridge on county road, 800 ft (244 m) downstream from Beaver Run, 2.3 mi (3.7 km) north of Hebron, and 2.5 mi (4.0 km) upstream from Famp Creek.

DRAINAGE AREA.--133 mi² (344 km²).

WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder. Datum of gage is 856.08 ft (260.933 m) above mean sea level. Prior to Sept. 13, 1974 nonrecording gage at same site and datum.

REMARKS.--Records fair except those for winter periods or no gage height record, which are poor. Occasional regulation by Buckeye Lake, capacity, 27,300 acre-ft (33.7 hm³), on unnamed tributary 5.6 mi (9.0 km) upstream from station. Occasional diversion from Buckeye Lake into Jonathan Creek which bypasses station.

AVERAGE DISCHARGE.--18 years, 140 ft³/s (3.965 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,120 ft³/s (117 m³/s) Mar. 6, 1945, gage height, 12.1 ft (3.69 m), from flood marks; no flow Aug. 22, 1942.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 21, 1959, reached a stage of 12.4 ft (3.78 m) present datum, from floodmarks; discharge 5,880 ft³/s (167 m³/s), by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,220 ft³/s (34.6 m³/s) Apr. 2, gage height, 8.67 ft (2.643 m); minimum daily, 6.7 ft³/s (0.190 m³/s) Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|--------|------|------|------|------|------|------|------|------|------|--------|------|
| 1 | 10 | 411 | 29 | 17 | 14 | 180 | 101 | 62 | 17 | 129 | 11 | 13 |
| 2 | 9.1 | 159 | 26 | 17 | 14 | 150 | 618 | 55 | 18 | 95 | 9.6 | 26 |
| 3 | 8.6 | 100 | 36 | 17 | 14 | 130 | 1190 | 53 | 23 | 33 | 8.6 | 85 |
| 4 | 7.1 | 75 | 22 | 17 | 14 | 200 | 741 | 185 | 18 | 88 | 8.6 | 61 |
| 5 | 6.7 | 60 | 22 | 17 | 14 | 400 | 1090 | 323 | 17 | 67 | 8.1 | 31 |
| 6 | 9.1 | 49 | 21 | 17 | 14 | 250 | 753 | 300 | 18 | 35 | 8.1 | 26 |
| 7 | 13 | 45 | 66 | 17 | 14 | 150 | 485 | 397 | 15 | 23 | 303 | 33 |
| 8 | 11 | 57 | 99 | 17 | 14 | 110 | 388 | 288 | 14 | 42 | 558 | 24 |
| 9 | 15 | 360 | 45 | 17 | 14 | 88 | 126 | 185 | 175 | 34 | 189 | 19 |
| 10 | 22 | 363 | 33 | 16 | 14 | 69 | 104 | 52 | 96 | 22 | 85 | 16 |
| 11 | 26 | 355 | 29 | 16 | 14 | 66 | 90 | 44 | 38 | 17 | 53 | 14 |
| 12 | 18 | 349 | 26 | 16 | 14 | 97 | 77 | 38 | 30 | 57 | 188 | 13 |
| 13 | 15 | 344 | 24 | 16 | 14 | 937 | 73 | 36 | 24 | 85 | 123 | 15 |
| 14 | 13 | 338 | 22 | 16 | 150 | 670 | 66 | 33 | 21 | 38 | 80 | 165 |
| 15 | 16 | 334 | 21 | 16 | 100 | 259 | 60 | 33 | 18 | 22 | 108 | 108 |
| 16 | 11 | 334 | 20 | 16 | 90 | 165 | 53 | 31 | 18 | 14 | 77 | 322 |
| 17 | 31 | 410 | 20 | 16 | 105 | 113 | 49 | 29 | 19 | 13 | 44 | 333 |
| 18 | 8.6 | 413 | 19 | 16 | 108 | 413 | 47 | 28 | 95 | 13 | 31 | 127 |
| 19 | 7.1 | 402 | 19 | 15 | 92 | 526 | 45 | 27 | 41 | 14 | 25 | 219 |
| 20 | 9.6 | 395 | 19 | 15 | 80 | 248 | 42 | 26 | 25 | 22 | 20 | 309 |
| 21 | 15 | 388 | 19 | 15 | 72 | 200 | 41 | 25 | 18 | 39 | 18 | 124 |
| 22 | 17 | 382 | 19 | 15 | 76 | 253 | 39 | 23 | 16 | 527 | 19 | 73 |
| 23 | 20 | 373 | 18 | 15 | 250 | 270 | 42 | 28 | 13 | 117 | 18 | 55 |
| 24 | 59 | 365 | 18 | 15 | 650 | 154 | 47 | 46 | 11 | 47 | 17 | 44 |
| 25 | 277 | 195 | 18 | 15 | 450 | 113 | 62 | 37 | 10 | 33 | 15 | 38 |
| 26 | 157 | 18 | 18 | 15 | 350 | 96 | 52 | 28 | 11 | 26 | 14 | 34 |
| 27 | 85 | 22 | 18 | 15 | 260 | 87 | 46 | 23 | 10 | 21 | 15 | 30 |
| 28 | 57 | 45 | 18 | 15 | 215 | 119 | 53 | 20 | 14 | 16 | 14 | 26 |
| 29 | 45 | 46 | 18 | 15 | --- | 182 | 117 | 19 | 62 | 14 | 13 | 23 |
| 30 | 38 | 35 | 17 | 15 | --- | 133 | 87 | 18 | 29 | 13 | 14 | 22 |
| 31 | 228 | --- | 17 | 14 | --- | 113 | --- | 18 | --- | 12 | 14 | --- |
| TOTAL | 1264.9 | 7222 | 816 | 491 | 3230 | 6941 | 6784 | 2510 | 934 | 1728 | 2109.0 | 2428 |
| MEAN | 40.8 | 241 | 26.3 | 15.8 | 115 | 224 | 226 | 81.0 | 31.1 | 55.7 | 68.0 | 80.9 |
| MAX | 277 | 413 | 99 | 17 | 650 | 937 | 1190 | 397 | 175 | 527 | 558 | 333 |
| MIN | 6.7 | 18 | 17 | 14 | 14 | 66 | 39 | 18 | 10 | 12 | 8.1 | 13 |

CAL YR 1976 TOTAL 46361.5 MEAN 127 MAX 1280 MIN 5.2
WTR YR 1977 TOTAL 36457.9 MEAN 99.9 MAX 1190 MIN 6.7

Note: No gage height record Dec. 13 to Mar. 10.

MUSKINGUM RIVER BASIN

149

03145000 SOUTH FORK LICKING FIVER NEAR HEBRON, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) |
|--------------|--|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|--|---|
| DATE | TIME | (CFS) | | (UNITS) | | | | | | | | |
| MAR 10... | 1630 | 76 | 595 | 7.9 | 10.0 | 10.6 | 94 | 2.3 | 260 | 83 | 66 | 22 |
| JUL 07... | 1340 | 21 | 560 | 7.7 | 27.5 | 5.7 | 71 | 3.2 | 210 | 50 | 58 | 17 |
| | | | | | | | | | | | | |
| | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITU- TENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 10... | 18 | 2.3 | 210 | 0 | 172 | 4.2 | 61 | 35 | .2 | 6.0 | 314 | 2.5 |
| JUL 07... | 24 | 3.5 | 201 | 0 | 165 | 6.4 | 47 | 40 | .2 | 8.3 | 297 | 2.1 |
| | | | | | | | | | | | | |
| | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 10... | .03 | .29 | .11 | 2 | 10 | 13 | 30 | 12 | 90 | .0 | 10 | 8.1 |
| JUL 07... | .07 | .34 | .29 | 4 | <10 | 13 | 10 | 14 | 60 | .0 | 20 | 6.4 |

MUSKINGUM RIVER BASIN

03146000 NORTH FORK LICKING RIVER AT UTICA, OH

LOCATION.--Lat 40°13'41", long 82°27'06", in T.4 N., R.12 W., Licking County, Hydrologic Unit 05040006, on left bank at upstream side of bridge on State Highway 13 at south edge of Utica, 0.2 mi (0.3 km) downstream from unnamed right bank tributary, and 2.0 mi (3.2 km) upstream from Lake Fork.

DRAINAGE AREA.--116 mi² (300 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1939 to September 1948, October 1969 to current year.

REVISED RECORDS.--WRD Ohio 1970: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 934 ft (285 m) from topographic map. Prior to September 30, 1948, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are fair.

AVERAGE DISCHARGE.--17 years, 130 ft³/s (3.682 m³/s), 15.22 in/yr (387 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,040 ft³/s (199 m³/s) June 18, 1973, gage height, 13.04 ft (3.975 m); minimum observed, 0.6 ft³/s (0.017 m³/s) Aug. 13, Oct. 2, 1944.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 21, 1959 reached a stage of 15.8 ft (4.82 m), from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,500 ft³/s (70.8 m³/s) and maximums (*):

| Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) | Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) |
|---------|------|---|-------------------------|--------|------|---|-------------------------|
| Feb. 24 | 2230 | 3330 94.3 | 8.64 2.633 | Apr. 2 | 2400 | *3930 111 | *9.38 2.859 |
| Mar. 13 | 0730 | 3400 96.3 | 8.73 2.661 | | | | |

Minimum discharge, 1.8 ft³/s (0.051 m³/s) July 27-29, Aug. 5-7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|---------|------|------|------|------|------|--------|-------|-------|-------|-------|
| 1 | 17 | 261 | 27 | 13 | 11 | 180 | 75 | 72 | 9.6 | 63 | 3.9 | 3.5 |
| 2 | 14 | 131 | 26 | 13 | 10 | 135 | 1550 | 62 | 11 | 53 | 3.5 | 3.5 |
| 3 | 13 | 92 | 51 | 13 | 10 | 120 | 2040 | 62 | 9.6 | 24 | 2.6 | 3.9 |
| 4 | 12 | 71 | 21 | 12 | 10 | 448 | 597 | 113 | 7.7 | 58 | 2.2 | 3.0 |
| 5 | 10 | 57 | 20 | 12 | 10 | 567 | 1360 | 241 | 7.1 | 219 | 1.8 | 2.6 |
| 6 | 11 | 48 | 18 | 12 | 10 | 238 | 464 | 131 | 7.1 | 63 | 1.8 | 2.6 |
| 7 | 12 | 43 | 39 | 12 | 10 | 164 | 255 | 97 | 6.6 | 29 | 2.6 | 3.0 |
| 8 | 12 | 38 | 64 | 12 | 10 | 122 | 182 | 71 | 7.7 | 19 | 3.9 | 3.5 |
| 9 | 15 | 35 | 50 | 12 | 10 | 109 | 137 | 53 | 33 | 14 | 4.9 | 3.9 |
| 10 | 20 | 34 | 33 | 12 | 10 | 99 | 115 | 45 | 41 | 46 | 5.5 | 3.9 |
| 11 | 29 | 32 | 30 | 12 | 10 | 84 | 97 | 39 | 20 | 24 | 18 | 3.9 |
| 12 | 22 | 29 | 28 | 12 | 10 | 178 | 81 | 34 | 14 | 15 | 19 | 3.0 |
| 13 | 18 | 27 | 27 | 12 | 10 | 2230 | 71 | 30 | 12 | 18 | 15 | 3.0 |
| 14 | 17 | 25 | 25 | 12 | 92 | 597 | 64 | 28 | 10 | 18 | 9.6 | 16 |
| 15 | 17 | 24 | 23 | 12 | 171 | 291 | 59 | 25 | 8.3 | 9.6 | 9.0 | 18 |
| 16 | 16 | 24 | 22 | 12 | 217 | 189 | 52 | 23 | 7.7 | 6.6 | 17 | 29 |
| 17 | 16 | 22 | 21 | 12 | 244 | 135 | 48 | 20 | 6.6 | 4.9 | 50 | 54 |
| 18 | 15 | 21 | 20 | 11 | 241 | 1160 | 45 | 18 | 5.5 | 3.9 | 57 | 32 |
| 19 | 14 | 22 | 19 | 11 | 236 | 582 | 44 | 18 | 5.5 | 3.5 | 23 | 47 |
| 20 | 16 | 21 | 18 | 11 | 230 | 335 | 41 | 16 | 4.4 | 3.0 | 12 | 64 |
| 21 | 19 | 20 | 18 | 11 | 225 | 255 | 38 | 14 | 3.5 | 4.0 | 9.0 | 32 |
| 22 | 20 | 20 | 17 | 11 | 222 | 348 | 36 | 13 | 3.0 | 9.0 | 9.0 | 20 |
| 23 | 20 | 19 | 16 | 11 | 309 | 288 | 42 | 12 | 3.0 | 5.5 | 8.3 | 15 |
| 24 | 38 | 18 | 16 | 11 | 2390 | 178 | 78 | 12 | 2.6 | 3.9 | 6.6 | 12 |
| 25 | 196 | 18 | 15 | 11 | 1880 | 133 | 87 | 30 | 11 | 3.5 | 5.5 | 11 |
| 26 | 120 | 19 | 15 | 11 | 801 | 113 | 63 | 16 | 16 | 2.6 | 3.9 | 10 |
| 27 | 72 | 30 | 15 | 11 | 456 | 97 | 53 | 12 | 8.3 | 2.2 | 3.5 | 15 |
| 28 | 53 | 47 | 14 | 11 | 273 | 126 | 72 | 10 | 10 | 1.8 | 3.5 | 13 |
| 29 | 44 | 41 | 14 | 11 | --- | 178 | 222 | 9.0 | 18 | 2.2 | 7.7 | 11 |
| 30 | 39 | 30 | 14 | 11 | --- | 122 | 106 | 8.3 | 16 | 4.9 | 7.7 | 9.0 |
| 31 | 282 | --- | 13 | 11 | --- | 92 | --- | 9.0 | --- | 4.4 | 4.9 | --- |
| TOTAL | 1219 | 1319 | 749 | 361 | 8118 | 9893 | 8174 | 1343.3 | 325.8 | 738.5 | 331.9 | 451.3 |
| MEAN | 39.3 | 44.0 | 24.2 | 11.6 | 290 | 319 | 272 | 43.3 | 10.9 | 23.8 | 10.7 | 15.0 |
| MAX | 282 | 261 | 64 | 13 | 2390 | 2230 | 2040 | 241 | 41 | 219 | 57 | 64 |
| MIN | 10 | 18 | 13 | 11 | 10 | 84 | 36 | 8.3 | 2.6 | 1.8 | 1.8 | 2.6 |
| CFSM | .34 | .38 | .21 | .10 | 2.50 | 2.75 | 2.35 | .37 | .09 | .21 | .09 | .13 |
| IN. | .39 | .42 | .24 | .12 | 2.60 | 3.17 | 2.62 | .43 | .10 | .24 | .11 | .14 |
| CAL YR 1976 | TOTAL | 42668.0 | MEAN | 117 | MAX | 3130 | MIN | 6.6 | CFSM | 1.01 | IN | 13.68 |
| WTR YR 1977 | TOTAL | 33023.8 | MEAN | 90.5 | MAX | 2390 | MIN | 1.8 | CFSM | .78 | IN | 10.59 |

MUSKINGUM RIVER BASIN

151

03136000 NORTH FORK LICKING RIVER AT UTICA, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1969 to current year.

REMARKS.--Sediment data collected at this site 1969 to 1974.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND | HARD- NESS | NON- CAR- BONATE HARD- NESS | DIS- SOLVED CAL- CIUM | DIS- SOLVED MAG- NE- SIUM |
|--------------|----------------------------------|--|--|--------------------------|--------------------------------|----------------------------|------------------------------------|---|--|---|---|---------------------------------------|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | | 5 DAY | (CA+MG) | (MG/L) | (CA) | (MG/L) |
| MAR 10... | 1230 | 99 | 525 | 8.0 | 9.0 | 10.7 | 92 | 1.1 | 250 | 71 | 66 | 21 |
| JUL 07... | 1015 | 29 | 510 | 7.8 | 26.0 | 6.3 | 77 | 2.0 | 220 | 78 | 59 | 17 |
| | | | | | | | | | | | | |
| DATE | DIS- SOLVED SODIUM (NA) | DIS- SOLVED PO- TAS- SIUM (K) | BICAR- BONATE (HCO3) | CAR- BONATE (CO3) | ALKA- LINITY AS CACO3 | CARBON DIOXIDE (CO2) | DIS- SOLVED SULFATE (SO4) | DIS- SOLVED CHLO- RIDE (CL) | DIS- SOLVED FLUO- RIDE (F) | DIS- SOLVED SILICA (SIO2) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) | TOTAL NITRATE (N) |
| | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) |
| MAR 10... | 7.8 | 2.0 | 220 | 0 | 180 | 3.5 | 53 | 17 | .2 | 5.9 | 281 | 2.6 |
| JUL 07... | 7.4 | 3.2 | 170 | 0 | 139 | 4.3 | 45 | 18 | .2 | 9.3 | 243 | 8.3 |
| | | | | | | | | | | | | |
| DATE | TOTAL NITRITE (N) | TOTAL AMMONIA NITRO- GEN (N) | TOTAL PHOS- PHORUS (P) | TOTAL ARSENIC (AS) | TOTAL CHRO- MIUM (CR) | TOTAL COPPER (CU) | DIS- SOLVED IRON (FE) | TOTAL LEAD (PB) | DIS- SOLVED MAN- GANESE (MN) | TOTAL MERCURY (HG) | TOTAL ZINC (ZN) | TOTAL ORGANIC CARBON (C) |
| | (MG/L) | (MG/L) | (MG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (MG/L) |
| MAR 10... | .01 | .03 | .04 | 1 | 10 | 6 | 40 | 7 | 30 | .0 | 10 | 7.9 |
| JUL 07... | .09 | .07 | .11 | 3 | 10 | 8 | 10 | 19 | 20 | .0 | 30 | 4.7 |

MUSKINGUM RIVER BASIN

03146500 LICKING RIVER NEAR NEWARK, OH

LOCATION.--Lat 40°03'33", long 82°20'23", in SW 1/4 T.2 N., R.11 W., Licking County, Hydrologic Unit 05040006, on right bank at downstream side of Stadden Bridge, 1.0 mi (1.6 km) downstream from Shawnee Run, 1.5 mi (2.4 km) upstream from Equality Run, and 3.5 mi (5.6 km) east of Newark.

DRAINAGE AREA.--537 mi² (1,391 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 973: 1940(M). WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 779.02 ft (237.445 m) above mean sea level. Prior to May 9, 1940, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are fair. Occasional regulation by Buckeye Lake, capacity, 27,300 acre-ft (33.7 hm³), on South Fork 15.2 mi (24.5 km) upstream.

AVERAGE DISCHARGE.--38 years, 560 ft³/s (15.86 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,000 ft³/s (1,270 m³/s) Jan. 21, 1959, gage height, 20.3 ft (6.19 m) (from high-water mark), from rating curve extended above 24,000 ft³/s (680 m³/s) on basis of flood-routing studies from station at Toboso; minimum daily, 28 ft³/s (0.79 m³/s) Sept. 27, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,730 ft³/s (219 m³/s) Apr. 3, (base, 6,500 ft³/s, 184 m³/s), gage height, 10.89 ft (3.319 m); minimum daily, 56 ft³/s (1.6 m³/s) Feb. 10-13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|--------------|-------|--------|------|------|-------|-------|-------|-------|------|------|------|------|
| 1 | 114 | 1140 | 146 | 72 | 60 | 698 | 459 | 400 | 127 | 352 | 107 | 98 |
| 2 | 106 | 616 | 139 | 72 | 59 | 577 | 2930 | 368 | 120 | 367 | 103 | 100 |
| 3 | 98 | 474 | 114 | 71 | 58 | 514 | 5630 | 395 | 123 | 192 | 101 | 185 |
| 4 | 93 | 389 | 120 | 70 | 58 | 926 | 2480 | 529 | 120 | 345 | 101 | 174 |
| 5 | 85 | 328 | 109 | 69 | 57 | 1680 | 4020 | 976 | 117 | 692 | 99 | 123 |
| 6 | 95 | 286 | 114 | 69 | 57 | 864 | 2400 | 1040 | 120 | 335 | 100 | 110 |
| 7 | 93 | 256 | 227 | 68 | 57 | 704 | 1540 | 1130 | 117 | 205 | 651 | 113 |
| 8 | 88 | 286 | 240 | 68 | 57 | 577 | 1240 | 760 | 136 | 268 | 997 | 103 |
| 9 | 106 | 529 | 200 | 68 | 57 | 514 | 811 | 583 | 611 | 200 | 393 | 97 |
| 10 | 109 | 524 | 185 | 67 | 56 | 417 | 692 | 363 | 428 | 187 | 239 | 90 |
| 11 | 136 | 514 | 165 | 67 | 56 | 368 | 611 | 309 | 231 | 188 | 198 | 87 |
| 12 | 130 | 504 | 150 | 67 | 56 | 428 | 540 | 273 | 180 | 361 | 474 | 86 |
| 13 | 111 | 489 | 135 | 66 | 56 | 4800 | 484 | 247 | 157 | 821 | 357 | 124 |
| 14 | 98 | 479 | 125 | 66 | 674 | 3520 | 454 | 227 | 146 | 298 | 288 | 401 |
| 15 | 93 | 474 | 118 | 65 | 342 | 1140 | 417 | 212 | 136 | 192 | 353 | 309 |
| 16 | 88 | 484 | 110 | 65 | 378 | 919 | 373 | 201 | 127 | 157 | 337 | 681 |
| 17 | 98 | 545 | 108 | 65 | 440 | 704 | 343 | 188 | 141 | 149 | 218 | 862 |
| 18 | 98 | 540 | 105 | 64 | 449 | 2540 | 323 | 180 | 223 | 134 | 225 | 433 |
| 19 | 78 | 529 | 100 | 63 | 353 | 2430 | 304 | 168 | 166 | 126 | 181 | 568 |
| 20 | 100 | 524 | 98 | 63 | 328 | 1340 | 290 | 161 | 133 | 119 | 145 | 790 |
| 21 | 106 | 514 | 95 | 62 | 290 | 1120 | 277 | 157 | 121 | 166 | 133 | 404 |
| 22 | 100 | 504 | 92 | 62 | 313 | 1270 | 264 | 150 | 114 | 660 | 134 | 267 |
| 23 | 103 | 494 | 89 | 62 | 1150 | 1320 | 286 | 157 | 111 | 272 | 125 | 214 |
| 24 | 304 | 489 | 87 | 61 | 2700 | 899 | 323 | 239 | 107 | 157 | 121 | 182 |
| 25 | 779 | 212 | 85 | 61 | 1900 | 722 | 440 | 196 | 116 | 142 | 112 | 168 |
| 26 | 561 | 136 | 82 | 61 | 1500 | 628 | 373 | 168 | 114 | 132 | 108 | 159 |
| 27 | 379 | 153 | 80 | 61 | 1100 | 561 | 318 | 150 | 112 | 115 | 112 | 142 |
| 28 | 286 | 209 | 78 | 60 | 824 | 662 | 348 | 139 | 190 | 110 | 100 | 133 |
| 29 | 239 | 209 | 77 | 60 | --- | 824 | 716 | 133 | 202 | 137 | 102 | 127 |
| 30 | 231 | 161 | 75 | 60 | --- | 651 | 529 | 130 | 158 | 115 | 109 | 121 |
| 31 | 1050 | --- | 73 | 60 | --- | 535 | --- | 130 | --- | 105 | 106 | --- |
| TOTAL | 6155 | 12991 | 3721 | 2015 | 13485 | 34852 | 30215 | 10459 | 5004 | 7799 | 6929 | 7451 |
| MEAN | 199 | 433 | 120 | 65.0 | 482 | 1124 | 1007 | 337 | 167 | 252 | 224 | 248 |
| MAX | 1050 | 1140 | 240 | 72 | 2700 | 4800 | 5630 | 1130 | 611 | 821 | 997 | 862 |
| MIN | 78 | 136 | 73 | 60 | 56 | 368 | 264 | 130 | 107 | 105 | 99 | 86 |
| CAL. YR 1976 | TOTAL | 176767 | MEAN | 483 | MAX | 5230 | MIN | 73 | | | | |
| WTR YR 1977 | TOTAL | 141076 | MEAN | 387 | MAX | 5630 | MIN | 56 | | | | |

MUSKINGUM RIVER BASIN

153

03146500 LICKING RIVER NEAR NEWARK, OH--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1968 to current year.

pH: July 1968 to current year.

WATER TEMPERATURES: June 1962 to current year.

DISSOLVED OXYGEN: July 1968 to current year.

INSTRUMENTATION.--Water quality monitor since July 1968. Temperature recorder June 1962 to July 1968.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum 1,650 micromhos Feb. 4, 1971; minimum recorded, 100 micromhos Aug. 18, 1969.

pH: Maximum, 10.2 units Mar. 8, 1974; minimum, 4.5 units May 24, 1970.

WATER TEMPERATURES: Maximum, 31.5°C July 14, 15, 1972; minimum, 0.0°C on many days during winter periods.

DISSOLVED OXYGEN: Maximum, 15.0 mg/L or higher Feb. 10-12, 1976; minimum, 0.0 mg/L Sept. 1, 1970.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,300 micromhos Feb. 12; minimum, 243 micromhos Aug. 8.

pH: Maximum, 8.6 units Nov. 17-19, 21; minimum, 7.1 units Feb. 19, 20.

WATER TEMPERATURES: Maximum, 29.5°C July 7; minimum, 0.0°C Dec. 31, Jan. 1, Feb. 16-18, 21.

DISSOLVED OXYGEN: Maximum recorded, 14.3 mg/L Apr. 27; minimum recorded, 3.6 mg/L Aug. 27.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG/L) |
|--------------|------|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| DATE | TIME | (CFS) | (MHOS) | (UNITS) | | | | | | | | |
| MAR 09... | 1500 | 452 | 540 | 7.9 | 8.0 | 10.2 | 86 | 3.6 | 240 | 70 | 64 | 20 |
| JUN 14... | 1420 | 146 | 760 | 7.9 | 21.0 | 7.4 | 82 | 5.0 | 300 | 87 | 78 | 26 |
| | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CAC03 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) |
| MAR 09... | 16 | 3.3 | 210 | 0 | 172 | 4.2 | 58 | 30 | .2 | 6.6 | 302 | 2.0 |
| JUN 14... | 29 | 5.4 | 262 | 0 | 215 | 5.3 | 78 | 48 | .4 | 7.5 | 402 | 4.6 |
| | | TOTAL NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (MG/L) |
| MAR 09... | .02 | .67 | .11 | 1 | 30 | 7 | 30 | 6 | 50 | .0 | 30 | 6.5 |
| JUN 14... | .37 | 1.1 | .36 | 2 | 20 | 8 | 40 | 3 | 60 | .2 | 40 | 4.9 |

155

PH (UNITS), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|-----|-----------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 8.0 | 7.8 | 8.0 | 7.8 | 8.2 | 8.0 | 8.1 | 7.9 | 7.9 | 7.7 | 7.8 | 7.5 |
| 2 | 8.0 | 7.8 | 7.9 | 7.8 | 8.3 | 7.9 | 7.9 | 7.8 | 7.8 | 7.6 | 7.9 | 7.5 |
| 3 | 8.0 | 7.7 | 8.0 | 7.8 | 8.2 | 8.0 | 7.9 | 7.8 | 7.6 | 7.3 | 7.9 | 7.8 |
| 4 | 8.0 | 7.8 | 8.1 | 7.9 | 8.0 | 7.8 | 8.0 | 7.8 | 7.7 | 7.1 | 7.9 | 7.5 |
| 5 | 7.9 | 7.7 | 8.1 | 7.9 | 8.2 | 7.8 | 8.0 | 7.9 | 7.8 | 7.5 | --- | --- |
| 6 | 7.8 | 7.7 | 8.0 | 7.9 | 8.1 | 7.9 | 8.0 | 7.8 | 7.7 | 7.6 | --- | --- |
| 7 | 7.9 | 7.7 | 8.0 | 7.8 | 8.1 | 7.8 | 8.0 | 7.9 | 7.7 | 7.6 | --- | --- |
| 8 | 8.0 | 7.8 | 8.1 | 7.9 | 8.3 | 7.9 | 8.0 | 7.8 | 7.7 | 7.6 | --- | --- |
| 9 | 8.0 | 7.8 | 8.1 | 7.9 | 8.2 | 8.0 | 8.0 | 7.9 | 7.8 | 7.6 | --- | --- |
| 10 | 8.2 | 7.8 | 8.1 | 7.9 | 8.2 | 7.9 | 7.9 | 7.8 | 7.8 | 7.6 | --- | --- |
| 11 | 8.1 | 7.9 | 8.2 | 7.9 | 8.2 | 7.9 | 7.9 | 7.8 | 7.8 | 7.6 | --- | --- |
| 12 | 8.1 | 7.9 | 8.4 | 8.0 | 8.1 | 7.9 | 7.9 | 7.7 | 7.8 | 7.3 | --- | --- |
| 13 | 8.1 | 7.8 | 8.4 | 8.1 | 8.2 | 7.9 | 7.9 | 7.7 | 7.9 | 7.6 | --- | --- |
| 14 | 8.1 | 7.8 | 8.4 | 8.1 | 8.2 | 7.9 | 7.9 | 7.7 | 7.8 | 7.7 | --- | --- |
| 15 | 8.1 | 7.8 | 8.4 | 8.0 | 8.3 | 7.9 | 8.0 | 7.8 | 8.0 | 7.6 | --- | --- |
| 16 | 8.1 | 7.8 | 8.5 | 8.0 | 8.1 | 7.9 | 7.9 | 7.7 | 7.9 | 7.5 | --- | --- |
| 17 | 8.2 | 7.8 | 8.6 | 8.3 | 8.2 | 7.8 | 7.9 | 7.7 | 7.7 | 7.5 | --- | --- |
| 18 | 8.1 | 7.9 | 8.6 | 8.2 | 8.3 | 7.8 | 7.7 | 7.6 | 7.6 | 7.3 | --- | --- |
| 19 | 8.1 | 7.8 | 8.6 | 8.2 | 8.3 | 7.9 | 7.7 | 7.6 | 7.4 | 7.1 | --- | --- |
| 20 | 8.0 | 7.8 | 8.5 | 8.1 | 8.1 | 7.8 | 7.7 | 7.6 | 7.6 | 7.1 | --- | --- |
| 21 | 8.1 | 7.7 | 8.6 | 8.2 | 8.2 | 7.9 | 7.8 | 7.7 | 7.6 | 7.3 | --- | --- |
| 22 | 8.2 | 7.9 | 8.4 | 8.1 | 8.2 | 7.9 | 7.8 | 7.6 | 7.8 | 7.2 | --- | --- |
| 23 | 8.1 | 7.8 | 8.4 | 8.0 | 8.3 | 7.9 | 7.8 | 7.6 | 7.8 | 7.3 | --- | --- |
| 24 | 8.0 | 7.7 | 8.5 | 8.0 | 8.1 | 7.9 | 7.8 | 7.6 | 8.3 | 7.6 | --- | --- |
| 25 | 8.0 | 7.8 | 8.1 | 7.8 | 8.1 | 7.9 | 7.8 | 7.7 | 8.2 | 7.4 | --- | --- |
| 26 | 8.1 | 7.9 | 8.0 | 7.8 | 8.2 | 7.9 | 7.9 | 7.7 | 7.7 | 7.4 | --- | --- |
| 27 | 8.1 | 7.9 | 8.1 | 7.7 | 8.1 | 7.8 | 7.9 | 7.7 | 7.9 | 7.7 | --- | --- |
| 28 | 8.2 | 7.9 | 7.9 | 7.8 | 8.1 | 7.9 | 7.8 | 7.7 | 7.9 | 7.6 | --- | --- |
| 29 | 8.0 | 7.9 | 8.3 | 7.9 | 8.1 | 7.9 | 7.8 | 7.7 | --- | --- | --- | --- |
| 30 | 8.1 | 7.8 | 8.2 | 7.9 | 8.0 | 7.9 | 7.8 | 7.6 | --- | --- | --- | --- |
| 31 | 8.1 | 7.9 | --- | --- | 8.1 | 7.9 | 7.8 | 7.7 | --- | --- | --- | --- |
| MONTH | 8.2 | 7.7 | 8.6 | 7.7 | 8.3 | 7.8 | 8.1 | 7.6 | 8.3 | 7.1 | 7.9 | 7.5 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | --- | --- | 8.4 | 7.7 | 7.8 | 7.7 | 7.8 | 7.5 | 7.9 | 7.6 | 7.8 | 7.5 |
| 2 | --- | --- | 8.2 | 7.6 | --- | --- | 7.9 | 7.6 | 7.9 | 7.6 | 7.8 | 7.5 |
| 3 | 7.5 | 7.4 | 8.3 | 7.7 | --- | --- | 7.9 | 7.7 | 7.8 | 7.6 | 8.0 | 7.5 |
| 4 | 7.5 | 7.4 | 8.0 | 7.6 | --- | --- | 7.7 | 7.5 | 7.8 | 7.6 | 7.8 | 7.6 |
| 5 | 7.6 | 7.5 | 8.1 | 7.7 | --- | --- | 7.7 | 7.5 | 7.8 | 7.6 | 7.8 | 7.5 |
| 6 | 7.7 | 7.5 | 7.9 | 7.6 | --- | --- | 7.7 | 7.6 | 7.8 | 7.4 | 7.7 | 7.5 |
| 7 | 7.7 | 7.6 | 8.0 | 7.6 | --- | --- | 7.7 | 7.6 | 7.7 | 7.2 | 7.8 | 7.6 |
| 8 | 7.9 | 7.6 | 8.3 | 7.8 | --- | --- | 7.6 | 7.5 | 7.5 | 7.3 | 7.8 | 7.6 |
| 9 | 7.8 | 7.7 | 8.3 | 7.9 | --- | --- | 7.8 | 7.5 | 7.7 | 7.3 | 7.8 | 7.6 |
| 10 | 7.7 | 7.7 | 8.1 | 7.8 | --- | --- | 7.9 | 7.6 | 7.7 | 7.3 | 7.9 | 7.6 |
| 11 | 7.8 | 7.7 | 8.1 | 7.8 | --- | --- | 7.9 | 7.7 | 7.8 | 7.3 | 7.9 | 7.7 |
| 12 | 7.8 | 7.7 | 8.1 | 7.8 | --- | --- | 7.7 | 7.5 | 7.9 | 7.6 | 7.9 | 7.7 |
| 13 | 7.9 | 7.7 | 8.1 | 7.8 | --- | --- | 7.6 | 7.4 | 7.8 | 7.8 | 7.8 | 7.6 |
| 14 | 8.0 | 7.7 | 8.1 | 7.7 | 7.8 | 7.7 | 7.8 | 7.7 | 7.8 | 7.6 | --- | --- |
| 15 | 8.1 | 7.7 | 8.1 | 7.8 | 7.9 | 7.7 | 7.8 | 7.7 | 7.8 | 7.6 | --- | --- |
| 16 | 8.1 | 7.7 | 8.0 | 7.7 | 7.9 | 7.6 | 7.8 | 7.6 | 7.8 | 7.7 | --- | --- |
| 17 | 8.2 | 7.7 | 8.0 | 7.5 | 7.9 | 7.6 | 7.8 | 7.5 | 7.9 | 7.7 | --- | --- |
| 18 | 8.2 | 7.7 | 7.9 | 7.5 | 7.8 | 7.5 | 7.9 | 7.6 | 8.0 | 7.8 | --- | --- |
| 19 | 8.1 | 7.6 | 7.8 | 7.4 | 7.8 | 7.6 | 7.9 | 7.5 | 8.0 | 7.9 | --- | --- |
| 20 | 8.1 | 7.6 | 7.7 | 7.4 | 7.8 | 7.6 | 7.8 | 7.5 | 7.9 | 7.8 | --- | --- |
| 21 | 8.1 | 7.6 | 7.7 | 7.4 | 7.9 | 7.6 | 8.0 | 7.3 | 7.9 | 7.7 | 7.7 | 7.6 |
| 22 | 8.0 | 7.6 | 7.7 | 7.4 | 7.9 | 7.6 | 7.6 | 7.3 | 7.9 | 7.7 | 7.8 | 7.6 |
| 23 | 8.0 | 7.5 | 7.9 | 7.4 | 8.0 | 7.7 | 7.7 | 7.5 | 7.9 | 7.7 | 7.7 | 7.7 |
| 24 | 8.1 | 7.6 | 7.9 | 7.5 | 7.9 | 7.6 | 7.8 | 7.6 | 7.8 | 7.6 | 7.8 | 7.7 |
| 25 | 8.2 | 7.7 | 7.9 | 7.6 | 7.7 | 7.6 | 7.8 | 7.6 | 7.8 | 7.7 | 7.9 | 7.7 |
| 26 | 8.2 | 7.7 | 8.0 | 7.8 | 8.0 | 7.6 | 7.8 | 7.6 | 7.8 | 7.7 | 7.9 | 7.7 |
| 27 | 8.3 | 7.7 | 7.9 | 7.8 | 7.9 | 7.6 | 7.9 | 7.6 | 7.7 | 7.5 | 7.9 | 7.7 |
| 28 | 8.0 | 7.7 | 7.9 | 7.8 | 7.9 | 7.4 | 7.9 | 7.7 | 7.8 | 7.6 | 8.0 | 7.7 |
| 29 | 8.2 | 7.8 | 7.9 | 7.8 | 7.7 | 7.6 | 7.8 | 7.3 | 7.8 | 7.6 | 7.9 | 7.8 |
| 30 | 8.2 | 7.7 | 8.0 | 7.8 | 8.0 | 7.7 | 7.9 | 7.3 | 7.7 | 7.5 | 7.9 | 7.8 |
| 31 | --- | --- | 7.9 | 7.8 | --- | --- | 7.9 | 7.6 | 7.8 | 7.5 | --- | --- |
| MONTH | 8.3 | 7.4 | 8.4 | 7.4 | 8.0 | 7.4 | 8.0 | 7.3 | 8.0 | 7.2 | 8.0 | 7.5 |
| YEAR | 8.6 | 7.1 | | | | | | | | | | |

03146500 LICKING RIVER NEAR NEWARK, OH--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

| DAY | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|-----|--|-----|--|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | | | | |
| 1 | 12.5 | 9.0 | 17.5 | 11.0 | 24.5 | 20.5 | 25.0 | 20.5 | 24.5 | 21.5 | 26.5 | 22.5 | | | | |
| 2 | 11.5 | 10.0 | 17.0 | 15.0 | --- | --- | 25.0 | 19.5 | 25.0 | 19.5 | 26.0 | 23.0 | | | | |
| 3 | 12.0 | 10.0 | 19.5 | 15.0 | --- | --- | 25.0 | 19.5 | 25.5 | 20.5 | 25.0 | 22.0 | | | | |
| 4 | 11.5 | 10.0 | 18.0 | 16.0 | --- | --- | 23.5 | 20.0 | 26.0 | 21.5 | 24.5 | 20.0 | | | | |
| 5 | 11.0 | 7.5 | 21.0 | 16.5 | --- | --- | 26.5 | 20.5 | 26.5 | 23.5 | 25.0 | 21.0 | | | | |
| 6 | 7.5 | 6.0 | 19.5 | 18.5 | --- | --- | 29.0 | 22.5 | 27.0 | 23.5 | 24.0 | 21.5 | | | | |
| 7 | 8.0 | 5.0 | 20.5 | 17.5 | --- | --- | 29.5 | 24.5 | 26.0 | 21.5 | 24.0 | 19.5 | | | | |
| 8 | 9.5 | 6.0 | 19.5 | 14.5 | --- | --- | 28.0 | 23.5 | 23.5 | 21.5 | 23.5 | 20.0 | | | | |
| 9 | 11.0 | 5.5 | 15.5 | 12.5 | --- | --- | 26.5 | 24.0 | 25.5 | 20.5 | 24.5 | 20.5 | | | | |
| 10 | 14.0 | 7.0 | 14.5 | 10.0 | --- | --- | 25.0 | 21.0 | 25.0 | 21.5 | 24.0 | 21.0 | | | | |
| 11 | 17.0 | 11.0 | 17.5 | 10.5 | --- | --- | 25.5 | 21.5 | 25.0 | 21.5 | 22.0 | 18.0 | | | | |
| 12 | 18.5 | 13.0 | 18.0 | 12.5 | --- | --- | 24.5 | 22.0 | 23.0 | 21.5 | 20.0 | 16.5 | | | | |
| 13 | 19.5 | 14.0 | 21.5 | 15.0 | --- | --- | 26.0 | 21.0 | 23.0 | 20.5 | 19.5 | 18.5 | | | | |
| 14 | 18.0 | 14.5 | 20.0 | 17.0 | 22.0 | 20.5 | 27.5 | 21.0 | 25.0 | 20.5 | --- | --- | | | | |
| 15 | 18.5 | 13.5 | 21.5 | 15.0 | 24.5 | 18.5 | 28.0 | 22.0 | 25.5 | 21.0 | --- | --- | | | | |
| 16 | 18.5 | 13.0 | 22.5 | 16.0 | 25.5 | 19.5 | 28.0 | 24.0 | 25.5 | 21.5 | --- | --- | | | | |
| 17 | 18.0 | 14.0 | 23.0 | 17.5 | 25.5 | 21.0 | 27.0 | 23.0 | 24.5 | 22.0 | --- | --- | | | | |
| 18 | 18.0 | 14.5 | 24.0 | 19.0 | 25.5 | 21.5 | 29.0 | 22.5 | 23.0 | 19.0 | --- | --- | | | | |
| 19 | 17.0 | 15.0 | 26.0 | 20.5 | 25.0 | 21.0 | 29.0 | 24.5 | 21.0 | 17.5 | --- | --- | | | | |
| 20 | 20.0 | 15.0 | 25.5 | 20.0 | 25.0 | 20.5 | 29.0 | 25.0 | 22.0 | 17.0 | --- | --- | | | | |
| 21 | 20.0 | 16.5 | 26.0 | 20.0 | 24.0 | 19.5 | 28.0 | 25.0 | 20.5 | 18.0 | 17.0 | 17.0 | | | | |
| 22 | 19.0 | 17.0 | 25.5 | 20.0 | 22.5 | 18.0 | 25.0 | 22.0 | 22.5 | 18.0 | 19.5 | 16.0 | | | | |
| 23 | 18.0 | 16.5 | 25.5 | 20.5 | 22.5 | 16.5 | 25.5 | 20.0 | 23.5 | 18.5 | 21.0 | 16.5 | | | | |
| 24 | 16.5 | 13.0 | 25.0 | 20.5 | 22.5 | 19.0 | 25.0 | 20.0 | 23.0 | 20.5 | 20.5 | 18.5 | | | | |
| 25 | 13.0 | 11.0 | 25.0 | 21.0 | 24.0 | 20.5 | 25.5 | 23.0 | 21.5 | 16.5 | 21.5 | 18.5 | | | | |
| 26 | 12.0 | 10.0 | 25.5 | 19.5 | 26.5 | 20.5 | 24.0 | 20.5 | 23.5 | 17.0 | 22.0 | 19.5 | | | | |
| 27 | 16.0 | 9.0 | 26.0 | 19.5 | 24.5 | 20.5 | 24.0 | 19.0 | 26.0 | 21.0 | 20.5 | 17.0 | | | | |
| 28 | 15.0 | 10.5 | 26.0 | 20.0 | 24.0 | 20.5 | 24.5 | 19.0 | 26.5 | 22.5 | 19.5 | 16.0 | | | | |
| 29 | 13.5 | 8.0 | 24.5 | 20.5 | 23.0 | 20.5 | 24.5 | 21.5 | 26.0 | 23.0 | 19.0 | 14.5 | | | | |
| 30 | 16.0 | 9.5 | 24.5 | 20.0 | 23.5 | 20.0 | 25.0 | 20.0 | 24.0 | 22.0 | 20.0 | 16.0 | | | | |
| 31 | --- | --- | 25.5 | 20.5 | --- | --- | 25.5 | 21.5 | 26.0 | 21.0 | --- | --- | | | | |
| MONTH | 20.0 | 5.0 | 26.0 | 10.0 | 26.5 | 16.5 | 29.5 | 19.0 | 27.0 | 16.5 | 26.5 | 14.5 | | | | |

| YEAR | 29.5 | 0.0 | | | | | | | | | | | | | | | | | | |
|------|------|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|------|------|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

MUSKINGUM RIVER BASIN

157

03146500 LICKING RIVER NEAR NEWARK, OH--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-----------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 10.2 | 6.0 | 12.6 | 10.6 | 13.7 | 12.3 | 11.8 | 10.9 | 11.3 | 10.0 | 11.0 | 10.1 |
| 2 | 9.6 | 5.8 | 11.3 | 10.2 | 12.9 | 11.4 | 11.6 | 10.6 | 11.3 | 10.1 | 10.9 | 9.9 |
| 3 | 9.6 | 5.7 | 11.2 | 10.0 | 12.7 | 12.2 | 11.5 | 10.4 | 11.3 | 9.7 | 10.2 | 9.4 |
| 4 | 9.3 | 5.7 | 11.6 | 10.0 | 12.5 | 11.6 | 11.1 | 10.0 | 10.7 | 9.7 | --- | --- |
| 5 | 9.0 | 5.3 | 11.8 | 10.4 | 12.7 | 11.5 | 11.0 | 10.1 | 11.0 | 9.6 | --- | --- |
| 6 | 7.8 | 5.0 | 11.9 | 10.3 | 12.4 | 10.8 | 11.2 | 10.4 | 11.1 | 9.9 | --- | --- |
| 7 | 7.8 | 5.4 | 11.4 | 9.9 | 12.3 | 10.8 | 11.4 | 10.1 | 11.2 | 10.0 | --- | --- |
| 8 | 9.5 | 6.3 | 12.0 | 9.8 | 12.8 | 12.1 | 11.6 | 10.6 | 11.2 | 10.1 | --- | --- |
| 9 | 8.8 | 6.5 | 12.4 | 10.9 | 12.7 | 11.9 | 11.4 | 10.4 | 11.0 | 9.9 | --- | --- |
| 10 | 11.2 | 7.4 | 12.2 | 10.7 | 12.3 | 10.9 | 11.3 | 10.3 | 10.7 | 9.4 | --- | --- |
| 11 | 11.2 | 7.4 | 12.3 | 10.8 | 11.3 | 10.7 | 11.5 | 10.7 | 10.3 | 8.7 | --- | --- |
| 12 | 10.8 | 7.5 | 13.1 | 11.1 | 11.0 | 10.7 | 11.6 | 10.4 | 9.6 | 8.6 | --- | --- |
| 13 | 10.0 | 6.6 | 13.1 | 11.4 | 12.3 | 11.1 | 11.4 | 10.6 | 10.0 | 8.6 | --- | --- |
| 14 | 10.1 | 6.5 | 13.1 | 11.6 | 12.7 | 11.3 | 11.3 | 10.0 | 10.5 | 10.1 | --- | --- |
| 15 | 9.4 | 6.6 | 13.3 | 11.3 | 12.5 | 11.0 | 11.0 | 9.9 | 10.7 | 10.4 | --- | --- |
| 16 | 10.0 | 6.5 | 13.2 | 11.8 | 11.7 | 10.1 | 11.5 | 10.2 | 10.7 | 10.5 | --- | --- |
| 17 | 10.5 | 6.7 | 12.9 | 11.6 | 11.7 | 10.1 | 11.5 | 10.2 | 10.6 | 10.5 | --- | --- |
| 18 | 10.5 | 7.9 | 12.3 | 11.3 | 12.3 | 10.2 | 11.2 | 10.0 | 10.6 | 10.2 | --- | --- |
| 19 | 9.8 | 7.5 | 11.8 | 11.0 | 11.8 | 10.3 | 11.1 | 9.9 | 10.3 | 9.6 | --- | --- |
| 20 | 9.4 | 6.7 | 12.3 | 11.4 | 10.1 | 8.6 | 10.9 | 10.0 | 10.4 | 9.6 | --- | --- |
| 21 | 10.9 | 6.9 | 12.4 | 11.6 | 12.6 | 9.7 | 11.1 | 10.0 | 10.5 | 9.9 | --- | --- |
| 22 | 11.8 | 8.3 | 12.6 | 11.9 | 12.6 | 10.9 | 11.3 | 10.0 | 10.1 | 9.2 | --- | --- |
| 23 | 11.2 | 8.7 | 13.6 | 12.6 | 12.0 | 10.9 | 11.3 | 10.3 | 10.2 | 9.0 | --- | --- |
| 24 | 10.0 | 7.9 | 14.0 | 13.1 | 12.2 | 11.0 | 11.2 | 9.9 | 9.2 | 7.7 | --- | --- |
| 25 | 10.0 | 8.8 | 13.4 | 11.1 | 11.6 | 10.7 | 11.0 | 9.8 | --- | --- | --- | --- |
| 26 | 10.8 | 9.7 | 11.1 | 9.8 | 11.4 | 10.0 | 11.0 | 9.8 | --- | --- | --- | --- |
| 27 | 11.6 | 9.9 | 9.8 | 9.2 | 11.8 | 10.5 | 11.3 | 10.0 | --- | --- | --- | --- |
| 28 | 12.0 | 10.4 | 11.3 | 9.7 | 11.2 | 10.2 | 11.3 | 9.9 | 11.7 | 11.0 | --- | --- |
| 29 | 12.0 | 10.3 | 13.1 | 11.4 | 12.0 | 10.3 | 11.3 | 10.5 | --- | --- | --- | --- |
| 30 | 12.0 | 9.8 | 14.1 | 13.2 | 11.8 | 10.8 | 11.3 | 10.1 | --- | --- | --- | --- |
| 31 | 12.3 | 10.9 | --- | --- | 11.8 | 10.7 | 11.3 | 10.1 | --- | --- | --- | --- |
| MONTH | 12.3 | 5.0 | 14.1 | 9.2 | 13.7 | 8.6 | 11.8 | 9.8 | 11.7 | 7.7 | --- | --- |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | --- | --- | 13.4 | 8.0 | --- | --- | 7.0 | 5.1 | --- | --- | 8.0 | 4.6 |
| 2 | --- | --- | 12.2 | 6.3 | --- | --- | 7.5 | 6.1 | --- | --- | 7.5 | 4.5 |
| 3 | 11.6 | 10.2 | 13.5 | 7.0 | --- | --- | 7.9 | 5.7 | --- | --- | 8.0 | 4.5 |
| 4 | 10.4 | 10.2 | 10.3 | 6.1 | --- | --- | 6.5 | 4.9 | --- | --- | 7.8 | 4.5 |
| 5 | 11.6 | 10.4 | 9.9 | 7.4 | --- | --- | 7.3 | 6.1 | --- | --- | 7.4 | 4.5 |
| 6 | 12.4 | 11.6 | 8.8 | 6.6 | --- | --- | 6.4 | 5.1 | --- | --- | 6.3 | 4.5 |
| 7 | 12.9 | 12.0 | 8.8 | 7.3 | --- | --- | 6.3 | 4.8 | --- | --- | 7.6 | 4.5 |
| 8 | 12.9 | 11.9 | 10.4 | 7.7 | --- | --- | 6.1 | 3.8 | --- | --- | 7.5 | 4.5 |
| 9 | 12.6 | 11.4 | 11.0 | 8.0 | --- | --- | 6.8 | 5.0 | --- | --- | 7.1 | 4.4 |
| 10 | 12.1 | 10.5 | 10.9 | 8.4 | --- | --- | 7.8 | 4.8 | --- | --- | 7.2 | 4.1 |
| 11 | 11.2 | 9.7 | 11.1 | 8.4 | --- | --- | 8.1 | 5.7 | 6.9 | 5.8 | 7.9 | 4.5 |
| 12 | 10.8 | 9.3 | 11.2 | 7.6 | --- | --- | 7.2 | 5.0 | 7.3 | 5.5 | 7.8 | 4.9 |
| 13 | 10.4 | 8.4 | 11.4 | 6.9 | --- | --- | 7.1 | 6.0 | 7.1 | 6.5 | 6.5 | 4.6 |
| 14 | 10.9 | 8.1 | 11.1 | 6.0 | 6.2 | 5.2 | 7.4 | 6.1 | 6.9 | 6.2 | --- | --- |
| 15 | 11.6 | 8.3 | 11.8 | 6.5 | 6.8 | 4.6 | 7.3 | 5.8 | 6.9 | 6.0 | --- | --- |
| 16 | 12.5 | 8.1 | 11.7 | 5.7 | 7.5 | 3.8 | 7.7 | 5.3 | 7.0 | 6.0 | --- | --- |
| 17 | 12.9 | 7.7 | 11.7 | 5.0 | 8.9 | 4.9 | 8.4 | 4.4 | 7.1 | 5.7 | --- | --- |
| 18 | 13.4 | 7.5 | 11.4 | 4.6 | 6.9 | 5.0 | 9.0 | 4.9 | 8.1 | 6.0 | --- | --- |
| 19 | 11.5 | 6.6 | 10.5 | 4.3 | 7.2 | 5.1 | 9.3 | 4.2 | 8.4 | 6.2 | --- | --- |
| 20 | 13.1 | 6.9 | 10.2 | 4.1 | 7.9 | 5.3 | 9.7 | 4.0 | 7.9 | 6.1 | --- | --- |
| 21 | 12.3 | 6.1 | 9.7 | 4.0 | 8.0 | 4.5 | 10.0 | 4.0 | 7.3 | 5.5 | 7.2 | 7.0 |
| 22 | 11.3 | 6.0 | 9.6 | 4.0 | 8.7 | 4.9 | 6.3 | 3.8 | 7.7 | 5.1 | 7.8 | 6.9 |
| 23 | 11.2 | 6.0 | 5.3 | 3.8 | 10.0 | 6.1 | --- | --- | 8.2 | 5.4 | 7.7 | 6.3 |
| 24 | 11.7 | 6.7 | --- | --- | 9.5 | 5.2 | --- | --- | 7.0 | 4.8 | 7.2 | 5.7 |
| 25 | 12.4 | 7.3 | --- | --- | 7.6 | 5.1 | --- | --- | 8.0 | 5.2 | 8.2 | 5.7 |
| 26 | 12.7 | 8.3 | --- | --- | 10.0 | 4.5 | --- | --- | 8.3 | 5.1 | 7.8 | 5.6 |
| 27 | 14.3 | 8.5 | --- | --- | 8.6 | 4.4 | --- | --- | 7.6 | 3.6 | 8.0 | 5.3 |
| 28 | 10.3 | 7.0 | --- | --- | 7.8 | 4.4 | --- | --- | 7.8 | 4.2 | 8.4 | 5.6 |
| 29 | 12.0 | 8.6 | --- | --- | 5.7 | 4.9 | --- | --- | 7.0 | 4.7 | 8.7 | 5.8 |
| 30 | 12.4 | 8.8 | --- | --- | 8.9 | 5.1 | --- | --- | 6.9 | 4.3 | 8.4 | 5.5 |
| 31 | --- | --- | --- | --- | --- | --- | --- | --- | 7.7 | 4.6 | --- | --- |
| MONTH | 14.3 | 6.0 | 13.5 | 3.8 | 10.0 | 3.8 | 10.0 | 3.8 | 8.4 | 3.6 | 8.7 | 4.1 |
| YEAR | 14.3 | 3.6 | | | | | | | | | | |

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

MUSKINGUM RIVER BASIN

03147500 LICKING RIVER BELOW DILLON DAM, NEAR DILLON FALLS, OH

LOCATION.--Lat 39°59'18", long 82°04'50", in T.1 N., R.8 W., Muskingum County, Hydrologic Unit 05040006, on left bank 500 ft (152 m) downstream from Dillon Dam, 2.0 mi (3.2 km) northwest of Dillon Falls, and 5.8 mi (9.3 km) upstream from mouth.

DRAINAGE AREA.--742 mi² (1,922 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1939 to current year. Prior to October 1962, published as Licking River at Dillon.

REVISED RECORDS.--WRD Ohio, 1966: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 700.0 ft (213.36 m) above mean sea level, Corps of Engineers bench mark. Prior to Oct. 27, 1940, water-stage recorder at site 2.3 mi (3.7 km) downstream at different datum. Oct. 27, 1940, to Sept. 30, 1962, water-stage recorder at site 2.6 mi (4.2 km) downstream at datum 16.3 ft (4.97 m) lower.

REMARKS.--Records good. Flow regulated by Dillon Lake since December 1960 (see station 03147300).

AVERAGE DISCHARGE.--37 years, 784 ft³/s (22.20 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,000 ft³/s (1,330 m³/s) Jan. 22, 1959, gage height, 32.46 ft (9.894 m); minimum daily, 19 ft³/s (0.54 m³/s) Dec. 22, 1960.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 37.0 ft (11.28 m) site and datum in use 1940-62, from floodmark, backwater from Muskingum River.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,780 ft³/s (107 m³/s) Apr. 15, gage height, 8.84 ft (2.694 m); minimum daily, 75 ft³/s (2.12 m³/s) Sept. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|-------|------|------|-------|-------|-------|-------|------|------|------|-------|
| 1 | 179 | 1340 | 176 | 134 | 106 | 2950 | 265 | 731 | 134 | 328 | 117 | 143 |
| 2 | 164 | 1390 | 195 | 146 | 114 | 3560 | 280 | 556 | 94 | 513 | 114 | 143 |
| 3 | 185 | 725 | 195 | 158 | 134 | 3490 | 287 | 621 | 94 | 294 | 114 | 146 |
| 4 | 152 | 499 | 185 | 173 | 134 | 2820 | 294 | 621 | 94 | 228 | 114 | 214 |
| 5 | 146 | 494 | 198 | 173 | 128 | 2190 | 301 | 1050 | 94 | 742 | 97 | 185 |
| 6 | 158 | 366 | 164 | 143 | 134 | 2190 | 301 | 1400 | 91 | 785 | 86 | 111 |
| 7 | 155 | 287 | 269 | 143 | 131 | 2090 | 301 | 1780 | 91 | 195 | 430 | 143 |
| 8 | 155 | 298 | 347 | 158 | 122 | 1600 | 1110 | 1740 | 94 | 290 | 1280 | 143 |
| 9 | 155 | 408 | 358 | 140 | 103 | 953 | 1950 | 1130 | 313 | 301 | 715 | 131 |
| 10 | 195 | 596 | 343 | 173 | 100 | 725 | 1940 | 641 | 601 | 262 | 350 | 106 |
| 11 | 214 | 652 | 305 | 152 | 146 | 596 | 2770 | 404 | 404 | 269 | 265 | 97 |
| 12 | 179 | 652 | 287 | 108 | 167 | 518 | 3290 | 466 | 238 | 269 | 439 | 75 |
| 13 | 155 | 556 | 283 | 131 | 176 | 586 | 3220 | 494 | 221 | 305 | 561 | 100 |
| 14 | 158 | 499 | 258 | 140 | 164 | 1500 | 3170 | 395 | 182 | 305 | 305 | 417 |
| 15 | 155 | 601 | 231 | 140 | 652 | 2080 | 3390 | 350 | 182 | 248 | 404 | 841 |
| 16 | 155 | 742 | 238 | 140 | 1180 | 2150 | 3330 | 350 | 173 | 201 | 709 | 769 |
| 17 | 155 | 736 | 248 | 140 | 959 | 2190 | 3230 | 320 | 158 | 198 | 413 | 1010 |
| 18 | 155 | 758 | 231 | 140 | 532 | 1920 | 3240 | 214 | 208 | 167 | 201 | 709 |
| 19 | 155 | 791 | 221 | 137 | 542 | 1540 | 3260 | 258 | 287 | 152 | 245 | 556 |
| 20 | 195 | 774 | 214 | 120 | 485 | 1570 | 2500 | 255 | 176 | 152 | 224 | 971 |
| 21 | 208 | 736 | 228 | 128 | 439 | 1950 | 1180 | 218 | 97 | 152 | 182 | 870 |
| 22 | 158 | 763 | 218 | 137 | 387 | 2190 | 720 | 245 | 89 | 301 | 167 | 476 |
| 23 | 149 | 785 | 204 | 140 | 911 | 2190 | 413 | 238 | 120 | 489 | 167 | 358 |
| 24 | 276 | 736 | 218 | 140 | 1290 | 2190 | 508 | 224 | 137 | 413 | 167 | 294 |
| 25 | 683 | 621 | 198 | 140 | 1380 | 2190 | 581 | 287 | 140 | 228 | 152 | 276 |
| 26 | 824 | 444 | 195 | 140 | 1400 | 2190 | 657 | 283 | 164 | 188 | 111 | 331 |
| 27 | 542 | 362 | 198 | 140 | 1400 | 1990 | 485 | 214 | 176 | 122 | 111 | 262 |
| 28 | 358 | 269 | 195 | 137 | 1740 | 1100 | 508 | 185 | 208 | 86 | 108 | 198 |
| 29 | 354 | 294 | 195 | 140 | --- | 1100 | 923 | 185 | 320 | 114 | 111 | 176 |
| 30 | 272 | 262 | 149 | 120 | --- | 1120 | 791 | 185 | 221 | 185 | 170 | 164 |
| 31 | 485 | --- | 111 | 106 | --- | 688 | --- | 173 | --- | 155 | 182 | --- |
| TOTAL | 7629 | 18436 | 7055 | 4357 | 15156 | 56116 | 45195 | 16213 | 5601 | 8637 | 8811 | 10415 |
| MEAN | 246 | 615 | 228 | 141 | 541 | 1810 | 1507 | 523 | 187 | 279 | 284 | 347 |
| MAX | 824 | 1390 | 358 | 173 | 1740 | 3560 | 3390 | 1780 | 601 | 785 | 1280 | 1010 |
| MIN | 146 | 262 | 111 | 106 | 100 | 518 | 265 | 173 | 89 | 86 | 86 | 75 |

CAL YR 1976 TOTAL 232070 MEAN 634 MAX 3890 MIN 111
WTR YR 1977 TOTAL 203621 MEAN 558 MAX 3560 MIN 75

MUSKINGUM RIVER BASIN

159

03147500 LICKING RIVER BELOW DILLON DAM, NEAR DILLON FALLS, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1965 to current year.

REMARKS.--Water-temperature records collected at this site 1961 to 1975.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATU- RATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG/L) |
|--------------|------|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| DATE | TIME | (CFS) | | (UNITS) | | | | | | | | |
| MAR 31... | 1300 | 652 | 490 | 8.0 | 12.5 | 10.8 | 100 | 1.7 | 200 | 65 | 54 | 17 |
| JUN 22... | 1400 | 86 | 535 | 7.5 | 19.0 | 5.5 | 59 | 4.3 | 220 | 59 | 57 | 20 |
| | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) |
| MAR 31... | 12 | 3.2 | 170 | 0 | 139 | 2.7 | 47 | 25 | .1 | 6.8 | 249 | 1.8 |
| JUN 22... | 21 | 4.6 | 202 | 0 | 166 | 10 | 53 | 36 | .2 | 5.4 | 297 | 1.1 |
| | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (MG/L) |
| MAR 31... | .03 | .21 | .08 | 2 | <10 | 3 | 10 | 3 | 100 | .0 | 20 | -- |
| JUN 22... | .02 | .53 | .12 | 3 | 10 | 6 | 80 | 8 | 440 | .0 | 60 | 7.0 |

MUSKINGUM RIVER BASIN

03150000 MUSKINGUM RIVER AT MCCONNELLSVILLE, OH

(NATIONAL STREAM QUALITY ACCOUNTING NETWORK STATION)

LOCATION.--Lat 39°38'42", long 81°51'00", in SE 1/4 sec. 11, T.10 N., R.12 W., Morgan County, Hydrologic Unit 05040004, on left bank just upstream from Dam 7, at McConnelsville, and 3.5 mi (5.6 km) downstream from Oilspring Run.

DRAINAGE AREA.--7,422 mi² (19,223 km²).

WATER-DISCHARGE RECORDS

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

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 (198.214 m) above mean sea level, adjustment of 1912. Prior to July 27, 1922, nonrecording gage at site 0.5 mi (0.8 km) upstream at same datum. July 27, 1922, to Aug. 10, 1926, nonrecording gage and Aug. 11, 1926, to Sept. 8, 1959, water-stage recorder at present site and datum. Sept. 9, 1959, to July 18, 1960, nonrecording gage at site 0.5 mi (0.8 km) upstream at same datum.

REMARKS.--Records good except those for winter periods, which are fair. Flow regulated by 17 flood-control reservoirs 36.6 mi (58.9 km) to 148 mi (238 km) upstream from station. Some regulation at low flow by powerplant 19 mi (31 km) upstream from station.

AVERAGE DISCHARGE.--56 years, 7,315 ft³/s (207.2 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 126,000 ft³/s (3,570 m³/s) Jan. 26, 1937, gage height, 21.14 ft (6.443 m); minimum daily, 325 ft³/s (9.20 m³/s) Oct. 12, 1930, may have been lower during August 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 27, 1913 reached a stage of 33.5 ft (10.21 m), discharge, 270,000 ft³/s (7,650 m³/s), computed by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 30,200 ft³/s (855 m³/s) Apr. 5, gage height, 9.10 ft (2.774 m); minimum daily, 1,050 ft³/s (29.7 m³/s) Jan. 31, Feb. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------------|---------|-------|-------|-----------|--------|-----------|----------|--------|-------|--------|--------|--------|
| 1 | 2520 | 4540 | 2500 | 1200 | 1150 | 21300 | 10200 | 8110 | 2090 | 3230 | 3910 | 1980 |
| 2 | 2320 | 5900 | 2650 | 1200 | 1190 | 19200 | 13400 | 7340 | 1970 | 4130 | 3780 | 1880 |
| 3 | 2190 | 5530 | 2400 | 1200 | 1180 | 16800 | 26200 | 7040 | 1950 | 4640 | 3250 | 1980 |
| 4 | 1980 | 4490 | 2300 | 1200 | 1150 | 15900 | 27200 | 8150 | 1930 | 3810 | 2710 | 1980 |
| 5 | 1830 | 4020 | 2450 | 1200 | 1130 | 15500 | 28900 | 8870 | 1880 | 5990 | 2400 | 2750 |
| 6 | 1740 | 3580 | 2500 | 1200 | 1110 | 16000 | 26100 | 12000 | 1910 | 9380 | 2150 | 2300 |
| 7 | 1720 | 3150 | 2900 | 1200 | 1100 | 14700 | 24500 | 14900 | 2280 | 8080 | 3010 | 2020 |
| 8 | 1670 | 2940 | 3300 | 1200 | 1090 | 11700 | 25100 | 12700 | 2870 | 5900 | 5800 | 1950 |
| 9 | 1830 | 2800 | 4300 | 1200 | 1050 | 9670 | 25800 | 11200 | 3150 | 5250 | 6740 | 1930 |
| 10 | 1950 | 2850 | 4400 | 1100 | 1090 | 8220 | 25600 | 9130 | 3370 | 4780 | 7410 | 1720 |
| 11 | 2060 | 2890 | 4100 | 1100 | 1160 | 7720 | 25600 | 7940 | 3760 | 3990 | 7280 | 1550 |
| 12 | 2260 | 2800 | 3800 | 1100 | 1250 | 7140 | 26500 | 7280 | 3450 | 3700 | 6870 | 1430 |
| 13 | 2320 | 2730 | 3700 | 1100 | 1500 | 12200 | 25700 | 6540 | 2890 | 4870 | 6120 | 1360 |
| 14 | 2240 | 2560 | 3600 | 1100 | 2800 | 19500 | 24600 | 5960 | 2670 | 4580 | 5250 | 1550 |
| 15 | 2090 | 2480 | 3400 | 1100 | 3500 | 21800 | 22300 | 5340 | 2520 | 3500 | 5140 | 3080 |
| 16 | 1950 | 2500 | 3100 | 1100 | 4000 | 20700 | 19300 | 4870 | 2300 | 2890 | 5530 | 4610 |
| 17 | 1810 | 2780 | 2600 | 1100 | 6120 | 18300 | 14600 | 4440 | 2190 | 2750 | 5020 | 5250 |
| 18 | 1670 | 3150 | 2300 | 1100 | 5110 | 19400 | 12100 | 4050 | 2090 | 2750 | 4380 | 5470 |
| 19 | 1590 | 3200 | 2300 | 1100 | 4520 | 21900 | 10900 | 3760 | 2800 | 2960 | 4160 | 5860 |
| 20 | 1620 | 3180 | 2350 | 1100 | 4300 | 23200 | 9710 | 3630 | 3730 | 2890 | 3650 | 8360 |
| 21 | 1810 | 3080 | 2400 | 1100 | 3890 | 23000 | 7550 | 3470 | 3320 | 2650 | 3180 | 10000 |
| 22 | 1790 | 3110 | 2350 | 1100 | 3780 | 22200 | 6470 | 3350 | 2850 | 3470 | 2960 | 8510 |
| 23 | 1830 | 3110 | 2200 | 1100 | 5990 | 21300 | 6090 | 3110 | 2420 | 6210 | 2780 | 7310 |
| 24 | 2130 | 2960 | 1800 | 1100 | 13500 | 21000 | 6090 | 2990 | 2220 | 7210 | 3230 | 5800 |
| 25 | 3010 | 2890 | 1500 | 1100 | 22000 | 20400 | 6600 | 2940 | 2340 | 6510 | 3110 | 4580 |
| 26 | 3810 | 2730 | 1400 | 1100 | 24300 | 18700 | 7450 | 2890 | 2560 | 5620 | 2630 | 4210 |
| 27 | 4050 | 2920 | 1400 | 1100 | 24400 | 16700 | 7210 | 2780 | 2440 | 4640 | 2360 | 4490 |
| 28 | 3630 | 3110 | 1300 | 1100 | 23000 | 13800 | 6970 | 2580 | 2400 | 3730 | 2200 | 4050 |
| 29 | 3200 | 3230 | 1300 | 1100 | --- | 12400 | 8080 | 2460 | 2600 | 4840 | 2080 | 3450 |
| 30 | 2960 | 3300 | 1200 | 1100 | --- | 12700 | 8080 | 2340 | 2520 | 4550 | 2130 | 2960 |
| 31 | 3420 | --- | 1200 | 1050 | --- | 12200 | --- | 2220 | --- | 3200 | 2080 | --- |
| TOTAL | 71000 | 98550 | 79000 | 34950 | 166360 | 515250 | 494900 | 184380 | 77470 | 142700 | 123300 | 114370 |
| MEAN | 2290 | 3285 | 2548 | 1127 | 5941 | 16620 | 16500 | 5948 | 2582 | 4603 | 3977 | 3812 |
| MAX | 4050 | 5900 | 4400 | 1200 | 24400 | 23200 | 28900 | 14900 | 3760 | 9380 | 7410 | 10000 |
| MIN | 1590 | 2480 | 1200 | 1050 | 1050 | 7140 | 6090 | 2220 | 1880 | 2650 | 2080 | 1360 |
| CAL YR 1976 TOTAL | 2624150 | | | MEAN 7170 | | MAX 29700 | MIN 1200 | | | | | |
| WTR YR 1977 TOTAL | 2102230 | | | MEAN 5760 | | MAX 28900 | MIN 1050 | | | | | |

MUSKINGUM RIVER BASIN

161

03150000 MUSKINGUM RIVER AT MCCONNELSVILLE, OH--Continued

WATER-QUALITY RECORDS

LOCATION.--Water-quality monitor on left bank, 1.0 mi (1.6 km) upstream from discharge station. Samples collected at bridge on State Highways 37 and 78, 240 ft (73 m) downstream from water-quality monitor. Prior to January 1973, sampling site at discharge station.

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1973 to current year.

pH: February 1973 to current year.

WATER TEMPERATURES: February 1973 to current year.

DISSOLVED OXYGEN: February 1973 to current year.

INSTRUMENTATION.--Water-quality monitor since February 1973.

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

COOPERATION.--Pesticide analyses furnished by Environmental Protection Agency.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,440 micromhos July 7, 1974; minimum, 278 micromhos Feb. 25, 1975.

pH: Maximum, 9.3 units Feb. 16, 1974; minimum, 5.4 units Apr. 15, 1973.

WATER TEMPERATURES: Maximum, 33.5 °C Aug. 8, 1973; minimum, 0.0°C on several days during winter periods.

DISSOLVED OXYGEN: Maximum, 15.0 mg/L or higher Dec. 20-27, 1975 (revised); minimum, 2.4 mg/L June 19, 1976.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,250 micromhos Sept. 11; minimum, 284 micromhos Apr. 5.

pH: Maximum, 9.0 units May 18; minimum, 6.8 units July 14.

WATER TEMPERATURES: Maximum, 30.5°C July 20, 21; minimum, 0.5 °C on many days during January and February.

DISSOLVED OXYGEN: Maximum, 14.4 mg/L Dec. 23; minimum, 4.4 mg/L Aug. 8.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | TURBIDITY (JTU) | DISSOLVED OXYGEN (MG/L) | PERCENT SATURATION | FECAL COLIFORM (COL./100 ML) | FECAL STREPTOCOCCI (COL. PER 100 ML) | HARDNESS (CA+MG) (MG/L) |
|-----------|------|-------------------------------|----------------------------------|------------|---------------------|-----------------|-------------------------|--------------------|------------------------------|--------------------------------------|-------------------------|
| OCT 19... | 1100 | 1590 | 1000 | 8.0 | 13.0 | 10 | 8.8 | 83 | 115 | 15 | 350 |
| NOV 15... | 1100 | 2480 | 790 | 7.8 | 5.5 | -- | 10.2 | 81 | 310 | 56 | -- |
| DEC 09... | 1130 | 4100 | 815 | 7.4 | 1.0 | -- | 12.2 | 86 | 1000 | 8000 | -- |
| JAN 21... | 1300 | 1100 | 1050 | 7.8 | .5 | -- | 11.7 | 81 | 610 | 210 | -- |
| FEB 23... | 1100 | 5320 | 770 | 7.7 | 2.0 | 6 | 11.2 | 81 | 480 | 1400 | 260 |
| MAR 09... | 1130 | 10000 | 500 | 8.0 | 6.0 | -- | 12.0 | 96 | 1200 | 1800 | -- |
| APR 05... | 1200 | 29000 | 320 | 7.0 | 11.0 | 100 | 10.0 | 90 | 2200 | 44000 | 120 |
| MAY 11... | 1300 | 7900 | 550 | 7.8 | 15.0 | -- | 9.2 | 90 | 550 | 150 | -- |
| JUN 07... | 1200 | 2260 | 864 | 7.7 | 21.5 | -- | 8.2 | 92 | 28 | 32 | -- |
| JUL 07... | 1200 | 8180 | 606 | 7.4 | 25.5 | 7 | 6.8 | 82 | 380 | 640 | 210 |
| AUG 03... | 1300 | 3220 | 708 | 7.8 | 25.0 | -- | 6.6 | 78 | 210 | 160 | -- |
| SEP 07... | 1300 | 2040 | 960 | 8.0 | 26.0 | -- | 5.7 | 69 | 76 | 420 | -- |

MUSKINGUM RIVER BASIN

03150000 MUSKINGUM RIVER AT MCCONNELLSVILLE, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG/L) | DIS-SOLVED SODIUM (NA) (MG/L) | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) |
|-----------|-------------------------------|--------------------------------|-----------------------------|-------------------------------|---------------------------------|---------------------------|------------------------|----------------------------|-----------------------------|---------------------------------|---------------------------------|
| OCT 19... | 220 | 100 | 25 | 63 | 5.0 | 162 | 0 | 133 | 2.6 | 170 | 130 |
| NOV 15... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DEC 09... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JAN 21... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| FEB 23... | 160 | 71 | 21 | 56 | 5.4 | 121 | 0 | 99 | 3.9 | 120 | 110 |
| MAR 09... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| APR 05... | 81 | 33 | 9.4 | 13 | 3.4 | 49 | 0 | 40 | 7.8 | 68 | 21 |
| MAY 11... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUN 07... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 07... | 120 | 59 | 16 | 33 | 4.3 | 110 | 0 | 90 | 7.0 | 100 | 59 |
| AUG 03... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| SEP 07... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| DATE | DIS-SOLVED FLUORIDE (F) (MG/L) | DIS-SOLVED SILICA (SiO2) (MG/L) | DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L) | DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL KJELDAHL NITROGEN (N) (MG/L) | TOTAL NITROGEN (N) (MG/L) | TOTAL NITROGEN (NO3) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | TOTAL PHYTOPLANKTON (CELLS PER ML) |
|-----------|--------------------------------|---------------------------------|---|--|---------------------------------------|------------------------------------|---------------------------|-----------------------------|-----------------------------|---------------------------------|------------------------------------|
| OCT 19... | .4 | 6.5 | 600 | 580 | 1.1 | .83 | 1.9 | 8.5 | .10 | 6.1 | 43000 |
| NOV 15... | -- | -- | -- | -- | 1.3 | .53 | 1.8 | 8.1 | .13 | -- | 18000 |
| DEC 09... | -- | -- | -- | -- | .81 | .78 | 1.6 | 7.0 | .14 | -- | 58000 |
| JAN 21... | -- | -- | -- | -- | 1.3 | 1.9 | 3.2 | 14 | .14 | -- | 16000 |
| FEB 23... | .2 | 7.9 | 523 | 452 | 1.8 | 1.5 | 3.3 | 15 | .16 | 5.7 | -- |
| MAR 09... | -- | -- | -- | -- | 2.4 | .99 | 3.4 | 15 | .13 | -- | 3700 |
| APR 05... | .1 | 7.0 | 209 | 180 | 1.5 | 1.4 | 2.9 | 13 | .25 | 5.2 | 4900 |
| MAY 11... | -- | -- | -- | -- | .88 | .65 | 1.5 | 6.8 | .11 | -- | 26000 |
| JUN 07... | -- | -- | -- | -- | .12 | 1.2 | 1.3 | 5.8 | .11 | -- | 29000 |
| JUL 07... | .2 | 5.9 | 406 | 332 | 1.7 | .97 | 2.7 | 12 | .17 | 5.0 | -- |
| AUG 03... | -- | -- | -- | -- | .49 | 1.2 | 1.7 | 7.5 | .11 | -- | -- |
| SEP 07... | -- | -- | -- | -- | .03 | .98 | 1.0 | 4.5 | .10 | -- | -- |

MUSKINGUM RIVER BASIN

163

03150000 MUSKINGUM RIVER AT MCCONNELSVILLE, OH--Continued
ANALYSES OF MINOR ELEMENTS

| DATE | TIME | TOTAL ARSENIC (AS) (UG/L) | DIS- SOLVED ARSENIC (AS) (UG/L) | TOTAL CAD- MIUM (CD) (UG/L) | DIS- SOLVED CAD- MIUM (CD) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | DIS- SOLVED CHRO- MIUM (CR) (UG/L) | TOTAL COBALT (CO) (UG/L) | DIS- SOLVED COBALT (CO) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) |
|--------------|------|------------------------------------|---|---|--|--|---|-----------------------------------|--|-----------------------------------|--|---------------------------------|
| OCT 19... | 1100 | 2 | 1 | 1 | 0 | 30 | <10 | 1 | 1 | 10 | 0 | 930 |
| FEB 23... | 1100 | 2 | 0 | 0 | 0 | 60 | 13 | 3 | 0 | 22 | 5 | 1500 |
| APR 05... | 1200 | 1 | 1 | 0 | 0 | 30 | 1 | 5 | 0 | 15 | 5 | 14000 |
| JUL 07... | 1200 | 2 | 2 | 0 | 0 | 20 | 3 | 3 | 0 | 9 | 5 | 4000 |

| DATE | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED LEAD (PB) (UG/L) | TOTAL MAN- GANESE (MN) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | DIS- SOLVED MERCURY (HG) (UG/L) | TOTAL SELE- NIUM (SE) (UG/L) | DIS- SOLVED SELE- NIUM (SE) (UG/L) | TOTAL ZINC (ZN) (UG/L) | DIS- SOLVED ZINC (ZN) (UG/L) |
|--------------|--|---------------------------------|--|---|--|------------------------------------|---|--|---|---------------------------------|--|
| OCT 19... | 50 | 12 | 0 | 570 | 430 | <.5 | <.5 | 0 | 0 | 20 | 10 |
| FEB 23... | 40 | 12 | 0 | 700 | 700 | .0 | .0 | -- | 0 | 30 | 10 |
| APR 05... | 120 | 21 | 0 | 760 | 240 | .0 | .0 | 0 | 0 | 100 | 100 |
| JUL 07... | 70 | 17 | 11 | 240 | 60 | .1 | .1 | 0 | 0 | 70 | 60 |

SUSPENDED SEDIMENT DISCHARGE

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | TEMPER- ATURE (DEG C) | SUS- PENDE SEDI- MENT (MG/L) | SUS- PENDE SEDI- MENT DIS- CHARGE (T/DAY) |
|--------------|------|---|-----------------------------|--|---|
| OCT 19... | 1100 | 1590 | 13.0 | 22 | 94 |
| NOV 15... | 1100 | 2480 | 5.5 | 11 | 74 |
| DEC 09... | 1130 | 4100 | 1.0 | 12 | 133 |
| JAN 21... | 1300 | 1100 | .5 | 4 | 16 |
| FEB 23... | 1100 | 5320 | 2.0 | 11 | 158 |
| MAR 09... | 1130 | 10000 | 6.0 | 34 | 918 |
| APR 05... | 1200 | 29000 | 11.0 | 444 | 34800 |
| MAY 11... | 1300 | 7900 | 15.0 | 30 | 640 |
| JUN 07... | 1200 | 2260 | 21.5 | 25 | 153 |
| JUL 07... | 1200 | 8180 | 25.5 | 78 | 1720 |
| AUG 03... | 1300 | 3220 | 25.0 | 36 | 313 |
| SEP 07... | 1300 | 2040 | 26.0 | 15 | 83 |

MUSKINGUM RIVER BASIN

03150000 MUSKINGUM RIVER AT MCCONNELSVILLE, OH--Continued

PESTICIDE ANALYSES

| DATE | TIME | TOTAL ALDRIN (UG/L) | ALDRIN IN BOTTOM MA- TERIAL (UG/KG) | TOTAL ATRA- ZINE (UG/L) | ATRA- ZINE IN BOTTOM MA- TERIAL (UG/ KG DRY SOLIDS) | TOTAL CHLOR- DANE (UG/L) | CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG) | TOTAL DDD (UG/L) | DDD IN BOTTOM MA- TERIAL (UG/KG) | TOTAL DDE (UG/L) |
|-----------|------|------------------------|---|----------------------------|---|-----------------------------|---|---------------------|--|---------------------|
| NOV 15... | 1100 | -- | ND | -- | ND | -- | 43 | -- | ND | -- |
| FEB 23... | 1100 | ND | -- | ND | -- | ND | -- | ND | -- | ND |
| MAY 11... | 1300 | ND | -- | ND | -- | ND | -- | ND | -- | ND |
| AUG 03... | 1230 | ND | -- | .72 | -- | ND | -- | ND | -- | ND |

| DATE | DDE IN BOTTOM MA- TERIAL (UG/KG) | TOTAL DDT (UG/L) | DDT IN BOTTOM MA- TERIAL (UG/KG) | TOTAL DI- AZINON (UG/L) | DI- AZINON IN BOTTOM MA- TERIAL (UG/KG) | TOTAL DI- ELDRIN (UG/L) | DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG) | TOTAL ENDRIN (UG/L) | ENDRIN IN BOTTOM MA- TERIAL (UG/KG) | TOTAL ETHION (UG/L) |
|-----------|--|---------------------|--|----------------------------|--|----------------------------|--|------------------------|---|------------------------|
| NOV 15... | ND | -- | ND | -- | ND | -- | 1.0 | -- | ND | -- |
| FEB 23... | -- | ND | -- | ND | -- | ND | -- | ND | -- | ND |
| MAY 11... | -- | ND | -- | ND | -- | ND | -- | ND | -- | ND |
| AUG 03... | -- | ND | -- | ND | -- | ND | -- | ND | -- | ND |

| DATE | ETHION IN BOTTOM MA- TERIAL (UG/KG) | TOTAL HEPTA- CHLOR (UG/L) | HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG) | TOTAL HEPTA- CHLOR EPOXIDE (UG/L) | HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG) | TOTAL LINDANE (UG/L) | LINDANE IN BOTTOM MA- TERIAL (UG/KG) | TOTAL MALA- THION (UG/L) | MALA- THION IN BOTTOM MA- TERIAL (UG/KG) | TOTAL METH- OXY- CHLOR (UG/L) |
|-----------|---|------------------------------|--|---|---|-------------------------|--|-----------------------------|---|-------------------------------------|
| NOV 15... | ND | -- | ND | -- | ND | -- | ND | -- | ND | -- |
| FEB 23... | -- | ND | -- | ND | -- | ND | -- | ND | -- | ND |
| MAY 11... | -- | ND | -- | ND | -- | ND | -- | ND | -- | ND |
| AUG 03... | -- | ND | -- | ND | -- | ND | -- | ND | -- | ND |

| DATE | METHOX- YCHLOR IN BOT- TOM MA- TERIAL (UG/KG) | TOTAL METHYL PARA- THION (UG/L) | METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG) | TOTAL METHYL TRI- THION (UG/L) | METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG) | TOTAL PARA- THION (UG/L) | PARA- THION IN BOTTOM MA- TERIAL (UG/KG) | SIMA- ZINE TOTAL COUL- SON (UG/L) | SIMA- ZINE IN BOTTOM MA- TERIAL (UG/ KG DRY SOLIDS) | TOTAL TOX- APHENE (UG/L) |
|-----------|--|---------------------------------------|---|--------------------------------------|--|-----------------------------|---|--|---|-----------------------------|
| NOV 15... | ND | -- | ND | -- | ND | -- | ND | -- | ND | -- |
| FEB 23... | -- | ND | -- | ND | -- | ND | -- | ND | -- | ND |
| MAY 11... | -- | ND | -- | ND | -- | ND | -- | ND | -- | ND |
| AUG 03... | -- | ND | -- | ND | -- | ND | -- | .50 | -- | ND |

| DATE | TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG) | TOTAL TRI- THION (UG/L) | TRI- THION IN BOTTOM MA- TERIAL (UG/KG) | TOTAL 2,4-D (UG/L) | 2,4-D IN BOTTOM MA- TERIAL (UG/KG) | TOTAL 2,4,5-T (UG/L) | 2,4,5-T IN BOTTOM MA- TERIAL (UG/KG) | TOTAL SILVEX (UG/L) | SILVEX IN BOTTOM MA- TERIAL (UG/KG) |
|-----------|---|----------------------------|--|-----------------------|--|-------------------------|--|------------------------|---|
| NOV 15... | ND | -- | ND | -- | ND | -- | ND | -- | ND |
| FEB 23... | -- | ND | -- | ND | -- | ND | -- | ND | -- |
| MAY 11... | -- | ND | -- | ND | -- | ND | -- | ND | -- |
| AUG 03... | -- | ND | -- | ND | -- | ND | -- | ND | -- |

165

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|--------|----------|-----------|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 998 | 957 | 882 | 795 | 897 | 854 | 900 | 864 | 1160 | 1150 | 444 | 410 |
| 2 | 987 | 957 | 792 | 723 | 858 | 768 | 863 | 849 | 1160 | 1150 | 464 | 432 |
| 3 | 1020 | 987 | 725 | 699 | 770 | 765 | 876 | 854 | 1150 | 1130 | 467 | 446 |
| 4 | 1040 | 1010 | 740 | 704 | --- | --- | 915 | 876 | 1130 | 1120 | 470 | 441 |
| 5 | 1020 | 987 | 812 | 737 | --- | --- | 938 | 917 | 1140 | 1120 | 486 | 465 |
| 6 | 1040 | 884 | 813 | 792 | --- | --- | 920 | 911 | 1120 | 1100 | 501 | 488 |
| 7 | 872 | 809 | 792 | 740 | --- | --- | 941 | 921 | 1100 | 1080 | 525 | 495 |
| 8 | 870 | 812 | 735 | 671 | --- | --- | 959 | 936 | 1080 | 1070 | 527 | 488 |
| 9 | 893 | 858 | 696 | 675 | 815 | 804 | 957 | 947 | 1110 | 1080 | 507 | 489 |
| 10 | 921 | 891 | 765 | 696 | 804 | 782 | 971 | 947 | 1130 | 1110 | 534 | 501 |
| 11 | 938 | 918 | 813 | 764 | 800 | 788 | 1000 | 974 | 1120 | 1110 | 557 | 534 |
| 12 | 933 | 908 | 822 | 809 | 810 | 767 | 995 | 989 | 1140 | 1110 | 566 | 546 |
| 13 | 944 | 900 | 828 | 812 | 762 | 744 | 1030 | 998 | 1150 | 1100 | 569 | 545 |
| 14 | 960 | 935 | 840 | 819 | 767 | 731 | 1060 | 1030 | 1110 | 1090 | 536 | 413 |
| 15 | 941 | 918 | 824 | 782 | 809 | 770 | 1090 | 1050 | --- | --- | 455 | 414 |
| 16 | 926 | 924 | 809 | 774 | 795 | 774 | 1110 | 1090 | --- | --- | 410 | 378 |
| 17 | --- | --- | --- | --- | 800 | 768 | 1120 | 1110 | 1130 | 1040 | 441 | 410 |
| 18 | --- | --- | --- | --- | 795 | 780 | 1110 | 1070 | 1150 | 1100 | 441 | 428 |
| 19 | --- | --- | --- | --- | 792 | 777 | 1070 | 1030 | 1100 | 1000 | 443 | 420 |
| 20 | --- | --- | --- | --- | 777 | 747 | 1040 | 1020 | 995 | 882 | 434 | 410 |
| 21 | --- | --- | --- | --- | 762 | 744 | 1060 | 1040 | 879 | 819 | 407 | 369 |
| 22 | 851 | 843 | --- | --- | 776 | 761 | 1090 | 1070 | 818 | 797 | 410 | 377 |
| 23 | 858 | 843 | --- | --- | 828 | 777 | 1100 | 1080 | 795 | 728 | 440 | 410 |
| 24 | 867 | 849 | 735 | 722 | 860 | 831 | 1100 | 1090 | 720 | 543 | 438 | 425 |
| 25 | 902 | 872 | 738 | 717 | 873 | 855 | 1100 | 1090 | 540 | 470 | 444 | 431 |
| 26 | 902 | 875 | 770 | 740 | 885 | 867 | 1100 | 1070 | 462 | 375 | 455 | 435 |
| 27 | 894 | 849 | 785 | 762 | 914 | 885 | 1090 | 1060 | 371 | 359 | 471 | 453 |
| 28 | 888 | 851 | 840 | 786 | 911 | 893 | 1090 | 1080 | 407 | 363 | 486 | 465 |
| 29 | 897 | 858 | 882 | 848 | 894 | 867 | 1100 | 1090 | --- | --- | 509 | 486 |
| 30 | 909 | 873 | 884 | 858 | 896 | 867 | 1120 | 1100 | --- | --- | 522 | 498 |
| 31 | 896 | 872 | --- | --- | 903 | 893 | 1160 | 1120 | --- | --- | 570 | 522 |
| MONTH | 1040 | 809 | 884 | 671 | 914 | 731 | 1160 | 849 | 1160 | 359 | 570 | 369 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 584 | 551 | 612 | 582 | 827 | 675 | 797 | 753 | 669 | 648 | 918 | 881 |
| 2 | 552 | 459 | 653 | 606 | 834 | 819 | 879 | 741 | 707 | 672 | 926 | 885 |
| 3 | 434 | 360 | 659 | 635 | 833 | 813 | 810 | 749 | 720 | 672 | 941 | 902 |
| 4 | 369 | 326 | 632 | 600 | 846 | 824 | 803 | 743 | 713 | 695 | 902 | 866 |
| 5 | 320 | 284 | 600 | 543 | 855 | 836 | 854 | 713 | 722 | 702 | 891 | 861 |
| 6 | 315 | 287 | 594 | 543 | 863 | 842 | 749 | 614 | 713 | 662 | 932 | 885 |
| 7 | 351 | 317 | 528 | 444 | 864 | 857 | 606 | 563 | 698 | 654 | 963 | 938 |
| 8 | 363 | 351 | 539 | 503 | 872 | 857 | 603 | 552 | 692 | 566 | 948 | 917 |
| 9 | 381 | 365 | 519 | 485 | 884 | 864 | 569 | 554 | 686 | 617 | 1100 | 944 |
| 10 | 389 | 383 | 548 | 512 | 1050 | 876 | 593 | 569 | 888 | 696 | 1140 | 1120 |
| 11 | 386 | 380 | 563 | 543 | 1070 | 881 | 605 | 588 | 894 | 552 | 1250 | 960 |
| 12 | 387 | 380 | 563 | 545 | 873 | 797 | 632 | 582 | 572 | 515 | 954 | 834 |
| 13 | 399 | 386 | 584 | 563 | 822 | 774 | 710 | 635 | 600 | 540 | 833 | 806 |
| 14 | 417 | 402 | 593 | 581 | 986 | 830 | 705 | 632 | 569 | 551 | 845 | 819 |
| 15 | 446 | 417 | 614 | 593 | 984 | 879 | 641 | 614 | 597 | 548 | 869 | 836 |
| 16 | 467 | 432 | 641 | 617 | 897 | 875 | 662 | 581 | 656 | 602 | 875 | 836 |
| 17 | 494 | 464 | 648 | 641 | 911 | 879 | 702 | 663 | 701 | 654 | 863 | 807 |
| 18 | 512 | 495 | 657 | 648 | 927 | 890 | 713 | 684 | 734 | 653 | 950 | 777 |
| 19 | 516 | 507 | 677 | 659 | 887 | 818 | 705 | 681 | 767 | 741 | 807 | 771 |
| 20 | 548 | 687 | 687 | 674 | 893 | 819 | 698 | 678 | 786 | 752 | 800 | 687 |
| 21 | 584 | 545 | 681 | 666 | 888 | 840 | 740 | 711 | 773 | 699 | 797 | 578 |
| 22 | 627 | 587 | 681 | 669 | 975 | 842 | 860 | 719 | 696 | 681 | 881 | 534 |
| 23 | 654 | 630 | 719 | 671 | 975 | 789 | 884 | 639 | 737 | 690 | 578 | 551 |
| 24 | 678 | 654 | 738 | 719 | 776 | 698 | 801 | 717 | 761 | 740 | 579 | 543 |
| 25 | 680 | 662 | 785 | 737 | 696 | 621 | 689 | 491 | 827 | 756 | 594 | 566 |
| 26 | 669 | 653 | 798 | 783 | 732 | 653 | 486 | 444 | 815 | 768 | 615 | 564 |
| 27 | 732 | 659 | 795 | 771 | 749 | 710 | 498 | 461 | 954 | 768 | 674 | 618 |
| 28 | 732 | 645 | 780 | 753 | 701 | 662 | 549 | 500 | 905 | 774 | 740 | 669 |
| 29 | 642 | 587 | 767 | 741 | 747 | 683 | 575 | 551 | 873 | 795 | 789 | 729 |
| 30 | 612 | 590 | 752 | 663 | 762 | 702 | 573 | 444 | 935 | 878 | --- | --- |
| 31 | --- | --- | 708 | 663 | --- | --- | 660 | 443 | 987 | 921 | --- | --- |
| MONTH | 732 | 284 | 798 | 444 | 1070 | 621 | 884 | 443 | 987 | 515 | 1250 | 534 |
| YEAR | 1250 | 284 | | | | | | | | | | |

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|---------|-----|----------|-----|----------|-----|---------|-----|----------|-----|-----------|-----|-----|
| OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | | |
| 1 | 7.8 | 7.8 | 8.1 | 8.0 | 7.9 | 7.7 | 8.0 | 8.0 | 7.9 | 7.8 | 7.7 | 7.7 |
| 2 | 7.9 | 7.8 | 8.2 | 7.8 | 7.9 | 7.8 | 8.1 | 8.0 | 7.9 | 7.6 | 7.7 | 7.6 |
| 3 | 7.9 | 7.8 | 8.3 | 8.2 | 7.8 | 7.7 | 8.1 | 8.0 | 7.8 | 7.7 | 7.9 | 7.6 |
| 4 | 8.1 | 7.8 | 8.2 | 8.1 | --- | --- | 8.1 | 8.0 | 7.8 | 7.7 | 7.9 | 7.9 |
| 5 | 8.1 | 7.9 | 8.1 | 8.1 | --- | --- | 8.0 | 8.0 | 7.8 | 7.7 | 7.9 | 7.8 |
| 6 | 7.9 | 7.8 | 8.2 | 8.1 | --- | --- | 7.8 | 7.8 | 7.9 | 7.8 | 8.0 | 7.9 |
| 7 | 7.8 | 7.8 | 8.2 | 8.1 | --- | --- | 7.8 | 7.8 | 7.8 | 7.8 | 8.0 | 7.9 |
| 8 | 7.8 | 7.5 | 8.2 | 8.1 | --- | --- | 7.8 | 7.7 | 7.8 | 7.8 | 8.0 | 7.9 |
| 9 | 7.8 | 7.7 | 8.2 | 8.1 | --- | --- | 7.8 | 7.8 | 7.8 | 7.8 | 8.1 | 7.9 |
| 10 | 7.8 | 7.8 | 8.3 | 7.9 | --- | --- | 7.9 | 7.8 | 7.8 | 7.7 | 8.1 | 8.0 |
| 11 | 7.9 | 7.8 | 7.9 | 7.9 | --- | --- | 7.9 | 7.8 | 7.8 | 7.7 | 8.2 | 7.9 |
| 12 | 7.9 | 7.9 | 7.9 | 7.8 | --- | --- | 7.9 | 7.9 | 7.8 | 7.7 | 8.1 | 8.0 |
| 13 | 7.9 | 7.8 | 7.9 | 7.8 | --- | --- | 7.9 | 7.8 | 7.8 | 7.8 | 8.1 | 7.8 |
| 14 | 8.2 | 7.9 | 7.9 | 7.8 | --- | --- | 7.9 | 7.9 | 7.8 | 7.7 | 7.9 | 7.8 |
| 15 | 8.3 | 8.1 | 7.9 | 7.8 | --- | --- | 7.9 | 7.9 | --- | --- | 7.9 | 7.7 |
| 16 | 8.2 | 8.2 | 7.9 | 7.8 | --- | --- | 7.9 | 7.8 | --- | --- | 7.9 | 7.8 |
| 17 | --- | --- | --- | --- | --- | --- | 7.8 | 7.8 | 7.7 | 7.6 | 7.8 | 7.7 |
| 18 | --- | --- | --- | --- | --- | --- | 7.9 | 7.8 | 7.8 | 7.7 | 7.8 | 7.7 |
| 19 | --- | --- | --- | --- | --- | --- | 7.8 | 7.7 | 7.8 | 7.7 | 7.7 | 7.6 |
| 20 | --- | --- | --- | --- | --- | --- | 7.8 | 7.7 | 7.8 | 7.7 | 7.7 | 7.7 |
| 21 | --- | --- | --- | --- | 8.0 | 7.8 | 7.8 | 7.7 | 7.7 | 7.6 | 7.8 | 7.6 |
| 22 | 8.4 | 8.3 | --- | --- | 8.1 | 8.0 | 7.8 | 7.7 | 7.8 | 7.6 | 7.7 | 7.7 |
| 23 | 8.4 | 8.2 | --- | --- | 8.1 | 8.1 | 7.7 | 7.7 | 7.9 | 7.7 | 7.8 | 7.6 |
| 24 | 8.4 | 8.2 | 7.9 | 7.9 | 8.1 | 8.0 | 7.8 | 7.7 | 7.9 | 7.6 | 7.7 | 7.6 |
| 25 | 8.2 | 8.1 | 8.0 | 7.9 | 8.1 | 8.1 | 7.8 | 7.7 | 7.7 | 7.6 | 7.7 | 7.6 |
| 26 | 8.1 | 7.9 | 8.0 | 7.9 | 8.1 | 8.1 | 7.8 | 7.7 | 7.6 | 7.5 | 7.8 | 7.6 |
| 27 | 8.0 | 7.8 | 8.0 | 7.9 | 8.2 | 8.1 | 8.0 | 7.6 | 7.5 | 7.5 | 7.8 | 7.6 |
| 28 | 8.1 | 8.0 | 7.9 | 7.8 | 8.2 | 8.1 | 8.0 | 7.9 | 7.6 | 7.4 | 7.8 | 7.7 |
| 29 | 8.2 | 8.0 | 7.8 | 7.8 | 8.1 | 8.0 | 7.9 | 7.9 | --- | --- | 7.8 | 7.7 |
| 30 | 8.1 | 8.1 | 7.8 | 7.7 | 8.1 | 8.0 | 7.9 | 7.8 | --- | --- | 7.7 | 7.6 |
| 31 | 8.1 | 8.1 | --- | --- | 8.1 | 8.0 | 7.9 | 7.7 | --- | --- | 7.6 | 7.5 |
| MONTH | 8.4 | 7.5 | 8.3 | 7.7 | 8.2 | 7.7 | 8.1 | 7.6 | 7.9 | 7.4 | 8.2 | 7.5 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | --- | --- | 8.1 | 7.9 | 8.4 | 8.0 | 8.5 | 8.2 | 7.9 | 7.4 | 8.4 | 7.8 |
| 2 | --- | --- | 8.3 | 8.0 | 7.9 | 7.8 | 8.7 | 8.2 | 8.3 | 7.9 | 8.2 | 7.8 |
| 3 | --- | --- | 8.4 | 7.9 | 7.8 | 7.6 | 8.6 | 8.2 | 8.5 | 7.8 | 7.9 | 7.7 |
| 4 | --- | --- | 7.9 | 7.7 | 7.6 | 7.4 | 8.6 | 8.3 | 8.7 | 8.1 | 8.0 | 7.5 |
| 5 | --- | --- | 7.9 | 7.6 | 7.4 | 7.3 | 8.0 | 7.5 | 8.6 | 8.1 | 7.9 | 7.6 |
| 6 | --- | --- | 8.1 | 7.8 | 7.8 | 7.2 | 7.4 | 7.3 | 8.6 | 8.1 | 7. | |

167

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

| DAY | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | | | | | | | | |
|-------|-------|------|------|------|------|------|------|------|------|------|------|------|------|--|-----|--|--------|--|--|--|-----------|--|--|--|
| | APRIL | | | | MAY | | | | JUNE | | | | JULY | | | | AUGUST | | | | SEPTEMBER | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 13.5 | 12.5 | 15.0 | 13.5 | 26.0 | 25.5 | 26.0 | 25.5 | 25.5 | 24.0 | 27.0 | 25.5 | | | | | | | | | | | | |
| 2 | 13.0 | 12.5 | 16.0 | 15.0 | 25.5 | 25.0 | 26.5 | 25.0 | 26.0 | 25.0 | 26.5 | 26.0 | | | | | | | | | | | | |
| 3 | 12.5 | 12.0 | 17.0 | 15.5 | 25.5 | 24.0 | 26.5 | 25.0 | 26.5 | 25.0 | 26.5 | 26.5 | | | | | | | | | | | | |
| 4 | 12.0 | 12.0 | 17.5 | 16.5 | 25.5 | 23.5 | 25.5 | 25.0 | 28.0 | 25.5 | 27.5 | 26.5 | | | | | | | | | | | | |
| 5 | 12.0 | 11.0 | 18.0 | 17.0 | 24.0 | 23.5 | 25.5 | 24.5 | 28.0 | 26.5 | 27.0 | 26.5 | | | | | | | | | | | | |
| 6 | 11.0 | 9.5 | 18.5 | 17.5 | 24.0 | 23.5 | 26.0 | 25.0 | 28.0 | 26.5 | 27.0 | 26.5 | | | | | | | | | | | | |
| 7 | 9.5 | 9.0 | 18.5 | 18.0 | 22.5 | 21.5 | 27.0 | 25.5 | 28.0 | 27.0 | 27.0 | 26.0 | | | | | | | | | | | | |
| 8 | 9.5 | 9.0 | 19.0 | 18.0 | 21.5 | 20.5 | 27.5 | 26.5 | 27.5 | 25.5 | 26.5 | 25.5 | | | | | | | | | | | | |
| 9 | 9.5 | 8.5 | 18.0 | 17.0 | 20.5 | 20.0 | 28.5 | 27.0 | 26.0 | 25.5 | 27.0 | 25.5 | | | | | | | | | | | | |
| 10 | 10.0 | 8.5 | 16.5 | 16.0 | 20.0 | 19.0 | 28.0 | 27.5 | 25.5 | 25.5 | 27.0 | 25.5 | | | | | | | | | | | | |
| 11 | 11.5 | 9.5 | 16.5 | 15.0 | 19.5 | 19.0 | 28.0 | 27.5 | 25.5 | 24.5 | 28.0 | 24.5 | | | | | | | | | | | | |
| 12 | 12.5 | 10.5 | 16.5 | 15.0 | 20.5 | 19.0 | 27.5 | 27.0 | 25.0 | 24.5 | 26.0 | 24.0 | | | | | | | | | | | | |
| 13 | 13.5 | 12.0 | 17.5 | 16.0 | 21.0 | 19.5 | 27.5 | 26.5 | 25.0 | 24.5 | 26.0 | 24.0 | | | | | | | | | | | | |
| 14 | 14.5 | 13.0 | 18.5 | 17.0 | 21.0 | 20.5 | 27.5 | 26.5 | 24.5 | 24.0 | 24.0 | 23.5 | | | | | | | | | | | | |
| 15 | 15.0 | 14.0 | 19.5 | 17.5 | 21.5 | 21.0 | 28.5 | 27.0 | 25.0 | 24.5 | 24.0 | 23.0 | | | | | | | | | | | | |
| 16 | 15.5 | 14.5 | 20.5 | 18.5 | 23.0 | 21.0 | 28.5 | 28.0 | 25.0 | 24.5 | 23.0 | 22.5 | | | | | | | | | | | | |
| 17 | 15.5 | 15.0 | 21.0 | 19.5 | 24.0 | 22.0 | 29.0 | 28.5 | 26.0 | 25.0 | 22.5 | 21.5 | | | | | | | | | | | | |
| 18 | 16.0 | 15.0 | 22.0 | 20.5 | 25.0 | 23.5 | 29.0 | 28.5 | 25.5 | 25.0 | 22.0 | 21.5 | | | | | | | | | | | | |
| 19 | 16.0 | 15.5 | 23.5 | 21.5 | 25.0 | 24.0 | 30.0 | 29.0 | 25.0 | 24.5 | 22.5 | 22.0 | | | | | | | | | | | | |
| 20 | 16.5 | 15.5 | 24.0 | 22.5 | 25.5 | 25.0 | 30.5 | 29.5 | 24.5 | 24.0 | 22.0 | 21.5 | | | | | | | | | | | | |
| 21 | 17.5 | 16.0 | 25.0 | 23.5 | 26.0 | 24.5 | 30.5 | 29.5 | 24.0 | 23.5 | 21.5 | 20.5 | | | | | | | | | | | | |
| 22 | 18.0 | 17.5 | 25.0 | 24.0 | 25.5 | 24.5 | 30.0 | 29.5 | 23.5 | 22.5 | 20.5 | 20.0 | | | | | | | | | | | | |
| 23 | 18.0 | 17.5 | 25.5 | 24.5 | 24.5 | 23.5 | 29.5 | 28.0 | 23.5 | 22.5 | 20.5 | 19.5 | | | | | | | | | | | | |
| 24 | 18.0 | 17.0 | 25.5 | 25.0 | 24.0 | 23.5 | 28.5 | 27.0 | 24.0 | 23.0 | 21.5 | 19.5 | | | | | | | | | | | | |
| 25 | 17.0 | 16.0 | 25.5 | 25.0 | 24.0 | 23.5 | 26.5 | 25.5 | 23.5 | 22.5 | 20.5 | 20.0 | | | | | | | | | | | | |
| 26 | 15.5 | 14.0 | 25.5 | 24.5 | 24.5 | 23.5 | 25.5 | 25.0 | 24.0 | 22.5 | 21.5 | 20.5 | | | | | | | | | | | | |
| 27 | 15.0 | 13.5 | 25.5 | 24.5 | 25.5 | 24.0 | 25.5 | 24.5 | 25.5 | 23.5 | 24.0 | 20.5 | | | | | | | | | | | | |
| 28 | 14.5 | 14.0 | 25.5 | 24.5 | 25.5 | 24.5 | 25.5 | 24.5 | 25.5 | 23.5 | 21.5 | 20.5 | | | | | | | | | | | | |
| 29 | 14.5 | 13.0 | 26.0 | 25.0 | 26.0 | 25.0 | 25.5 | 24.5 | 25.5 | 24.5 | 22.5 | 19.5 | | | | | | | | | | | | |
| 30 | 14.5 | 13.0 | 26.0 | 25.0 | 26.0 | 25.0 | 24.0 | 23.0 | 25.5 | 25.0 | --- | --- | | | | | | | | | | | | |
| 31 | --- | --- | 27.5 | 25.5 | --- | --- | 24.5 | 22.5 | 26.5 | 25.5 | --- | --- | | | | | | | | | | | | |
| MONTH | 18.0 | 8.5 | 27.5 | 13.5 | 26.0 | 19.0 | 30.5 | 22.5 | 28.0 | 22.5 | 28.0 | 19.5 | | | | | | | | | | | | |

| YEAR | 30.5 | 0.5 |
|------|------|-----|
|------|------|-----|

MUSKINGUM RIVER BASIN

03150000 MUSKINGUM RIVER AT MCCONNELSVILLE, OH--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|---------|------|----------|------|----------|------|---------|------|----------|------|-----------|------|------|
| OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | | |
| 1 | 9.6 | 9.0 | 11.1 | 10.9 | 11.3 | 9.4 | 12.5 | 12.0 | 10.5 | 10.0 | --- | --- |
| 2 | 9.9 | 9.2 | 11.3 | 11.0 | 12.1 | 10.9 | 12.4 | 11.8 | 12.5 | 10.5 | --- | --- |
| 3 | 10.5 | 9.9 | 11.5 | 11.1 | 12.7 | 12.3 | 13.0 | 11.9 | 10.9 | 10.3 | 13.5 | 11.5 |
| 4 | 12.4 | 10.0 | 11.5 | 11.3 | --- | --- | 12.6 | 11.8 | 10.6 | 10.3 | 12.7 | 10.8 |
| 5 | 13.1 | 10.2 | 11.5 | 11.4 | --- | --- | 12.5 | 11.4 | 11.1 | 10.4 | 11.9 | 11.0 |
| 6 | 11.2 | 10.1 | 11.6 | 11.4 | --- | --- | 12.2 | 11.7 | 11.2 | 10.7 | 11.9 | 10.9 |
| 7 | 10.0 | 9.1 | 11.8 | 11.6 | --- | --- | 12.1 | 11.6 | 11.2 | 10.7 | 12.1 | 11.2 |
| 8 | 9.3 | 8.6 | 12.3 | 11.9 | --- | --- | 12.0 | 11.4 | 11.3 | 10.5 | 11.7 | 10.8 |
| 9 | 9.3 | 8.6 | 12.3 | 11.7 | 12.7 | 11.9 | 11.8 | 11.4 | 11.0 | 10.6 | 12.0 | 10.7 |
| 10 | 9.5 | 8.8 | 12.1 | 9.9 | 12.8 | 11.7 | 11.6 | 11.2 | 10.7 | 10.4 | 11.3 | 10.3 |
| 11 | 10.2 | 9.4 | 10.3 | 9.8 | 12.5 | 12.0 | 11.8 | 11.5 | 10.8 | 10.4 | 10.9 | 10.0 |
| 12 | 11.3 | 10.2 | 10.6 | 9.8 | 12.4 | 11.0 | 11.9 | 11.6 | 10.7 | 10.3 | 10.1 | 9.7 |
| 13 | 11.6 | 11.1 | 10.7 | 9.8 | 11.6 | 10.7 | 12.0 | 11.5 | 10.9 | 10.5 | 10.4 | 9.6 |
| 14 | 11.7 | 7.3 | 10.6 | 9.9 | 11.9 | 10.8 | 11.8 | 11.3 | 11.0 | 10.6 | 11.2 | 10.4 |
| 15 | 8.7 | 7.5 | 11.4 | 10.0 | 11.9 | 10.8 | 11.8 | 11.3 | --- | --- | 11.3 | 10.9 |
| 16 | --- | --- | 11.0 | 10.3 | 12.0 | 11.0 | 11.9 | 11.0 | --- | --- | --- | --- |
| 17 | --- | --- | --- | --- | 11.6 | 10.6 | 11.7 | 11.1 | 13.7 | 12.7 | --- | --- |
| 18 | --- | --- | --- | --- | 11.3 | 10.2 | 11.6 | 11.1 | 13.7 | 13.1 | --- | --- |
| 19 | --- | --- | --- | --- | 11.4 | 10.2 | 12.2 | 11.2 | 13.2 | 12.6 | --- | --- |
| 20 | --- | --- | --- | --- | 10.6 | 10.2 | 12.2 | 11.7 | 13.0 | 12.7 | --- | --- |
| 21 | --- | --- | --- | --- | 12.0 | 10.6 | 12.0 | 11.7 | 12.8 | 11.9 | --- | --- |
| 22 | 11.6 | 10.6 | --- | --- | 12.0 | 11.0 | 12.0 | 11.7 | 12.2 | 11.1 | --- | --- |
| 23 | 11.8 | 10.6 | --- | --- | 14.4 | 11.2 | 12.1 | 11.7 | 11.6 | 10.1 | --- | --- |
| 24 | 11.2 | 10.5 | 11.6 | 10.5 | 14.3 | 13.2 | 11.7 | 11.6 | 10.7 | 9.6 | --- | --- |
| 25 | 10.5 | 10.0 | 10.9 | 10.1 | 13.9 | 13.1 | 11.7 | 11.5 | 12.2 | 10.5 | --- | --- |
| 26 | 10.4 | 10.0 | 10.8 | 9.8 | 13.4 | 12.1 | 11.6 | 11.5 | --- | --- | --- | --- |
| 27 | 10.2 | 10.0 | 9.8 | 8.9 | 12.6 | 10.9 | 11.8 | 10.6 | --- | --- | --- | --- |
| 28 | 10.6 | 10.1 | 9.7 | 8.6 | 12.4 | 10.7 | 10.9 | 10.2 | --- | --- | --- | --- |
| 29 | 11.6 | 10.6 | 9.3 | 8.5 | 13.0 | 12.0 | 10.9 | 10.1 | --- | --- | --- | --- |
| 30 | 11.2 | 11.0 | 9.6 | 8.8 | 12.5 | 11.9 | 10.5 | 10.1 | --- | --- | 11.2 | 10.8 |
| 31 | 11.1 | 10.8 | --- | --- | 12.5 | 12.0 | 10.4 | 9.7 | --- | --- | 11.4 | 10.8 |
| MONTH | 13.1 | 7.3 | 12.3 | 8.5 | 14.4 | 9.4 | 13.0 | 9.7 | 13.7 | 9.6 | 13.5 | 9.6 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 10.8 | 10.2 | 8.9 | 8.5 | 6.7 | 6.0 | 7.4 | 6.3 | 6.5 | 6.3 | 7.2 | 5.5 |
| 2 | 10.5 | 9.8 | 8.4 | 8.3 | 7.3 | 5.8 | 7.6 | 6.2 | 7.7 | 6.4 | --- | --- |
| 3 | 10.3 | 9.7 | 8.2 | 8.0 | 7.4 | 7.0 | 6.9 | 6.3 | 8.5 | 6.5 | --- | --- |
| 4 | 10.2 | 9.7 | 7.9 | 7.6 | 7.4 | 6.8 | 6.9 | 5.5 | 9.1 | 6.2 | --- | --- |
| 5 | 10.2 | 9.7 | 7.6 | 7.4 | 7.2 | 6.7 | --- | --- | 8.3 | 6.1 | --- | --- |
| 6 | 11.0 | 10.7 | 7.5 | 7.3 | 7.7 | 6.5 | 7.4 | 6.7 | 8.3 | 6.5 | --- | --- |
| 7 | 11.3 | 10.9 | 7.5 | 7.1 | 8.2 | 7.7 | 6.8 | 5.8 | 6.7 | 5.4 | --- | --- |
| 8 | 11.4 | 11.1 | 7.5 | 7.2 | 8.4 | 8.1 | 6.1 | 5.2 | 5.5 | 4.4 | --- | --- |
| 9 | 11.9 | 11.1 | 7.8 | 7.4 | 8.2 | 7.3 | 5.6 | 4.9 | 8.0 | 5.2 | --- | --- |
| 10 | 11.7 | 10.5 | 9.1 | 7.8 | 8.4 | 7.7 | 5.5 | 4.8 | 7.9 | 6.9 | --- | --- |
| 11 | 11.0 | 9.9 | 9.3 | 9.0 | 8.1 | 7.7 | 6.3 | 4.8 | 7.5 | 7.1 | --- | --- |
| 12 | 10.3 | 9.6 | 9.3 | 8.9 | 8.1 | 7.3 | 5.7 | 4.9 | 7.3 | 6.8 | --- | --- |
| 13 | 10.3 | 9.1 | 9.0 | 8.7 | 7.4 | 6.9 | 5.7 | 4.9 | 7.1 | 6.7 | --- | --- |
| 14 | 10.0 | 9.1 | 9.1 | 8.6 | 7.4 | 6.7 | 6.9 | 4.9 | 7.1 | 6.6 | 6.2 | 5.1 |
| 15 | --- | --- | 8.7 | 8.4 | 7.0 | 5.9 | 7.2 | 6.2 | 7.7 | 6.4 | 5.7 | 5.2 |
| 16 | --- | --- | 8.6 | 8.4 | 7.7 | 5.8 | 7.0 | 5.8 | 6.5 | 6.3 | 5.6 | 5.1 |
| 17 | --- | --- | 8.7 | 8.3 | 7.2 | 6.8 | 6.6 | 5.1 | 7.4 | 5.9 | 6.1 | 5.3 |
| 18 | --- | --- | 8.6 | 8.2 | 7.4 | 6.2 | 6.4 | 5.1 | 7.3 | 6.6 | 6.5 | 5.8 |
| 19 | --- | --- | 8.3 | 7.8 | 7.8 | 7.1 | 6.4 | 5.1 | 7.4 | 6.5 | 6.3 | 6.0 |
| 20 | --- | --- | 7.9 | 7.3 | 8.1 | 6.9 | 6.7 | 4.9 | 7.7 | 6.6 | 6.2 | 5.9 |
| 21 | --- | --- | 7.8 | 7.0 | 8.3 | 7.6 | 6.8 | 5.4 | 8.1 | 7.0 | 6.3 | 6.2 |
| 22 | --- | --- | 7.7 | 6.8 | 8.4 | 7.6 | 6.1 | 5.2 | 8.0 | 6.8 | 6.6 | 6.3 |
| 23 | --- | --- | 7.0 | 6.1 | 8.4 | 7.5 | 6.9 | 4.9 | 7.9 | 6.7 | --- | --- |
| 24 | --- | --- | 7.1 | 6.6 | 8.4 | 7.9 | 7.7 | 6.7 | --- | --- | --- | --- |
| 25 | --- | --- | 7.8 | 6.9 | 8.1 | 7.4 | 6.6 | 6.2 | 8.4 | 7.5 | --- | --- |
| 26 | --- | --- | 8.1 | 7.7 | 7.6 | 6.5 | 6.8 | 6.3 | 8.4 | 5.1 | --- | --- |
| 27 | --- | --- | 8.1 | 7.5 | 7.0 | 5.8 | 6.8 | 6.2 | 7.4 | 5.4 | --- | --- |
| 28 | 9.2 | 8.7 | 8.0 | 7.3 | 7.5 | 5.8 | 6.7 | 6.2 | 8.7 | 6.2 | --- | --- |
| 29 | 8.9 | 8.7 | 7.6 | 6.9 | 7.5 | 7.0 | 6.8 | 6.1 | 7.8 | 6.0 | --- | --- |
| 30 | 9.1 | 8.7 | 7.0 | 6.1 | 8.3 | 6.6 | 6.5 | 5.8 | --- | --- | --- | --- |
| 31 | --- | --- | 6.7 | 6.2 | --- | --- | 6.4 | 5.8 | --- | --- | --- | --- |
| MONTH | 11.9 | 8.7 | 9.3 | 6.1 | 8.4 | 5.8 | 7.7 | 4.8 | 9.1 | 4.4 | 7.2 | 5.1 |
| YEAR | 14.4 | 4.4 | | | | | | | | | | |

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

RESERVOIRS IN MUSKINGUM RIVER BASIN, OH

- 03119500 BOLIVAR RESERVOIR NEAR BOLIVAR.--Lat 40°38'56", long 81°25'57", Tuscarawas County, Hydrologic Unit 05040001, in gate house of dam on Sandy Creek, 1.1 mi (1.8 km) east of Bolivar. DRAINAGE AREA, 504 mi² (1,305 km²). PERIOD OF RECORD, June 1938 to current year. Month-end contents prior to September 1939 published in WSP 1305. GAGE, water-stage recorder. Datum of gage is 895.0 ft (272.80 m) above mean sea level, adjustment of 1912; gage readings have been reduced to elevations above mean sea level.
- Reservoir is formed by earthfill dam completed Nov. 15, 1937. Usable capacity 149,500 acre-ft (184 hm³) between elevations 895.0 ft (272.80 m) (lowest outlet), and 962.0 ft (293.22 m) (crest of spillway). Dead storage below elevation 895.0 ft (272.80 m), 113 acre-ft (139,000 m³). Figures given herein represent usable contents. Reservoir is used for flood control only. There are no gates on spillway and all regulation is done by gates in conduits through dam. Water-stage recorder graph and capacity curve furnished by Corps of Engineers.
- EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 63,320 acre-ft (78.1 hm³) Jan. 26, 1959, elevation, 944.01 ft (287.734 m); minimum, 62 acre-ft (76,400 m³) Oct. 9, 1933, elevation, 896.30 ft (273.192 m).
- EXTREMES FOR CURRENT YEAR.--Maximum contents, 39,750 acre-ft (49.0 hm³) Apr. 8, elevation, 935.90 ft (285.262 m); minimum, 121 acre-ft (149,000 m³) June 23, 24, 25, 27, 28, Sept. 12, elevation, 897.20 ft (273.467 m).
- 03120000 LEESVILLE LAKE NEAR LEESVILLE.--Lat 40°28'15", long 81°11'40", in E 1/2 sec. 36, T.13 N., R.6 W., Carroll County, Hydrologic Unit 05040001, in gate house of dam on McGuire Creek, 1.4 mi (2.3 km) northeast of Leesville. DRAINAGE AREA, 48.3 mi² (125 km²). PERIOD OF RECORD, April 1938 to current year. Prior to October 1971 published as Leesville Reservoir. Month-end contents prior to September 1939, published in WSP 1305. GAGE, water-stage recorder. Datum of gage is 928.0 ft (282.85 m) above mean sea level, adjustment of 1912; gage readings have been reduced to elevations above mean sea level.
- Lake is formed by earthfill dam completed Oct. 22, 1937. Usable capacity 37,070 acre-ft (45.7 hm³) between elevations 928.0 ft (282.85 m) (lowest outlet), and 977.5 ft (297.94 m) (crest of spillway), of which 19,170 acre-ft (23.6 hm³) is in the conservation pool. Dead storage below elevation 928.0 ft (282.85 m), 329 acre-ft (406,000 m³). Figures given herein represent usable contents. Lake is used for flood control and conservation. There are no gates on spillway and all regulation is done by gates in conduit through dam. Water-stage recorder graph and capacity curve furnished by Corps of Engineers.
- EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 26,430 acre-ft (32.6 hm³) Apr. 17, 1948, elevation, 969.59 ft (295.531 m); minimum, 41 acre-ft (50,600 m³) Oct. 9-25, 1939, elevation, 928.38 ft (282.970 m), but may have been less during period Sept. 18-24, 1940.
- EXTREMES FOR CURRENT YEAR.--Maximum contents, 21,080 acre-ft (26.0 hm³) June 18, elevation, 964.87 ft (294.092 m); minimum, 11,340 acre-ft (14.0 hm³) Oct. 19, Jan. 9, Feb. 10, 11, elevation, 954.02 ft (290.785 m).
- 03121000 ATWOOD LAKE NEAR NEW CUMBERLAND.--Lat 40°31'34", long 81°17'09", in SE 1/4 sec. 28, T.15 N., R.7 W., Tuscarawas County, Hydrologic Unit 05040001, in gate house of dam on Indian Fork, 1.5 mi (2.4 km) southeast of New Cumberland. DRAINAGE AREA, 69.9 mi² (181 km²). PERIOD OF RECORD, June 1938 to current year. Prior to October 1971 published as Atwood Reservoir. Month-end contents prior to September 1939 published in WSP 1305. GAGE, water-stage recorder. Datum of gage is 890.0 ft (271.27 m) above mean sea level; gage readings have been reduced to elevations above mean sea level. Prior to Oct. 11, 1936, nonrecording gage at same site and datum.
- Lake is formed by earthfill dam completed Sept. 23, 1937. Usable capacity 49,690 acre-ft (61.3 hm³) between elevations 890.0 ft (271.27 m) (lowest outlet), and 941.0 ft (286.82 m) (crest of spillway), of which 23,590 acre-ft (29.1 hm³) is in the conservation pool. Dead storage below elevation 890.0 ft (271.27 m), 8 acre-ft (9,860 m³). Figures given herein represent usable contents. Lake is used for flood control and conservation. There are no gates on spillway and all regulation is done by gates in conduits through dam. Water-stage recorder graph and capacity curve furnished by Corps of Engineers.
- EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 35,210 acre-ft (43.4 hm³) Feb. 8, 1952, elevation, 934.51 ft (284.839 m); minimum, 2.2 acre-ft (2,710 m³) Jan. 8, 9, 1940, elevation, 890.36 ft (271.382 m).
- EXTREMES FOR CURRENT YEAR.--Maximum contents, 29,170 acre-ft (36.0 hm³) Apr. 8, elevation, 931.32 ft (283.866 m); minimum, 15,860 acre-ft (19.6 hm³) Jan. 31, Feb. 1, 2, elevation, 922.39 ft (281.144 m).
- 03122000 DOVER LAKE NEAR DOVER.--Lat 40°33'29", long 81°24'46", in SW 1/4 sec. 6, T.9 N., R.1 W., Tuscarawas County, Hydrologic Unit 05040001, in gate house of dam on Tuscarawas River, 4.2 mi (6.8 km) northeast of Dover. DRAINAGE AREA, 1,404 mi² (3,636 km²). PERIOD OF RECORD, June 1938 to current year. Prior to October 1971 published as Dover Reservoir. Month-end contents prior to September 1939 published in WSP 1305. GAGE, water-stage recorder. Datum of gage is 858.0 ft (261.52 m) above mean sea level, adjustment of 1912; gage readings have been reduced to elevations above mean sea level. Prior to Sept. 22, 1938, nonrecording gage at same site and datum.
- Lake is formed by concrete dam completed Nov. 29, 1937. Usable capacity 203,000 acre-ft (250 hm³) between elevations 862.0 ft (262.74 m) (lowest outlet), and 916.0 ft (279.20 m) (crest of spillway), of which 1,000 acre-ft (1.23 hm³) is in conservation pool. No dead storage. Figures given herein represent usable contents. Lake is used for flood control and conservation. There are no gates on spillway and all regulation is done by gates in conduits through dam. Water-stage recorder graph and capacity curve furnished by Corps of Engineers.
- EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 109,000 acre-ft (134 hm³) July 12, 1969, elevation, 905.00 ft (275.844 m); no contents several days during most years.
- EXTREMES FOR CURRENT YEAR.--Maximum contents, 10,070 acre-ft (12.4 hm³) Apr. 5, 6, elevation, 883.20 ft (269.199 m); minimum, 0.1 acre-ft (123 m³) June 1, elevation, 865.02 ft (263.658 m).
- 03123500 BEACH CITY LAKE NEAR BEACH CITY.--Lat 40°38'06", long 81°33'30", in T.10 N., R.3 W., Tuscarawas County, Hydrologic Unit 05040001, in gate house of dam on Sugar Creek, 1.6 mi (2.6 km) southeast of Beach City. DRAINAGE AREA, 300 mi² (777 km²). PERIOD OF RECORD, June 1938 to current year. Prior to October 1971 published as Beach City Reservoir. Month-end contents prior to September 1939 published in WSP 1305. GAGE, water-stage recorder. Datum of gage is 931.0 ft (283.77 m) above mean sea level, adjustment of 1912; gage readings have been reduced to elevations above mean sea level. Prior to Feb. 4, 1939, nonrecording gage at same site and datum.
- Lake is formed by earthfill dam completed Aug. 13, 1937. Usable capacity 71,650 acre-ft (88.3 hm³) between elevations 931.0 ft (283.77 m) (lowest outlet), and 976.5 ft (297.64 m) (crest of spillway), of which 1,700 acre-ft (2.10 hm³) is in conservation pool. No dead storage. Figures given herein represent usable contents. Lake is used for flood control and conservation. There are no gates on spillway and all regulation is done by gates in conduits through dam. Water-stage recorder graph and capacity curve furnished by Corps of Engineers.
- EXTREMES FOR PERIOD OF RECORD: Maximum contents, 70,120 acre-ft (86.5 hm³) July 6, 1969, elevation, 976.25 ft (297.561 m); minimum, 1.1 acre-ft (1,360 m³) several days in September and October 1939, elevation, 931.60 ft (283.952 m).
- EXTREMES FOR CURRENT YEAR: Maximum contents, 14,520 acre-ft (17.9 hm³) Apr. 6, elevation, 960.72 ft (292.827 m); minimum, 1,900 acre-ft (2.34 hm³) June 1, elevation, 948.43 ft (289.081 m).

RESERVOIRS IN MUSKINGUM RIVER BASIN, OH--Continued

03125500 PIEDMONT LAKE AT PIEDMONT.--Lat 40°11'31", long 81°12'57", in SE 1/4 sec. 35, T.10 N., R.6 W., Harrison County, Hydrologic Unit 05040001, in gate house of dam on Stillwater Creek, 0.4 mi (0.6 km) west of Piedmont. DRAINAGE AREA, 85.9 mi² (222 km²). PERIOD OF RECORD, May 1938 to current year. Prior to October 1971 published as Piedmont Reservoir. Month-end contents prior to September 1939 published in WSP 1305. GAGE, water-stage recorder. Datum of gage is 881.75 ft (268.757 m) above mean sea level, adjustment of 1912; gage readings have been reduced to elevations above mean sea level.

Lake is formed by earthfill dam completed May 22, 1937. Usable capacity 64,990 acre-ft (80.1 hm³) between elevations 881.75 ft (lowest outlet), and 924.6 ft (281.82 m) (crest of spillway), of which 33,500 acre-ft (41.3 hm³) is in the conservation pool. Dead storage below elevation 881.75 ft (268.757 m), 71 acre-ft (87,500 m³). Figures given herein represent usable contents. Lake is used for flood control and conservation. There are no gates on spillway and all regulation is done by gates in tunnel through abutment of dam. Water-stage recorder graph and capacity curve furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD: Maximum contents, 46,650 acre-ft (57.5 hm³) June 11, 12, 1947, elevation, 918.33 ft (279.907 m); minimum, 26 acre-ft (32,100 m³) Sept. 18-25, 1939, elevation, 882.25 ft (268.910 m).

EXTREMES FOR CURRENT YEAR: Maximum contents, 39,350 acre-ft (48.5 hm³) Apr. 7, elevation, 915.48 ft (279.038 m); minimum, 22,170 acre-ft (27.3 hm³) Jan. 2, 3, elevation, 907.49 ft (276.603 m).

03126500 CLENDENING LAKE NEAR TIPPECANOE.--Lat 40°16'10", long 81°16'43", in NW 1/4 sec. 16, T.12 N., R.7 W., Harrison County, Hydrologic Unit 05040001, in gate house of dam on Brushy Fork, 0.6 mi (1.0 km) east of Tippecanoe. DRAINAGE AREA, 69.3 mi² (179 km²). PERIOD OF RECORD, June 1938 to current year. Prior to October 1971 published as Clendenning Reservoir. Month-end contents prior to September 1939 published in WSP 1305. GAGE, water-stage recorder. Datum of gage is 862.00 ft (262.738 m) above mean sea level, adjustment of 1912; gage readings have been reduced to elevations above mean sea level. Prior to July 11, 1938, nonrecording gage at same site and datum.

Lake is formed by earthfill dam completed Nov. 1, 1937. Usable capacity 53,970 acre-ft (66.5 hm³) between elevations 862.0 ft (262.74 m) (lowest outlet), and 910.5 ft (277.52 m) (crest of spillway), of which 26,470 acre-ft (32.6 hm³) is in the conservation pool. Dead storage below elevation 862.0 ft (262.74 m) 27 acre-ft (33,300 m³). Figures given herein represent usable contents. Lake is used for flood control and conservation. There are no gates on spillway and all regulation is done by gates in tunnel through abutment of dam. Water-stage recorder graph and capacity curve furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD: Maximum contents, 38,060 acre-ft (46.9 hm³) Feb. 7, 1952, elevation, 903.85 ft (275.493 m); minimum, 5.9 acre-ft (7,270 m³) Nov. 4, 1938, elevation, 862.33 ft (262.838 m).

EXTREMES FOR CURRENT YEAR: Maximum contents, 31,510 acre-ft (38.9 hm³) Apr. 8, elevation, 900.65 ft (274.518 m); minimum, 18,220 acre-ft (22.5 hm³) Jan. 3, 4, elevation, 892.62 ft (272.132 m).

03128000 TAPPAN LAKE NEAR TAPPAN.--Lat 40°21'24", long 81°13'38", in NW 1/4 sec. 4, T.13 N., R.7 W., Harrison County, Hydrologic Unit 05040001, in gate house of dam on Little Stillwater Creek, 0.9 mi (1.4 km) west of Tappan. DRAINAGE AREA, 71.1 mi² (184 km²). PERIOD OF RECORD, May 1938 to current year. Prior to October 1971 published as Tappan Reservoir. Month-end contents prior to September 1939 published in WSP 1305. GAGE, water-stage recorder. Datum of gage is 870.0 ft (265.18 m) above mean sea level, adjustment of 1912; gage readings have been reduced to elevations above mean sea level.

Lake is formed by earthfill dam completed Oct. 24, 1936. Usable capacity 61,500 acre-ft (75.8 hm³) between elevations 870.0 ft (265.18 m) (lowest outlet), and 909.0 ft (277.06 m) (crest of spillway), of which 35,070 acre-ft (43.2 hm³) is in conservation pool. Dead storage below elevation 870.0 ft (265.18 m), 46 acre-ft (56,700 m³). Figures given herein represent usable contents. Lake is used for flood control and conservation. There are no gates on spillway and all regulation is done by gates in tunnel through dam. Water-stage recorder graph and capacity curve furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD: Maximum contents, 48,440 acre-ft (59.7 hm³) Feb. 5, 6, 1952, elevation, 904.53 ft (275.701 m); no contents Sept. 29, 1939.

EXTREMES FOR CURRENT YEAR: Maximum contents, 39,860 acre-ft (49.1 hm³) Apr. 8, elevation, 901.27 ft (274.707 m); minimum, 23,430 acre-ft (28.9 hm³) Feb. 2-12, elevation, 893.88 ft (272.455 m).

03129500 CHARLES MILL LAKE NEAR MIFFLIN.--Lat 40°44'26", long 82°21'47", in NE 1/4 sec. 35, T.23 N., R.17 W., Ashland County, Hydrologic Unit 05040002, in gate house of dam on Black Fork, 2.5 mi (4.0 km) south of Mifflin. DRAINAGE AREA, 215 mi² (557 km²). PERIOD OF RECORD, April 1938 to current year. Prior to October 1971 published as Charles Mill Reservoir. Month-end contents prior to September 1939 published in WSP 1305. GAGE, water-stage recorder. Datum of gage is 987.0 ft (300.84 m) above mean sea level, adjustment of 1912; gage readings have been reduced to elevations above mean sea level.

Lake is formed by earthfill dam completed Aug. 17, 1936. Usable capacity 87,690 acre-ft (108 hm³) between elevations 987.0 ft (300.84 m) (lowest outlet), and 1,020.0 ft (310.90 m) (crest of spillway), of which 7,090 acre-ft (8.74 hm³) is in the conservation pool. Dead storage below elevation 987.0 ft (300.84 m), 310 acre-ft (382,000 m³). Figures given herein represent usable contents. Lake is used for flood control and conservation. There are no gates on spillway and all regulation is done by gates in conduits through dam or through bypass gate around conservation weir. Water-stage recorder graph and capacity curve furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD: Maximum contents, 53,480 acre-ft (65.9 hm³) Jan. 25, 1959, elevation, 1,013.53 ft (308.924 m); minimum, 733 acre-ft (904,000 m³) Dec. 24, 1965, elevation, 989.89 ft (301.718 m).

EXTREMES FOR CURRENT YEAR: Maximum contents, 17,740 acre-ft (21.9 hm³) Apr. 6, elevation, 1,003.10 ft (305.745 m); minimum, 2,420 acre-ft (2.98 hm³) Dec. 22-23, elevation, 992.79 ft (302.602 m).

03133000 PLEASANT HILL LAKE NEAR PERRYSVILLE.--Lat 40°37'26", long 82°19'33", in NE 1/4 sec. 7, T.19 N., R.16 W., Ashland County, Hydrologic Unit 05040002, in gate house of dam on Clear Fork, 2.5 mi (4.0 km) south of Perrysville. DRAINAGE AREA, 197 mi² (510 km²). PERIOD OF RECORD, May 1938 to current year. Prior to October 1971 published as Pleasant Hill Reservoir. Month-end contents prior to September 1939 published in WSP 1305. GAGE, water-stage recorder. Datum of gage is 971.75 ft (296.189 m) above mean sea level, adjustment of 1912; gage readings have been reduced to elevations above mean sea level.

Lake is formed by earthfill dam completed Feb. 1, 1938. Usable capacity 87,640 acre-ft (108 hm³) between elevations 971.75 ft (296.189 m) (lowest outlet), and 1,065.0 ft (324.61 m) (crest of spillway), of which 13,510 acre-ft (16.7 hm³) is in the conservation pool. Dead storage below elevation 971.75 ft (296.189 m), 12 acre-ft (14,800 m³). Figures given herein represent usable contents. Lake is used for flood control and conservation. There are no gates on spillway and all regulation is done by gates in tunnel through dam. Water-stage recorder graph and capacity curve furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD: Maximum contents, 43,530 acre-ft (53.7 hm³) Jan. 23, 1959, elevation, 1,044.01 ft (318.214 m); minimum, 74 acre-ft (91,200 m³) May 8, 1936, elevation, 976.63 ft (297.677 m).

EXTREMES FOR CURRENT YEAR: Maximum contents, 21,310 acre-ft (26.3 hm³) Apr. 5, elevation, 1,028.04 ft (313.347 m); minimum, 7,940 acre-ft (9.79 hm³) Jan. 18, 19, elevation, 1,012.35 ft (308.564 m).

RESERVOIRS IN MUSKINGUM RIVER BASIN, OH--Continued

- 03134500 MOHICANVILLE RESERVOIR NEAR MOHICANVILLE.--Lat 40°43'28", long 82°09'08", in SE 1/4 sec. 34, T.21 N., R.15 W., Ashland County, Hydrologic Unit 05040002, in gate house of dam on Lake Fork, 2 mi (3 km) east of Mohicanville. DRAINAGE AREA, 271 mi² (702 km²). PERIOD OF RECORD, May 1938 to current year. Month-end contents prior to September 1939 published in WSP 1305. GAGE, water-stage recorder. Datum of gage is 932.0 ft (284.07 m) above mean sea level, adjustment of 1912; gage readings have been reduced to elevations above mean sea level.
- Reservoir is formed by earthfill dam completed Dec. 24, 1936. Usable capacity 102,000 acre-ft (126 hm³) between elevations 932.0 ft (284.07 m) (lowest outlet), and 963.0 ft (293.52 m) (crest of spillway). Dead storage below elevation 932.0 ft (284.07 m), 18 acre-ft (22,200 m³). Figures given herein represent usable contents. Reservoir is used for flood control only. There are no gates on spillway and all regulation is done by gates in conduits through dam. Water-stage recorder graph and capacity curve furnished by Corps of Engineers.
- EXTREMES FOR PERIOD OF RECORD: Maximum contents, 96,330 acre-ft (119 hm³) July 7, 1969, elevation, 962.35 ft (293.324 m); minimum, 9.9 acre-ft (12,200 m³) several days in 1941, 1944, 1945; minimum elevation, 932.38 ft (284.189 m) several days in August, September, October, 1941.
- EXTREMES FOR CURRENT YEAR: Maximum contents, 11,090 acre-ft (13.7 hm³) Apr. 6, elevation, 947.28 ft (288.731 m); minimum, 37 acre-ft (45,621 m³) several days in December, elevation, 933.28 ft (284.463 m).
- 03136300 NORTH BRANCH KOKOSING RIVER LAKE NEAR FREDERICKTOWN.--Lat 40°30'24", long 82°34'36", in SW 1/4 sec. 19, T.8 N., R.14 W., Knox County, Hydrologic Unit 05040003, at dam on North Branch Kokosing River, 2.5 mi (4.0 km) northwest of Fredericktown, and 3.0 mi (4.8 km) upstream from East Branch Kokosing River. DRAINAGE AREA, 44.5 mi² (115 km²). PERIOD OF RECORD, July 1973 to current year. GAGE, water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).
- Lake is formed by earthfill dam, with uncontrolled saddle spillway; storage began June 1972. Usable capacity, 940 acre-ft (1.16 hm³) between elevation, 1,108.0 ft (337.72 m) (invert of lowest outlet), and 1,121.0 ft (341.68 m) (uncontrolled entrance to outlet works). Dead storage below elevation, 1,108.0 ft (337.72 m), 103 acre-ft (127,000 m³). Additional flood retention capacity 13,840 acre-ft (17.1 hm³) between 1,121.0 ft (341.68 m) and 1,146.0 ft (349.30 m) (crest of spillway). Figures given herein represent usable contents. Reservoir is used for flood control, recreation, and conservation. Lowest outlet is normally closed to maintain a pool elevation of 1,121.0 ft (341.68 m). Capacity table furnished by Corps of Engineers.
- EXTREMES FOR PERIOD OF RECORD: Maximum contents, 5,620 acre-ft (6.93 hm³) Feb. 24, 1975, elevation, 1,134.98 ft (345.942 m); minimum, 797 acre-ft (0.982 hm³) Mar. 3, 1976, elevation, 1,120.01 ft (341.379 m).
- EXTREMES FOR CURRENT YEAR: Maximum contents, 1,480 acre-ft (1.82 hm³) Mar. 13, elevation, 1,123.88 ft (342.559 m); minimum, 779 acre-ft (0.961 hm³) Apr. 10, elevation, 1,119.86 ft (341.333 m).
- 03138000 MOHAWK RESERVOIR NEAR NELLIE.--Lat 40°21'12", long 82°05'12", in SW 1/4 sec. 6, T.6 N., R.8 W., Coshocton County, Hydrologic Unit 05040003, in gate house of dam on Walhonding River, 1.5 mi (2.4 km) northwest of Nellie. DRAINAGE AREA, 1,504 mi² (3,895 km²). PERIOD OF RECORD, April 1938 to current year. Month-end contents prior to September 1939 published in WSP 1305. GAGE, water-stage recorder. Datum of gage is 799.2 ft (243.60 m) above mean sea level, adjustment of 1912; gage readings have been reduced to elevations above mean sea level.
- Reservoir is formed by earthfill dam completed Sept. 22, 1937. Usable capacity 284,900 acre-ft (351 hm³) between elevations 799.2 ft (243.60 m) (lowest outlet), and 890.0 ft (271.27 m) (crest of spillway). Dead storage below elevation 799.2 ft (243.60 m), 59 acre-ft (72,700 m³). Figures given herein represent usable contents. Reservoir is used for flood control only. There are no gates on spillway and all regulation is done by gates in tunnels through dam. Water-stage recorder graph and capacity curve furnished by Corps of Engineers.
- EXTREMES FOR PERIOD OF RECORD: Maximum contents, 176,000 acre-ft (217 hm³) Jan. 25, 1959, elevation, 873.94 ft (266.377 m); minimum, 44 acre-ft (54,300 m³) Sept. 21, Oct. 4, 1955; minimum elevation, 800.35 ft (243.947 m) Oct. 4, 1955, from graph based on gage readings.
- EXTREMES FOR CURRENT YEAR: Maximum contents, 48,280 acre-ft (59.5 hm³) Apr. 6, elevation, 845.17 ft (257.608 m); minimum, 74 acre-ft (91,200 m³) Sept. 14, elevation, 801.02 ft (244.151 m).
- 03141000 SENECAVILLE LAKE NEAR SENECAVILLE.--Lat 39°55'31", long 81°26'06", Guernsey County, Hydrologic Unit 05040005, in gate house of dam on Seneca Fork, 1.5 mi (2.4 km) southeast of Senecaville. DRAINAGE AREA, 118 mi² (306 km²). PERIOD OF RECORD, June 1938 to current year. Prior to October 1971 published as Senecaville Reservoir. Month-end contents prior to September 1939 published in WSP 1305. GAGE, water-stage recorder. Datum of gage is 812.05 ft (247.513 m) above mean sea level, adjustment of 1912; gage readings have been reduced to elevations above mean sea level. Prior to Sept. 21, 1938, nonrecording gage at same site and datum.
- Lake is formed by earthfill dam completed May 14, 1937. Usable capacity 86,340 acre-ft (106 hm³) between elevations 812.05 ft (247.513 m) (lowest outlet), and 842.5 ft (256.79 m) (top of taintor gates), of which 41,300 acre-ft (50.9 hm³) is in conservation pool. Usable capacity at elevation 831.0 ft (253.29 m) (crest of spillway), 37,180 acre-ft (45.8 hm³). Dead storage below elevation 812.05 ft (247.513 m), 1,950 acre-ft (2.40 hm³). Figures given herein represent usable contents. Taintor gates normally remain closed to maintain conservation pool at elevation 832.2 ft (253.65 m) and outflow is controlled by gates in conduits through dam. Lake is used for flood control and conservation. Water-stage recorder graph and capacity curve furnished by Corps of Engineers.
- EXTREMES FOR PERIOD OF RECORD: Maximum contents, 61,430 acre-ft (75.7 hm³) Mar. 24, 1945, elevation, 837.27 ft (255.200 m); minimum, 360 acre-ft (444,000 m³) Oct. 22, 23, 1939, elevation, 812.53 ft (247.659 m).
- EXTREMES FOR CURRENT YEAR: Maximum contents, 51,150 acre-ft (63.1 hm³) Apr. 7, elevation, 834.80 ft (254.447 m); minimum, 28,290 acre-ft (34.9 hm³) Jan. 20-Feb. 3, elevation, 828.13 ft (252.414 m).
- 03142290 SALT FORK RESERVOIR NEAR CAMBRIDGE.--Lat 40°06'15", long 81°33'15", in T.3 N., R.3 W., Guernsey County, Hydrologic Unit 05040005, at outlet works near left end of dam on Salt Fork, 0.8 mi (1.3 km) upstream from mouth, 5.0 mi (8.0 km) north of Cambridge, and 3.5 mi (5.6 km) south of Kimbolton. DRAINAGE AREA, 159 mi² (412 km²). PERIOD OF RECORD, September 1968 to current year. GAGE, water-stage recorder. Datum of gage is 700.00 ft (213.360 m) above mean sea level; gage readings have been reduced to elevations above mean sea level.
- Reservoir is formed by earthfill dam with concrete morning-glory spillway and emergency spillway cut in natural rock; storage began Dec. 30, 1967. Usable capacity, 41,950 acre-ft (51.7 hm³) between elevations 772.5 ft (235.46 m) (invert of lowest outlet), and 800.0 ft (243.84 m) (crest of morning-glory spillway). Dead storage below elevation 772.5 ft (235.46 m), 1,250 acre-ft (1.54 hm³). Additional flood-retention capacity, 28,600 acre-ft (35.3 hm³) between elevations 800.0 ft (243.84 m) and 808.0 ft (246.28 m) (crest of emergency spillway). Figures given herein represent usable contents. There are no gates on spillway and all regulation is done by conduits through dam. Reservoir is used for recreation, flood control, and future municipal supply. Capacity curve furnished by State Department of Natural Resources.
- EXTREMES FOR PERIOD OF RECORD: Maximum contents, 60,500 acre-ft (74.6 hm³) Feb. 24, 1975, elevation, 805.46 ft (245.504 m); minimum, 12,200 acre-ft (15.0 hm³) Oct. 17, 1968, elevation, 786.53 ft (239.734 m).
- EXTREMES FOR CURRENT YEAR: Maximum contents, 57,530 acre-ft (70.9 hm³) Apr. 5, elevation, 804.66 ft (245.260 m); minimum, 42,850 acre-ft (52.8 hm³) Sept. 11, elevation, 800.29 ft (243.928 m).

MUSKINGUM RIVER BASIN

RESERVOIRS IN MUSKINGUM RIVER BASIN, OH--Continued

03143000 WILLS CREEK LAKE NEAR WILLS CREEK.--Lat 40°09'25", long 81°51'00", in SE 1/4 sec. 23, T.4 N., R.6 W., Coshocton County, Hydrologic Unit 05040005, in gate house of dam on Wills Creek, 1.3 mi (2.1 km) south of village of Wills Creek, and 4.0 mi (6.4 km) southwest of Conesville. DRAINAGE AREA, 842 mi² (2,181 km²). PERIOD OF RECORD, April 1938 to current year. Prior to October 1971 published as Wills Creek Reservoir. Month-end contents prior to September 1939 published in WSP 1305. GAGE, water-stage recorder. Datum of gage is 733.0 ft (223.42 m) above mean sea level, adjustment of 1912; gage readings have been reduced to elevations above mean sea level.

Lake is formed by earthfill dam completed Oct. 13, 1937. Usable capacity, 194,400 acre-ft (240 hm³) between elevations 733.0 ft (223.42 m) (lowest outlet), and 779.0 ft (237.44 m) (crest of spillway), of which 4,420 acre-ft (5.45 hm³) is in conservation pool. Dead storage below elevation 733.0 ft (223.42 m), 1,580 acre-ft (1.95 hm³). Figures given herein represent usable contents. Lake is used for flood control and conservation. There are no gates on spillway and all regulation is done by gates in conduits through dam. Water-stage recorder graph and capacity curve furnished by Corps of Engineers.

EXTREMES FOF PERIOD OF RECORD: Maximum contents, 169,700 acre-ft (209 hm³) Mar. 15, 1964, elevation, 776.73 ft (236.747 m); minimum, 300 acre-ft (370,000 m³) Oct. 22, 23, 1939, elevation, 734.10 ft (223.754 m).

EXTREMES FOR CURRENT YEAR: Maximum contents, 52,780 acre-ft (65.1 hm³) Apr. 8, elevation, 760.63 ft (231.840 m); minimum, 4,090 acre-ft (5.04 hm³) Oct. 9, elevation, 741.61 ft (226.043 m).

03147300 DILLON LAKE NEAR DILLON FALLS.--Lat 39°59'32", lng 82°04'57", in T.1 N., R.8 W., Muskingum County, Hydrologic Unit 05040006, in outlet works of control tower at dam on Licking River, 2 mi (3 km) northwest of Dillon Falls, and 5.8 mi (9.3 km) upstream from mouth at Zanesville. DRAINAGE AREA, 742 mi² (1,922 km²). PERIOD OF RECORD, January 1961 to current year. Prior to October 1971 published as Dillon Reservoir. GAGE, water-stage recorder. Datum of gage is at mean sea level.

Lake formed by earth dam with concrete spillway; closure of dam made July 29, 1959; storage to maintain conservation pool began Dec. 17, 1960. Usable capacity 274,000 acre-ft (338 hm³) between elevations 704.0 ft (214.58 m) (lowest outlet), and 790.0 ft (240.79 m) (crest of spillway), of which 13,170 acre-ft (16.2 hm³) is in conservation pool. Dead storage below elevation 704.0 ft (214.58 m), 30 acre-ft (37,000 m³). Figures given herein represent usable contents. Lake is used primarily for flood control. There are no gates on spillway and all regulation is done by gates in conduits through abutment of dam. Capacity curve furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD: Maximum contents, 142,600 acre-ft (176 hm³) Mar. 13, 1964, elevation, 772.88 ft (235.574 m); minimum observed, 208 acre-ft (256,000 m³) Mar. 31, 1961, elevation, 710.94 ft (216.694 m).

EXTREMES FOR CURRENT YEAR: Maximum contents, 71,700 acre-ft (88.4 hm³) Apr. 8, elevation, 757.02 ft (230.740 m); minimum, 12,990 acre-ft (16.0 hm³) Mar. 31; elevation, 733.90 ft (223.693 m).

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| Date | 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) |
|---------------|---------------------|-----------------------------|--------------------------------------|---------------------|-----------------------------|--------------------------------------|---------------------|-----------------------------|--------------------------------------|
| | 03119500 | BOLIVAR RESERVOIR | | 03120000 | LEESVILLE LAKE | | 03121000 | ATWOOD LAKE | |
| Sept. 30..... | 897.84 | 173 | - | 957.46 | 14060 | - | 927.75 | 23220 | - |
| Oct. 31..... | 899.16 | 312 | +139 | 954.22 | 11490 | -2570 | 927.84 | 23350 | +130 |
| Nov. 30..... | 898.00 | 186 | -126 | 954.12 | 11410 | -80 | 925.76 | 20260 | -3090 |
| Dec. 31..... | 897.80 | 170 | -16 | 954.06 | 11370 | -40 | 922.54 | 16040 | -4220 |
| CAL YR 1976 | - | - | -1140 | - | - | -150 | - | - | -380 |
| Jan. 31..... | 897.50 | 146 | -24 | 954.04 | 11350 | -20 | 922.39 | 15860 | -180 |
| Feb. 28..... | 925.57 | 19040 | +18894 | 955.73 | 12660 | +1310 | 927.34 | 22600 | +6740 |
| Mar. 31..... | 900.03 | 425 | -18615 | 960.83 | 17070 | +4410 | 928.25 | 23990 | +1390 |
| Apr. 30..... | 899.40 | 343 | -82 | 962.87 | 19040 | +1970 | 927.92 | 23470 | -520 |
| May 31..... | 897.40 | 137 | -206 | 962.64 | 18810 | -230 | 927.67 | 23100 | -370 |
| June 30..... | 897.72 | 163 | +26 | 962.91 | 19080 | +270 | 927.74 | 23200 | +100 |
| July 31..... | 898.20 | 207 | +44 | 962.78 | 18950 | -130 | 927.85 | 23370 | +170 |
| Aug. 31..... | 897.42 | 139 | -68 | 962.70 | 18870 | -80 | 927.73 | 23190 | -180 |
| Sept. 30..... | 898.58 | 247 | +108 | 962.74 | 18910 | +40 | 927.79 | 23280 | +90 |
| WTR YR 1977 | - | - | +74 | - | - | -4850 | - | - | +60 |
| | 03122000 | DOVER LAKE | | 03123500 | BEACH CITY LAKE | | 03125500 | PIEDMONT LAKE | |
| Sept. 30..... | 866.36 | 13 | - | 948.64 | 1990 | - | 912.68 | 32790 | - |
| Oct. 31..... | 866.54 | 17 | +4 | 949.25 | 2300 | +310 | 912.98 | 33460 | +670 |
| Nov. 30..... | 865.88 | 4.4 | -12.6 | 948.57 | 1960 | -340 | 910.49 | 28030 | -5430 |
| Dec. 31..... | 866.54 | 17 | +12.6 | 948.63 | 1990 | +30 | 907.57 | 22320 | -5710 |
| CAL YR 1976 | - | - | -399 | - | - | -1420 | - | - | -4250 |
| Jan. 31..... | 866.02 | 5.4 | -11.6 | 948.52 | 1940 | -50 | 907.75 | 22650 | +330 |
| Feb. 28..... | 874.60 | 1230 | +1224.6 | 956.60 | 8570 | +6630 | 910.56 | 28180 | +5530 |
| Mar. 31..... | 868.90 | 106 | -1124 | 946.65 | 2510 | -6060 | 912.39 | 32150 | +3970 |
| Apr. 30..... | 868.41 | 83 | -23 | 949.35 | 2350 | -160 | 913.26 | 34100 | +1950 |
| May 31..... | 865.03 | 0.2 | -82.8 | 948.48 | 1920 | -430 | 912.69 | 32810 | -1290 |
| June 30..... | 867.00 | 27 | +26.8 | 949.28 | 2310 | +390 | 912.73 | 32900 | +90 |
| July 31..... | 866.04 | 5.9 | -21.1 | 949.03 | 2180 | -130 | 912.66 | 32750 | -150 |
| Aug. 31..... | 865.85 | 4.2 | -1.7 | 948.55 | 1950 | -230 | 912.68 | 32790 | +40 |
| Sept. 30..... | 866.88 | 24 | +19.8 | 948.82 | 2080 | +130 | 912.71 | 32860 | +70 |
| WTR YR 1977 | - | - | +11 | - | - | +90 | - | - | +70 |

MUSKINGUM RIVER BASIN

173

RESERVOIRS IN MUSKINGUM RIVER BASIN, OH--Continued

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| Date | 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) |
|---------------|---------------------|-----------------------------|--------------------------------------|---------------------|-----------------------------|--------------------------------------|---------------------|-----------------------------|--------------------------------------|
| | 03126500 | CLEDENING LAKE | | | 03128000 | TAPPAN LAKE | | | 03129500 CHARLES MILL LAKE |
| Sept. 30..... | 897.64 | 25860 | - | 898.85 | 34010 | - | 997.32 | 7540 | - |
| Oct. 31..... | 897.85 | 26220 | +360 | 898.78 | 33850 | -160 | 997.37 | 7610 | +70 |
| Nov. 30..... | 896.54 | 23990 | -2230 | 896.14 | 28050 | -5800 | 996.22 | 6070 | -1540 |
| Dec. 31..... | 892.87 | 18290 | -5700 | 894.26 | 24170 | -3880 | 992.95 | 2540 | -3530 |
| CAL YR 1976 | - | - | -370 | - | - | -880 | - | - | -690 |
| Jan. 31..... | 892.95 | 18400 | +110 | 893.89 | 23440 | -730 | 993.08 | 2650 | +110 |
| Feb. 28..... | 896.04 | 23140 | +4740 | 896.49 | 28780 | +5340 | 1000.40 | 12310 | +9660 |
| Mar. 31..... | 897.34 | 25350 | +2210 | 898.67 | 33600 | +4820 | 998.28 | 8910 | -3400 |
| Apr. 30..... | 897.97 | 26420 | +1070 | 899.38 | 35270 | +1670 | 997.12 | 7260 | -1650 |
| May 31..... | 897.68 | 25930 | -490 | 899.12 | 34640 | -630 | 997.11 | 7240 | -20 |
| June 30..... | 897.77 | 26080 | +150 | 899.22 | 34880 | +240 | 997.20 | 7370 | +130 |
| July 31..... | 897.82 | 26170 | +90 | 899.33 | 35150 | +270 | 997.31 | 7520 | +150 |
| Aug. 31..... | 897.68 | 25930 | -240 | 899.25 | 34950 | -200 | 997.10 | 7230 | -290 |
| Sept. 30..... | 897.69 | 25950 | +20 | 899.06 | 34500 | -450 | 997.16 | 7310 | +80 |
| WTR YR 1977 | - | - | +90 | - | - | +490 | - | - | -230 |
| | 03133000 | PLEASANT HILL LAKE | | | 03134500 | MOHICANVILLE RESERVOIR | | | 03136300 N. B. KOKOSING RIVER LAKE |
| Sept. 30..... | 1019.43 | 13040 | -- | 933.41 | 42 | -- | 1121.39 | 1000 | -- |
| Oct. 31..... | 1019.63 | 13210 | +170 | 934.45 | 90 | +48 | 1121.85 | 1080 | +80 |
| Nov. 30..... | 1019.53 | 13130 | -80 | 933.40 | 42 | -48 | 1121.44 | 1010 | -70 |
| Dec. 31..... | 1012.53 | 8060 | -5070 | 933.30 | 38 | -4 | 1119.87 | 780 | -230 |
| CAL YR 1976 | -- | -- | -2430 | -- | -- | -1042 | -- | -- | -470 |
| Jan. 31..... | 1012.40 | 7970 | -90 | 933.32 | 38 | 0 | 1119.90 | 784 | +4 |
| Feb. 28..... | 1018.83 | 12550 | +4580 | 944.20 | 4280 | +4242 | 1121.07 | 952 | +168 |
| Mar. 31..... | 1020.46 | 13930 | +1380 | 934.75 | 106 | -4174 | 1121.79 | 1070 | +118 |
| Apr. 30..... | 1019.87 | 13410 | -520 | 934.06 | 68 | -38 | 1121.34 | 996 | -74 |
| May 31..... | 1019.65 | 13220 | -190 | 933.31 | 38 | -30 | 1121.29 | 988 | -8 |
| June 30..... | 1019.62 | 13200 | -20 | 933.43 | 43 | +5 | 1121.58 | 1040 | +52 |
| July 31..... | 1019.44 | 13050 | -150 | 933.36 | 40 | -3 | 1121.30 | 990 | -50 |
| Aug. 31..... | 1019.38 | 13000 | -50 | 933.30 | 38 | -2 | 1121.21 | 975 | -15 |
| Sept. 30..... | 1019.44 | 13050 | +50 | 933.42 | 42 | +4 | 1121.25 | 981 | +6 |
| WTR YR 1977 | -- | -- | +10 | -- | -- | 0 | -- | -- | -19 |
| | 03138000 | MOHAWK RESERVOIR | | | 03141000 | SENECAVILLE LAKE | | | 03142290 SALT FORK RESERVOIR |
| Sept. 30..... | 801.75 | 115 | -- | 832.01 | 40620 | -- | 800.39 | 43160 | -- |
| Oct. 31..... | 804.13 | 291 | +176 | 832.42 | 42090 | +1470 | 800.88 | 44680 | +1520 |
| Nov. 30..... | 801.90 | 123 | -168 | 830.00 | 33900 | -8190 | 800.54 | 43620 | -1060 |
| Dec. 31..... | 802.38 | 155 | +32 | 828.22 | 28550 | -5350 | 800.72 | 44180 | +560 |
| CAL YR 1976 | -- | -- | -1535 | -- | -- | -1760 | -- | -- | -4890 |
| Jan. 31..... | 802.36 | 153 | -2 | 828.13 | 28290 | -260 | 800.63 | 43900 | -280 |
| Feb. 28..... | 817.97 | 3890 | +3737 | 831.49 | 38850 | +10560 | 802.55 | 50120 | +6220 |
| Mar. 31..... | 806.45 | 533 | -3357 | 832.22 | 41370 | +2520 | 801.90 | 47930 | -2190 |
| Apr. 30..... | 804.39 | 316 | -217 | 832.24 | 41440 | +70 | 801.37 | 46230 | -1700 |
| May 31..... | 801.56 | 104 | -212 | 832.12 | 41010 | -430 | 800.69 | 44090 | -2140 |
| June 30..... | 802.58 | 168 | +64 | 832.02 | 40650 | -360 | 800.61 | 43840 | -250 |
| July 31..... | 801.75 | 115 | -53 | 832.59 | 42700 | +2050 | 800.51 | 43530 | -310 |
| Aug. 31..... | 801.22 | 85 | -30 | 832.64 | 42880 | +180 | 800.42 | 43560 | +30 |
| Sept. 30..... | 801.86 | 121 | +36 | 832.21 | 41330 | -1550 | 800.43 | 43280 | -280 |
| WTR YR 1977 | -- | -- | +6 | -- | -- | +710 | -- | -- | -120 |
| | 0314300 | WILLS CREEK LAKE | | | 03147300 | DILLON LAKE | | | |
| Sept. 30..... | 741.74 | 4200 | -- | 737.13 | 17670 | -- | | | |
| Oct. 31..... | 742.67 | 5080 | +880 | 737.82 | 18770 | +1100 | | | |
| Nov. 30..... | 742.64 | 5050 | -30 | 734.02 | 13150 | -5620 | | | |
| Dec. 31..... | 742.01 | 4430 | -620 | 734.04 | 13170 | +20 | | | |
| CAL YR 1976 | -- | -- | -3870 | -- | -- | +41860 | | | |
| Jan. 31..... | 741.96 | 4390 | -40 | 734.01 | 13130 | -40 | | | |
| Feb. 28..... | 746.35 | 9980 | +5590 | 747.30 | 39180 | +26050 | | | |
| Mar. 31..... | 744.27 | 6920 | -3060 | 734.11 | 13270 | -25910 | | | |
| Apr. 30..... | 744.09 | 6680 | -240 | 737.26 | 17880 | +4610 | | | |
| May 31..... | 742.01 | 4430 | -2250 | 737.20 | 17780 | -100 | | | |
| June 30..... | 742.35 | 4760 | +330 | 738.13 | 19280 | +1500 | | | |
| July 31..... | 743.42 | 5890 | +1130 | 738.21 | 19410 | +130 | | | |
| Aug. 31..... | 741.92 | 4350 | -1540 | 738.21 | 19410 | 0 | | | |
| Sept. 30..... | 741.93 | 4360 | +10 | 737.06 | 17560 | -1850 | | | |
| WTR YR 1977 | -- | -- | +160 | -- | -- | -110 | | | |

HOCKING RIVER BASIN

03156000 HUNTERS RUN AT LANCASTER, OH

LOCATION.--Lat 39°41'57", long 82°37'18", in NE 1/4 sec. 11, T.14N., R.19W., Fairfield County, Hydrologic Unit 05030204, on right bank at downstream side of bridge on U.S. Highway 22, 1.0 mi (1.6 km) southwest of Lancaster, and 1.5 mi (2.4 km) upstream from mouth.

DRAINAGE AREA.--10.0 mi² (25.9 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1956 to current year.

REVISED RECORDS.--WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 823.6 ft (251.03 m) above mean sea level.

REMARKS.--Records fair except those for winter periods, which are poor. Flood peaks affected by temporary retention in four retarding basins upstream from station, combined capacity, 2,820 acre-ft (3.48 hm³). Controlled drainage area is 8.49 mi² (22.0 km²).

AVERAGE DISCHARGE.--21 years, 9.89 ft³/s (0.280 m³/s), 13.43 in/yr (341 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,820 ft³/s (51.5 m³/s) May 27, 1968, gage height, 8.00 ft (2.438 m), from rating curve extended above 600 ft³/s (17.0 m³/s) on basis of slope-area measurement at gage height, 7.09 ft (2.161 m) and 6.53 ft (1.990 m); minimum daily, 0.08 ft³/s (0.002 m³/s) July 8, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 21 or 22, 1948 reached a stage of 15.4 ft (4.69 m), discharge, 11,200 ft³/s (317 m³/s), on basis of contracted-opening measurement of peak flow at Pennsylvania Railroad bridge, 0.8 mi (1.3 km) upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 383 ft³/s (10.8 m³/s) Sept. 2 (base, 250 ft³/s, 7.08 m³/s), gage height, 4.63 ft (1.411 m); minimum daily, 0.08 ft³/s (0.002 m³/s) July 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|---------|-------|-------|--------|-------|-------|-------|--------|-------|--------|--------|
| 1 | 31 | 13 | .70 | .79 | .77 | 9.5 | 7.7 | 4.3 | 2.5 | 9.5 | 1.6 | 14 |
| 2 | 30 | 8.3 | .84 | .79 | .76 | 8.9 | 58 | 6.4 | 2.2 | 2.2 | 1.4 | 75 |
| 3 | 29 | 6.4 | 1.9 | .79 | .76 | 7.7 | 46 | 4.3 | 2.2 | .84 | .99 | 51 |
| 4 | 1.2 | 5.6 | 1.6 | .78 | .76 | 33 | 27 | 14 | 2.2 | .56 | .99 | 8.9 |
| 5 | 1.4 | 5.0 | 1.9 | .79 | .76 | 21 | 40 | 12 | 2.2 | .44 | .84 | 2.2 |
| 6 | 3.1 | 4.3 | 3.8 | .79 | .76 | 14 | 26 | 14 | 2.5 | .20 | 1.2 | 1.2 |
| 7 | 3.1 | 4.3 | 3.7 | .79 | .76 | 11 | 20 | 16 | 2.5 | .13 | 7.7 | .84 |
| 8 | 2.2 | 3.8 | 3.2 | .79 | .76 | 8.9 | 16 | 10 | 3.8 | .13 | 12 | .56 |
| 9 | 12 | 3.8 | 1.3 | .79 | .76 | 8.3 | 14 | 6.4 | 5.0 | .13 | 9.5 | .44 |
| 10 | 9.5 | 3.8 | 1.2 | .79 | .75 | 7.2 | 12 | 4.3 | 3.1 | .10 | 2.5 | .56 |
| 11 | 3.1 | 3.1 | 1.1 | .79 | .75 | 5.6 | 16 | 3.8 | 2.5 | .99 | 7.7 | .20 |
| 12 | 2.5 | 3.1 | 1.0 | .79 | 2.5 | 16 | 14 | 3.1 | 2.5 | 2.2 | 18 | .16 |
| 13 | 2.2 | 2.5 | .98 | .79 | 27 | 64 | 14 | 2.5 | 1.9 | 3.1 | 8.3 | .16 |
| 14 | 2.5 | 3.1 | .92 | .79 | 22 | 24 | 13 | 2.5 | 3.8 | 1.4 | 14 | .44 |
| 15 | 2.5 | 3.1 | .90 | .79 | 14 | 16 | 13 | 1.9 | 1.6 | .26 | 7.2 | .26 |
| 16 | 3.1 | 2.5 | .88 | .79 | 9.5 | 12 | 12 | 1.6 | 1.4 | .16 | 3.1 | 29 |
| 17 | 3.1 | 2.5 | .86 | .79 | 7.5 | 11 | 12 | 1.6 | 1.4 | .16 | 2.2 | 14 |
| 18 | 3.1 | 2.5 | .84 | .79 | 5.6 | 52 | 12 | 1.6 | 3.1 | .10 | 1.6 | 5.0 |
| 19 | 3.8 | 2.5 | .84 | .79 | 4.5 | 27 | 12 | 1.6 | 12 | .08 | 1.4 | 3.1 |
| 20 | 6.4 | 2.2 | .82 | .79 | 3.8 | 22 | 12 | 1.6 | 1.9 | .70 | 1.4 | 2.2 |
| 21 | 7.2 | 2.5 | .82 | .79 | 3.6 | 17 | 6.4 | 1.6 | .84 | 2.2 | 1.4 | 1.6 |
| 22 | 4.3 | 2.5 | .80 | .79 | 4.0 | 25 | 7.7 | 1.4 | .44 | 3.8 | 1.9 | 1.2 |
| 23 | 3.8 | 7.7 | .80 | .79 | 63 | 19 | 8.3 | 1.4 | .44 | 1.6 | 1.4 | .99 |
| 24 | 19 | .44 | .80 | .79 | 67 | 15 | 7.7 | 1.6 | .34 | 1.4 | 8.9 | 1.2 |
| 25 | 16 | .44 | .80 | .79 | 32 | 12 | 7.2 | 1.6 | .44 | 4.3 | 13 | 1.2 |
| 26 | 7.7 | .56 | .80 | .78 | 20 | 10 | 6.4 | 1.6 | 2.5 | 3.8 | 11 | 1.6 |
| 27 | 5.0 | .70 | .80 | .78 | 16 | 9.5 | 5.0 | 1.6 | 5.0 | 1.6 | 12 | 1.2 |
| 28 | 4.3 | .44 | .80 | .78 | 11 | 15 | 10 | 1.9 | 42 | 1.2 | 11 | .56 |
| 29 | 4.3 | .44 | .80 | .78 | --- | 12 | 8.3 | 3.1 | 20 | 2.2 | 13 | .34 |
| 30 | 6.4 | .56 | .80 | .78 | --- | 9.5 | 5.0 | 5.0 | 6.4 | 2.5 | 16 | .26 |
| 31 | 22 | --- | .80 | .78 | --- | 8.3 | --- | 3.1 | --- | 1.6 | 16 | --- |
| TOTAL | 254.8 | 101.68 | 38.10 | 24.42 | 321.35 | 531.4 | 468.7 | 137.4 | 138.70 | 49.58 | 209.22 | 219.37 |
| MEAN | 8.22 | 3.39 | 1.23 | .79 | 11.5 | 17.1 | 15.6 | 4.43 | 4.62 | 1.60 | 6.75 | 7.31 |
| MAX | 31 | 13 | 3.8 | .79 | 67 | 64 | 58 | 16 | 42 | 9.5 | 18 | 75 |
| MIN | 1.2 | .44 | .70 | .78 | .75 | 5.6 | 5.0 | 1.4 | .34 | .08 | .84 | .16 |
| CFSM | .82 | .34 | .12 | .08 | 1.15 | 1.71 | 1.56 | .44 | .46 | .16 | .68 | .73 |
| IN. | .95 | .38 | .14 | .09 | 1.20 | 1.98 | 1.74 | .51 | .52 | .18 | .78 | .82 |
| CAL YR 1976 | TOTAL | 3375.38 | MEAN | 9.22 | MAX | 236 | MIN | .44 | CFSM | .92 | IN | 12.56 |
| WTR YR 1977 | TOTAL | 2494.72 | MEAN | 6.83 | MAX | 75 | MIN | .08 | CFSM | .68 | IN | 9.28 |

HOCKING RIVER BASIN

175

03156000 HUNTERS RUN AT LANCASTER, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND | HARD- NESS | NON- CAR- BONATE HARD- NESS | DIS- SOLVED CAL- CIUM | DIS- SOLVED MAG- NE- SIUM | |
|--------------|------|--------------------------------------|--|--------------------------|------------------|--------------------------|---------------------------------|---|---------------------------------|---|--------------------------------|---|----------------------------|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | | 5 DAY | (CA+MG) | (MG/L) | (CA) | (MG/L) | |
| MAR 30... | 1530 | 9.1 | 500 | 8.2 | 19.0 | 11.2 | 120 | .7 | 270 | 63 | 68 | 25 | |
| JUN 07... | 1445 | 2.2 | 450 | 8.1 | 17.0 | 12.2 | 120 | .6 | 300 | 49 | 72 | 28 | |
| | | DIS- SOLVED SODIUM | DIS- SOLVED PO- TAS- SIUM | BICAR- BONATE | CAR- BONATE | ALKA- LINITY AS | CARBON DIOXIDE | DIS- SOLVED SULFATE | DIS- SOLVED CHLO- RIDE | DIS- SOLVED FLUO- RIDE | DIS- SOLVED SILICA | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) | TOTAL NITRATE |
| DATE | | (NA) (MG/L) | (K) (MG/L) | (HCO3) (MG/L) | (CO3) (MG/L) | CAC03 (MG/L) | (CO2) (MG/L) | (SO4) (MG/L) | (CL) (MG/L) | (F) (MG/L) | (SI02) (MG/L) | (MG/L) | (N) (MG/L) |
| MAR 30... | 8.0 | 2.6 | 256 | 0 | 210 | 2.6 | 48 | 17 | .2 | 5.2 | 300 | .95 | |
| JUN 07... | 7.9 | 2.2 | 300 | 0 | 246 | 3.8 | 44 | 14 | .2 | 6.6 | 323 | .16 | |
| | | TOTAL NITRITE | TOTAL AMMONIA NITRO- GEN | TOTAL PHOS- PHORUS | TOTAL ARSENIC | TOTAL CHRO- MIUM | TOTAL COPPER | DIS- SOLVED IRON | TOTAL LEAD | DIS- SOLVED MAN- GANESE | TOTAL MERCURY | TOTAL ZINC | TOTAL ORGANIC CARBON |
| DATE | | (N) (MG/L) | (N) (MG/L) | (P) (MG/L) | (AS) (UG/L) | (CR) (UG/L) | (CU) (UG/L) | (FE) (UG/L) | (PB) (UG/L) | (MN) (UG/L) | (HG) (UG/L) | (ZN) (UG/L) | (C) (MG/L) |
| MAR 30... | .02 | .03 | .04 | 2 | <10 | 2 | 20 | 0 | 40 | .0 | 20 | -- | |
| JUN 07... | .01 | .02 | .03 | 1 | <10 | 1 | 80 | 0 | 20 | .2 | 10 | 5.0 | |

HOCKING RIVER BASIN

03157000 CLEAR CREEK NEAR ROCKBRIDGE, OH

LOCATION.--Lat 39°35'18", long 82°34'43", in NE 1/4 sec. 20, T.13 N., R.18 W., Hocking County, Hydrologic Unit 05030204, on left bank at upstream side of county road bridge, 400 ft (122 m) downstream from unnamed right bank tributary, 2.0 mi (3.2 km) upstream from mouth, and 3 mi (5 km) west of Rockbridge.

DRAINAGE AREA.--89.0 mi² (231 km²).

WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder. Datum of gage is 760.13 ft (231.688 m) above mean sea level, adjustment of 1912. Prior to May 2, 1940, nonrecording gage at same site and datum.

REMARKS.--Records fair except those for winter periods, which are poor.

AVERAGE DISCHARGE.--38 years, 86.0 ft³/s (2.436 m³/s), 13.12 in/yr (333 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,000 ft³/s (453 m³/s) July 22, 1948, gage height, 17.68 ft (5.389 m) (from high-water mark in well), from rating curve extended above 4,300 ft³/s (122 m³/s) on basis of slope-area measurement of peak flow; minimum, 3.0 ft³/s (0.085 m³/s) Dec. 29, 1947, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,870 ft³/s (53.0 m³/s) Feb. 23, gage height, 7.02 ft (2.140 m), no peak above base of 1,900 ft³/s (53.8 m³/s); minimum daily, 19 ft³/s (0.54 m³/s) Jan. 31 to Feb. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------------|-------|------|------|------|------|--------|-----------|----------|------|------|------|------|
| 1 | 31 | 87 | 36 | 22 | 19 | 103 | 74 | 56 | 54 | 69 | 81 | 24 |
| 2 | 29 | 67 | 33 | 21 | 19 | 92 | 324 | 67 | 42 | 54 | 30 | 26 |
| 3 | 29 | 57 | 36 | 22 | 19 | 86 | 591 | 60 | 37 | 39 | 25 | 99 |
| 4 | 27 | 50 | 35 | 22 | 19 | 246 | 292 | 108 | 33 | 34 | 23 | 46 |
| 5 | 27 | 45 | 33 | 22 | 19 | 234 | 382 | 139 | 31 | 32 | 22 | 31 |
| 6 | 28 | 41 | 33 | 22 | 19 | 137 | 252 | 127 | 29 | 30 | 21 | 27 |
| 7 | 37 | 39 | 60 | 22 | 19 | 110 | 177 | 238 | 28 | 27 | 22 | 26 |
| 8 | 32 | 37 | 54 | 21 | 19 | 96 | 143 | 242 | 26 | 26 | 24 | 25 |
| 9 | 42 | 36 | 44 | 21 | 19 | 85 | 121 | 157 | 32 | 25 | 30 | 24 |
| 10 | 67 | 35 | 40 | 20 | 19 | 77 | 108 | 112 | 26 | 24 | 25 | 23 |
| 11 | 45 | 34 | 36 | 20 | 19 | 70 | 97 | 92 | 25 | 37 | 23 | 22 |
| 12 | 38 | 33 | 34 | 20 | 19 | 70 | 86 | 79 | 25 | 52 | 87 | 22 |
| 13 | 35 | 32 | 32 | 20 | 20 | 537 | 77 | 72 | 24 | 47 | 47 | 22 |
| 14 | 33 | 32 | 31 | 20 | 260 | 268 | 71 | 67 | 37 | 33 | 66 | 22 |
| 15 | 31 | 32 | 29 | 20 | 250 | 206 | 64 | 62 | 34 | 27 | 54 | 23 |
| 16 | 32 | 32 | 28 | 20 | 125 | 164 | 59 | 57 | 29 | 25 | 35 | 96 |
| 17 | 30 | 31 | 27 | 20 | 108 | 110 | 55 | 52 | 26 | 25 | 31 | 88 |
| 18 | 29 | 31 | 27 | 20 | 100 | 385 | 53 | 48 | 26 | 24 | 29 | 45 |
| 19 | 29 | 32 | 25 | 20 | 92 | 286 | 51 | 45 | 41 | 23 | 26 | 36 |
| 20 | 31 | 31 | 24 | 20 | 86 | 200 | 50 | 43 | 28 | 22 | 25 | 33 |
| 21 | 37 | 30 | 23 | 20 | 84 | 166 | 49 | 41 | 25 | 25 | 24 | 30 |
| 22 | 33 | 31 | 23 | 20 | 90 | 193 | 48 | 40 | 24 | 33 | 25 | 27 |
| 23 | 30 | 30 | 23 | 20 | 800 | 177 | 50 | 39 | 24 | 24 | 24 | 26 |
| 24 | 60 | 29 | 23 | 20 | 500 | 139 | 50 | 37 | 23 | 22 | 26 | 25 |
| 25 | 86 | 30 | 23 | 20 | 290 | 116 | 47 | 37 | 23 | 42 | 28 | 24 |
| 26 | 57 | 31 | 22 | 20 | 200 | 102 | 47 | 35 | 35 | 39 | 25 | 25 |
| 27 | 50 | 34 | 22 | 20 | 160 | 94 | 45 | 35 | 53 | 26 | 24 | 24 |
| 28 | 43 | 33 | 23 | 20 | 150 | 108 | 48 | 34 | 230 | 23 | 23 | 23 |
| 29 | 39 | 33 | 23 | 20 | --- | 105 | 81 | 137 | 108 | 50 | 22 | 22 |
| 30 | 39 | 36 | 23 | 20 | --- | 92 | 63 | 206 | 55 | 40 | 29 | 22 |
| 31 | 104 | --- | 23 | 19 | --- | 82 | --- | 73 | --- | 28 | 27 | --- |
| TOTAL | 1260 | 1131 | 948 | 634 | 3543 | 4936 | 3655 | 2637 | 1233 | 1027 | 1003 | 1008 |
| MEAN | 40.6 | 37.7 | 30.6 | 20.5 | 127 | 159 | 122 | 85.1 | 41.1 | 33.1 | 32.4 | 33.6 |
| MAX | 104 | 87 | 60 | 22 | 800 | 537 | 591 | 242 | 230 | 69 | 87 | 99 |
| MIN | 27 | 29 | 22 | 19 | 19 | 70 | 45 | 34 | 23 | 22 | 21 | 22 |
| CFSM | .46 | .42 | .34 | .23 | 1.43 | 1.79 | 1.37 | .96 | .46 | .37 | .36 | .38 |
| IN. | .53 | .47 | .40 | .26 | 1.48 | 2.06 | 1.53 | 1.10 | .52 | .43 | .42 | .42 |
| CAL YR 1976 TOTAL | 32416 | | | | 2760 | MIN 22 | CFSM 1.00 | IN 13.55 | | | | |
| WTR YR 1977 TOTAL | 23015 | | | | 800 | MIN 19 | CFSM .71 | IN 9.62 | | | | |

HOCKING RIVER BASIN

177

03157000 CLEAR CREEK NEAR ROCKBRIDGE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|--|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|--|---|
| MAR 16... | 1430 | 123 | 420 | 8.2 | 11.0 | 10.4 | 94 | 1.4 | 210 | 55 | 54 | 18 |
| JUN 08... | 1230 | 24 | 415 | 8.2 | 13.0 | 10.6 | 100 | .6 | 220 | 41 | 55 | 19 |
| DATE | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 16... | 4.8 | 2.2 | 188 | 0 | 154 | 1.9 | 43 | 12 | .1 | 8.4 | 235 | 2.5 |
| JUN 08... | 5.6 | 1.8 | 213 | 0 | 175 | 2.2 | 31 | 9.8 | .1 | 8.1 | 236 | .91 |
| DATE | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 16... | .01 | .04 | .04 | 2 | 10 | 10 | 20 | 7 | 40 | .0 | 70 | 4.0 |
| JUN 08... | .01 | .03 | .04 | 1 | 20 | 2 | 50 | 1 | 40 | .0 | 30 | 5.4 |

HOCKING RIVER BASIN

03157500 HOCKING RIVER AT ENTERPRISE, OH

LOCATION.--Lat 39°33'54", long 82°28'29", in NW 1/4 sec. 5, T.14 N., R.17 W., Hocking County, Hydrologic Unit 05030204, at right bank at upstream side of abandoned bridge at Enterprise, 4.0 mi (6.4 km) downstream from Buck Run, and 4.3 mi (6.9 km) upstream from Scott Creek.

DRAINAGE AREA.--459 mi² (1,189 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 873: 1938. WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 723.58 ft (220.547 m) above mean sea level. Prior to Oct. 24, 1933, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are fair. Flood flow affected by temporary retention in eight retarding basins, combined capacity, 8,710 acre-ft (10.7 hm³) constructed between 1955 and 1961 upstream from station.

AVERAGE DISCHARGE.--47 years, 444 ft³/s (12.57 m³/s), 13.14 in/yr (334 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,000 ft³/s (736 m³/s) Mar. 10, 1964, gage height, 21.31 ft (6.495 m), from rating curve extended above 17,000 ft³/s (481 m³/s) on basis of contracted-opening and slope-area measurement of peak flow; minimum daily, 23 ft³/s (0.65 m³/s) Aug. 12, 13, 1944.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1907, reached a stage of 22.0 ft (6.71 m), from floodmark, discharge, 36,000 ft³/s (1,020 m³/s), from reports of Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,630 ft³/s (103 m³/s) Apr. 3 (base, 3,500 ft³/s, 99.1 m³/s) gage height, 9.17 ft (2.795 m); minimum, 62 ft³/s (1.76 m³/s) July 28, 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|-------|-------|-------|-------|------|------|------|------|
| 1 | 140 | 527 | 136 | 108 | 98 | 550 | 361 | 319 | 140 | 232 | 189 | 82 |
| 2 | 129 | 341 | 125 | 106 | 98 | 484 | 849 | 351 | 125 | 212 | 120 | 72 |
| 3 | 120 | 280 | 120 | 105 | 98 | 442 | 2860 | 509 | 114 | 136 | 91 | 316 |
| 4 | 114 | 245 | 122 | 104 | 98 | 838 | 2710 | 1190 | 110 | 125 | 80 | 164 |
| 5 | 110 | 218 | 114 | 102 | 98 | 1310 | 2270 | 1370 | 105 | 484 | 72 | 110 |
| 6 | 112 | 199 | 114 | 102 | 98 | 814 | 1810 | 1020 | 110 | 215 | 67 | 147 |
| 7 | 131 | 184 | 207 | 101 | 98 | 622 | 1190 | 1970 | 99 | 145 | 87 | 116 |
| 8 | 122 | 171 | 277 | 101 | 98 | 513 | 869 | 1320 | 99 | 122 | 192 | 97 |
| 9 | 154 | 164 | 254 | 100 | 98 | 455 | 689 | 775 | 140 | 105 | 189 | 83 |
| 10 | 234 | 162 | 200 | 100 | 99 | 411 | 595 | 580 | 131 | 97 | 125 | 78 |
| 11 | 186 | 157 | 190 | 100 | 100 | 364 | 524 | 477 | 107 | 95 | 101 | 71 |
| 12 | 152 | 150 | 185 | 100 | 100 | 361 | 462 | 407 | 103 | 181 | 498 | 65 |
| 13 | 136 | 143 | 165 | 100 | 102 | 1880 | 417 | 361 | 99 | 226 | 326 | 65 |
| 14 | 125 | 136 | 160 | 100 | 1190 | 1520 | 384 | 323 | 138 | 174 | 237 | 74 |
| 15 | 120 | 136 | 150 | 100 | 897 | 873 | 357 | 301 | 157 | 118 | 186 | 74 |
| 16 | 114 | 138 | 140 | 100 | 685 | 648 | 323 | 263 | 131 | 99 | 157 | 361 |
| 17 | 112 | 129 | 135 | 100 | 568 | 520 | 301 | 234 | 107 | 93 | 131 | 455 |
| 18 | 107 | 127 | 132 | 100 | 494 | 1370 | 289 | 215 | 101 | 87 | 114 | 221 |
| 19 | 105 | 129 | 130 | 100 | 435 | 2020 | 274 | 205 | 162 | 80 | 97 | 162 |
| 20 | 120 | 125 | 128 | 100 | 400 | 1420 | 263 | 192 | 110 | 74 | 85 | 171 |
| 21 | 164 | 122 | 125 | 100 | 357 | 934 | 254 | 176 | 99 | 82 | 82 | 140 |
| 22 | 159 | 122 | 122 | 99 | 338 | 905 | 243 | 164 | 89 | 116 | 91 | 120 |
| 23 | 133 | 120 | 120 | 99 | 1340 | 845 | 268 | 154 | 89 | 91 | 87 | 107 |
| 24 | 226 | 114 | 118 | 99 | 2160 | 663 | 295 | 223 | 85 | 72 | 107 | 99 |
| 25 | 394 | 118 | 116 | 98 | 2320 | 561 | 263 | 176 | 85 | 93 | 116 | 95 |
| 26 | 260 | 122 | 115 | 98 | 1710 | 494 | 248 | 154 | 197 | 118 | 101 | 105 |
| 27 | 232 | 143 | 114 | 98 | 966 | 448 | 232 | 143 | 150 | 76 | 107 | 93 |
| 28 | 199 | 143 | 113 | 98 | 700 | 509 | 274 | 136 | 452 | 65 | 85 | 87 |
| 29 | 174 | 143 | 112 | 98 | --- | 576 | 599 | 186 | 335 | 140 | 72 | 82 |
| 30 | 166 | 118 | 110 | 98 | --- | 470 | 390 | 332 | 192 | 473 | 105 | 74 |
| 31 | 442 | --- | 109 | 98 | --- | 411 | --- | 159 | --- | 157 | 93 | --- |
| TOTAL | 5192 | 5126 | 4458 | 3112 | 15843 | 24231 | 20863 | 14385 | 4161 | 4583 | 4190 | 3986 |
| MEAN | 167 | 171 | 144 | 100 | 566 | 782 | 695 | 464 | 139 | 148 | 135 | 133 |
| MAX | 442 | 527 | 277 | 108 | 2320 | 2020 | 2860 | 1970 | 452 | 484 | 498 | 455 |
| MIN | 105 | 114 | 109 | 98 | 98 | 361 | 232 | 136 | 85 | 65 | 67 | 65 |
| CFSM | .36 | .37 | .31 | .22 | 1.23 | 1.70 | 1.51 | 1.01 | .30 | .32 | .29 | .29 |
| IN. | .42 | .42 | .36 | .25 | 1.28 | 1.96 | 1.69 | 1.17 | .34 | .37 | .34 | .32 |

CAL YR 1976 TOTAL 173890 MEAN 475 MAX 5550 MIN 89 CFSM 1.04 IN 14.09
WTR YR 1977 TOTAL 110130 MEAN 302 MAX 2860 MIN 65 CFSM .66 IN 8.93

HOCKING RIVER BASIN

179

03157500 HOCKING RIVER AT ENTERPRISE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPEC- IFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA,MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|--|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| | | | | | | | | | | | | |
| MAR 31... | 1700 | 367 | 540 | 7.9 | 12.5 | 9.6 | 90 | 1.7 | 210 | 97 | 53 | 20 |
| JUN 07... | 1230 | 102 | 710 | 7.6 | 17.0 | 7.7 | 79 | 2.5 | 300 | 120 | 72 | 28 |
| DATE | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 31... | 19 | 2.6 | 144 | 0 | 118 | 2.9 | 66 | 39 | .1 | 7.3 | 279 | .96 |
| JUN 07... | 35 | 3.0 | 214 | 0 | 176 | 8.6 | 95 | 66 | .2 | 9.4 | 415 | 1.4 |
| DATE | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | |
| MAR 31... | .03 | .22 | .12 | 2 | <10 | 5 | 20 | 3 | 600 | .0 | 50 | |
| JUN 07... | .13 | .37 | .19 | -- | -- | -- | 60 | -- | 910 | -- | -- | |

HOCKING RIVER BASIN

03158500 BURR OAK RESERVOIR AT BURR OAK, OH

LOCATION.--Lat 39°32'30", long 82°03'27", near center of sec. 6, T.11 N., R.14 W., Athens County, Hydrologic Unit 05030204, in control house of Tom Jenkins Dam on East Branch Sunday Creek, 0.2 mi (0.3 km) upstream from mouth, 0.4 (0.6 km) southeast of Burr Oak, and 3.0 mi (4.8 km) northeast of Glouster.

DRAINAGE AREA.--33.1 mi² (85.7 km²).

PERIOD OF RECORD.--February 1952 to current year. Published as Tom Jenkins Reservoir at Burr Oak October 1952 to September 1962.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level.

REMARKS.--Reservoir is formed by earth dam with emergency spillway; storage began Feb. 2, 1952. Capacity at spillway level, elevation, 740 ft (226 m), 26,900 acre-ft (33.2 hm³), of which 9,220 acre-ft (11.4 hm³) is in water supply pool. Dead storage, 35 acre-ft (43,200 m³). Figures given herein represent usable contents. Reservoir is used for flood control, although water supply pool is operated for increased low flow for recreation and conservation of fish and wildlife. Outflow is controlled by operation of gates in conduit through dam.

COOPERATION.--Capacity table furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 17,820 acre-ft (22.0 hm³) May 31, 1968, elevation, 731.53 ft (222.970 m); minimum, 3,450 acre-ft (4.25 hm³) Nov. 20, 1953, elevation, 709.89 ft (216.374 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 12,040 acre-ft (14.8 hm³) Apr. 5, elevation, 724.92 ft (220.956 m); minimum, 9,040 acre-ft (11.1 hm³) Jan. 25, elevation, 720.71 ft (219.672 m).

MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| Date | Elevation (feet) | Contents (acre-feet) | Change in contents (acre-feet) |
|------------------|---------------------|-------------------------|-----------------------------------|
| Sept. 30..... | 721.64 | 9660 | -- |
| Oct. 31..... | 721.70 | 9700 | +40 |
| Nov. 30..... | 721.41 | 9500 | -200 |
| Dec. 31..... | 721.34 | 9460 | -40 |
| CAL YR 1976..... | -- | -- | -50 |
| Jan. 31..... | 721.35 | 9460 | 0 |
| Feb. 28..... | 721.24 | 9390 | -70 |
| Mar. 31..... | 721.43 | 9520 | +130 |
| Apr. 30..... | 721.52 | 9580 | +60 |
| May 31..... | 720.98 | 9210 | -370 |
| June 30..... | 721.52 | 9580 | +370 |
| July 31..... | 721.47 | 9540 | -40 |
| Aug. 31..... | 721.49 | 9560 | +20 |
| Sept. 30..... | 720.98 | 9210 | -350 |
| WTR YR 1977..... | -- | -- | -450 |

HOCKING RIVER BASIN

03159000 SUNDAY CREEK AT GLOUSTER, OH

LOCATION.--Lat 39°30'03", long 82°05'07", Athens County, Hydrologic Unit 05030204, on left bank 150 ft (46 m) downstream from West Branch and 200 ft (61 m) upstream from bridge on State Highway 78 at Gloucester.

DRAINAGE AREA.--104 mi² (269 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 665.18 ft (202.747 m) above mean sea level. Prior to Dec. 4, 1951, nonrecording gage at site 300 ft (91 m) downstream at same datum.

REMARKS.--Records good except those for winter periods or no gage height record, which are fair. Flow partially regulated by Burr Oak Reservoir 5.2 mi (8.4 km) upstream (see station 03158500). Most of small diversion downstream from Burr Oak Reservoir, average discharge 0.90 ft³/s (0.025 m³/s), is returned to stream upstream from station.

AVERAGE DISCHARGE.--26 years, 108 ft³/s (3.059 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,020 ft³/s (199 m³/s) Mar. 5, 1963, gage height, 17.81 ft (5.428 m), from rating curve extended above 3,600 ft³/s (102 m³/s) on basis of velocity-area study and flow over road estimate of peak discharge; minimum daily, 0.5 ft³/s (0.014 m³/s) Nov. 2, 3, Dec. 5, 1973.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1907 reached a stage of 22.0 ft (6.71 m), from information by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,540 ft³/s (43.6 m³/s) Apr. 1, gage height, 12.93 ft (3.941 m); minimum daily, 3.6 ft³/s (0.10 m³/s) Aug. 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--------|---------|------|------|------|------|------|--------|-------|-------|-------|-------|
| 1 | 7.5 | 100 | 17 | 16 | 12 | 136 | 1230 | 35 | 9.1 | 143 | 24 | 10 |
| 2 | 6.1 | 180 | 16 | 16 | 12 | 113 | 408 | 34 | 8.7 | 91 | 15 | 10 |
| 3 | 5.1 | 50 | 16 | 16 | 12 | 93 | 631 | 33 | 8.3 | 26 | 7.0 | 11 |
| 4 | 6.1 | 38 | 16 | 16 | 12 | 462 | 714 | 40 | 8.7 | 26 | 4.7 | 11 |
| 5 | 6.6 | 33 | 16 | 15 | 12 | 523 | 660 | 100 | 7.9 | 67 | 3.6 | 11 |
| 6 | 14 | 29 | 16 | 15 | 12 | 384 | 400 | 220 | 8.7 | 63 | 3.6 | 11 |
| 7 | 14 | 26 | 16 | 15 | 12 | 223 | 300 | 400 | 7.9 | 30 | 4.7 | 15 |
| 8 | 15 | 24 | 118 | 14 | 12 | 107 | 250 | 700 | 8.7 | 13 | 5.6 | 14 |
| 9 | 65 | 23 | 70 | 14 | 12 | 94 | 160 | 1000 | 12 | 13 | 6.6 | 11 |
| 10 | 165 | 22 | 55 | 14 | 12 | 82 | 130 | 500 | 10 | 10 | 7.5 | 10 |
| 11 | 87 | 21 | 46 | 14 | 17 | 78 | 110 | 250 | 10 | 15 | 7.5 | 9.5 |
| 12 | 19 | 20 | 42 | 14 | 52 | 439 | 90 | 150 | 9.1 | 75 | 32 | 9.1 |
| 13 | 16 | 19 | 38 | 14 | 82 | 556 | 80 | 100 | 9.1 | 51 | 21 | 10 |
| 14 | 15 | 19 | 35 | 14 | 308 | 272 | 74 | 85 | 9.1 | 27 | 13 | 19 |
| 15 | 15 | 19 | 33 | 13 | 309 | 137 | 63 | 65 | 8.3 | 18 | 13 | 23 |
| 16 | 15 | 19 | 31 | 13 | 129 | 113 | 60 | 45 | 9.5 | 13 | 10 | 75 |
| 17 | 14 | 18 | 28 | 13 | 68 | 396 | 54 | 35 | 8.7 | 12 | 14 | 68 |
| 18 | 14 | 18 | 26 | 13 | 56 | 1010 | 50 | 29 | 8.3 | 9.1 | 14 | 60 |
| 19 | 14 | 18 | 25 | 13 | 49 | 480 | 48 | 25 | 5.1 | 8.3 | 9.5 | 58 |
| 20 | 15 | 17 | 24 | 13 | 46 | 454 | 46 | 23 | 5.6 | 9.1 | 8.3 | 19 |
| 21 | 19 | 17 | 23 | 13 | 40 | 433 | 45 | 21 | 7.0 | 9.5 | 7.9 | 11 |
| 22 | 16 | 17 | 22 | 13 | 59 | 291 | 43 | 19 | 5.6 | 7.5 | 9.5 | 10 |
| 23 | 15 | 16 | 21 | 13 | 360 | 144 | 42 | 15 | 4.3 | 8.3 | 11 | 11 |
| 24 | 43 | 16 | 21 | 13 | 957 | 116 | 42 | 14 | 7.5 | 6.6 | 8.7 | 12 |
| 25 | 87 | 16 | 20 | 12 | 817 | 81 | 42 | 15 | 11 | 7.5 | 12 | 13 |
| 26 | 116 | 17 | 19 | 12 | 553 | 71 | 40 | 14 | 164 | 8.3 | 10 | 15 |
| 27 | 97 | 18 | 18 | 12 | 365 | 75 | 40 | 12 | 29 | 7.9 | 9.1 | 15 |
| 28 | 28 | 18 | 18 | 12 | 185 | 95 | 39 | 10 | 158 | 8.3 | 10 | 14 |
| 29 | 25 | 19 | 18 | 12 | --- | 79 | 38 | 9.5 | 113 | 8.3 | 10 | 11 |
| 30 | 20 | 18 | 17 | 12 | --- | 68 | 37 | 9.5 | 76 | 10 | 10 | 8.7 |
| 31 | 50 | --- | 16 | 12 | --- | 110 | --- | 9.1 | --- | 11 | 10 | --- |
| TOTAL | 1044.4 | 885 | 897 | 421 | 4572 | 7715 | 5966 | 4017.1 | 748.2 | 812.7 | 332.8 | 585.3 |
| MEAN | 33.7 | 29.5 | 28.9 | 13.6 | 163 | 249 | 199 | 130 | 24.9 | 26.2 | 10.7 | 19.5 |
| MAX | 165 | 180 | 118 | 16 | 957 | 1010 | 1230 | 1000 | 164 | 143 | 32 | 75 |
| MIN | 5.1 | 16 | 16 | 12 | 12 | 68 | 37 | 9.1 | 4.3 | 6.6 | 3.6 | 8.7 |
| CAL YR 1976 | TOTAL | 38431.8 | MEAN | 105 | MAX | 1860 | MIN | 5.1 | | | | |
| WTR YR 1977 | TOTAL | 27996.5 | MEAN | 76.7 | MAX | 1230 | MIN | 3.6 | | | | |

Note: No gage height record Oct. 29-31, Dec. 6 to Jan. 4, Jan. 8-18, and Apr. 5 to May 18.

HOCKING RIVER BASIN

183

03159000 SUNDAY CREEK AT GLOUSTER, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | |
|-----------|------|---|--|---|--|--|--|--|--|--|---|---|---|
| DATE | TIME | (CFS) | | (UNITS) | | | | | | | | | |
| MAR 30... | 1030 | 76 | 505 | 6.8 | 14.0 | 9.1 | 88 | 1.3 | 180 | 140 | 44 | 16 | |
| JUN 21... | 1430 | 7.3 | 2200 | 3.8 | 22.5 | 5.9 | 67 | 6.1 | 590 | 590 | 130 | 64 | |
| | | DIS- SOLVED PO- TAS- SIUM (NA) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | |
| DATE | | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | |
| MAR 30... | 29 | 2.7 | 43 | 0 | 35 | 11 | 180 | 31 | .1 | 8.0 | 350 | .17 | |
| JUN 21... | 150 | 7.0 | 0 | 0 | 0 | .0 | 1200 | 44 | .3 | 19 | 1830 | .13 | |
| | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (MG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (MG/L) |
| MAR 30... | .00 | .19 | .05 | 1 | <10 | 2 | 17000 | 4 | 850 | .0 | 50 | -- | |
| JUN 21... | .00 | 1.0 | .14 | 4 | 20 | 2 | 200000 | 4 | 8500 | .0 | 320 | 7.6 | |

HOCKING RIVER BASIN

03159510 HOCKING RIVER BELOW ATHENS, OH

LOCATION.--Lat 39°19'39", long 82°00'18", Athens County, Hydrologic Unit 05030204, at downstream side of Harmony Lane Bridge, 3.5 mi (5.6 km) east of Athens, 1.1 mi (1.8 km) downstream from Strouds Run, and 2.8 mi (4.5 km) upstream from Scott Creek.

DRAINAGE AREA.--957 mi² (2,479 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1976 to September 1977.

GAGE.--Water-stage recorder. Datum of gage is 600.00 ft (182.880 m) above mean sea level. Prior to Aug. 17, 1931 nonrecording gage at site 5.3 mi (8.5 km) upstream at datum 11.26 ft (3.432 m) higher, Aug. 18, 1931 to June 18, 1970 at datum 14.81 ft (4.514 m) higher, and Oct. 1, 1971 to Sept. 30, 1976 at datum 11.26 ft (3.432 m) higher.

REMARKS.--Records poor. Some regulation by Burr Oak Reservoir on East Branch Sunday Creek 34.3 mi (55.2 km) upstream beginning 1952 (see station 03158500); by Hocking Lake, capacity 3,080 acre-ft (3.80 hm³), on Clear Fork 44.7 mi (71.9 km) upstream beginning in 1949; by temporary retention in eight retarding basins, combined capacity, 8,710 acre-ft (10.7 hm³), constructed between 1955 and 1961 upstream from Lancaster, and Dow Lake capacity 1,884 acre-ft (2.3 hm³), on Strouds Run, 1.1 mi (1.8 km) upstream.

EXTREMES OUTSIDE PERIOD RECORD.--Flood of Mar. 11, 1964 reached a stage of 24.18 ft (7.370 m), at site and datum the in use, discharge, 32,900 ft³/s (932 m³/s). Flood in March 1907 reached a stage of 27 ft (8 m), site and datum then in use, discharge 50,000 ft³/s (1,420 m³/s), estimated by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,430 ft³/s (182 m³/s) Apr. 3, gage height, 19.10 ft (5.822 m); minimum daily, 81 ft³/s (2.29 m³/s) Aug. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|------|------|-------|-------|-------|-------|------|------|------|------|
| 1 | 1100 | 383 | 303 | 215 | 190 | 1400 | 929 | 524 | 284 | 453 | 346 | 158 |
| 2 | 1000 | 1000 | 287 | 215 | 190 | 1260 | 960 | 515 | 240 | 418 | 308 | 153 |
| 3 | 920 | 910 | 275 | 212 | 190 | 1230 | 6430 | 755 | 212 | 380 | 219 | 134 |
| 4 | 201 | 795 | 240 | 210 | 190 | 2660 | 5660 | 1690 | 201 | 351 | 212 | 153 |
| 5 | 196 | 643 | 212 | 210 | 190 | 3530 | 5930 | 1890 | 186 | 487 | 196 | 201 |
| 6 | 189 | 490 | 275 | 209 | 195 | 2320 | 4710 | 2040 | 182 | 658 | 153 | 201 |
| 7 | 191 | 420 | 400 | 208 | 195 | 1890 | 3430 | 4140 | 172 | 634 | 117 | 196 |
| 8 | 420 | 400 | 600 | 205 | 198 | 999 | 2320 | 5670 | 165 | 481 | 85 | 155 |
| 9 | 370 | 370 | 520 | 205 | 200 | 1060 | 1800 | 5000 | 165 | 315 | 81 | 146 |
| 10 | 350 | 350 | 440 | 200 | 200 | 910 | 1500 | 3540 | 169 | 214 | 83 | 119 |
| 11 | 350 | 344 | 380 | 200 | 200 | 846 | 1180 | 1940 | 167 | 232 | 130 | 104 |
| 12 | 327 | 349 | 350 | 200 | 205 | 810 | 1070 | 941 | 165 | 351 | 201 | 102 |
| 13 | 267 | 351 | 330 | 200 | 210 | 3900 | 979 | 799 | 162 | 308 | 356 | 97 |
| 14 | 235 | 303 | 310 | 200 | 2400 | 3610 | 960 | 755 | 155 | 280 | 439 | 104 |
| 15 | 222 | 296 | 295 | 200 | 2000 | 2150 | 846 | 664 | 151 | 275 | 346 | 102 |
| 16 | 217 | 291 | 285 | 200 | 1600 | 1850 | 799 | 652 | 144 | 253 | 303 | 179 |
| 17 | 217 | 282 | 280 | 200 | 1200 | 1220 | 1070 | 598 | 141 | 232 | 222 | 478 |
| 18 | 214 | 272 | 270 | 200 | 1050 | 2840 | 664 | 515 | 158 | 227 | 201 | 530 |
| 19 | 206 | 267 | 260 | 200 | 950 | 5400 | 577 | 439 | 219 | 219 | 172 | 341 |
| 20 | 204 | 275 | 255 | 200 | 850 | 3340 | 568 | 383 | 214 | 153 | 153 | 266 |
| 21 | 201 | 282 | 250 | 200 | 780 | 3080 | 545 | 356 | 201 | 141 | 155 | 216 |
| 22 | 196 | 275 | 248 | 200 | 1610 | 2830 | 515 | 339 | 165 | 130 | 153 | 187 |
| 23 | 222 | 259 | 240 | 200 | 3300 | 2080 | 553 | 327 | 146 | 109 | 160 | 161 |
| 24 | 315 | 240 | 235 | 200 | 5510 | 1810 | 589 | 322 | 141 | 158 | 165 | 144 |
| 25 | 680 | 222 | 233 | 200 | 3500 | 1220 | 574 | 315 | 144 | 303 | 206 | 136 |
| 26 | 589 | 232 | 230 | 200 | 3300 | 979 | 515 | 308 | 504 | 284 | 189 | 138 |
| 27 | 574 | 248 | 228 | 200 | 2200 | 948 | 501 | 303 | 439 | 189 | 172 | 134 |
| 28 | 481 | 267 | 225 | 200 | 1600 | 1010 | 487 | 294 | 846 | 153 | 153 | 128 |
| 29 | 388 | 275 | 220 | 200 | --- | 972 | 929 | 308 | 689 | 134 | 160 | 117 |
| 30 | 344 | 284 | 219 | 200 | --- | 937 | 791 | 332 | 613 | 104 | 162 | 108 |
| 31 | 1160 | --- | 218 | 200 | --- | 903 | --- | 339 | --- | 201 | 155 | --- |
| TOTAL | 12546 | 11375 | 9113 | 6289 | 34403 | 59994 | 48381 | 36993 | 7540 | 8827 | 6153 | 5388 |
| MEAN | 405 | 379 | 294 | 203 | 1229 | 1935 | 1613 | 1193 | 251 | 285 | 198 | 180 |
| MAX | 1160 | 1000 | 600 | 215 | 5510 | 5400 | 6430 | 5670 | 846 | 658 | 439 | 530 |
| MIN | 189 | 222 | 212 | 200 | 190 | 810 | 487 | 294 | 141 | 104 | 81 | 97 |

WTR YR 1977 TOTAL 247002 MEAN 677 MAX 6430 MIN 81

HOCKING RIVER BASIN

185

03159510 HOCKING RIVER BELOW ATHENS, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1966 to current year.

pH: May 1966 to current year.

WATER TEMPERATURES: May 1966 to current year.

DISSOLVED OXYGEN: May 1966 to current year.

INSTRUMENTATION.--Water-quality monitor.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,500 micromhos July 12, 1966, Oct. 3, 1968, Aug. 6, 1975; minimum, 140 micromhos July 13, 1966, Mar. 5, 1967.

pH: Maximum, 8.9 units Sept. 30, 1977; minimum, 3.3 units Aug. 6, 1975.

WATER TEMPERATURES: Maximum, 33.5°C July 18, 19, 21, 1977; minimum, 0.0°C on many days during winter periods.

DISSOLVED OXYGEN: Maximum, 15.0 mg/L or higher Jan. 31, Feb. 1, 16-20, 1973, Dec. 26, 1975; minimum, 0.4 mg/L June 9, 1966.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,380 micromhos June 27; minimum, 263 micromhos May 8.

pH: Maximum, 8.9 units Sept. 30; minimum, 4.2 units June 27.

WATER TEMPERATURES: Maximum, 33.5°C July 18, 19, 21; minimum, 0.0°C Dec. 3.

DISSOLVED OXYGEN: Maximum, 13.0 mg/L Feb. 17, 19, 22, Sept. 29; minimum, 3.2 mg/L May 6.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | DISSOLVED OXYGEN (MG/L) | PERCENT SATURATION | BIO-CHEMICAL OXYGEN DEMAND 5 DAY (MG/L) | HARDNESS (CA+MG) (MG/L) | NON-CARBONATE HARDNESS (MG/L) | DISSOLVED CALCIUM (CA) (MG/L) | DISSOLVED MAGNESIUM (MG) | |
|-----------|------|-------------------------------|-----------------------------------|-----------------------------|---------------------------|----------------------------|-----------------------------|---|--------------------------------|---------------------------------|--------------------------------|---|---------------------------------|
| | | | | | | | | | | | | | |
| MAR 14... | 1500 | 3500 | 370 | 7.1 | 9.0 | 10.2 | 88 | 4.0 | 150 | 92 | 37 | 13 | |
| JUN 16... | 1130 | 192 | 925 | 7.5 | 24.5 | 10.2 | 120 | .0 | 350 | 240 | 86 | 34 | |
| DATE | TIME | DISSOLVED SODIUM (NA) (MG/L) | DISSOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED CHLORIDE (CL) (MG/L) | DISSOLVED FLUORIDE (F) (MG/L) | DISSOLVED SILICA (SiO2) (MG/L) | DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 14... | 16 | 3.4 | | 66 | 0 | 54 | 8.4 | 74 | 32 | .1 | 7.8 | 216 | 1.3 |
| JUN 16... | 56 | 3.6 | | 136 | 0 | 112 | 6.9 | 250 | 81 | .2 | 7.2 | 586 | .87 |
| DATE | TIME | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DISSOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DISSOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 14... | | .02 | .16 | .25 | 13 | 10 | 27 | 30 | 26 | 310 | .0 | 140 | 7.8 |
| JUN 16... | | .02 | .03 | .04 | 2 | <10 | 2 | 10 | 3 | 520 | .1 | 110 | 8.2 |

HOCKING RIVER BASIN

03159510 HOCKING RIVER BELOW ATHENS, OH--Continued

PESTICIDE ANALYSES

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | ALDRIN IN BOTTOM MA- TERIAL | | TOTAL ATRA- ZINE | ATRA- ZINE IN BOTTOM MATERI- AL (UG/ KG DRY SOLIDS) | | TOTAL CHLOR- DANE | CHLOR- DANE IN BOTTOM MA- TERIAL | | TOTAL DDD | TOTAL DDE | TOTAL DDT | DDT IN BOTTOM MA- TERIAL | | TOTAL DI- AZINON |
|--------------|---|--------------------------------------|---|---|---|---|--|--|---|---|---|---|-----------------------------------|---------|------------------------|
| DATE | TIME | TOTAL ALDRIN (UG/L) | (UG/KG) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/KG) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/KG) | (UG/L) |
| NOV 15... | 1530 | ND | ND | ND | ND | ND | ND | 55 | ND | ND | ND | ND | ND | ND | ND |
| FEB 23... | 1400 | ND | -- | ND | -- | ND | ND | -- | ND | ND | ND | ND | -- | -- | ND |
| MAY 16... | 1100 | ND | -- | -- | -- | ND | ND | -- | ND | ND | ND | ND | -- | -- | ND |
| AUG 08... | 1445 | ND | -- | .32 | -- | ND | ND | -- | ND | ND | ND | ND | -- | -- | ND |
| DATE | DI- AZINON IN BOTTOM MA- TERIAL (UG/KG) | TOTAL DI- ELDRIN (UG/L) | DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG) | TOTAL ENDRIN (UG/L) | ENDRIN IN BOTTOM MA- TERIAL (UG/KG) | TOTAL ETHION (UG/L) | ETHION IN BOTTOM MA- TERIAL (UG/KG) | TOTAL HEPTA- CHLOR (UG/L) | HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG) | TOTAL HEPTA- CHLOR EPOXIDE (UG/L) | HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG) | TOTAL LINDANE (UG/L) | | | |
| NOV 15... | ND | ND | 4.0 | ND | ND | ND | ND | ND | ND | ND | ND | ND | | | |
| FEB 23... | -- | ND | -- | ND | -- | ND | -- | ND | -- | ND | -- | ND | | | |
| MAY 16... | -- | ND | -- | ND | -- | ND | -- | ND | -- | ND | -- | ND | | | |
| AUG 08... | -- | ND | -- | ND | -- | ND | -- | ND | -- | ND | -- | ND | | | |
| DATE | LINDANE IN BOTTOM MA- TERIAL (UG/KG) | TOTAL MALA- THION (UG/L) | MALA- THION IN BOTTOM MA- TERIAL (UG/KG) | TOTAL METHO- XY- CHLOR (UG/L) | METHOX- YCHLOR IN BOT- TOM MA- TERIAL (UG/KG) | TOTAL METHYL PARA- THION (UG/L) | METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG) | TOTAL METHYL TRI- THION (UG/L) | METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG) | TOTAL PARA- THION (UG/L) | PARA- THION IN BOTTOM MA- TERIAL (UG/KG) | SIMA- ZINE TOTAL COUL- SON COND. (UG/L) | | | |
| NOV 15... | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | | | |
| FEB 23... | -- | ND | -- | ND | -- | ND | -- | ND | -- | ND | -- | ND | | | |
| MAY 16... | -- | ND | -- | ND | -- | ND | -- | ND | -- | ND | -- | -- | | | |
| AUG 08... | -- | ND | -- | ND | -- | ND | -- | ND | -- | ND | -- | ND | | | |
| DATE | SIMA- ZINE IN BOTTOM MATERI- AL (UG/ KG DRY SOLIDS) | TOTAL TOX- APHENE (UG/L) | TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG) | TOTAL TRI- THION (UG/L) | TRI- THION IN BOTTOM MA- TERIAL (UG/KG) | TOTAL 2,4-D (UG/L) | 2,4-D IN BOTTOM MA- TERIAL (UG/KG) | TOTAL 2,4,5-T (UG/L) | 2,4,5-T IN BOTTOM MA- TERIAL (UG/KG) | TOTAL SILVEX (UG/L) | SILVEX IN BOTTOM MA- TERIAL (UG/KG) | | | | |
| NOV 15... | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND | | | | |
| FEB 23... | -- | ND | -- | ND | -- | ND | -- | ND | -- | ND | -- | | | | |
| MAY 16... | -- | ND | -- | ND | -- | -- | -- | -- | -- | -- | -- | | | | |
| AUG 08... | -- | ND | -- | ND | -- | -- | -- | -- | -- | -- | -- | | | | |

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|---------|-----|----------|-----|----------|-----|---------|-----|----------|-----|-----------|-----|-----|
| OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | | |
| 1 | 7.5 | 7.4 | 7.5 | 7.0 | 7.6 | 7.4 | 7.3 | 7.2 | 7.0 | 6.8 | --- | --- |
| 2 | 7.5 | 7.4 | 7.6 | 7.4 | 7.6 | 7.4 | 7.3 | 7.1 | 7.0 | 6.7 | 7.5 | 7.1 |
| 3 | 7.5 | 7.5 | 7.5 | 7.4 | --- | --- | 7.3 | 7.2 | 6.9 | 6.7 | 7.3 | 6.9 |
| 4 | 7.6 | 7.5 | 7.6 | 7.5 | --- | --- | 7.3 | 7.2 | 6.9 | 6.8 | 7.0 | 6.8 |
| 5 | 7.6 | 7.5 | 7.6 | 7.5 | --- | --- | 7.3 | 7.2 | 7.0 | 6.9 | 7.0 | 6.8 |
| 6 | 7.6 | 7.5 | 7.6 | 7.5 | --- | --- | 7.3 | 7.2 | 7.0 | 6.9 | 7.0 | 6.8 |
| 7 | 7.6 | 7.5 | 7.6 | 7.5 | --- | --- | 7.4 | 7.2 | 7.0 | 6.8 | 7.2 | 6.9 |
| 8 | 7.6 | 7.5 | 7.7 | 7.6 | --- | --- | --- | --- | 7.0 | 6.8 | 7.6 | 6.9 |
| 9 | 7.6 | 7.4 | 7.7 | 7.6 | --- | --- | --- | --- | 7.0 | 6.7 | --- | --- |
| 10 | 7.4 | 6.4 | 7.7 | 7.6 | --- | --- | --- | --- | 7.1 | 6.9 | --- | --- |
| 11 | 7.3 | 6.4 | 7.6 | 7.6 | --- | --- | --- | --- | 7.1 | 6.9 | --- | --- |
| 12 | 7.5 | 7.3 | 7.7 | 7.6 | --- | --- | --- | --- | 7.0 | 6.9 | 7.0 | 6.9 |
| 13 | 7.6 | 7.5 | 7.7 | 7.6 | --- | --- | 7.1 | 7.0 | 7.0 | 6.9 | 7.2 | 6.7 |
| 14 | 7.6 | 7.5 | 7.7 | 7.6 | 7.7 | 7.5 | 7.0 | 6.9 | 7.2 | 7.0 | 7.1 | 6.8 |
| 15 | 7.8 | 7.6 | 7.6 | 7.5 | 7.6 | 7.5 | 7.0 | 7.0 | 7.3 | 7.1 | 7.0 | 6.7 |
| 16 | 7.8 | 7.8 | 7.7 | 7.5 | 7.6 | 7.4 | 7.2 | 7.0 | 7.3 | 7.1 | 7.1 | 6.9 |
| 17 | 7.9 | 7.7 | 7.7 | 7.5 | 7.6 | 7.5 | 7.1 | 7.0 | 7.3 | 7.2 | 7.1 | 6.9 |
| 18 | 7.9 | 7.7 | 7.6 | 7.5 | 7.6 | 7.5 | 7.1 | 6.9 | 7.2 | 7.2 | 7.2 | 6.8 |
| 19 | 7.9 | 7.8 | 7.6 | 7.5 | 7.6 | 7.4 | 7.0 | 6.9 | 7.4 | 7.1 | 6.9 | 6.7 |
| 20 | 7.9 | 7.7 | 7.6 | 7.5 | 7.6 | 7.5 | 7.0 | 6.9 | 7.2 | 7.2 | 6.9 | 6.7 |
| 21 | 7.9 | 7.7 | 7.6 | 7.5 | 7.7 | 7.5 | 6.9 | 6.9 | 7.2 | 7.2 | 7.0 | 6.7 |
| 22 | 7.9 | 7.6 | 7.7 | 7.6 | 7.5 | 7.4 | 7.0 | 6.8 | 7.5 | 6.7 | 7.1 | 6.8 |
| 23 | 7.8 | 7.5 | 7.7 | 7.6 | 7.5 | 7.4 | 7.0 | 6.8 | 7.2 | 6.9 | 7.1 | 6.8 |
| 24 | 7.6 | 7.5 | 7.6 | 7.6 | 7.5 | 7.1 | 6.9 | 6.8 | --- | --- | 7.1 | 6.8 |
| 25 | 7.5 | 6.9 | 7.6 | 7.4 | 7.5 | 7.5 | 6.9 | 6.8 | --- | --- | 7.1 | 6.8 |
| 26 | 7.6 | 7.0 | 7.5 | 7.4 | 7.5 | 7.4 | 6.9 | 6.8 | --- | --- | 7.1 | 6.8 |
| 27 | 7.6 | 7.3 | 7.5 | 7.4 | 7.6 | 7.4 | 7.0 | 6.9 | --- | --- | 7.0 | 6.8 |
| 28 | 7.7 | 7.3 | 7.6 | 7.5 | 7.4 | 7.3 | 7.1 | 6.9 | --- | --- | 6.9 | 6.8 |
| 29 | 7.8 | 7.7 | 7.8 | 7.6 | 7.5 | 7.3 | 7.1 | 6.9 | --- | --- | 7.0 | 6.6 |
| 30 | 7.8 | 7.7 | 7.7 | 7.5 | 7.4 | 7.2 | 7.1 | 7.0 | --- | --- | 7.0 | 6.7 |
| 31 | 7.7 | 7.1 | --- | --- | 7.4 | 7.3 | 7.1 | 6.9 | --- | --- | 7.2 | 6.9 |
| MONTH | 7.9 | 6.4 | 7.8 | 7.0 | 7.7 | 7.1 | 7.4 | 6.8 | 7.5 | 6.7 | 7.6 | 6.6 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 7.2 | 6.9 | 7.2 | 6.8 | 7.3 | 7.0 | 7.1 | 6.9 | 7.2 | 6.5 | 8.0 | 7.7 |
| 2 | 7.0 | 6.9 | 7.1 | 6.9 | 7.2 | 7.0 | 6.9 | 6.6 | 6.8 | 6.2 | 8.2 | 7.8 |
| 3 | 6.8 | 6.6 | 7.2 | 7.0 | 7.3 | 7.2 | 7.2 | 7.0 | 6.9 | 6.2 | 8.2 | 7.7 |
| 4 | 6.8 | 6.6 | 7.1 | 6.6 | 7.4 | 7.2 | 7.2 | 7.0 | 7.1 | 6.3 | 8.1 | 7.7 |
| 5 | 6.9 | 6.6 | 7.0 | 6.7 | 7.3 | 7.2 | 7.1 | 6.7 | 7.2 | 6.3 | 8.2 | 7.8 |
| 6 | 6.9 | 6. | | | | | | | | | | |

189

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-----------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 18.0 | 15.5 | 8.0 | 6.0 | 2.5 | 0.5 | 0.5 | 0.5 | 1.0 | 0.5 | --- | --- |
| 2 | 18.0 | 15.5 | 8.0 | 6.0 | 1.0 | 0.5 | 1.0 | 0.5 | 1.0 | 0.5 | 4.0 | 1.5 |
| 3 | 20.0 | 15.0 | 9.0 | 7.0 | 4.5 | 0.0 | 0.5 | 0.5 | 1.0 | 0.5 | 5.0 | 2.5 |
| 4 | 20.5 | 15.0 | 8.0 | 6.0 | --- | --- | 0.5 | 0.5 | 1.0 | 0.5 | 5.5 | 4.0 |
| 5 | 21.0 | 15.5 | 7.0 | 5.5 | --- | --- | 0.5 | 0.5 | 1.0 | 0.5 | 6.0 | 5.5 |
| 6 | 21.0 | 17.0 | 7.5 | 4.5 | --- | --- | 0.5 | 0.5 | 0.5 | 0.5 | 6.5 | 5.5 |
| 7 | 17.5 | 15.0 | 6.5 | 5.0 | --- | --- | 0.5 | 0.5 | 1.0 | 0.5 | 6.0 | 5.0 |
| 8 | 15.5 | 14.5 | 6.0 | 4.0 | --- | --- | --- | --- | 1.0 | 0.5 | --- | --- |
| 9 | 15.5 | 12.0 | 7.0 | 3.5 | --- | --- | --- | --- | 1.0 | 0.5 | --- | --- |
| 10 | 14.5 | 11.0 | 6.5 | 5.0 | --- | --- | --- | --- | 1.0 | 0.5 | --- | --- |
| 11 | 15.0 | 11.0 | 6.0 | 5.0 | --- | --- | --- | --- | 1.0 | 0.5 | --- | --- |
| 12 | 16.5 | 11.5 | 6.0 | 5.0 | --- | --- | --- | --- | 0.5 | 0.5 | --- | --- |
| 13 | 17.0 | 12.0 | 5.5 | 3.5 | --- | --- | 1.0 | 0.5 | 0.5 | 0.5 | --- | --- |
| 14 | 16.0 | 11.5 | 6.0 | 2.5 | 2.0 | 1.0 | 1.0 | 0.5 | 0.5 | 0.5 | --- | --- |
| 15 | 17.0 | 11.0 | 6.0 | 4.0 | 2.5 | 0.5 | 1.0 | 0.5 | 0.5 | 0.5 | 10.0 | 8.0 |
| 16 | 16.5 | 12.0 | 5.5 | 2.5 | 2.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 11.5 | 9.5 |
| 17 | 14.0 | 11.0 | 6.0 | 2.5 | 3.5 | 1.0 | 0.5 | 0.5 | 0.5 | 0.5 | 10.5 | 9.0 |
| 18 | 12.5 | 8.5 | 6.0 | 3.5 | 3.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 10.5 | 8.5 |
| 19 | 12.5 | 8.0 | 7.0 | 4.0 | 4.0 | 0.5 | 1.0 | 0.5 | 0.5 | 0.5 | 8.0 | 7.0 |
| 20 | 11.5 | 8.5 | 6.0 | 4.0 | 3.5 | 2.0 | 1.0 | 0.5 | 0.5 | 0.5 | 7.0 | 6.5 |
| 21 | 9.5 | 8.0 | 5.5 | 3.0 | 2.0 | 0.5 | 1.0 | 0.5 | 1.0 | 0.5 | 7.5 | 6.0 |
| 22 | 10.0 | 6.5 | 4.5 | 3.0 | 0.5 | 0.5 | 1.0 | 0.5 | 1.5 | 0.5 | 7.5 | 6.0 |
| 23 | 9.0 | 6.0 | 4.0 | 2.5 | 0.5 | 0.5 | 1.0 | 0.5 | 1.5 | 0.5 | 7.5 | 6.0 |
| 24 | 9.0 | 7.0 | 3.0 | 1.5 | 0.5 | 0.5 | 0.5 | 0.5 | --- | --- | 8.0 | 6.0 |
| 25 | 9.5 | 9.0 | 5.0 | 1.5 | 0.5 | 0.5 | 0.5 | 0.5 | --- | --- | 8.5 | 6.0 |
| 26 | 9.0 | 8.0 | 7.5 | 4.0 | 1.0 | 0.5 | 0.5 | 0.5 | --- | --- | 9.5 | 6.5 |
| 27 | 8.0 | 7.0 | 9.5 | 7.0 | 0.5 | 0.5 | 0.5 | 0.5 | --- | --- | 10.0 | 7.0 |
| 28 | 8.5 | 5.5 | 8.5 | 5.0 | 1.0 | 0.5 | 0.5 | 0.5 | --- | --- | 11.0 | 9.0 |
| 29 | 8.5 | 4.5 | 5.0 | 2.5 | 1.0 | 0.5 | 0.5 | 0.5 | --- | --- | 14.5 | 10.5 |
| 30 | 7.5 | 5.0 | 2.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | --- | --- | 16.5 | 13.0 |
| 31 | 7.5 | 6.5 | --- | --- | 1.0 | 0.5 | 0.5 | 0.5 | --- | --- | 15.5 | 13.5 |
| MONTH | 21.0 | 4.5 | 9.5 | 0.5 | 4.5 | 0.0 | 1.0 | 0.5 | 1.5 | 0.5 | 16.5 | 1.5 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 15.0 | 12.0 | 17.0 | 12.0 | 26.0 | 22.5 | 25.0 | 22.0 | 27.0 | 23.0 | 30.5 | 26.0 |
| 2 | 14.0 | 12.5 | 18.5 | 14.5 | 25.5 | 21.5 | 26.0 | 22.0 | 28.5 | 22.5 | 31.0 | 27.0 |
| 3 | 13.0 | 12.0 | 19.0 | 16.5 | 25.5 | 19.5 | 27.0 | 22.0 | 29.5 | 22.5 | 29.5 | 25.0 |
| 4 | 12.0 | 11.5 | 18.0 | 17.5 | 26.5 | 19.0 | 26.0 | 22.0 | 30.0 | 24.5 | 29.5 | 23.0 |
| 5 | 12.0 | 10.5 | 18.0 | 16.5 | 26.5 | 20.0 | 26.5 | 22.0 | 30.5 | 25.5 | 28.0 | 24.5 |
| 6 | 10.5 | 8.0 | 19.5 | 17.0 | 24.0 | 21.0 | 29.0 | 24.0 | 30.5 | 27.0 | 27.5 | 24.0 |
| 7 | 8.0 | 7.0 | 19.0 | 17.5 | 23.0 | 17.5 | 31.0 | 25.5 | 30.5 | 27.5 | 27.0 | 23.0 |
| 8 | 9.5 | 8.0 | 17.5 | 16.5 | 19.5 | 15.5 | 32.0 | 26.5 | 29.5 | 26.0 | 27.5 | 23.0 |
| 9 | 10.5 | 8.5 | 16.0 | 14.5 | 19.5 | 16.0 | 31.0 | 26.5 | 29.0 | 25.0 | 28.0 | 23.5 |
| 10 | 12.0 | 9.0 | 15.0 | 13.5 | 23.5 | 15.5 | 29.0 | 25.0 | 28.5 | 25.0 | 28.0 | 24.0 |
| 11 | 14.5 | 10.5 | 15.5 | 12.5 | 23.0 | 17.5 | 30.5 | 24.5 | 28.0 | 24.5 | 25.5 | 20.0 |
| 12 | 16.5 | 13.0 | 17.5 | 13.0 | 25.0 | 17.0 | 28.0 | 24.5 | 28.0 | 24.0 | 23.0 | 18.5 |
| 13 | 18.5 | 14.5 | 19.5 | 14.5 | 26.0 | 19.5 | 30.0 | 24.5 | 25.0 | 23.5 | 22.5 | 20.5 |
| 14 | 19.0 | 15.5 | 19.5 | 16.5 | 26.0 | 21.0 | 32.0 | 25.0 | 27.5 | 23.0 | 24.0 | 21.5 |
| 15 | 19.5 | 16.0 | 22.0 | 16.5 | 27.5 | 21.5 | 32.0 | 25.5 | 28.5 | 24.0 | 23.0 | 20.0 |
| 16 | 19.5 | 15.5 | 23.0 | 17.5 | 27.5 | 22.0 | 32.0 | 27.0 | 29.5 | 24.5 | 23.5 | 21.0 |
| 17 | 19.0 | 16.0 | 23.5 | 18.5 | 26.5 | 23.0 | 32.0 | 27.0 | 29.0 | 25.5 | 23.5 | 21.0 |
| 18 | 19.5 | 16.0 | 24.5 | 19.5 | 28.5 | 24.0 | 33.5 | 27.0 | 26.5 | 22.0 | 24.5 | 20.0 |
| 19 | 19.0 | 16.0 | 26.5 | 20.5 | 28.5 | 24.0 | 33.5 | 28.0 | 26.5 | 21.0 | 26.0 | 21.0 |
| 20 | 21.0 | 16.5 | 27.5 | 21.0 | 28.0 | 24.0 | 33.0 | 29.0 | 26.5 | 20.5 | 25.0 | 22.0 |
| 21 | 22.0 | 18.0 | 27.5 | 21.5 | 27.5 | 22.5 | 33.5 | 29.0 | 26.5 | 21.0 | 23.0 | 19.5 |
| 22 | 20.5 | 19.0 | 28.0 | 21.5 | 27.5 | 21.0 | 31.5 | 27.0 | 26.5 | 22.0 | 23.5 | 18.5 |
| 23 | 20.0 | 18.5 | 27.5 | 22.5 | 26.0 | 20.0 | 30.5 | 24.5 | 26.5 | 22.0 | 23.5 | 18.5 |
| 24 | 19.5 | 16.5 | 27.0 | 22.0 | 26.5 | 22.0 | 30.0 | 24.0 | 27.0 | 22.5 | 24.0 | 19.5 |
| 25 | 16.5 | 14.0 | 26.0 | 22.5 | 25.5 | 22.5 | 29.5 | 25.5 | 25.0 | 20.0 | 23.5 | 20.0 |
| 26 | 14.0 | 12.5 | 27.5 | 21.5 | 27.5 | 22.0 | 27.0 | 23.0 | 26.5 | 20.0 | 24.0 | 21.5 |
| 27 | 17.0 | 11.0 | 28.0 | 21.5 | 26.0 | 23.0 | 27.0 | 22.0 | 29.0 | 22.5 | 24.5 | 18.5 |
| 28 | 15.5 | 13.0 | 28.0 | 22.0 | 24.5 | 22.5 | 28.0 | 22.0 | 30.0 | 24.5 | 20.5 | 17.5 |
| 29 | 16.0 | 11.5 | 27.5 | 22.5 | 25.5 | 23.0 | 28.5 | 23.5 | 30.0 | 26.0 | 20.0 | 17.0 |
| 30 | 16.0 | 12.0 | 28.5 | 21.5 | 25.0 | 22.0 | 29.0 | 23.5 | 29.5 | 25.5 | 22.5 | 18.0 |
| 31 | --- | --- | 27.5 | 23.0 | --- | --- | 28.0 | 23.5 | 30.5 | 25.5 | --- | --- |
| MONTH | 22.0 | 7.0 | 28.5 | 12.0 | 28.5 | 15.5 | 33.5 | 22.0 | 30.5 | 20.0 | 31.0 | 17.0 |
| YEAR | 33.5 | 0.0 | | | | | | | | | | |

| DAY | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | |
|-----|---------|-----|----------|------|----------|------|---------|------|----------|------|-------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | | | | | | | | | |
| 1 | 8.1 | 7.4 | 9.4 | 8.5 | --- | --- | 11.8 | 11.2 | 10.1 | 9.5 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2 | 8.0 | 7.5 | 9.4 | 9.1 | --- | --- | 11.2 | 11.0 | 10.0 | 9.4 | 12.9 | 11.5 | --- | --- | --- | --- | --- | --- | --- | |
| 3 | 8.2 | 7.5 | 9.2 | 8.6 | --- | --- | 11.2 | 11.0 | 10.0 | 9.6 | 11.7 | 11.3 | --- | --- | --- | --- | --- | --- | --- | |
| 4 | 8.2 | 7.6 | 9.2 | 8.8 | --- | --- | 10.9 | 10.6 | 9.8 | 9.3 | 11.7 | 10.7 | --- | --- | --- | --- | --- | --- | --- | |
| 5 | 8.1 | 7.4 | 9.4 | 9.2 | --- | --- | 11.0 | 10.4 | 10.0 | 9.3 | 10.8 | 9.5 | --- | --- | --- | --- | --- | --- | --- | |
| 6 | 7.9 | 7.1 | 9.5 | 9.1 | --- | --- | 10.8 | 10.7 | 9.9 | 9.3 | 11.7 | 9.6 | --- | --- | --- | --- | --- | --- | --- | |
| 7 | 8.1 | 7.0 | 9.8 | 9.2 | --- | --- | 11.1 | 10.7 | 9.8 | 9.5 | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| 8 | 8.6 | 7.4 | 10.1 | 9.6 | --- | --- | --- | --- | 9.8 | 9.5 | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| 9 | 8.4 | 7.6 | 10.0 | 9.3 | --- | --- | --- | --- | 10.0 | 9.6 | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| 10 | 8.3 | 7.6 | 10.3 | 9.4 | --- | --- | --- | --- | 10.5 | 9.7 | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| 11 | 8.3 | 7.2 | 10.1 | 9.9 | --- | --- | --- | --- | 10.4 | 10.0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| 12 | 8.5 | 8.0 | 10.2 | 10.0 | --- | --- | --- | --- | 11.1 | 10.3 | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| 13 | 8.3 | 7.8 | 10.4 | 10.2 | --- | --- | 11.0 | 10.6 | 12.0 | 11.0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| 14 | 8.3 | 7.8 | 10.6 | 10.2 | 12.6 | 12.2 | 10.7 | 10.5 | 12.6 | 11.8 | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| 15 | 8.5 | 7.8 | 10.4 | 10.0 | 12.4 | 12.1 | 10.5 | 10.3 | 12.7 | 12.5 | 11.3 | 11.0 | --- | --- | --- | --- | --- | --- | --- | |
| 16 | 8.8 | 7.6 | 10.6 | 10.0 | 12.2 | 11.9 | 10.5 | 10.4 | 12.9 | 12.6 | 11.0 | 10.8 | --- | --- | --- | --- | --- | --- | --- | |
| 17 | 9.2 | 8.2 | 10.6 | 9.7 | 12.0 | 11.6 | 10.4 | 10.0 | 13.0 | 12.6 | 10.8 | 10.8 | --- | --- | --- | --- | --- | --- | --- | |
| 18 | 9.4 | 8.8 | 10.1 | 9.6 | 12.0 | 11.7 | 10.1 | 9.8 | 12.8 | 12.5 | 11.0 | 10.6 | --- | --- | --- | --- | --- | --- | --- | |
| 19 | 9.5 | 9.0 | 9.8 | 9.1 | 12.0 | 11.5 | 10.5 | 9.8 | 13.0 | 12.2 | 11.3 | 11.0 | --- | --- | --- | --- | --- | --- | --- | |
| 20 | 9.4 | 8.7 | 9.7 | 9.2 | 11.6 | 11.4 | 10.3 | 9.9 | 12.4 | 12.2 | 11.7 | 11.3 | --- | --- | --- | --- | --- | --- | --- | |
| 21 | 9.5 | 8.4 | 9.6 | 9.3 | 12.1 | 11.6 | 10.2 | 9.8 | 12.4 | 12.1 | 11.6 | 11.4 | --- | --- | --- | --- | --- | --- | --- | |
| 22 | 9.6 | 9.0 | 11.0 | 9.3 | 12.0 | 11.7 | 10.2 | 9.9 | 13.0 | 12.2 | 11.4 | 11.2 | --- | --- | --- | --- | --- | --- | --- | |
| 23 | 9.7 | 9.2 | 10.7 | 10.4 | 11.9 | 11.8 | 10.4 | 10.1 | 12.5 | 12.0 | 11.6 | 11.4 | --- | --- | --- | --- | --- | --- | --- | |
| 24 | 9.5 | 8.7 | 10.7 | 10.5 | 11.8 | 11.5 | 10.4 | 10.1 | --- | --- | 11.6 | 11.5 | --- | --- | --- | --- | --- | --- | --- | |
| 25 | 8.7 | 8.0 | 10.6 | 9.8 | 11.9 | 11.6 | 10.3 | 10.0 | --- | --- | 11.5 | 11.3 | --- | --- | --- | --- | --- | --- | --- | |
| 26 | 9.0 | 7.9 | 9.9 | 8.9 | 11.7 | 11.4 | 10.2 | 9.5 | --- | --- | 11.3 | 11.0 | --- | --- | --- | --- | --- | --- | --- | |
| 27 | 9.5 | 8.9 | 9.0 | 8.3 | 11.6 | 11.1 | 10.4 | 9.5 | --- | --- | 11.1 | 10.6 | --- | --- | --- | --- | --- | --- | --- | |
| 28 | 10.0 | 9.4 | 9.3 | 8.4 | 11.1 | 11.0 | 10.6 | 10.1 | --- | --- | 11.0 | | | | | | | | | |

SHADE RIVER BASIN

03159540 SHADE RIVER NEAR CHESTER, OH

LOCATION.--Lat 39°03'49", long 81°52'55", in NE 1/4 sec. 10, T.3N., R.12W., Meigs County, Hydrologic Unit 05030202, on right bank at downstream side of bridge on Oak Hill Road, 200 ft (61 m) upstream from Sugar Run, 2.8 mi (4.5 km) southeast of Chester, and 8.5 mi (13.7 km) northeast of Pomeroy.

DRAINAGE AREA.--156 mi² (404 km²), includes that of Sugar Run.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 576.91 ft (175.842 m) above mean sea level.

REMARKS.--Records good except those for winter periods, which are fair.

AVERAGE DISCHARGE.--12 years, 170 ft³/s (4.814 m³/s), 14.80 in/yr (376 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,170 ft³/s (231 m³/s) May 25, 1968, gage height, 27.39 ft (8.348 m); minimum, 0.30 ft³/s (0.008 m³/s) Sept. 7, 8, 9, 10, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,180 ft³/s (61.7 m³/s) Mar. 13, gage height, 14.85 ft (4.526 m), no peaks above base of 2,400 ft³/s (68.0 m³/s); minimum, 2.8 ft³/s (0.079 m³/s) June 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------------|---------|------|------|----------|----------|---------|-----------|----------|--------|-------|-------|-------|
| 1 | 83 | 624 | 34 | 25 | 24 | 148 | 74 | 56 | 17 | 136 | 5.9 | 8.1 |
| 2 | 84 | 236 | 32 | 24 | 24 | 127 | 82 | 54 | 10 | 129 | 14 | 12 |
| 3 | 57 | 167 | 32 | 24 | 24 | 113 | 462 | 49 | 7.7 | 53 | 12 | 81 |
| 4 | 41 | 125 | 34 | 24 | 24 | 1260 | 386 | 179 | 6.8 | 33 | 6.8 | 34 |
| 5 | 34 | 99 | 32 | 24 | 24 | 1110 | 1530 | 163 | 5.9 | 74 | 5.0 | 54 |
| 6 | 29 | 86 | 37 | 24 | 24 | 363 | 673 | 193 | 5.6 | 56 | 4.3 | 95 |
| 7 | 27 | 78 | 1080 | 24 | 24 | 238 | 506 | 693 | 4.5 | 31 | 4.5 | 41 |
| 8 | 21 | 70 | 788 | 24 | 24 | 179 | 348 | 531 | 5.0 | 23 | 6.2 | 23 |
| 9 | 1220 | 63 | 220 | 24 | 25 | 148 | 236 | 193 | 16 | 79 | 6.8 | 17 |
| 10 | 819 | 59 | 150 | 24 | 31 | 125 | 191 | 120 | 31 | 31 | 6.2 | 14 |
| 11 | 177 | 56 | 120 | 24 | 249 | 110 | 159 | 96 | 15 | 21 | 6.2 | 9.7 |
| 12 | 99 | 50 | 100 | 24 | 776 | 118 | 130 | 79 | 9.7 | 30 | 16 | 7.4 |
| 13 | 72 | 46 | 85 | 24 | 1600 | 1920 | 113 | 68 | 7.4 | 22 | 32 | 6.2 |
| 14 | 50 | 42 | 80 | 24 | 1140 | 817 | 104 | 59 | 6.5 | 23 | 46 | 5.3 |
| 15 | 44 | 41 | 76 | 24 | 595 | 315 | 95 | 50 | 5.6 | 16 | 26 | 5.0 |
| 16 | 39 | 41 | 70 | 24 | 379 | 229 | 84 | 42 | 5.9 | 11 | 17 | 5.9 |
| 17 | 38 | 38 | 66 | 24 | 297 | 174 | 76 | 37 | 5.6 | 8.8 | 14 | 17 |
| 18 | 32 | 37 | 60 | 24 | 216 | 483 | 72 | 34 | 4.5 | 8.1 | 20 | 14 |
| 19 | 27 | 38 | 56 | 24 | 156 | 572 | 68 | 31 | 4.3 | 7.4 | 18 | 18 |
| 20 | 30 | 37 | 70 | 24 | 206 | 278 | 61 | 30 | 5.3 | 6.8 | 10 | 30 |
| 21 | 74 | 34 | 74 | 24 | 172 | 214 | 56 | 26 | 6.8 | 6.2 | 7.1 | 20 |
| 22 | 63 | 34 | 60 | 24 | 253 | 191 | 52 | 22 | 4.5 | 6.5 | 5.3 | 11 |
| 23 | 44 | 33 | 47 | 24 | 840 | 165 | 52 | 19 | 3.6 | 11 | 4.5 | 8.1 |
| 24 | 132 | 32 | 45 | 24 | 1250 | 132 | 65 | 18 | 3.0 | 9.2 | 316 | 7.1 |
| 25 | 390 | 31 | 36 | 24 | 826 | 111 | 55 | 18 | 4.0 | 17 | 41 | 6.2 |
| 26 | 326 | 32 | 35 | 24 | 374 | 101 | 50 | 25 | 460 | 64 | 20 | 5.9 |
| 27 | 165 | 35 | 34 | 24 | 274 | 93 | 47 | 21 | 95 | 32 | 13 | 5.9 |
| 28 | 99 | 35 | 32 | 24 | 199 | 99 | 48 | 15 | 618 | 13 | 10 | 5.9 |
| 29 | 78 | 42 | 29 | 24 | --- | 113 | 156 | 12 | 247 | 8.4 | 9.7 | 11 |
| 30 | 83 | 44 | 28 | 24 | --- | 93 | 83 | 11 | 98 | 6.8 | 7.7 | 7.7 |
| 31 | 1500 | --- | 26 | 24 | --- | 84 | --- | 22 | --- | 6.2 | 8.1 | --- |
| TOTAL | 5977 | 2385 | 3668 | 745 | 10050 | 10223 | 6114 | 2966 | 1719.2 | 979.4 | 719.3 | 586.4 |
| MEAN | 193 | 79.5 | 118 | 24.0 | 359 | 330 | 204 | 95.7 | 57.3 | 31.6 | 23.2 | 19.5 |
| MAX | 1500 | 624 | 1080 | 25 | 1600 | 1920 | 1530 | 693 | 618 | 136 | 316 | 95 |
| MIN | 21 | 31 | 26 | 24 | 24 | 84 | 47 | 11 | 3.0 | 6.2 | 4.3 | 5.0 |
| CFSM | 1.24 | .51 | .76 | .15 | 2.30 | 2.12 | 1.31 | .61 | .37 | .20 | .15 | .13 |
| IN. | 1.43 | .57 | .87 | .18 | 2.40 | 2.44 | 1.46 | .71 | .41 | .23 | .17 | .14 |
| CAL YR 1976 TOTAL | 58738.8 | | | MEAN 160 | MAX 2140 | MIN 3.8 | CFSM 1.03 | IN 14.01 | | | | |
| WTR YR 1977 TOTAL | 46132.3 | | | MEAN 126 | MAX 1920 | MIN 3.0 | CFSM .81 | IN 11.00 | | | | |

SHADE RIVER BASIN

193

03159540 SHADE RIVER NEAR CHESTER, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA, MG) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|--------|--|--|--------------------------|--------------------------------|------------------------------------|------------------------------------|--|--|---|---|---|
| DATE | TIME | (CFS) | | (UNITS) | | | | | (MG/L) | | | |
| MAR 17... | 1130 | 174 | 310 | 7.4 | 9.0 | 9.7 | 84 | 1.3 | 120 | 65 | 35 | 8.3 |
| JUN 21... | 1100 | 6.8 | 395 | 6.8 | 22.0 | 5.8 | 66 | 1.8 | 170 | 73 | 51 | 11 |
| | | DIS- SOLVED PO- TAS- SIUM (K) | BICAR- BONATE (HCO3) | CAR- BONATE (CO3) | ALKA- LINITY AS CAC03 | CARBON DIOXIDE (CO2) | DIS- SOLVED SULFATE (SO4) | DIS- SOLVED CHLO- RIDE (CL) | DIS- SOLVED FLUO- RIDE (F) | DIS- SOLVED SILICA (SI02) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) | TOTAL NITRATE (N) |
| DATE | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) |
| MAR 17... | 8.4 | 2.1 | 69 | 0 | 57 | 4.4 | 66 | 7.1 | .1 | 7.8 | 169 | .43 |
| JUN 21... | 13 | 3.2 | 121 | 0 | 99 | 31 | 77 | 11 | .1 | 4.2 | 231 | .09 |
| | | TOTAL AMMONIA NITRO- GEN (N) | TOTAL PHOS- PHORUS (P) | TOTAL ARSENIC (AS) | TOTAL CHROM- IUM (CR) | TOTAL COPPER (CU) | DIS- SOLVED IRON (FE) | TOTAL LEAD (PB) | DIS- SOLVED MAN- GANESE (MN) | TOTAL MERCURY (HG) | TOTAL ZINC (ZN) | TOTAL ORGANIC CARBON (C) |
| DATE | (MG/L) | (MG/L) | (MG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (MG/L) |
| MAR 17... | .01 | .04 | .04 | 2 | 10 | 7 | 90 | 7 | 300 | .8 | 80 | 3.2 |
| JUN 21... | .00 | .08 | .03 | 2 | 10 | 3 | 150 | 7 | 1100 | .0 | 70 | 6.3 |

RACCOON CREEK BASIN

03201600 SANDY RUN ABOVE BIG FOUR HOLLOW CREEK NEAR LAKE HOPE, OH

LOCATION.--Lat 39°21'45", long 82°18'47", in NW 1/4 sec. 11, T.11 N., R.16 W., Vinton County, Hydrologic Unit 05090101, on right bank 250 ft (76 m) upstream from Big Four Hollow Creek, 150 ft (46 m) downstream from Morgan Hollow Creek, 2.5 mi (4.0 km) southwest of Carbondale, and 3.7 mi (6.0 km) northeast of Lake Hope.

DRAINAGE AREA.--0.98 mi² (2.54 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder with concrete weir and 6-inch Parshall flume. Altitude of gage is 770.0 ft (234.70 m), from topographic map.

REMARKS.--Records poor.

AVERAGE DISCHARGE.--7 years, 1.11 ft³/s (0.0314 m³/s), 15.38 in/yr (391 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 990 ft³/s (28.0 m³/s) June 22, 1974, gage-height, 5.01 ft (1.527 m) from rating curve extended above 30 ft³/s (0.85 m³/s); minimum, 0.02 ft³/s (0.001 m³/s) Sept. 24, 25, 1971, gage height, 0.05 ft (0.015 m).

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 50 ft³/s (1.42 m³/s) and maximums (*):

| Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) | Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) |
|---------|------|---|-------------------------|--------|------|---|-------------------------|
| Mar. 12 | 2230 | 53 1.50 | 2.43 0.741 | Apr. 2 | 1920 | *76 2.15 | *2.71 0.826 |

Minimum discharge, 0.03 ft³/s (0.001 m³/s) Sept. 11, 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|-------|------|-------|-------|-------|-------|-------|-------|------|------|
| 1 | .09 | .48 | .07 | .10 | .04 | .90 | .45 | .49 | .12 | 7.3 | .43 | .07 |
| 2 | .07 | .30 | .09 | .09 | .04 | .64 | 13 | .50 | .09 | 1.4 | .10 | .07 |
| 3 | .05 | .27 | .06 | .07 | .04 | .84 | 15 | .49 | .07 | .56 | .10 | .06 |
| 4 | .04 | .17 | .09 | .07 | .04 | 10 | 10 | .55 | .07 | 2.5 | .08 | .05 |
| 5 | .04 | .12 | .06 | .06 | .04 | 2.2 | 9.2 | .96 | .11 | 2.3 | .07 | .06 |
| 6 | .05 | .12 | .29 | .06 | .04 | 1.6 | 6.6 | 1.7 | .16 | .69 | .08 | .05 |
| 7 | .07 | .11 | 2.5 | .06 | .04 | 1.3 | 4.7 | 8.4 | .13 | .16 | .08 | .05 |
| 8 | .08 | .08 | .78 | .06 | .04 | 1.0 | 2.9 | 3.2 | .08 | .12 | .08 | .04 |
| 9 | 1.2 | .13 | .33 | .06 | .05 | .92 | 2.1 | 1.5 | .18 | .10 | .08 | .04 |
| 10 | .29 | .09 | .33 | .06 | .12 | .75 | 1.9 | 1.1 | .07 | .12 | .10 | .05 |
| 11 | .13 | .07 | 1.0 | .06 | .81 | .62 | 1.6 | .72 | .07 | .94 | .15 | .03 |
| 12 | .10 | .08 | .95 | .06 | 3.9 | 4.7 | 1.3 | .65 | .09 | .97 | .37 | .03 |
| 13 | .11 | .07 | .41 | .06 | 4.0 | 10 | 1.2 | .57 | .07 | .49 | .16 | .07 |
| 14 | .07 | .09 | .34 | .06 | 1.6 | 2.4 | 1.1 | .45 | .14 | .23 | .16 | .06 |
| 15 | .07 | .10 | .34 | .06 | .97 | 1.9 | .72 | .32 | .08 | .17 | .11 | .13 |
| 16 | .06 | .08 | .30 | .06 | .84 | 1.5 | .54 | .26 | .08 | .14 | .11 | .51 |
| 17 | .05 | .10 | .21 | .06 | .71 | 1.2 | .49 | .26 | .08 | .13 | .11 | .12 |
| 18 | .04 | .10 | .12 | .05 | .61 | 1.5 | .48 | .24 | .12 | .11 | .07 | .10 |
| 19 | .06 | .08 | .18 | .05 | .52 | 1.7 | .57 | .20 | .10 | .10 | .06 | .10 |
| 20 | .14 | .07 | .32 | .05 | .44 | 1.8 | .53 | .16 | .07 | .09 | .07 | .08 |
| 21 | .10 | .08 | .16 | .05 | .35 | 1.7 | .47 | .15 | .06 | .19 | .08 | .06 |
| 22 | .05 | .08 | .15 | .05 | 1.6 | 1.7 | .44 | .14 | .06 | .14 | .08 | .05 |
| 23 | .05 | .07 | .13 | .05 | 2.4 | 1.6 | .48 | .13 | .07 | .08 | .05 | .05 |
| 24 | .40 | .08 | .12 | .05 | 8.0 | 1.3 | .50 | .13 | .07 | .11 | .12 | .07 |
| 25 | .64 | .08 | .10 | .05 | 3.3 | .96 | .44 | .15 | 1.2 | .64 | .06 | .07 |
| 26 | .47 | .08 | .10 | .04 | 1.8 | .85 | .40 | .14 | 1.9 | .18 | .06 | .10 |
| 27 | .23 | .10 | .10 | .04 | 1.6 | .87 | .35 | .13 | .68 | .10 | .07 | .06 |
| 28 | .10 | .09 | .10 | .04 | .95 | 1.0 | .35 | .12 | 3.1 | .10 | .05 | .05 |
| 29 | .12 | .10 | .10 | .04 | --- | .73 | .44 | .13 | 3.1 | .13 | .05 | .04 |
| 30 | .49 | .05 | .10 | .04 | --- | .64 | .47 | .10 | 1.6 | .11 | .06 | .04 |
| 31 | 2.6 | --- | .10 | .04 | --- | .50 | --- | .10 | --- | .10 | .07 | --- |
| TOTAL | 8.06 | 3.52 | 10.03 | 1.75 | 34.89 | 59.32 | 78.72 | 24.14 | 13.82 | 20.50 | 3.32 | 2.36 |
| MEAN | .26 | .12 | .32 | .056 | 1.25 | 1.91 | 2.62 | .78 | .46 | .66 | .11 | .079 |
| MAX | 2.6 | .48 | 2.5 | .10 | 8.0 | 10 | 15 | 8.4 | 3.1 | 7.3 | .43 | .51 |
| MIN | .04 | .05 | .06 | .04 | .04 | .50 | .35 | .10 | .06 | .08 | .05 | .03 |
| CFSM | .27 | .12 | .33 | .06 | 1.28 | 1.95 | 2.67 | .80 | .47 | .67 | .11 | .08 |
| IN. | .31 | .13 | .38 | .07 | 1.32 | 2.25 | 2.99 | .92 | .52 | .78 | .13 | .09 |

CAL YR 1976 TOTAL 333.82 MEAN .91 MAX 26 MIN .03 CFSM .93 IN 12.67
WTR YR 1977 TOTAL 260.43 MEAN .71 MAX 15 MIN .03 CFSM .72 IN 9.88

RACCOON CREEK BASIN

195

03201600 SANDY RUN ABOVE BIG FOUR HOLLOW CREEK NEAR LAKE HOPE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1970 to current year.

PERIOD OF DAILY RECCRD.--

SPECIFIC CONDUCTANCE: January 1971 to current year.

pH: January 1971 to current year.

WATER TEMPERATURES: January 1971 to current year.

INSTRUMENTATION.--Water-quality monitor since January 1971.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 3,100 micromhos Oct. 21, 22, 1971; minimum, 90 micromhos July 11, 1976.

pH: Maximum, 7.5 units Dec. 6, 1971; minimum, 1.9 units Apr. 10, 1973.

WATER TEMPERATURES: Maximum, 33.5°C Aug. 2, 1973; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 2,760 micromhos Sept. 30; minimum, 141 micromhos Apr. 2.

pH: Maximum, 6.3 units July 4; minimum, 2.3 units July 17, Aug. 5.

WATER TEMPERATURES: Maximum, 29.0°C July 14, 15; minimum, 0.0°C on many days during November to February.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|--|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| | | | | | | | | | | | | |
| MAR 24... | 1130 | 1.2 | 530 | 3.6 | 6.5 | 11.6 | 94 | .2 | 150 | 150 | 34 | 15 |
| JUN 15... | 1000 | .08 | 1600 | 2.7 | 17.0 | 6.6 | 68 | .0 | 440 | 440 | 93 | 51 |
| DATE | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 24... | 10 | 1.9 | 0 | 0 | 0 | .0 | 200 | 11 | .1 | 15 | 294 | .06 |
| JUN 15... | 24 | 3.1 | 0 | 0 | 0 | .0 | 720 | 19 | .2 | 39 | 981 | .27 |
| DATE | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 24... | .00 | .13 | .00 | 0 | <10 | 6 | 5300 | 3 | 870 | .0 | 190 | 7.9 |
| JUN 15... | .00 | .37 | .02 | 1 | 10 | 17 | 22000 | 12 | 4200 | .0 | 480 | 7.6 |

03201600 SANDY RUN ABOVE BIG FOUR HOLLOW CREEK NEAR LAKE HOPE, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 1500 | 1440 | 579 | 378 | 1670 | 1360 | 1190 | 1100 | 1410 | 1280 | 723 | 627 |
| 2 | 1520 | 1490 | 633 | 393 | 1550 | 1310 | 1230 | 1120 | 1290 | 1230 | 720 | 432 |
| 3 | 1570 | 1520 | 660 | 624 | 1540 | 1280 | 1490 | 1140 | 1530 | 1230 | 927 | 630 |
| 4 | 1600 | 1570 | --- | --- | 1650 | 1330 | 1360 | 1130 | 1600 | 1430 | 426 | 255 |
| 5 | 1710 | 1600 | --- | --- | 1380 | 1290 | 1310 | 1120 | 1460 | 1150 | 411 | 327 |
| 6 | 1790 | 1720 | --- | --- | 1740 | 372 | 1450 | 1090 | 1250 | 1160 | 534 | 411 |
| 7 | 1780 | 1450 | 1200 | 1040 | 351 | 285 | 1490 | 1210 | 1350 | 1130 | 552 | 531 |
| 8 | 1630 | 1430 | 1020 | 945 | 558 | 354 | 1200 | 1140 | 1600 | 1240 | 687 | 498 |
| 9 | 1620 | 366 | 1570 | 951 | 483 | 354 | 1520 | 1090 | 1810 | 1630 | 768 | 672 |
| 10 | 837 | 645 | 1450 | 1080 | 819 | 519 | 1560 | 1250 | 1680 | 1380 | 747 | 690 |
| 11 | 1040 | 840 | 1080 | 1060 | 687 | 342 | 1240 | 1190 | 1380 | 372 | 810 | 684 |
| 12 | 1610 | 1020 | 1080 | 1050 | 777 | 354 | 1190 | 1160 | 639 | 270 | 882 | 168 |
| 13 | 1680 | 1500 | 1100 | 1040 | 684 | 342 | --- | --- | 264 | 228 | 384 | 213 |
| 14 | 1580 | 1350 | 1560 | 1090 | 876 | 366 | --- | --- | 486 | 315 | 438 | 372 |
| 15 | 1730 | 1330 | 1530 | 1300 | 900 | 831 | --- | --- | 765 | 444 | 630 | 444 |
| 16 | 1640 | 1440 | 1310 | 1210 | 966 | 813 | --- | --- | 1040 | 537 | 624 | 471 |
| 17 | 1460 | 1430 | 1790 | 1190 | 840 | 726 | --- | --- | 1000 | 735 | 855 | 537 |
| 18 | 1470 | 1440 | 1750 | 1360 | 831 | 744 | --- | --- | 1100 | 987 | 891 | 228 |
| 19 | 1850 | 1460 | 1360 | 1280 | 1110 | 783 | --- | --- | 1010 | 873 | 363 | 282 |
| 20 | 1830 | 1220 | 1280 | 1240 | 1160 | 717 | --- | --- | 891 | 861 | 531 | 381 |
| 21 | 1300 | 1240 | 1490 | 1250 | 831 | 714 | --- | --- | 933 | 789 | 753 | 393 |
| 22 | 1370 | 1270 | 1430 | 1290 | 1200 | 786 | --- | --- | 1170 | 309 | 732 | 426 |
| 23 | 1340 | 1230 | 1310 | 1280 | 1190 | 966 | --- | --- | 603 | 246 | 576 | 387 |
| 24 | 1220 | 387 | 1590 | 1320 | 1260 | 1020 | --- | --- | 396 | 276 | --- | --- |
| 25 | 810 | 573 | 1560 | 1400 | 1400 | 1000 | --- | --- | 456 | 348 | --- | --- |
| 26 | 765 | 630 | 1520 | 1420 | 1190 | 906 | 1360 | 1150 | 609 | 411 | --- | --- |
| 27 | 819 | 684 | 1480 | 1250 | 1290 | 882 | 1420 | 1150 | 657 | 504 | 912 | 759 |
| 28 | 924 | 819 | 1260 | 1010 | 1250 | 948 | 1360 | 1130 | 615 | 432 | 900 | 759 |
| 29 | 1490 | 1130 | 1260 | 987 | 1010 | 927 | 1170 | 1100 | --- | --- | 819 | 585 |
| 30 | 1430 | 294 | 1410 | 1280 | 1040 | 972 | 1180 | 1080 | --- | --- | 834 | 585 |
| 31 | 363 | 234 | --- | --- | 1110 | 1020 | 1380 | 1100 | --- | --- | 819 | 585 |
| MONTH | 1850 | 234 | 1790 | 378 | 1740 | 285 | 1560 | 1080 | 1810 | 228 | 927 | 168 |

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|------|-----|------|------|------|------|------|--------|------|-----------|------|------|
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 996 | 558 | 939 | 882 | 1650 | 1550 | 738 | 219 | 1300 | 303 | 2100 | 1650 |
| 2 | 1060 | 141 | 924 | 864 | 1600 | 1550 | 957 | 756 | 1470 | 1310 | 2070 | 1850 |
| 3 | 330 | 165 | 930 | 339 | 1580 | 1540 | 1320 | 963 | 1720 | 1470 | 2110 | 2060 |
| 4 | 489 | 183 | 783 | 519 | 1730 | 1570 | 1380 | 252 | 1730 | 1640 | 2240 | 2110 |
| 5 | 282 | 219 | 729 | 471 | 1840 | 1690 | 1130 | 621 | 1810 | 1690 | 2260 | 2220 |
| 6 | 273 | 261 | 606 | 309 | 1950 | 1720 | 1300 | 1140 | 1960 | 1820 | 2250 | 2210 |
| 7 | 510 | 276 | 357 | 183 | 1900 | 1740 | 1330 | 1290 | 1990 | 1910 | 2230 | 2170 |
| 8 | 498 | 414 | 534 | 315 | 1740 | 1460 | 1370 | 1330 | 1990 | 1830 | 2260 | 2200 |
| 9 | 618 | 447 | 522 | 447 | 1520 | 945 | 1390 | 1340 | 1900 | 1860 | 2360 | 2260 |
| 10 | 687 | 615 | 603 | 483 | 1540 | 1410 | 1390 | 993 | 1940 | 1580 | 2380 | 2340 |
| 11 | 639 | 582 | 612 | 540 | 1520 | 1420 | 1560 | 183 | 1800 | 453 | 2360 | 2330 |
| 12 | 732 | 609 | 789 | 513 | 1670 | 1540 | 864 | 270 | 1570 | 507 | 2350 | 2320 |
| 13 | 840 | 729 | 891 | 783 | 1770 | 1600 | 840 | 540 | 1560 | 1320 | 2520 | 2350 |
| 14 | 828 | 720 | 882 | 816 | 1760 | 1180 | 1120 | 819 | 1580 | 1160 | 2530 | 2480 |
| 15 | 759 | 690 | 825 | 756 | 1730 | 1370 | 1330 | 1150 | 1530 | 1460 | 2480 | 702 |
| 16 | 798 | 729 | 891 | 789 | 1860 | 1730 | 1410 | 1360 | 1870 | 1460 | 1360 | 363 |
| 17 | 855 | 798 | 1100 | 900 | 1920 | 1870 | 1520 | 1430 | 1890 | 1680 | 1850 | 1390 |
| 18 | 879 | 483 | 1110 | 1030 | --- | --- | 1550 | 1490 | 1780 | 1720 | 2100 | 1870 |
| 19 | 771 | 678 | 1120 | 1010 | --- | --- | 1660 | 1560 | 1840 | 1750 | 2120 | 1520 |
| 20 | 828 | 765 | 1160 | 1080 | --- | --- | 1710 | 1650 | 1960 | 1850 | 1990 | 1820 |
| 21 | 885 | 816 | 1210 | 1120 | 2490 | 1890 | 1740 | 642 | 2110 | 1970 | 2030 | 1770 |
| 22 | 897 | 816 | 1240 | 1180 | 1920 | 1850 | 1550 | 966 | 2120 | 2010 | 2070 | 2020 |
| 23 | 1020 | 849 | 1280 | 1210 | 1990 | 1840 | 1740 | 1540 | 2000 | 1940 | 2210 | 2060 |
| 24 | 1010 | 939 | 1380 | 1220 | 2080 | 2000 | 1880 | 1780 | 1970 | 1100 | 2280 | 2210 |
| 25 | 939 | 750 | 1420 | 1330 | 2100 | 210 | 1880 | 252 | 1890 | 1830 | 2290 | 2240 |
| 26 | 873 | 789 | 1460 | 1420 | 1330 | 372 | 1300 | 912 | 2050 | 1850 | 2230 | 1470 |
| 27 | 918 | 771 | 1470 | 1410 | 1430 | 315 | 1460 | 1300 | 1990 | 1950 | 2130 | 2100 |
| 28 | 927 | 318 | 1520 | 1430 | 1090 | 321 | 1760 | 1460 | 2020 | 1980 | 2370 | 2130 |
| 29 | 558 | 408 | 1540 | 1150 | 1030 | 381 | 1770 | 1480 | 2150 | 2030 | 2400 | 2170 |
| 30 | 894 | 600 | 1430 | 1270 | 1240 | 159 | 1690 | 1630 | 2170 | 2020 | 2760 | 2230 |
| 31 | --- | --- | 1610 | 1430 | --- | --- | 1750 | 1450 | 2100 | 1930 | --- | --- |
| MONTH | 1060 | 141 | 1610 | 183 | 2490 | 159 | 1880 | 183 | 2170 | 303 | 2760 | 363 |
| YEAR | 2760 | 141 | | | | | | | | | | |

197

03201600 SANDY RUN ABOVE BIG FOUR HOLLOW CREEK NEAR LAKE HOPE, OH--Continued

PH (UNITS), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|-----|-----------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 3.1 | 3.1 | 3.7 | 3.1 | --- | --- | 2.9 | 2.8 | --- | --- | 4.0 | 3.5 |
| 2 | --- | --- | 3.2 | 3.1 | --- | --- | 3.0 | 2.8 | --- | --- | 4.4 | 3.9 |
| 3 | --- | --- | 3.2 | 3.1 | --- | --- | 2.9 | 2.8 | --- | --- | 3.9 | 3.7 |
| 4 | 3.1 | 3.0 | 3.4 | 3.1 | --- | --- | 3.1 | 2.8 | --- | --- | 6.2 | 4.8 |
| 5 | 3.0 | 2.8 | 3.2 | 3.0 | --- | --- | 3.1 | 3.0 | --- | --- | 4.8 | 4.2 |
| 6 | 2.9 | 2.8 | 3.2 | 3.0 | --- | --- | 3.1 | 2.7 | --- | --- | 4.2 | 3.2 |
| 7 | 3.1 | 2.8 | 3.2 | 3.1 | 3.9 | 3.0 | 3.0 | 2.8 | --- | --- | 4.0 | 3.7 |
| 8 | 3.1 | 3.0 | 3.1 | 2.9 | 3.4 | 2.9 | 3.1 | 2.8 | --- | --- | 4.2 | 3.9 |
| 9 | 4.5 | 3.2 | 2.9 | 2.9 | 3.1 | 2.8 | 3.0 | 2.8 | 2.9 | 2.7 | 4.1 | 3.9 |
| 10 | 3.6 | 3.3 | 3.0 | 2.9 | 2.8 | 2.7 | 3.0 | 2.9 | 3.0 | 2.6 | 4.0 | 3.9 |
| 11 | 3.4 | 3.2 | 3.1 | 3.0 | 3.0 | 2.7 | 3.0 | 2.9 | 4.7 | 2.8 | 4.1 | 3.8 |
| 12 | 3.3 | 3.1 | 3.1 | 3.0 | --- | --- | 3.0 | 2.9 | 4.6 | 2.9 | 5.6 | 3.8 |
| 13 | 3.1 | 3.0 | 3.1 | 3.0 | --- | --- | --- | --- | 4.3 | 3.7 | 5.6 | 4.6 |
| 14 | 3.2 | 3.1 | 3.1 | 3.0 | --- | --- | --- | --- | 4.2 | 3.7 | 4.6 | 4.4 |
| 15 | 3.2 | 3.0 | 3.0 | 3.0 | --- | --- | --- | --- | 4.2 | 3.5 | 4.4 | 3.9 |
| 16 | 3.1 | 3.0 | 3.1 | 2.9 | --- | --- | --- | --- | 3.8 | 3.1 | 4.2 | 4.0 |
| 17 | 3.1 | 3.1 | 3.1 | 2.9 | 3.2 | 3.1 | --- | --- | 3.3 | 2.9 | 4.2 | 3.9 |
| 18 | 3.2 | 3.0 | 2.9 | 2.8 | 3.3 | 3.0 | --- | --- | --- | --- | 6.0 | 3.9 |
| 19 | 3.0 | 2.8 | 2.9 | 2.7 | 3.2 | 2.9 | --- | --- | --- | --- | 5.5 | 4.7 |
| 20 | 3.0 | 2.8 | 2.9 | 2.7 | 3.2 | 2.9 | --- | --- | --- | --- | 4.7 | 4.2 |
| 21 | 3.0 | 2.8 | 2.9 | 2.9 | 3.1 | 3.0 | --- | --- | --- | --- | 4.7 | 4.0 |
| 22 | 3.0 | 2.8 | 3.0 | 2.9 | 3.1 | 2.9 | --- | --- | --- | --- | 4.6 | 4.1 |
| 23 | 3.0 | 2.8 | 3.1 | 2.9 | 3.0 | 2.7 | --- | --- | --- | --- | 4.9 | 4.2 |
| 24 | 4.1 | 2.9 | 2.9 | 2.7 | 2.9 | 2.6 | --- | --- | --- | --- | 4.3 | 4.2 |
| 25 | 3.4 | 3.2 | 3.1 | 2.8 | 3.1 | 2.8 | --- | --- | --- | --- | 4.2 | 4.0 |
| 26 | 3.3 | 3.1 | 2.9 | 2.8 | 3.2 | 2.9 | --- | --- | --- | --- | 4.1 | 3.9 |
| 27 | 3.2 | 3.1 | 2.8 | 2.7 | 3.1 | 2.7 | --- | --- | --- | --- | 4.0 | 3.8 |
| 28 | 3.1 | 3.1 | 2.9 | 2.8 | 3.0 | 2.8 | --- | --- | --- | --- | 4.0 | 3.8 |
| 29 | 3.2 | 3.1 | 3.0 | 2.8 | 3.0 | 2.7 | --- | --- | --- | --- | 4.1 | 3.8 |
| 30 | 4.3 | 3.1 | --- | --- | 3.0 | 2.8 | --- | --- | --- | --- | 4.1 | 3.7 |
| 31 | 4.5 | 3.4 | --- | --- | 3.0 | 2.8 | --- | --- | --- | --- | 4.2 | 3.8 |
| MONTH | 4.5 | 2.8 | 3.7 | 2.7 | 3.9 | 2.6 | 3.1 | 2.7 | 4.7 | 2.6 | 6.2 | 3.2 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 4.4 | 3.7 | 3.5 | 3.4 | 2.8 | 2.6 | 5.9 | 3.2 | 5.8 | 2.7 | 2.7 | 2.4 |
| 2 | 5.7 | 3.7 | 3.5 | 3.3 | 2.8 | 2.7 | 3.3 | 2.9 | 2.9 | 2.6 | 2.7 | 2.5 |
| 3 | 5.5 | 4.5 | 4.6 | 3.4 | 2.9 | 2.7 | 3.1 | 2.8 | 2.8 | 2.4 | 2.7 | 2.5 |
| 4 | 5.7 | 3.9 | 3.8 | 3.5 | 2.9 | 2.6 | 6.3 | 2.8 | 2.7 | 2.5 | 2.7 | 2.5 |
| 5 | 5.7 | 4.7 | 3.9 | 3.7 | 2.7 | 2.6 | 3.6 | 2.7 | 2.6 | 2.3 | 2.6 | 2.4 |
| 6 | 5.7 | 5.6 | 5.9 | 3.6 | 2.7 | 2.6 | 2.9 | 2.6 | 2.6 | 2.4 | 2.6 | 2.6 |
| 7 | 5.6 | 4.2 | 6.1 | 4.7 | 2.8 | 2.7 | 2.8 | 2.6 | 2.6 | 2.4 | 2.7 | 2.5 |
| 8 | 4.4 | 4.2 | 4.7 | 3.4 | 2.9 | 2.8 | 2.8 | 2.6 | 2.6 | 2.5 | --- | --- |
| 9 | 4.4 | 4.1 | 3.6 | 3.5 | 3.2 | 2.7 | 2.8 | 2.6 | 2.6 | 2.5 | --- | --- |
| 10 | 4.1 | 3.7 | 3.6 | 3.4 | 2.9 | 2.8 | 3.0 | 2.7 | 2.6 | 2.5 | --- | --- |
| 11 | 4.1 | 3.8 | 3.5 | 3.2 | 2.9 | 2.8 | 6.2 | 2.6 | 4.6 | 2.5 | --- | --- |
| 12 | 4.0 | 3.7 | 3.5 | 3.2 | 2.8 | 2.7 | 6.2 | 3.1 | 4.4 | 2.8 | --- | --- |
| 13 | 3.9 | 3.6 | 3.4 | 3.0 | 2.8 | 2.4 | 3.7 | 3.0 | 2.8 | 2.7 | --- | --- |
| 14 | 3.8 | 3.7 | 3.3 | 3.1 | 3.0 | 2.5 | 3.1 | 2.7 | 2.9 | 2.5 | --- | --- |
| 15 | 3.9 | 3.6 | 3.4 | 3.1 | 2.9 | 2.6 | 2.9 | 2.6 | 2.7 | 2.5 | 3.3 | 2.6 |
| 16 | 3.9 | 3.6 | 3.3 | 3.0 | 2.8 | 2.6 | 2.8 | 2.6 | 3.1 | 2.5 | 5.7 | 2.9 |
| 17 | 3.8 | 3.6 | 3.2 | 2.9 | 2.7 | 2.5 | 2.8 | 2.3 | 3.2 | 2.5 | 2.9 | 2.6 |
| 18 | 4.2 | 3.6 | 3.1 | 2.9 | 3.2 | 2.6 | 2.7 | 2.4 | 2.7 | 2.6 | 2.7 | 2.5 |
| 19 | 3.9 | 3.7 | 3.0 | 2.8 | 3.0 | 2.6 | --- | --- | 2.7 | 2.6 | 2.7 | 2.6 |
| 20 | 3.8 | 3.6 | 3.1 | 2.8 | 2.7 | 2.6 | --- | --- | 2.9 | 2.5 | 2.7 | 2.7 |
| 21 | 3.7 | 3.6 | 3.0 | 2.8 | 2.7 | 2.6 | --- | --- | 2.8 | 2.5 | 2.7 | 2.6 |
| 22 | 3.7 | 3.6 | 3.0 | 2.8 | 2.7 | 2.7 | --- | --- | 2.6 | 2.5 | 2.7 | 2.6 |
| 23 | 3.6 | 3.3 | 3.0 | 2.8 | 2.8 | 2.6 | --- | --- | 2.8 | 2.6 | 2.7 | 2.5 |
| 24 | 3.7 | 3.6 | 2.9 | 2.7 | 2.7 | 2.6 | --- | --- | 3.1 | 2.7 | 2.7 | 2.6 |
| 25 | --- | --- | 2.9 | 2.8 | 5.9 | 2.6 | --- | --- | 2.8 | 2.6 | 2.7 | 2.6 |
| 26 | 3.3 | 3.2 | 2.9 | 2.7 | 4.5 | 2.6 | --- | --- | 2.8 | 2.6 | 2.9 | 2.6 |
| 27 | 3.3 | 3.2 | 2.9 | 2.7 | 6.2 | 2.7 | --- | --- | 2.7 | 2.4 | 2.7 | 2.6 |
| 28 | 4.7 | 3.2 | 2.9 | 2.6 | 6.1 | 2.9 | 2.8 | 2.5 | 2.7 | 2.3 | 2.7 | 2.6 |
| 29 | 4.3 | 3.7 | 2.9 | 2.6 | 5.7 | 2.9 | 2.7 | 2.6 | 2.7 | 2.4 | 2.7 | 2.6 |
| 30 | 3.6 | 3.4 | 2.9 | 2.7 | 6.2 | 2.9 | 2.7 | 2.5 | 2.7 | 2.5 | 2.7 | 2.5 |
| 31 | --- | --- | 2.8 | 2.6 | --- | --- | 2.7 | 2.5 | 2.7 | 2.4 | --- | --- |
| MONTH | 5.7 | 3.2 | 6.1 | 2.6 | 6.2 | 2.4 | 6.3 | 2.3 | 5.8 | 2.3 | 5.7 | 2.4 |
| YEAR | 6.3 | 2.3 | | | | | | | | | | |

03201600 SANDY RUN ABOVE BIG FOUR HOLLOW CREEK NEAR LAKE HOPE, OH--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|---------|------|----------|------|----------|------|---------|------|----------|------|-----------|------|------|
| OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | | |
| 1 | 16.5 | 11.0 | 8.5 | 3.5 | 0.5 | 0.0 | 0.5 | 0.0 | 0.5 | 0.0 | --- | --- |
| 2 | 16.5 | 11.5 | 8.5 | 3.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | --- | --- |
| 3 | 16.5 | 8.0 | 11.0 | 6.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.5 | 0.5 | --- | --- |
| 4 | 16.0 | 8.0 | 6.0 | 2.5 | 0.5 | 0.0 | 1.0 | 0.0 | --- | --- | --- | --- |
| 5 | 17.5 | 10.5 | 5.5 | 2.5 | 1.0 | 0.0 | 1.0 | 0.0 | --- | --- | --- | --- |
| 6 | 15.5 | 12.0 | 7.5 | 2.0 | 0.0 | 0.0 | 0.5 | 0.0 | --- | --- | --- | --- |
| 7 | 13.0 | 11.5 | 7.0 | 3.0 | 2.0 | 0.0 | 1.5 | 0.0 | --- | --- | --- | --- |
| 8 | 12.5 | 10.5 | 5.0 | 2.0 | 1.0 | 0.0 | 1.0 | 0.0 | --- | --- | 10.0 | 2.5 |
| 9 | 10.5 | 8.0 | 6.5 | 2.0 | 0.5 | 0.0 | 0.0 | 0.0 | --- | --- | 11.0 | 1.0 |
| 10 | 12.5 | 4.5 | 5.5 | 2.0 | 2.0 | 0.0 | 0.0 | 0.0 | --- | --- | 10.0 | 2.0 |
| 11 | 13.5 | 5.0 | 4.5 | 2.5 | 4.5 | 1.5 | 0.0 | 0.0 | --- | --- | 13.5 | 1.5 |
| 12 | 14.0 | 4.0 | 6.0 | 2.0 | 6.5 | 2.5 | 0.0 | 0.0 | --- | --- | 9.0 | 6.5 |
| 13 | 15.5 | 7.0 | --- | --- | 3.0 | 0.0 | --- | --- | --- | --- | 8.0 | 5.0 |
| 14 | 11.0 | 5.0 | --- | --- | 1.0 | 0.0 | --- | --- | --- | --- | 10.0 | 4.0 |
| 15 | 14.0 | 5.0 | --- | --- | 4.0 | 0.0 | --- | --- | --- | --- | 14.0 | 3.0 |
| 16 | 10.5 | 6.0 | --- | --- | 3.5 | 0.0 | --- | --- | --- | --- | 12.5 | 4.0 |
| 17 | 8.5 | 5.0 | --- | --- | 4.0 | 0.0 | --- | --- | --- | --- | 8.0 | 1.5 |
| 18 | 8.5 | 1.5 | 6.0 | 3.5 | 2.0 | 0.0 | --- | --- | --- | --- | 9.5 | 4.5 |
| 19 | 10.0 | 4.0 | 7.0 | 3.5 | 4.0 | 0.0 | --- | --- | --- | --- | 8.0 | 4.0 |
| 20 | 8.5 | 6.5 | 5.5 | 1.5 | 4.5 | 1.0 | --- | --- | --- | --- | 5.5 | 2.5 |
| 21 | 7.0 | 6.0 | 4.0 | 0.0 | 1.0 | 0.0 | --- | --- | --- | --- | 11.5 | 0.5 |
| 22 | 6.5 | 3.5 | 2.5 | 0.5 | 0.0 | 0.0 | --- | --- | --- | --- | 6.0 | 1.5 |
| 23 | 6.5 | 1.5 | 2.5 | 1.0 | 0.0 | 0.0 | --- | --- | --- | --- | 8.5 | 0.5 |
| 24 | 10.5 | 6.0 | 0.0 | 0.0 | 0.0 | 0.0 | --- | --- | --- | --- | 9.5 | 0.5 |
| 25 | 11.0 | 9.5 | --- | --- | 0.0 | 0.0 | --- | --- | --- | --- | 10.5 | 0.5 |
| 26 | 9.5 | 6.0 | --- | --- | 0.0 | 0.0 | 0.5 | 0.0 | --- | --- | 12.0 | 1.0 |
| 27 | 6.5 | 3.5 | --- | --- | 0.0 | 0.0 | 1.5 | 0.0 | --- | --- | 12.0 | 3.0 |
| 28 | 6.5 | 1.0 | --- | --- | 0.5 | 0.0 | 0.5 | 0.0 | --- | --- | 12.0 | 7.5 |
| 29 | 7.5 | 0.5 | --- | --- | 0.0 | 0.0 | 0.0 | 0.0 | --- | --- | 18.0 | 7.5 |
| 30 | 7.0 | 3.5 | --- | --- | 0.0 | 0.0 | 0.0 | 0.0 | --- | --- | 19.5 | 8.0 |
| 31 | 8.5 | 7.0 | --- | --- | 0.0 | 0.0 | 0.0 | 0.0 | --- | --- | 13.0 | 5.5 |
| MONTH | 17.5 | 0.5 | 11.0 | 0.0 | 6.5 | 0.0 | 1.5 | 0.0 | 0.5 | 0.0 | 19.5 | 0.5 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 15.5 | 3.0 | 20.5 | 6.5 | 22.0 | 15.5 | 26.0 | 18.0 | 26.0 | 19.5 | 26.0 | 20.5 |
| 2 | 11.5 | 8.5 | 19.5 | 11.5 | 21.0 | 17.0 | 25.0 | 16.0 | 25.0 | 17.0 | 26.0 | 20.5 |
| 3 | 11.0 | 7.0 | 18.0 | 10.5 | 20.0 | 13.0 | 24.5 | 16.0 | 25.5 | 17.0 | 24.5 | 20.5 |
| 4 | 11.5 | 7.0 | 16.0 | 12.0 | 21.0 | 12.5 | 22.5 | 16.5 | 25.0 | 18.5 | 24.5 | 20.5 |
| 5 | 7.5 | 4.5 | 20.0 | 11.5 | 19.5 | 14.0 | 29.0 | 18.0 | 26.0 | 20.0 | 25.0 | 20.0 |
| 6 | 6.5 | 3.0 | 17.5 | 12.0 | 21.0 | 15.0 | 29.0 | 19.0 | 26.5 | 20.5 | 22.5 | 21.0 |
| 7 | 10.5 | 2.0 | 17.0 | 12.5 | 17.5 | 11.5 | 28.0 | 20.0 | 26.5 | 21.5 | 24.0 | 20.0 |
| 8 | 12.5 | 3.5 | 19.5 | 9.0 | 15.0 | 10.5 | 27.5 | 20.5 | 24.0 | 21.5 | 24.0 | 19.0 |
| 9 | 12.5 | 1.5 | 19.5 | 7.5 | 19.0 | 13.0 | 25.5 | 21.5 | 25.0 | 21.5 | 24.0 | 19.5 |
| 10 | 17.0 | 3.5 | 15.5 | 6.0 | 21.0 | 9.0 | 23.0 | 20.5 | 25.0 | 21.0 | 23.0 | 19.0 |
| 11 | 19.0 | 6.0 | 20.0 | 6.5 | 16.5 | 12.0 | 25.5 | 19.0 | 25.5 | 21.0 | 21.5 | 17.0 |
| 12 | 19.5 | 7.0 | 19.0 | 7.0 | 23.0 | 14.0 | 24.0 | 19.0 | 23.0 | 21.0 | 20.5 | 16.0 |
| 13 | 19.5 | 8.0 | 22.5 | 9.0 | 24.0 | 15.5 | 28.5 | 19.5 | 23.0 | 20.5 | 22.0 | 17.5 |
| 14 | 17.5 | 8.5 | 20.5 | 10.5 | 22.0 | 18.0 | 29.0 | 19.0 | 27.0 | 20.5 | 21.0 | 18.5 |
| 15 | 20.5 | 8.0 | 23.5 | 10.0 | 25.0 | 18.0 | 29.0 | 19.0 | 26.5 | 20.5 | 21.5 | 18.0 |
| 16 | 20.5 | 7.5 | 24.5 | 9.5 | 23.5 | 16.0 | 26.0 | 20.5 | 27.0 | 21.0 | 23.5 | 20.0 |
| 17 | 17.5 | 9.0 | 24.5 | 11.5 | 24.5 | 16.5 | 28.5 | 20.0 | 23.5 | 20.5 | 23.5 | 19.0 |
| 18 | 19.5 | 9.0 | 25.0 | 13.5 | 24.0 | 18.0 | 28.5 | 20.0 | 22.5 | 18.0 | 23.5 | 18.0 |
| 19 | 17.5 | 10.5 | 26.0 | 14.0 | 24.0 | 18.5 | 28.5 | 21.5 | 22.5 | 16.5 | 23.5 | 19.0 |
| 20 | 21.5 | 11.0 | 25.5 | 13.5 | 24.0 | 19.0 | 28.5 | 21.5 | 22.0 | 16.5 | 21.0 | 18.5 |
| 21 | 20.5 | 12.0 | 25.5 | 14.5 | 22.5 | 16.0 | 26.0 | 22.0 | 22.0 | 16.0 | 20.0 | 16.5 |
| 22 | 18.0 | 13.5 | 24.0 | 14.0 | 18.5 | 16.5 | 26.5 | 21.5 | 22.5 | 18.0 | 21.0 | 16.0 |
| 23 | 16.5 | 13.0 | 25.0 | 15.5 | 22.0 | 14.0 | 25.0 | 18.0 | 23.0 | 17.5 | 21.0 | 16.0 |
| 24 | 13.0 | 10.5 | 25.0 | 15.0 | 21.5 | 17.0 | 25.5 | 17.5 | 22.0 | 19.0 | 20.5 | 18.0 |
| 25 | 11.0 | 8.0 | 22.0 | 16.0 | 24.0 | 18.0 | 26.0 | 20.5 | 21.5 | 16.0 | 21.5 | 17.5 |
| 26 | 13.0 | 7.0 | 24.5 | 13.5 | 26.0 | 18.0 | 24.0 | 17.5 | 23.5 | 16.5 | 22.0 | 18.0 |
| 27 | 19.5 | 4.5 | 25.0 | 13.5 | 23.5 | 17.5 | 23.0 | 16.5 | 24.5 | 18.5 | 20.5 | 16.0 |
| 28 | 12.5 | 8.0 | 24.5 | 14.5 | 25.0 | 19.5 | 24.5 | 16.0 | 25.0 | 20.0 | 17.5 | 14.5 |
| 29 | 18.0 | 5.0 | 24.0 | 15.5 | 26.5 | 19.0 | 21.5 | 18.5 | 25.0 | 20.0 | 17.5 | 13.0 |
| 30 | 19.0 | 5.0 | 25.0 | 15.0 | 24.0 | 16.0 | 24.5 | 19.0 | 25.0 | 20.5 | 17.5 | 13.0 |
| 31 | --- | --- | 24.0 | 16.5 | --- | --- | 26.0 | 18.5 | 25.5 | 20.0 | --- | --- |
| MONTH | 21.5 | 1.5 | 26.0 | 6.0 | 26.5 | 9.0 | 29.0 | 16.0 | 27.0 | 16.0 | 26.0 | 13.0 |
| YEAR | 29.0 | 0.0 | | | | | | | | | | |

RACCOON CREEK BASIN

03201700 BIG FOUR HOLLOW CREEK NEAR LAKE HOPE, OH

LOCATION.--Lat 39°21'48", long 82°18'51", in SE 1/4 NE 1/4 sec. 11, T.11 N., R.16 W., Vinton County, Hydrologic Unit 05090101, on right bank 200 ft (61 m) upstream from State Route 278 crossing, 300 ft (91 m) upstream from Sandy Run, 2.5 mi (4.0 km) southwest of Carbondale, and 3.7 mi (6.0 km) northeast of Lake Hope.

DRAINAGE AREA.--1.01 mi² (2.62 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder with concrete weir and 6-inch Parshall flume. Altitude of gage is 770.0 ft (234.70 m), from topographic map.

REMARKS.--Records poor.

AVERAGE DISCHARGE.--7 years, 1.08 ft³/s (0.0306 m³/s), 14.52 in/yr (369 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,200 ft³/s (34.0 m³/s) June 22, 1974, gage height, 4.72 ft (1.439 m) from rating curve extended above 30 ft³/s (0.85 m³/s); no flow July 30 to Aug. 3, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 59 ft³/s (1.67 m³/s) Apr. 2 (base, 50 ft³/s, 1.42 m³/s), gage height, 2.51 ft (0.765 m); minimum, no flow Sept. 8-14, 27-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|-------|------|-------|-------|-------|-------|------|------|------|------|
| 1 | .08 | .75 | .04 | .09 | .04 | .88 | .33 | .29 | .08 | 3.0 | .32 | .01 |
| 2 | .08 | .44 | .06 | .09 | .04 | .71 | 7.4 | .27 | .06 | .34 | .07 | .01 |
| 3 | .07 | .33 | .05 | .09 | .04 | 4.9 | 1.3 | .97 | .05 | .18 | .03 | .01 |
| 4 | .06 | .28 | .06 | .07 | .04 | 1.9 | 4.7 | 1.1 | .04 | .69 | .02 | .01 |
| 5 | .05 | .23 | .07 | .07 | .04 | 1.3 | 3.6 | .98 | .05 | .46 | .02 | .01 |
| 6 | .05 | .18 | .15 | .07 | .04 | .98 | 3.0 | 1.5 | .06 | .22 | .02 | .01 |
| 7 | .06 | .16 | 3.6 | .07 | .04 | .75 | 2.6 | 7.2 | .04 | .12 | .01 | .01 |
| 8 | .06 | .13 | 1.2 | .07 | .04 | .90 | 1.7 | 2.5 | .04 | .08 | .01 | .00 |
| 9 | 1.1 | .12 | .53 | .06 | .05 | .78 | 1.2 | 1.3 | .13 | .06 | .02 | .00 |
| 10 | .35 | .12 | .47 | .06 | .11 | .66 | 1.1 | .92 | .05 | .08 | .02 | .00 |
| 11 | .17 | .10 | 1.1 | .06 | .76 | .57 | .99 | .67 | .04 | .59 | .04 | .00 |
| 12 | .12 | .09 | 1.0 | .06 | 3.0 | 2.5 | .82 | .50 | .04 | .80 | .31 | .00 |
| 13 | .10 | .08 | .59 | .05 | 4.5 | 4.0 | .81 | .38 | .03 | .46 | .11 | .00 |
| 14 | .08 | .07 | .44 | .05 | 2.8 | 1.7 | .76 | .30 | .09 | .21 | .09 | .00 |
| 15 | .07 | .08 | .39 | .05 | 1.4 | 1.1 | .65 | .25 | .05 | .11 | .05 | .05 |
| 16 | .06 | .07 | .31 | .05 | .95 | .83 | .60 | .20 | .03 | .09 | .05 | .38 |
| 17 | .05 | .07 | .29 | .05 | .80 | .75 | .63 | .17 | .03 | .09 | .05 | .07 |
| 18 | .05 | .06 | .24 | .05 | .55 | 5.8 | .32 | .14 | .04 | .06 | .02 | .03 |
| 19 | .05 | .06 | .25 | .05 | .52 | 2.3 | .14 | .13 | .07 | .04 | .02 | .02 |
| 20 | .08 | .06 | .35 | .05 | .50 | 1.7 | .28 | .11 | .03 | .03 | .01 | .02 |
| 21 | .08 | .05 | .22 | .05 | .40 | 1.3 | .26 | .11 | .03 | .15 | .01 | .01 |
| 22 | .07 | .06 | .17 | .05 | 1.5 | 1.7 | .26 | .11 | .03 | .12 | .01 | .01 |
| 23 | .06 | .05 | .14 | .04 | 7.5 | 1.3 | .31 | .10 | .03 | .04 | .01 | .01 |
| 24 | .96 | .04 | .13 | .04 | 9.8 | 1.1 | .28 | .09 | .02 | .03 | .04 | .01 |
| 25 | .60 | .06 | .12 | .04 | 6.8 | .80 | .26 | .09 | .40 | .49 | .01 | .01 |
| 26 | .31 | .07 | .11 | .04 | 3.0 | .65 | .25 | .08 | .75 | .19 | .01 | .02 |
| 27 | .20 | .09 | .11 | .04 | 1.6 | .57 | .23 | .07 | .16 | .08 | .01 | .00 |
| 28 | .15 | .08 | .11 | .04 | 1.1 | .72 | .55 | .07 | .80 | .04 | .01 | .00 |
| 29 | .12 | .09 | .10 | .04 | --- | .57 | .50 | .08 | .70 | .06 | .01 | .00 |
| 30 | .30 | .04 | .10 | .04 | --- | .49 | .32 | .07 | .33 | .05 | .01 | .00 |
| 31 | 3.2 | --- | .10 | .04 | --- | .39 | --- | .06 | --- | .03 | .01 | --- |
| TOTAL | 8.84 | 4.11 | 12.60 | 1.72 | 47.96 | 44.60 | 36.15 | 20.81 | 4.30 | 8.99 | 1.43 | .71 |
| MEAN | .29 | .14 | .41 | .055 | 1.71 | 1.44 | 1.21 | .67 | .14 | .29 | .046 | .024 |
| MAX | 3.2 | .75 | 3.6 | .09 | 9.8 | 5.8 | 7.4 | 7.2 | .80 | 3.0 | .32 | .38 |
| MIN | .05 | .04 | .04 | .04 | .04 | .39 | .14 | .06 | .02 | .03 | .01 | .00 |
| CFSM | .29 | .14 | .41 | .05 | 1.69 | 1.43 | 1.20 | .66 | .14 | .29 | .05 | .02 |
| IN. | .33 | .15 | .46 | .06 | 1.76 | 1.64 | 1.33 | .77 | .16 | .33 | .05 | .03 |

CAL YR 1976 TOTAL 289.71 MEAN .79 MAX 33 MIN .01 CFSM .78 IN 10.67
WTR YR 1977 TOTAL 192.22 MEAN .53 MAX 9.8 MIN .00 CFSM .53 IN 7.07

RACCOON CREEK BASIN

201

03201700 BIG FOUR HOLLOW CREEK NEAR LAKE HOPE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1970 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1971 to current year.

pH: January 1971 to current year.

WATER TEMPERATURES: January 1971 to current year.

INSTRUMENTATION.--Water-quality monitor.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 3,530 micromhos Sept. 13, 1973; minimum, 72 micromhos Oct. 17, 1975.

pH: Maximum, 6.3 units July 1, 1977; minimum, 2.1 units on several days during October and December 1971, February and March 1972, December 1973.

WATER TEMPERATURES: Maximum, 34.5°C Aug. 12, 1973; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 945 micromhos Sept. 15; minimum, 93 micromhos Feb. 24.

pH: Maximum, 6.3 units July 1; minimum, 3.2 units Nov. 16.

WATER TEMPERATURES: Maximum, 32.0°C July 18, 20; minimum, 0.0°C on many days during November to March.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA, MG) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|------|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| DATE | TIME | (CFS) | | (UNITS) | | | | | | | | |
| MAR 24... | 1500 | 1.2 | 300 | 4.8 | 10.0 | 11.0 | 97 | .0 | 110 | 110 | 27 | 11 |
| JUN 15... | 1100 | .04 | 660 | 3.5 | 18.0 | 7.7 | 81 | .0 | 260 | 260 | 62 | 25 |
| | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CAC03 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) |
| MAR 24... | 5.2 | 2.1 | 2 | 0 | 2 | 51 | 120 | 4.1 | .1 | 12 | 184 | .10 |
| JUN 15... | 6.7 | 2.7 | 0 | 0 | 0 | .0 | 290 | 1.8 | .2 | 26 | 419 | .11 |
| | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (MG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (MG/L) |
| MAR 24... | .00 | .05 | .01 | 0 | 60 | 5 | 450 | 6 | 1100 | .0 | 130 | 5.2 |
| JUN 15... | .00 | .08 | .01 | 1 | <10 | 9 | 210 | 4 | 3600 | .0 | 170 | 7.0 |

03201700 BIG FOUR HOLLOW CREEK NEAR LAKE HOPE, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|------|----------|------|---------|--------|----------|-----------|-------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 642 | 621 | 360 | 312 | 654 | 621 | 621 | 588 | --- | --- | 327 | 285 |
| 2 | 651 | 639 | 387 | 354 | 621 | 606 | 627 | 612 | --- | --- | 363 | 258 |
| 3 | 663 | 651 | 417 | 384 | 636 | 615 | 627 | 609 | 699 | 684 | 348 | 291 |
| 4 | 678 | 654 | 432 | 402 | 633 | 630 | 609 | 591 | 681 | 654 | 273 | 168 |
| 5 | 687 | 666 | 456 | 423 | 654 | 633 | 594 | 588 | 651 | 639 | 234 | 198 |
| 6 | 687 | 675 | 480 | 453 | 657 | 396 | 597 | 588 | 663 | 648 | 252 | 225 |
| 7 | 684 | 660 | 507 | 468 | 366 | 237 | 597 | 588 | 687 | 666 | 270 | 240 |
| 8 | 672 | 663 | 510 | 477 | 348 | 270 | 612 | 597 | 723 | 687 | 297 | 255 |
| 9 | 666 | 333 | 528 | 489 | 360 | 327 | 621 | 612 | 813 | 720 | 315 | 276 |
| 10 | 507 | 432 | 525 | 492 | 369 | 339 | 618 | 594 | 795 | 723 | 327 | 288 |
| 11 | 546 | 510 | 534 | 480 | 330 | 297 | 627 | 600 | 699 | 228 | 348 | 324 |
| 12 | 576 | 546 | 570 | 489 | 324 | 303 | 648 | 627 | 255 | 147 | --- | --- |
| 13 | 591 | 570 | 579 | 489 | 372 | 315 | 678 | 651 | 195 | 129 | --- | --- |
| 14 | 606 | 588 | 585 | 429 | 375 | 330 | 678 | 660 | 228 | 201 | --- | --- |
| 15 | 624 | 600 | 597 | 507 | 378 | 348 | 660 | 648 | 327 | 231 | --- | --- |
| 16 | 624 | 612 | 609 | 519 | 405 | 333 | 654 | 639 | 366 | 231 | --- | --- |
| 17 | 633 | 621 | 618 | 483 | 444 | 405 | 675 | 651 | 375 | 249 | --- | --- |
| 18 | 651 | 630 | 603 | 525 | 471 | 435 | 717 | 675 | 348 | 294 | --- | --- |
| 19 | 657 | 645 | 615 | 600 | 474 | 450 | --- | --- | 342 | 267 | --- | --- |
| 20 | 654 | 600 | 621 | 603 | 462 | 414 | --- | --- | 357 | 267 | --- | --- |
| 21 | 630 | 606 | 618 | 609 | 489 | 438 | --- | --- | 408 | 327 | --- | --- |
| 22 | 645 | 630 | 630 | 609 | 528 | 495 | --- | --- | 504 | 240 | 258 | 249 |
| 23 | 648 | 633 | 633 | 621 | 522 | 480 | --- | --- | 366 | 117 | --- | --- |
| 24 | 630 | 342 | 633 | 624 | 579 | 528 | --- | --- | 207 | 93 | 285 | 264 |
| 25 | 432 | 378 | 633 | 618 | 603 | 537 | --- | --- | 246 | 210 | 294 | 282 |
| 26 | 468 | 432 | 624 | 618 | 534 | 495 | --- | --- | 258 | 246 | 297 | 291 |
| 27 | 498 | 468 | 618 | 603 | 519 | 501 | --- | --- | 285 | 246 | 303 | 294 |
| 28 | 528 | 492 | 606 | 549 | 516 | 510 | --- | --- | 309 | 270 | 309 | 303 |
| 29 | 552 | 531 | 600 | 558 | 540 | 513 | --- | --- | --- | --- | 324 | 306 |
| 30 | 555 | 237 | 639 | 603 | 558 | 543 | --- | --- | --- | --- | 321 | 315 |
| 31 | 312 | 198 | --- | --- | 588 | 552 | --- | --- | --- | --- | 345 | 339 |
| MONTH | 687 | 198 | 639 | 312 | 657 | 237 | 717 | 588 | 813 | 93 | 363 | 168 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 360 | 345 | 438 | 420 | 597 | 576 | 387 | 195 | 591 | 414 | 813 | 780 |
| 2 | 354 | 294 | 450 | 438 | 615 | 600 | 462 | 390 | 627 | 594 | 798 | 786 |
| 3 | --- | --- | 453 | 288 | 630 | 618 | 516 | 465 | 645 | 627 | 807 | 795 |
| 4 | --- | --- | 354 | 312 | 639 | 633 | 531 | 246 | 663 | 645 | 831 | 660 |
| 5 | 189 | 180 | 363 | 321 | 651 | 630 | 462 | 375 | 675 | 663 | 816 | 585 |
| 6 | 207 | 192 | 363 | 348 | 651 | 615 | 522 | 465 | 693 | 678 | 837 | 558 |
| 7 | 222 | 207 | --- | --- | 663 | 645 | 564 | 525 | 702 | 690 | 858 | 750 |
| 8 | 243 | 201 | --- | --- | 675 | 594 | 591 | 567 | 714 | 702 | 858 | 690 |
| 9 | 258 | 243 | 288 | 249 | 627 | 558 | 603 | 591 | 708 | 699 | 834 | 669 |
| 10 | 273 | 258 | 315 | 270 | 648 | 627 | 606 | 546 | 714 | 687 | 855 | 735 |
| 11 | --- | --- | 345 | 288 | 657 | 648 | 594 | 231 | 702 | 537 | 906 | 669 |
| 12 | --- | --- | 363 | 300 | 666 | 654 | 426 | 273 | 603 | 468 | 930 | 777 |
| 13 | --- | --- | 381 | 363 | 675 | 660 | 429 | 345 | 609 | 567 | 927 | 696 |
| 14 | --- | --- | 396 | 381 | 672 | 600 | 495 | 432 | 615 | 576 | 909 | 627 |
| 15 | --- | --- | 414 | 396 | 657 | 636 | 534 | 495 | 633 | 618 | 945 | 678 |
| 16 | --- | --- | 429 | 417 | 675 | 657 | 558 | 534 | 651 | 630 | 942 | 927 |
| 17 | --- | --- | 516 | 432 | 690 | 672 | 582 | 555 | 660 | 636 | 933 | 837 |
| 18 | --- | --- | 501 | 471 | 705 | 594 | 600 | 585 | 687 | 660 | 807 | 624 |
| 19 | --- | --- | 480 | 462 | 660 | 600 | 618 | 600 | 711 | 690 | 771 | 741 |
| 20 | 378 | 369 | 486 | 477 | 681 | 660 | 636 | 618 | 729 | 711 | 792 | 762 |
| 21 | 447 | 378 | 492 | 483 | 696 | 675 | 648 | 438 | 744 | 726 | 816 | 792 |
| 22 | 441 | 420 | 501 | 495 | 699 | 687 | 609 | 507 | 744 | 738 | 834 | 819 |
| 23 | 429 | 402 | 507 | 498 | 702 | 690 | 630 | 612 | 762 | 744 | 846 | 831 |
| 24 | 432 | 417 | 513 | 504 | 708 | 702 | 645 | 633 | 762 | 690 | 846 | 837 |
| 25 | 438 | 429 | 519 | 513 | 720 | 243 | 645 | 273 | 747 | 720 | 852 | 840 |
| 26 | 453 | 432 | 525 | 519 | 567 | 333 | 543 | 444 | 768 | 747 | 855 | 780 |
| 27 | 465 | 453 | 534 | 522 | 585 | 330 | 585 | 543 | 759 | 741 | 849 | 816 |
| 28 | 465 | 303 | 543 | 531 | 480 | 312 | 636 | 588 | 774 | 756 | 870 | 849 |
| 29 | 384 | 330 | 558 | 504 | 480 | 327 | 639 | 603 | 789 | 720 | 885 | 870 |
| 30 | 420 | 384 | 540 | 522 | 513 | 165 | 645 | 618 | 795 | 780 | 900 | 885 |
| 31 | --- | --- | 591 | 540 | --- | --- | 663 | 594 | 798 | 786 | --- | --- |
| MONTH | 465 | 180 | 591 | 249 | 720 | 165 | 663 | 195 | 798 | 414 | 945 | 558 |
| YEAR | 945 | 93 | | | | | | | | | | |

203

PH (UNITS), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|------|----------|------|---------|--------|----------|-----------|-------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 4.0 | 3.8 | 5.0 | 4.5 | 4.4 | 4.2 | 3.9 | 3.3 | --- | --- | 4.9 | 4.5 |
| 2 | 4.0 | 3.9 | 4.6 | 4.1 | 4.3 | 4.2 | 3.8 | 3.4 | --- | --- | 5.0 | 4.2 |
| 3 | 4.0 | 3.8 | 4.3 | 4.1 | 4.5 | 4.3 | 3.8 | 3.5 | --- | --- | 4.7 | 4.2 |
| 4 | 4.1 | 3.8 | 4.3 | 4.0 | 4.4 | 4.2 | 3.7 | 3.5 | --- | --- | 6.2 | 5.1 |
| 5 | 4.1 | 3.8 | 4.1 | 3.9 | 4.4 | 4.1 | 3.8 | 3.4 | --- | --- | 5.9 | 5.5 |
| 6 | 4.1 | 3.9 | 4.1 | 3.9 | 4.6 | 4.1 | 3.8 | 3.6 | --- | --- | 5.5 | 5.3 |
| 7 | 4.0 | 3.9 | 4.1 | 3.9 | 5.9 | 4.6 | 3.9 | 3.4 | --- | --- | 5.4 | 4.8 |
| 8 | 4.0 | 3.9 | 4.0 | 3.8 | 5.6 | 4.8 | 4.0 | 3.6 | --- | --- | 5.1 | 4.5 |
| 9 | 5.1 | 3.9 | 4.3 | 3.8 | 5.0 | 4.6 | 3.8 | 3.7 | --- | --- | 4.9 | 4.3 |
| 10 | 4.3 | 3.9 | 4.4 | 4.2 | 4.7 | 4.5 | 4.0 | 3.6 | --- | --- | 4.8 | 4.2 |
| 11 | 4.1 | 3.8 | 4.4 | 4.3 | 5.5 | 4.7 | 4.0 | 3.8 | --- | --- | 4.7 | 3.8 |
| 12 | 4.1 | 3.9 | 4.4 | 3.9 | 5.4 | 5.0 | 3.9 | 3.6 | 6.0 | 4.7 | 5.9 | 4.3 |
| 13 | 4.0 | 3.8 | 4.1 | 3.8 | 5.3 | 4.8 | 4.0 | 3.7 | 5.9 | 5.5 | --- | --- |
| 14 | 4.1 | 3.8 | 4.0 | 3.8 | 4.9 | 4.7 | 3.7 | 3.5 | 5.7 | 5.6 | --- | --- |
| 15 | 4.1 | 3.9 | 4.1 | 3.8 | 4.8 | 4.5 | 3.7 | 3.6 | 5.6 | 4.7 | --- | --- |
| 16 | 4.2 | 3.9 | 4.0 | 3.2 | 4.7 | 4.5 | 4.0 | 3.7 | 5.6 | 4.5 | --- | --- |
| 17 | 4.1 | 4.0 | 3.8 | 3.3 | 4.6 | 4.5 | 4.1 | 3.9 | 5.2 | 4.1 | --- | --- |
| 18 | 4.2 | 3.9 | 4.1 | 3.5 | 4.5 | 4.3 | 4.1 | 3.5 | 4.8 | 4.2 | --- | --- |
| 19 | 4.1 | 3.9 | 4.2 | 3.9 | 4.5 | 4.4 | --- | --- | 4.7 | 4.2 | --- | --- |
| 20 | 4.1 | 4.0 | 4.4 | 3.7 | 4.4 | 4.0 | --- | --- | 4.7 | 3.8 | --- | --- |
| 21 | 4.1 | 4.0 | 4.1 | 3.9 | 4.5 | 4.4 | --- | --- | 4.4 | 3.7 | --- | --- |
| 22 | 4.2 | 3.9 | 4.0 | 3.7 | 4.5 | 4.4 | --- | --- | 5.1 | 3.7 | --- | --- |
| 23 | 4.2 | 4.0 | 4.3 | 3.6 | 4.5 | 4.4 | --- | --- | 5.5 | 4.1 | --- | --- |
| 24 | 5.1 | 4.1 | 4.4 | 4.2 | 4.4 | 4.3 | --- | --- | 5.7 | 5.2 | --- | --- |
| 25 | 4.6 | 4.2 | 4.3 | 3.9 | 4.4 | 3.4 | --- | --- | 5.5 | 5.2 | 5.2 | 4.9 |
| 26 | 4.2 | 4.1 | 4.2 | 4.2 | 3.8 | 3.6 | --- | --- | 5.3 | 5.1 | 5.1 | 4.9 |
| 27 | 4.3 | 3.9 | 4.3 | 4.2 | 3.9 | 3.7 | --- | --- | 5.2 | 4.7 | 4.9 | 4.8 |
| 28 | 3.9 | 3.5 | 4.3 | 4.2 | 3.8 | 3.5 | --- | --- | 4.9 | 4.5 | 4.8 | 4.7 |
| 29 | 4.1 | 3.6 | 4.3 | 3.9 | 3.9 | 3.8 | --- | --- | --- | --- | 4.7 | 4.5 |
| 30 | 5.7 | 4.0 | 4.4 | 3.9 | 4.0 | 3.6 | --- | --- | --- | --- | 4.7 | 4.6 |
| 31 | 5.9 | 5.0 | --- | --- | 3.9 | 3.7 | --- | --- | --- | --- | 5.6 | 4.4 |
| MONTH | 5.9 | 3.5 | 5.0 | 3.2 | 5.9 | 3.4 | 4.1 | 3.3 | 6.0 | 3.7 | 6.2 | 3.8 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 4.6 | 4.4 | 4.2 | 4.0 | 3.8 | 3.7 | 6.3 | 4.4 | 4.1 | 3.7 | 3.8 | 3.6 |
| 2 | --- | --- | 4.1 | 3.9 | 3.8 | 3.7 | 4.4 | 4.1 | 3.8 | 3.7 | 3.7 | 3.6 |
| 3 | --- | --- | 6.0 | 3.9 | 3.8 | 3.7 | 4.1 | 3.9 | 3.8 | 3.6 | 3.8 | 3.7 |
| 4 | --- | --- | 5.5 | 4.4 | 3.8 | 3.7 | 6.0 | 4.0 | 3.8 | 3.6 | 3.8 | 3.7 |
| 5 | 6.2 | 6.1 | 5.0 | 4.4 | 3.8 | 3.6 | 4.4 | 3.8 | 3.7 | 3.6 | 3.8 | 3.7 |
| 6 | 6.1 | 6.0 | --- | --- | 3.8 | 3.7 | 4.0 | 3.6 | 3.7 | 3.6 | 3.8 | 3.7 |
| 7 | 5.9 | 5.7 | --- | --- | 3.8 | 3.7 | 3.7 | 3.5 | 3.7 | 3.6 | 3.8 | 3.6 |
| 8 | 5.7 | 5.4 | --- | --- | 3.8 | 3.8 | 3.7 | 3.6 | 3.7 | 3.6 | 3.8 | 3.7 |
| 9 | 5.5 | 5.1 | --- | --- | 3.9 | 3.8 | 3.7 | 3.6 | 3.7 | 3.6 | 3.8 | 3.7 |
| 10 | 5.3 | 5.0 | 4.8 | 4.5 | 3.9 | 3.7 | 3.7 | 3.6 | 3.7 | 3.6 | 3.8 | 3.7 |
| 11 | --- | --- | 4.6 | 4.2 | 3.8 | 3.8 | 5.7 | 3.6 | 3.8 | 3.6 | 3.8 | 3.7 |
| 12 | --- | --- | 4.4 | 3.8 | 3.8 | 3.7 | 5.8 | 3.9 | 3.9 | 3.8 | 3.8 | 3.7 |
| 13 | --- | --- | 4.1 | 3.7 | 3.8 | 3.7 | 4.7 | 3.8 | 3.8 | 3.7 | 3.8 | 3.7 |
| 14 | --- | --- | 3.9 | 3.6 | 3.8 | 3.7 | 3.9 | 3.6 | 3.8 | 3.6 | 3.8 | 3.8 |
| 15 | --- | --- | 3.9 | 3.6 | 3.8 | 3.7 | 3.8 | 3.6 | 3.8 | 3.6 | 3.8 | 3.7 |
| 16 | --- | --- | 3.9 | 3.6 | 3.8 | 3.7 | 3.7 | 3.6 | 3.8 | 3.6 | 3.8 | 3.8 |
| 17 | --- | --- | 3.8 | 3.4 | 3.8 | 3.6 | 3.7 | 3.5 | 3.8 | 3.7 | 3.8 | 3.7 |
| 18 | --- | --- | 3.7 | 3.5 | 3.8 | 3.6 | 3.7 | 3.5 | 3.8 | 3.8 | 3.8 | 3.7 |
| 19 | --- | --- | 3.8 | 3.6 | 3.8 | 3.7 | 3.7 | 3.6 | 3.8 | 3.7 | 3.8 | 3.7 |
| 20 | 4.4 | 4.1 | 3.8 | 3.6 | 3.8 | 3.7 | 3.7 | 3.6 | 3.8 | 3.7 | 3.8 | 3.7 |
| 21 | 4.3 | 3.9 | 3.8 | 3.7 | 3.8 | 3.7 | 3.9 | 3.6 | 3.8 | 3.7 | 3.9 | 3.8 |
| 22 | 4.1 | 3.9 | 3.9 | 3.8 | 3.8 | 3.8 | 3.7 | 3.6 | 3.8 | 3.7 | 3.9 | 3.7 |
| 23 | 4.1 | 4.0 | 3.9 | 3.8 | 3.8 | 3.7 | 3.8 | 3.6 | 3.8 | 3.7 | 3.9 | 3.7 |
| 24 | 4.1 | 4.0 | 3.9 | 3.8 | 3.8 | 3.7 | 3.8 | 3.6 | 3.8 | 3.7 | 3.8 | 3.7 |
| 25 | 4.2 | 4.1 | 3.9 | 3.8 | 5.4 | 3.7 | 5.4 | 3.6 | 3.8 | 3.8 | 3.8 | 3.7 |
| 26 | 4.2 | 4.1 | 4.0 | 3.8 | 4.8 | 3.8 | 4.0 | 3.8 | 3.8 | 3.6 | 3.8 | 3.7 |
| 27 | 4.2 | 4.0 | 4.0 | 3.8 | 4.6 | 3.8 | 3.8 | 3.7 | 3.8 | 3.6 | 3.9 | 3.7 |
| 28 | 5.4 | 4.0 | 4.0 | 3.9 | 5.4 | 3.9 | 3.8 | 3.6 | 3.7 | 3.6 | 3.9 | 3.8 |
| 29 | 5.3 | 4.3 | 4.0 | 3.7 | 5.4 | 4.0 | 3.7 | 3.7 | 3.8 | 3.6 | 3.9 | 3.7 |
| 30 | 4.4 | 4.0 | 3.9 | 3.8 | 6.2 | 3.9 | 3.7 | 3.6 | 3.7 | 3.6 | 3.9 | 3.7 |
| 31 | --- | --- | 4.2 | 3.7 | --- | --- | 3.7 | 3.6 | 3.8 | 3.6 | --- | --- |
| MONTH | 6.2 | 3.9 | 6.0 | 3.4 | 6.2 | 3.6 | 6.3 | 3.5 | 4.1 | 3.6 | 3.9 | 3.6 |
| YEAR | 6.3 | 3.2 | | | | | | | | | | |

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|---------|------|----------|------|----------|------|---------|------|----------|------|-----------|------|------|
| OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | | |
| 1 | 16.5 | 13.0 | 9.5 | 4.0 | 0.5 | 0.0 | 1.0 | 0.0 | --- | --- | 4.0 | 0.5 |
| 2 | 16.5 | 14.0 | 9.0 | 3.0 | 0.5 | 0.0 | 1.0 | 0.0 | --- | --- | 4.0 | 0.0 |
| 3 | 16.5 | 13.0 | 10.5 | 5.0 | 0.0 | 0.0 | 0.5 | 0.0 | 2.0 | 1.0 | 6.5 | 1.0 |
| 4 | 16.5 | 13.0 | 7.0 | 3.0 | 0.5 | 0.0 | 0.5 | 0.5 | 2.0 | 1.0 | 6.5 | 4.0 |
| 5 | 16.5 | 13.5 | 6.0 | 3.0 | 1.0 | 0.0 | 1.0 | 0.0 | 1.0 | 0.0 | 7.0 | 2.5 |
| 6 | 16.0 | 15.0 | 7.5 | 2.5 | 0.5 | 0.0 | 0.5 | 0.0 | 0.5 | 0.0 | 8.0 | 2.0 |
| 7 | 15.0 | 13.0 | 7.5 | 3.0 | 1.5 | 0.0 | 1.0 | 0.0 | 0.5 | 0.0 | 4.0 | 0.5 |
| 8 | 13.5 | 12.5 | 5.0 | 2.0 | 1.0 | 0.0 | 0.5 | 0.0 | 1.5 | 0.0 | 8.5 | 0.0 |
| 9 | 13.0 | 10.0 | 6.5 | 1.5 | 0.5 | 0.0 | 0.5 | 0.0 | 1.0 | 0.0 | 11.5 | 1.0 |
| 10 | 13.5 | 7.5 | 4.5 | 2.5 | 1.0 | 0.0 | 0.5 | 0.0 | 1.5 | 0.0 | 10.5 | 2.0 |
| 11 | 14.5 | 8.5 | 4.0 | 2.5 | 2.0 | 1.0 | 0.0 | 0.0 | 1.5 | 0.0 | 14.5 | 2.0 |
| 12 | 14.5 | 8.0 | 6.5 | 2.0 | 6.0 | 2.0 | 0.5 | 0.0 | 1.0 | 0.0 | 10.0 | 7.0 |
| 13 | 15.0 | 9.5 | 5.0 | 3.5 | 2.0 | 0.0 | 0.5 | 0.0 | 8.0 | 0.0 | --- | --- |
| 14 | 13.0 | 9.0 | 4.5 | 3.0 | 0.5 | 0.0 | 0.5 | 0.5 | 1.0 | 0.0 | --- | --- |
| 15 | 13.5 | 8.5 | 6.5 | 3.5 | 2.0 | 0.0 | 0.5 | 0.5 | 0.5 | 0.0 | --- | --- |
| 16 | 12.5 | 9.5 | 5.5 | 3.0 | 2.0 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | --- | --- |
| 17 | 10.0 | 8.5 | 5.0 | 3.0 | 4.0 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | --- | --- |
| 18 | 9.0 | 5.5 | 5.5 | 3.0 | 2.5 | 0.0 | 2.0 | 0.0 | 1.0 | 0.5 | --- | --- |
| 19 | 8.0 | 6.0 | 6.0 | 3.0 | 3.5 | 0.0 | 2.5 | 1.0 | 1.0 | 0.5 | --- | --- |
| 20 | 8.0 | 7.0 | 5.0 | 1.5 | 3.5 | 0.0 | --- | --- | 0.5 | 0.0 | --- | --- |
| 21 | 8.5 | 6.5 | 3.0 | 1.5 | 0.5 | 0.0 | --- | --- | 1.0 | 0.0 | --- | --- |
| 22 | 8.0 | 4.5 | 4.0 | 1.5 | 0.0 | 0.0 | --- | --- | 6.5 | 0.0 | --- | --- |
| 23 | 5.5 | 3.5 | 3.5 | 1.0 | 0.5 | 0.0 | --- | --- | --- | --- | --- | --- |
| 24 | 9.5 | 5.5 | 1.0 | 0.5 | 0.5 | 0.0 | --- | --- | 4.5 | 3.0 | --- | --- |
| 25 | 10.0 | 9.0 | 3.5 | 0.5 | 1.0 | 0.0 | --- | --- | 7.0 | 2.5 | --- | --- |
| 26 | 9.0 | 6.0 | 6.5 | 3.0 | 0.5 | 0.0 | --- | --- | 8.0 | 3.0 | --- | --- |
| 27 | 6.0 | 4.0 | 10.0 | 7.0 | 0.5 | 0.0 | --- | --- | 6.0 | 2.0 | --- | --- |
| 28 | 8.5 | 3.5 | 8.0 | 2.0 | 1.0 | 0.0 | --- | --- | 5.0 | 1.0 | --- | --- |
| 29 | 9.0 | 4.0 | 2.0 | 0.5 | 0.0 | 0.0 | --- | --- | --- | --- | --- | --- |
| 30 | 7.0 | 4.5 | 1.5 | 0.0 | 0.5 | 0.0 | --- | --- | --- | --- | --- | --- |
| 31 | 8.0 | 6.5 | --- | --- | 0.5 | 0.0 | --- | --- | --- | --- | --- | --- |
| MONTH | 16.5 | 3.5 | 10.5 | 0.0 | 6.0 | 0.0 | 2.5 | 0.0 | 8.0 | 0.0 | 14.5 | 0.0 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 17.0 | 5.0 | 20.5 | 6.5 | 25.5 | 18.5 | 25.5 | 19.0 | 27.5 | 20.0 | 28.5 | 21.5 |
| 2 | --- | --- | 21.0 | 13.0 | 24.0 | 16.5 | 26.5 | 17.0 | 27.5 | 17.5 | 29.5 | 22.5 |
| 3 | --- | --- | 20.5 | 12.5 | 24.5 | 14.0 | 26.5 | 16.5 | 28.0 | 18.5 | 28.0 | 22.0 |
| 4 | --- | --- | 18.0 | 13.5 | 25.0 | 13.0 | 23.0 | 18.0 | 29.0 | 19.5 | 28.5 | 19.5 |
| 5 | 8.5 | 5.5 | 21.0 | 13.5 | 21.5 | 16.0 | 28.0 | 19.5 | 29.5 | 21.5 | 29.0 | 22.0 |
| 6</ | | | | | | | | | | | | |

FACCOON CREEK BASIN

03201800 SANDY RUN NEAR LAKE HOPE, OH

LOCATION.--Lat 39°20'01", long 82°19'56", in T.11 N., R.16 W., Vinton County, Hydrologic Unit 05090101, on right bank at upstream side on bridge of King Hollow Trail, 1,200 ft (366 m) downstream from Harbargar Hollow, 2.6 mi (4.2 km) upstream from spillway of Lake Hope, and 5.0 mi (8.0 km) northeast of Zaleski.

DRAINAGE AREA.--4.99 mi² (12.9 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1957 to current year.

GAGE.--Water-stage recorder. Datum of gage is 715.51 ft (218.087 m) above mean sea level.

REMARKS.--Records good above 10 ft³/s, fair below.

AVERAGE DISCHARGE.--20 years, 5.75 ft³/s (0.163 m³/s), 15.65 in/yr (398 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,770 ft³/s (107 m³/s) Aug. 3, 1958, gage height, 8.41 ft (2.563 m) from rating curve extended above 600 ft³/s (17.0 m³/s) on the basis of slope-area measurements at gage heights 7.68 ft (2.341 m), 8.02 ft (2.444 m), and 8.52 ft (2.597 m); no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 200 ft³/s (5.66 m³/s) and maximums (*):

| Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) | Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) |
|---------|------|---|-------------------------|--------|------|---|-------------------------|
| Mar. 12 | 2330 | 380 10.8 | 5.02 1.530 | Apr. 2 | 2115 | *547 15.5 | *5.73 1.747 |

Minimum discharge, 0.04 ft³/s (0.001 m³/s) Sept. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT |
|-------|-------|-------|-------|-------|--------|-------|-------|--------|-------|-------|-------|------|
| 1 | .76 | 4.5 | .90 | .77 | .21 | 8.6 | 3.0 | 2.4 | .33 | 15 | 1.4 | .21 |
| 2 | .69 | 2.8 | 1.0 | .77 | .21 | 8.6 | 87 | 2.3 | .29 | 1.2 | .33 | .21 |
| 3 | .69 | 2.1 | .88 | .76 | .21 | 8.6 | 49 | 11 | .25 | .55 | .21 | .25 |
| 4 | .66 | 1.7 | 1.0 | .76 | .21 | 46 | 32 | 12 | .21 | 3.6 | .18 | .21 |
| 5 | .69 | 1.3 | .78 | .75 | .21 | 19 | 35 | 9.6 | .29 | 2.1 | .15 | .18 |
| 6 | .76 | 1.1 | 1.4 | .75 | .21 | 11 | 21 | 14 | .49 | .84 | .13 | .18 |
| 7 | .92 | 1.4 | 1.6 | .75 | .21 | 7.7 | 16 | 40 | .38 | .49 | .15 | .21 |
| 8 | 1.2 | 1.0 | 1.1 | .70 | .21 | 6.1 | 11 | 17 | .33 | .33 | .18 | .18 |
| 9 | 7.4 | 1.1 | 3.0 | .66 | .21 | 5.0 | 8.3 | 8.9 | .76 | .25 | .25 | .15 |
| 10 | 2.9 | 2.1 | 2.3 | .60 | .21 | 4.2 | 6.9 | 6.1 | .25 | .29 | .29 | .13 |
| 11 | 1.6 | 1.0 | 5.6 | .58 | .97 | 3.6 | 5.5 | 4.2 | .18 | 2.3 | .38 | .10 |
| 12 | 1.2 | .91 | 5.0 | .53 | 1.7 | 26 | 4.5 | 3.0 | .21 | 5.5 | 1.4 | .08 |
| 13 | 1.1 | .82 | 4.0 | .47 | 24 | 64 | 4.0 | 2.3 | .18 | 3.6 | .69 | .07 |
| 14 | 1.1 | .82 | 2.7 | .44 | 16 | 15 | 3.6 | 1.8 | .33 | 1.0 | .62 | .05 |
| 15 | 1.1 | .91 | 2.0 | .40 | 9.6 | 11 | 3.1 | 1.6 | .29 | .55 | .43 | .07 |
| 16 | 1.2 | .74 | 1.6 | .37 | 5.5 | 8.0 | 2.6 | 1.2 | .15 | .43 | .33 | 1.6 |
| 17 | 1.1 | .76 | 1.4 | .34 | 4.5 | 6.7 | 2.4 | 1.0 | .15 | .33 | .38 | .43 |
| 18 | 1.1 | .90 | 1.3 | .33 | 3.4 | 34 | 2.4 | .93 | .15 | .25 | .29 | .25 |
| 19 | 1.1 | .84 | 1.2 | .30 | 2.7 | 15 | 2.6 | .76 | .49 | .21 | .21 | .25 |
| 20 | 1.5 | .77 | 2.4 | .29 | 2.5 | 12 | 2.3 | .69 | .25 | .18 | .18 | .33 |
| 21 | 2.0 | .77 | 1.5 | .27 | 2.0 | 8.6 | 2.0 | .55 | .21 | .25 | .15 | .21 |
| 22 | 1.5 | .82 | 1.1 | .25 | 3.5 | 11 | 2.0 | .55 | .25 | .76 | .18 | .18 |
| 23 | 1.4 | .73 | 1.2 | .24 | 22 | 8.3 | 2.3 | .43 | .33 | .21 | .15 | .15 |
| 24 | 6.6 | .69 | .84 | .23 | 48 | 6.9 | 2.1 | .43 | .25 | .18 | .33 | .18 |
| 25 | 5.3 | .64 | .82 | .23 | 18 | 5.5 | 2.0 | .49 | .38 | 1.0 | .25 | .21 |
| 26 | 2.9 | 1.2 | .80 | .22 | 11 | 4.7 | 1.8 | .49 | 3.0 | .69 | .21 | .33 |
| 27 | 2.0 | 1.1 | .79 | .22 | 9.3 | 4.5 | 1.6 | .43 | .33 | .25 | .33 | .33 |
| 28 | 1.7 | 1.1 | .79 | .21 | 8.6 | 5.5 | 3.3 | .38 | 2.8 | .18 | .18 | .25 |
| 29 | 1.5 | .86 | .78 | .21 | --- | 4.7 | 4.7 | .38 | 3.3 | .25 | .15 | .21 |
| 30 | 2.4 | .57 | .78 | .21 | --- | 4.0 | 3.0 | .43 | .76 | .29 | .21 | .18 |
| 31 | 15 | --- | .78 | .21 | --- | 3.6 | --- | .33 | --- | .18 | .33 | --- |
| TOTAL | 71.07 | 36.05 | 75.64 | 13.82 | 195.37 | 387.4 | 327.0 | 145.67 | 17.57 | 43.24 | 10.65 | 7.37 |
| MEAN | 2.29 | 1.20 | 2.44 | .45 | 6.98 | 12.5 | 10.9 | 4.70 | .59 | 1.39 | .34 | .25 |
| MAX | 15 | 4.5 | 16 | .77 | 48 | 64 | 87 | 40 | 3.3 | 15 | 1.4 | 1.6 |
| MIN | .66 | .57 | .78 | .21 | .21 | 3.6 | 1.6 | .33 | .15 | .18 | .13 | .05 |
| CFSM | .46 | .24 | .49 | .09 | 1.40 | 2.51 | 2.18 | .94 | .12 | .28 | .07 | .05 |
| IN. | .53 | .27 | .56 | .10 | 1.46 | 2.89 | 2.44 | 1.09 | .13 | .32 | .08 | .05 |

CAL YR 1976 TOTAL 1875.85 MEAN 5.13 MAX 170 MIN .12 CFSM 1.03 IN 13.98
WTR YR 1977 TOTAL 1330.85 MEAN 3.65 MAX 87 MIN .05 CFSM .73 IN 9.92

RACCOON CREEK BASIN

207

03201800 SANDY RUN NEAR LAKE HOPE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1959 to 1961, 1970 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1970 to current year.

pH: December 1970 to current year.

WATER TEMPERATURES: December 1970 to current year.

DISSOLVED OXYGEN: December 1970 to current year.

INSTRUMENTATION.--Water-quality monitor since December 1970.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,440 micromhos July 11, 12, 1973; minimum, 53 micromhos Sept. 3, 1974.

pH: Maximum, 5.6 units Apr. 28, 1973; minimum, 2.1 units Mar. 25, 1971, Aug. 31, 1972.

WATER TEMPERATURES: Maximum, 28.5°C Aug. 26, 1975; minimum, 0.0°C on many days during winter periods.

DISSOLVED OXYGEN: Maximum, 15.0 mg/L or higher on many days during January, November, and December 1971, January and February 1973; minimum, 2.0 mg/L Aug. 29, 30, 1973.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 837 micromhos Sept. 16; minimum, 102 micromhos July 12.

pH: Maximum, 5.5 units Mar. 12; minimum, 3.5 units July 25.

WATER TEMPERATURES: Maximum, 28.0°C July 20; minimum, 0.0°C Jan. 5-14, 16-18, Feb. 5-9.

DISSOLVED OXYGEN: Maximum, 14.4 mg/L Dec. 7; minimum, 3.6 mg/L Aug. 30.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND | HARD- NESS | NON- CAR- BONATE HARD- NESS | DIS- SOLVED CAL- CIUM | DIS- SOLVED MAG- NE- SIUM |
|--------------|------|---------------------------------------|--|------------------|------------------------|--------------------------|---------------------------------|---|----------------------------------|---|---|---------------------------------------|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | | 5 DAY (MG/L) | (CA+MG) (MG/L) | (MG/L) | (CA) (MG/L) | (MG/L) |
| MAR 24... | 1330 | 6.6 | 290 | 4.5 | 6.0 | 12.0 | 96 | .4 | 89 | 89 | 21 | 8.8 |
| JUN 15... | 1330 | .27 | 480 | 4.1 | 20.5 | 7.7 | 85 | .5 | 180 | 180 | 42 | 18 |
| | | DIS- SOLVED PO- TAS- SIUM | BICAR- BONATE | CAR- BONATE | ALKA- LINITY AS | CARBON DIOXIDE | DIS- SOLVED SULFATE | DIS- SOLVED CHLO- RIDE | DIS- SOLVED FLUO- RIDE | DIS- SOLVED SILICA | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) | TOTAL NITRATE |
| DATE | | (NA) (MG/L) | (HCO3) (MG/L) | (CO3) (MG/L) | CAC03 (MG/L) | (CO2) (MG/L) | (SO4) (MG/L) | (CL) (MG/L) | (F) (MG/L) | (SI02) (MG/L) | (MG/L) | (N) (MG/L) |
| MAR 24... | 6.2 | 1.7 | 0 | 0 | 0 | .0 | 99 | 7.1 | .1 | 12 | 159 | .08 |
| JUN 15... | 13 | 2.7 | 0 | 0 | 0 | .0 | 200 | 13 | .1 | 20 | 312 | .08 |
| | | TOTAL AMMONIA NITRO- GEN | TOTAL PHOS- PHORUS | TOTAL ARSENIC | TOTAL CHRO- MIUM | TOTAL COPPER | DIS- SOLVED IRON | TOTAL LEAD | DIS- SOLVED MAN- GANESE | TOTAL MERCURY | TOTAL ZINC | TOTAL ORGANIC CARBON |
| DATE | | (N) (MG/L) | (P) (MG/L) | (AS) (UG/L) | (CR) (UG/L) | (CU) (UG/L) | (FE) (UG/L) | (PB) (UG/L) | (MN) (UG/L) | (HG) (UG/L) | (ZN) (UG/L) | (C) (MG/L) |
| MAR 24... | .00 | .05 | .00 | 0 | 10 | 3 | 680 | 3 | 650 | .0 | 180 | 8.5 |
| JUN 15... | .00 | .06 | .00 | 2 | <10 | 4 | 420 | 6 | 2500 | .0 | 130 | 6.2 |

RACCOON CREEK BASIN

03201800 SANDY RUN NEAR LAKE HOPE, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|-----|-----------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 552 | 543 | 321 | 291 | 579 | 539 | 453 | 434 | 516 | 513 | 341 | 291 |
| 2 | 557 | 548 | 341 | 321 | 552 | 530 | 449 | 432 | 515 | 510 | 344 | 302 |
| 3 | 557 | 543 | 384 | 341 | 563 | 531 | 449 | 441 | 528 | 510 | 372 | 300 |
| 4 | 555 | 537 | 396 | 384 | 552 | 531 | 474 | 447 | 551 | 530 | 377 | 170 |
| 5 | 554 | 536 | 396 | 387 | 569 | 540 | 485 | 477 | 573 | 552 | 221 | 188 |
| 6 | 549 | 519 | 392 | 384 | 570 | 516 | 482 | 476 | 572 | 564 | 257 | 222 |
| 7 | 548 | 533 | 390 | 384 | 534 | 242 | 485 | 479 | 563 | 552 | 284 | 258 |
| 8 | 564 | 540 | 398 | 389 | 314 | 275 | 506 | 485 | 551 | 542 | 300 | 279 |
| 9 | 576 | 369 | 413 | 396 | 356 | 311 | 501 | 482 | 552 | 542 | 315 | 291 |
| 10 | 446 | 384 | 423 | 408 | 372 | 342 | 527 | 482 | 584 | 552 | 327 | 318 |
| 11 | 471 | 447 | 443 | 422 | 371 | 285 | 572 | 534 | 632 | 299 | 326 | 318 |
| 12 | 480 | 471 | 449 | 440 | 348 | 291 | 549 | 513 | 345 | 248 | 351 | 123 |
| 13 | 489 | 479 | 444 | 438 | 347 | 324 | 513 | 500 | 239 | 192 | 206 | 123 |
| 14 | 492 | 480 | 443 | 437 | 342 | 323 | 504 | 494 | 264 | 240 | 222 | 207 |
| 15 | 500 | 491 | 443 | 438 | 389 | 338 | 534 | 504 | 315 | 266 | 264 | 222 |
| 16 | 506 | 498 | 443 | 438 | 410 | 383 | 536 | 521 | 360 | 278 | 273 | 258 |
| 17 | 507 | 501 | 452 | 444 | 414 | 392 | 521 | 507 | 441 | 321 | 285 | 255 |
| 18 | 507 | 498 | 459 | 452 | 395 | 383 | 510 | 501 | 456 | 390 | 303 | 150 |
| 19 | 503 | 492 | 465 | 453 | 393 | 383 | 512 | 507 | 449 | 426 | 201 | 189 |
| 20 | 506 | 491 | 464 | 453 | 440 | 383 | 518 | 510 | 435 | 411 | 236 | 201 |
| 21 | 527 | 504 | 473 | 462 | 453 | 419 | 518 | 516 | 425 | 399 | 254 | 222 |
| 22 | 539 | 525 | 477 | 471 | 420 | 407 | 516 | 513 | 419 | 218 | 288 | 248 |
| 23 | 542 | 536 | 495 | 474 | 434 | 405 | 513 | 509 | 257 | 165 | 245 | 231 |
| 24 | 576 | 386 | 503 | 486 | 461 | 437 | 519 | 510 | 216 | 170 | 269 | 242 |
| 25 | 410 | 377 | 506 | 495 | 456 | 432 | 539 | 519 | 257 | 219 | 287 | 261 |
| 26 | 432 | 411 | 510 | 503 | 503 | 432 | 549 | 540 | 278 | 245 | 306 | 288 |
| 27 | 434 | 431 | 515 | 494 | 506 | 473 | 551 | 545 | 318 | 281 | 332 | 302 |
| 28 | 438 | 432 | 513 | 504 | 486 | 464 | 549 | 540 | 308 | 290 | 350 | 326 |
| 29 | 443 | 432 | 546 | 504 | 494 | 473 | 540 | 531 | --- | --- | 335 | 306 |
| 30 | 444 | 411 | 570 | 545 | 471 | 450 | 531 | 521 | --- | --- | 305 | 293 |
| 31 | 377 | 210 | --- | --- | 453 | 444 | 522 | 518 | --- | --- | 324 | 299 |
| MONTH | 576 | 210 | 570 | 291 | 579 | 242 | 572 | 432 | 632 | 165 | 377 | 123 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 315 | 300 | 381 | 341 | 420 | 401 | --- | --- | --- | --- | 474 | 453 |
| 2 | 323 | 107 | 389 | 378 | 411 | 396 | --- | --- | --- | --- | 471 | 450 |
| 3 | 186 | 126 | 384 | 164 | 419 | 395 | --- | --- | 480 | 468 | 468 | 453 |
| 4 | 224 | 137 | 239 | 180 | 393 | 387 | --- | --- | 477 | 465 | 462 | 447 |
| 5 | 177 | 146 | 266 | 239 | 396 | 381 | --- | --- | 471 | 459 | 450 | 435 |
| 6 | 182 | 176 | 258 | 179 | 420 | 398 | --- | --- | 465 | 450 | 447 | 435 |
| 7 | 221 | 180 | 194 | 147 | 411 | 401 | --- | --- | 459 | 447 | 465 | 447 |
| 8 | 227 | 219 | 239 | 185 | 401 | 386 | --- | --- | 459 | 444 | 465 | 441 |
| 9 | 245 | 219 | 246 | 240 | 470 | 389 | --- | --- | 465 | 453 | 447 | 426 |
| 10 | 276 | 249 | 263 | 246 | 480 | 470 | --- | --- | 462 | 423 | 435 | 399 |
| 11 | 279 | 266 | 279 | 266 | 474 | 464 | --- | --- | 471 | 411 | 411 | 378 |
| 12 | 278 | 269 | 293 | 278 | 486 | 473 | 358 | 102 | 564 | 429 | 384 | 357 |
| 13 | 305 | 278 | 326 | 291 | 473 | 456 | 312 | 124 | 564 | 510 | 381 | 321 |
| 14 | 324 | 308 | 338 | 323 | 497 | 444 | 354 | 316 | 510 | 495 | --- | --- |
| 15 | 312 | 305 | 333 | 329 | 498 | 486 | 384 | 358 | 516 | 510 | --- | --- |
| 16 | 312 | 302 | 329 | 321 | 483 | 474 | 412 | 378 | 528 | 510 | 837 | 447 |
| 17 | 324 | 309 | 336 | 323 | 479 | 470 | 414 | 406 | 528 | 516 | 681 | 663 |
| 18 | 354 | 324 | 354 | 336 | 474 | 444 | 424 | 406 | 522 | 495 | 663 | 654 |
| 19 | 380 | 333 | 360 | 353 | 515 | 456 | 426 | 406 | 501 | 489 | 654 | 639 |
| 20 | 348 | 345 | 362 | 354 | 497 | 470 | 424 | 412 | 495 | 474 | 669 | 654 |
| 21 | 356 | 345 | 360 | 354 | 470 | 461 | 426 | 390 | 483 | 447 | 666 | 654 |
| 22 | 366 | 353 | 360 | 348 | 464 | 447 | 498 | 420 | 483 | 465 | 663 | 648 |
| 23 | 390 | 363 | 360 | 353 | 489 | 456 | 484 | 460 | 471 | 459 | 663 | 645 |
| 24 | 404 | 384 | 362 | 356 | 486 | 470 | 460 | 450 | 501 | 453 | 660 | 630 |
| 25 | 402 | 386 | 368 | 360 | --- | --- | 706 | 444 | 501 | 456 | 669 | 654 |
| 26 | 390 | 371 | 374 | 363 | --- | --- | 510 | 438 | 459 | 411 | 672 | 630 |
| 27 | 374 | 368 | 380 | 369 | --- | --- | 484 | 472 | 483 | 429 | 681 | 666 |
| 28 | 378 | 318 | 386 | 372 | --- | --- | 484 | 472 | 465 | 429 | 672 | 660 |
| 29 | 290 | 263 | 390 | 372 | --- | --- | 484 | 472 | 441 | 432 | 678 | 666 |
| 30 | 336 | 288 | 405 | 393 | --- | --- | 490 | 486 | 474 | 432 | 675 | 660 |
| 31 | --- | --- | 416 | 399 | --- | --- | --- | --- | 483 | 468 | --- | --- |
| MONTH | 404 | 107 | 416 | 147 | 515 | 381 | 706 | 102 | 564 | 411 | 837 | 321 |
| YEAR | 837 | 102 | | | | | | | | | | |

209

PH (UNITS), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|-----|-----------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 4.6 | 4.6 | 4.8 | 4.6 | 4.7 | 4.5 | 4.6 | 4.4 | --- | --- | 4.5 | 4.1 |
| 2 | 4.6 | 4.5 | 4.7 | 4.6 | 4.6 | 4.5 | 4.6 | 4.6 | --- | --- | 4.4 | 4.0 |
| 3 | 4.7 | 4.5 | 4.6 | 4.3 | 4.6 | 4.5 | 4.6 | 4.5 | 4.0 | 3.9 | 4.4 | 3.9 |
| 4 | 4.8 | 4.5 | 4.3 | 4.3 | 4.6 | 4.5 | 4.6 | 4.4 | 3.9 | 3.9 | 5.0 | 3.9 |
| 5 | 4.8 | 4.6 | 4.4 | 4.3 | 4.6 | 4.5 | 4.4 | 4.2 | 3.9 | 3.8 | 4.9 | 4.7 |
| 6 | 4.7 | 4.6 | 4.5 | 4.4 | 4.7 | 4.6 | 4.3 | 4.2 | 3.9 | 3.7 | 4.7 | 4.5 |
| 7 | 4.7 | 4.6 | 4.5 | 4.4 | 5.1 | 4.6 | 4.3 | 4.2 | 4.0 | 3.8 | 4.5 | 4.3 |
| 8 | 4.6 | 4.5 | 4.5 | 4.4 | 5.0 | 4.9 | 4.2 | 4.1 | 4.1 | 3.9 | 4.5 | 4.3 |
| 9 | 4.7 | 4.1 | 4.8 | 4.5 | 5.0 | 4.7 | 4.3 | 4.2 | 4.0 | 3.9 | 4.3 | 4.1 |
| 10 | 4.6 | 4.5 | 4.6 | 4.5 | 4.8 | 4.5 | 4.3 | 4.0 | 4.1 | 4.0 | 4.2 | 4.0 |
| 11 | 4.6 | 4.5 | 4.6 | 4.4 | 4.7 | 4.3 | 4.0 | 3.8 | 4.5 | 4.0 | 4.3 | 4.0 |
| 12 | 4.6 | 4.5 | 4.5 | 4.4 | 4.7 | 4.1 | 4.1 | 4.0 | 4.6 | 4.1 | 5.5 | 4.0 |
| 13 | 4.6 | 4.5 | 4.6 | 4.4 | 4.5 | 4.1 | 4.3 | 4.1 | 5.1 | 4.8 | 5.3 | 4.9 |
| 14 | 4.6 | 4.5 | 4.6 | 4.5 | 4.6 | 4.5 | 4.4 | 4.3 | 4.9 | 4.7 | 4.9 | 4.8 |
| 15 | 4.7 | 4.5 | 4.6 | 4.5 | 4.5 | 4.1 | 4.3 | 4.2 | 4.8 | 4.5 | 4.8 | 4.3 |
| 16 | 4.6 | 4.5 | 4.7 | 4.5 | 4.2 | 4.0 | 4.2 | 4.1 | 4.7 | 4.1 | 4.3 | 4.2 |
| 17 | 4.6 | 4.6 | 4.7 | 4.6 | 4.2 | 4.0 | 4.3 | 4.2 | 4.5 | 3.8 | 4.5 | 4.3 |
| 18 | 4.6 | 4.4 | 4.7 | 4.6 | 4.4 | 4.2 | 4.4 | 4.3 | 3.9 | 3.6 | 5.1 | 4.1 |
| 19 | 4.4 | 4.3 | 4.7 | 4.5 | 4.4 | 4.3 | 4.5 | 4.4 | 3.8 | 3.6 | 5.1 | 5.0 |
| 20 | 4.4 | 4.2 | 4.7 | 4.5 | 4.3 | 3.9 | --- | --- | 3.8 | 3.7 | 5.1 | 4.7 |
| 21 | 4.3 | 4.2 | 4.7 | 4.6 | 4.1 | 3.8 | --- | --- | 3.9 | 3.8 | 5.1 | 4.7 |
| 22 | 4.2 | 4.1 | 4.6 | 4.6 | 4.4 | 4.2 | --- | --- | 4.8 | 3.9 | 4.7 | 4.3 |
| 23 | 4.2 | 4.0 | 4.8 | 4.6 | 4.4 | 4.2 | --- | --- | 4.9 | 4.6 | 5.1 | 4.7 |
| 24 | 4.2 | 3.7 | 4.9 | 4.7 | 4.4 | 4.2 | --- | --- | 4.9 | 4.6 | 5.0 | 4.6 |
| 25 | 4.1 | 3.9 | 4.7 | 4.6 | 4.5 | 4.3 | --- | --- | 4.5 | 4.3 | 4.7 | 4.4 |
| 26 | 3.9 | 3.8 | 4.6 | 4.5 | 4.4 | 3.9 | --- | --- | 4.5 | 4.3 | 4.4 | 4.2 |
| 27 | 3.9 | 3.8 | 4.6 | 4.5 | 4.0 | 3.9 | --- | --- | 4.3 | 4.0 | 4.3 | 4.2 |
| 28 | 4.1 | 3.9 | 4.5 | 4.4 | 4.1 | 3.9 | --- | --- | 4.5 | 4.1 | 4.2 | 4.0 |
| 29 | 4.2 | 4.0 | 4.5 | 4.4 | 4.1 | 3.9 | --- | --- | --- | --- | 4.4 | 4.1 |
| 30 | 4.2 | 4.1 | 4.6 | 4.4 | 4.2 | 4.1 | --- | --- | --- | --- | 4.5 | 4.3 |
| 31 | 4.8 | 4.1 | --- | --- | 4.4 | 4.2 | --- | --- | --- | --- | 4.4 | 4.2 |
| MONTH | 4.8 | 3.7 | 4.9 | 4.3 | 5.1 | 3.8 | 4.6 | 3.8 | 5.1 | 3.6 | 5.5 | 3.9 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 4.5 | 4.2 | 4.0 | 3.8 | 4.7 | 4.4 | --- | --- | --- | --- | 4.2 | 4.1 |
| 2 | 5.4 | 4.2 | 3.9 | 3.8 | 4.5 | 4.2 | --- | --- | --- | --- | 4.2 | 4.1 |
| 3 | 5.4 | 4.8 | 5.0 | 3.8 | 4.2 | 4.1 | --- | --- | 3.9 | 3.9 | 4.2 | 4.1 |
| 4 | 5.4 | 4.7 | 4.9 | 4.6 | 4.5 | 4.2 | --- | --- | 4.0 | 3.9 | 4.2 | 4.1 |
| 5 | 5.4 | 5.2 | 4.6 | 4.4 | 4.5 | 4.3 | --- | --- | 4.0 | 3.9 | 4.2 | 4.1 |
| 6 | 5.4 | 5.3 | 5.2 | 4.4 | 4.3 | 4.2 | --- | --- | 4.0 | 3.9 | 4.1 | 4.1 |
| 7 | 5.4 | 5.0 | 5.3 | 5.0 | 4.5 | 4.2 | --- | --- | 3.9 | 3.9 | 4.2 | 4.1 |
| 8 | 5.1 | 4.8 | 5.0 | 4.5 | 4.5 | 4.2 | --- | --- | 3.9 | 3.9 | 4.2 | 4.1 |
| 9 | 5.1 | 4.8 | 4.5 | 4.4 | 4.5 | 4.2 | --- | --- | 4.0 | 3.9 | 4.2 | 4.1 |
| 10 | 4.8 | 4.4 | 4.5 | 4.4 | 4.5 | 4.2 | --- | --- | 4.0 | 3.9 | 4.2 | 4.1 |
| 11 | 4.7 | 4.3 | 4.4 | 4.2 | 4.5 | 4.3 | --- | --- | 4.1 | 3.9 | 4.3 | 4.1 |
| 12 | 4.6 | 4.4 | 4.5 | 4.3 | 4.5 | 4.3 | 4.9 | 4.5 | 4.1 | 3.9 | 4.3 | 4.2 |
| 13 | 4.4 | 4.2 | 4.3 | 4.1 | 4.4 | 4.2 | 4.9 | 4.3 | 3.9 | 3.8 | 4.3 | 4.1 |
| 14 | 4.2 | 4.0 | 4.2 | 4.0 | 4.4 | 4.2 | 4.3 | 4.1 | 3.9 | 3.8 | --- | --- |
| 15 | 4.4 | 4.2 | 4.2 | 4.0 | 4.4 | 4.1 | 4.2 | 4.0 | 3.9 | 3.8 | --- | --- |
| 16 | 4.4 | 4.2 | 4.4 | 4.1 | 4.3 | 4.1 | 4.1 | 4.0 | 3.9 | 3.7 | 4.4 | 3.8 |
| 17 | 4.3 | 4.2 | 4.4 | 4.2 | 4.3 | 4.2 | 4.1 | 4.0 | 3.9 | 3.9 | 4.0 | 3.9 |
| 18 | 4.3 | 4.0 | 4.3 | 4.2 | 4.3 | 4.2 | 4.1 | 4.0 | 4.0 | 3.9 | 4.1 | 4.0 |
| 19 | 4.3 | 3.8 | 4.4 | 4.2 | 4.2 | 4.1 | 4.1 | 4.0 | 4.1 | 4.0 | 4.1 | 4.0 |
| 20 | 4.2 | 4.0 | 4.4 | 4.2 | 4.3 | 4.1 | 4.0 | 4.0 | 4.1 | 4.0 | 4.1 | 4.0 |
| 21 | 4.2 | 4.0 | 4.4 | 4.2 | 4.4 | 4.0 | 4.1 | 4.0 | 4.1 | 4.0 | 4.1 | 4.0 |
| 22 | 4.1 | 3.9 | 4.4 | 4.2 | 4.2 | 4.1 | 4.0 | 3.8 | 4.0 | 4.0 | 4.1 | 4.0 |
| 23 | 3.9 | 3.8 | 4.4 | 4.3 | 4.3 | 4.2 | 4.0 | 3.9 | 4.3 | 4.0 | 4.1 | 4.0 |
| 24 | 3.8 | 3.7 | 4.7 | 4.3 | 4.2 | 4.2 | 4.0 | 3.9 | 4.3 | 4.2 | 4.0 | 4.0 |
| 25 | 3.7 | 3.6 | 4.5 | 4.3 | --- | --- | 4.0 | 3.5 | 4.3 | 4.2 | 4.0 | 4.0 |
| 26 | 3.9 | 3.7 | 4.6 | 4.2 | --- | --- | 3.9 | 3.7 | 4.4 | 4.2 | 4.1 | 4.0 |
| 27 | 4.0 | 3.8 | 4.6 | 4.3 | --- | --- | 4.0 | 3.9 | 4.4 | 4.2 | 4.1 | 4.0 |
| 28 | 4.0 | 3.7 | 4.4 | 4.3 | --- | --- | 4.0 | 3.9 | 4.3 | 4.1 | 4.1 | 4.0 |
| 29 | 4.6 | 4.2 | 4.4 | 4.3 | --- | --- | 4.0 | 3.9 | 4.2 | 4.1 | 4.1 | 4.0 |
| 30 | 4.4 | 4.0 | 4.4 | 4.3 | --- | --- | 3.9 | 3.9 | 4.2 | 4.1 | 4.1 | 4.0 |
| 31 | --- | --- | 4.6 | 4.4 | --- | --- | --- | --- | 4.3 | 4.1 | --- | --- |
| MONTH | 5.4 | 3.6 | 5.3 | 3.8 | 4.7 | 4.0 | 4.9 | 3.5 | 4.4 | 3.7 | 4.4 | 3.8 |
| YEAR | 5.5 | 3.5 | | | | | | | | | | |

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|---------|------|----------|------|----------|------|---------|-----|----------|------|-----------|------|------|
| OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | | |
| 1 | 15.5 | 13.0 | 7.5 | 4.5 | 1.5 | 0.5 | 1.0 | 0.5 | 1.0 | 0.5 | 4.0 | 0.5 |
| 2 | 16.0 | 13.5 | 7.0 | 4.0 | 1.0 | 0.5 | 1.0 | 0.5 | 1.0 | 0.5 | 3.5 | 0.5 |
| 3 | 17.0 | 12.5 | 9.0 | 6.0 | 1.0 | 0.5 | 1.0 | 1.0 | 1.0 | 0.5 | 5.0 | 0.5 |
| 4 | 17.0 | 11.5 | 6.0 | 3.5 | 1.0 | 0.5 | 1.0 | 0.5 | 0.5 | 0.5 | 6.5 | 4.5 |
| 5 | 17.5 | 12.5 | 5.5 | 3.5 | 1.0 | 0.5 | 0.5 | 0.0 | 0.5 | 0.0 | 7.5 | 3.0 |
| 6 | 16.0 | 14.5 | 6.5 | 3.0 | 1.0 | 0.5 | 0.5 | 0.0 | 0.5 | 0.0 | 8.0 | 2.5 |
| 7 | 14.5 | 13.0 | 6.0 | 3.5 | 1.0 | 0.5 | 0.5 | 0.0 | 0.5 | 0.0 | 4.5 | 1.0 |
| 8 | 13.5 | 12.0 | 4.0 | 2.0 | 1.0 | 0.5 | 0.5 | 0.0 | 0.5 | 0.0 | 7.0 | 0.5 |
| 9 | 12.5 | 10.5 | 5.5 | 1.5 | 0.5 | 0.5 | 0.5 | 0.0 | 0.5 | 0.0 | 8.5 | 2.0 |
| 10 | 11.5 | 8.5 | 5.5 | 3.0 | 1.0 | 0.5 | 0.5 | 0.0 | 1.0 | 0.5 | 8.5 | 3.5 |
| 11 | 12.5 | 8.5 | 5.0 | 3.0 | 2.5 | 1.0 | 0.0 | 0.0 | 1.0 | 0.5 | 10.5 | 3.5 |
| 12 | 13.0 | 8.0 | 5.0 | 2.5 | 4.0 | 2.5 | 0.5 | 0.0 | 0.5 | 0.5 | 9.0 | 8.0 |
| 13 | 14.0 | 9.5 | 4.0 | 1.0 | 3.0 | 0.5 | 0.5 | 0.0 | 0.5 | 0.5 | 8.5 | 6.5 |
| 14 | 13.0 | 8.5 | 3.0 | 0.5 | 1.0 | 0.5 | 0.5 | 0.0 | 0.5 | 0.5 | 9.0 | 5.0 |
| 15 | 14.0 | 8.0 | 5.5 | 2.0 | 2.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 12.0 | 4.0 |
| 16 | 12.5 | 8.5 | 3.5 | 0.5 | 2.0 | 0.5 | 0.5 | 0.0 | 0.5 | 0.5 | 11.0 | 7.0 |
| 17 | 10.5 | 8.5 | 4.0 | 0.5 | 3.0 | 1.0 | 0.0 | 0.0 | 0.5 | 0.0 | 7.5 | 3.5 |
| 18 | 9.5 | 4.5 | 5.5 | 2.0 | 2.0 | 0.5 | 0.5 | 0.0 | 0.5 | 0.5 | 10.0 | 6.5 |
| 19 | 9.5 | 5.5 | 6.5 | 3.0 | 3.0 | 0.5 | 1.0 | 0.5 | 0.5 | 0.5 | 7.5 | 5.0 |
| 20 | 8.0 | 7.0 | 4.5 | 1.0 | 3.5 | 1.5 | 1.0 | 0.5 | 0.5 | 0.5 | 6.0 | 4.5 |
| 21 | 8.5 | 6.5 | 4.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.5 | 0.5 | 10.0 | 2.0 |
| 22 | 8.5 | 5.0 | 3.0 | 2.0 | 1.0 | 0.5 | 1.0 | 0.5 | 1.0 | 0.5 | 7.0 | 3.5 |
| 23 | 6.5 | 3.5 | 3.5 | 1.0 | 1.0 | 1.0 | 1.0 | 0.5 | 2.0 | 0.5 | 8.5 | 2.0 |
| 24 | 9.0 | 6.5 | 1.5 | 0.5 | 1.0 | 0.5 | 1.0 | 1.0 | 4.5 | 2.5 | 8.0 | 2.5 |
| 25 | 10.0 | 9.5 | 4.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 7.0 | 2.0 | 8.5 | 2.0 |
| 26 | 9.5 | 6.5 | 7.5 | 3.5 | 1.0 | 1.0 | 1.0 | 1.0 | 7.5 | 3.0 | 9.5 | 2.5 |
| 27 | 7.0 | 4.5 | 10.0 | 6.5 | 1.0 | 0.5 | 1.0 | 0.5 | 5.5 | 3.0 | 9.5 | 4.0 |
| 28 | 7.0 | 3.0 | 7.5 | 2.5 | 1.0 | 1.0 | 1.0 | 0.5 | 5.0 | 2.0 | 11.5 | 8.5 |
| 29 | 7.0 | 2.0 | 3.0 | 0.5 | 1.0 | 0.5 | 1.0 | 0.5 | --- | --- | 15.5 | 9.0 |
| 30 | 5.5 | 3.0 | 1.5 | 0.5 | 1.0 | 0.5 | 1.0 | 0.5 | --- | --- | 17.0 | 10.5 |
| 31 | 8.0 | 6.5 | --- | --- | 1.0 | 0.5 | 1.0 | 0.5 | --- | --- | 13.0 | 9.0 |
| MONTH | 17.5 | 2.0 | 10.0 | 0.5 | 4.0 | 0.5 | 1.0 | 0.0 | 7.5 | 0.0 | 17.0 | 0.5 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 12.5 | 5.5 | 16.5 | 9.0 | 23.0 | 18.5 | --- | --- | --- | --- | 27.0 | 21.0 |
| 2 | 11.5 | 9.5 | 18.5 | 14.0 | 21.5 | 16.5 | --- | --- | --- | --- | 27.0 | 21.5 |
| 3 | 11.5 | 8.5 | 16.5 | 13.5 | 20.5 | 14.0 | --- | --- | 23.0 | 18.0 | 25.5 | 21.0 |
| 4 | 11.0 | 8.5 | 15.5 | 13.0 | 21.0 | | | | | | | |

211

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 8.6 | 8.0 | 10.5 | 9.5 | 13.3 | 12.3 | 11.8 | 11.0 | 11.2 | 10.7 | 12.6 | 10.9 |
| 2 | 8.3 | 7.8 | 11.0 | 9.5 | 13.6 | 13.1 | 11.3 | 10.5 | 11.2 | 10.9 | 12.9 | 10.9 |
| 3 | 8.3 | 7.5 | 9.7 | 8.9 | 13.5 | 12.5 | 11.4 | 11.2 | 10.9 | 10.4 | 12.6 | 9.9 |
| 4 | 8.4 | 7.0 | 11.0 | 9.6 | 13.3 | 12.6 | 11.4 | 10.6 | 10.5 | 10.4 | 10.2 | 9.3 |
| 5 | 7.5 | 6.6 | 11.2 | 10.4 | 13.4 | 12.5 | 11.1 | 10.5 | 11.0 | 10.4 | 10.9 | 9.1 |
| 6 | 6.9 | 6.6 | 11.6 | 9.9 | 13.7 | 12.7 | 11.1 | 10.9 | 11.4 | 11.0 | 11.5 | 9.2 |
| 7 | 7.5 | 5.9 | 11.3 | 10.2 | 14.4 | 13.8 | 11.3 | 10.8 | 11.4 | 11.2 | 12.5 | 10.7 |
| 8 | 7.9 | 7.3 | 12.3 | 11.1 | 14.0 | 13.6 | 11.2 | 11.0 | 11.3 | 10.9 | 13.2 | 11.1 |
| 9 | 9.4 | 7.7 | 12.6 | 10.4 | 13.5 | 13.3 | 11.1 | 10.7 | 11.3 | 9.9 | 13.3 | 9.1 |
| 10 | 9.9 | 9.0 | 12.1 | 11.1 | 13.4 | 12.9 | 10.8 | 10.4 | 10.5 | 10.1 | 11.7 | 9.1 |
| 11 | 9.8 | 8.7 | 12.3 | 11.4 | 13.0 | 12.3 | 11.1 | 10.8 | 11.5 | 10.2 | 11.4 | 8.5 |
| 12 | 10.0 | 8.3 | 12.7 | 11.6 | 12.3 | 11.3 | 11.2 | 10.9 | 12.1 | 11.7 | 9.1 | 8.7 |
| 13 | 9.2 | 7.8 | 13.3 | 12.0 | 13.3 | 11.7 | 11.1 | 10.6 | 11.8 | 11.4 | 9.8 | 9.0 |
| 14 | 9.2 | 8.0 | 13.5 | 12.1 | 13.3 | 12.8 | 10.6 | 10.4 | 12.0 | 11.6 | 10.5 | 9.0 |
| 15 | 9.3 | 7.3 | 12.5 | 11.2 | 13.0 | 12.3 | 10.9 | 10.6 | 12.7 | 12.0 | 11.0 | 8.1 |
| 16 | 8.8 | 7.3 | 13.3 | 12.1 | 12.9 | 12.4 | 11.1 | 10.9 | 12.9 | 12.3 | 9.5 | 8.5 |
| 17 | 8.9 | 8.4 | 13.4 | 11.6 | 12.7 | 11.8 | 11.1 | 10.9 | 12.8 | 11.6 | 11.2 | 9.4 |
| 18 | 10.6 | 8.7 | 12.8 | 11.4 | 13.1 | 12.6 | 11.3 | 10.7 | 12.5 | 11.9 | 9.9 | 8.7 |
| 19 | 9.7 | 8.5 | 12.2 | 10.8 | 13.1 | 11.9 | 11.0 | 10.7 | 12.2 | 11.8 | 10.8 | 9.6 |
| 20 | 8.9 | 8.6 | 13.1 | 11.7 | 12.5 | 11.3 | 10.9 | 10.7 | 12.5 | 12.1 | 10.7 | 10.1 |
| 21 | 9.6 | 8.9 | 13.2 | 12.1 | 13.1 | 12.6 | 11.1 | 10.9 | 12.5 | 12.2 | 12.3 | 9.0 |
| 22 | 10.1 | 9.1 | 13.0 | 12.5 | 13.1 | 12.4 | 11.7 | 11.0 | 13.0 | 11.7 | 11.9 | 9.7 |
| 23 | 11.1 | 9.5 | 13.3 | 12.4 | 12.7 | 12.3 | 11.7 | 10.9 | 13.0 | 12.0 | 13.1 | 9.7 |
| 24 | 10.0 | 9.1 | 13.1 | 12.6 | 12.7 | 11.9 | 10.8 | 10.4 | 11.8 | 10.3 | 12.7 | 9.8 |
| 25 | 9.1 | 8.7 | 12.9 | 11.2 | 12.3 | 11.8 | 10.7 | 10.4 | 11.5 | 9.3 | 13.1 | 9.8 |
| 26 | 9.7 | 8.8 | 11.3 | 9.7 | 12.4 | 12.0 | 10.7 | 10.5 | 11.2 | 9.3 | 12.7 | 9.6 |
| 27 | 10.8 | 9.8 | 9.9 | 9.2 | 12.4 | 12.0 | 10.7 | 10.5 | 11.3 | 9.8 | 11.5 | 9.3 |
| 28 | 11.8 | 10.0 | 12.2 | 9.7 | 12.3 | 12.0 | 10.7 | 10.3 | 12.0 | 10.4 | 9.5 | 8.7 |
| 29 | 12.1 | 9.8 | 13.6 | 12.5 | 12.4 | 12.2 | 10.8 | 10.5 | --- | --- | 9.3 | 7.9 |
| 30 | 11.3 | 9.9 | 13.5 | 12.6 | 12.3 | 11.8 | 11.1 | 10.7 | --- | --- | 9.6 | 8.3 |
| 31 | 9.9 | 9.3 | --- | --- | 12.2 | 11.9 | 11.0 | 10.7 | --- | --- | 10.5 | 9.0 |
| MONTH | 12.1 | 5.9 | 13.6 | 8.9 | 14.4 | 11.3 | 11.8 | 10.3 | 13.0 | 9.3 | 13.3 | 7.9 |

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|------|-----|------|-----|------|-----|--------|-----|-----------|-----|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 11.9 | 9.5 | 10.3 | 8.5 | 7.6 | 6.8 | --- | --- | --- | --- | 5.8 | 4.7 |
| 2 | 10.2 | 6.1 | 9.0 | 8.3 | 7.8 | 6.9 | --- | --- | --- | --- | 5.5 | 4.5 |
| 3 | 10.3 | 8.9 | 9.3 | 8.4 | 7.9 | 7.2 | --- | --- | 8.4 | 7.0 | 5.5 | 4.5 |
| 4 | 9.5 | 8.3 | 9.3 | 7.9 | 8.1 | 6.9 | --- | --- | 7.8 | 6.6 | 5.3 | 4.3 |
| 5 | 11.1 | 9.5 | 9.2 | 7.7 | 7.4 | 6.6 | --- | --- | 7.3 | 6.1 | 5.6 | 3.9 |
| 6 | 12.5 | 11.1 | 9.7 | 8.9 | 7.2 | 6.6 | --- | --- | 8.6 | 7.8 | 5.2 | 4.1 |
| 7 | 13.3 | 9.6 | 10.0 | 9.2 | 8.1 | 7.0 | --- | --- | 7.9 | 7.3 | 6.7 | 4.1 |
| 8 | 11.4 | 9.2 | 10.9 | 8.7 | 8.0 | 7.2 | --- | --- | 7.4 | 6.9 | 6.5 | 4.5 |
| 9 | 12.8 | 9.4 | 10.9 | 9.2 | 7.9 | 6.9 | --- | --- | 7.3 | 6.7 | 5.0 | 4.2 |
| 10 | 11.6 | 8.4 | 11.2 | 9.1 | 8.2 | 6.8 | --- | --- | 7.0 | 6.5 | 4.5 | 3.7 |
| 11 | 10.1 | 8.1 | 10.7 | 8.5 | 7.3 | 6.6 | --- | --- | 7.1 | 6.6 | 5.2 | 4.3 |
| 12 | 9.7 | 8.0 | 10.1 | 8.5 | 6.9 | 5.9 | 7.2 | 7.0 | 7.1 | 6.5 | 6.2 | 4.7 |
| 13 | 9.4 | 7.8 | 9.1 | 7.8 | 6.4 | 5.5 | 7.8 | 6.8 | 7.0 | 6.7 | 5.3 | 4.6 |
| 14 | 9.1 | 7.9 | 8.6 | 7.9 | 6.1 | 5.2 | 7.3 | 6.6 | 6.8 | 6.2 | --- | --- |
| 15 | 9.3 | 7.9 | 8.7 | 7.9 | 7.7 | 5.6 | 7.0 | 6.4 | 6.6 | 6.1 | --- | --- |
| 16 | 9.3 | 7.8 | 9.0 | 8.0 | 8.1 | 7.1 | 6.7 | 6.3 | 6.9 | 6.2 | 6.6 | 4.8 |
| 17 | 8.9 | 8.0 | 8.7 | 7.8 | 7.6 | 6.5 | 6.6 | 5.8 | 6.8 | 6.1 | 6.8 | 6.2 |
| 18 | 8.7 | 8.0 | 8.2 | 7.7 | 7.1 | 6.0 | 6.1 | 5.3 | 7.3 | 6.7 | 6.8 | 5.8 |
| 19 | 9.1 | 8.5 | 8.1 | 7.5 | 7.6 | 5.7 | 6.9 | 5.3 | 7.4 | 6.6 | 6.3 | 5.3 |
| 20 | 8.8 | 8.1 | 8.1 | 7.5 | 6.9 | 6.0 | 5.7 | 4.5 | 6.9 | 6.3 | 6.6 | 5.4 |
| 21 | 8.8 | 8.0 | 8.0 | 7.4 | 7.0 | 6.0 | 5.7 | 4.5 | 6.5 | 5.4 | 7.7 | 5.9 |
| 22 | 8.4 | 8.2 | 8.0 | 7.5 | 7.8 | 6.7 | 6.2 | 5.7 | 6.6 | 5.4 | 7.7 | 6.8 |
| 23 | 8.4 | 8.3 | 7.9 | 7.4 | 8.2 | 6.6 | 6.6 | 5.8 | 7.4 | 6.1 | 7.5 | 6.3 |
| 24 | 9.1 | 8.3 | 7.9 | 7.4 | 6.8 | 6.1 | 6.3 | 5.4 | 7.0 | 5.9 | 6.6 | 5.7 |
| 25 | 9.7 | 9.1 | 7.6 | 7.4 | --- | --- | 6.7 | 5.3 | 7.4 | 6.4 | 6.9 | 5.8 |
| 26 | 10.0 | 9.5 | 7.9 | 7.2 | --- | --- | 7.0 | 6.6 | 6.8 | 5.9 | 6.5 | 5.6 |
| 27 | 10.9 | 8.7 | 8.0 | 7.1 | --- | --- | 7.3 | 6.6 | 6.5 | 5.3 | 6.3 | 5.4 |
| 28 | 10.1 | 8.9 | 7.8 | 7.0 | --- | --- | 8.8 | 6.8 | 5.7 | 4.6 | 8.3 | 5.4 |
| 29 | 11.5 | 9.0 | 7.7 | 7.0 | --- | --- | 7.4 | 7.0 | 5.0 | 3.9 | 7.8 | 6.5 |
| 30 | 11.1 | 8.8 | 7.8 | 7.0 | --- | --- | 7.3 | 7.3 | 5.6 | 3.6 | 7.0 | 5.6 |
| 31 | --- | --- | 7.6 | 6.8 | --- | --- | --- | --- | 6.9 | 4.5 | --- | --- |
| MONTH | 13.3 | 6.1 | 11.2 | 6.8 | 8.2 | 5.2 | 8.8 | 4.5 | 8.6 | 3.6 | 8.3 | 3.7 |

| YEAR | 14.4 | 3.6 | | | | | | | | | | |
|------|------|-----|--|--|--|--|--|--|--|--|--|--|
|------|------|-----|--|--|--|--|--|--|--|--|--|--|

RACCOON CREEK BASIN

03202000 RACCOON CREEK AT ADAMSVILLE, OH

LOCATION.--Lat 38°52'25", long 82°21'22", in SE 1/4 sec. 26, T.6N., R.16W., Gallia County, Hydrologic Unit 05090101, on left bank at downstream side of U.S. Highway 35 bridge at Adamsville, 1.3 mi (2.1 km) upstream from Ryan Run, and 1.4 mi (2.3 km) downstream from Indian Creek.

DRAINAGE AREA.--585 mi² (1,515 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1915 to December 1935, October 1938 to current year. Monthly discharge only for December 1935, published in WSP 1305.

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

GAGE.--Water-stage recorder. Datum of gage is 570.04 ft (173.748 m) above mean sea level. Prior to June 13, 1940, nonrecording gage, June 13, 1940 to Oct. 27, 1970 water-stage recorder 480 ft (146 m) upstream at same datum.

REMARKS.--Records good except those for winter periods, which are fair.

AVERAGE DISCHARGE.--59 years, 645 ft³/s (18.27 m³/s), 14.97 in/yr (380 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,000 ft³/s (566 m³/s) May 28, 1968, gage height 28.69 ft (8.745 m), from rating curve extended above 13,000 ft³/s (368 m³/s) on basis of slope-conveyance estimate of peak flow; minimum, 1.1 ft³/s (0.031 m³/s) Oct. 17-19, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in January 1937 reached a stage of 25.2 ft (7.68 m), from floodmark, discharge, 16,000 ft³/s (453 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,130 ft³/s (88.6 m³/s) Apr. 8 (base 3,000 ft³/s, 85.0 m³/s), gage height, 13.97 ft (4.258 m); minimum, 11 ft³/s (0.31 m³/s) Sept. 14, 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|------|-------|------|-------|-------|-------|-------|------|------|------|------|
| 1 | 390 | 1480 | 114 | 131 | 90 | 1190 | 433 | 379 | 107 | 696 | 47 | 65 |
| 2 | 262 | 1250 | 100 | 119 | 90 | 800 | 425 | 361 | 88 | 402 | 46 | 51 |
| 3 | 189 | 912 | 95 | 115 | 90 | 667 | 892 | 361 | 75 | 387 | 50 | 43 |
| 4 | 151 | 649 | 90 | 110 | 90 | 1770 | 1790 | 388 | 66 | 300 | 62 | 34 |
| 5 | 128 | 505 | 84 | 105 | 90 | 2280 | 2830 | 408 | 60 | 167 | 79 | 52 |
| 6 | 114 | 406 | 95 | 105 | 90 | 2310 | 2920 | 442 | 57 | 151 | 63 | 219 |
| 7 | 103 | 341 | 1170 | 100 | 90 | 2050 | 3070 | 985 | 52 | 298 | 50 | 105 |
| 8 | 105 | 283 | 1390 | 99 | 90 | 1490 | 3080 | 1780 | 50 | 203 | 41 | 59 |
| 9 | 1280 | 247 | 996 | 298 | 90 | 972 | 2460 | 1530 | 79 | 131 | 36 | 36 |
| 10 | 1380 | 230 | 854 | 96 | 100 | 758 | 1350 | 1190 | 72 | 105 | 32 | 25 |
| 11 | 1010 | 208 | 682 | 95 | 180 | 645 | 1010 | 781 | 72 | 100 | 33 | 19 |
| 12 | 652 | 189 | 580 | 94 | 879 | 603 | 827 | 564 | 59 | 97 | 42 | 16 |
| 13 | 423 | 173 | 490 | 93 | 1690 | 1950 | 707 | 448 | 54 | 116 | 61 | 13 |
| 14 | 287 | 161 | 420 | 92 | 1890 | 2400 | 621 | 381 | 52 | 361 | 103 | 11 |
| 15 | 221 | 155 | 390 | 91 | 1920 | 2560 | 552 | 318 | 48 | 349 | 105 | 11 |
| 16 | 184 | 147 | 350 | 90 | 1700 | 2260 | 496 | 270 | 45 | 194 | 105 | 16 |
| 17 | 160 | 137 | 310 | 90 | 1340 | 1460 | 442 | 231 | 42 | 128 | 96 | 48 |
| 18 | 139 | 134 | 270 | 90 | 1010 | 1240 | 400 | 203 | 40 | 105 | 77 | 73 |
| 19 | 126 | 134 | 245 | 90 | 803 | 1510 | 372 | 184 | 42 | 101 | 70 | 77 |
| 20 | 126 | 129 | 247 | 90 | 779 | 1560 | 349 | 169 | 45 | 89 | 67 | 95 |
| 21 | 167 | 125 | 260 | 90 | 691 | 1480 | 323 | 152 | 43 | 91 | 54 | 82 |
| 22 | 160 | 124 | 208 | 90 | 753 | 1200 | 300 | 141 | 39 | 107 | 44 | 59 |
| 23 | 145 | 119 | 245 | 90 | 1200 | 988 | 285 | 129 | 38 | 91 | 37 | 46 |
| 24 | 233 | 114 | 230 | 90 | 1920 | 940 | 296 | 128 | 54 | 80 | 140 | 37 |
| 25 | 566 | 112 | 212 | 90 | 2330 | 825 | 287 | 119 | 96 | 70 | 141 | 28 |
| 26 | 707 | 112 | 176 | 90 | 2260 | 694 | 279 | 124 | 79 | 89 | 85 | 24 |
| 27 | 598 | 114 | 170 | 90 | 2140 | 609 | 266 | 115 | 61 | 62 | 54 | 21 |
| 28 | 466 | 114 | 166 | 90 | 1870 | 566 | 262 | 111 | 81 | 57 | 42 | 19 |
| 29 | 354 | 125 | 170 | 90 | --- | 559 | 418 | 103 | 473 | 52 | 63 | 20 |
| 30 | 325 | 124 | 164 | 90 | --- | 534 | 433 | 95 | 446 | 54 | 65 | 22 |
| 31 | 1790 | --- | 148 | 90 | --- | 488 | --- | 96 | --- | 50 | 79 | --- |
| TOTAL | 12941 | 9053 | 11121 | 3183 | 26265 | 39358 | 28175 | 12686 | 2615 | 5283 | 2069 | 1426 |
| MEAN | 417 | 302 | 359 | 103 | 938 | 1270 | 939 | 409 | 87.2 | 170 | 66.7 | 47.5 |
| MAX | 1790 | 1480 | 1390 | 298 | 2330 | 2560 | 3080 | 1780 | 473 | 696 | 141 | 219 |
| MIN | 103 | 112 | 84 | 90 | 90 | 488 | 262 | 95 | 38 | 50 | 32 | 11 |
| CFSM | .71 | .52 | .61 | .18 | 1.60 | 2.17 | 1.61 | .70 | .15 | .29 | .11 | .08 |
| IN. | .82 | .58 | .71 | .20 | 1.67 | 2.50 | 1.79 | .81 | .17 | .34 | .13 | .09 |

CAL YR 1976 TOTAL 213983 MEAN 585 MAX 3730 MIN 36 CFSM 1.00 IN 13.61
WTR YR 1977 TOTAL 154175 MEAN 422 MAX 3080 MIN 11 CFSM .72 IN 9.80

RACCOON CREEK BASIN

213

03202000 RACCOON CREEK AT ADAMSVILLE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951-54, 1964 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1967 to current year.

pH: May 1967 to current year.

WATER TEMPERATURES: October 1951 to September 1954, October 1964 to current year.

DISSOLVED OXYGEN: May 1967 to current year.

INSTRUMENTATION.--Water-quality monitor.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 2,930 micromhos Nov. 20, 1964; minimum, 95 micromhos Aug. 1, 1976.

pH: Maximum, 8.8 units Feb. 16, 1972; minimum, 2.0 units May 6, 1972.

WATER TEMPERATURES: Maximum, 29.0°C June 16, 1952; minimum, 0.0°C on many days during winter periods.

DISSOLVED OXYGEN: Maximum, 15.0 mg/L or higher on several days during 1968-69, 1971; minimum recorded, 2.5 mg/L May 6, 1972.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 642 micromhos Aug. 24; minimum, 128 micromhos Sept. 6.

pH: Maximum recorded, 7.1 units Oct. 28; minimum recorded, 4.0 units Oct. 7.

WATER TEMPERATURES: Maximum, 28.5°C July 19, 20; minimum, 0.0 °C on many days during December, January and February.

DISSOLVED OXYGEN: Maximum, 12.8 mg/L Dec. 2; minimum, 5.2 mg/L Sept. 6.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|------|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|--|---|
| DATE | TIME | (CFS) | | | | | | | | | | |
| MAR 24... | 1230 | 928 | 276 | 6.1 | 6.0 | 11.5 | 92 | .6 | 100 | 98 | 25 | 9.5 |
| JUL 05... | 1130 | 164 | 650 | 5.7 | 22.5 | 7.6 | 86 | .1 | 180 | 180 | 44 | 17 |
| | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTIT- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) |
| MAR 24... | 9.6 | 2.0 | 4 | 0 | 3 | 5.1 | 96 | 12 | .1 | 10 | 168 | .36 |
| JUL 05... | 40 | 3.5 | 4 | 0 | 3 | 13 | 170 | 73 | .2 | 11 | 364 | .58 |
| | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHROM- IUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (MG/L) |
| MAR 24... | .00 | .12 | .01 | 1 | <10 | 4 | 430 | 3 | 1200 | .4 | 180 | 9.2 |
| JUL 05... | .00 | .22 | .00 | 2 | 10 | 2 | 90 | 8 | 3600 | .0 | 70 | 5.7 |

03202000 RACCOON CREEK AT ADAMSVILLE, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|-----|-----------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 405 | 336 | 345 | 275 | 438 | 426 | 416 | 408 | 489 | 480 | 272 | 254 |
| 2 | 371 | 347 | 344 | 302 | 438 | 429 | 428 | 416 | 494 | 483 | 287 | 273 |
| 3 | 392 | 375 | 351 | 315 | 455 | 432 | 438 | 428 | 485 | 479 | 296 | 276 |
| 4 | 393 | 378 | 350 | 329 | 443 | 437 | 440 | 432 | 480 | 477 | 285 | 207 |
| 5 | 431 | 396 | 362 | 344 | 456 | 437 | 432 | 420 | 486 | 477 | --- | --- |
| 6 | 452 | 432 | 348 | 329 | 458 | 420 | 419 | 408 | 488 | 480 | --- | --- |
| 7 | 456 | 444 | 347 | 336 | 386 | 210 | 417 | 408 | 497 | 482 | --- | --- |
| 8 | 441 | 428 | 356 | 348 | 329 | 258 | 426 | 413 | 513 | 500 | --- | --- |
| 9 | 428 | 159 | 356 | 344 | 326 | 284 | 422 | 417 | 516 | 513 | --- | --- |
| 10 | 312 | 203 | 348 | 339 | 366 | 330 | 422 | 416 | 513 | 471 | --- | --- |
| 11 | 321 | 296 | 347 | 344 | 378 | 335 | 437 | 423 | 468 | 281 | 290 | 282 |
| 12 | 342 | 302 | 356 | 347 | 356 | 329 | 449 | 438 | 350 | 257 | 294 | 266 |
| 13 | 368 | 344 | 365 | 357 | 359 | 342 | 456 | 447 | 300 | 248 | 248 | 195 |
| 14 | 369 | 339 | 371 | 362 | 357 | 342 | 450 | 444 | 302 | 281 | 252 | 221 |
| 15 | 377 | 341 | 377 | 369 | 359 | 356 | 444 | 435 | 318 | 305 | 234 | 216 |
| 16 | 396 | 378 | 383 | 375 | 356 | 348 | 443 | 429 | 315 | 297 | 243 | 224 |
| 17 | 398 | 390 | 386 | 381 | 354 | 350 | 446 | 438 | 327 | 314 | 249 | 242 |
| 18 | 401 | 392 | 392 | 384 | 363 | 353 | --- | --- | 326 | 312 | 251 | 221 |
| 19 | 402 | 399 | 399 | 390 | 366 | 351 | --- | --- | 323 | 314 | 272 | 230 |
| 20 | 402 | 374 | 401 | 395 | 365 | 357 | --- | --- | 318 | 311 | 278 | 251 |
| 21 | 375 | 365 | 411 | 401 | 360 | 353 | --- | --- | 327 | 318 | 273 | 246 |
| 22 | 384 | 369 | 419 | 413 | 368 | 354 | --- | --- | 330 | 267 | 263 | 245 |
| 23 | 396 | 387 | 420 | 411 | 377 | 363 | --- | --- | 258 | 251 | 275 | 264 |
| 24 | 392 | 350 | 422 | 416 | 384 | 372 | --- | --- | 272 | 251 | 282 | 278 |
| 25 | 354 | 318 | 431 | 417 | 383 | 372 | --- | --- | 267 | 243 | 290 | 284 |
| 26 | 356 | 312 | 431 | 426 | 384 | 378 | 470 | 468 | 251 | 228 | 291 | 282 |
| 27 | 366 | 356 | 429 | 423 | 389 | 381 | 468 | 459 | 242 | 228 | 290 | 287 |
| 28 | 407 | 368 | 432 | 423 | 387 | 377 | 467 | 459 | 255 | 242 | 290 | 287 |
| 29 | 426 | 408 | 423 | 408 | 389 | 383 | 474 | 465 | --- | --- | 294 | 285 |
| 30 | 407 | 311 | 426 | 411 | 395 | 384 | 479 | 474 | --- | --- | 300 | 296 |
| 31 | 273 | 186 | --- | --- | 407 | 390 | 482 | 477 | --- | --- | 306 | 299 |
| MONTH | 456 | 159 | 432 | 275 | 458 | 210 | 482 | 408 | 516 | 228 | 306 | 195 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 314 | 308 | 392 | 338 | 425 | 414 | 350 | 257 | 497 | 482 | 543 | 521 |
| 2 | 315 | 270 | 336 | 326 | 429 | 417 | 431 | 360 | 501 | 488 | 549 | 540 |
| 3 | 300 | 252 | 351 | 336 | 447 | 429 | 548 | 411 | 519 | 504 | 566 | 548 |
| 4 | 321 | 213 | 372 | 350 | 482 | 449 | 524 | 452 | 531 | 506 | 596 | 566 |
| 5 | 213 | 192 | 366 | 348 | 480 | 464 | 627 | 533 | 503 | 480 | 632 | 324 |
| 6 | 219 | 215 | 362 | 309 | 470 | 456 | 570 | 498 | 489 | 482 | 380 | 128 |
| 7 | 221 | 216 | 317 | 237 | 471 | 461 | 563 | 447 | 510 | 486 | 515 | 311 |
| 8 | 228 | 219 | 261 | 237 | 476 | 462 | 534 | 512 | 540 | 513 | 480 | 414 |
| 9 | 233 | 224 | 308 | 254 | 458 | 356 | 545 | 480 | 564 | 534 | 410 | 362 |
| 10 | 249 | 234 | 318 | 278 | 431 | 393 | 476 | 461 | 587 | 563 | 414 | 360 |
| 11 | 255 | 245 | 284 | 272 | 465 | 413 | 476 | 443 | 594 | 575 | 459 | 405 |
| 12 | 263 | 257 | 284 | 276 | 509 | 465 | 437 | 410 | 599 | 528 | 491 | 449 |
| 13 | 272 | 264 | 291 | 284 | 500 | 471 | 465 | 416 | 525 | 474 | 507 | 476 |
| 14 | 279 | 272 | 302 | 293 | 504 | 459 | 483 | 443 | 488 | 437 | 512 | 476 |
| 15 | 288 | 281 | 312 | 303 | 515 | 476 | 479 | 368 | 512 | 492 | 528 | 504 |
| 16 | 294 | 288 | 323 | 312 | 543 | 495 | 399 | 375 | 563 | 498 | 584 | 524 |
| 17 | 302 | 294 | 332 | 324 | 528 | 462 | 402 | 393 | 549 | 518 | 591 | 455 |
| 18 | 306 | 300 | 338 | 333 | 513 | 491 | 449 | 404 | 561 | 533 | 516 | 462 |
| 19 | 314 | 306 | 345 | 339 | 525 | 491 | 453 | 435 | 600 | 566 | 540 | 494 |
| 20 | 327 | 312 | 351 | 344 | 525 | 491 | 503 | 440 | 602 | 561 | 572 | 491 |
| 21 | 335 | 317 | 362 | 353 | 525 | 500 | 537 | 470 | 558 | 540 | 602 | 566 |
| 22 | 330 | 326 | 372 | 360 | 537 | 516 | 494 | 369 | 617 | 554 | 633 | 594 |
| 23 | 333 | 330 | 387 | 372 | 524 | 503 | 501 | 480 | 630 | 617 | 633 | 611 |
| 24 | 338 | 333 | 390 | 366 | 534 | 455 | 495 | 474 | 642 | 614 | 612 | 603 |
| 25 | 345 | 338 | 399 | 392 | 498 | 294 | 482 | 473 | 453 | 308 | 605 | 590 |
| 26 | 351 | 345 | 422 | 396 | 465 | 339 | 465 | 417 | 375 | 335 | 597 | 567 |
| 27 | 353 | 345 | 416 | 401 | 474 | 438 | 470 | 440 | 456 | 366 | 588 | 563 |
| 28 | 351 | 326 | 417 | 413 | 440 | 399 | 527 | 474 | 501 | 461 | 609 | 578 |
| 29 | 335 | 318 | 434 | 416 | 488 | 294 | 512 | 462 | 525 | 480 | 623 | 600 |
| 30 | 375 | 332 | 428 | 417 | 510 | 282 | 518 | 473 | 569 | 488 | 638 | 609 |
| 31 | --- | --- | 422 | 416 | --- | --- | 516 | 488 | 546 | 518 | --- | --- |
| MONTH | 375 | 192 | 434 | 237 | 543 | 282 | 627 | 257 | 642 | 308 | 638 | 128 |
| YEAR | 642 | 128 | | | | | | | | | | |

RACCOON CREEK BASIN

215

03202000 RACCOON CREEK AT ADAMSVILLE, OH--Continued

PH (UNITS), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|-----|-----------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | --- | --- | 6.6 | 5.9 | --- | --- | --- | --- | 5.5 | 5.1 | 6.5 | 6.4 |
| 2 | --- | --- | 6.8 | 6.5 | --- | --- | --- | --- | 5.7 | 5.4 | 6.5 | 6.4 |
| 3 | --- | --- | 6.8 | 6.6 | --- | --- | --- | --- | 5.5 | 5.0 | 6.6 | 6.3 |
| 4 | --- | --- | --- | --- | --- | --- | --- | --- | 5.1 | 4.9 | 6.9 | 6.4 |
| 5 | 6.1 | 5.9 | --- | --- | --- | --- | --- | --- | 5.6 | 5.2 | --- | --- |
| 6 | 6.1 | 5.3 | --- | --- | --- | --- | --- | --- | 5.6 | 5.3 | --- | --- |
| 7 | 5.4 | 4.0 | --- | --- | --- | --- | --- | --- | 5.5 | 5.2 | --- | --- |
| 8 | 5.5 | 4.2 | --- | --- | --- | --- | --- | --- | 5.5 | 4.9 | --- | --- |
| 9 | 6.0 | 5.1 | --- | --- | --- | --- | --- | --- | 5.6 | 5.3 | --- | --- |
| 10 | 6.2 | 5.4 | --- | --- | --- | --- | --- | --- | 6.0 | 5.6 | --- | --- |
| 11 | 6.6 | 6.0 | --- | --- | --- | --- | --- | --- | 6.5 | 5.9 | 6.3 | 6.2 |
| 12 | 6.8 | 6.5 | --- | --- | --- | --- | --- | --- | 6.5 | 6.2 | 6.7 | 6.3 |
| 13 | 6.8 | 6.0 | --- | --- | --- | --- | --- | --- | 6.6 | 6.2 | 6.9 | 6.2 |
| 14 | 6.9 | 6.5 | --- | --- | --- | --- | --- | --- | 6.3 | 6.1 | 6.3 | 5.9 |
| 15 | 6.8 | 6.2 | --- | --- | --- | --- | --- | --- | 6.2 | 6.0 | 6.3 | 6.1 |
| 16 | 6.7 | 6.4 | --- | --- | --- | --- | --- | --- | 6.2 | 6.0 | 6.3 | 6.2 |
| 17 | 6.6 | 6.4 | --- | --- | --- | --- | --- | --- | 6.1 | 6.0 | 6.3 | 6.2 |
| 18 | 6.6 | 6.3 | --- | --- | --- | --- | --- | --- | 6.1 | 6.0 | 6.6 | 6.3 |
| 19 | 6.6 | 6.4 | --- | --- | --- | --- | --- | --- | 6.3 | 6.0 | 6.4 | 5.8 |
| 20 | 6.9 | 5.5 | --- | --- | --- | --- | --- | --- | 6.4 | 6.2 | 6.4 | 6.2 |
| 21 | 7.0 | 6.9 | --- | --- | --- | --- | --- | --- | 6.3 | 6.2 | 6.2 | 6.0 |
| 22 | 7.0 | 6.8 | --- | --- | --- | --- | --- | --- | 6.6 | 6.0 | 6.3 | 6.2 |
| 23 | 6.9 | 6.5 | --- | --- | --- | --- | --- | --- | 6.4 | 6.3 | 6.2 | 6.0 |
| 24 | --- | --- | --- | --- | --- | --- | --- | --- | 6.4 | 6.2 | 6.2 | 6.0 |
| 25 | --- | --- | --- | --- | --- | --- | --- | --- | 6.3 | 6.0 | 6.2 | 6.0 |
| 26 | --- | --- | --- | --- | --- | --- | 5.6 | 5.6 | 6.4 | 6.2 | 6.2 | 6.0 |
| 27 | 7.0 | 6.8 | --- | --- | --- | --- | 5.6 | 5.4 | 6.4 | 6.3 | 6.2 | 6.0 |
| 28 | 7.1 | 6.8 | --- | --- | --- | --- | 5.7 | 5.5 | 6.5 | 6.3 | 6.1 | 6.0 |
| 29 | 7.0 | 6.6 | --- | --- | --- | --- | 5.7 | 5.5 | --- | --- | 6.1 | 5.9 |
| 30 | 6.9 | 6.4 | --- | --- | --- | --- | 5.6 | 5.4 | --- | --- | 6.0 | 5.7 |
| 31 | 6.2 | 6.0 | --- | --- | --- | --- | 5.6 | 5.4 | --- | --- | 5.9 | 5.8 |
| MONTH | 7.1 | 4.0 | 6.8 | 5.9 | --- | --- | 5.7 | 5.4 | 6.6 | 4.9 | 6.9 | 5.7 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 6.0 | 5.8 | 5.7 | 5.1 | 6.5 | 6.0 | 6.5 | 5.7 | 5.7 | 5.6 | 5.7 | 5.5 |
| 2 | 6.3 | 5.8 | 5.7 | 5.4 | 6.5 | 6.0 | 6.4 | 5.2 | 5.7 | 5.6 | 5.7 | 5.4 |
| 3 | 6.3 | 5.8 | 5.7 | 5.4 | 6.5 | 5.9 | 5.3 | 4.8 | 5.8 | 5.5 | 5.5 | 5.1 |
| 4 | 6.1 | 5.6 | 5.5 | 5.3 | 6.4 | 5.9 | 5.9 | 4.8 | 5.6 | 5.1 | 5.2 | 5.0 |
| 5 | 6.0 | 5.8 | 5.6 | 5.4 | 6.4 | 6.0 | 5.9 | 5.6 | 5.2 | 5.0 | 6.1 | 5.0 |
| 6 | 5.9 | 5.8 | 5.8 | 5.4 | 6.3 | 6.0 | 5.8 | 5.2 | 5.3 | 5.2 | 6.3 | 5.9 |
| 7 | 6.0 | 5.8 | 6.0 | 5.7 | 6.2 | 5.9 | --- | --- | 5.7 | 5.3 | 6.1 | 5.5 |
| 8 | 6.0 | 5.8 | 5.6 | 5.4 | 6.4 | 5.8 | --- | --- | 5.7 | 5.5 | 5.6 | 5.4 |
| 9 | 6.0 | 5.9 | 6.0 | 5.5 | 6.9 | 6.0 | --- | --- | 5.8 | 5.6 | 5.9 | 5.7 |
| 10 | 6.0 | 5.7 | 6.0 | 5.8 | 6.7 | 6.3 | --- | --- | 5.8 | 5.5 | 6.1 | 5.9 |
| 11 | 5.9 | 5.6 | 6.0 | 5.7 | 6.6 | 6.3 | --- | --- | 5.5 | 5.2 | 6.2 | 6.1 |
| 12 | 5.8 | 5.6 | 6.0 | 5.7 | 6.6 | 6.3 | --- | --- | 5.8 | 5.1 | 6.2 | 5.9 |
| 13 | 5.8 | 5.6 | 5.9 | 5.5 | 6.4 | 6.2 | --- | --- | 6.2 | 5.8 | 6.0 | 5.8 |
| 14 | 5.8 | 5.6 | 5.9 | 5.6 | 6.3 | 6.0 | --- | --- | 6.2 | 5.1 | 6.0 | 5.9 |
| 15 | 5.7 | 5.5 | 5.8 | 5.5 | 6.4 | 6.1 | 5.6 | 5.2 | 5.3 | 4.8 | 6.1 | 5.9 |
| 16 | 5.8 | 5.5 | 5.9 | 5.5 | 6.1 | 5.7 | 5.7 | 5.4 | 5.4 | 4.6 | 6.4 | 6.1 |
| 17 | 5.8 | 5.3 | 5.8 | 5.5 | 6.2 | 5.7 | 6.0 | 5.7 | 5.4 | 4.8 | 6.3 | 6.0 |
| 18 | 5.8 | 5.6 | 5.8 | 5.5 | 6.3 | 6.0 | 6.0 | 5.8 | 5.4 | 5.1 | 6.0 | 5.2 |
| 19 | 5.8 | 5.6 | 5.7 | 5.4 | 6.5 | 6.0 | 5.9 | 5.7 | 5.1 | 4.9 | 5.3 | 4.9 |
| 20 | 5.8 | 5.5 | 5.7 | 5.4 | 6.4 | 6.2 | 5.9 | 5.5 | 5.1 | 4.8 | 5.7 | 4.9 |
| 21 | 5.7 | 5.5 | 5.7 | 5.2 | 6.3 | 6.0 | 6.3 | 5.4 | 5.0 | 4.8 | 5.7 | 5.6 |
| 22 | 5.7 | 5.5 | 5.7 | 5.4 | 6.1 | 6.0 | 6.7 | 6.3 | 5.2 | 5.0 | 5.8 | 5.5 |
| 23 | 5.7 | 5.6 | 5.6 | 5.4 | 6.5 | 6.0 | 6.3 | 5.9 | 5.3 | 5.1 | 5.5 | 5.0 |
| 24 | 5.8 | 5.6 | 5.8 | 5.5 | 6.7 | 6.2 | 5.9 | 5.4 | 5.6 | 5.3 | 5.1 | 5.0 |
| 25 | 5.8 | 5.5 | 5.6 | 5.5 | 6.9 | 6.4 | 5.8 | 4.5 | 6.2 | 5.8 | 5.1 | 5.0 |
| 26 | 5.7 | 5.5 | 5.6 | 5.4 | 6.8 | 6.5 | 6.4 | 4.5 | 6.0 | 5.5 | 5.3 | 5.1 |
| 27 | 5.8 | 5.3 | 5.7 | 5.4 | 6.6 | 6.4 | 6.2 | 5.8 | 5.8 | 5.4 | 5.4 | 5.3 |
| 28 | 5.8 | 5.4 | 5.5 | 5.4 | 6.7 | 6.5 | 5.7 | 4.9 | 5.3 | 4.6 | 5.3 | 5.1 |
| 29 | 5.9 | 5.3 | --- | --- | 6.7 | 5.0 | 6.0 | 5.2 | 5.2 | 4.9 | 5.2 | 5.1 |
| 30 | 5.7 | 5.1 | --- | --- | 6.1 | 4.7 | 5.8 | 5.2 | 6.0 | 4.9 | 5.4 | 5.1 |
| 31 | --- | --- | 6.3 | 6.1 | --- | --- | 5.7 | 5.4 | 5.8 | 5.4 | --- | --- |
| MONTH | 6.3 | 5.1 | 6.3 | 5.1 | 6.9 | 4.7 | 6.7 | 4.5 | 6.2 | 4.6 | 6.4 | 4.9 |
| YEAR | 7.1 | 4.0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

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

03202000 RACCOON CREEK AT ADAMSVILLE, CH--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|--------|----------|-----------|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 15.0 | 15.0 | 7.0 | 6.0 | 2.0 | 1.5 | 1.0 | 0.5 | 0.5 | 0.0 | 4.5 | 4.0 |
| 2 | 15.0 | 15.0 | 6.5 | 5.5 | 2.0 | 1.0 | 1.0 | 0.5 | 1.0 | 0.5 | 4.0 | 3.5 |
| 3 | 15.5 | 15.0 | 6.5 | 5.5 | 1.0 | 0.5 | 1.0 | 0.5 | 0.5 | 0.0 | 4.0 | 3.0 |
| 4 | 15.5 | 14.5 | 6.5 | 5.5 | 0.5 | 0.0 | 0.5 | 0.5 | 0.0 | 0.0 | 6.0 | 4.0 |
| 5 | 15.5 | 14.5 | 5.5 | 5.0 | 0.5 | 0.0 | 0.5 | 0.5 | 0.5 | 0.0 | --- | --- |
| 6 | 15.5 | 15.0 | 5.0 | 4.5 | 0.5 | 0.0 | 0.5 | 0.5 | 0.5 | 0.5 | --- | --- |
| 7 | 15.5 | 14.5 | 4.5 | 4.5 | 1.0 | 0.0 | 1.0 | 0.5 | 1.0 | 0.0 | --- | --- |
| 8 | 14.5 | 13.5 | 4.5 | 4.0 | 1.0 | 0.5 | 1.0 | 0.5 | 1.0 | 0.0 | --- | --- |
| 9 | 13.5 | 12.0 | 4.0 | 3.0 | 0.5 | 0.0 | 1.0 | 0.5 | 1.0 | 0.5 | --- | --- |
| 10 | 12.0 | 11.0 | 4.5 | 4.0 | 0.5 | 0.0 | 1.0 | 0.5 | 1.0 | 0.5 | --- | --- |
| 11 | 11.0 | 11.0 | 4.0 | 3.5 | 1.0 | 0.5 | 1.0 | 1.0 | 1.0 | 0.5 | 8.0 | 7.0 |
| 12 | 11.0 | 10.5 | 4.0 | 3.5 | 2.0 | 1.5 | 1.0 | 0.0 | 0.5 | 0.5 | 9.5 | 8.0 |
| 13 | 11.5 | 10.5 | 3.5 | 3.0 | 1.5 | 1.5 | 1.5 | 0.5 | 0.5 | 0.5 | 9.5 | 9.0 |
| 14 | 11.5 | 11.0 | 2.5 | 2.0 | 1.0 | 0.0 | 0.5 | 0.5 | 1.0 | 0.5 | 9.5 | 9.0 |
| 15 | 11.5 | 10.5 | 3.0 | 2.0 | 1.5 | 0.5 | 1.0 | 0.5 | 0.5 | 0.0 | 9.5 | 9.0 |
| 16 | 11.5 | 11.5 | 2.5 | 2.0 | 1.5 | 1.0 | 1.5 | 1.0 | 1.0 | 0.0 | 10.5 | 9.5 |
| 17 | 11.5 | 10.5 | 3.0 | 1.5 | 2.0 | 1.5 | --- | --- | 1.0 | 0.0 | 10.5 | 9.5 |
| 18 | 10.5 | 9.0 | 3.5 | 2.5 | 1.5 | 1.0 | --- | --- | 1.0 | 0.5 | 10.0 | 9.5 |
| 19 | 9.5 | 8.5 | 4.0 | 3.0 | 2.0 | 1.0 | --- | --- | 0.5 | 0.5 | 10.0 | 9.5 |
| 20 | 9.0 | 8.5 | 4.0 | 3.5 | 2.5 | 2.0 | --- | --- | 1.0 | 0.5 | 9.5 | 8.5 |
| 21 | 8.5 | 8.0 | 3.5 | 3.0 | 2.5 | 0.5 | --- | --- | 1.0 | 0.5 | 8.5 | 7.5 |
| 22 | 8.0 | 7.0 | 3.5 | 3.0 | 0.5 | 0.0 | --- | --- | 0.5 | 0.0 | 8.0 | 7.5 |
| 23 | 7.5 | 6.5 | 3.0 | 2.0 | 0.5 | 0.0 | --- | --- | 0.5 | 0.5 | 7.0 | 6.5 |
| 24 | 7.5 | 6.5 | 2.5 | 1.5 | 0.5 | 0.0 | --- | --- | 1.0 | 0.5 | 7.0 | 6.5 |
| 25 | 9.0 | 7.5 | 3.0 | 1.5 | 0.0 | 0.0 | --- | --- | 2.0 | 0.5 | 7.5 | 6.5 |
| 26 | 9.0 | 8.5 | 4.5 | 2.5 | 0.5 | 0.0 | 1.0 | 0.5 | 3.0 | 2.0 | 8.0 | 6.5 |
| 27 | 8.0 | 7.0 | 6.5 | 4.5 | 0.5 | 0.0 | 0.5 | 0.5 | 4.5 | 3.0 | 8.5 | 7.5 |
| 28 | 7.0 | 5.5 | 6.5 | 5.5 | 1.5 | 0.0 | 1.0 | 0.5 | 4.5 | 4.5 | 10.0 | 8.5 |
| 29 | 5.5 | 4.5 | 5.5 | 2.5 | 1.5 | 1.0 | 1.0 | 0.5 | --- | --- | 12.0 | 10.0 |
| 30 | 5.5 | 4.5 | 3.5 | 2.0 | 1.0 | 0.5 | 0.5 | 0.5 | --- | --- | 14.5 | 12.0 |
| 31 | 7.5 | 5.5 | --- | --- | 1.0 | 1.0 | 0.5 | 0.5 | --- | --- | 14.5 | 14.0 |
| MONTH | 15.5 | 4.5 | 7.0 | 1.5 | 2.5 | 0.0 | 1.5 | 0.0 | 4.5 | 0.0 | 14.5 | 3.0 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 14.0 | 13.0 | 14.5 | 13.5 | 23.0 | 22.0 | 22.5 | 21.0 | 24.5 | 23.5 | 26.0 | 24.0 |
| 2 | 14.5 | 13.5 | 15.0 | 13.5 | 22.5 | 21.0 | 22.5 | 21.5 | 24.5 | 22.5 | 26.0 | 25.0 |
| 3 | 14.0 | 13.5 | 16.0 | 15.0 | 21.5 | 20.0 | 23.0 | 22.0 | 24.0 | 22.0 | 26.0 | 24.5 |
| 4 | 14.0 | 12.5 | 16.5 | 16.0 | 21.0 | 19.0 | 23.0 | 22.0 | 24.0 | 22.5 | 25.5 | 24.0 |
| 5 | 12.5 | 12.0 | 17.0 | 16.5 | 21.0 | 19.5 | 24.0 | 23.0 | 25.0 | 23.5 | 25.5 | 23.5 |
| 6 | 12.0 | 10.0 | 18.5 | 17.0 | 21.0 | 20.0 | 25.5 | 24.0 | 25.5 | 24.5 | 23.0 | 22.0 |
| 7 | 9.5 | 8.5 | 18.5 | 16.5 | 20.5 | 18.5 | 26.0 | 25.0 | 25.5 | 24.5 | 23.0 | 22.5 |
| 8 | 9.5 | 8.5 | 17.0 | 16.0 | 18.5 | 16.5 | 26.5 | 25.5 | 25.5 | 24.5 | 23.0 | 22.5 |
| 9 | 9.5 | 9.0 | 16.0 | 15.5 | 16.5 | 15.5 | 26.5 | 26.0 | 25.0 | 24.0 | 23.5 | 22.5 |
| 10 | 10.5 | 9.0 | 15.5 | 14.0 | 17.5 | 15.0 | 26.5 | 25.5 | 24.5 | 23.5 | 23.5 | 22.0 |
| 11 | 12.5 | 10.5 | 14.0 | 13.0 | 17.0 | 16.5 | 26.5 | 25.0 | 24.0 | 23.5 | 22.5 | 20.5 |
| 12 | 14.5 | 12.5 | 14.0 | 13.0 | 18.5 | 16.5 | 26.5 | 25.0 | 24.0 | 23.5 | 20.5 | 19.5 |
| 13 | 15.5 | 14.0 | 15.0 | 13.5 | 19.5 | 17.5 | 27.0 | 26.0 | 23.5 | 22.5 | 21.0 | 20.0 |
| 14 | 16.5 | 15.0 | 16.0 | 15.0 | 18.0 | 19.0 | 27.0 | 26.0 | 23.0 | 22.5 | 21.5 | 21.0 |
| 15 | 16.5 | 16.0 | 17.0 | 15.5 | 21.5 | 19.5 | 26.0 | 25.0 | 24.5 | 22.5 | 21.0 | 20.5 |
| 16 | 17.0 | 16.0 | 17.5 | 16.5 | 22.0 | 20.0 | 26.0 | 25.5 | 24.5 | 23.5 | 21.5 | 21.0 |
| 17 | 17.0 | 16.5 | 18.0 | 17.5 | 23.0 | 21.0 | 27.0 | 26.0 | 24.5 | 24.0 | 22.0 | 21.0 |
| 18 | 17.5 | 16.5 | 19.0 | 18.0 | 23.5 | 22.0 | 27.5 | 25.5 | 24.0 | 22.5 | 22.0 | 21.0 |
| 19 | 17.5 | 17.0 | 20.5 | 19.0 | 24.0 | 22.5 | 28.5 | 26.5 | 22.5 | 21.0 | 22.5 | 21.5 |
| 20 | 18.5 | 17.5 | 21.0 | 20.0 | 24.5 | 23.0 | 28.5 | 27.0 | 21.0 | 20.0 | 22.5 | 21.5 |
| 21 | 19.5 | 18.0 | 22.0 | 20.0 | 24.5 | 22.5 | 28.0 | 27.0 | 21.0 | 20.0 | 21.5 | 20.0 |
| 22 | 19.5 | 19.0 | 22.0 | 20.5 | 23.5 | 21.0 | 27.5 | 26.0 | 22.0 | 20.5 | 20.0 | 19.0 |
| 23 | 19.0 | 19.0 | 22.5 | 21.0 | 21.5 | 19.5 | 27.0 | 25.0 | 22.0 | 20.5 | 20.0 | 19.0 |
| 24 | 19.0 | 17.5 | 22.5 | 21.0 | 22.0 | 21.0 | 26.0 | 24.5 | 22.5 | 20.0 | 20.0 | 19.5 |
| 25 | 17.0 | 15.5 | 22.0 | 21.5 | 22.0 | 21.0 | 25.5 | 25.0 | 20.0 | 19.5 | 20.5 | 20.0 |
| 26 | 15.0 | 14.0 | 22.5 | 21.0 | 23.5 | 21.5 | 25.0 | 23.5 | 20.5 | 19.0 | 21.0 | 20.0 |
| 27 | 14.5 | 13.5 | 22.5 | 21.0 | 23.5 | 22.5 | 24.5 | 22.5 | 20.0 | 20.0 | 20.5 | 19.5 |
| 28 | 14.5 | 14.0 | 22.5 | 21.0 | 23.5 | 22.5 | 23.5 | 21.0 | 23.5 | 21.5 | 19.5 | 18.5 |
| 29 | 14.0 | 13.0 | 22.5 | 21.5 | 23.5 | 22.5 | 23.0 | 22.0 | 24.0 | 22.5 | 19.0 | 18.0 |
| 30 | 14.0 | 13.0 | 23.0 | 21.5 | 23.5 | 22.0 | 24.0 | 22.0 | 24.0 | 23.5 | 18.5 | 17.5 |
| 31 | --- | --- | 23.0 | 22.0 | --- | --- | 24.5 | 22.5 | 24.5 | 23.0 | --- | --- |
| MONTH | 19.5 | 8.5 | 23.0 | 13.0 | 24.5 | 15.0 | 28.5 | 21.0 | 25.5 | 19.0 | 26.0 | 17.5 |
| YEAR | 28.5 | 0.0 | | | | | | | | | | |

217

03202000 RACCOON CREEK AT ADAMSVILLE, OH--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | | | | | | |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-------|------|-----|--|------|--|------|--|--------|--|-----------|--|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | | | | | | | | | | | |
| 1 | --- | --- | 10.7 | 10.3 | --- | --- | 11.8 | 11.6 | 10.0 | 9.8 | 11.1 | 10.6 | | | | | | | | | | |
| 2 | --- | --- | 10.8 | 10.6 | 12.8 | 12.3 | 11.6 | 11.3 | 9.9 | 9.6 | 11.5 | 11.0 | | | | | | | | | | |
| 3 | --- | --- | 11.0 | 10.8 | 12.6 | 12.1 | 11.2 | 11.0 | 9.6 | 9.5 | 11.3 | 10.8 | | | | | | | | | | |
| 4 | --- | --- | 11.1 | 10.8 | 12.2 | 11.9 | 11.0 | 10.8 | 9.5 | 9.3 | 10.8 | 8.0 | | | | | | | | | | |
| 5 | 9.1 | 8.8 | 11.4 | 11.1 | 12.0 | 11.4 | 11.0 | 10.8 | 9.5 | 9.3 | --- | --- | | | | | | | | | | |
| 6 | 8.7 | 8.4 | 11.5 | 11.2 | 11.9 | 11.2 | 11.0 | 10.8 | 9.6 | 9.4 | --- | --- | | | | | | | | | | |
| 7 | 8.6 | 8.2 | 11.4 | 10.1 | 11.7 | 10.9 | 10.9 | 10.8 | 9.6 | 9.5 | --- | --- | | | | | | | | | | |
| 8 | 8.8 | 8.6 | 10.9 | 10.1 | 12.0 | 10.7 | 11.0 | 10.5 | 9.5 | 9.4 | --- | --- | | | | | | | | | | |
| 9 | 9.4 | 8.6 | 11.1 | 8.4 | --- | --- | 10.9 | 10.5 | 9.5 | 9.3 | --- | --- | | | | | | | | | | |
| 10 | 9.8 | 9.2 | 10.5 | 9.8 | --- | --- | 10.6 | 10.3 | 9.5 | 9.0 | --- | --- | | | | | | | | | | |
| 11 | 9.9 | 9.5 | 10.9 | 10.3 | --- | --- | 10.6 | 10.4 | 11.9 | 9.2 | 11.9 | 11.5 | | | | | | | | | | |
| 12 | 10.1 | 9.9 | 10.6 | 9.9 | --- | --- | 10.5 | 10.2 | 12.2 | 11.4 | 11.4 | 10.6 | | | | | | | | | | |
| 13 | 9.9 | 9.6 | 10.5 | 10.0 | --- | --- | 10.4 | 10.0 | 12.2 | 12.0 | 10.8 | 10.2 | | | | | | | | | | |
| 14 | 9.8 | 9.0 | 10.4 | 9.8 | --- | --- | 10.1 | 9.7 | 12.3 | 12.1 | 10.8 | 10.1 | | | | | | | | | | |
| 15 | 9.8 | 8.9 | 10.3 | 9.0 | 12.7 | 12.4 | 9.8 | 9.6 | 12.3 | 12.2 | 10.1 | 10.0 | | | | | | | | | | |
| 16 | 9.7 | 9.5 | 11.4 | 10.1 | 12.6 | 12.4 | 9.8 | 9.5 | 12.3 | 11.1 | 10.1 | 9.8 | | | | | | | | | | |
| 17 | 10.2 | 9.5 | 11.0 | 10.7 | 12.4 | 12.2 | --- | --- | 12.3 | 12.0 | 10.0 | 9.8 | | | | | | | | | | |
| 18 | 10.5 | 10.2 | 10.7 | 10.4 | 12.5 | 12.2 | --- | --- | 12.0 | 11.9 | 10.2 | 9.8 | | | | | | | | | | |
| 19 | 10.5 | 10.1 | 10.4 | 10.2 | 12.4 | 12.1 | --- | --- | 12.0 | 11.8 | 10.3 | 9.9 | | | | | | | | | | |
| 20 | 10.1 | 9.8 | 10.2 | 10.1 | 12.1 | 11.8 | --- | --- | 11.9 | 11.8 | 10.5 | 10.3 | | | | | | | | | | |
| 21 | 11.0 | 9.8 | 10.1 | 9.9 | 12.2 | 11.8 | --- | --- | 11.9 | 11.7 | 10.9 | 10.5 | | | | | | | | | | |
| 22 | 10.7 | 10.0 | 10.2 | 10.0 | 12.4 | 12.1 | --- | --- | 11.8 | 11.6 | 10.9 | 10.6 | | | | | | | | | | |
| 23 | 10.9 | 10.7 | 10.2 | 10.0 | 12.2 | 12.0 | --- | --- | 11.8 | 11.8 | 11.1 | 10.9 | | | | | | | | | | |
| 24 | 10.7 | 10.2 | 10.2 | 10.0 | 12.3 | 12.1 | --- | --- | 11.7 | 11.5 | 11.4 | 11.1 | | | | | | | | | | |
| 25 | 10.3 | 10.0 | --- | --- | 12.3 | 11.7 | --- | --- | 11.9 | 11.7 | 11.8 | 11.6 | | | | | | | | | | |
| 26 | 10.5 | 10.0 | --- | --- | 11.7 | 11.4 | --- | --- | 12.0 | 11.9 | 10.0 | 9.8 | | | | | | | | | | |
| 27 | 11.3 | 10.5 | --- | --- | 11.8 | 11.4 | 10.1 | 9.9 | 11.9 | 11.4 | 11.4 | 11.0 | | | | | | | | | | |
| 28 | 11.3 | 10.9 | --- | --- | 11.6 | 11.4 | 10.1 | 9.9 | 11.4 | 10.8 | 10.9 | 10.3 | | | | | | | | | | |
| 29 | 11.2 | 10.4 | --- | --- | 11.8 | 11.6 | 10.1 | 10.0 | --- | --- | 10.3 | 9.4 | | | | | | | | | | |
| 30 | 11.6 | 11.1 | --- | --- | 11.7 | 11.4 | 10.1 | 9.9 | --- | --- | 10.1 | 9.0 | | | | | | | | | | |
| 31 | 10.9 | 10.2 | --- | --- | 11.8 | 11.3 | 10.0 | 9.7 | --- | --- | 9.8 | 9.5 | | | | | | | | | | |
| MONTH | 11.6 | 8.2 | 11.5 | 8.4 | 12.8 | 10.7 | 11.8 | 9.5 | 12.3 | 9.0 | 11.9 | 8.0 | | | | | | | | | | |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | | | | | | | | | | |
| APRIL | | | | | | | | | | | | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 9.9 | 9.7 | 9.9 | 9.4 | 8.5 | 7.2 | 7.6 | 7.1 | 6.9 | 6.0 | 8.0 | 7.0 | | | | | | | | | | |
| 2 | 9.8 | 9.1 | 9.6 | 9.3 | 8.8 | 7.4 | 7.7 | 7.4 | 6.9 | 6.1 | 7.8 | 6.6 | | | | | | | | | | |
| 3 | 9.8 | 9.2 | 9.4 | 9.1 | 8.7 | 7.7 | 7.8 | 7.5 | 7.1 | 6.2 | 7.6 | 6.4 | | | | | | | | | | |
| 4 | 9.6 | 9.2 | 9.1 | 8.8 | 9.0 | 7.9 | 7.8 | 7.3 | 7.1 | 6.3 | 7.8 | 6.4 | | | | | | | | | | |
| 5 | 9.2 | 9.0 | 9.0 | 8.6 | 8.6 | 7.8 | 7.7 | 7.2 | 7.1 | 6.2 | 7.2 | 5.8 | | | | | | | | | | |
| 6 | 9.7 | 9.2 | 8.9 | 8.4 | 8.6 | 7.6 | 7.5 | 7.2 | 6.9 | 6.2 | 6.8 | 5.2 | | | | | | | | | | |
| 7 | 10.6 | 9.7 | 8.7 | 8.3 | 8.8 | 7.7 | 7.4 | 7.1 | 7.0 | 6.0 | 7.1 | 6.0 | | | | | | | | | | |
| 8 | 10.7 | 10.1 | 8.3 | 8.1 | 9.0 | 7.9 | 7.5 | 7.0 | 6.8 | 5.9 | 7.1 | 6.3 | | | | | | | | | | |
| 9 | 10.2 | 9.8 | 9.3 | 8.2 | 8.5 | 7.5 | 7.4 | 7.0 | 7.0 | 5.8 | 6.9 | 6.3 | | | | | | | | | | |
| 10 | 10.2 | 9.9 | 9.7 | 9.0 | 9.2 | 8.1 | 7.4 | 7.1 | 7.0 | 5.9 | 7.0 | 6.1 | | | | | | | | | | |
| 11 | 9.9 | 9.5 | 10.0 | 9.3 | 8.8 | 7.9 | 7.6 | 6.9 | 7.2 | 6.0 | 7.2 | 6.4 | | | | | | | | | | |
| 12 | 9.6 | 9.3 | 9.9 | 9.6 | 8.8 | 8.0 | 7.6 | 7.1 | 6.7 | 6.0 | 7.2 | 6.7 | | | | | | | | | | |
| 13 | 9.2 | 8.7 | 9.6 | 9.1 | 8.8 | 7.5 | 7.6 | 6.8 | 7.0 | 5.8 | 7.0 | 6.7 | | | | | | | | | | |
| 14 | 8.7 | 8.5 | 9.4 | 8.8 | 8.3 | 7.2 | 7.6 | 7.2 | 7.0 | 6.3 | 7.0 | 6.3 | | | | | | | | | | |
| 15 | 8.5 | 8.3 | 9.2 | 9.0 | 8.6 | 7.1 | 7.8 | 7.2 | 7.1 | 6.3 | 7.1 | 6.6 | | | | | | | | | | |
| 16 | 8.5 | 8.3 | 9.1 | 8.7 | 7.7 | 6.8 | 7.4 | 7.1 | 7.0 | 6.3 | 7.0 | 5.9 | | | | | | | | | | |
| 17 | 8.4 | 8.1 | 8.9 | 8.5 | 7.7 | 6.4 | 7.3 | 6.8 | 7.0 | 6.1 | 7.3 | 6.1 | | | | | | | | | | |
| 18 | 8.3 | 8.1 | 8.8 | 8.3 | 7.3 | 6.0 | 7.2 | 6.7 | 7.3 | 6.2 | 7.5 | 7.0 | | | | | | | | | | |
| 19 | 8.1 | 7.8 | 8.5 | 8.1 | 7.2 | 5.9 | 7.1 | 6.5 | 7.7 | 6.8 | 7.3 | 6.6 | | | | | | | | | | |
| 20 | 9.2 | 7.7 | 8.4 | 8.0 | 7.1 | 6.1 | 7.2 | 6.4 | 7.7 | 7.0 | 7.2 | 6.4 | | | | | | | | | | |
| 21 | 9.1 | 8.8 | 8.4 | 7.8 | 7.1 | 6.0 | 7.1 | 6.0 | 7.8 | 6.9 | 7.7 | 7.0 | | | | | | | | | | |
| 22 | 9.0 | 8.6 | 8.1 | 7.8 | 7.1 | 6.3 | 6.6 | 5.9 | 7.5 | 6.6 | 7.8 | 7.4 | | | | | | | | | | |
| 23 | 8.8 | 8.3 | 8.2 | 7.7 | 7.3 | 6.4 | 7.1 | 6.3 | 7.6 | 6.6 | 8.0 | 7.3 | | | | | | | | | | |
| 24 | 8.9 | 8.2 | 8.6 | 7.5 | 7.0 | 6.3 | 7.3 | 6.6 | 7.5 | 7.1 | 7.8 | 7.3 | | | | | | | | | | |
| 25 | 9.6 | 8.9 | 8.0 | 7.3 | 7.0 | 6.2 | 6.8 | 6.4 | 7.5 | 6.6 | 7.6 | 7.0 | | | | | | | | | | |
| 26 | 9.6 | 9.3 | 8.3 | 7.5 | 6.7 | 6.2 | 7.5 | 6.1 | 8.2 | 7.0 | 7.6 | 6.9 | | | | | | | | | | |
| 27 | 9.8 | 9.6 | 8.3 | 7.4 | 6.6 | 6.1 | 7.2 | 6.3 | 8.2 | 7.0 | 7.8 | 6.9 | | | | | | | | | | |
| 28 | 9.6 | 9.2 | 8.0 | 6.9 | 6.7 | 6.1 | 7.3 | 6.8 | 7.8 | 7.1 | 8.1 | 7.2 | | | | | | | | | | |
| 29 | 9.9 | 9.4 | --- | --- | 6.8 | 6.1 | 6.8 | 6.2 | 8.1 | 7.0 | 8.5 | 7.4 | | | | | | | | | | |
| 30 | 9.9 | 9.5 | --- | --- | 7.3 | 6.1 | 6.9 | 6.1 | 7.6 | 6.8 | 8.6 | 7.8 | | | | | | | | | | |
| 31 | --- | --- | 8.7 | 6.5 | --- | --- | 6.9 | 6.2 | 8.1 | 6.9 | --- | --- | | | | | | | | | | |
| MONTH | 10.7 | 7.7 | 10.0 | 6.5 | 9.2 | 5.9 | 7.8 | 5.9 | 8.2 | 5.8 | 8.6 | 5.2 | | | | | | | | | | |
| YEAR | 12.8 | 5.2 | | | | | | | | | | | | | | | | | | | | |

SCIOTO RIVER BASIN

03219500 SCIOTO RIVER NEAR PROSPECT, OH

LOCATION.--Lat 40°25'10", long 83°11'50", Delaware County, Hydrologic Unit 05060001, on downstream side of pier of Hoskins Bridge, 1.5 mi (2.4 km) upstream from Ottawa Creek, 2.0 mi (3.2 km) south of Prospect, and 2.5 mi (4.0 km) downstream from Patton Run.

DRAINAGE AREA.--567 mi² (1,469 km²).

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 (270.33 m) above mean sea level, adjustment of 1912 (levels by Corps of Engineers). July 24, 1925, to Oct. 31, 1932, nonrecording gage at site 2.5 mi (4.0 km) upstream at datum 4.8 ft (1.46 m) higher. Oct. 16 to Dec. 5, 1939, nonrecording gage at present site and datum.

REMARKS.--Records good except those for winter periods, which are fair.

AVERAGE DISCHARGE.--45 years, 450 ft³/s (12.74 m³/s), 10.78 in/yr (274 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,100 ft³/s (286 m³/s) Mar. 22, 1927, gage-height, 15.0 ft (4.57 m), from graph based on gage readings at site and datum then in use, and Jan. 21, 1959, gage height, 15.30 ft (4.663 m); minimum, 3.5 ft³/s (0.099 m³/s) Sept. 13, 1953.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 25, 1913, reached a stage of 21.1 ft (6.43 m), discharge, 27,000 ft³/s (765 m³/s), computed by Franklin County Conservancy District, at site and datum used 1925-32.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,530 ft³/s (100 m³/s) Apr. 5, gage height, 8.57 ft (2.612 m), no peak above base of 3,600 ft³/s (102 m³/s); minimum, 6.1 ft³/s (0.17 m³/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|----------|----------|--------|----------|---------|-------|------|------|------|------|
| 1 | 13 | 45 | 21 | 20 | 18 | 815 | 466 | 280 | 82 | 151 | 35 | 16 |
| 2 | 38 | 45 | 19 | 20 | 18 | 515 | 811 | 248 | 70 | 485 | 29 | 16 |
| 3 | 23 | 46 | 23 | 20 | 18 | 369 | 2110 | 231 | 52 | 491 | 24 | 15 |
| 4 | 18 | 41 | 21 | 19 | 18 | 437 | 2670 | 618 | 41 | 251 | 19 | 13 |
| 5 | 18 | 38 | 19 | 19 | 17 | 946 | 3410 | 1720 | 34 | 159 | 17 | 12 |
| 6 | 20 | 33 | 18 | 18 | 17 | 1170 | 2590 | 1820 | 32 | 120 | 16 | 11 |
| 7 | 25 | 30 | 23 | 18 | 17 | 822 | 1440 | 1290 | 30 | 81 | 21 | 12 |
| 8 | 22 | 27 | 26 | 18 | 17 | 497 | 801 | 706 | 30 | 65 | 26 | 12 |
| 9 | 21 | 25 | 21 | 18 | 17 | 367 | 567 | 469 | 51 | 51 | 36 | 12 |
| 10 | 30 | 26 | 19 | 18 | 17 | 307 | 448 | 353 | 71 | 44 | 42 | 14 |
| 11 | 27 | 24 | 18 | 18 | 17 | 278 | 378 | 277 | 177 | 34 | 32 | 14 |
| 12 | 25 | 22 | 18 | 18 | 17 | 280 | 322 | 227 | 187 | 32 | 30 | 12 |
| 13 | 25 | 21 | 21 | 18 | 17 | 598 | 276 | 193 | 130 | 34 | 25 | 13 |
| 14 | 23 | 19 | 19 | 18 | 17 | 874 | 244 | 168 | 99 | 28 | 22 | 25 |
| 15 | 21 | 19 | 18 | 18 | 19 | 678 | 217 | 150 | 79 | 25 | 29 | 25 |
| 16 | 19 | 19 | 18 | 18 | 406 | 454 | 194 | 135 | 63 | 23 | 37 | 90 |
| 17 | 18 | 19 | 18 | 18 | 350 | 334 | 174 | 123 | 52 | 26 | 36 | 137 |
| 18 | 15 | 20 | 18 | 18 | 260 | 582 | 159 | 116 | 49 | 31 | 36 | 318 |
| 19 | 16 | 21 | 18 | 18 | 210 | 1420 | 151 | 109 | 40 | 32 | 36 | 335 |
| 20 | 22 | 19 | 19 | 18 | 180 | 1770 | 145 | 103 | 52 | 52 | 30 | 279 |
| 21 | 32 | 18 | 31 | 18 | 150 | 1520 | 155 | 92 | 71 | 58 | 25 | 261 |
| 22 | 26 | 18 | 24 | 18 | 140 | 1060 | 166 | 80 | 54 | 188 | 35 | 189 |
| 23 | 22 | 18 | 23 | 18 | 646 | 1270 | 255 | 77 | 41 | 217 | 32 | 129 |
| 24 | 32 | 18 | 23 | 18 | 1620 | 1410 | 408 | 81 | 35 | 123 | 27 | 87 |
| 25 | 60 | 18 | 22 | 18 | 1930 | 1200 | 430 | 69 | 34 | 70 | 27 | 60 |
| 26 | 55 | 19 | 22 | 18 | 1490 | 756 | 492 | 65 | 34 | 45 | 23 | 43 |
| 27 | 45 | 26 | 21 | 18 | 1160 | 522 | 508 | 63 | 32 | 34 | 21 | 32 |
| 28 | 36 | 24 | 21 | 18 | 910 | 475 | 402 | 66 | 53 | 28 | 19 | 22 |
| 29 | 33 | 20 | 21 | 18 | --- | 774 | 375 | 60 | 75 | 25 | 18 | 22 |
| 30 | 31 | 23 | 20 | 18 | --- | 981 | 333 | 51 | 71 | 26 | 19 | 21 |
| 31 | 38 | --- | 20 | 18 | --- | 700 | --- | 50 | --- | 35 | 17 | --- |
| TOTAL | 849 | 761 | 643 | 566 | 9713 | 24181 | 21097 | 10090 | 1921 | 3064 | 841 | 2247 |
| MEAN | 27.4 | 25.4 | 20.7 | 18.3 | 347 | 780 | 703 | 325 | 64.0 | 98.8 | 27.1 | 74.9 |
| MAX | 60 | 46 | 31 | 20 | 1930 | 1770 | 3410 | 1820 | 187 | 491 | 42 | 335 |
| MIN | 13 | 18 | 18 | 18 | 17 | 278 | 145 | 50 | 30 | 23 | 16 | 11 |
| CFSM | .05 | .05 | .04 | .03 | .61 | 1.38 | 1.24 | .57 | .11 | .17 | .05 | .13 |
| IN. | .06 | .05 | .04 | .04 | .64 | 1.59 | 1.38 | .66 | .13 | .20 | .06 | .15 |
| CAL YR 1976 | TOTAL | 137356 | MEAN 375 | MAX 6590 | MIN 13 | CFSM .66 | IN 9.01 | | | | | |
| WTR YR 1977 | TOTAL | 75973 | MEAN 208 | MAX 3410 | MIN 11 | CFSM .37 | IN 4.98 | | | | | |

SCIOTO RIVER BASIN

219

03219500 SCIOTO RIVER NEAR PROSPECT, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1964 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPEC- IFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | |
|--------------|------|--|--|---|--|--|--|--|--|--|---|---|---|
| | | | | | | | | | | | | | |
| MAR 03... | 1000 | 387 | 570 | 7.6 | .5 | 11.4 | 79 | 2.8 | 270 | 150 | 75 | 21 | |
| JUN 08... | 1620 | 30 | 860 | 8.6 | 16.5 | 12.8 | 130 | 4.7 | 350 | 140 | 90 | 31 | |
| DATE | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | |
| MAR 03... | 15 | 4.2 | 148 | 0 | 121 | 5.9 | 110 | 33 | .2 | 7.1 | 339 | 6.7 | |
| JUN 08... | 37 | 5.6 | 237 | 13 | 216 | 1.1 | 150 | 47 | .7 | 8.4 | 500 | 4.5 | |
| DATE | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 03... | .10 | .46 | .31 | 1 | 40 | 11 | 50 | 6 | 40 | .0 | 20 | 7.4 | |
| JUN 08... | .04 | .11 | 1.2 | 2 | 30 | 3 | 30 | 2 | 40 | .0 | 20 | 7.1 | |

SCIOTO RIVER BASIN

03220000 MILL CREEK NEAR EELLEPOINT, OH

LOCATION.--Lat 40°14'54", long 83°10'26", Delaware County, Hydrologic Unit 05060001, on left bank at upstream side of county road bridge, 1.2 mi (1.9 km) west of Bellepoint, 1.5 mi (2.4 km) upstream from mouth, and 2.3 mi (3.7 km) downstream from Blues Creek.

DRAINAGE AREA.--178 mi² (461 km²).

WATER-DISCHARGE RECORDS

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 (263.695 m) above mean sea level, adjustment of 1912 (levels by students of Ohio State University, City of Columbus bench mark). Prior to Jan. 1, 1948, nonrecording gage, at same site and datum.

REMARKS.--Records fair except those for winter periods, which are poor. Diurnal fluctuation caused by stone quarry upstream from station.

AVERAGE DISCHARGE.--35 years, 148 ft³/s (4.191 m³/s), 11.29 in/yr (287 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,300 ft³/s (575 m³/s) Jan. 21, 1959, gage height, 13.85 ft (4.221 m), from rating curve extended above 14,000 ft³/s (396 m³/s); no flow Sept. 25, 26, 1944, Sept. 19, 1948.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 18.0 ft (5.49 m) occurred in March 1913.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,190 ft³/s (147 m³/s) Apr. 3 (base, 2,500 ft³/s, 70.8 m³/s), gage height, 8.64 ft (2.633 m); minimum daily, 1.9 ft³/s (0.054 m³/s) Aug. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|---------|-------|-------|--------|------|-------|--------|--------|-------|-------|--------|
| 1 | 6.6 | 26 | 9.2 | 3.7 | 3.8 | 153 | 71 | 75 | 6.8 | 34 | 6.1 | 2.1 |
| 2 | 6.6 | 18 | 8.1 | 3.6 | 3.8 | 91 | 1820 | 68 | 5.2 | 36 | 3.2 | 4.0 |
| 3 | 7.6 | 15 | 7.1 | 3.6 | 3.8 | 71 | 4040 | 59 | 5.5 | 14 | 2.1 | 4.3 |
| 4 | 6.2 | 12 | 5.9 | 3.6 | 3.8 | 315 | 1610 | 448 | 4.9 | 9.7 | 1.9 | 4.6 |
| 5 | 4.3 | 12 | 5.4 | 3.6 | 3.8 | 689 | 813 | 930 | 5.2 | 7.6 | 2.5 | 4.6 |
| 6 | 4.3 | 9.8 | 5.4 | 3.7 | 3.8 | 328 | 474 | 423 | 5.2 | 6.1 | 2.9 | 4.0 |
| 7 | 5.0 | 8.6 | 5.2 | 3.7 | 3.8 | 161 | 257 | 224 | 4.6 | 5.8 | 6.5 | 2.9 |
| 8 | 8.1 | 7.1 | 5.0 | 3.7 | 3.8 | 101 | 171 | 137 | 18 | 7.2 | 6.8 | 2.1 |
| 9 | 13 | 6.2 | 4.8 | 3.7 | 3.8 | 75 | 116 | 83 | 606 | 8.4 | 9.3 | 2.2 |
| 10 | 13 | 5.8 | 4.7 | 3.8 | 3.8 | 64 | 88 | 58 | 399 | 9.3 | 6.5 | 4.3 |
| 11 | 17 | 6.6 | 4.6 | 3.8 | 25 | 58 | 71 | 43 | 151 | 8.8 | 6.5 | 4.6 |
| 12 | 9.8 | 9.2 | 4.5 | 3.9 | 70 | 105 | 57 | 38 | 68 | 6.8 | 6.1 | 4.9 |
| 13 | 8.6 | 5.8 | 4.4 | 3.9 | 177 | 684 | 49 | 31 | 39 | 7.6 | 7.2 | 6.5 |
| 14 | 8.6 | 6.2 | 4.4 | 3.9 | 415 | 474 | 46 | 28 | 29 | 6.1 | 7.2 | 10 |
| 15 | 7.1 | 5.8 | 4.3 | 3.9 | 472 | 209 | 39 | 24 | 24 | 5.5 | 6.8 | 19 |
| 16 | 8.6 | 5.0 | 4.2 | 3.9 | 302 | 118 | 33 | 21 | 18 | 4.6 | 5.5 | 12 |
| 17 | 8.1 | 5.0 | 4.1 | 3.9 | 223 | 80 | 32 | 19 | 15 | 7.6 | 6.8 | 8.4 |
| 18 | 6.6 | 5.4 | 4.0 | 3.9 | 164 | 474 | 29 | 18 | 13 | 6.8 | 6.5 | 13 |
| 19 | 5.0 | 6.2 | 3.9 | 3.9 | 112 | 793 | 29 | 18 | 11 | 6.8 | 6.1 | 12 |
| 20 | 5.4 | 6.2 | 3.8 | 3.9 | 80 | 344 | 29 | 16 | 9.7 | 7.2 | 4.9 | 14 |
| 21 | 6.2 | 6.2 | 3.8 | 3.9 | 63 | 236 | 33 | 15 | 8.0 | 8.8 | 4.9 | 10 |
| 22 | 11 | 6.2 | 3.8 | 3.9 | 139 | 285 | 31 | 14 | 7.6 | 7.2 | 4.0 | 8.4 |
| 23 | 13 | 5.4 | 3.8 | 3.9 | 633 | 461 | 39 | 15 | 7.2 | 5.2 | 2.9 | 8.8 |
| 24 | 15 | 5.0 | 3.7 | 3.9 | 1030 | 252 | 47 | 14 | 7.2 | 4.6 | 2.7 | 6.5 |
| 25 | 41 | 5.8 | 3.7 | 3.9 | 769 | 142 | 62 | 14 | 6.8 | 4.6 | 2.7 | 4.6 |
| 26 | 25 | 7.6 | 3.7 | 3.9 | 436 | 96 | 68 | 12 | 6.8 | 3.4 | 3.4 | 5.2 |
| 27 | 22 | 8.6 | 3.7 | 3.9 | 260 | 75 | 57 | 10 | 6.5 | 2.5 | 3.7 | 3.7 |
| 28 | 17 | 12 | 3.7 | 3.9 | 211 | 88 | 59 | 9.7 | 8.4 | 2.5 | 4.0 | 4.9 |
| 29 | 13 | 10 | 3.7 | 3.9 | --- | 204 | 144 | 9.3 | 15 | 2.9 | 3.2 | 5.5 |
| 30 | 12 | 8.1 | 3.7 | 3.9 | --- | 200 | 111 | 8.4 | 11 | 3.4 | 2.9 | 5.2 |
| 31 | 14 | --- | 3.7 | 3.9 | --- | 109 | --- | 8.0 | --- | 5.5 | 2.5 | --- |
| TOTAL | 348.7 | 256.8 | 144.0 | 118.5 | 5619.0 | 7535 | 10525 | 2890.4 | 1522.6 | 256.5 | 148.3 | 202.3 |
| MEAN | 11.2 | 8.56 | 4.65 | 3.82 | 201 | 243 | 351 | 93.2 | 50.8 | 8.27 | 4.78 | 6.74 |
| MAX | 41 | 26 | 9.2 | 3.9 | 1030 | 793 | 4040 | 930 | 606 | 36 | 9.3 | 19 |
| MIN | 4.3 | 5.0 | 3.7 | 3.6 | 3.8 | 58 | 29 | 8.0 | 4.6 | 2.5 | 1.9 | 2.1 |
| CFSM | .06 | .05 | .03 | .02 | 1.13 | 1.37 | 1.97 | .52 | .29 | .05 | .03 | .04 |
| IN. | .07 | .05 | .03 | .02 | 1.17 | 1.57 | 2.20 | .60 | .32 | .05 | .03 | .04 |
| CAL YR 1976 | TOTAL | 32887.8 | MEAN | 89.9 | MAX | 2890 | MIN | 2.4 | CFSM | .51 | IN | 6.87</ |

SCIOTO RIVER BASIN

221

03220000 MILL CREEK NEAR BELLEPOINT, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA, MG) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|--------|--|--|--------------------------|--------------------------------|------------------------------------|------------------------------------|--|--|---|---|---|
| DATE | TIME | (CFS) | | (UNITS) | | | | | (MG/L) | | | |
| MAR 03... | 1200 | 77 | 690 | 7.8 | 2.0 | 12.0 | 87 | 1.9 | 310 | 160 | 78 | 29 |
| JUN 22... | 0940 | 7.5 | 970 | 7.9 | 18.5 | 6.3 | 63 | 1.8 | 420 | 200 | 100 | 41 |
| | | DIS- SOLVED PO- TAS- SIUM (K) | BICAR- BONATE (HCO3) | CAR- BONATE (CO3) | ALKA- LINITY AS CAC03 | CARBON DIOXIDE (CO2) | DIS- SOLVED SULFATE (SO4) | DIS- SOLVED CHLO- RIDE (CL) | DIS- SOLVED FLUO- RIDE (F) | DIS- SOLVED SILICA (SIO2) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) | TOTAL NITRATE (N) |
| DATE | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) |
| MAR 03... | 23 | 4.6 | 187 | 0 | 153 | 4.7 | 140 | 43 | .2 | 6.4 | 416 | 4.3 |
| JUN 22... | 34 | 5.4 | 268 | 0 | 220 | 5.4 | 200 | 50 | .5 | 8.1 | 571 | 6.7 |
| | | TOTAL AMMONIA NITRO- GEN (N) | TOTAL PHOS- PHORUS (P) | TOTAL ARSENIC (AS) | TOTAL CHRO- MIUM (CR) | TOTAL COPPER (CU) | DIS- SOLVED IRON (FE) | TOTAL LEAD (PB) | DIS- SOLVED MAN- GANESE (MN) | TOTAL MERCURY (HG) | TOTAL ZINC (ZN) | TOTAL ORGANIC CARBON (C) |
| DATE | (MG/L) | (MG/L) | (MG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (MG/L) |
| MAR 03... | .05 | .42 | .18 | 1 | 40 | 24 | 30 | 24 | 40 | .0 | -- | 6.6 |
| JUN 22... | .02 | .08 | .31 | 3 | <10 | 7 | 10 | 3 | 10 | .0 | 10 | 5.7 |

SCIOTO RIVER BASIN

03221000 SCIOTO RIVER BELOW O'SHAUGHNESSY DAM, NEAR DUBLIN, OH

LOCATION.--Lat 40°08'36", long 83°07'14", Delaware County, Hydrologic Unit 05060001, on left bank, 0.2 mi (0.3 km) north of county line, 0.8 mi (1.3 km) downstream from O'Shaughnessy Dam, and 3.0 mi (4.8 km) north of Dublin.

DRAINAGE AREA.--980 mi² (2,538 km²).

WATER-DISCHARGE RECORDS

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 (236.220 m) above mean sea level, adjustment of 1912. Prior to Aug. 26, 1921, nonrecording gage at site 0.8 mi (1.3 km) upstream at same datum. Aug. 26, 1921, to Oct. 13, 1924, nonrecording gage at site 100 ft (30 m) downstream at same datum.

REMARKS.--Records good except those for winter periods, which are fair. Flow regulated since 1924 by O'Shaughnessy Reservoir 0.8 mi (1.3 km) upstream (see station 03220500).

AVERAGE DISCHARGE.--56 years, 778 ft³/s (22.03 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,200 ft³/s (1,560 m³/s) Jan. 22, 1959, gage height, 22.04 ft (6.718 m), from floodmark; minimum daily, 0.4 ft³/s (0.011 m³/s) Nov. 8, 1924.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 25, 1913 reached a stage of 24.6 ft (7.50 m), discharge, 74,500 ft³/s (2,110 m³/s) at Griggs Dam, 9 mi (4 km) downstream from gage, computed by C.E. Sherman, Ohio State University.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,860 ft³/s (279 m³/s) Apr. 2, gage height, 10.24 ft (3.121 m); minimum daily, 5.2 ft³/s (0.15 m³/s) Feb. 18-21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|--------|------|------|------|---------|-------|-------|-------|------|------|------|--------|
| 1 | 43 | 81 | 40 | 27 | 100 | 1160 | 743 | 500 | 81 | 151 | 47 | 114 |
| 2 | 31 | 92 | 56 | 27 | 110 | 822 | 3790 | 458 | 99 | 279 | 33 | 114 |
| 3 | 40 | 92 | 26 | 26 | 125 | 563 | 8960 | 408 | 77 | 527 | 32 | 112 |
| 4 | 38 | 83 | 33 | 26 | 130 | 831 | 6200 | 1090 | 69 | 388 | 30 | 110 |
| 5 | 34 | 81 | 36 | 25 | 130 | 1910 | 5160 | 3280 | 62 | 256 | 26 | 117 |
| 6 | 40 | 73 | 38 | 25 | 130 | 1920 | 3890 | 2790 | 123 | 177 | 26 | 64 |
| 7 | 70 | 81 | 54 | 24 | 133 | 1370 | 2350 | 2000 | 48 | 143 | 41 | 6.5 |
| 8 | 33 | 61 | 38 | 24 | 140 | 855 | 1400 | 1230 | 63 | 123 | 41 | 38 |
| 9 | 40 | 36 | 42 | 24 | 160 | 602 | 962 | 777 | 690 | 105 | 50 | 71 |
| 10 | 18 | 50 | 42 | 24 | 185 | 489 | 743 | 558 | 565 | 73 | 54 | 72 |
| 11 | 28 | 54 | 42 | 23 | 210 | 436 | 612 | 445 | 374 | 59 | 61 | 72 |
| 12 | 38 | 58 | 42 | 23 | 215 | 507 | 522 | 370 | 356 | 59 | 71 | 73 |
| 13 | 52 | 40 | 36 | 23 | 220 | 1580 | 449 | 321 | 277 | 64 | 46 | 66 |
| 14 | 33 | 42 | 36 | 23 | 223 | 1850 | 410 | 283 | 216 | 47 | 46 | 60 |
| 15 | 38 | 43 | 38 | 23 | 75 | 1300 | 355 | 246 | 161 | 42 | 45 | 56 |
| 16 | 40 | 40 | 40 | 23 | 5.8 | 839 | 317 | 220 | 133 | 41 | 46 | 32 |
| 17 | 54 | 38 | 40 | 23 | 5.8 | 589 | 301 | 204 | 114 | 62 | 80 | 7.6 |
| 18 | 17 | 42 | 36 | 23 | 5.2 | 1210 | 276 | 190 | 99 | 51 | 46 | 9.3 |
| 19 | 17 | 45 | 40 | 23 | 5.2 | 2660 | 260 | 183 | 93 | 57 | 42 | 12 |
| 20 | 42 | 42 | 47 | 23 | 5.2 | 2510 | 254 | 157 | 81 | 52 | 39 | 198 |
| 21 | 29 | 47 | 37 | 23 | 5.2 | 2190 | 250 | 142 | 72 | 65 | 37 | 274 |
| 22 | 73 | 40 | 34 | 23 | 7.9 | 1770 | 273 | 140 | 77 | 87 | 39 | 246 |
| 23 | 107 | 36 | 33 | 23 | 70 | 2040 | 336 | 143 | 80 | 174 | 36 | 189 |
| 24 | 107 | 36 | 33 | 23 | 1730 | 2050 | 476 | 141 | 68 | 198 | 60 | 136 |
| 25 | 120 | 36 | 32 | 23 | 2940 | 1690 | 594 | 129 | 66 | 154 | 25 | 100 |
| 26 | 117 | 50 | 31 | 33 | 2510 | 1200 | 647 | 112 | 61 | 86 | 26 | 85 |
| 27 | 107 | 63 | 31 | 75 | 1820 | 806 | 705 | 92 | 55 | 50 | 27 | 64 |
| 28 | 34 | 68 | 30 | 104 | 1370 | 706 | 666 | 94 | 68 | 42 | 28 | 46 |
| 29 | 7.2 | 47 | 29 | 101 | --- | 986 | 715 | 97 | 85 | 39 | 27 | 32 |
| 30 | 25 | 38 | 29 | 101 | --- | 1430 | 617 | 97 | 99 | 44 | 28 | 29 |
| 31 | 104 | --- | 28 | 101 | --- | 1130 | --- | 76 | --- | 35 | 78 | --- |
| TOTAL | 1576.2 | 1635 | 1149 | 1112 | 12766.3 | 40001 | 43233 | 16973 | 4512 | 3730 | 1313 | 2605.4 |
| MEAN | 50.8 | 54.5 | 37.1 | 35.9 | 456 | 1290 | 1441 | 548 | 150 | 120 | 42.4 | 86.8 |
| MAX | 120 | 92 | 56 | 104 | 2940 | 2660 | 8960 | 3280 | 690 | 527 | 80 | 274 |
| MIN | 7.2 | 36 | 26 | 23 | 5.2 | 436 | 250 | 76 | 48 | 35 | 25 | 6.5 |

CAL YR 1976 TOTAL 218419.2 MEAN 597 MAX 11900 MIN 7.2
WTR YR 1977 TOTAL 130605.9 MEAN 358 MAX 8960 MIN 5.2

SCIOTO RIVER BASIN

223

03221000 SCIOTO RIVER BELOW O'SHAUGHNESSY DAM, NEAR DUBLIN, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA, MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | |
|--------------|------|--|--|--------------------------------------|--|--|--|--|--|---|--|---|-----------------------------------|
| DATE | TIME | | | | | | | | | | | | |
| APR 04... | 1330 | 6040 | 380 | 7.8 | 11.5 | 9.8 | 89 | 5.6 | 170 | 72 | 46 | 13 | |
| JUN 23... | 1455 | 84 | 690 | 8.2 | 23.0 | 8.1 | 93 | 3.1 | 300 | 140 | 74 | 28 | |
| | | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | | | | | | | | | | | | |
| APR 04... | 7.4 | 4.4 | 118 | 0 | 97 | 3.0 | 43 | 19 | .2 | 6.3 | 198 | 5.6 | |
| JUN 23... | 17 | 3.9 | 200 | 0 | 164 | 2.0 | 120 | 36 | .2 | 1.3 | 379 | 5.3 | |
| | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | |
| DATE | | | | | | | | | | | | | |
| APR 04... | .11 | .30 | .47 | 8 | 10 | 21 | 30 | 10 | 20 | .0 | 40 | -- | |
| JUN 23... | .11 | .19 | .11 | 4 | 10 | 4 | 10 | 4 | 40 | .0 | 10 | 5.9 | |

SCIOTO RIVER BASIN

03223000 OLENTANGY RIVER AT CLARIDON, OH

LOCATION.--Lat 40°34'58", long 82°59'20", in NW 1/4 sec. 26, T.5 S., R.16 E., Marion County, Hydrologic Unit 05060001, on left bank 900 ft (274 m) downstream from bridge on State Highway 95, 0.5 mi (0.8 km) east of Claridon, 0.8 mi (1.3 km) downstream from Otter Creek, and 1.4 mi (2.3 km) upstream from Beaver Run.

DRAINAGE AREA.--157 mi² (407 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1946 to current year.

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

GAGE.--Water-stage recorder. Datum of gage is 961.72 ft (293.132 m) above mean sea level, (levels by Corps of Engineers). Prior to Aug. 18, 1969 water-stage recorder at site 1,000 ft (305 m) upstream at same datum.

REMARKS.--Records good except those for winter periods, which are fair.

AVERAGE DISCHARGE.--31 years, 148 ft³/s (4.191 m³/s), 12.80 in/yr (325 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,900 ft³/s (422 m³/s) Jan. 22, 1959, gage height, 16.77 ft (5.111 m), from rating curve extended above 4,700 ft³/s (133 m³/s) on basis of contracted-opening measurement of peak flow; no flow Oct. 2-26, 1953, Sept. 14-22, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 1,500 ft³/s (42.5 m³/s) and maximums (*):

| Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) | Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) |
|---------|------|---|-------------------------|--------|------|---|-------------------------|
| Feb. 25 | 0900 | *2210 62.6 | *9.63 2.935 | Apr. 3 | 1130 | 2070 58.6 | 9.41 2.868 |

Minimum discharge, 3.4 ft³/s (0.096 m³/s) Sept. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|------|-------|-------|--------|-------|------|------|-------|--------|-------|--------|
| 1 | 12 | 44 | 18 | 9.1 | 9.0 | 282 | 147 | 86 | 13 | 95 | 9.7 | 4.8 |
| 2 | 9.8 | 62 | 14 | 9.1 | 9.0 | 183 | 530 | 74 | 12 | 132 | 7.6 | 4.4 |
| 3 | 8.9 | 48 | 14 | 9.0 | 9.0 | 156 | 1830 | 79 | 11 | 43 | 5.8 | 4.6 |
| 4 | 8.1 | 37 | 13 | 9.0 | 9.0 | 312 | 1800 | 386 | 10 | 21 | 5.1 | 4.3 |
| 5 | 7.4 | 30 | 12 | 9.0 | 9.0 | 658 | 846 | 823 | 9.9 | 182 | 4.6 | 8.1 |
| 6 | 7.2 | 25 | 12 | 9.0 | 9.0 | 406 | 490 | 528 | 9.9 | 280 | 8.5 | 6.2 |
| 7 | 7.4 | 22 | 11 | 9.0 | 9.0 | 234 | 306 | 278 | 11 | 66 | 22 | 5.1 |
| 8 | 7.1 | 19 | 11 | 9.0 | 9.0 | 176 | 224 | 172 | 12 | 30 | 17 | 4.0 |
| 9 | 9.8 | 18 | 11 | 9.0 | 9.0 | 143 | 169 | 116 | 20 | 26 | 15 | 3.4 |
| 10 | 11 | 18 | 11 | 9.0 | 9.0 | 138 | 136 | 88 | 18 | 21 | 9.9 | 3.7 |
| 11 | 15 | 16 | 11 | 9.0 | 10 | 131 | 115 | 69 | 19 | 20 | 8.3 | 4.1 |
| 12 | 16 | 16 | 10 | 9.0 | 22 | 131 | 96 | 58 | 14 | 20 | 13 | 4.1 |
| 13 | 11 | 15 | 10 | 9.0 | 39 | 504 | 81 | 50 | 13 | 24 | 13 | 5.5 |
| 14 | 8.6 | 14 | 10 | 9.0 | 64 | 524 | 73 | 46 | 12 | 21 | 14 | 7.4 |
| 15 | 8.1 | 14 | 10 | 9.0 | 136 | 280 | 68 | 42 | 11 | 12 | 11 | 4.6 |
| 16 | 7.6 | 14 | 9.8 | 9.0 | 168 | 188 | 59 | 36 | 9.9 | 11 | 8.7 | 4.6 |
| 17 | 7.3 | 13 | 9.8 | 9.0 | 128 | 128 | 53 | 33 | 11 | 35 | 7.4 | 9.6 |
| 18 | 9.4 | 13 | 9.8 | 9.0 | 94 | 572 | 50 | 31 | 12 | 40 | 7.4 | 135 |
| 19 | 7.9 | 14 | 9.7 | 9.0 | 80 | 1320 | 47 | 29 | 15 | 18 | 6.0 | 201 |
| 20 | 8.5 | 14 | 9.6 | 9.0 | 70 | 1040 | 45 | 26 | 11 | 11 | 5.3 | 290 |
| 21 | 10 | 13 | 9.6 | 9.0 | 57 | 455 | 53 | 24 | 8.5 | 23 | 5.3 | 111 |
| 22 | 21 | 14 | 9.5 | 9.0 | 63 | 406 | 59 | 21 | 7.2 | 82 | 22 | 49 |
| 23 | 20 | 13 | 9.4 | 9.0 | 449 | 587 | 159 | 36 | 6.0 | 126 | 48 | 30 |
| 24 | 28 | 12 | 9.3 | 9.0 | 1570 | 372 | 219 | 31 | 6.2 | 32 | 24 | 22 |
| 25 | 105 | 12 | 9.3 | 9.0 | 2170 | 231 | 162 | 27 | 7.0 | 17 | 13 | 17 |
| 26 | 124 | 13 | 9.3 | 9.0 | 1780 | 168 | 162 | 30 | 7.4 | 12 | 9.2 | 14 |
| 27 | 80 | 17 | 9.2 | 9.0 | 764 | 135 | 163 | 30 | 6.8 | 11 | 7.2 | 12 |
| 28 | 54 | 26 | 9.2 | 9.0 | 490 | 177 | 121 | 19 | 6.8 | 8.9 | 6.0 | 9.7 |
| 29 | 38 | 30 | 9.1 | 9.0 | --- | 520 | 122 | 16 | 7.4 | 7.6 | 4.9 | 8.7 |
| 30 | 32 | 21 | 9.1 | 9.0 | --- | 446 | 118 | 14 | 7.4 | 7.4 | 4.8 | 8.1 |
| 31 | 32 | --- | 9.1 | 9.0 | --- | 217 | --- | 13 | --- | 7.8 | 4.8 | --- |
| TOTAL | 732.1 | 637 | 328.8 | 279.2 | 8244.0 | 11220 | 8503 | 3311 | 325.4 | 1442.7 | 348.5 | 1165.2 |
| MEAN | 23.6 | 21.2 | 10.6 | 9.01 | 294 | 362 | 283 | 107 | 10.8 | 46.5 | 11.2 | 38.8 |
| MAX | 124 | 62 | 18 | 9.1 | 2170 | 1320 | 1830 | 823 | 20 | 280 | 48 | 290 |
| MIN | 7.1 | 12 | 9.1 | 9.0 | 9.0 | 128 | 45 | 13 | 6.0 | 7.4 | 4.6 | 3.4 |
| CFSM | .15 | .14 | .07 | .06 | 1.87 | 2.31 | 1.80 | .68 | .07 | .30 | .07 | .25 |
| IN. | .17 | .15 | .08 | .07 | 1.95 | 2.66 | 2.01 | .78 | .08 | .34 | .08 | .28 |

| CAL YR 1976 | TOTAL | 51044.6 | MEAN 139 | MAX 2960 | MIN 7.1 | CFSM .89 | IN 12.09 |
|-------------|-------|---------|----------|----------|---------|----------|----------|
| WTR YR 1977 | TOTAL | 36536.9 | MEAN 100 | MAX 2170 | MIN 3.4 | CFSM .64 | IN 8.66 |

SCIOTO RIVER BASIN

225

03223000 OLENTANGY RIVER AT CLARIDON, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1965 to current year.

REMARKS.--Sediment data collected at this site 1969 to 1974.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | |
|--------------|------|---|--|---|------------------------------------|--|--------------------------------------|--|---|--|--|---|---|
| | | | | | | | | | | | | | |
| MAR 02... | 1300 | 155 | 490 | 7.6 | 1.0 | 11.6 | 82 | 1.9 | 250 | 120 | 68 | 19 | |
| JUN 08... | 1320 | 12 | 725 | 7.8 | 15.0 | 8.3 | 81 | 2.6 | 330 | 110 | 86 | 29 | |
| DATE | TIME | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CAC03 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 02... | 12 | 3.1 | 161 | 0 | 132 | 6.5 | 76 | 29 | .2 | 7.4 | 294 | 3.9 | |
| JUN 08... | 23 | 3.5 | 270 | 0 | 221 | 6.8 | 110 | 34 | .3 | 4.5 | 423 | .51 | |
| DATE | TIME | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 02... | .04 | .30 | .12 | 0 | 30 | 4 | 80 | 2 | 50 | .0 | 20 | 2.1 | |
| JUN 08... | .01 | .07 | .20 | 3 | <10 | 3 | 30 | 2 | 40 | .0 | 20 | 6.0 | |

SCIOTO RIVER BASIN

03225500 OLENTANGY RIVER NEAR DELAWARE, OH

LOCATION.--Lat 40°21'18", long 83°04'02", in NE 1/4 T.5 N., R.19 W., Delaware County, Hydrologic Unit 05060001, on left bank 500 ft (152 m) upstream from highway bridge, 1,000 ft (305 m) downstream from Delaware Dam, 1,300 ft (396 m) upstream from Norfolk and Western Railway bridge, and 4.0 mi (6.4 km) north of Delaware.

DRAINAGE AREA.--393 m² (1,018 km²).

WATER-DISCHARGE RECORDS

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 799.58 ft (243.712 m) above mean sea level (levels by Corps of Engineers). Prior to Oct. 1, 1950, water-stage recorder at site 500 ft (152 m) downstream at datum 76.7 ft (23.38 m) higher.

REMARKS.--Records good. Flow completely regulated by Delaware Lake since 1951 (see station 03225000).

AVERAGE DISCHARGE.--50 years, 344 ft³/s (9.742 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,100 ft³/s (399 m³/s) Mar. 21, 1927, gage height, 16.9 ft (5.15 m), site and datum then in use; minimum daily, 0.1 ft³/s (0.003 m³/s) Sept. 14-29, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,450 ft³/s (97.7 m³/s) Feb. 25, gage height, 85.70 ft (26.121 m); minimum daily, 12 ft³/s (0.34 m³/s) June 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|-------|-------|-------|------|------|------|------|------|
| 1 | 56 | 52 | 93 | 37 | 18 | 970 | 181 | 191 | 22 | 34 | 25 | 25 |
| 2 | 87 | 51 | 27 | 37 | 17 | 472 | 134 | 126 | 18 | 179 | 25 | 21 |
| 3 | 123 | 42 | 28 | 37 | 17 | 361 | 503 | 182 | 19 | 272 | 19 | 21 |
| 4 | 123 | 66 | 28 | 27 | 23 | 381 | 649 | 357 | 257 | 268 | 16 | 21 |
| 5 | 123 | 105 | 28 | 23 | 39 | 753 | 30 | 908 | 14 | 136 | 27 | 21 |
| 6 | 123 | 132 | 28 | 23 | 24 | 1070 | 19 | 2040 | 14 | 174 | 39 | 21 |
| 7 | 121 | 132 | 28 | 24 | 24 | 1050 | 14 | 2160 | 12 | 250 | 39 | 21 |
| 8 | 119 | 93 | 28 | 24 | 23 | 677 | 1700 | 857 | 12 | 215 | 39 | 21 |
| 9 | 70 | 88 | 28 | 24 | 16 | 291 | 2980 | 504 | 16 | 102 | 39 | 21 |
| 10 | 20 | 89 | 38 | 24 | 21 | 257 | 2870 | 258 | 14 | 51 | 39 | 21 |
| 11 | 23 | 88 | 45 | 24 | 21 | 274 | 2890 | 148 | 13 | 41 | 39 | 20 |
| 12 | 23 | 117 | 45 | 24 | 21 | 283 | 1830 | 148 | 13 | 25 | 39 | 20 |
| 13 | 23 | 228 | 45 | 24 | 22 | 633 | 274 | 148 | 14 | 25 | 39 | 20 |
| 14 | 23 | 246 | 44 | 24 | 22 | 1470 | 274 | 148 | 14 | 24 | 39 | 20 |
| 15 | 23 | 99 | 44 | 24 | 74 | 1120 | 219 | 148 | 14 | 24 | 39 | 20 |
| 16 | 58 | 108 | 44 | 23 | 111 | 457 | 322 | 92 | 20 | 24 | 39 | 21 |
| 17 | 180 | 187 | 42 | 23 | 125 | 305 | 105 | 56 | 24 | 24 | 39 | 20 |
| 18 | 21 | 178 | 37 | 23 | 132 | 523 | 105 | 51 | 24 | 24 | 39 | 21 |
| 19 | 21 | 179 | 37 | 24 | 132 | 1500 | 105 | 51 | 24 | 24 | 39 | 20 |
| 20 | 21 | 261 | 37 | 23 | 132 | 2120 | 105 | 51 | 23 | 24 | 39 | 21 |
| 21 | 42 | 257 | 37 | 23 | 132 | 1810 | 105 | 51 | 23 | 24 | 34 | 21 |
| 22 | 23 | 175 | 37 | 23 | 137 | 1010 | 107 | 51 | 23 | 104 | 34 | 21 |
| 23 | 22 | 165 | 37 | 20 | 226 | 1040 | 156 | 60 | 23 | 141 | 34 | 21 |
| 24 | 22 | 139 | 37 | 20 | 736 | 1130 | 328 | 54 | 23 | 141 | 34 | 21 |
| 25 | 22 | 180 | 37 | 21 | 2460 | 563 | 439 | 53 | 23 | 140 | 34 | 21 |
| 26 | 22 | 179 | 37 | 18 | 3390 | 257 | 436 | 51 | 24 | 96 | 34 | 21 |
| 27 | 22 | 177 | 37 | 19 | 3280 | 258 | 433 | 41 | 24 | 57 | 35 | 21 |
| 28 | 22 | 177 | 37 | 18 | 2130 | 334 | 437 | 26 | 24 | 38 | 34 | 21 |
| 29 | 22 | 177 | 37 | 18 | --- | 542 | 353 | 26 | 27 | 28 | 34 | 21 |
| 30 | 23 | 148 | 37 | 18 | --- | 983 | 313 | 26 | 30 | 25 | 34 | 21 |
| 31 | 39 | --- | 37 | 18 | --- | 706 | --- | 26 | --- | 25 | 34 | --- |
| TOTAL | 1662 | 4315 | 1181 | 732 | 13505 | 23610 | 18416 | 9089 | 825 | 2759 | 1072 | 627 |
| MEAN | 53.6 | 144 | 38.1 | 23.6 | 482 | 762 | 614 | 293 | 27.5 | 89.0 | 34.6 | 20.9 |
| MAX | 180 | 261 | 93 | 37 | 3390 | 2120 | 2980 | 2160 | 257 | 272 | 39 | 25 |
| MIN | 20 | 42 | 27 | 18 | 16 | 257 | 14 | 26 | 12 | 24 | 16 | 20 |

CAL YR 1976 TOTAL 104299.0 MEAN 285 MAX 4200 MIN 5.1
WTR YR 1977 TOTAL 77793.0 MEAN 213 MAX 3390 MIN 12

SCIOTO RIVER BASIN

227

03225500 OLENTANGY RIVER NEAR DELAWARE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

REMARKS.--Temperature data collected at this site 1946 to 1961.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND | HARD- NESS | NON- CAR- BONATE HARD- NESS | DIS- SOLVED CAL- CIUM | DIS- SOLVED MAG- NE- SIUM |
|--------------|------|---------------------------------------|--|------------------|------------------------|--------------------------|---------------------------------|---|----------------------------------|---|---|---------------------------------------|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | | 5 DAY | (CA+MG) | (MG/L) | (CA) | (MG/L) |
| MAR 17... | 1500 | 314 | 615 | 8.1 | 9.0 | 11.2 | 96 | 2.0 | 250 | 110 | 68 | 19 |
| JUN 09... | 1145 | 15 | 590 | 8.2 | 18.0 | 9.7 | 100 | 3.0 | 250 | 94 | 64 | 21 |
| | | DIS- SOLVED PO- TAS- SIUM | BICAR- BONATE | CAR- BONATE | ALKA- LINITY AS | CARBON DIOXIDE | DIS- SOLVED SULFATE | DIS- SOLVED CHLO- RIDE | DIS- SOLVED FLUO- RIDE | DIS- SOLVED SILICA | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) | TOTAL NITRATE |
| DATE | | (NA) (MG/L) | (HCO3) (MG/L) | (CO3) (MG/L) | CAC03 (MG/L) | (CO2) (MG/L) | (SO4) (MG/L) | (CL) (MG/L) | (F) (MG/L) | (SI02) (MG/L) | (MG/L) | (N) (MG/L) |
| MAR 17... | 18 | 3.4 | 168 | 0 | 138 | 2.1 | 67 | 43 | .1 | 6.5 | 308 | 4.8 |
| JUN 09... | 17 | 3.1 | 186 | 0 | 153 | 1.9 | 65 | 37 | .2 | 4.1 | 303 | 3.5 |
| | | TOTAL AMMONIA NITRO- GEN | TOTAL PHOS- PHORUS | TOTAL ARSENIC | TOTAL CHRO- MIUM | TOTAL COPPER | DIS- SOLVED IRON | TOTAL LEAD | DIS- SOLVED MAN- GANESE | TOTAL MERCURY | TOTAL ZINC | TOTAL ORGANIC CARBON |
| DATE | | (N) (MG/L) | (P) (MG/L) | (AS) (UG/L) | (CR) (UG/L) | (CU) (UG/L) | (FE) (UG/L) | (PB) (UG/L) | (MN) (UG/L) | (HG) (UG/L) | (ZN) (UG/L) | (C) (MG/L) |
| MAR 17... | .04 | .21 | .12 | 2 | 10 | 2 | 20 | 7 | 30 | .0 | 10 | 9.5 |
| JUN 09... | .12 | .08 | .08 | 3 | 0 | 4 | 20 | 2 | 20 | .0 | 10 | 6.2 |

SCIOTO RIVER BASIN

03226800 OLENTANGY RIVER NEAR WORTHINGTON, OH

LOCATION.--Lat 40°06'37", long 83°01'55", in NW 1/4 T.2N., R.18W., Franklin County, Hydrologic Unit 05060001, on left bank 350 ft (107 m) downstream from Interstate Highway 270 bridge, 1.5 mi (2.4 km) northwest of Worthington and 2.8 mi (4.5 km) upstream from Rush Run.

DRAINAGE AREA.--497 mi² (1,287 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1955 to current year.

REVISED RECORDS.--WSP 1625: 1952(M). WSP 1908: Drainage area. WRD Ohio 1972: 1971(M).

GAGE.--Water-stage recorder. Datum of gage is 743.20 ft (226.527 m) above mean sea level.

REMARKS.--Records good except those for winter periods and no gage height record which are fair. Flow regulated by Delaware Lake 21 mi (34 km) upstream (see station 03225000).

AVERAGE DISCHARGE.--22 years, 436 ft³/s (12.35 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,500 ft³/s (467 m³/s) Jan. 21, 1959, gage height, 15.68 ft (4.779 m), from high-water mark in well; minimum daily, 8.5 ft³/s (0.24 m³/s) Sept. 26, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in January 1952 reached a stage of 15.3 ft (4.66 m), discharge, 15,100 ft³/s (428 m³/s), from information by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,430 ft³/s (154 m³/s) Apr. 2, gage height, 7.49 ft (2.283 m); minimum daily, 15 ft³/s (0.42 m³/s) Jan. 30, 31, Feb. 1-11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|------|------|-------|-------|-------|-------|------|------|------|------|
| 1 | 74 | 148 | 170 | 24 | 15 | 1160 | 428 | 322 | 31 | 41 | 30 | 31 |
| 2 | 70 | 103 | 70 | 24 | 15 | 685 | 2120 | 178 | 28 | 100 | 29 | 27 |
| 3 | 109 | 83 | 35 | 23 | 15 | 441 | 1760 | 171 | 23 | 300 | 25 | 26 |
| 4 | 129 | 79 | 26 | 22 | 15 | 669 | 1500 | 600 | 178 | 340 | 24 | 26 |
| 5 | 129 | 109 | 25 | 21 | 15 | 785 | 776 | 945 | 62 | 230 | 20 | 26 |
| 6 | 138 | 145 | 40 | 20 | 15 | 1140 | 503 | 1810 | 25 | 200 | 40 | 26 |
| 7 | 145 | 145 | 55 | 19 | 15 | 1100 | 220 | 2720 | 20 | 250 | 67 | 26 |
| 8 | 142 | 142 | 36 | 18 | 15 | 912 | 945 | 1060 | 40 | 290 | 52 | 26 |
| 9 | 152 | 135 | 34 | 18 | 15 | 455 | 3270 | 661 | 304 | 150 | 49 | 26 |
| 10 | 138 | 103 | 33 | 18 | 15 | 287 | 3140 | 373 | 105 | 70 | 44 | 26 |
| 11 | 38 | 132 | 35 | 18 | 15 | 316 | 3090 | 171 | 49 | 54 | 53 | 25 |
| 12 | 27 | 129 | 32 | 18 | 30 | 475 | 2730 | 158 | 36 | 35 | 56 | 25 |
| 13 | 29 | 182 | 31 | 17 | 142 | 1210 | 340 | 151 | 30 | 31 | 46 | 24 |
| 14 | 36 | 288 | 31 | 17 | 152 | 1440 | 310 | 148 | 30 | 30 | 41 | 25 |
| 15 | 29 | 261 | 30 | 17 | 93 | 1590 | 270 | 148 | 26 | 29 | 57 | 25 |
| 16 | 29 | 62 | 30 | 17 | 123 | 661 | 353 | 142 | 23 | 29 | 59 | 25 |
| 17 | 204 | 204 | 30 | 16 | 155 | 380 | 139 | 74 | 22 | 29 | 62 | 25 |
| 18 | 317 | 208 | 29 | 16 | 178 | 945 | 123 | 64 | 25 | 30 | 45 | 25 |
| 19 | 34 | 208 | 29 | 16 | 199 | 1500 | 123 | 61 | 32 | 30 | 39 | 25 |
| 20 | 25 | 231 | 29 | 16 | 182 | 2170 | 120 | 57 | 27 | 30 | 39 | 26 |
| 21 | 46 | 294 | 28 | 16 | 170 | 2220 | 123 | 56 | 27 | 30 | 39 | 26 |
| 22 | 81 | 277 | 28 | 16 | 213 | 1400 | 120 | 53 | 25 | 90 | 39 | 26 |
| 23 | 90 | 217 | 28 | 16 | 719 | 1080 | 139 | 53 | 27 | 125 | 35 | 26 |
| 24 | 90 | 148 | 27 | 16 | 1680 | 1190 | 224 | 59 | 26 | 122 | 34 | 26 |
| 25 | 79 | 163 | 27 | 16 | 2290 | 922 | 448 | 57 | 26 | 123 | 34 | 26 |
| 26 | 66 | 208 | 27 | 16 | 3930 | 328 | 448 | 54 | 26 | 123 | 32 | 26 |
| 27 | 55 | 208 | 27 | 16 | 3760 | 310 | 448 | 50 | 28 | 78 | 32 | 26 |
| 28 | 51 | 199 | 26 | 16 | 2960 | 366 | 517 | 45 | 37 | 57 | 31 | 26 |
| 29 | 38 | 199 | 26 | 16 | --- | 531 | 600 | 33 | 34 | 46 | 32 | 26 |
| 30 | 36 | 210 | 26 | 15 | --- | 847 | 387 | 32 | 32 | 39 | 33 | 26 |
| 31 | 114 | --- | 25 | 15 | --- | 945 | --- | 31 | --- | 34 | 32 | --- |
| TOTAL | 2740 | 5220 | 1125 | 549 | 17141 | 28460 | 25714 | 10537 | 1404 | 3165 | 1250 | 776 |
| MEAN | 88.4 | 174 | 36.3 | 17.7 | 612 | 918 | 857 | 340 | 46.8 | 102 | 40.3 | 25.9 |
| MAX | 317 | 294 | 170 | 24 | 3930 | 2220 | 3270 | 2720 | 304 | 340 | 67 | 31 |
| MIN | 25 | 62 | 25 | 15 | 15 | 287 | 120 | 31 | 20 | 29 | 20 | 24 |
| CAL YR 1976 | TOTAL | 133288 | MEAN | 364 | MAX | 4770 | MIN | 22 | | | | |
| WTR YR 1977 | TOTAL | 98081 | MEAN | 269 | MAX | 3930 | MIN | 15 | | | | |

Note: No gage-height record Oct. 1 to Nov. 12, July 1 to July 25 and Aug. 31 to Sept. 30.

SCIOTO RIVER BASIN

229

03226800 OLENTANGY RIVER NEAR WOPHTHINGTON, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1965 to current year.

REMARKS.--Water temperature records collected at this site 1955 to 1968.

WATER QUALITY DATA. WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE | PH (UNITS) | TEMPERATURE (DEG C) | DISSOLVED OXYGEN (MG/L) | PERCENT SATURATION | BIOCHEMICAL OXYGEN DEMAND | HARDNESS (CA+MG) (MG/L) | NON-CARBONATE HARDNESS (MG/L) | DISSOLVED CALCIUM (CA) (MG/L) | DISSOLVED MAGNESIUM (MG/L) | |
|-----------|------|-------------------------------|-----------------------------------|-----------------------------|---------------------------|----------------------------|-----------------------------|--------------------------------|--------------------------------|---------------------------------|--------------------------------|---|---------------------------------|
| | | | (MICROMHOS) | | | | | 5 DAY (MG/L) | | | | | |
| MAR 03... | 1500 | 421 | 415 | 7.8 | 3.0 | 12.0 | 89 | 4.0 | 180 | 81 | 48 | 14 | |
| JUN 23... | 1040 | 25 | 765 | 8.2 | 20.0 | 7.3 | 79 | 2.6 | 310 | 130 | 76 | 28 | |
| DATE | | DISSOLVED SODIUM (NA) (MG/L) | DISSOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED CHLORIDE (CL) (MG/L) | DISSOLVED FLUORIDE (F) (MG/L) | DISSOLVED SILICA (SiO2) (MG/L) | DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 03... | 15 | 4.5 | 118 | 0 | 97 | 3.0 | 56 | 33 | .2 | 5.5 | 234 | 3.6 | |
| JUN 23... | 33 | 4.4 | 218 | 0 | 179 | 2.2 | 100 | 59 | .4 | 1.8 | 410 | .76 | |
| DATE | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DISSOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DISSOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 03... | .04 | .38 | .16 | 2 | 30 | 5 | 60 | 11 | 40 | .0 | 20 | 7.8 | |
| JUN 23... | .03 | .16 | .23 | 3 | 10 | 7 | 50 | 4 | 120 | .7 | 20 | 6.8 | |

SCIOTO RIVER BASIN

03227500 SCIOTO RIVER AT COLUMBUS, OH

LOCATION.--Lat 39°54'34", long 83°00'33", Franklin County, Hydrologic Unit 05060001, on right bank at sewage-treatment plant of city of Columbus, 0.4 mi (0.6 km) downstream from bridge on Frank Road, 2.8 mi (4.5 km) upstream from Scioto Big Run, and 5 mi (8 km) downstream from Olentangy River.

DRAINAGE AREA.--1,629 mi² (4,219 km²).

WATER-DISCHARGE RECORDS

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 (207.264 m) above mean sea level. Prior to Oct. 1, 1924, nonrecording gage at site 200 ft (61 m) upstream at same datum.

REMARKS.--Records good except those for winter periods, which are fair. Flow regulated by Griggs Reservoir 10.4 mi (16.7 km) upstream (see station 03221500), O'Shaughnessy Reservoir 20.4 mi (32.8 km) upstream (see station 03220500), and Delaware Lake 35 mi (56 km) upstream from station (see station 03225000). Records include sewage return flow from Frank Road Treatment Plant. Shadeville Treatment Plant flow enters downstream. Water supply for city of Columbus is obtained from Scioto River downstream from Griggs Dam, Big Walnut Creek downstream from Central College, and from well field in Alum Creek basin. For statement on diversions from Alum Creek basin and Big Walnut Creek, see REMARKS for stations 03229000 and 03229500.

AVERAGE DISCHARGE.--57 years, 1,369 ft³/s (38.8 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 68,200 ft³/s (1,930 m³/s) Jan. 22, 1959, gage height, 27.22 ft (8.297 m), from high-water mark in well, from rating curve extended above 46,000 ft³/s (1,300 m³/s); minimum daily, 47 ft³/s (1.33 m³/s) Sept. 6, 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 25, 1913 reached a stage of 25.9 ft (7.89 m), discharge, 138,000 ft³/s (3,910 m³/s), estimated by Franklin County Conservancy District.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,500 ft³/s (382 m³/s) Apr. 3, gage height, 16.90 ft (5.151 m); minimum daily, 120 ft³/s (3.40 m³/s) Dec. 30 to Jan. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|------|------|
| 1 | 264 | 415 | 283 | 120 | 150 | 2590 | 1510 | 1430 | 241 | 812 | 170 | 145 |
| 2 | 237 | 367 | 273 | 120 | 230 | 1840 | 3790 | 1280 | 202 | 476 | 158 | 162 |
| 3 | 215 | 347 | 174 | 120 | 280 | 1180 | 11600 | 1150 | 211 | 727 | 153 | 651 |
| 4 | 283 | 287 | 145 | 120 | 310 | 1780 | 8760 | 1220 | 186 | 947 | 138 | 162 |
| 5 | 273 | 268 | 153 | 120 | 340 | 2490 | 7050 | 1400 | 383 | 782 | 142 | 126 |
| 6 | 311 | 307 | 211 | 120 | 340 | 3160 | 4850 | 2600 | 224 | 539 | 138 | 710 |
| 7 | 331 | 321 | 352 | 120 | 335 | 2730 | 3060 | 3200 | 219 | 454 | 922 | 246 |
| 8 | 341 | 326 | 200 | 120 | 340 | 2080 | 2130 | 2800 | 198 | 663 | 367 | 170 |
| 9 | 367 | 268 | 170 | 120 | 340 | 1340 | 4180 | 1800 | 1340 | 512 | 287 | 158 |
| 10 | 302 | 241 | 155 | 120 | 370 | 953 | 3910 | 1420 | 1000 | 383 | 190 | 142 |
| 11 | 194 | 241 | 145 | 120 | 480 | 903 | 3680 | 1100 | 669 | 404 | 297 | 138 |
| 12 | 174 | 241 | 140 | 120 | 620 | 1600 | 3550 | 920 | 556 | 383 | 589 | 153 |
| 13 | 228 | 241 | 140 | 120 | 640 | 3870 | 1260 | 830 | 507 | 283 | 259 | 170 |
| 14 | 215 | 372 | 135 | 120 | 450 | 3420 | 922 | 660 | 449 | 228 | 224 | 640 |
| 15 | 237 | 399 | 135 | 120 | 270 | 3450 | 842 | 550 | 367 | 202 | 190 | 264 |
| 16 | 211 | 297 | 135 | 120 | 240 | 2000 | 794 | 460 | 307 | 202 | 211 | 686 |
| 17 | 211 | 198 | 130 | 120 | 225 | 1190 | 704 | 410 | 268 | 410 | 206 | 352 |
| 18 | 388 | 352 | 130 | 120 | 215 | 2550 | 572 | 370 | 268 | 302 | 215 | 321 |
| 19 | 224 | 331 | 130 | 120 | 210 | 3880 | 539 | 340 | 287 | 206 | 166 | 331 |
| 20 | 287 | 321 | 130 | 120 | 205 | 4760 | 539 | 297 | 255 | 215 | 142 | 241 |
| 21 | 287 | 404 | 130 | 120 | 200 | 4730 | 518 | 287 | 241 | 215 | 206 | 215 |
| 22 | 182 | 415 | 130 | 120 | 331 | 3770 | 550 | 287 | 224 | 224 | 302 | 388 |
| 23 | 182 | 321 | 125 | 120 | 710 | 3000 | 651 | 378 | 232 | 211 | 241 | 336 |
| 24 | 512 | 316 | 125 | 120 | 1850 | 3350 | 953 | 347 | 228 | 437 | 211 | 287 |
| 25 | 321 | 259 | 125 | 120 | 4330 | 2920 | 1110 | 302 | 219 | 507 | 166 | 241 |
| 26 | 237 | 347 | 125 | 120 | 8720 | 1840 | 1210 | 259 | 206 | 415 | 170 | 206 |
| 27 | 202 | 383 | 125 | 120 | 5110 | 1360 | 1220 | 224 | 404 | 292 | 186 | 190 |
| 28 | 190 | 326 | 125 | 120 | 8460 | 1390 | 1280 | 228 | 1100 | 224 | 134 | 174 |
| 29 | 202 | 336 | 122 | 120 | --- | 1450 | 1730 | 268 | 497 | 278 | 158 | 153 |
| 30 | 211 | 307 | 120 | 120 | --- | 2140 | 1600 | 283 | 311 | 219 | 198 | 153 |
| 31 | 512 | --- | 120 | 120 | --- | 2410 | --- | 241 | --- | 162 | 153 | --- |
| TOTAL | 8331 | 9554 | 4838 | 3720 | 36301 | 76126 | 75064 | 27341 | 11799 | 12314 | 7289 | 8311 |
| MEAN | 269 | 318 | 156 | 120 | 1296 | 2456 | 2502 | 882 | 393 | 397 | 235 | 277 |
| MAX | 512 | 415 | 352 | 120 | 8720 | 4760 | 11600 | 3200 | 1340 | 947 | 922 | 710 |
| MIN | 174 | 198 | 120 | 120 | 150 | 903 | 518 | 224 | 186 | 162 | 134 | 126 |

CAL YR 1976 TOTAL 412732 MEAN 1128 MAX 15700 MIN 120
WTR YR 1977 TOTAL 280988 MEAN 770 MAX 11600 MIN 120

SCIOTO RIVER BASIN

231

03227500 SCIOTO RIVER AT COLUMBUS, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND | HARD- NESS | NON- CAR- BONATE HARD- NESS | DIS- SOLVED CAL- CIUM | DIS- SOLVED MAG- NE- SIUM |
|--------------|------|---------------------------------------|--|------------------|------------------------|--------------------------|---------------------------------|---|----------------------------------|---|--------------------------------|---------------------------------------|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | | 5 DAY | (CA+MG) | (MG/L) | (CA) | (MG/L) |
| MAR 01... | 1445 | 2630 | 440 | 7.5 | 2.0 | 13.2 | 96 | 5.7 | 170 | 77 | 44 | 14 |
| JUL 06... | 1430 | 422 | 640 | 8.5 | 28.5 | 11.8 | 150 | 5.7 | 260 | 100 | 65 | 24 |
| | | DIS- SOLVED PO- TAS- SIUM | BICAR- BONATE | CAR- BONATE | ALKA- LINITY AS | CARBON DIOXIDE | DIS- SOLVED SULFATE | DIS- SOLVED CHLO- RIDE | DIS- SOLVED FLUO- RIDE | DIS- SOLVED SILICA | DIS- SOLVED SOLIDS | TOTAL NITRATE |
| DATE | | (K) | (HCO3) | (CO3) | CAC03 | (MG/L) | (SO4) | (CL) | (F) | (SIO2) | (SUM OF CONSTITUENTS) | (N) |
| | | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) |
| MAR 01... | 17 | 5.8 | 110 | 0 | 90 | 5.6 | 53 | 34 | .2 | 4.8 | 227 | 3.2 |
| JUL 06... | 22 | 3.6 | 180 | 8 | 161 | 1.0 | 95 | 40 | .4 | .2 | 347 | 1.8 |
| | | TOTAL AMMONIA NITRO- GEN | TOTAL PHOS- PHORUS | TOTAL ARSENIC | TOTAL CHRO- MIUM | TOTAL COPPER | DIS- SOLVED IRON | TOTAL LEAD | DIS- SOLVED MAN- GANESE | TOTAL MERCURY | TOTAL ZINC | TOTAL ORGANIC CARBON |
| DATE | | (N) | (P) | (AS) | (UG/L) | (UG/L) | (FE) | (PB) | (MN) | (UG/L) | (UG/L) | (C) |
| | | (MG/L) | (MG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (MG/L) |
| MAR 01... | .06 | .62 | .33 | 2 | 30 | 30 | 60 | 23 | 40 | .0 | 60 | 9.8 |
| JUL 06... | .04 | .10 | .12 | 3 | 10 | 6 | 30 | 36 | 10 | .0 | 40 | 6.2 |

SCIOTO RIVER BASIN

03228500 BIG WALNUT CREEK AT CENTRAL COLLEGE, OH

LOCATION.--Lat 40°06'13", long 82°53'03", T.2 N., R.17 W., Franklin County, Hydrologic Unit 05060001, on right bank at upstream side of county road bridge, 0.2 mi (0.3 km) east of Central College, 0.4 mi (0.6 km) downstream from Hoover Dam, and 3 mi (5 km) southeast of Westerville.

DRAINAGE AREA.--190 mi² (492 km²).

WATER-DISCHARGE RECORDS

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 (248.461 m) above mean sea level.

REMARKS.--Records good. Flow completely regulated by Hoover Reservoir since September 1954 (see station 03228400).

AVERAGE DISCHARGE.--39 years, 182 ft³/s (5.154 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,800 ft³/s (674 m³/s) Jan. 21, 1959, gage height, 19.75 ft (6.020 m), from rating curve extended above 7,200 ft³/s (204 m³/s) on basis of computation of peak flow over Hoover Dam; no flow for many days in 1944 and 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,150 ft³/s (89.2 m³/s) Apr. 3, gage height, 9.53 ft (2.905 m); minimum daily, 84 ft³/s (2.379 m³/s) Mar. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 208 | 198 | 99 | 96 | 110 | 97 | 109 | 122 | 113 | 169 | 116 | 132 |
| 2 | 208 | 197 | 99 | 96 | 110 | 96 | 204 | 125 | 124 | 110 | 126 | 139 |
| 3 | 208 | 197 | 98 | 96 | 109 | 103 | 1740 | 128 | 129 | 117 | 146 | 135 |
| 4 | 208 | 195 | 98 | 97 | 109 | 94 | 997 | 115 | 150 | 109 | 159 | 103 |
| 5 | 126 | 195 | 98 | 103 | 108 | 86 | 1890 | 131 | 145 | 131 | 147 | 107 |
| 6 | 131 | 195 | 103 | 105 | 109 | 84 | 703 | 135 | 124 | 136 | 133 | 110 |
| 7 | 133 | 194 | 109 | 105 | 123 | 95 | 338 | 225 | 127 | 141 | 155 | 127 |
| 8 | 143 | 144 | 107 | 103 | 126 | 101 | 299 | 202 | 136 | 116 | 138 | 111 |
| 9 | 145 | 106 | 107 | 97 | 119 | 106 | 217 | 165 | 150 | 115 | 110 | 122 |
| 10 | 145 | 107 | 103 | 97 | 119 | 104 | 212 | 140 | 121 | 118 | 122 | 113 |
| 11 | 143 | 117 | 100 | 98 | 113 | 109 | 165 | 132 | 115 | 126 | 117 | 106 |
| 12 | 143 | 109 | 99 | 103 | 111 | 134 | 151 | 140 | 109 | 107 | 133 | 130 |
| 13 | 142 | 109 | 98 | 112 | 115 | 208 | 150 | 128 | 123 | 124 | 107 | 131 |
| 14 | 179 | 109 | 99 | 110 | 112 | 158 | 148 | 128 | 131 | 129 | 107 | 155 |
| 15 | 213 | 109 | 101 | 110 | 112 | 109 | 146 | 128 | 120 | 130 | 107 | 151 |
| 16 | 213 | 109 | 101 | 110 | 111 | 103 | 147 | 143 | 131 | 131 | 115 | 160 |
| 17 | 212 | 109 | 100 | 110 | 110 | 104 | 148 | 141 | 119 | 123 | 117 | 113 |
| 18 | 211 | 109 | 99 | 110 | 110 | 201 | 138 | 141 | 115 | 149 | 115 | 99 |
| 19 | 211 | 104 | 99 | 107 | 110 | 109 | 124 | 140 | 133 | 118 | 127 | 132 |
| 20 | 212 | 101 | 100 | 110 | 110 | 99 | 125 | 168 | 127 | 147 | 117 | 118 |
| 21 | 132 | 101 | 99 | 112 | 111 | 98 | 123 | 148 | 128 | 126 | 108 | 107 |
| 22 | 132 | 101 | 99 | 112 | 118 | 101 | 147 | 151 | 133 | 127 | 119 | 118 |
| 23 | 196 | 101 | 100 | 112 | 125 | 91 | 160 | 139 | 118 | 132 | 118 | 113 |
| 24 | 203 | 101 | 100 | 112 | 122 | 104 | 124 | 137 | 122 | 129 | 115 | 113 |
| 25 | 197 | 101 | 99 | 111 | 113 | 109 | 120 | 143 | 123 | 134 | 111 | 113 |
| 26 | 196 | 101 | 98 | 110 | 111 | 102 | 120 | 148 | 139 | 117 | 135 | 114 |
| 27 | 195 | 100 | 98 | 110 | 111 | 91 | 122 | 160 | 146 | 119 | 120 | 114 |
| 28 | 195 | 99 | 98 | 110 | 111 | 104 | 136 | 173 | 193 | 132 | 110 | 121 |
| 29 | 195 | 100 | 98 | 110 | --- | 102 | 119 | 133 | 137 | 123 | 133 | 110 |
| 30 | 196 | 100 | 99 | 110 | --- | 102 | 123 | 127 | 117 | 112 | 115 | 115 |
| 31 | 208 | --- | 96 | 110 | --- | 102 | --- | 157 | --- | 120 | 129 | --- |
| TOTAL | 5579 | 3818 | 3101 | 3294 | 3178 | 3406 | 9445 | 4493 | 3898 | 3917 | 3827 | 3632 |
| MEAN | 180 | 127 | 100 | 106 | 114 | 110 | 315 | 145 | 130 | 126 | 123 | 121 |
| MAX | 213 | 198 | 109 | 112 | 126 | 208 | 1890 | 225 | 193 | 169 | 159 | 160 |
| MIN | 126 | 99 | 96 | 96 | 108 | 84 | 109 | 115 | 109 | 107 | 107 | 99 |

CAL YR 1976 TOTAL 57714 MEAN 158 MAX 2520 MIN 88
WTR YR 1977 TOTAL 51588 MEAN 141 MAX 1890 MIN 84

SCIOTO RIVER BASIN

233

03228500 BIG WALNUT CREEK AT CENTRAL COLLEGE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND | HARD- NESS | NON- CAR- BONATE HARD- NESS | DIS- SOLVED CAL- CIUM | DIS- SOLVED MAG- NE- SIUM |
|--------------|------|---------------------------------------|--|------------------|------------------------|--------------------------|---------------------------------|---|----------------------------------|---|---|---------------------------------------|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | | 5 DAY | (CA+MG) | (MG/L) | (CA) | (MG/L) |
| MAR 21... | 1345 | 105 | 420 | 8.6 | 7.5 | 13.8 | 120 | 2.8 | 180 | 80 | 47 | 16 |
| JUN 30... | 1000 | 106 | 390 | 8.0 | 16.5 | 9.6 | 98 | 1.5 | 160 | 60 | 43 | 13 |
| | | DIS- SOLVED PO- TAS- SIUM | BICAR- BONATE | CAR- BONATE | ALKA- LINITY AS | CARBON DIOXIDE | DIS- SOLVED SULFATE | DIS- SOLVED CHLO- RIDE | DIS- SOLVED FLUO- RIDE | DIS- SOLVED SILICA | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) | TOTAL NITRATE |
| DATE | | (NA) (MG/L) | (HCO3) (MG/L) | (CO3) (MG/L) | (CACO3 (MG/L) | (CO2) (MG/L) | (SO4) (MG/L) | (CL) (MG/L) | (F) (MG/L) | (SIO2) (MG/L) | (MG/L) | (N) (MG/L) |
| MAR 21... | 13 | 3.9 | 114 | 4 | 100 | .5 | 48 | 30 | .1 | 2.2 | 220 | 1.8 |
| JUN 30... | 10 | 3.6 | 123 | 0 | 101 | 2.0 | 47 | 21 | .1 | 2.3 | 201 | 2.2 |
| | | TOTAL AMMONIA NITRO- GEN | TOTAL PHOS- PHORUS | TOTAL ARSENIC | TOTAL CHRO- MIUM | TOTAL COPPER | DIS- SOLVED IRON | TOTAL LEAD | DIS- SOLVED MAN- GANESE | TOTAL MERCURY | TOTAL ZINC | TOTAL ORGANIC CARBON |
| DATE | | (N) (MG/L) | (P) (MG/L) | (AS) (UG/L) | (CR) (UG/L) | (CU) (UG/L) | (FE) (UG/L) | (PB) (UG/L) | (MN) (UG/L) | (HG) (UG/L) | (ZN) (UG/L) | (C) (MG/L) |
| MAR 21... | .03 | .09 | .03 | 1 | 10 | 3 | 30 | 0 | 10 | .4 | 70 | -- |
| JUN 30... | .00 | .00 | .03 | 3 | <10 | 6 | 0 | 8 | 30 | .0 | 30 | 7.5 |

SCIOTO RIVER BASIN

03228750 ALUM CREEK NEAR KILBOURNE, OH

LOCATION.--Lat 40°21'24", long 82°55'18", T.5 N., R.17 W., Delaware County, Hydrologic Unit 05060001, on left bank at upstream side of bridge on County Road 34, 100 ft (30 m) downstream from West Branch Alum Creek, and 2.6 mi (4.2 km) northeast of Kilbourne.

DRAINAGE AREA.--64.9 mi² (168 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1973 to current year.

REVISED RECORDS.--WRD OH-75-1: 1974 (M).

GAGE.--Water-stage recorder. Datum of gage is 900.99 ft (274.622 m) above mean sea level.

REMARKS.--Records good except those for winter periods and no gage height, which are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,850 ft³/s (137 m³/s) Feb. 24, 1975, gage height, 12.05 ft (3.673 m); minimum, 0.56 ft³/s (0.016 m³/s) Aug. 1, 2, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,080 ft³/s (87.2 m³/s) Feb. 24 (base, 1,000 ft³/s 28.3 m³/s), gage height, 10.01 ft (3.051 m); minimum, 0.86 ft³/s (0.024 m³/s) Aug. 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|--------|------|------|--------|-------|-------|-------|------|
| 1 | 5.8 | 52 | 11 | 8.3 | 8.0 | 78 | 100 | 24 | 4.2 | 40 | 1.9 | 1.0 |
| 2 | 5.4 | 24 | 9.1 | 8.3 | 8.0 | 69 | 140 | 26 | 3.7 | 25 | 1.5 | 1.0 |
| 3 | 4.5 | 18 | 8.0 | 8.2 | 8.0 | 56 | 280 | 27 | 3.7 | 8.7 | 1.3 | 1.0 |
| 4 | 4.0 | 15 | 7.4 | 8.2 | 8.0 | 250 | 360 | 211 | 3.5 | 9.8 | 1.1 | 1.0 |
| 5 | 3.5 | 12 | 8.0 | 8.1 | 8.0 | 234 | 400 | 245 | 3.3 | 18 | 1.0 | 1.1 |
| 6 | 3.3 | 10 | 9.0 | 8.0 | 8.0 | 109 | 250 | 130 | 3.3 | 8.7 | 1.0 | 1.1 |
| 7 | 3.3 | 9.1 | 10 | 8.0 | 8.0 | 78 | 150 | 86 | 3.1 | 4.8 | .93 | 1.1 |
| 8 | 4.0 | 8.4 | 13 | 8.0 | 8.0 | 58 | 70 | 52 | 4.0 | 19 | 1.5 | 1.4 |
| 9 | 5.1 | 7.6 | 24 | 8.0 | 8.0 | 53 | 57 | 35 | 13 | 13 | 3.3 | 1.4 |
| 10 | 8.7 | 7.3 | 21 | 8.0 | 8.0 | 49 | 45 | 27 | 7.6 | 6.0 | 2.7 | 1.4 |
| 11 | 6.6 | 7.3 | 18 | 8.0 | 8.4 | 44 | 40 | 21 | 5.1 | 4.0 | 1.9 | 1.2 |
| 12 | 5.4 | 6.6 | 15 | 8.0 | 11 | 87 | 35 | 19 | 4.8 | 4.0 | 2.9 | 1.1 |
| 13 | 4.8 | 6.6 | 13 | 8.0 | 22 | 68 | 33 | 16 | 4.5 | 3.7 | 3.7 | 1.1 |
| 14 | 4.2 | 6.9 | 12 | 8.0 | 50 | 54 | 30 | 15 | 4.2 | 2.7 | 2.3 | 4.0 |
| 15 | 4.8 | 8.7 | 11 | 8.0 | 90 | 536 | 26 | 14 | 3.7 | 2.2 | 6.0 | 4.0 |
| 16 | 5.1 | 7.3 | 11 | 8.0 | 140 | 213 | 24 | 12 | 3.1 | 1.9 | 7.3 | 4.0 |
| 17 | 5.4 | 8.4 | 11 | 8.0 | 250 | 149 | 22 | 11 | 2.9 | 2.2 | 3.7 | 6.0 |
| 18 | 5.4 | 7.6 | 10 | 8.0 | 245 | 115 | 21 | 11 | 3.3 | 3.3 | 2.7 | 3.5 |
| 19 | 5.7 | 5.4 | 10 | 8.0 | 245 | 136 | 20 | 9.8 | 3.3 | 11 | 1.9 | 2.3 |
| 20 | 7.3 | 5.7 | 10 | 8.0 | 245 | 225 | 19 | 8.7 | 2.9 | 5.1 | 1.6 | 2.0 |
| 21 | 11 | 5.7 | 9.8 | 8.0 | 240 | 270 | 18 | 8.0 | 2.3 | 14 | 1.5 | 1.7 |
| 22 | 9.4 | 6.3 | 9.6 | 8.0 | 321 | 257 | 20 | 6.3 | 2.2 | 33 | 1.6 | 1.6 |
| 23 | 8.0 | 6.6 | 9.4 | 8.0 | 927 | 151 | 26 | 6.3 | 2.0 | 11 | 1.7 | 1.6 |
| 24 | 25 | 5.7 | 9.3 | 8.0 | 2430 | 88 | 25 | 6.6 | 2.0 | 5.1 | 1.3 | 1.6 |
| 25 | 38 | 5.1 | 9.0 | 8.0 | 1790 | 63 | 26 | 6.9 | 3.7 | 3.5 | 1.4 | 1.5 |
| 26 | 22 | 6.9 | 8.8 | 8.0 | 488 | 55 | 24 | 5.7 | 4.2 | 2.7 | 1.3 | 1.6 |
| 27 | 14 | 16 | 8.8 | 8.0 | 168 | 50 | 21 | 5.1 | 3.3 | 2.2 | 1.2 | 1.5 |
| 28 | 10 | 16 | 8.6 | 8.0 | 111 | 73 | 32 | 4.5 | 8.7 | 1.9 | 1.1 | 1.4 |
| 29 | 8.4 | 13 | 8.5 | 8.0 | --- | 108 | 57 | 4.5 | 14 | 1.9 | 1.0 | 1.4 |
| 30 | 8.0 | 15 | 8.4 | 8.0 | --- | 55 | 33 | 4.5 | 8.4 | 2.0 | 1.0 | 1.3 |
| 31 | 52 | --- | 8.4 | 8.0 | --- | 78 | --- | 4.2 | --- | 2.0 | 1.0 | --- |
| TOTAL | 308.1 | 330.2 | 340.1 | 249.1 | 7861.4 | 3909 | 2404 | 1063.1 | 138.0 | 272.4 | 64.33 | 55.9 |
| MEAN | 9.94 | 11.0 | 11.0 | 8.04 | 281 | 126 | 80.1 | 34.3 | 4.60 | 8.79 | 2.08 | 1.86 |
| MAX | 52 | 52 | 24 | 8.3 | 2430 | 536 | 400 | 245 | 14 | 40 | 7.3 | 6.0 |
| MIN | 3.3 | 5.1 | 7.4 | 8.0 | 8.0 | 44 | 18 | 4.2 | 2.0 | 1.9 | .93 | 1.0 |
| CFSM | .15 | .17 | .17 | .12 | 4.33 | 1.94 | 1.23 | .53 | .07 | .14 | .03 | .03 |
| IN. | .18 | .19 | .19 | .14 | 4.51 | 2.24 | 1.38 | .61 | .08 | .16 | .04 | .03 |

CAL YR 1976 TOTAL 15290.40 MEAN 41.8 MAX 1100 MIN 1.3 CFSM .64 IN 8.76
WTR YR 1977 TOTAL 16995.63 MEAN 46.6 MAX 2430 MIN .93 CFSM .72 IN 9.74

Note: No gage height Oct. 1-6, Jan. 7 to Feb. 11, Mar. 19-22, and Mar. 30 to Apr. 12.

SCIOTO RIVER BASIN

235

03228750 ALUM CREEK NEAR KILBOURNE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1973 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND | HARD- NESS | NON- CAR- BONATE HARD- NESS | DIS- SOLVED CAL- CIUM | DIS- SOLVED MAG- NE- SIUM |
|--------------|------|---------------------------------------|--|------------------|------------------------|--------------------------|---------------------------------|---|----------------------------------|---|---|---------------------------------------|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | | 5 DAY (MG/L) | (CA+MG) (MG/L) | (MG/L) | (CA) (MG/L) | (MG/L) |
| MAR 22... | 1300 | 213 | 590 | 8.0 | 4.5 | 11.4 | 88 | 2.3 | 240 | 140 | 65 | 20 |
| JUN 16... | 1000 | 3.2 | 1100 | 8.0 | 20.5 | 7.6 | 84 | 1.1 | 410 | 200 | 100 | 40 |
| | | DIS- SOLVED PO- TAS- SIUM | BICAR- BONATE | CAR- BONATE | ALKA- LINITY AS | CARBON DIOXIDE | DIS- SOLVED SULFATE | DIS- SOLVED CHLO- RIDE | DIS- SOLVED FLUO- RIDE | DIS- SOLVED SILICA | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) | TOTAL NITRATE |
| DATE | | (NA) (MG/L) | (HCO3) (MG/L) | (CO3) (MG/L) | CAC03 (MG/L) | (CO2) (MG/L) | (S04) (MG/L) | (CL) (MG/L) | (F) (MG/L) | (SIO2) (MG/L) | (MG/L) | (N) (MG/L) |
| MAR 22... | 28 | 3.3 | 128 | 0 | 105 | 2.0 | 79 | 66 | .1 | 6.7 | 331 | 3.5 |
| JUN 16... | 58 | 4.2 | 256 | 0 | 210 | 4.1 | 160 | 120 | .3 | 3.5 | 612 | .10 |
| | | TOTAL AMMONIA NITRO- GEN | TOTAL PHOS- PHORUS | TOTAL ARSENIC | TOTAL CHRO- MIUM | TOTAL COPPER | DIS- SOLVED IRON | TOTAL LEAD | DIS- SOLVED MAN- GANESE | TOTAL MERCURY | TOTAL ZINC | TOTAL ORGANIC CARBON |
| DATE | | (N) (MG/L) | (P) (MG/L) | (AS) (UG/L) | (CR) (UG/L) | (CU) (UG/L) | (FE) (UG/L) | (PB) (UG/L) | (MN) (UG/L) | (HG) (UG/L) | (ZN) (UG/L) | (C) (MG/L) |
| MAR 22... | .02 | .00 | .05 | 1 | 10 | 0 | 30 | 6 | 10 | .0 | 80 | 7.1 |
| JUN 16... | .01 | .05 | .04 | 2 | <10 | 2 | 50 | 0 | 20 | .0 | 10 | 5.6 |

SCIOTO RIVER BASIN

03228805 ALUM CREEK AT AFRICA, OH

LOCATION.--Lat 40°11'00", long 82°57'47", in SE 1/4 sec. 1, T.3 N., R.18 W., Delaware County, Hydrologic Unit 05060001, on right bank 400 ft (122 m) upstream of bridge on Lewis Center Road, 1,200 ft (366 m) downstream from outlet of Alum Creek dam, 0.3 mi (0.5 km) west of Africa, 2.8 mi (4.5 km) upstream from Westerville Reservoir outlet, and 4.2 mi (6.8 km) northwest of Westerville.

DRAINAGE AREA.--122 mi² (316 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 800.00 ft (243.840 m) above mean sea level (levels by Corps of Engineers). Oct. 17, 1973 to July 9, 1974 nonrecording gage at bridge 400 ft (121.920 m) downstream at same datum. Prior to Oct. 17, 1973 water-stage recorder 600 ft (182.880 m) downstream at datum 17.37 ft (5.294 m) higher.

REMARKS.--Records good except those for the winter period, which are fair. Flow regulated by Alum Creek Lake since August 1973.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,160 ft³/s (174 m³/s) Mar. 10, 1964, gage height, 13.95 ft (4.252 m), from graph based on gage readings, site and datum then in use; no flow at times 1963-65.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 5, 1963 reached a stage of 14.2 ft (4.33 m), from floodmarks, discharge, 6,460 ft³/s (183 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,430 ft³/s (40.5 m³/s) Apr. 11, gage height, 27.04 ft (8.242 m); minimum daily, 2.80 ft³/s (0.079 m³/s) June 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|--------|--------|--------|--------|--------|-------|-------|-------|-------|
| 1 | 84 | 33 | 25 | 200 | 9.5 | 783 | 9.8 | 35 | 6.4 | 4.4 | 3.3 | 7.0 |
| 2 | 119 | 44 | 25 | 200 | 9.4 | 461 | 154 | 88 | 5.8 | 4.1 | 3.5 | 7.1 |
| 3 | 153 | 45 | 25 | 200 | 9.3 | 201 | 354 | 112 | 5.1 | 3.9 | 3.5 | 7.2 |
| 4 | 157 | 85 | 25 | 200 | 9.1 | 173 | 169 | 236 | 6.7 | 4.0 | 3.6 | 7.2 |
| 5 | 157 | 133 | 25 | 200 | 9.1 | 173 | 9.8 | 363 | 6.9 | 3.9 | 3.6 | 7.2 |
| 6 | 160 | 133 | 22 | 200 | 9.0 | 173 | 7.5 | 363 | 6.8 | 3.7 | 3.4 | 7.2 |
| 7 | 161 | 133 | 19 | 200 | 9.0 | 173 | 6.7 | 363 | 6.5 | 4.0 | 4.2 | 7.0 |
| 8 | 161 | 133 | 19 | 200 | 8.9 | 173 | 557 | 365 | 7.0 | 3.9 | 3.9 | 6.9 |
| 9 | 127 | 133 | 19 | 200 | 8.8 | 173 | 557 | 117 | 7.2 | 3.8 | 3.9 | 6.9 |
| 10 | 84 | 133 | 114 | 174 | 8.8 | 169 | 898 | 13 | 6.1 | 3.6 | 3.9 | 6.9 |
| 11 | 84 | 133 | 200 | 68 | 8.8 | 169 | 874 | 13 | 6.3 | 3.7 | 4.4 | 6.9 |
| 12 | 55 | 133 | 200 | 28 | 8.8 | 177 | 1080 | 13 | 6.3 | 3.9 | 4.5 | 6.7 |
| 13 | 20 | 133 | 200 | 16 | 8.7 | 307 | 1280 | 13 | 6.2 | 3.6 | 4.2 | 6.8 |
| 14 | 19 | 133 | 200 | 11 | 8.6 | 425 | 842 | 12 | 6.4 | 3.6 | 4.3 | 8.0 |
| 15 | 19 | 95 | 200 | 11 | 8.6 | 441 | 425 | 12 | 6.7 | 3.4 | 4.8 | 7.2 |
| 16 | 20 | 32 | 200 | 10 | 8.6 | 456 | 243 | 12 | 5.3 | 3.4 | 5.2 | 8.1 |
| 17 | 20 | 35 | 200 | 10 | 8.6 | 456 | 240 | 12 | 6.4 | 3.6 | 7.3 | 7.4 |
| 18 | 20 | 34 | 200 | 10 | 8.6 | 461 | 141 | 12 | 4.0 | 3.5 | 5.4 | 7.6 |
| 19 | 20 | 35 | 200 | 10 | 8.6 | 461 | 7.5 | 12 | 3.3 | 3.4 | 5.6 | 7.7 |
| 20 | 20 | 36 | 200 | 10 | 8.6 | 461 | 7.6 | 12 | 3.8 | 3.3 | 6.0 | 7.5 |
| 21 | 20 | 36 | 200 | 10 | 8.6 | 461 | 6.1 | 12 | 4.5 | 3.4 | 6.3 | 7.7 |
| 22 | 20 | 36 | 200 | 10 | 8.6 | 441 | 11 | 11 | 4.4 | 3.3 | 6.5 | 7.8 |
| 23 | 20 | 36 | 200 | 18 | 48 | 415 | 15 | 9.4 | 5.2 | 3.4 | 7.1 | 7.9 |
| 24 | 20 | 36 | 200 | 14 | 263 | 391 | 16 | 7.2 | 4.5 | 3.3 | 7.3 | 8.1 |
| 25 | 20 | 36 | 200 | 10 | 684 | 111 | 16 | 10 | 3.0 | 3.1 | 7.5 | 8.1 |
| 26 | 20 | 28 | 200 | 10 | 874 | 9.8 | 16 | 9.5 | 2.8 | 3.1 | 7.5 | 8.0 |
| 27 | 19 | 24 | 200 | 10 | 747 | 9.5 | 16 | 7.7 | 4.4 | 3.0 | 7.2 | 7.9 |
| 28 | 19 | 24 | 200 | 9.8 | 644 | 9.8 | 17 | 7.4 | 3.8 | 3.0 | 7.2 | 8.1 |
| 29 | 19 | 24 | 200 | 9.7 | --- | 9.5 | 29 | 7.2 | 3.7 | 3.2 | 7.2 | 7.4 |
| 30 | 19 | 24 | 200 | 9.6 | --- | 9.5 | 35 | 7.3 | 3.9 | 3.3 | 7.2 | 7.8 |
| 31 | 22 | --- | 200 | 9.5 | --- | 9.8 | --- | 7.5 | --- | 3.4 | 7.2 | --- |
| TOTAL | 1878 | 2108 | 4518 | 2278.6 | 3454.6 | 8342.9 | 8040.0 | 2274.2 | 159.4 | 110.2 | 166.7 | 223.3 |
| MEAN | 60.6 | 70.3 | 146 | 73.5 | 123 | 269 | 268 | 73.4 | 5.31 | 3.55 | 5.38 | 7.44 |
| MAX | 161 | 133 | 200 | 200 | 874 | 783 | 1280 | 365 | 7.2 | 4.4 | 7.5 | 8.1 |
| MIN | 19 | 24 | 19 | 9.5 | 8.6 | 9.5 | 6.1 | 7.2 | 2.8 | 3.0 | 3.3 | 6.7 |

CAL YR 1976 TOTAL 24038.10 MEAN 65.7 MAX 1210 MIN .90
WTR YR 1977 TOTAL 33553.90 MEAN 91.9 MAX 1280 MIN 2.8

SCIOTO RIVER BASIN

237

03228805 ALUM CREEK AT AFRICA, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1965 to current year.

REMARKS.--Sediment data collected at this site 1969 to 1974.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | |
|--------------|------|---|--|---|------------------------------------|--|--------------------------------------|--|---|--|--|---|---|
| | | | | | | | | | | | | | |
| MAR 22... | 1615 | 484 | 520 | 8.0 | 5.5 | 11.6 | 92 | 2.3 | 210 | 95 | 56 | 18 | |
| JUN 16... | 1415 | 5.8 | 500 | 7.9 | 24.0 | 9.2 | 110 | 2.4 | 200 | 88 | 54 | 16 | |
| DATE | TIME | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 22... | 20 | 4.1 | 140 | 0 | 115 | 2.2 | 70 | 40 | .1 | 1.5 | 279 | .79 | |
| JUN 16... | 17 | 4.0 | 138 | 0 | 113 | 2.8 | 67 | 35 | .2 | 1.7 | 263 | 1.7 | |
| DATE | TIME | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 22... | .01 | .12 | .01 | 1 | 10 | 2 | 20 | 5 | 190 | .4 | 100 | 5.4 | |
| JUN 16... | .02 | .02 | .02 | 2 | 10 | 3 | 10 | 0 | 50 | .0 | 20 | 7.0 | |

SCIOTO RIVER BASIN

03229000 ALUM CREEK AT COLUMBUS, OH

LOCATION.--Lat 39°56'42", long 82°56'28", in NW 1/4 sec. 24, T.5 N., R.22 W., Franklin County, Hydrologic Unit 05060001, on left bank 0.2 mi (0.3 km) downstream from Livingston Avenue bridge in Columbus, and 6 mi (10 km) upstream from mouth.

DRAINAGE AREA.--189 mi² (490 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1923 to December 1935, January 1938 to current year.

REVISED RECORDS.--WSP 758: 1933. WSP 1305: 1928(M). WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 733.69 ft (223.629 m) above mean sea level.

REMARKS.--Records fair except those for winter and periods of no gage height record, which are poor. Flow regulated by Alum Creek Lake 19 mi (31 km) upstream, since Aug. 1973. There was no pumpage from the Alum Creek well field this year.

AVERAGE DISCHARGE.--51 years, 167 ft³/s (4.729 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,400 ft³/s (748 m³/s) Jan. 22, 1959, gage height, 19.59 ft (5.971 m) (from high-water mark in well), from rating curve extended above 17,000 ft³/s (481 m³/s) on basis of contracted-opening measurement of peak flow; no flow Sept. 21-29, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,850 ft³/s (52.4 m³/s) Aug. 7, gage height, 5.50 ft (1.676 m); minimum daily, 7.0 ft³/s (0.20 m³/s) Feb. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|--------|--------|-------|-------|------|------|------|------|------|
| 1 | 115 | 100 | 36 | 220 | 8.0 | 1350 | 46 | 84 | 38 | 301 | 17 | 17 |
| 2 | 115 | 87 | 33 | 220 | 8.0 | 780 | 862 | 112 | 18 | 44 | 17 | 18 |
| 3 | 190 | 81 | 38 | 220 | 8.0 | 450 | 771 | 172 | 14 | 26 | 15 | 237 |
| 4 | 194 | 72 | 42 | 220 | 8.0 | 350 | 521 | 284 | 15 | 27 | 19 | 40 |
| 5 | 194 | 155 | 36 | 222 | 7.8 | 350 | 471 | 480 | 14 | 27 | 14 | 151 |
| 6 | 219 | 165 | 51 | 222 | 7.8 | 350 | 168 | 449 | 15 | 20 | 14 | 327 |
| 7 | 202 | 162 | 119 | 223 | 7.8 | 350 | 98 | 432 | 15 | 19 | 535 | 46 |
| 8 | 194 | 162 | 81 | 224 | 7.8 | 350 | 275 | 415 | 67 | 67 | 112 | 27 |
| 9 | 270 | 162 | 40 | 225 | 7.0 | 345 | 995 | 331 | 602 | 27 | 67 | 20 |
| 10 | 130 | 162 | 36 | 222 | 10 | 345 | 945 | 49 | 98 | 23 | 30 | 19 |
| 11 | 109 | 162 | 265 | 100 | 14 | 350 | 958 | 34 | 44 | 64 | 103 | 19 |
| 12 | 106 | 158 | 225 | 38 | 25 | 380 | 1320 | 31 | 33 | 84 | 158 | 16 |
| 13 | 54 | 158 | 225 | 23 | 70 | 600 | 1270 | 30 | 27 | 56 | 33 | 18 |
| 14 | 36 | 158 | 230 | 16 | 66 | 780 | 1100 | 30 | 30 | 33 | 29 | 228 |
| 15 | 36 | 155 | 230 | 12 | 58 | 810 | 573 | 29 | 29 | 26 | 23 | 36 |
| 16 | 42 | 75 | 230 | 12 | 50 | 870 | 294 | 27 | 21 | 38 | 24 | 291 |
| 17 | 44 | 44 | 225 | 12 | 45 | 1000 | 287 | 27 | 20 | 186 | 33 | 98 |
| 18 | 44 | 49 | 225 | 12 | 40 | 1030 | 275 | 26 | 27 | 75 | 34 | 59 |
| 19 | 46 | 51 | 225 | 12 | 35 | 612 | 75 | 25 | 19 | 29 | 19 | 90 |
| 20 | 90 | 56 | 228 | 12 | 33 | 559 | 42 | 24 | 13 | 20 | 17 | 51 |
| 21 | 75 | 56 | 230 | 12 | 30 | 516 | 31 | 24 | 11 | 21 | 36 | 27 |
| 22 | 38 | 56 | 222 | 16 | 52 | 602 | 40 | 31 | 12 | 30 | 49 | 24 |
| 23 | 38 | 56 | 223 | 30 | 270 | 540 | 90 | 109 | 14 | 20 | 20 | 21 |
| 24 | 228 | 56 | 222 | 24 | 620 | 493 | 142 | 75 | 16 | 15 | 21 | 23 |
| 25 | 103 | 56 | 225 | 14 | 940 | 342 | 92 | 27 | 17 | 21 | 18 | 21 |
| 26 | 64 | 75 | 225 | 11 | 1490 | 75 | 64 | 26 | 17 | 31 | 30 | 20 |
| 27 | 54 | 81 | 228 | 10 | 1350 | 56 | 51 | 25 | 56 | 18 | 33 | 17 |
| 28 | 49 | 46 | 230 | 9.5 | 1210 | 109 | 162 | 19 | 335 | 16 | 20 | 17 |
| 29 | 38 | 42 | 228 | 9.5 | --- | 95 | 158 | 19 | 75 | 21 | 25 | 17 |
| 30 | 54 | 38 | 230 | 9.3 | --- | 69 | 98 | 19 | 34 | 27 | 26 | 18 |
| 31 | 260 | --- | 225 | 126 | --- | 54 | --- | 29 | --- | 21 | 19 | --- |
| TOTAL | 3431 | 2936 | 5308 | 2738.3 | 6478.2 | 14962 | 12274 | 3494 | 1746 | 1433 | 1610 | 2013 |
| MEAN | 111 | 97.9 | 171 | 88.3 | 231 | 483 | 409 | 113 | 58.2 | 46.2 | 51.9 | 67.1 |
| MAX | 270 | 165 | 265 | 225 | 1490 | 1350 | 1320 | 480 | 602 | 301 | 535 | 327 |
| MIN | 36 | 38 | 33 | 9.3 | 7.0 | 54 | 31 | 19 | 11 | 15 | 14 | 16 |

CAL YR 1976 TOTAL 48164.0 MEAN 132 MAX 2250 MIN 13
WTR YR 1977 TOTAL 58423.5 MEAN 160 MAX 1490 MIN 7.0

Note: No gage-height record Dec. 12 to Mar. 18.

SCIOTO RIVER BASIN

239

03229000 ALUM CREEK AT COLUMBUS, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1960 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC. CON- DUCTANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA,MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | |
|--------------|------|--|--|---|------------------------------------|--|--------------------------------------|--|---|--|--|---|---|
| DATE | TIME | (CFS) | | (UNITS) | | | | | | | | | |
| MAR 21... | 1015 | 488 | 560 | 7.9 | 5.0 | 11.8 | 92 | 3.5 | 230 | 100 | 61 | 19 | |
| JUL 07... | 1615 | 14 | 690 | 8.5 | 29.5 | 13.0 | 170 | 6.4 | 270 | 86 | 75 | 20 | |
| | | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | | | | | | | | | | | | |
| MAR 21... | 23 | | 4.0 | 154 | 0 | 126 | 3.1 | 78 | 43 | .2 | 2.6 | 307 | 1.1 |
| JUL 07... | 32 | | 3.9 | 208 | 8 | 184 | 1.1 | 81 | 54 | .3 | 5.8 | 383 | .49 |
| | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | | | | | | | | | | | | |
| MAR 21... | .02 | .16 | .07 | 1 | 10 | 4 | 30 | 8 | 140 | .7 | 70 | -- | |
| JUL 07... | .03 | .04 | .06 | 4 | 10 | 4 | 10 | 19 | 30 | .0 | 20 | 5.9 | |

SCIOTO RIVER BASIN

03229500 BIG WALNUT CREEK AT REES, OH

LOCATION.--Lat 39°51'24", long 82°57'26", in NE 1/4 sec. 26, T.4 N., R.22 W., Franklin County, Hydrologic Unit 05060001, on right bank at downstream side of bridge on Reese Road, 0.5 mi (0.8 km) southwest of Rees, 4.2 mi (6.8 km) downstream from Alum Creek, and 10.5 mi (16.9 km) upstream from mouth.

DRAINAGE AREA.--544 mi² (1,409 km²).

WATER-DISCHARGE RECORDS

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 (212.811 m) above mean sea level. Aug. 18, 1921, to Oct. 23, 1927, nonrecording gage at site 0.3 mi (0.5 km) upstream at datum 2.00 ft (0.610 m) higher prior to Oct. 1, 1924, at present datum thereafter.

REMARKS.--Records good except those for winter periods, which are fair. Flow regulated by Hoover Reservoir 26 mi (42 km) upstream (see station 03228400) and Alum Creek Lake 30 mi (48 km) upstream (see station 03228804) since August 1973. Beginning June 15, 1956, diversion at Morse Road Treatment Plant, 21 mi (34 km) upstream from station, for municipal water supply for the city of Columbus. For statement on pumpage from Alum Creek basin into municipal supply system of the city of Columbus, see REMARKS for station 03229000.

AVERAGE DISCHARGE.--53 years, 505 ft³/s (14.30 m³/s) (adjusted for diversion).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 59,800 ft³/s (1,690 m³/s) Jan. 22, 1959, gage height, 22.03 ft (6.715 m) (from high-water mark in well), from rating curve extended above 13,000 ft³/s (368 m³/s) on basis of contracted-opening measurement of peak flow; minimum, 5 ft³/s (0.14 m³/s) Sept. 4, 5, 10-12, 1925; minimum daily since 1956, 9.4 ft³/s (0.266 m³/s) Sept. 13, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 25, 1913 reached a stage of 20.5 ft (6.25 m), present datum, at site 0.3 mi (0.5 km) upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,140 ft³/s (146 m³/s) Mar. 13, gage height, 9.55 ft (2.911 m); minimum daily, 29 ft³/s (0.821 m³/s) Aug. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------------|--------|------|------|------|------|-------|-------|------|------|------|------|------|
| 1 | 164 | 564 | 86 | 252 | 33 | 764 | 158 | 218 | 96 | 802 | 43 | 51 |
| 2 | 205 | 337 | 81 | 253 | 33 | 810 | 1610 | 234 | 66 | 371 | 40 | 59 |
| 3 | 264 | 283 | 67 | 255 | 33 | 411 | 2530 | 306 | 52 | 146 | 35 | 306 |
| 4 | 291 | 257 | 64 | 252 | 33 | 735 | 2240 | 364 | 43 | 90 | 35 | 160 |
| 5 | 280 | 281 | 65 | 250 | 33 | 817 | 2480 | 658 | 40 | 97 | 35 | 97 |
| 6 | 264 | 310 | 70 | 250 | 33 | 492 | 1460 | 583 | 43 | 84 | 29 | 548 |
| 7 | 252 | 302 | 278 | 250 | 33 | 395 | 637 | 641 | 41 | 68 | 817 | 173 |
| 8 | 223 | 297 | 207 | 250 | 33 | 340 | 521 | 620 | 47 | 116 | 724 | 94 |
| 9 | 322 | 257 | 110 | 250 | 33 | 315 | 1110 | 521 | 983 | 94 | 336 | 66 |
| 10 | 332 | 211 | 90 | 248 | 40 | 298 | 1050 | 226 | 361 | 72 | 156 | 51 |
| 11 | 217 | 202 | 221 | 105 | 50 | 281 | 1010 | 142 | 150 | 58 | 114 | 43 |
| 12 | 193 | 193 | 250 | 82 | 70 | 496 | 1280 | 131 | 99 | 142 | 555 | 40 |
| 13 | 148 | 197 | 250 | 70 | 200 | 3370 | 1250 | 111 | 82 | 106 | 206 | 42 |
| 14 | 109 | 188 | 250 | 60 | 175 | 1170 | 1180 | 102 | 76 | 96 | 194 | 422 |
| 15 | 100 | 194 | 250 | 55 | 155 | 802 | 684 | 90 | 87 | 78 | 123 | 293 |
| 16 | 146 | 155 | 250 | 50 | 140 | 684 | 439 | 82 | 58 | 111 | 88 | 720 |
| 17 | 152 | 89 | 250 | 46 | 125 | 620 | 371 | 78 | 52 | 218 | 84 | 616 |
| 18 | 153 | 88 | 250 | 43 | 110 | 1900 | 371 | 75 | 315 | 258 | 91 | 245 |
| 19 | 139 | 91 | 250 | 41 | 100 | 1260 | 258 | 68 | 131 | 125 | 66 | 436 |
| 20 | 206 | 89 | 350 | 40 | 90 | 836 | 196 | 64 | 70 | 81 | 53 | 439 |
| 21 | 264 | 90 | 250 | 38 | 84 | 747 | 125 | 62 | 55 | 81 | 47 | 203 |
| 22 | 114 | 88 | 250 | 37 | 166 | 880 | 118 | 58 | 50 | 234 | 131 | 129 |
| 23 | 96 | 86 | 250 | 35 | 956 | 855 | 237 | 118 | 45 | 81 | 78 | 99 |
| 24 | 511 | 86 | 250 | 40 | 2030 | 671 | 361 | 125 | 43 | 53 | 70 | 82 |
| 25 | 570 | 84 | 250 | 55 | 1440 | 540 | 394 | 78 | 47 | 57 | 62 | 84 |
| 26 | 303 | 91 | 250 | 55 | 1230 | 250 | 234 | 68 | 44 | 90 | 48 | 68 |
| 27 | 229 | 179 | 250 | 48 | 1040 | 194 | 192 | 62 | 45 | 55 | 78 | 63 |
| 28 | 188 | 139 | 250 | 45 | 859 | 303 | 293 | 52 | 633 | 51 | 59 | 57 |
| 29 | 172 | 109 | 250 | 38 | --- | 330 | 616 | 45 | 502 | 42 | 45 | 54 |
| 30 | 187 | 93 | 250 | 36 | --- | 245 | 300 | 46 | 213 | 57 | 82 | 50 |
| 31 | 807 | --- | 250 | 34 | --- | 192 | --- | 50 | --- | 46 | 70 | --- |
| TOTAL | 7601 | 5630 | 6439 | 3563 | 9357 | 22003 | 23705 | 6078 | 4569 | 4060 | 4594 | 5790 |
| MEAN | 245 | 188 | 208 | 115 | 334 | 710 | 790 | 196 | 152 | 131 | 148 | 193 |
| MAX | 807 | 564 | 350 | 255 | 2030 | 3370 | 2530 | 658 | 983 | 802 | 817 | 720 |
| MIN | 96 | 84 | 64 | 34 | 33 | 192 | 118 | 45 | 40 | 42 | 29 | 40 |
| (+) | 112 | 106 | 102 | 109 | 120 | 114 | 118 | 129 | 131 | 132 | 135 | 124 |
| CAL YR 1976 TOTAL | 113225 | | | | | | | | | | | |
| WTR YR 1977 TOTAL | 103389 | | | | | | | | | | | |
| MEAN 309 | | | | | | | | | | | | |
| MAX 5210 | | | | | | | | | | | | |
| MIN 32 | | | | | | | | | | | | |
| MEAN 283 | | | | | | | | | | | | |
| MAX 3370 | | | | | | | | | | | | |
| MIN 29 | | | | | | | | | | | | |

+ Diversion, equivalent in cubic feet per second, for city of Columbus.

SCIOTO RIVER BASIN

241

03229500 BIG WALNUT CREEK AT REES, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1964 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPEC- IFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|------|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| | | | | | | | | | | | | |
| MAR 23... | 1330 | 846 | 530 | 8.0 | 6.0 | 11.3 | 90 | 1.6 | 220 | 92 | 58 | 18 |
| JUL 06... | 1000 | 87 | 560 | 7.6 | 27.5 | 5.5 | 69 | 4.4 | 230 | 75 | 63 | 17 |
| | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) |
| MAR 23... | 23 | 3.4 | 156 | 0 | 128 | 2.5 | 70 | 44 | .2 | 4.5 | 298 | 1.4 |
| JUL 06... | 24 | 3.6 | 186 | 0 | 153 | 7.5 | 61 | 41 | .2 | 7.9 | 309 | 2.1 |
| | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (MG/L) |
| MAR 23... | .03 | .13 | .10 | 2 | 10 | 3 | 40 | 9 | 60 | .3 | 110 | 7.0 |
| JUL 06... | .08 | .12 | .29 | 3 | <10 | 7 | 10 | 25 | 40 | .0 | 40 | 9.4 |

SCIOTO RIVER BASIN

03229600 SCIOTO RIVER BELOW SHADEVILLE, OH

LOCATION.--Lat 39°47'37", long 83°00'40", Pickaway County, Hydrologic Unit 05060001, on left bank at Picway Plant of Columbus and Southern Ohio Electric Company, 0.4 mi (0.6 km) downstream from Big Walnut Creek, and 3.2 mi (5.1 km) downstream from Shaderville.

DRAINAGE AREA.--2,266 mi² (5,869 km²).

PERIOD OF RECORD.--March 1965 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1965 to current year.

pH: March 1965 to current year.

WATER TEMPERATURES: March 1965 to current year.

DISSOLVED OXYGEN: March 1965 to current year.

INSTRUMENTATION.--Water-quality monitor.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,270 micromhos Feb. 1, 1971; minimum, 161 micromhos Nov. 28, 1973.

pH: Maximum, 9.5 units June 30, 1972; minimum, 5.1 units Mar. 16, 1972.

WATER TEMPERATURES: Maximum, 33.0°C Aug. 16, 1965; minimum, 0.0°C on many days during winter periods.

DISSOLVED OXYGEN: Maximum, 15.0 mg/L or higher Feb. 7-11, 1969; minimum, 0.0 mg/L on many days during 1965-68, 1971, 1973-75.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,020 micromhos Feb. 12; minimum, 360 micromhos Aug. 8.

pH: Maximum, 8.5 units Aug. 28; minimum, 7.0 units Oct. 31, Nov. 1.

WATER TEMPERATURES: Maximum, 31.0°C July 19, 20; minimum, 0.0°C Jan. 18.

DISSOLVED OXYGEN: Maximum, 13.4 mg/L Aug. 28; minimum, 2.1 mg/L Aug. 7.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA, MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) |
|--------------|------|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| DATE | TIME | | | | | | | | | | | |
| MAR 25... | 0945 | 3850 | 592 | 8.1 | 6.0 | 10.8 | 86 | 3.0 | 240 | 120 | 65 | 20 |
| JUN 22... | 1450 | 296 | 825 | 7.5 | 23.0 | 4.2 | 48 | 6.2 | 270 | 100 | 69 | 23 |
| | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CAC03 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 25... | 22 | 3.9 | 152 | 0 | 125 | 1.9 | 84 | 42 | .2 | 5.6 | 318 | 3.9 |
| JUN 22... | 50 | 7.0 | 200 | 0 | 164 | 10 | 120 | 59 | .7 | 7.1 | 435 | 3.1 |
| | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 25... | .06 | .56 | .31 | 2 | 30 | 8 | 30 | 9 | 30 | .0 | 120 | -- |
| JUN 22... | .44 | 3.5 | 2.5 | 3 | 10 | 18 | 50 | 13 | 60 | .0 | 40 | 7.3 |

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|------|-----------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 705 | 674 | 524 | 450 | 818 | 791 | 834 | 746 | 975 | 951 | --- | --- |
| 2 | --- | --- | 581 | 525 | 840 | 783 | 794 | 726 | 965 | 953 | --- | --- |
| 3 | --- | --- | 653 | 584 | 861 | 818 | 753 | 711 | 978 | 945 | --- | --- |
| 4 | 693 | 666 | 665 | 630 | 870 | 839 | 753 | 689 | 983 | 963 | --- | --- |
| 5 | 678 | 638 | 690 | 666 | 897 | 864 | 815 | 743 | 965 | 956 | --- | --- |
| 6 | 704 | 659 | 714 | 681 | 890 | 855 | 840 | 797 | 957 | 950 | --- | --- |
| 7 | 708 | 657 | 696 | 657 | 858 | 800 | 849 | 810 | 948 | 936 | --- | --- |
| 8 | 698 | 668 | 666 | 641 | 827 | 807 | 860 | 810 | 939 | 921 | --- | --- |
| 9 | 702 | 651 | 684 | 647 | 848 | 810 | 860 | 794 | 960 | 911 | --- | --- |
| 10 | 654 | 587 | 714 | 665 | 863 | 842 | 822 | 797 | 999 | 959 | --- | --- |
| 11 | 638 | 596 | 722 | 701 | 858 | 816 | --- | --- | 1010 | 983 | --- | --- |
| 12 | 683 | 633 | 740 | 704 | 824 | 755 | --- | --- | 1020 | 1010 | --- | --- |
| 13 | 747 | 683 | 743 | 699 | 746 | 668 | --- | --- | 1010 | 998 | --- | --- |
| 14 | 780 | 749 | 746 | 720 | 695 | 662 | --- | --- | 1000 | 966 | --- | --- |
| 15 | 815 | 749 | 720 | 701 | 723 | 686 | --- | --- | 986 | 971 | --- | --- |
| 16 | 819 | 732 | 716 | 689 | 725 | 699 | --- | --- | 983 | 963 | --- | --- |
| 17 | 756 | 722 | 749 | 716 | 737 | 701 | --- | --- | 968 | 948 | --- | --- |
| 18 | 762 | 668 | 824 | 728 | 735 | 708 | --- | --- | 965 | 951 | --- | --- |
| 19 | 686 | 653 | 780 | 759 | 737 | 698 | --- | --- | 978 | 960 | --- | --- |
| 20 | 729 | 671 | 792 | 750 | 717 | 690 | --- | --- | 978 | 951 | --- | --- |
| 21 | 737 | 632 | 777 | 747 | 722 | 704 | --- | --- | 953 | 941 | --- | --- |
| 22 | 696 | 638 | 740 | 717 | 788 | 717 | --- | --- | --- | --- | 606 | 596 |
| 23 | 759 | 701 | 753 | 728 | 765 | 716 | --- | --- | --- | --- | 602 | 581 |
| 24 | 776 | 561 | 789 | 755 | 815 | 725 | --- | --- | --- | --- | 602 | 591 |
| 25 | 551 | 500 | 800 | 750 | 744 | 716 | --- | --- | --- | --- | 600 | 593 |
| 26 | 596 | 534 | 807 | 767 | 737 | 716 | --- | --- | --- | --- | 647 | 603 |
| 27 | 644 | 599 | 764 | 717 | 767 | 714 | --- | --- | --- | --- | 675 | 650 |
| 28 | 699 | 635 | 731 | 701 | 762 | 732 | --- | --- | --- | --- | 683 | 666 |
| 29 | 729 | 695 | 725 | 711 | 803 | 756 | --- | --- | --- | --- | 698 | 678 |
| 30 | 731 | 708 | 812 | 711 | 815 | 743 | --- | --- | --- | --- | 693 | 686 |
| 31 | 734 | 468 | --- | --- | 798 | 738 | 960 | 951 | --- | --- | 693 | 672 |
| MONTH | 819 | 468 | 824 | 450 | 897 | 662 | 960 | 689 | 1020 | 911 | 698 | 581 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 707 | 675 | 665 | 642 | 795 | 761 | 726 | 453 | 846 | 768 | 851 | 803 |
| 2 | 713 | 450 | 692 | 665 | 858 | 797 | 558 | 482 | 866 | 842 | 885 | 854 |
| 3 | 504 | 390 | 714 | 687 | 917 | 858 | 648 | 560 | 911 | 857 | 866 | 676 |
| 4 | 458 | 432 | 734 | 696 | 920 | 891 | 665 | 605 | 914 | 896 | 698 | 661 |
| 5 | 474 | 416 | 687 | 638 | 953 | 837 | 690 | 656 | 902 | 891 | 755 | 706 |
| 6 | 462 | 413 | 647 | 632 | 827 | 798 | 723 | 690 | 914 | 888 | 811 | 656 |
| 7 | 516 | 464 | 642 | 593 | 845 | 824 | 773 | 722 | 906 | 629 | 682 | 644 |
| 8 | 567 | 519 | 591 | 569 | --- | --- | 782 | 684 | 528 | 360 | 740 | 666 |
| 9 | 605 | 521 | 591 | 578 | --- | --- | 723 | 689 | 540 | 474 | 825 | 750 |
| 10 | 521 | 509 | 644 | 588 | --- | --- | 755 | 723 | 620 | 521 | 864 | 807 |
| 11 | 507 | 497 | 684 | 639 | --- | --- | 792 | 744 | 722 | 624 | 879 | 837 |
| 12 | 506 | 494 | 704 | 684 | --- | --- | 782 | 705 | 536 | 468 | 888 | 861 |
| 13 | 528 | 501 | 729 | 701 | --- | --- | 765 | 711 | 629 | 473 | 894 | 786 |
| 14 | 548 | 530 | 738 | 711 | 782 | 726 | 792 | 750 | 653 | 609 | 884 | 611 |
| 15 | 603 | 546 | 743 | 717 | 798 | 750 | 857 | 794 | 704 | 611 | 608 | 558 |
| 16 | 651 | 599 | 740 | 714 | 827 | 783 | 872 | 800 | 770 | 705 | 698 | 498 |
| 17 | 651 | 633 | 753 | 726 | 866 | 831 | 884 | 801 | 790 | 728 | 561 | 467 |
| 18 | 663 | 651 | 797 | 749 | 867 | 744 | 779 | 572 | 793 | 761 | 687 | 552 |
| 19 | 695 | 656 | 807 | 777 | 812 | 699 | 692 | 599 | 818 | 788 | 717 | 581 |
| 20 | 719 | 689 | 855 | 780 | 758 | 726 | 819 | 666 | 851 | 820 | 603 | 563 |
| 21 | 740 | 707 | 869 | 822 | 798 | 750 | 797 | 696 | 875 | 841 | 674 | 596 |
| 22 | 758 | 720 | 867 | 827 | 834 | 795 | 725 | 642 | 884 | 779 | 788 | 696 |
| 23 | 771 | 714 | 858 | 765 | 888 | 837 | 773 | 671 | 787 | 758 | 732 | 674 |
| 24 | 729 | 647 | 806 | 750 | 887 | 869 | 854 | 762 | 826 | 793 | 783 | 719 |
| 25 | 647 | 596 | 818 | 806 | 921 | 888 | 749 | 726 | 857 | 824 | 788 | 761 |
| 26 | 660 | 645 | 875 | 815 | 923 | 893 | 729 | 660 | 875 | 860 | 797 | 753 |
| 27 | 671 | 657 | 873 | 828 | 914 | 824 | 779 | 701 | 896 | 820 | 816 | 774 |
| 28 | 681 | 611 | 899 | 840 | 875 | 603 | 839 | 788 | 824 | 794 | 879 | 819 |
| 29 | 642 | 539 | 909 | 879 | 603 | 519 | 885 | 839 | 830 | 803 | 938 | 881 |
| 30 | 657 | 585 | 876 | 782 | 633 | 543 | 918 | 786 | 842 | 797 | 953 | 927 |
| 31 | --- | --- | 779 | 744 | --- | --- | 788 | 773 | 811 | 794 | --- | --- |
| MONTH | 771 | 390 | 909 | 569 | 953 | 519 | 918 | 453 | 914 | 360 | 953 | 467 |
| YEAR | 1020 | 360 | | | | | | | | | | |

03229600 SCIOTO RIVER BELOW SHADEVILLE, OH--Continued

PH (UNITS), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|-----|-------|-----|-----|-----|-----|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | | | | | |
| 1 | 7.6 | 7.5 | 7.5 | 7.0 | 7.9 | 7.8 | 8.2 | 7.9 | 7.9 | 7.5 | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 |
| 2 | 7.8 | 7.5 | 7.3 | 7.2 | 7.9 | 7.8 | 7.9 | 7.6 | 7.8 | 7.5 | 8.0 | 8.0 | 7.9 | 7.9 | 7.9 | 7.9 |
| 3 | 7.8 | 7.7 | 7.5 | 7.2 | 8.0 | 7.8 | 7.7 | 7.5 | 7.8 | 7.7 | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 |
| 4 | 7.7 | 7.4 | 8.1 | 7.6 | 8.0 | 7.9 | 7.7 | 7.4 | 7.8 | 7.6 | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 |
| 5 | 7.4 | 7.4 | 7.6 | 7.5 | 8.1 | 7.8 | 7.5 | 7.2 | 8.0 | 7.8 | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 |
| 6 | 7.7 | 7.4 | 7.6 | 7.4 | 7.9 | 7.8 | 7.8 | 7.5 | 8.1 | 8.0 | 8.0 | 8.0 | 7.7 | 7.7 | 7.7 | 7.7 |
| 7 | 7.5 | 7.4 | 7.6 | 7.4 | 8.0 | 7.5 | 7.8 | 7.5 | 8.1 | 8.0 | 7.9 | 7.9 | 7.6 | 7.6 | 7.6 | 7.6 |
| 8 | 7.6 | 7.4 | 7.7 | 7.4 | 7.9 | 7.8 | 7.9 | 7.4 | 8.1 | 7.9 | 8.0 | 8.0 | 7.9 | 7.9 | 7.9 | 7.9 |
| 9 | 7.6 | 7.5 | 7.6 | 7.3 | 7.9 | 7.7 | 7.7 | 7.4 | 8.1 | 7.8 | 8.0 | 8.0 | 7.6 | 7.6 | 7.6 | 7.6 |
| 10 | 7.6 | 7.4 | 7.6 | 7.4 | 7.8 | 7.7 | 7.9 | 7.5 | 8.0 | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 |
| 11 | 7.5 | 7.4 | 7.5 | 7.4 | 7.8 | 7.7 | 7.9 | 7.8 | 7.9 | 7.8 | 7.8 | 7.8 | 7.8 | 7.8 | 7.8 | 7.8 |
| 12 | 7.4 | 7.4 | 7.6 | 7.3 | 7.9 | 7.8 | 7.8 | 7.7 | 7.9 | 7.5 | 7.7 | 7.7 | 7.6 | 7.6 | 7.6 | 7.6 |
| 13 | 7.4 | 7.3 | 7.6 | 7.2 | 7.9 | 7.8 | 7.7 | 7.7 | 7.7 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 |
| 14 | 7.4 | 7.3 | 7.5 | 7.3 | 8.0 | 7.9 | 7.8 | 7.5 | 7.8 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 | 7.6 |
| 15 | 7.4 | 7.3 | 7.8 | 7.3 | 8.0 | 7.8 | 7.6 | 7.5 | 7.8 | 7.6 | 7.8 | 7.8 | 7.8 | 7.8 | 7.8 | 7.8 |
| 16 | 7.5 | 7.3 | 7.9 | 7.5 | 8.0 | 7.8 | 7.7 | 7.6 | 7.8 | 7.7 | 7.8 | 7.8 | 7.6 | 7.6 | 7.6 | 7.6 |
| 17 | 7.6 | 7.4 | 7.8 | 7.6 | 8.2 | 7.8 | 7.8 | 7.7 | 7.8 | 7.6 | 7.9 | 7.9 | 7.7 | 7.7 | 7.7 | 7.7 |
| 18 | 7.6 | 7.4 | 7.8 | 7.5 | 8.1 | 7.9 | 7.8 | 7.6 | 7.8 | 7.7 | 7.9 | 7.9 | 7.6 | 7.6 | 7.6 | 7.6 |
| 19 | 7.7 | 7.5 | 7.9 | 7.5 | 8.1 | 7.8 | 7.8 | 7.6 | 7.7 | 7.6 | 7.8 | 7.8 | 7.8 | 7.8 | 7.8 | 7.8 |
| 20 | 7.7 | 7.4 | 8.0 | 7.8 | 7.8 | 7.5 | 7.7 | 7.6 | 7.8 | 7.6 | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 | 7.9 |
| 21 | 8.0 | 7.5 | 7.9 | 7.7 | 8.1 | 7.7 | 7.6 | 7.3 | 7.9 | 7.7 | 8.0 | 8.0 | 7.9 | 7.9 | 7.9 | 7.9 |
| 22 | 7.9 | 7.5 | 8.0 | 7.8 | 7.9 | 7.7 | 7.6 | 7.4 | 7.8 | 7.7 | 8.1 | 8.1 | 7.9 | 7.9 | 7.9 | 7.9 |
| 23 | 7.6 | 7.5 | 8.1 | 7.8 | 7.8 | 7.3 | 7.7 | 7.5 | 7.7 | 7.5 | 8.1 | 8.1 | 8.0 | 8.0 | 8.0 | 8.0 |
| 24 | 7.6 | 7.4 | 8.0 | 7.9 | 7.9 | 7.6 | 7.6 | 7.5 | 7.6 | 7.4 | 8.2 | 8.2 | 8.0 | 8.0 | 8.0 | 8.0 |
| 25 | 7.4 | 7.2 | 8.1 | 7.9 | 7.8 | 7.6 | 7.7 | 7.5 | 8.1 | 7.6 | 8.1 | 8.1 | 8.1 | 8.1 | 8.1 | 8.1 |
| 26 | 7.3 | 7.2 | 7.9 | 7.5 | 7.8 | 7.6 | 7.7 | 7.4 | 8.1 | 7.9 | 8.1 | 8.1 | 7.9 | 7.9 | 7.9 | 7.9 |
| 27 | 7.3 | 7.2 | 7.9 | 7.4 | 7.8 | 7.5 | 7.8 | 7.6 | 8.0 | 7.7 | 8.0 | 8.0 | 7.8 | 7.8 | 7.8 | 7.8 |
| 28 | 7.3 | 7.2 | 7.8 | 7.6 | 8.1 | 7.6 | 7.9 | 7.6 | 7.9 | 7.7 | 7.9 | 7.9 | 7.6 | 7.6 | 7.6 | 7.6 |
| 29 | 7.4 | 7.2 | 7.9 | 7.7 | 8.2 | 7.9 | 7.7 | 7.6 | --- | --- | 7.9 | 7.9 | 7.7 | 7.7 | 7.7 | 7.7 |
| 30 | 7.3 | 7.1 | 7.9 | 7.8 | 8.2 | 8.0 | 7.8 | 7.6 | --- | --- | 7.8 | 7.8 | 7.7 | 7.7 | 7.7 | 7.7 |
| 31 | 7.1 | 7.0 | --- | --- | 8.2 | 8.0 | 7.8 | 7.6 | --- | --- | 8.1 | 8.1 | 7.8 | 7.8 | 7.8 | 7.8 |
| MONTH | 8.0 | 7.0 | 8.1 | 7.0 | 8.2 | 7.3 | 8.2 | 7.2 | 8.1 | 7.4 | 8.2 | 7.4 | 8.2 | 7.4 | 8.2 | 7.4 |

| DAY | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | |
|-------|-------|-----|-----|-----|------|-----|------|-----|--------|-----|-----------|-----|-----|-----|-----|-----|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | | | | |
| 1 | 8.0 | 7.8 | 8.4 | 8.1 | 8.1 | 7.9 | 7.5 | 7.3 | 7.8 | 7.5 | 7.8 | 7.5 | 7.8 | 7.5 | 7.8 | 7.5 |
| 2 | 8.0 | 7.6 | 8.1 | 7.9 | 8.1 | 7.7 | 7.6 | 7.3 | 8.0 | 7.7 | 7.6 | 7.4 | 7.6 | 7.4 | 7.6 | 7.4 |
| 3 | 7.9 | 7.7 | 8.0 | 7.9 | 7.8 | 7.6 | 7.5 | 7.3 | 7.8 | 7.6 | 7.8 | 7.6 | 7.8 | 7.5 | 7.8 | 7.5 |
| 4 | 7.7 | 7.5 | 7.9 | 7.8 | 7.6 | 7.5 | 7.6 | 7.4 | 7.8 | 7.5 | 7.8 | 7.5 | 7.8 | 7.5 | 7.8 | 7.5 |
| 5 | 7.9 | 7.6 | 8.0 | 7.9 | 7.6 | 7.4 | 7.7 | 7.5 | 7.6 | 7.4 | 7.8 | 7.4 | 7.8 | 7.7 | 7.8 | 7.7 |
| 6 | 8.0 | 7.9 | 8.1 | 8.0 | 7.8 | 7.5 | 7.6 | 7.5 | 7.5 | 7.4 | 7.7 | 7.4 | 7.7 | 7.5 | 7.8 | 7.5 |
| 7 | 8.0 | 7.7 | 8.1 | 8.0 | 7.7 | 7.7 | 7.5 | 7.4 | 8.0 | 7.2 | 7.7 | 7.4 | 7.7 | 7.6 | 7.8 | 7.6 |
| 8 | 8.0 | 7.9 | 8.1 | 8.0 | 7.7 | 7.7 | 7.4 | 7.3 | 7.7 | 7.4 | 7.7 | 7.4 | 7.7 | 7.5 | 7.8 | 7.5 |
| 9 | 8.1 | 7.9 | 8.2 | 8.1 | 8.3 | 7.5 | 7.4 | 7.3 | 7.6 | 7.4 | 7.6 | 7.4 | 7.6 | 7.5 | 7.8 | 7.5 |
| 10 | 8.1 | 8.0 | 8.1 | 7.9 | 7.8 | 7.6 | 7.4 | 7.3 | 7.5 | 7.3 | 7.8 | 7.3 | 7.8 | 7.6 | 7.9 | 7.6 |
| 11 | 8.0 | 7.9 | 8.0 | 7.8 | 7.6 | 7.5 | 7.7 | 7.3 | 7.6 | 7.4 | 7.8 | 7.4 | 7.8 | 7.8 | 7.9 | 7.8 |
| 12 | 8.0 | 7.9 | 8.0 | 7.9 | 7.6 | 7.5 | 7.8 | 7.5 | 7.7 | 7.5 | 7.9 | 7.5 | 7.9 | 7.8 | 7.9 | 7.8 |
| 13 | 8.0 | 7.8 | 7.9 | 7.9 | 7.6 | 7.5 | 7.7 | 7.5 | 7.6 | 7.6 | 7.8 | 7.6 | 7.8 | 7.7 | 7.9 | 7.7 |
| 14 | 8.0 | 7.9 | 8.1 | 7.9 | 7.6 | 7.5 | 7.6 | 7.5 | 7.7 | 7.5 | 7.9 | 7.5 | 7.9 | 7.6 | 7.9 | 7.6 |
| 15 | 8.0 | 7.9 | 8.4 | 8.0 | 7.6 | 7.5 | 7.5 | 7.3 | 7.6 | 7.4 | 7.9 | 7.4 | 7.9 | 7.7 | 7.9 | 7.7 |
| 16 | 8.0 | 7.8 | 8.4 | 8.1 | 7.7 | 7.5 | 7.4 | 7.3 | 7.6 | 7.4 | 7.7 | 7.4 | 7.7 | 7.6 | 7.9 | 7.6 |
| 17 | 7.9 | 7.8 | 8.3 | 8.0 | 7.5 | 7.4 | 7.4 | 7.2 | 7.7 | 7.4 | 7.7 | 7.4 | 7.7 | 7.6 | 7.9 | 7.6 |
| 18 | 7.8 | 7.7 | 8.1 | 7.8 | 7.9 | 7.4 | 7.6 | 7.3 | 7.9 | 7.5 | 7.7 | 7.5 | 7.7 | 7.6 | 7.9 | 7.6 |
| 19 | 7.7 | 7.6 | 8.1 | 7.8 | 7.6 | 7.3 | 7.5 | 7.3 | 7.9 | 7.8 | 7.8 | 7.8 | 7.8 | 7.6 | 7.9 | 7.6 |
| 20 | 7.7 | 7.5 | 7.9 | 7.7 | 7.5 | 7.3 | 7.5 | 7.3 | 8.0 | 7.8 | 7.8 | 7.8 | 7.8 | 7.6 | 7.9 | 7.8 |
| 21 | 7.7 | 7.6 | 7.8 | 7.6 | 7.5 | 7.4 | 7.5 | 7.3 | 8.0 | 7.8 | 7.9 | 7.8 | 7.9 | 7.8 | 7.9 | 7.8 |
| 22 | 7.7 | 7.6 | 7.9 | 7.6 | 7.6 | 7.4 | 7.5 | 7.3 | 8.1 | 7.5 | 7.8 | 7.5 | 7.8 | 7.7 | 7.9 | 7.7 |
| 23 | 7.8 | 7.6 | 8.1 | 7.8 | 7.6 | 7.5 | 7.6 | 7.4 | 8.1 | 7.9 | 7.8 | 7.8 | 7.9 | 7.7 | 7.9 | 7.7 |
| 24 | 7.8 | 7.5 | 8.0 | 7.8 | 7.6 | 7.4 | 7.6 | 7.4 | 8.1 | 7.9 | 7.8 | 7.8 | 7.9 | 7.6 | 7.9 | 7.6 |
| 25 | 8.0 | 7.6 | 7.9 | 7.6 | 7.6 | 7.4 | 7.7 | 7.4 | 8.2 | 7.9 | 7.8 | 7.8 | 7.9 | 7.7 | 7.9 | 7.7 |
| 26 | 8.1 | 8.0 | 7.9 | 7.7 | 7.6 | 7.5 | 7.8 | 7.6 | 8.3 | 7.9 | 7.8 | 7.8 | 7.9 | 7.7 | 7.9 | 7.7 |
| 27 | 8.3 | 8.0 | 7.9 | 7.5 | 7.6 | 7.5 | 7.9 | 7.7 | 8.3 | 7.8 | 7.8 | 7.8 | 7.9 | 7.8 | 7.9 | 7.8 |
| 28 | 8.2 | 8.1 | 7.9 | 7.8 | 7.7 | 7.3 | 7.9 | 7.6 | 8.5 | 7.7 | 7.8 | 7.8 | 7.9 | 7.8 | 7.9 | 7.8 |
| 29 | 8.1 | 8.0 | 8.0 | 7.8 | 7.5 | 7.2 | 7.8 | 7.5 | 8.2 | 7.7 | 7.9 | 7.9 | 7.9 | 7.8 | 7.9 | 7.9 |
| 30 | 8.2 | 8.0 | 8.0 | 7.9 | 7.5 | 7.1 | 7.7 | 7.5 | 7.8 | 7.6 | 7.9 | 7.9 | 7.9 | 7.8 | 7.9 | 7.8 |
| 31 | --- | --- | 7.9 | 7.8 | --- | --- | 7.7 | 7.6 | 7.8 | 7.6 | --- | --- | --- | --- | --- | --- |
| MONTH | 8.3 | 7.5 | 8.4 | 7.5 | 8.3 | 7.1 | 7.9 | 7.2 | 8.5 | 7.2 | 7.9 | 7.4 | 8.2 | 7.4 | 8.2 | 7.4 |

| YEAR | 8.5 | 7.0 |
|------|-----|-----|
|------|-----|-----|

03229600 SCIOTO RIVER BELOW SHADEVILLE, OH--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | | | | |
|-------|---------|------|------|------|----------|------|------|------|----------|------|------|------|---------|-----|------|------|----------|-----|------|------|-----------|--|--|--|
| | OCTOBER | | | | NOVEMBER | | | | DECEMBER | | | | JANUARY | | | | FEBRUARY | | | | MARCH | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 17.5 | 15.5 | 8.5 | 7.0 | 5.0 | 3.5 | 1.5 | 0.5 | 2.0 | 1.5 | 3.0 | 1.5 | 2.0 | 1.5 | 3.0 | 1.5 | 2.0 | 1.5 | 3.0 | 1.5 | 2.0 | | | |
| 2 | 17.5 | 16.0 | 9.5 | 7.5 | 5.0 | 4.0 | 1.5 | 0.5 | 3.0 | 1.5 | 3.0 | 1.5 | 3.0 | 1.5 | 3.0 | 1.5 | 3.0 | 1.5 | 3.0 | 1.5 | 2.0 | | | |
| 3 | 18.5 | 16.5 | 10.5 | 8.5 | 4.0 | 2.5 | 2.0 | 1.0 | 4.0 | 3.0 | 4.0 | 3.0 | 4.0 | 3.0 | 4.0 | 3.0 | 4.0 | 3.0 | 4.0 | 3.0 | 2.5 | | | |
| 4 | 19.0 | 16.5 | 9.5 | 8.5 | 4.0 | 3.5 | 2.5 | 1.5 | 3.5 | 3.5 | 5.5 | 5.5 | 4.0 | 3.5 | 5.5 | 4.0 | 4.0 | 3.5 | 5.5 | 4.0 | 4.0 | | | |
| 5 | 19.5 | 17.0 | 9.0 | 8.0 | 4.5 | 4.0 | 2.5 | 2.0 | 3.0 | 2.0 | 5.5 | 4.5 | 4.0 | 2.0 | 5.5 | 4.5 | 4.0 | 2.0 | 5.5 | 4.5 | 4.5 | | | |
| 6 | 18.5 | 17.5 | 9.0 | 7.5 | 6.0 | 4.0 | 2.5 | 1.5 | 2.0 | 1.0 | 5.0 | 5.0 | 4.0 | 1.5 | 5.0 | 5.0 | 4.0 | 1.5 | 5.0 | 5.0 | 3.5 | | | |
| 7 | 17.5 | 16.0 | 8.5 | 7.5 | 6.5 | 2.5 | 2.5 | 2.0 | 2.5 | 1.0 | 4.0 | 4.0 | 2.5 | 1.0 | 4.0 | 4.0 | 2.5 | 1.0 | 4.0 | 4.0 | 3.0 | | | |
| 8 | 16.0 | 15.0 | 7.5 | 6.5 | 3.0 | 2.5 | 2.0 | 1.5 | 2.5 | 1.0 | 4.5 | 4.5 | 2.5 | 1.0 | 4.5 | 4.5 | 2.5 | 1.0 | 4.5 | 4.5 | 2.5 | | | |
| 9 | 15.5 | 13.5 | 8.0 | 6.0 | 4.0 | 2.5 | 2.0 | 1.5 | 3.5 | 1.5 | 6.5 | 6.5 | 2.5 | 1.5 | 6.5 | 6.5 | 2.5 | 1.5 | 6.5 | 6.5 | 4.0 | | | |
| 10 | 14.0 | 12.5 | 8.0 | 6.5 | 5.5 | 3.5 | 2.0 | 1.0 | 4.5 | 3.0 | 7.5 | 7.5 | 2.5 | 1.0 | 7.5 | 7.5 | 2.5 | 1.0 | 7.5 | 7.5 | 5.5 | | | |
| 11 | 14.5 | 12.0 | 7.5 | 7.0 | 5.5 | 4.0 | 1.0 | 0.5 | 5.0 | 3.5 | 9.5 | 9.5 | 2.5 | 0.5 | 9.5 | 9.5 | 2.5 | 0.5 | 9.5 | 9.5 | 6.5 | | | |
| 12 | 15.0 | 12.5 | 8.0 | 6.5 | 4.0 | 3.5 | 2.0 | 1.0 | 4.5 | 2.5 | 9.5 | 9.5 | 2.5 | 1.0 | 9.5 | 9.5 | 2.5 | 1.0 | 9.5 | 9.5 | 8.5 | | | |
| 13 | 16.5 | 14.5 | 7.0 | 5.5 | 3.5 | 2.5 | 3.0 | 1.5 | 3.5 | 1.5 | 9.5 | 9.5 | 2.5 | 1.5 | 9.5 | 9.5 | 2.5 | 1.5 | 9.5 | 9.5 | 8.5 | | | |
| 14 | 16.0 | 14.5 | 7.0 | 5.5 | 3.5 | 2.5 | 3.5 | 2.5 | 2.0 | 1.5 | 8.5 | 8.5 | 2.5 | 1.5 | 8.5 | 8.5 | 2.5 | 1.5 | 8.5 | 8.5 | 7.5 | | | |
| 15 | 16.5 | 14.0 | 7.0 | 5.5 | 4.5 | 3.0 | 4.5 | 3.5 | 2.0 | 1.0 | 8.5 | 8.5 | 2.0 | 1.0 | 8.5 | 8.5 | 2.0 | 1.0 | 8.5 | 8.5 | 7.0 | | | |
| 16 | 15.5 | 13.5 | 7.0 | 5.0 | 4.0 | 3.5 | 4.0 | 1.5 | 2.5 | 1.5 | 9.5 | 9.5 | 2.5 | 1.5 | 9.5 | 9.5 | 2.5 | 1.5 | 9.5 | 9.5 | 8.0 | | | |
| 17 | 14.0 | 12.5 | 8.0 | 5.5 | 4.5 | 3.5 | 1.5 | 0.5 | 3.0 | 1.5 | 8.5 | 8.5 | 2.5 | 1.5 | 8.5 | 8.5 | 2.5 | 1.5 | 8.5 | 8.5 | 7.5 | | | |
| 18 | 13.0 | 11.0 | 9.0 | 7.5 | 4.5 | 3.5 | 1.5 | 0.0 | 3.5 | 2.5 | 7.5 | 7.5 | 2.5 | 2.5 | 7.5 | 7.5 | 2.5 | 2.5 | 7.5 | 7.5 | 6.5 | | | |
| 19 | 12.5 | 11.0 | 8.5 | 7.5 | 5.5 | 3.5 | 2.0 | 1.0 | 4.0 | 3.0 | 6.5 | 6.5 | 2.5 | 3.0 | 6.5 | 6.5 | 2.5 | 3.0 | 6.5 | 6.5 | 6.0 | | | |
| 20 | 12.5 | 11.5 | 8.5 | 7.0 | 5.5 | 4.5 | 3.0 | 2.0 | 4.0 | 3.0 | 6.5 | 6.5 | 2.5 | 3.0 | 6.5 | 6.5 | 2.5 | 3.0 | 6.5 | 6.5 | 6.0 | | | |
| 21 | 11.5 | 10.0 | 7.5 | 6.5 | 4.5 | 2.5 | 3.5 | 3.0 | 3.5 | 2.0 | 7.0 | 7.0 | 2.5 | 2.0 | 7.0 | 7.0 | 2.5 | 2.0 | 7.0 | 7.0 | 5.5 | | | |
| 22 | 11.0 | 9.0 | 7.0 | 6.0 | 2.5 | 2.0 | 3.5 | 3.0 | 5.0 | 2.5 | 7.5 | 7.5 | 2.5 | 2.5 | 7.5 | 7.5 | 2.5 | 2.5 | 7.5 | 7.5 | 6.5 | | | |
| 23 | 10.5 | 9.5 | 6.0 | 5.5 | 2.5 | 2.0 | 3.5 | 2.0 | 4.0 | 1.5 | 7.5 | 7.5 | 2.5 | 1.5 | 7.5 | 7.5 | 2.5 | 1.5 | 7.5 | 7.5 | 6.0 | | | |
| 24 | 11.0 | 9.0 | 6.0 | 4.5 | 2.5 | 2.0 | 4.0 | 3.5 | 1.5 | 0.5 | 7.0 | 7.0 | 2.5 | 0.5 | 7.0 | 7.0 | 2.5 | 0.5 | 7.0 | 7.0 | 6.0 | | | |
| 25 | 10.0 | 9.0 | 7.5 | 5.0 | 2.5 | 2.0 | 4.0 | 3.5 | 2.0 | 0.5 | 7.5 | 7.5 | 2.5 | 0.5 | 7.5 | 7.5 | 2.5 | 0.5 | 7.5 | 7.5 | 6.0 | | | |
| 26 | 10.5 | 9.5 | 9.0 | 7.5 | 2.5 | 2.0 | 4.0 | 3.5 | 2.5 | 1.5 | 9.0 | 9.0 | 2.5 | 1.5 | 9.0 | 9.0 | 2.5 | 1.5 | 9.0 | 9.0 | 6.5 | | | |
| 27 | 9.5 | 8.5 | 9.0 | 8.5 | 2.5 | 1.5 | 3.5 | 2.5 | 2.5 | 2.0 | 9.5 | 9.5 | 2.5 | 2.0 | 9.5 | 9.5 | 2.5 | 2.0 | 9.5 | 9.5 | 7.5 | | | |
| 28 | 9.0 | 7.5 | 8.5 | 6.5 | 2.5 | 2.0 | 3.0 | 2.0 | 2.0 | 1.5 | 11.0 | 11.0 | 2.5 | 1.5 | 11.0 | 11.0 | 2.5 | 1.5 | 11.0 | 11.0 | 9.5 | | | |
| 29 | 9.5 | 7.0 | 6.5 | 4.5 | 2.0 | 1.5 | 1.5 | 1.0 | --- | --- | 13.5 | 13.5 | 2.5 | --- | 13.5 | 13.5 | 2.5 | --- | 13.5 | 13.5 | 10.5 | | | |
| 30 | 9.0 | 8.0 | 4.0 | 3.0 | 2.0 | 1.5 | 2.0 | 1.0 | --- | --- | 15.0 | 15.0 | 2.5 | --- | 15.0 | 15.0 | 2.5 | --- | 15.0 | 15.0 | 12.0 | | | |
| 31 | 9.5 | 7.5 | --- | --- | 1.5 | 1.0 | 2.0 | 1.0 | --- | --- | 13.5 | 13.5 | 2.5 | --- | 13.5 | 13.5 | 2.5 | --- | 13.5 | 13.5 | 11.5 | | | |
| MONTH | 19.5 | 7.0 | 10.5 | 3.0 | 6.5 | 1.0 | 4.5 | 0.0 | 5.0 | 0.5 | 15.0 | 1.5 | | | | | | | | | | | | |
| DAY | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | | | | |
| | APRIL | | | | MAY | | | | JUNE | | | | JULY | | | | AUGUST | | | | SEPTEMBER | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 13.0 | 10.5 | 17.0 | 14.0 | 25.5 | 23.0 | 25.0 | 23.5 | 27.0 | 24.5 | 29.0 | 25.5 | | | | | | | | | | | | |
| 2 | 13.0 | 11.5 | 18.0 | 16.5 | 24.0 | 22.0 | 25.5 | 23.0 | 27.0 | 23.5 | 28.0 | 26.5 | | | | | | | | | | | | |
| 3 | 12.5 | 11.5 | 18.5 | 17.0 | 24.0 | 20.5 | 26.0 | 23.5 | 27.5 | 23.5 | 26.5 | 24.5 | | | | | | | | | | | | |
| 4 | 11.0 | 10.0 | 19.0 | 17.5 | 25.0 | 20.5 | 26.5 | 24.5 | 28.0 | 24.5 | 26.0 | 24.0 | | | | | | | | | | | | |
| 5 | 11.0 | 9.0 | 19.0 | 18.0 | 23.5 | 22.0 | 28.5 | 25.5 | 28.5 | 25.5 | 27.0 | 24.5 | | | | | | | | | | | | |
| 6 | 9.0 | 8.0 | 19.0 | 18.0 | 23.5 | 21.5 | 30.0 | 26.5 | 29.0 | 26.0 | 25.5 | 25.0 | | | | | | | | | | | | |
| 7 | 10.0 | 8.0 | 19.0 | 18.0 | 21.0 | 19.5 | 30.5 | 28.0 | 27.5 | 26.0 | 26.0 | 26.0 | | | | | | | | | | | | |
| 8 | 10.5 | 8.5 | 19.5 | 17.5 | 20.0 | 18.5 | 30.0 | 27.5 | 25.5 | 24.0 | 23.5 | 21.5 | | | | | | | | | | | | |
| 9 | 10.0 | 8.5 | 17.5 | 16.0 | 19.0 | 17.5 | 30.0 | 28.5 | 26.0 | 24.0 | 25.5 | 19.0 | | | | | | | | | | | | |
| 10 | 11.5 | 9.5 | 17.5 | 15.0 | 20.5 | 17.0 | 28.5 | 26.5 | 26.0 | 24.5 | 25.0 | 23.0 | | | | | | | | | | | | |
| 11 | 13.5 | 11.0 | 18.0 | 15.0 | 20.0 | 19.5 | 27.5 | 25.0 | 26.0 | 24.5 | 23.5 | 21.5 | | | | | | | | | | | | |
| 12 | 14.0 | 12.0 | 19.0 | 16.0 | 22.0 | 19.0 | 27.5 | 26.0 | 25.5 | 24.0 | 22.5 | 20.5 | | | | | | | | | | | | |
| 13 | 14.5 | 12.5 | 21.0 | 17.0 | 23.0 | 20.5 | 28.5 | 25.5 | 24.5 | 23.5 | 22.5 | 21.0 | | | | | | | | | | | | |
| 14 | 15.0 | 13.5 | 21.5 | 19.0 | 23.5 | 22.0 | 30.0 | 26.0 | 26.0 | 23.5 | 22.5 | 21.0 | | | | | | | | | | | | |
| 15 | 16.5 | 13.5 | 22.0 | 19.0 | 25.0 | 21.5 | 29.5 | 27.0 | 27.0 | 24.5 | 21.5 | 20.5 | | | | | | | | | | | | |
| 16 | 17.5 | 15.0 | 22.5 | 19.5 | 26.5 | 22.5 | 30.0 | 27.0 | 27.5 | 25.0 | 21.5 | 21.0 | | | | | | | | | | | | |
| 17 | 17.5 | 16.0 | 23.5 | 21.0 | 27.5 | 24.0 | 29.5 | 27.0 | 27.0 | 25.5 | 22.0 | 20.5 | | | | | | | | | | | | |
| 18 | 18.5 | 16.0 | 25.0 | 22.0 | 27.0 | 24.5 | 30.5 | 27.5 | 26.0 | 23.5 | 23.0 | 21.0 | | | | | | | | | | | | |
| 19 | 18.5 | 17.0 | 26.0 | 22.5 | 25.5 | 23.5 | 31.0 | 27.5 | 25.0 | 22.0 | 22.5 | 22.0 | | | | | | | | | | | | |
| 20 | 20.0 | 17.5 | 26.5 | 23.0 | 26.0 | 23.5 | 31.0 | 28.0 | 25.0 | 22.0 | 22.0 | 20.5 | | | | | | | | | | | | |
| 21 | 20.0 | 19.0 | 27.0 | 23.5 | 25.5 | 22.5 | 29.0 | 27.5 | 24.0 | 22.5 | 20.5 | 19.0 | | | | | | | | | | | | |
| 22 | 20.0 | 19.0 | 26.5 | 23.5 | 24.0 | 22.0 | 29.0 | 26.0 | 24.5 | 22.0 | 21.0 | 18.5 | | | | | | | | | | | | |
| 23 | 19.5 | 18.5 | 26.0 | 23.5 | 24.0 | 20.5 | 28.0 | 25.0 | 25.0 | 22.5 | 22.0 | 20.0 | | | | | | | | | | | | |
| 24 | 18.5 | 16.5 | 26.0 | 23.5 | 24.5 | 22.5 | 27.5 | 25.0 | 24.5 | 23.5 | 21.5 | 21.0 | | | | | | | | | | | | |
| 25 | 16.0 | 14.5 | 25.5 | 24.0 | 26.5 | 23.0 | 28.5 | 26.5 | 24.0 | 21.0 | 22.0 | 20.0 | | | | | | | | | | | | |
| 26 | 15.0 | 14.0 | 26.0 | 22.5 | 28.0 | 24.0 | 27.0 | 25.0 | 25.0 | 21.5 | 23.0 | 21.0 | | | | | | | | | | | | |
| 27 | 16.0 | 13.0 | 26.5 | 22.5 | 26.5 | 24.5 | 26.5 | 23.5 | 27.0 | 24.0 | 22.0 | 20.5 | | | | | | | | | | | | |
| 28 | 15.5 | 13.5 | 26.5 | 23.5 | 25.5 | 24.5 | 27.0 | 23.5 | 28.0 | 25.0 | 21.0 | 19.5 | | | | | | | | | | | | |
| 29 | 14.5 | 12.0 | 26.0 | 23.5 | 26.0 | 24.0 | 26.0 | 25.0 | 27.0 | 25.5 | 21.0 | 18.5 | | | | | | | | | | | | |
| 30 | 16.0 | 12.5 | 26.5 | 23.0 | 25.5 | 23.5 | 26.5 | 24.0 | 26.5 | 25.0 | 21.5 | 19.0 | | | | | | | | | | | | |
| 31 | --- | --- | 26.5 | 23.5 | --- | --- | 27.5 | 24.5 | 28.0 | 25.0 | --- | --- | | | | | | | | | | | | |
| MONTH | 20.0 | 8.0 | 27.0 | 14.0 | 28.0 | 17.0 | 31.0 | 23.0 | 29.0 | 21.0 | 29.0 | 18.5 | | | | | | | | | | | | |
| YEAR | 31.0 | 0.0 | | | | | | | | | | | | | | | | | | | | | | |

03229600 SCIOTO RIVER BELOW SHADEVILLE, OH--Continued

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|------|---------|------|----------|------|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 6.5 | 4.1 | 8.4 | 7.7 | 10.5 | 9.5 | 11.6 | 9.9 | 10.6 | 10.0 | 12.9 | 12.6 |
| 2 | 6.8 | 4.2 | 8.8 | 8.1 | 9.9 | 8.9 | 11.5 | 10.3 | 10.2 | 9.6 | 12.9 | 12.6 |
| 3 | 6.0 | 4.4 | 8.7 | 8.2 | 10.7 | 9.1 | 11.0 | 10.3 | 10.1 | 9.5 | 12.7 | 12.1 |
| 4 | 6.2 | 4.4 | 9.1 | 8.0 | 10.7 | 9.3 | 11.1 | 9.9 | 10.1 | 9.2 | 12.0 | 11.2 |
| 5 | 6.2 | 5.1 | 9.4 | 8.5 | 10.8 | 8.4 | 11.0 | 9.7 | 10.7 | 9.6 | 11.8 | 11.1 |
| 6 | 5.4 | 3.5 | 9.7 | 8.9 | 10.3 | 9.1 | 10.8 | 9.7 | 11.1 | 10.5 | 12.5 | 11.8 |
| 7 | 5.4 | 3.4 | 10.0 | 9.1 | 8.2 | 7.7 | 11.0 | 9.6 | 11.5 | 10.7 | 12.6 | 12.3 |
| 8 | 7.1 | 4.3 | 10.5 | 9.3 | 10.3 | 9.4 | 11.1 | 9.7 | 11.7 | 10.7 | --- | --- |
| 9 | 7.6 | 5.9 | 10.6 | 9.7 | 10.1 | 9.0 | 10.9 | 9.8 | 11.7 | 10.8 | --- | --- |
| 10 | 7.9 | 6.8 | 9.8 | 8.9 | 9.7 | 8.7 | 11.1 | 9.6 | 11.5 | 10.7 | --- | --- |
| 11 | 7.9 | 7.2 | 9.6 | 8.6 | 10.0 | 8.1 | 10.8 | 9.9 | 11.3 | 9.8 | 11.8 | 10.6 |
| 12 | 8.0 | 7.1 | 10.3 | 8.7 | 10.3 | 9.3 | 10.4 | 9.4 | 10.3 | 9.1 | 10.6 | 9.6 |
| 13 | 7.9 | 6.8 | 10.6 | 9.0 | 11.6 | 9.6 | 10.1 | 9.0 | 10.2 | 9.0 | 9.9 | 8.8 |
| 14 | 7.9 | 6.4 | 10.7 | 8.9 | 11.5 | 10.3 | 9.7 | 8.8 | 10.4 | 10.2 | 10.7 | 10.0 |
| 15 | 8.2 | 6.6 | 11.2 | 9.4 | 12.0 | 10.3 | 9.3 | 8.2 | 10.6 | 10.4 | 11.2 | 10.8 |
| 16 | 8.5 | 6.8 | 11.2 | 9.4 | 11.0 | 9.9 | 9.5 | 8.4 | 10.5 | 10.2 | 10.9 | 10.5 |
| 17 | 8.8 | 6.7 | 11.1 | 9.3 | 11.7 | 9.6 | 9.4 | 8.7 | 10.5 | 9.9 | 10.5 | 9.7 |
| 18 | 9.0 | 6.8 | 10.7 | 8.5 | 11.8 | 9.9 | 9.3 | 7.6 | 10.5 | 9.9 | 9.9 | 9.5 |
| 19 | 9.4 | 7.4 | 11.3 | 8.6 | 12.0 | 9.8 | 8.9 | 8.2 | 10.7 | 9.7 | 10.3 | 9.8 |
| 20 | 8.2 | 5.9 | 11.3 | 8.7 | 10.6 | 9.6 | 8.9 | 8.3 | 11.0 | 9.9 | 10.4 | 10.3 |
| 21 | 9.0 | 6.6 | 10.8 | 8.8 | 11.5 | 9.3 | 8.7 | 8.0 | 11.3 | 10.1 | 10.9 | 10.4 |
| 22 | 8.2 | 7.0 | 11.0 | 9.1 | 12.0 | 9.7 | 8.6 | 7.9 | 11.0 | 10.0 | 10.8 | 10.2 |
| 23 | 7.7 | 7.0 | 11.6 | 9.3 | 11.9 | 10.3 | 8.9 | 8.0 | 10.7 | 9.9 | 10.7 | 10.4 |
| 24 | 8.4 | 5.7 | 10.9 | 9.3 | 11.8 | 9.8 | 8.8 | 7.9 | 11.4 | 10.8 | 11.3 | 10.7 |
| 25 | 8.3 | 7.6 | 11.3 | 9.6 | 10.7 | 10.2 | 8.8 | 7.7 | 12.2 | 11.0 | 11.3 | 10.8 |
| 26 | 8.1 | 7.6 | 10.2 | 8.8 | 11.4 | 9.7 | 8.9 | 7.7 | 12.4 | 12.2 | 11.0 | 10.5 |
| 27 | 8.4 | 7.5 | 10.4 | 7.8 | 11.7 | 9.9 | 8.8 | 8.0 | 12.5 | 12.3 | 10.6 | 10.0 |
| 28 | 9.0 | 7.6 | 8.8 | 8.0 | 11.3 | 10.3 | 8.6 | 8.0 | 13.0 | 12.6 | 9.9 | 9.2 |
| 29 | 8.5 | 7.7 | 10.3 | 8.1 | 11.6 | 9.8 | 8.7 | 8.2 | --- | --- | 9.8 | 8.8 |
| 30 | 8.5 | 7.4 | 10.8 | 9.0 | 11.5 | 9.9 | 8.9 | 8.6 | --- | --- | 10.0 | 8.5 |
| 31 | 8.7 | 6.3 | --- | --- | 11.6 | 10.2 | 10.6 | 8.6 | --- | --- | 10.3 | 8.9 |
| MONTH | 9.4 | 3.4 | 11.6 | 7.7 | 12.0 | 7.7 | 11.6 | 7.6 | 13.0 | 9.0 | 12.9 | 8.5 |

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|------|------|------|------|-----|------|-----|--------|------|-----------|-----|-----|
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 10.9 | 9.2 | 10.0 | 7.8 | 7.9 | 3.5 | 5.7 | 2.7 | 6.2 | 3.7 | 9.5 | 4.7 |
| 2 | 9.7 | 8.1 | 8.4 | 7.2 | 7.5 | 4.4 | 5.4 | 4.5 | 8.9 | 4.9 | 7.1 | 4.4 |
| 3 | 10.4 | 8.3 | 8.0 | 6.5 | 7.4 | 4.7 | 5.5 | 4.1 | 7.5 | 4.7 | 5.2 | 3.8 |
| 4 | 10.1 | 9.7 | 7.2 | 6.0 | 6.9 | 5.0 | 6.5 | 4.6 | 7.0 | 4.5 | 6.8 | 4.4 |
| 5 | 10.1 | 9.3 | 8.3 | 6.8 | 5.7 | 3.5 | 7.3 | 4.5 | 6.2 | 4.2 | 7.0 | 4.4 |
| 6 | 10.4 | 10.1 | 8.2 | 7.9 | 6.3 | 3.5 | 8.0 | 4.9 | 5.5 | 3.6 | 5.6 | 3.8 |
| 7 | 10.5 | 10.1 | 8.3 | 7.9 | 6.4 | 3.8 | 7.1 | 4.1 | 4.8 | 2.1 | 6.1 | 4.7 |
| 8 | 10.7 | 9.9 | 8.4 | 7.8 | 6.1 | 4.3 | 6.4 | 3.4 | 4.7 | 3.1 | 6.0 | 4.4 |
| 9 | 10.8 | 10.1 | 8.6 | 7.9 | 7.2 | 3.0 | 6.5 | 3.5 | 5.0 | 4.0 | 5.6 | 4.5 |
| 10 | 10.9 | 10.5 | 8.4 | 7.7 | 6.8 | 6.0 | 5.9 | 3.4 | 4.7 | 3.8 | 5.6 | 4.3 |
| 11 | 10.5 | 10.1 | 8.0 | 6.7 | 5.8 | 5.1 | 7.4 | 3.6 | 5.0 | 3.5 | 5.8 | 4.6 |
| 12 | 10.2 | 9.9 | 8.3 | 6.2 | 5.9 | 4.6 | 7.9 | 4.5 | 4.7 | 3.1 | 6.1 | 4.8 |
| 13 | 10.1 | 9.3 | 8.4 | 5.8 | 6.4 | 4.3 | 8.3 | 4.1 | 5.0 | 4.2 | 6.1 | 4.8 |
| 14 | 9.7 | 9.0 | 8.8 | 5.3 | 6.0 | 4.0 | 8.0 | 3.9 | 5.0 | 4.4 | 5.8 | 3.9 |
| 15 | 9.3 | 8.2 | 10.3 | 5.3 | 6.4 | 3.7 | 7.0 | 2.7 | 5.3 | 4.4 | 6.2 | 4.9 |
| 16 | 8.2 | 7.3 | 10.8 | 5.7 | 8.1 | 3.8 | 5.4 | 2.9 | 5.3 | 4.2 | 6.0 | 4.5 |
| 17 | 7.8 | 7.0 | 11.7 | 5.4 | 7.3 | 3.6 | 5.9 | 2.6 | 5.5 | 4.0 | 5.7 | 5.3 |
| 18 | 7.7 | 6.5 | 10.5 | 4.6 | 7.3 | 2.9 | 7.5 | 3.9 | 6.1 | 4.3 | 5.5 | 5.0 |
| 19 | 7.1 | 5.8 | 9.4 | 2.7 | --- | --- | 7.5 | 4.1 | 6.8 | 4.6 | 5.7 | 4.7 |
| 20 | 7.3 | 5.5 | 7.8 | 3.8 | --- | --- | 7.3 | 2.8 | 7.7 | 4.7 | --- | --- |
| 21 | 6.9 | 5.0 | 5.7 | 3.6 | --- | --- | 6.2 | 2.8 | 7.0 | 5.0 | --- | --- |
| 22 | 6.1 | 4.1 | 5.7 | 3.3 | 4.9 | 4.2 | 6.4 | 3.1 | 8.0 | 4.3 | --- | --- |
| 23 | 5.7 | 4.0 | 6.4 | 2.8 | 6.3 | 3.6 | 5.6 | 3.6 | 8.6 | 5.0 | 5.9 | 4.8 |
| 24 | 6.5 | 5.0 | 6.4 | 2.8 | 6.4 | 4.2 | 6.6 | 3.5 | 8.1 | 5.2 | 5.2 | 4.4 |
| 25 | 8.0 | 5.9 | 5.7 | 2.9 | 6.3 | 3.7 | 7.5 | 3.7 | 9.9 | 5.1 | 5.9 | 4.5 |
| 26 | 8.9 | 7.4 | 7.0 | 2.9 | 6.9 | 3.4 | 6.7 | 4.3 | 11.0 | 6.0 | 6.0 | 4.6 |
| 27 | 10.0 | 7.8 | 7.9 | 3.8 | 7.1 | 3.4 | 8.1 | 4.2 | 12.2 | 5.5 | 6.0 | 4.8 |
| 28 | 8.6 | 7.5 | 8.0 | 3.7 | 5.6 | 2.2 | 7.7 | 4.3 | 13.4 | 6.1 | 6.1 | 4.8 |
| 29 | 8.8 | 7.8 | 6.8 | 3.5 | 4.6 | 3.8 | 5.8 | 3.9 | 10.6 | 5.6 | 6.2 | 4.7 |
| 30 | 9.5 | 8.0 | 6.6 | 2.9 | 5.0 | 3.9 | 5.9 | 2.9 | 8.2 | 4.8 | 6.0 | 4.7 |
| 31 | --- | --- | 6.9 | 2.7 | --- | --- | 5.9 | 3.9 | 8.6 | 4.5 | --- | --- |
| MONTH | 10.9 | 4.0 | 11.7 | 2.7 | 8.1 | 2.2 | 8.3 | 2.6 | 13.4 | 2.1 | 9.5 | 3.8 |
| YEAR | 13.4 | 2.1 | | | | | | | | | | |

SCIOTO RIVER BASIN

03230500 BIG DARBY CREEK AT DARBYVILLE, OH

LOCATION.--Lat 39°42'03", long 83°06'35", Pickaway County, Hydrologic Unit 05060001, near right bank on downstream side of pier of bridge on State Highway 316, 0.4 mi (0.6 km) northeast of Darbyville, 0.4 mi (0.6 km) upstream from Lizzard Run, and 3 mi (5 km) downstream from Greenbrier Creek.

DRAINAGE AREA.--534 mi² (1,383 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1921 to December 1935, January 1938 to current year. Prior to October 1959, published as Darby Creek at Darbyville.

REVISED RECORDS.--WSP 1083: 1922(M), 1924(M), 1927(M), 1933(M), 1938(M). WSP 1305: 1928-31(M), 1934(M), 1945(M). WSP 1505: 1932(M). WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 713.69 ft (217.533 m) above mean sea level. Prior to Mar. 17, 1940 nonrecording gage at same site and datum.

REMARKS.--Records fair except those for winter periods and no gage height record, which are poor.

AVERAGE DISCHARGE.--53 years, 439 ft³/s (12.43 m³/s), 11.16 in/yr (283 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,000 ft³/s (1,390 m³/s) Jan. 22, 1959, gage height, 17.94 ft (5.468 m) from rating curve extended above 22,000 ft³/s (623 m³/s) on basis of contracted-opening measurement of peak flow; minimum observed, 1.4 ft³/s (0.040 m³/s) Sept. 17, 1932.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 4,500 ft³/s (127 m³/s) and maximums (*):

| Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) | Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) |
|---------|------|---|-------------------------|--------|------|---|-------------------------|
| Feb. 25 | 0600 | 5120 145 | 9.70 2.957 | Apr. 4 | 1130 | *6920 196 | *10.90 3.322 |

Minimum discharge, 31 ft³/s (0.88 m³/s) Sept. 12-14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|-------|-------|-------|------|------|------|------|------|
| 1 | 87 | 271 | 77 | 40 | 33 | 612 | 397 | 416 | 60 | 155 | 38 | 32 |
| 2 | 83 | 267 | 72 | 40 | 33 | 478 | 695 | 350 | 58 | 210 | 38 | 32 |
| 3 | 77 | 224 | 68 | 39 | 33 | 406 | 3040 | 341 | 50 | 300 | 37 | 41 |
| 4 | 71 | 196 | 69 | 39 | 33 | 659 | 6130 | 371 | 102 | 200 | 41 | 55 |
| 5 | 65 | 172 | 61 | 39 | 33 | 1440 | 3040 | 868 | 68 | 145 | 39 | 42 |
| 6 | 63 | 152 | 66 | 38 | 33 | 1210 | 2290 | 1050 | 60 | 125 | 36 | 36 |
| 7 | 61 | 137 | 72 | 38 | 33 | 785 | 1420 | 728 | 54 | 110 | 35 | 36 |
| 8 | 60 | 126 | 64 | 38 | 33 | 608 | 1040 | 548 | 540 | 103 | 38 | 35 |
| 9 | 62 | 117 | 55 | 38 | 33 | 506 | 824 | 442 | 340 | 95 | 61 | 33 |
| 10 | 65 | 114 | 53 | 38 | 33 | 448 | 687 | 359 | 240 | 98 | 62 | 32 |
| 11 | 73 | 111 | 52 | 37 | 33 | 409 | 600 | 306 | 180 | 90 | 55 | 31 |
| 12 | 78 | 105 | 51 | 37 | 60 | 455 | 520 | 258 | 150 | 87 | 100 | 31 |
| 13 | 77 | 98 | 50 | 37 | 171 | 1680 | 458 | 237 | 120 | 80 | 106 | 31 |
| 14 | 72 | 92 | 48 | 37 | 330 | 1820 | 413 | 222 | 92 | 71 | 84 | 31 |
| 15 | 70 | 88 | 48 | 37 | 429 | 1060 | 368 | 206 | 78 | 71 | 70 | 33 |
| 16 | 66 | 87 | 47 | 37 | 500 | 781 | 335 | 188 | 70 | 62 | 54 | 48 |
| 17 | 62 | 86 | 47 | 37 | 200 | 600 | 306 | 175 | 76 | 60 | 48 | 70 |
| 18 | 59 | 84 | 46 | 37 | 110 | 816 | 287 | 164 | 85 | 54 | 45 | 59 |
| 19 | 57 | 83 | 46 | 37 | 70 | 1660 | 252 | 148 | 72 | 77 | 42 | 53 |
| 20 | 58 | 82 | 45 | 37 | 66 | 1220 | 263 | 144 | 68 | 86 | 41 | 67 |
| 21 | 62 | 81 | 44 | 37 | 64 | 892 | 237 | 136 | 68 | 95 | 40 | 65 |
| 22 | 67 | 78 | 43 | 37 | 110 | 884 | 230 | 125 | 70 | 106 | 40 | 61 |
| 23 | 67 | 77 | 43 | 37 | 600 | 1060 | 237 | 122 | 65 | 69 | 38 | 55 |
| 24 | 83 | 75 | 42 | 36 | 1990 | 900 | 252 | 199 | 60 | 54 | 39 | 49 |
| 25 | 208 | 72 | 42 | 36 | 3630 | 675 | 273 | 100 | 64 | 50 | 37 | 44 |
| 26 | 288 | 73 | 42 | 35 | 1750 | 559 | 263 | 80 | 170 | 45 | 34 | 40 |
| 27 | 240 | 79 | 41 | 35 | 1090 | 485 | 252 | 64 | 370 | 42 | 34 | 38 |
| 28 | 189 | 82 | 41 | 35 | 785 | 485 | 255 | 90 | 160 | 39 | 33 | 35 |
| 29 | 156 | 85 | 41 | 35 | --- | 516 | 378 | 94 | 110 | 39 | 33 | 33 |
| 30 | 140 | 81 | 41 | 34 | --- | 541 | 478 | 78 | 265 | 39 | 33 | 33 |
| 31 | 169 | --- | 40 | 34 | --- | 475 | --- | 70 | --- | 39 | 32 | --- |
| TOTAL | 3035 | 3475 | 1597 | 1148 | 12318 | 25125 | 26220 | 8679 | 3965 | 2896 | 1463 | 1281 |
| MEAN | 97.9 | 116 | 51.5 | 37.0 | 440 | 810 | 874 | 280 | 132 | 93.4 | 47.2 | 42.7 |
| MAX | 288 | 271 | 77 | 40 | 3630 | 1820 | 6130 | 1050 | 540 | 300 | 106 | 70 |
| MIN | 57 | 72 | 40 | 34 | 33 | 406 | 230 | 64 | 50 | 39 | 32 | 31 |
| CFSM | .18 | .22 | .10 | .07 | .82 | 1.52 | 1.64 | .52 | .25 | .18 | .09 | .08 |
| IN. | .21 | .24 | .11 | .08 | .86 | 1.75 | 1.83 | .60 | .28 | .20 | .10 | .09 |

CAL YR 1976 TOTAL 124804 MEAN 341 MAX 5810 MIN 40 CFSM .64 IN 8.69
WTR YR 1977 TOTAL 91202 MEAN 250 MAX 6130 MIN 31 CFSM .47 IN 6.35

Note: No gage height record May 24 to July 8.

SCIOTO RIVER BASIN

249

03230500 BIG DARBY CREEK AT DARBYVILLE, OH--Continued

WATER-QUALITY RECORDS

PERIOD Of record.--Water year 1964 to current year.

REMARKS.--Sediment data collected at this site 1969 to 1974.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|--|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| DATE | TIME | | | | | | | | | | | |
| MAR 23... | 1015 | 1220 | 670 | 8.2 | 5.5 | 11.4 | 90 | .4 | 330 | 130 | 79 | 33 |
| JUL 08... | 1115 | 105 | 700 | 8.2 | 27.0 | 6.8 | 84 | 2.3 | 330 | 77 | 78 | 32 |
| | | | | | | | | | | | | |
| | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 23... | 12 | 2.1 | 253 | 0 | 208 | 2.6 | 60 | 33 | .3 | 5.7 | 350 | 5.4 |
| JUL 08... | 14 | 2.6 | 304 | 0 | 249 | 3.1 | 58 | 30 | .4 | 9.8 | 375 | 5.6 |
| | | | | | | | | | | | | |
| | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 23... | .02 | .01 | .08 | 1 | 60 | 0 | 20 | 1200 | 10 | .4 | 100 | 5.2 |
| JUL 08... | .02 | .04 | .15 | 3 | 20 | 36 | 10 | 15 | 10 | .0 | 40 | 4.3 |

SCIOTO RIVER BASIN

03230700 SCIOTO RIVER AT CIRCLEVILLE, OH

LOCATION.--Lat 39°36'05", long 82°57'19", in SW 1/4 sec. 19, T.11 N., R.21 W., Pickaway County, Hydrologic Unit 05060002, on right bank 100 ft (30.5 m) upstream from U.S. Highway 22 bridge, 1,400 ft (427 m) downstream from Hargus Creek, and 1.0 mi (1.5 km) downstream from Big Darby Creek.

DRAINAGE AREA.--3,217 mi² (8,332 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1973 to current year. Gage height records collected in this vicinity since September 1915, are contained in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 643.03 ft (195.996 m) above mean sea level.

REMARKS.--Records good except Oct. 1 to Feb. 22, which are fair. Flow regulated by 5 reservoirs 38 mi (61 km) to 62 mi (100 km) upstream from station (see Station No. 03220500, 03221500, 03225500, 03228400, and 03228805).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 61,500 ft³/s (1,740 m³/s) Feb. 25, 1975, gage height, 21.95 ft (6.690 m); minimum daily, 290 ft³/s (8.21 m³/s) Feb. 6-9, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 26, 1913 reached a stage of 28.2 ft (8.60 m), from information supplied by National Weather Service.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 21,300 ft³/s (603 m³/s) Apr. 4, gage height, 15.80 ft (4.816 m); minimum daily, 290 ft³/s (8.21 m³/s) Feb. 6-9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------------|--------|-------|-------|-----------|-----------|---------|--------|-------|-------|-------|-------|-------|
| 1 | 850 | 1750 | 570 | 430 | 300 | 5700 | 3250 | 2530 | 617 | 1560 | 506 | 383 |
| 2 | 620 | 1400 | 480 | 410 | 300 | 4420 | 3850 | 2240 | 554 | 1980 | 388 | 358 |
| 3 | 670 | 1050 | 380 | 400 | 300 | 3330 | 13400 | 2260 | 501 | 1370 | 354 | 964 |
| 4 | 760 | 890 | 350 | 390 | 300 | 3860 | 20300 | 2660 | 476 | 1520 | 351 | 1250 |
| 5 | 740 | 930 | 330 | 380 | 300 | 5880 | 18200 | 4710 | 502 | 1350 | 345 | 534 |
| 6 | 720 | 910 | 310 | 370 | 290 | 5830 | 14100 | 6600 | 551 | 1180 | 339 | 983 |
| 7 | 670 | 900 | 730 | 360 | 290 | 5090 | 8070 | 6780 | 451 | 764 | 369 | 1010 |
| 8 | 660 | 870 | 850 | 350 | 290 | 4260 | 5390 | 5960 | 446 | 896 | 2360 | 557 |
| 9 | 870 | 780 | 570 | 340 | 290 | 3350 | 5460 | 3720 | 1520 | 903 | 1240 | 438 |
| 10 | 780 | 710 | 710 | 330 | 300 | 2720 | 6380 | 2900 | 2310 | 723 | 789 | 381 |
| 11 | 570 | 690 | 670 | 325 | 320 | 2390 | 5960 | 2220 | 1680 | 577 | 624 | 347 |
| 12 | 530 | 670 | 650 | 320 | 500 | 2410 | 5840 | 1770 | 1190 | 758 | 1300 | 331 |
| 13 | 480 | 680 | 640 | 310 | 900 | 9520 | 5200 | 1600 | 1100 | 643 | 1200 | 348 |
| 14 | 435 | 770 | 640 | 305 | 1600 | 9850 | 3520 | 1440 | 901 | 544 | 909 | 727 |
| 15 | 400 | 760 | 630 | 300 | 1450 | 6780 | 3030 | 1320 | 809 | 493 | 827 | 1160 |
| 16 | 450 | 720 | 620 | 300 | 1300 | 5270 | 2510 | 1200 | 651 | 442 | 632 | 1160 |
| 17 | 540 | 700 | 620 | 300 | 1200 | 3820 | 2250 | 1120 | 549 | 492 | 566 | 1960 |
| 18 | 740 | 670 | 620 | 300 | 1100 | 4600 | 1980 | 999 | 562 | 840 | 523 | 1140 |
| 19 | 500 | 610 | 620 | 300 | 1000 | 8550 | 1830 | 916 | 772 | 632 | 496 | 916 |
| 20 | 650 | 590 | 630 | 300 | 960 | 7530 | 1680 | 826 | 581 | 512 | 426 | 1170 |
| 21 | 740 | 650 | 640 | 310 | 900 | 7080 | 1530 | 756 | 494 | 543 | 394 | 866 |
| 22 | 450 | 710 | 630 | 310 | 890 | 6530 | 1430 | 713 | 452 | 948 | 515 | 720 |
| 23 | 420 | 600 | 620 | 315 | 3330 | 6130 | 1580 | 792 | 424 | 797 | 586 | 713 |
| 24 | 940 | 570 | 600 | 320 | 7000 | 5740 | 1860 | 885 | 426 | 550 | 518 | 615 |
| 25 | 1400 | 520 | 590 | 325 | 10100 | 5230 | 2490 | 863 | 417 | 674 | 478 | 537 |
| 26 | 1100 | 640 | 570 | 320 | 9980 | 4220 | 2430 | 727 | 416 | 764 | 412 | 488 |
| 27 | 800 | 730 | 540 | 320 | 9030 | 3130 | 2320 | 628 | 387 | 616 | 413 | 438 |
| 28 | 700 | 760 | 520 | 320 | 7510 | 2930 | 2310 | 576 | 1560 | 488 | 412 | 405 |
| 29 | 650 | 660 | 500 | 320 | --- | 3170 | 3500 | 562 | 2360 | 434 | 361 | 371 |
| 30 | 640 | 580 | 480 | 310 | --- | 3420 | 3050 | 635 | 1420 | 492 | 390 | 351 |
| 31 | 920 | --- | 450 | 305 | --- | 3820 | --- | 570 | --- | 440 | 451 | --- |
| TOTAL | 21395 | 23470 | 17760 | 10295 | 62030 | 156560 | 154700 | 61478 | 25079 | 24925 | 19474 | 21621 |
| MEAN | 690 | 782 | 573 | 332 | 2215 | 5050 | 5157 | 1983 | 836 | 804 | 628 | 721 |
| MAX | 1400 | 1750 | 850 | 430 | 10100 | 9850 | 20300 | 6780 | 2360 | 1980 | 2360 | 1960 |
| MIN | 400 | 520 | 310 | 300 | 290 | 2390 | 1430 | 562 | 387 | 434 | 339 | 331 |
| CAL YR 1976 TOTAL | 845573 | | | MEAN 2310 | MAX 35200 | MIN 310 | | | | | | |
| WTR YR 1977 TOTAL | 598787 | | | MEAN 1641 | MAX 20300 | MIN 290 | | | | | | |

SCIOTO RIVER BASIN

251

03230700 SCIOTO RIVER AT CIRCLEVILLE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1973 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE | PH | TEMPERATURE (DEG C) | DISSOLVED OXYGEN (MG/L) | PERCENT SATURATION | BIOCHEMICAL OXYGEN DEMAND 5 DAY | HARDNESS (CA+MG) (MG/L) | NON-CARBONATE HARDNESS (MG/L) | DISSOLVED CALCIUM (CA) (MG/L) | DISSOLVED MAGNESIUM (MG) |
|-----------|------|-------------------------------|-----------------------------|---------------------------|----------------------------|-----------------------------|--------------------------------|---------------------------------|------------------------------|--------------------------------|-------------------------------|---------------------------------|
| | | | (MICROMHOS) | | | | | (MG/L) | | | | |
| MAR 02... | 1400 | 4320 | 560 | 7.9 | 3.0 | 12.1 | 90 | 5.5 | 240 | 99 | 61 | 22 |
| JUL 27... | 1200 | 597 | 745 | 7.5 | 24.0 | 4.0 | 47 | 4.7 | 260 | 110 | 66 | 24 |
| DATE | | DIS- | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DIS- | DIS- | DISSOLVED SILICA (SiO2) (MG/L) | DIS- | TOTAL NITRATE (N) (MG/L) |
| | | SOLVED SODIUM (NA) (MG/L) | | | | | | SOLVED POTASSIUM (K) (MG/L) | SOLVED CHLORIDE (CL) (MG/L) | | SOLVED FLUORIDE (F) (MG/L) | |
| MAR 02... | 20 | 4.6 | 176 | 0 | 144 | 3.5 | 66 | 40 | .3 | 5.6 | 306 | 2.9 |
| JUL 27... | 38 | 5.6 | 187 | 0 | 153 | 9.5 | 120 | 51 | .5 | 5.4 | 403 | 2.4 |
| DATE | | TOTAL | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DISSOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| | | AMMONIA NITROGEN (N) (MG/L) | | | | | | | SOLVED MANGANESE (MN) (UG/L) | | | |
| MAR 02... | .06 | .82 | .39 | 2 | 20 | 13 | 70 | 14 | 40 | .0 | 30 | 4.5 |
| JUL 27... | .35 | .80 | 1.1 | 2 | 10 | 11 | 40 | 9 | 40 | .0 | 70 | 6.2 |

SCIOTO RIVER BASIN

03230800 DEER CREEK AT MOUNT STERLING, OH

LOCATION.--39°42'54", long 83°15'26", Madison County, Hydrologic Unit 05060002, on left bank at downstream side of bridge on State Highway 56, 0.2 mi (0.3 km) downstream from unnamed right bank tributary, 0.6 mi (1.0 km) southeast of Mount Sterling, and 4.9 mi (7.9 km) upstream from Duffs Fork.

DRAINAGE AREA.--228 mi² (591 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WRD OH-75-1: 1968 (H).

GAGE.--Water-stage recorder. Datum of gage is 836.25 ft (254.889 m) above mean sea level.

REMARKS.--Records good except those for winter periods, which are fair.

AVERAGE DISCHARGE.--11 years, 221 ft³/s (6.26 m³/s), 13.17 in/yr (335 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,600 ft³/s (329 m³/s) May 24, 1968, gage height, 11.87 ft (3.618 m); minimum, 5.1 ft³/s (0.14 m³/s) Nov. 24, 1970, July 28, 29, and Aug. 6, 7, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,700 ft³/s (48.1 m³/s) Feb. 24, gage height, 7.20 ft (2.195 m), no peak above base of 1,900 ft³/s (53.8 m³/s); minimum, 5.1 ft³/s (0.144 m³/s) July 28, 29 and Aug. 6, 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|---------|------|------|------|------|------|------|------|-------|-------|-------|
| 1 | 25 | 86 | 21 | 10 | 10 | 270 | 129 | 141 | 30 | 30 | 18 | 8.8 |
| 2 | 23 | 76 | 19 | 10 | 10 | 217 | 416 | 127 | 27 | 35 | 12 | 8.8 |
| 3 | 19 | 112 | 18 | 10 | 10 | 195 | 1120 | 127 | 26 | 24 | 8.1 | 36 |
| 4 | 17 | 105 | 17 | 10 | 10 | 592 | 675 | 146 | 25 | 17 | 6.9 | 28 |
| 5 | 17 | 95 | 17 | 10 | 10 | 664 | 905 | 179 | 23 | 14 | 7.2 | 18 |
| 6 | 19 | 84 | 20 | 10 | 10 | 422 | 704 | 175 | 23 | 12 | 5.9 | 13 |
| 7 | 20 | 76 | 33 | 10 | 10 | 318 | 431 | 169 | 27 | 11 | 6.0 | 10 |
| 8 | 23 | 70 | 26 | 10 | 10 | 253 | 325 | 141 | 26 | 12 | 11 | 9.2 |
| 9 | 23 | 62 | 22 | 10 | 10 | 220 | 247 | 119 | 27 | 11 | 24 | 8.9 |
| 10 | 23 | 61 | 20 | 10 | 11 | 192 | 214 | 103 | 27 | 11 | 35 | 7.7 |
| 11 | 23 | 55 | 19 | 10 | 13 | 164 | 183 | 89 | 23 | 10 | 23 | 7.4 |
| 12 | 21 | 51 | 18 | 10 | 17 | 210 | 161 | 80 | 22 | 9.6 | 24 | 6.5 |
| 13 | 21 | 46 | 17 | 10 | 25 | 884 | 144 | 74 | 22 | 9.0 | 36 | 6.7 |
| 14 | 20 | 42 | 16 | 10 | 70 | 552 | 136 | 69 | 28 | 9.0 | 31 | 9.0 |
| 15 | 20 | 41 | 15 | 10 | 64 | 368 | 121 | 64 | 26 | 8.1 | 22 | 15 |
| 16 | 19 | 40 | 14 | 10 | 56 | 261 | 108 | 56 | 22 | 9.0 | 18 | 23 |
| 17 | 19 | 38 | 14 | 10 | 52 | 198 | 103 | 53 | 19 | 15 | 15 | 36 |
| 18 | 18 | 37 | 13 | 10 | 47 | 389 | 100 | 50 | 18 | 18 | 15 | 28 |
| 19 | 19 | 37 | 13 | 10 | 42 | 480 | 93 | 48 | 22 | 10 | 13 | 21 |
| 20 | 21 | 36 | 12 | 10 | 39 | 349 | 86 | 46 | 24 | 8.3 | 11 | 18 |
| 21 | 28 | 33 | 12 | 10 | 26 | 289 | 82 | 43 | 20 | 9.7 | 10 | 24 |
| 22 | 30 | 32 | 12 | 10 | 50 | 366 | 80 | 40 | 19 | 17 | 11 | 21 |
| 23 | 24 | 30 | 11 | 10 | 80 | 391 | 88 | 43 | 17 | 18 | 11 | 18 |
| 24 | 38 | 27 | 11 | 10 | 1510 | 292 | 98 | 63 | 17 | 11 | 14 | 16 |
| 25 | 100 | 28 | 11 | 10 | 1220 | 225 | 114 | 47 | 16 | 9.3 | 14 | 14 |
| 26 | 91 | 31 | 11 | 10 | 692 | 189 | 105 | 41 | 15 | 6.5 | 14 | 14 |
| 27 | 62 | 33 | 11 | 10 | 487 | 166 | 91 | 37 | 17 | 5.5 | 10 | 11 |
| 28 | 49 | 33 | 11 | 10 | 341 | 185 | 93 | 34 | 45 | 5.4 | 9.2 | 10 |
| 29 | 44 | 31 | 11 | 10 | --- | 198 | 217 | 35 | 37 | 5.9 | 8.2 | 11 |
| 30 | 44 | 23 | 11 | 10 | --- | 175 | 175 | 35 | 28 | 15 | 8.5 | 11 |
| 31 | 68 | --- | 11 | 10 | --- | 150 | --- | 33 | --- | 14 | 8.7 | --- |
| TOTAL | 988 | 1551 | 487 | 310 | 4932 | 9824 | 7544 | 2507 | 718 | 400.3 | 460.7 | 469.0 |
| MEAN | 31.9 | 51.7 | 15.7 | 10.0 | 176 | 317 | 251 | 80.9 | 23.9 | 12.9 | 14.9 | 15.6 |
| MAX | 100 | 112 | 33 | 10 | 1510 | 884 | 1120 | 179 | 45 | 35 | 36 | 36 |
| MIN | 17 | 23 | 11 | 10 | 10 | 150 | 80 | 33 | 15 | 5.4 | 5.9 | 6.5 |
| CFSM | .14 | .23 | .07 | .04 | .77 | 1.39 | 1.10 | .36 | .11 | .06 | .07 | .07 |
| IN. | .16 | .25 | .08 | .05 | .80 | 1.60 | 1.23 | .41 | .12 | .07 | .08 | .08 |
| CAL YR 1976 | TOTAL | 54628.0 | MEAN | 149 | MAX | 3320 | MIN | 11 | CFSM | .65 | IN | 8.91 |
| WTR YR 1977 | TOTAL | 30191.0 | MEAN | 82.7 | MAX | 1510 | MIN | 5.4 | CFSM | .36 | IN | 4.93 |

03230800 DEER CREEK AT MOUNT STERLING, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1967 to current year.

REMARKS.--Sediment data collected at this site 1969 to 1974.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|--|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|--|---|
| | | | | | | | | | | | | |
| MAR 14... | 1500 | 484 | 623 | 8.1 | 8.0 | 10.8 | 91 | 1.0 | 300 | 90 | 70 | 31 |
| JUL 19... | 1030 | 12 | 650 | 8.3 | 27.0 | 8.2 | 100 | 4.2 | 290 | 56 | 54 | 38 |
| DATE | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITU- TENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 14... | 10 | 1.9 | 259 | 0 | 212 | 3.3 | 50 | 29 | .3 | 6.8 | 327 | 6.4 |
| JUL 19... | 21 | 3.2 | 283 | 2 | 235 | 2.3 | 61 | 33 | .5 | 5.9 | 358 | .15 |
| DATE | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 14... | .04 | .07 | .10 | 2 | 10 | 9 | 10 | 8 | 20 | .0 | 20 | 11 |
| JUL 19... | .02 | .15 | .30 | 3 | 10 | 4 | 10 | 2 | 0 | .0 | 10 | 4.7 |

SCIOTO RIVER BASIN

03230900 DEER CREEK NEAR PANCOASTBURG, OH

LOCATION.--Lat 39°37'14", long 83°12'47", Pickaway County, Hydrologic Unit 05060002, on left bank 200 ft (61 m) downstream from bridge on Crownover Mill Road, 1,200 ft (366 m) downstream from Deer Creek Dam, and 2.8 mi (4.5 km) east of Pancoastburg.

DRAINAGE AREA.--277 mi² (717 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Water years 1964-66 (Occasional low-flow measurements and annual maximums), July 1966 to current year.

REVISED RECORDS.--WRD Ohio 1972: 1971.

GAGE.--Water-stage recorder. Datum of gage is 700.00 ft (213.360 m) above mean sea level (Corps of Engineers bench mark). Oct. 23, 1963, to June 30, 1966, crest-stage gage at site 200 ft (61 m) upstream at datum 59.84 ft (18.239 m) higher.

REMARKS.--Records good. Flow regulated by Deer Creek Lake (see station 03230890).

AVERAGE DISCHARGE.--11 years 253 ft³/s (7.165 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,500 ft³/s (552 m³/s) (estimated) Mar. 10, 1964, gage height, 80.93 ft (24.667 m), present datum; no flow May 25-27, 1968, result of dam closure.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,250 ft³/s (35.4 m³/s) Feb. 26, gage height, 72.15 ft (21.991 m); minimum daily, 8.0 ft³/s (0.23 m³/s) Mar. 31, Apr. 1, June 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|--------|--------|------|-------|-------|-------|------|
| 1 | 175 | 69 | 60 | 24 | 17 | 416 | 8.0 | 141 | 15 | 10 | 26 | 12 |
| 2 | 175 | 71 | 30 | 22 | 17 | 291 | 9.4 | 138 | 15 | 10 | 46 | 13 |
| 3 | 175 | 71 | 23 | 21 | 17 | 286 | 8.7 | 141 | 15 | 10 | 46 | 13 |
| 4 | 210 | 184 | 20 | 21 | 17 | 491 | 9.4 | 181 | 15 | 10 | 46 | 13 |
| 5 | 274 | 310 | 19 | 21 | 17 | 717 | 9.4 | 197 | 14 | 9.9 | 46 | 12 |
| 6 | 274 | 334 | 19 | 21 | 17 | 509 | 9.4 | 200 | 13 | 9.8 | 45 | 12 |
| 7 | 270 | 326 | 19 | 21 | 17 | 434 | 9.4 | 197 | 13 | 11 | 41 | 13 |
| 8 | 266 | 322 | 19 | 22 | 17 | 282 | 9.4 | 200 | 13 | 14 | 17 | 13 |
| 9 | 187 | 322 | 19 | 22 | 17 | 217 | 9.4 | 200 | 11 | 14 | 11 | 13 |
| 10 | 101 | 318 | 19 | 22 | 17 | 217 | 9.4 | 197 | 11 | 14 | 11 | 12 |
| 11 | 99 | 318 | 19 | 22 | 17 | 217 | 10 | 178 | 11 | 14 | 15 | 12 |
| 12 | 84 | 314 | 19 | 22 | 17 | 217 | 25 | 120 | 11 | 14 | 26 | 40 |
| 13 | 63 | 310 | 19 | 22 | 17 | 561 | 71 | 92 | 11 | 13 | 32 | 64 |
| 14 | 64 | 306 | 19 | 22 | 17 | 771 | 130 | 92 | 13 | 14 | 64 | 65 |
| 15 | 66 | 149 | 21 | 22 | 25 | 585 | 149 | 78 | 11 | 14 | 90 | 65 |
| 16 | 66 | 61 | 40 | 22 | 110 | 443 | 143 | 61 | 11 | 14 | 90 | 89 |
| 17 | 67 | 64 | 50 | 22 | 95 | 342 | 136 | 60 | 11 | 14 | 50 | 92 |
| 18 | 67 | 64 | 52 | 22 | 80 | 295 | 143 | 53 | 13 | 13 | 26 | 93 |
| 19 | 69 | 64 | 54 | 22 | 68 | 500 | 149 | 41 | 11 | 13 | 20 | 437 |
| 20 | 69 | 64 | 53 | 22 | 58 | 580 | 136 | 42 | 11 | 13 | 13 | 552 |
| 21 | 67 | 64 | 52 | 20 | 49 | 416 | 101 | 42 | 11 | 14 | 9.9 | 490 |
| 22 | 69 | 64 | 50 | 19 | 40 | 342 | 92 | 43 | 11 | 13 | 9.7 | 484 |
| 23 | 69 | 67 | 40 | 18 | 40 | 416 | 94 | 43 | 11 | 13 | 9.9 | 441 |
| 24 | 69 | 69 | 25 | 18 | 518 | 160 | 94 | 43 | 11 | 13 | 10 | 415 |
| 25 | 69 | 69 | 20 | 17 | 793 | 20 | 94 | 44 | 11 | 14 | 10 | 383 |
| 26 | 69 | 71 | 18 | 17 | 1070 | 21 | 94 | 43 | 11 | 14 | 10 | 367 |
| 27 | 69 | 69 | 18 | 17 | 1200 | 21 | 94 | 31 | 11 | 13 | 10 | 372 |
| 28 | 69 | 69 | 21 | 17 | 869 | 21 | 94 | 18 | 11 | 13 | 11 | 372 |
| 29 | 69 | 74 | 31 | 17 | --- | 21 | 94 | 18 | 8.0 | 13 | 11 | 280 |
| 30 | 69 | 80 | 31 | 17 | --- | 15 | 128 | 17 | 10 | 13 | 11 | 237 |
| 31 | 69 | --- | 28 | 17 | --- | 8.0 | --- | 15 | --- | 14 | 12 | --- |
| TOTAL | 3578 | 4737 | 927 | 631 | 5253 | 9832.0 | 2162.9 | 2966 | 355.0 | 395.7 | 875.5 | 5476 |
| MEAN | 115 | 158 | 29.9 | 20.4 | 188 | 317 | 72.1 | 95.7 | 11.8 | 12.8 | 28.2 | 183 |
| MAX | 274 | 334 | 60 | 24 | 1200 | 771 | 149 | 200 | 15 | 14 | 90 | 552 |
| MIN | 63 | 61 | 18 | 17 | 17 | 8.0 | 8.0 | 15 | 8.0 | 9.8 | 9.7 | 12 |

CAL YR 1976 TOTAL 59989.2 MEAN 164 MAX 1930 MIN 6.8
WTR YR 1977 TOTAL 37189.1 MEAN 102 MAX 1200 MIN 8.0

SCIOTO RIVER BASIN

255

03230900 DEER CREEK NEAR PANCOASTBURG, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATU- RATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA,MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|--|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| DATE | TIME | (CFS) | | | | | | | | | | |
| MAR 14... | 1300 | 771 | 540 | 8.1 | 9.0 | 11.7 | 101 | 1.5 | 270 | 72 | 62 | 27 |
| JUN 30... | 1045 | 8.9 | 590 | 7.8 | 20.5 | 5.8 | 64 | 2.8 | 260 | 50 | 50 | 34 |
| | | | | | | | | | | | | |
| | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CAC03 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 14... | 10 | 2.3 | 236 | 0 | 194 | 3.0 | 48 | 26 | .3 | 5.3 | 297 | 4.4 |
| JUN 30... | 11 | 2.0 | 262 | 0 | 215 | 6.6 | 51 | 27 | .4 | 2.0 | 307 | 1.1 |
| | | | | | | | | | | | | |
| | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 14... | .03 | .17 | .13 | 3 | 10 | 7 | 10 | 8 | 10 | .0 | 30 | 9.8 |
| JUN 30... | .03 | .28 | .04 | 2 | <10 | 3 | 10 | 7 | 100 | .0 | 20 | 9.3 |

SCIOTO RIVER BASIN

03231000 DEER CREEK AT WILLIAMSPORT, OH

LOCATION.--Lat 39°35'09", long 83°07'22", Pickaway County, Hydrologic Unit 05060002, on left bank at downstream side of bridge on U.S. Highway 22 at west edge of Williamsport, 2.0 mi (3.2 km) downstream from Dry Run, and 7.6 mi (12.2 km) upstream from Hay Run.

DRAINAGE AREA.--333 mi² (862 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1926 to December 1935, January 1938 to September 1956, water years 1959, 1961-62, annual maximum. July 1962 to current year.

REVISED RECORDS.--WSP 1083: 1929. WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 718.66 ft (219.048 m) above mean sea level. Prior to Feb. 29, 1940, nonrecording gage, and Feb. 29, 1940, to Aug. 24, 1954, water-stage recorder, same site at datum 3.00 ft (0.914 m) higher. Aug. 24, 1954 to Sept. 30, 1956, nonrecording gage at same site and datum. Oct. 1, 1958, to June 1962, crest-stage gage at site 120 ft (37 m) downstream at same datum.

REMARKS.--Records good except those for period of missing record, which are poor. Flow regulated by Deer Creek Lake 9.0 mi (14.5 km) upstream beginning in 1968.

AVERAGE DISCHARGE.--42 years (1926-35, 1938-56, 1962-77), 290 ft³/s (8.213 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,600 ft³/s (1,120 m³/s) Jan. 22, 1959, gage height, 17.6 ft (5.36 m) (from floodmarks), from rating curve extended above 25,000 ft³/s (708 m³/s) on basis of contracted-opening measurement of peak flow; minimum daily, 1.8 ft³/s (0.051 m³/s) July 25, 1934, Oct. 1-4, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,440 ft³/s (40.8 m³/s) Feb. 26, gage height, 6.71 ft (2.045 m); minimum daily, 12 ft³/s (0.34 m³/s) Sept. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|-------|------|------|------|------|------|------|
| 1 | 174 | 78 | 72 | 29 | 19 | 624 | 34 | 146 | 27 | 18 | 144 | 15 |
| 2 | 176 | 78 | 36 | 26 | 19 | 356 | 130 | 154 | 22 | 18 | 74 | 15 |
| 3 | 176 | 78 | 29 | 24 | 19 | 353 | 203 | 158 | 20 | 16 | 65 | 17 |
| 4 | 193 | 132 | 26 | 22 | 19 | 686 | 128 | 213 | 18 | 16 | 62 | 16 |
| 5 | 304 | 314 | 24 | 22 | 19 | 979 | 234 | 256 | 18 | 16 | 58 | 16 |
| 6 | 308 | 354 | 23 | 22 | 19 | 743 | 139 | 261 | 18 | 14 | 58 | 15 |
| 7 | 302 | 352 | 23 | 22 | 19 | 546 | 101 | 261 | 16 | 16 | 58 | 14 |
| 8 | 299 | 348 | 23 | 22 | 19 | 403 | 77 | 254 | 16 | 18 | 39 | 14 |
| 9 | 243 | 347 | 23 | 22 | 19 | 283 | 61 | 244 | 19 | 18 | 26 | 13 |
| 10 | 117 | 345 | 23 | 22 | 19 | 275 | 55 | 231 | 18 | 18 | 22 | 13 |
| 11 | 112 | 339 | 23 | 22 | 19 | 264 | 49 | 220 | 18 | 20 | 20 | 12 |
| 12 | 107 | 339 | 23 | 22 | 19 | 299 | 47 | 162 | 18 | 24 | 29 | 19 |
| 13 | 71 | 335 | 23 | 22 | 19 | 987 | 82 | 115 | 18 | 22 | 47 | 76 |
| 14 | 71 | 331 | 23 | 22 | 20 | 1030 | 146 | 113 | 23 | 20 | 133 | 85 |
| 15 | 72 | 214 | 25 | 22 | 24 | 864 | 181 | 106 | 22 | 18 | 160 | 85 |
| 16 | 72 | 68 | 44 | 22 | 90 | 572 | 179 | 77 | 18 | 19 | 139 | 112 |
| 17 | 70 | 71 | 59 | 22 | 130 | 458 | 170 | 75 | 18 | 22 | 105 | 128 |
| 18 | 70 | 71 | 62 | 22 | 95 | 542 | 166 | 72 | 18 | 17 | 44 | 122 |
| 19 | 71 | 72 | 64 | 22 | 80 | 677 | 170 | 52 | 28 | 16 | 28 | 453 |
| 20 | 74 | 71 | 64 | 21 | 67 | 803 | 166 | 51 | 19 | 16 | 25 | 785 |
| 21 | 72 | 72 | 63 | 21 | 57 | 604 | 132 | 50 | 18 | 183 | 19 | 668 |
| 22 | 71 | 74 | 62 | 20 | 50 | 468 | 115 | 49 | 16 | 351 | 18 | 664 |
| 23 | 72 | 75 | 50 | 20 | 48 | 505 | 115 | 48 | 16 | 58 | 17 | 625 |
| 24 | 78 | 76 | 31 | 20 | 400 | 323 | 117 | 47 | 16 | 33 | 17 | 571 |
| 25 | 77 | 77 | 25 | 19 | 900 | 70 | 113 | 47 | 16 | 35 | 16 | 545 |
| 26 | 76 | 78 | 22 | 19 | 1210 | 60 | 111 | 46 | 16 | 29 | 15 | 517 |
| 27 | 73 | 78 | 22 | 19 | 1390 | 56 | 108 | 43 | 16 | 22 | 16 | 513 |
| 28 | 72 | 80 | 24 | 19 | 1120 | 61 | 111 | 23 | 18 | 19 | 15 | 515 |
| 29 | 72 | 83 | 38 | 19 | --- | 65 | 113 | 19 | 18 | 18 | 15 | 418 |
| 30 | 74 | 93 | 37 | 19 | --- | 55 | 128 | 22 | 14 | 19 | 15 | 320 |
| 31 | 78 | --- | 33 | 19 | --- | 40 | --- | 21 | --- | 24 | 15 | --- |
| TOTAL | 3897 | 5123 | 1119 | 666 | 5928 | 14051 | 3681 | 3636 | 556 | 1153 | 1514 | 7381 |
| MEAN | 126 | 171 | 36.1 | 21.5 | 212 | 453 | 123 | 117 | 18.5 | 37.2 | 48.8 | 246 |
| MAX | 308 | 354 | 72 | 29 | 1390 | 1030 | 234 | 261 | 28 | 351 | 160 | 785 |
| MIN | 70 | 68 | 22 | 19 | 19 | 40 | 34 | 19 | 14 | 14 | 15 | 12 |

CAL YR 1976 TOTAL 77291 MEAN 211 MAX 2230 MIN 10
WTR YR 1977 TOTAL 48705 MEAN 133 MAX 1390 MIN 12

Note: No gage height record Nov. 18 to Jan. 20.

SCIOTO RIVER BASIN

257

03231000 DEER CREEK AT WILLIAMSPORT, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1965 to current year

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH | TEMPERATURE (DEG C) | DISSOLVED OXYGEN (MG/L) | PERCENT SATURATION | BIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L) | HARDNESS (CA+MG) (MG/L) | NON-CARBONATE HARDNESS (MG/L) | DISSOLVED CALCIUM (CA) (MG/L) | DISSOLVED MAGNESIUM (MG) | |
|-----------|------|-------------------------------|-----------------------------------|-----------------------------|---------------------------|----------------------------|-----------------------------|--|--------------------------------|---------------------------------|--------------------------------|---|---------------------------------|
| | | | | (UNITS) | | | | | | | | | |
| MAR 16... | 1645 | 558 | 585 | 8.2 | 11.0 | 11.2 | 101 | 1.4 | 280 | 79 | 66 | 29 | |
| JUN 30... | 1345 | 14 | 685 | 8.0 | 23.5 | 7.6 | 88 | 4.2 | 300 | 68 | 65 | 33 | |
| DATE | | DISSOLVED SODIUM (NA) (MG/L) | DISSOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED CHLORIDE (CL) (MG/L) | DISSOLVED FLUORIDE (F) (MG/L) | DISSOLVED SILICA (SiO2) (MG/L) | DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 16... | 9.2 | 2.1 | | 250 | 0 | 205 | 2.5 | 50 | 26 | .3 | 6.0 | 312 | 5.4 |
| JUN 30... | 12 | 2.3 | | 281 | 0 | 230 | 4.5 | 64 | 27 | .4 | 5.7 | 348 | .76 |
| DATE | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DISSOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DISSOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 16... | .04 | .07 | .10 | | 2 | 10 | 6 | 10 | 7 | 20 | .0 | 50 | 9.7 |
| JUN 30... | .01 | .14 | .13 | | 2 | <10 | 7 | 30 | 3 | 10 | .0 | 20 | 3.1 |

SCIOTO RIVER BASIN

03231500 SCIOTO RIVER AT CHILLICOTHE, OH

LOCATION.--Lat 39°20'29", long 82°58'16", Ross County, Hydrologic Unit 05060002, on right bank at north end of Chillicothe, 1,400 ft (427 m) downstream from Bridge Street bridge, 7.4 mi (11.9 km) upstream from Paint Creek, and 15.4 mi (24.8 km) downstream from Deer Creek.

DRAINAGE AREA.--3,849 mi² (9,969 km²).

WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder. Datum of gage is 594.05 ft (181.066 m) above mean sea level. Prior to Sept. 30, 1914, nonrecording gage at site 1,300 ft (396 m) upstream at different datum. Apr. 1, 1921, to Aug. 6, 1930, nonrecording gage, at site 1,400 ft (427 m) upstream at present datum. Aug. 7, 1930, to Sept. 30, 1969, water stage recorder 900 ft (274 m) upstream at same datum.

REMARKS.--Records good except those for winter periods, which are fair. Flow regulated by 6 reservoirs 36 mi (58 km) to 91 mi (146 km) upstream from station (see stations 03220500, 03221500, 03225000, 03228400, 03228850, 03230890).

AVERAGE DISCHARGE.--57 years, 3,353 ft³/s (94.96 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 144,000 ft³/s (4,080 m³/s) Jan. 23, 1959, gage height, 32.5 ft (9.906 m), (from high-water mark in well); minimum daily, 166 ft³/s (4.70 m³/s) Sept. 27, 1944.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 26, 1913 reached a stage of 39.8 ft (12.13 m), discharge, 260,000 ft³/s (7,360 m³/s) (estimated by Franklin County Conservancy District).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20,600 ft³/s (583 m³/s) Apr. 5, gage height, 10.92 ft (3.328 m); minimum daily, 400 ft³/s (11.3 m³/s) Sept. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|--------|--------|-------|-------|-------|-------|-------|
| 1 | 1080 | 2520 | 710 | 510 | 440 | 8710 | 4100 | 3100 | 816 | 1320 | 950 | 499 |
| 2 | 1080 | 2100 | 650 | 490 | 440 | 5880 | 3510 | 2970 | 862 | 2250 | 746 | 443 |
| 3 | 1040 | 1550 | 600 | 480 | 430 | 4690 | 12000 | 2670 | 768 | 1640 | 564 | 479 |
| 4 | 1040 | 1320 | 550 | 470 | 430 | 4670 | 17200 | 3340 | 726 | 1470 | 502 | 1490 |
| 5 | 1160 | 1290 | 500 | 460 | 430 | 7810 | 20100 | 5010 | 690 | 1540 | 475 | 835 |
| 6 | 1230 | 1340 | 460 | 460 | 430 | 8320 | 18000 | 8440 | 780 | 1340 | 454 | 557 |
| 7 | 1250 | 1350 | 540 | 450 | 430 | 7140 | 12500 | 9240 | 703 | 1070 | 452 | 1330 |
| 8 | 1280 | 1310 | 1000 | 450 | 420 | 5880 | 7780 | 9130 | 663 | 847 | 1530 | 788 |
| 9 | 1290 | 1290 | 853 | 440 | 440 | 4520 | 6320 | 5990 | 691 | 1070 | 1820 | 586 |
| 10 | 1390 | 1230 | 763 | 440 | 480 | 3490 | 8260 | 4270 | 2760 | 936 | 1130 | 477 |
| 11 | 1260 | 1130 | 697 | 430 | 540 | 2930 | 7740 | 3150 | 2100 | 802 | 799 | 425 |
| 12 | 988 | 1120 | 675 | 430 | 930 | 2830 | 7300 | 2530 | 1590 | 762 | 916 | 400 |
| 13 | 877 | 1110 | 865 | 430 | 2100 | 8970 | 7060 | 2130 | 1260 | 990 | 1680 | 420 |
| 14 | 842 | 1080 | 853 | 425 | 1900 | 13900 | 4570 | 1940 | 1160 | 859 | 1140 | 476 |
| 15 | 785 | 1150 | 796 | 425 | 1600 | 10400 | 3900 | 1770 | 1080 | 673 | 1200 | 1220 |
| 16 | 763 | 1050 | 819 | 425 | 1450 | 7950 | 3130 | 1620 | 961 | 596 | 963 | 1210 |
| 17 | 774 | 925 | 819 | 425 | 1300 | 5560 | 2670 | 1480 | 817 | 572 | 839 | 2010 |
| 18 | 763 | 731 | 830 | 430 | 1200 | 5860 | 2450 | 1380 | 745 | 721 | 703 | 1710 |
| 19 | 901 | 807 | 819 | 430 | 1100 | 10700 | 2220 | 1260 | 886 | 881 | 655 | 1130 |
| 20 | 819 | 807 | 819 | 440 | 1050 | 10700 | 2040 | 1170 | 923 | 659 | 566 | 1670 |
| 21 | 877 | 774 | 741 | 440 | 1000 | 9840 | 1910 | 1090 | 748 | 621 | 505 | 1710 |
| 22 | 1050 | 830 | 774 | 450 | 960 | 9090 | 1710 | 1020 | 681 | 1490 | 507 | 1340 |
| 23 | 830 | 865 | 741 | 460 | 2100 | 8520 | 1730 | 987 | 641 | 1250 | 680 | 1350 |
| 24 | 796 | 807 | 853 | 470 | 7290 | 7790 | 1960 | 1110 | 611 | 799 | 668 | 1220 |
| 25 | 1770 | 785 | 774 | 480 | 11500 | 6840 | 2570 | 1190 | 618 | 741 | 598 | 1110 |
| 26 | 2010 | 731 | 720 | 470 | 12700 | 5640 | 2750 | 1070 | 590 | 825 | 529 | 999 |
| 27 | 1510 | 785 | 680 | 470 | 12500 | 3960 | 2610 | 972 | 590 | 828 | 489 | 936 |
| 28 | 1210 | 938 | 640 | 470 | 10900 | 3320 | 2610 | 892 | 824 | 665 | 500 | 900 |
| 29 | 1070 | 870 | 600 | 460 | --- | 3590 | 3570 | 840 | 2550 | 611 | 455 | 861 |
| 30 | 1010 | 800 | 560 | 450 | --- | 3700 | 3850 | 841 | 2030 | 575 | 429 | 728 |
| 31 | 1150 | --- | 530 | 450 | --- | 4210 | --- | 926 | --- | 601 | 505 | --- |
| TOTAL | 33895 | 33395 | 22231 | 14010 | 76490 | 207410 | 178120 | 83528 | 30864 | 30004 | 23949 | 29309 |
| MEAN | 1093 | 1113 | 717 | 452 | 2732 | 6691 | 5937 | 2694 | 1029 | 968 | 773 | 977 |
| MAX | 2010 | 2520 | 1000 | 510 | 12700 | 13900 | 20100 | 9240 | 2760 | 2250 | 1820 | 2010 |
| MIN | 763 | 731 | 460 | 425 | 420 | 2830 | 1710 | 840 | 590 | 572 | 429 | 400 |

CAL YR 1976 TOTAL 1044982 MEAN 2855 MAX 29900 MIN 458
WTR YR 1977 TOTAL 763205 MEAN 2091 MAX 20100 MIN 400

SCIOTO RIVER BASIN

259

03231500 SCIOTO RIVER AT CHILLICOTHE, OH--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1965 to current year.

pH: May 1965 to current year.

WATER TEMPERATURES: October 1950 to September 1951, October 1953 to current year.

DISSOLVED OXYGEN: May 1965 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. Dissolved oxygen concentrations listed as 15.0 mg/L represent concentrations of 15.0 mg/L or higher due to instrument limitations.

EXTREMES FOR PERIOD OF DAILY RECORD.--

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

pH: Maximum, 9.2 units Dec. 24, 26, 1973; minimum, 6.7 units Apr. 1, 2, 1975, Jan. 20, 29, 31, Feb. 1, 1976.

WATER TEMPERATURES: Maximum, 32.0°C July 14, 1954, Aug. 2, 3, 1955, July 20, 1977; minimum, 0.0°C on many days during winter periods.

DISSOLVED OXYGEN: Maximum, 15.0 mg/L or higher on several days during 1966-67, 1975-77; minimum, 0.0 mg/L Apr. 27, Aug. 12, Sept. 22, 1966.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,150 micromhos Feb. 9; minimum, 206 micromhos July 13.

pH: Maximum, 9.0 units May 28, Sept. 2, 3; minimum, 6.9 units Oct. 24, Dec. 15.

WATER TEMPERATURES: Maximum, 32.0°C July 20; minimum, 0.0°C on many days during December to February.

DISSOLVED OXYGEN: Maximum, 15.0 mg/L or higher May 18, 27-30, June 3, 4, 18, 19, 21; minimum, 2.5 mg/L Aug. 9.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | |
|--------------|------|--|--|---|--|--|--|--|--|--|---|---|---|
| | | | | | | | | | | | | | |
| MAR 09... | 1330 | 4320 | 625 | 7.9 | 6.0 | 11.0 | 88 | 3.6 | 280 | 110 | 71 | 24 | |
| JUN 23... | 1125 | 636 | 760 | 8.2 | 22.5 | 10.4 | 120 | 6.3 | 310 | 97 | 76 | 28 | |
| DATE | TIME | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | |
| MAR 09... | 21 | 4.1 | 200 | 0 | 164 | 4.0 | 80 | 41 | .3 | 6.7 | 347 | 4.5 | |
| JUN 23... | 36 | 4.9 | 260 | 0 | 213 | 2.6 | 94 | 42 | .7 | 3.2 | 413 | 2.8 | |
| DATE | TIME | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 09... | .05 | .82 | .38 | 2 | 20 | 12 | 30 | 16 | 30 | .0 | -- | 9.0 | |
| JUN 23... | .06 | .09 | .85 | 4 | <10 | 7 | 50 | 8 | 30 | .0 | 40 | 9.8 | |

03231500 SCICTO RIVER AT CHILLICOTHE, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|------|-------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 660 | 650 | 750 | 710 | 795 | 760 | 850 | 830 | 1020 | 1000 | 503 | 473 |
| 2 | 665 | 650 | 730 | 600 | 880 | 755 | 850 | 840 | 1050 | 1020 | 527 | 497 |
| 3 | 700 | 665 | 600 | 590 | 800 | 765 | 850 | 830 | 1040 | 966 | 546 | 471 |
| 4 | 710 | 700 | 640 | 600 | 810 | 775 | 830 | 820 | 1100 | 944 | 519 | 500 |
| 5 | 700 | 680 | 660 | 640 | 820 | 810 | 1020 | 810 | 936 | 920 | --- | --- |
| 6 | 690 | 635 | 670 | 660 | 962 | 815 | 810 | 780 | 978 | 930 | --- | --- |
| 7 | 680 | 675 | 675 | 670 | 870 | 820 | 800 | 770 | 1000 | 981 | 573 | 548 |
| 8 | 680 | 670 | 695 | 690 | 845 | 820 | 810 | 790 | 1030 | 980 | 591 | 537 |
| 9 | 680 | 390 | 700 | 700 | 860 | 845 | 860 | 810 | 1150 | 975 | 635 | 552 |
| 10 | 690 | 670 | 700 | 685 | 845 | 818 | 870 | 850 | 1110 | 905 | 669 | 632 |
| 11 | 700 | 690 | 680 | 680 | 835 | 812 | 900 | 870 | 1000 | 881 | 690 | 672 |
| 12 | 700 | 680 | 690 | 680 | 820 | 810 | 910 | 890 | 890 | 845 | 701 | 569 |
| 13 | 680 | 660 | 700 | 690 | 840 | 818 | 910 | 890 | 896 | 819 | 677 | 533 |
| 14 | 675 | 655 | 715 | 700 | 848 | 840 | 900 | 880 | 987 | 914 | 554 | 486 |
| 15 | 690 | 670 | 720 | 710 | 842 | 810 | 880 | 850 | 1040 | 990 | 594 | 555 |
| 16 | 700 | 680 | 730 | 720 | 810 | 748 | 880 | 850 | 1000 | 938 | 609 | 597 |
| 17 | 740 | 700 | 770 | 730 | 762 | 740 | 920 | 880 | 929 | 887 | 639 | 611 |
| 18 | 750 | 740 | 765 | 750 | 759 | 745 | 940 | 910 | 884 | 836 | 656 | 555 |
| 19 | 760 | 750 | 750 | 750 | 775 | 755 | 970 | 940 | 839 | 824 | 617 | 527 |
| 20 | 760 | 680 | 755 | 750 | 800 | 760 | 970 | 960 | 842 | 830 | 618 | 531 |
| 21 | 740 | 720 | 785 | 755 | 780 | 770 | 960 | 950 | 857 | 821 | 630 | 609 |
| 22 | 730 | 700 | 790 | 780 | 783 | 770 | 960 | 940 | 870 | 833 | 683 | 599 |
| 23 | 710 | 700 | 790 | 770 | 779 | 768 | 940 | 920 | 842 | 620 | 693 | 660 |
| 24 | 720 | 685 | 790 | 775 | 785 | 770 | 930 | 910 | 633 | 461 | 684 | 665 |
| 25 | 710 | 680 | 780 | 760 | 785 | 782 | 950 | 910 | 492 | 459 | 690 | 657 |
| 26 | 740 | 650 | 760 | 755 | 805 | 775 | 930 | 910 | 605 | 488 | 675 | 642 |
| 27 | 650 | 630 | 815 | 760 | 818 | 780 | 920 | 910 | 614 | 557 | 677 | 651 |
| 28 | 655 | 645 | 800 | 770 | 818 | 785 | 930 | 920 | 555 | 488 | 686 | 663 |
| 29 | 670 | 655 | 1070 | 775 | 790 | 775 | 950 | 930 | --- | --- | 687 | 674 |
| 30 | 690 | 660 | 930 | 780 | 805 | 790 | 950 | 940 | --- | --- | 684 | 675 |
| 31 | 710 | 680 | --- | --- | 825 | 800 | 1000 | 940 | --- | --- | 719 | 681 |
| MONTH | 760 | 390 | 1070 | 590 | 962 | 740 | 1020 | 770 | 1150 | 459 | 719 | 471 |

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|-----|-----|-----|------|-----|------|-----|--------|-----|-----------|-----|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 735 | 693 | 657 | 635 | --- | --- | 639 | 471 | 753 | 440 | 812 | 759 |
| 2 | 696 | 554 | 663 | 653 | --- | --- | 666 | 588 | 744 | 641 | --- | --- |
| 3 | 606 | 494 | 683 | 609 | 779 | 632 | 701 | 557 | 692 | 636 | 783 | 758 |
| 4 | 516 | 504 | 693 | 611 | 753 | 713 | 614 | 560 | 707 | 692 | 782 | 737 |
| 5 | 504 | 482 | 638 | 594 | 734 | 674 | 666 | 615 | 723 | 707 | 786 | 701 |
| 6 | 507 | 498 | 654 | 623 | 774 | 719 | 668 | 654 | 752 | 726 | 695 | 654 |
| 7 | 531 | 512 | 651 | 605 | 816 | 780 | 696 | 669 | 765 | 737 | 687 | 657 |
| 8 | 584 | 528 | 624 | 606 | 831 | 696 | 699 | 692 | 860 | 773 | 743 | 662 |
| 9 | 624 | 590 | 638 | 609 | 834 | 771 | 717 | 362 | 869 | 576 | 722 | 642 |
| 10 | 635 | 551 | 666 | 641 | 881 | 746 | 743 | 672 | 566 | 492 | 641 | 612 |
| 11 | 555 | 519 | 674 | 651 | 722 | 612 | 749 | 479 | 554 | 360 | 636 | 617 |
| 12 | 527 | 501 | 687 | 663 | 632 | 626 | 705 | 620 | 587 | 438 | 677 | 638 |
| 13 | 521 | 498 | 693 | 677 | 674 | 633 | 711 | 206 | 680 | 591 | 795 | 680 |
| 14 | 575 | 515 | 704 | 681 | 698 | 635 | 699 | 600 | 681 | 609 | 785 | 764 |
| 15 | 608 | 578 | 713 | 698 | 722 | 698 | 719 | 677 | 605 | 548 | 843 | 777 |
| 16 | 638 | 609 | 725 | 705 | 722 | 705 | 717 | 654 | 624 | 555 | 839 | 710 |
| 17 | 666 | 642 | --- | --- | 725 | 704 | 704 | 662 | 635 | 603 | 764 | 614 |
| 18 | 681 | 668 | --- | --- | 746 | 488 | 683 | 662 | 647 | 630 | 672 | 584 |
| 19 | 678 | 665 | --- | --- | 752 | 737 | --- | --- | 681 | 641 | 581 | 554 |
| 20 | 681 | 615 | --- | --- | 780 | 410 | --- | --- | 716 | 684 | 578 | 555 |
| 21 | 689 | 672 | --- | --- | 792 | 686 | 788 | 614 | 735 | 719 | 636 | 573 |
| 22 | 732 | 690 | --- | --- | 779 | 678 | 683 | 515 | 737 | 729 | 615 | 590 |
| 23 | 729 | 711 | --- | --- | 777 | 738 | 615 | 510 | 750 | 737 | 614 | 593 |
| 24 | 750 | 731 | --- | --- | 747 | 735 | 651 | 620 | 789 | 509 | 636 | 608 |
| 25 | 768 | 723 | --- | --- | 755 | 692 | 669 | 639 | 810 | 791 | 672 | 627 |
| 26 | 752 | 684 | --- | --- | 764 | 743 | 681 | 663 | 812 | 732 | 680 | 617 |
| 27 | 702 | 681 | --- | --- | 779 | 672 | 774 | 681 | 743 | 711 | 641 | 620 |
| 28 | 698 | 596 | --- | --- | 789 | 723 | 779 | 723 | 746 | 713 | 642 | 629 |
| 29 | 713 | 689 | --- | --- | 819 | 704 | 725 | 264 | 770 | 746 | 654 | 639 |
| 30 | 698 | 635 | --- | --- | 684 | 458 | 722 | 681 | 792 | 774 | 660 | 642 |
| 31 | --- | --- | --- | --- | --- | --- | 717 | 401 | 804 | 792 | --- | --- |
| MONTH | 768 | 482 | 725 | 594 | 881 | 410 | 788 | 206 | 869 | 360 | 843 | 554 |
| YEAR | 1150 | 206 | | | | | | | | | | |

PH (UNITS), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible]

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|---------|------|----------|------|----------|------|---------|------|----------|------|-----------|------|------|
| OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | | |
| 1 | 7.1 | 4.9 | 6.8 | 5.6 | 10.1 | 7.9 | 11.3 | 10.3 | 8.4 | 8.1 | 11.8 | 11.6 |
| 2 | 7.4 | 5.3 | 8.1 | 5.6 | 10.1 | 8.3 | 10.8 | 10.0 | 8.5 | 8.2 | 11.5 | 11.3 |
| 3 | 6.7 | 5.6 | 8.2 | 7.5 | 10.6 | 8.7 | 10.4 | 9.8 | 8.6 | 8.1 | 11.3 | 11.0 |
| 4 | 6.7 | 4.9 | 7.9 | 7.3 | 1.0 | 8.4 | 10.2 | 9.6 | 8.4 | 7.9 | 11.0 | 10.7 |
| 5 | 7.5 | 3.0 | 8.2 | 7.2 | 10.7 | 8.2 | 9.9 | 9.5 | 8.3 | 7.9 | --- | --- |
| 6 | 6.1 | 4.4 | 8.9 | 7.6 | 10.7 | 8.2 | 9.9 | 9.4 | 8.3 | 7.9 | --- | --- |
| 7 | 4.4 | 3.8 | 9.0 | 7.7 | 8.6 | 7.8 | 9.8 | 9.1 | 8.7 | 8.3 | 10.9 | 10.8 |
| 8 | 4.8 | 3.9 | 8.8 | 7.8 | 8.7 | 7.8 | 10.1 | 9.7 | 9.0 | 8.7 | 13.1 | 10.8 |
| 9 | 7.0 | 4.1 | 9.0 | 7.5 | 9.8 | 7.8 | 10.1 | 9.6 | 9.8 | 9.0 | 12.7 | 10.7 |
| 10 | 5.4 | 4.3 | 9.0 | 7.8 | 10.7 | 8.9 | 10.3 | 9.6 | 10.0 | 9.5 | 10.6 | 9.8 |
| 11 | 5.5 | 4.5 | 9.0 | 7.8 | 10.6 | 9.6 | 10.8 | 10.1 | 9.9 | 9.4 | 9.9 | 9.4 |
| 12 | 5.9 | 4.9 | 9.9 | 8.0 | 11.6 | 10.1 | 10.5 | 9.9 | 9.7 | 8.7 | 9.3 | 8.8 |
| 13 | 7.4 | 5.2 | 9.7 | 8.0 | 12.4 | 9.8 | 10.5 | 9.6 | 9.0 | 8.3 | 9.0 | 8.1 |
| 14 | 7.5 | 6.3 | 10.1 | 8.2 | 10.6 | 9.2 | 9.8 | 8.9 | 9.1 | 8.2 | 9.3 | 8.3 |
| 15 | 7.1 | 5.4 | 9.9 | 8.2 | 11.9 | 9.2 | 9.1 | 8.7 | 9.6 | 8.6 | 9.7 | 9.3 |
| 16 | 6.9 | 5.0 | 10.1 | 8.0 | 12.1 | 10.1 | 9.2 | 8.6 | 10.1 | 9.6 | 9.6 | 9.5 |
| 17 | 7.0 | 5.0 | 9.7 | 7.5 | 12.3 | 9.7 | 9.3 | 8.7 | 10.4 | 10.0 | 9.5 | 9.0 |
| 18 | 7.7 | 5.4 | 10.7 | 8.1 | 12.4 | 10.2 | 8.7 | 8.3 | 10.6 | 10.2 | 9.4 | 9.1 |
| 19 | 8.0 | 6.0 | 10.2 | 7.9 | 11.7 | 9.6 | 8.4 | 7.7 | 10.6 | 10.0 | 9.9 | 9.2 |
| 20 | 6.9 | 5.8 | 9.8 | 7.7 | 10.0 | 9.1 | 8.0 | 7.5 | 10.1 | 9.4 | 10.5 | 9.9 |
| 21 | 7.8 | 5.6 | 9.4 | 7.3 | 12.1 | 9.7 | 8.0 | 7.6 | 10.5 | 9.3 | 10.6 | 10.4 |
| 22 | 8.4 | 6.3 | 8.9 | 7.3 | 12.0 | 10.1 | 8.0 | 7.4 | 10.7 | 9.4 | 10.5 | 10.3 |
| 23 | 8.1 | 6.3 | 9.9 | 7.7 | 12.2 | 10.4 | 7.9 | 7.3 | 10.3 | 9.6 | 10.4 | 10.2 |
| 24 | 6.6 | 5.5 | 8.9 | 7.7 | 11.8 | 10.9 | 7.5 | 7.1 | 10.1 | 9.7 | 10.5 | 10.4 |
| 25 | 6.4 | 5.4 | 10.1 | 7.7 | 11.4 | 10.3 | 7.5 | 7.1 | 10.7 | 10.2 | 10.6 | 10.4 |
| 26 | 6.4 | 4.8 | 9.5 | 7.7 | 11.8 | 10.6 | 7.8 | 7.2 | 11.2 | 10.4 | 10.5 | 10.1 |
| 27 | 7.8 | 6.4 | 9.0 | 6.9 | 11.7 | 10.3 | 8.0 | 7.6 | 11.4 | 11.1 | 10.1 | 9.2 |
| 28 | 8.9 | 7.5 | 6.9 | 5.8 | 10.8 | 10.2 | 8.3 | 7.8 | 11.7 | 11.4 | 9.3 | 8.6 |
| 29 | 9.1 | 7.5 | 8.1 | 5.7 | 11.0 | 10.1 | 8.7 | 7.7 | --- | --- | 8.6 | 7.8 |
| 30 | 8.1 | 7.2 | 9.2 | 7.0 | --- | --- | 8.8 | 8.4 | --- | --- | 7.8 | 7.2 |
| 31 | 7.3 | 6.7 | --- | --- | 11.2 | 10.4 | 8.6 | 8.3 | --- | --- | 7.8 | 7.2 |
| MONTH | 9.1 | 3.0 | 10.7 | 5.6 | 12.4 | 7.8 | 11.3 | 7.1 | 11.7 | 7.9 | 13.1 | 7.2 |
| | | | | | | | | | | | | |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 8.5 | 7.7 | 8.0 | 6.9 | 12.9 | 6.3 | 6.8 | 4.2 | 6.8 | 4.4 | 13.3 | 7.1 |
| 2 | 8.4 | 8.0 | 7.0 | 6.2 | 12.3 | 5.4 | 4.8 | 3.2 | 4.9 | 4.2 | 14.1 | 6.6 |
| 3 | 8.0 | 7.1 | 8.3 | 6.2 | 15.0 | 6.1 | 6.1 | 2.6 | 7.8 | 4.2 | 14.5 | 6.9 |
| 4 | 8.2 | 8.0 | 7.0 | 6.0 | 15.0 | 7.4 | 6.3 | 4.4 | 10.5 | 5.7 | 9.8 | 5.9 |
| 5 | 8.6 | 8.2 | 6.1 | 5.3 | 11.3 | 6.8 | 5.2 | 4.1 | 12.2 | 6.7 | 10.2 | 3.4 |
| 6 | 9.5 | 8.6 | 6.6 | 5.3 | 12.0 | 6.2 | 6.1 | 3.5 | 13.2 | 6.8 | 7.0 | 3.6 |
| 7 | 9.7 | 9.4 | 6.8 | 6.3 | 13.0 | 5.0 | 7.4 | 4.0 | 14.5 | 7.1 | 5.9 | 3.9 |
| 8 | 9.5 | 9.3 | 6.9 | 6.3 | 11.2 | 6.2 | 10.3 | 5.2 | 10.0 | 3.4 | 6.5 | 3.7 |
| 9 | 9.3 | 9.1 | 7.4 | 6.7 | 14.3 | 6.2 | 9.5 | 5.4 | 4.7 | 2.5 | 8.8 | 4.3 |
| 10 | 9.7 | 9.0 | 7.7 | 7.0 | 9.3 | 4.5 | 6.6 | 4.3 | 4.6 | 3.8 | 8.7 | 5.3 |
| 11 | 9.4 | 8.8 | 7.7 | 7.0 | 4.6 | 3.4 | 5.9 | 3.3 | 5.9 | 4.3 | 9.1 | 5.6 |
| 12 | 8.8 | 8.2 | 8.1 | 6.8 | 9.8 | 4.3 | 7.8 | 4.1 | 5.5 | 4.3 | 8.3 | 6.0 |
| 13 | 8.3 | 8.0 | 8.8 | 6.7 | 10.4 | 5.7 | 10.6 | 5.1 | 4.3 | 3.8 | 8.4 | 5.8 |
| 14 | 8.1 | 7.5 | 9.6 | 6.2 | 9.6 | 5.2 | 6.5 | 5.1 | 5.1 | 3.5 | 7.0 | 5.3 |
| 15 | 7.6 | 7.1 | 12.5 | 7.0 | --- | --- | 12.9 | 6.0 | 6.1 | 4.7 | 5.3 | 4.4 |
| 16 | 7.8 | 7.0 | 13.1 | 7.5 | --- | --- | 13.1 | 7.5 | 7.5 | 5.0 | 5.3 | 3.4 |
| 17 | 7.4 | 6.7 | --- | --- | --- | --- | 14.1 | 6.2 | 8.3 | 5.1 | 4.8 | 3.5 |
| 18 | 7.8 | 6.5 | 15.0 | 14.0 | 15.0 | 8.6 | 14.7 | 6.3 | 9.6 | 5.5 | 4.5 | 3.6 |
| 19 | 8.0 | 6.8 | 14.4 | 9.1 | 15.0 | 7.9 | 11.9 | 4.4 | 9.5 | 5.6 | 5.1 | 3.7 |
| 20 | 7.5 | 6.1 | 11.0 | 6.6 | 13.9 | 5.2 | 13.8 | 5.9 | 10.9 | 6.4 | 5.5 | 4.7 |
| 21 | 7.4 | 5.6 | 6.4 | 5.1 | 15.0 | 7.2 | 12.1 | 5.4 | 10.5 | 7.2 | 5.4 | 4.9 |
| 22 | 6.8 | 4.9 | 5.8 | 3.7 | 11.8 | 7.5 | 6.4 | 4.2 | 11.5 | 6.8 | 6.7 | 5.5 |
| 23 | 7.0 | 5.4 | 6.0 | 3.4 | 14.4 | 6.8 | 7.1 | 4.0 | 11.0 | 7.3 | 6.8 | 6.1 |
| 24 | 6.5 | 5.1 | 6.2 | 3.4 | 10.5 | 6.5 | 9.4 | 4.7 | 9.3 | 6.3 | 6.1 | 5.6 |
| 25 | 6.0 | 4.6 | 6.5 | 3.3 | 11.4 | 5.3 | 10.0 | 6.1 | 12.1 | 5.4 | 5.8 | 5.3 |
| 26 | 7.1 | 5.1 | 13.0 | 3.6 | 13.5 | 5.7 | 12.4 | 6.3 | 11.9 | 5.9 | 6.5 | 5.1 |
| 27 | 9.1 | 6.7 | 15.0 | 6.7 | 12.5 | 5.7 | 11.8 | 5.2 | 13.1 | 6.6 | 6.8 | 5.7 |
| 28 | 7.7 | 6.9 | 15.0 | 9.2 | 13.7 | 6.2 | 11.6 | 6.0 | 14.1 | 7.6 | 7.0 | 5.8 |
| 29 | 8.1 | 6.9 | 15.0 | 8.7 | 5.3 | 3.0 | 7.8 | 4.9 | 13.7 | 7.5 | 7.7 | 6.1 |
| 30 | 7.7 | 6.0 | 15.0 | 7.3 | 6.9 | 2.7 | 5.4 | 3.5 | 11.9 | 6.7 | 8.5 | 6.6 |
| 31 | --- | --- | 14.3 | 7.6 | --- | --- | 8.4 | 5.0 | 12.0 | 6.2 | --- | --- |
| MONTH | 9.7 | 4.6 | 15.0 | 3.3 | 15.0 | 2.7 | 14.7 | 2.6 | 14.5 | 2.5 | 14.5 | 3.4 |
| YEAR | 15.0 | 2.5 | | | | | | | | | | |

SCIOTO RIVER BASIN

03232000 PAINT CREEK NEAR GREENFIELD, OH

LOCATION.--Lat 39°22'45", long 83°22'32", Payette County, Hydrologic Unit 05060003, on right bank at upstream side of bridge on State Highway 753, 0.6 mi (1.0 km) upstream from Stone Run, 2.0 mi (3.2 km) north of Greenfield, and 3.0 mi (4.8 km) downstream from Indian Creek.

DRAINAGE AREA.--249 mi² (645 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1926 to November 1935, October 1939 to September 1956; water years 1962-66 (occasional low-flow measurements), (annual maximums), water years 1963-66. October 1966 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 (257.333 m) above mean sea level. Prior to Feb. 14, 1940 nonrecording gage, Feb. 14, 1940 to June 3, 1955 water-stage recorder, June 4, 1955 to Sept. 30, 1956 nonrecording gage, at same site at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records good except those for winter periods, which are fair.

AVERAGE DISCHARGE.--37 years (1926-35, 1939-56, 1966-77), 225 ft³/s (6.372 m³/s), 12.27 in/yr (312 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,700 ft³/s (615 m³/s) May 24, 1969, gage height, 14.28 ft (4.353 m); no flow Sept. 10, 18, 27, 29, 30, Oct. 1, 4, 1953.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,500 ft³/s (42.5 m³/s) Apr. 2, gage height, 5.64 ft (1.719 m), no peaks above base of 2,000 ft³/s (56.64 m³/s); minimum, 2.8 ft³/s (0.079 m³/s) Sept. 13-15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|---------|-------|-------|--------|------|------|------|------|-------|-------|-------|
| 1 | 15 | 44 | 13 | 8.6 | 8.0 | 267 | 110 | 151 | 58 | 30 | 65 | 4.0 |
| 2 | 12 | 38 | 13 | 8.6 | 8.0 | 205 | 314 | 333 | 46 | 30 | 34 | 4.2 |
| 3 | 11 | 39 | 12 | 8.5 | 8.0 | 176 | 654 | 264 | 38 | 20 | 18 | 4.0 |
| 4 | 10 | 38 | 11 | 8.4 | 8.0 | 530 | 613 | 239 | 34 | 18 | 13 | 14 |
| 5 | 8.3 | 35 | 10 | 8.4 | 8.0 | 705 | 675 | 360 | 31 | 16 | 9.6 | 10 |
| 6 | 13 | 30 | 10 | 8.4 | 8.0 | 514 | 557 | 438 | 35 | 15 | 7.4 | 7.0 |
| 7 | 12 | 27 | 23 | 8.4 | 8.0 | 343 | 435 | 692 | 33 | 11 | 6.1 | 5.6 |
| 8 | 12 | 29 | 33 | 8.4 | 8.0 | 261 | 343 | 503 | 29 | 10 | 5.6 | 4.9 |
| 9 | 13 | 26 | 21 | 8.4 | 8.0 | 210 | 272 | 322 | 32 | 19 | 9.6 | 4.2 |
| 10 | 19 | 23 | 17 | 8.3 | 9.0 | 178 | 228 | 236 | 31 | 15 | 18 | 4.0 |
| 11 | 17 | 23 | 16 | 8.2 | 20 | 147 | 197 | 183 | 25 | 15 | 12 | 4.0 |
| 12 | 14 | 21 | 15 | 8.1 | 90 | 197 | 169 | 147 | 23 | 20 | 18 | 4.0 |
| 13 | 12 | 21 | 14 | 8.0 | 240 | 580 | 153 | 127 | 20 | 27 | 29 | 3.6 |
| 14 | 8.3 | 19 | 14 | 8.0 | 200 | 481 | 143 | 112 | 24 | 27 | 43 | 3.2 |
| 15 | 8.3 | 21 | 13 | 8.4 | 170 | 365 | 131 | 98 | 95 | 12 | 66 | 12 |
| 16 | 7.5 | 20 | 12 | 8.2 | 150 | 255 | 114 | 87 | 90 | 11 | 41 | 17 |
| 17 | 6.8 | 19 | 11 | 8.2 | 125 | 195 | 103 | 76 | 57 | 33 | 36 | 43 |
| 18 | 6.8 | 18 | 11 | 8.2 | 100 | 500 | 98 | 72 | 44 | 21 | 36 | 33 |
| 19 | 6.8 | 17 | 10 | 8.2 | 90 | 456 | 93 | 69 | 52 | 13 | 20 | 29 |
| 20 | 12 | 16 | 10 | 8.2 | 83 | 374 | 85 | 61 | 44 | 9.8 | 14 | 26 |
| 21 | 23 | 16 | 10 | 8.2 | 75 | 284 | 81 | 55 | 35 | 7.6 | 12 | 24 |
| 22 | 17 | 14 | 9.8 | 8.2 | 69 | 281 | 76 | 50 | 36 | 18 | 12 | 21 |
| 23 | 13 | 14 | 9.6 | 8.1 | 200 | 284 | 79 | 47 | 37 | 18 | 13 | 18 |
| 24 | 28 | 14 | 9.4 | 8.1 | 600 | 258 | 85 | 49 | 32 | 14 | 11 | 16 |
| 25 | 48 | 14 | 9.2 | 8.0 | 1070 | 215 | 91 | 72 | 28 | 13 | 11 | 14 |
| 26 | 32 | 17 | 9.0 | 8.0 | 985 | 183 | 112 | 63 | 27 | 11 | 12 | 12 |
| 27 | 53 | 21 | 8.8 | 8.0 | 533 | 162 | 93 | 52 | 24 | 9.7 | 9.4 | 11 |
| 28 | 53 | 18 | 8.7 | 8.0 | 347 | 164 | 100 | 45 | 25 | 9.4 | 7.1 | 10 |
| 29 | 40 | 16 | 8.7 | 8.0 | --- | 158 | 171 | 41 | 29 | 8.6 | 5.5 | 9.0 |
| 30 | 34 | 15 | 8.6 | 8.0 | --- | 143 | 160 | 101 | 25 | 7.5 | 4.9 | 8.0 |
| 31 | 46 | --- | 8.6 | 8.0 | --- | 127 | --- | 91 | --- | 7.3 | 4.5 | --- |
| TOTAL | 611.8 | 683 | 389.4 | 254.7 | 5228.0 | 9198 | 6535 | 5236 | 1139 | 496.9 | 603.7 | 379.7 |
| MEAN | 19.7 | 22.8 | 12.6 | 8.22 | 187 | 297 | 218 | 169 | 38.0 | 16.0 | 19.5 | 12.7 |
| MAX | 53 | 44 | 33 | 8.6 | 1070 | 705 | 675 | 692 | 95 | 33 | 66 | 43 |
| MIN | 6.8 | 14 | 8.6 | 8.0 | 8.0 | 127 | 76 | 41 | 20 | 7.3 | 4.5 | 3.2 |
| CFSM | .08 | .09 | .05 | .03 | .75 | 1.19 | .88 | .68 | .15 | .06 | .08 | .05 |
| IN. | .09 | .10 | .06 | .04 | .78 | 1.37 | .98 | .78 | .17 | .07 | .09 | .06 |
| CAL YR 1976 | TOTAL | 52901.8 | MEAN | 145 | MAX | 3900 | MIN | 5.0 | CFSM | .58 | IN | 7.90 |
| WTR YR 1977 | TOTAL | 30755.2 | MEAN | 84.3 | MAX | 1070 | MIN | 3.2 | CFSM | .34 | IN | 4.59 |

SCIOTO RIVER BASIN

265

03232000 PAINT CREEK NEAR GREENFIELD OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1974 to current year.

INSTRUMENTATION.--Water temperature recorder.

REMARKS.--Interruptions in the water temperature record were due to malfunction of the instrument. Sediment data collected at this site 1969 to 1974.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 29.0°C Aug. 2, 3, 1975, July 8, 9, 1977; minimum, 0.0°C on many days during 1975, and 1977.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 29.0°C July 8, 9; minimum recorded, 0.0°C on many days during December to February.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND | HARD- NESS | NON- CAR- BONATE | DIS- SOLVED | DIS- SOLVED |
|--------------|--------|---------------------------------------|--|------------------|------------------------|--------------------------|---------------------------------|---|----------------|------------------------|----------------|----------------|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | | 5 DAY | (CA+MG) | (MG/L) | (CA) | (MG/L) |
| MAR 15... | 1100 | 365 | 678 | 8.1 | 8.5 | 10.8 | 92 | .9 | 340 | 110 | 79 | 34 |
| JUL 07... | 1345 | 11 | 675 | 8.2 | 28.5 | 8.4 | 110 | .5 | 300 | 75 | 66 | 34 |
| | | DIS- SOLVED PO- TAS- SIUM | BICAR- BONATE | CAR- BONATE | ALKA- LINITY | CARBON DIOXIDE | DIS- SOLVED | DIS- SOLVED | DIS- SOLVED | DIS- SOLVED | DIS- SOLVED | TOTAL |
| DATE | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) |
| MAR 15... | 10 | 1.6 | 278 | 0 | 228 | 3.5 | 59 | 35 | .2 | 6.7 | 363 | 7.1 |
| JUL 07... | 18 | 2.7 | 280 | 0 | 230 | 2.8 | 58 | 37 | .3 | 4.3 | 358 | 1.1 |
| | | TOTAL AMMONIA NITRO- GEN | TOTAL PHOS- PHORUS | TOTAL ARSENIC | TOTAL CHRO- MIUM | TOTAL COPPER | DIS- SOLVED | TOTAL | DIS- SOLVED | TOTAL | TOTAL | TOTAL |
| DATE | (MG/L) | (MG/L) | (MG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (MG/L) |
| MAR 15... | .05 | .10 | .13 | 1 | 10 | 6 | 10 | 9 | 10 | .0 | 30 | 8.7 |
| JUL 07... | .01 | .04 | .78 | 4 | 10 | 3 | 10 | 8 | 10 | .0 | 60 | 7.7 |

SCIOTO RIVER BASIN

03232300 RATTLESNAKE CREEK NEAR CENTERFIELD, OH

LOCATION.--Lat 39°19'44", long 83°28'32", Highland County, Hydrologic Unit 05060003, on right bank 600 ft (183 m) upstream from county road bridge at Centerfield, 0.6 mi (1.0 km) upstream from Walnut Creek, 1.5 mi (2.4 km) downstream from Lees Creek, and 2.4 mi (3.9 km) southeast of East Monroe.

DRAINAGE AREA.--209 mi² (541 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water stage recorder. Datum of gage is 822.32 ft (250.643 m) above mean sea level.

REMARKS.--Records good except those for winter periods and no gage height record, which are fair. Additional discharge data for Rattlesnake Creek watershed are on page 419.

AVERAGE DISCHARGE.--6 years, 224 ft³/s (6.353 m³/s), 14.55 in/yr (370 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,370 ft³/s (209 m³/s) Feb. 24, 1975, gage height, 12.97 ft (3.953 m); minimum, 1.8 ft³/s (0.051 m³/s) Aug. 22-24, 1972, Sept. 24-26, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 2,000 ft³/s (56.6 m³/s) and maximums (*):

| Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) | Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) |
|---------|------|---|-------------------------|--------|------|---|-------------------------|
| Feb. 23 | 2300 | ice jam | *7.95 2.423 | Apr. 2 | 1900 | *2400 68.0 | 7.14 2.176 |

Minimum discharge, 1.8 ft³/s (0.051 m³/s) Sept. 12-15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|--------|------|------|------|------|-------|-------|-------|
| 1 | 3.8 | 26 | 6.0 | 3.6 | 3.4 | 168 | 76 | 124 | 75 | 28 | 175 | 4.1 |
| 2 | 3.3 | 21 | 5.9 | 3.6 | 3.4 | 127 | 508 | 322 | 51 | 33 | 25 | 3.3 |
| 3 | 3.1 | 18 | 5.8 | 3.6 | 3.4 | 118 | 752 | 276 | 38 | 30 | 11 | 2.9 |
| 4 | 2.7 | 16 | 5.7 | 3.6 | 3.4 | 691 | 553 | 216 | 29 | 19 | 7.2 | 3.1 |
| 5 | 2.5 | 14 | 6.2 | 3.6 | 3.4 | 663 | 721 | 245 | 25 | 14 | 5.6 | 2.9 |
| 6 | 2.7 | 12 | 5.6 | 3.6 | 3.5 | 406 | 501 | 383 | 24 | 11 | 4.4 | 3.1 |
| 7 | 3.3 | 11 | 10 | 3.6 | 3.5 | 269 | 358 | 733 | 22 | 9.3 | 3.3 | 3.3 |
| 8 | 3.3 | 11 | 14 | 3.6 | 3.5 | 197 | 288 | 604 | 22 | 8.0 | 4.1 | 3.3 |
| 9 | 5.6 | 10 | 11 | 3.6 | 3.5 | 156 | 213 | 359 | 30 | 7.6 | 6.2 | 2.9 |
| 10 | 5.6 | 9.7 | 8.4 | 3.6 | 4.0 | 127 | 180 | 234 | 26 | 7.6 | 6.5 | 2.3 |
| 11 | 5.0 | 9.3 | 7.8 | 3.6 | 100 | 105 | 153 | 170 | 23 | 11 | 5.6 | 2.0 |
| 12 | 4.7 | 8.8 | 7.2 | 3.6 | 160 | 184 | 126 | 129 | 21 | 13 | 18 | 1.8 |
| 13 | 4.4 | 8.4 | 6.8 | 3.6 | 190 | 602 | 113 | 107 | 19 | 15 | 21 | 1.8 |
| 14 | 3.8 | 8.0 | 6.5 | 3.6 | 170 | 386 | 107 | 94 | 19 | 40 | 18 | 2.0 |
| 15 | 3.3 | 8.0 | 6.2 | 3.6 | 140 | 254 | 98 | 82 | 97 | 14 | 39 | 1.8 |
| 16 | 3.3 | 7.4 | 6.0 | 3.6 | 120 | 185 | 88 | 71 | 110 | 8.8 | 37 | 9.3 |
| 17 | 3.3 | 6.9 | 5.8 | 3.6 | 100 | 136 | 82 | 61 | 70 | 6.9 | 62 | 19 |
| 18 | 3.3 | 6.9 | 5.5 | 3.6 | 86 | 744 | 77 | 55 | 52 | 5.9 | 76 | 16 |
| 19 | 3.3 | 6.9 | 5.1 | 3.5 | 76 | 503 | 72 | 50 | 43 | 5.0 | 48 | 15 |
| 20 | 6.5 | 6.5 | 4.9 | 3.5 | 70 | 350 | 68 | 47 | 44 | 4.4 | 27 | 12 |
| 21 | 6.9 | 6.5 | 4.7 | 3.5 | 62 | 256 | 63 | 43 | 38 | 4.4 | 17 | 9.3 |
| 22 | 6.5 | 6.5 | 4.5 | 3.5 | 58 | 259 | 60 | 38 | 31 | 11 | 14 | 7.6 |
| 23 | 7.6 | 6.5 | 3.9 | 3.5 | 230 | 249 | 60 | 34 | 28 | 8.0 | 11 | 6.5 |
| 24 | 26 | 6.2 | 3.8 | 3.5 | 1200 | 206 | 61 | 86 | 25 | 6.5 | 10 | 5.3 |
| 25 | 28 | 6.2 | 3.7 | 3.5 | 697 | 159 | 65 | 75 | 23 | 10 | 8.4 | 4.4 |
| 26 | 20 | 6.2 | 3.7 | 3.4 | 542 | 132 | 75 | 57 | 20 | 6.9 | 11 | 3.8 |
| 27 | 16 | 7.2 | 3.6 | 3.4 | 356 | 115 | 65 | 46 | 19 | 5.0 | 14 | 3.3 |
| 28 | 12 | 7.6 | 3.6 | 3.4 | 232 | 116 | 64 | 38 | 18 | 3.8 | 7.6 | 2.9 |
| 29 | 11 | 7.6 | 3.6 | 3.4 | --- | 114 | 145 | 37 | 34 | 3.6 | 5.9 | 2.7 |
| 30 | 21 | 6.8 | 3.6 | 3.4 | --- | 101 | 167 | 100 | 29 | 5.6 | 5.3 | 2.3 |
| 31 | 33 | --- | 3.6 | 3.4 | --- | 88 | --- | 123 | --- | 3.8 | 4.7 | --- |
| TOTAL | 264.8 | 293.1 | 182.7 | 109.7 | 4624.0 | 8166 | 5959 | 5039 | 1105 | 360.1 | 708.8 | 160.0 |
| MEAN | 8.54 | 9.77 | 5.89 | 3.54 | 165 | 263 | 199 | 163 | 36.8 | 11.6 | 22.9 | 5.33 |
| MAX | 33 | 26 | 14 | 3.6 | 1200 | 744 | 752 | 733 | 110 | 40 | 175 | 19 |
| MIN | 2.5 | 6.2 | 3.6 | 3.4 | 3.4 | 88 | 60 | 34 | 18 | 3.6 | 3.3 | 1.8 |
| CFSM | .04 | .05 | .03 | .02 | .79 | 1.26 | .95 | .78 | .18 | .06 | .11 | .03 |
| IN. | .05 | .05 | .03 | .02 | .82 | 1.45 | 1.06 | .90 | .20 | .06 | .13 | .03 |

CAL YR 1976 TOTAL 45561.1 MEAN 124 MAX 3630 MIN 1.8 CFSM .59 IN 8.11
WTR YR 1977 TOTAL 26972.2 MEAN 73.9 MAX 1200 MIN 1.8 CFSM .35 IN 4.80

Note: No gage height record Jan. 1 to Feb. 17.

SCIOTO RIVER BASIN

269

03232300 RATTLESNAKE CREEK NEAR CENTERFIELD, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 1973 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: June 1974 to current year.

INSTRUMENTATION.--Water temperature recorder.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 28.5 °C July 7, 1977; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 28.5 °C July 7; minimum, 0.0 °C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND | HARD- NESS | NON- CAR- BONATE HARD- NESS | DIS- SOLVED CAL- CIUM | DIS- SOLVED MAG- NE- SIUM |
|--------------|------|---------------------------------------|--|------------------|------------------------|--------------------------|---------------------------------|---|----------------------------------|---|---|---------------------------------------|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | | 5 DAY | (CA, MG) | (MG/L) | (CA) | (MG/L) |
| MAR 15... | 1300 | 250 | 655 | 8.3 | 11.0 | 11.8 | 106 | .5 | 320 | 110 | 74 | 32 |
| JUL 07... | 1200 | 8.7 | 620 | 8.2 | 28.0 | 8.1 | 100 | 1.4 | 290 | 64 | 64 | 32 |
| | | DIS- SOLVED PO- TAS- SIUM | BICAR- BONATE | CAR- BONATE | ALKA- LINITY AS | CARBON DIOXIDE | DIS- SOLVED SULFATE | DIS- SOLVED CHLO- RIDE | DIS- SOLVED FLUO- RIDE | DIS- SOLVED SILICA | DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) | TOTAL NITRATE |
| DATE | | (NA) (MG/L) | (HCO3) (MG/L) | (CO3) (MG/L) | CAC03 (MG/L) | (CO2) (MG/L) | (SO4) (MG/L) | (CL) (MG/L) | (F) (MG/L) | (SI02) (MG/L) | (MG/L) | (N) (MG/L) |
| MAR 15... | 9.6 | 1.5 | 251 | 3 | 211 | 2.1 | 54 | 35 | .2 | 6.1 | 339 | 7.1 |
| JUL 07... | 12 | 2.1 | 278 | 0 | 228 | 2.8 | 45 | 32 | .2 | 4.2 | 329 | 1.5 |
| | | TOTAL NITRO- GEN | TOTAL PHOS- PHORUS | TOTAL ARSENIC | TOTAL CHRO- MIUM | TOTAL COPPER | DIS- SOLVED IRON | TOTAL LEAD | DIS- SOLVED MAN- GANESE | TOTAL MERCURY | TOTAL ZINC | TOTAL ORGANIC CARBON |
| DATE | | (N) (MG/L) | (P) (MG/L) | (AS) (UG/L) | (CR) (UG/L) | (CU) (UG/L) | (FE) (UG/L) | (PB) (UG/L) | (MN) (UG/L) | (HG) (UG/L) | (ZN) (UG/L) | (C) (MG/L) |
| MAR 15... | .03 | .01 | .08 | 1 | 10 | 3 | 0 | 4 | 10 | .0 | 40 | 8.5 |
| JUL 07... | .01 | .03 | .08 | 2 | 10 | 4 | 10 | 20 | 10 | .0 | 60 | 5.9 |

SCIOTO RIVER BASIN

03232300 RATTLESNAKE CREEK NEAR CENTERFIELD, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | SPECIFIC CONDUCTANCE (MICRO-MHOS) | | PH | TEMPERATURE (DEG C) | TURBIDITY (JTU) | DISSOLVED OXYGEN (MG/L) | PERCENT SATURATION | HARDNESS (CA+MG) (MG/L) |
|-----------|-----------------------------|-----------------------------------|---------------------------------------|-----------------------------------|------------------------------------|---------------------------|--------------------------------|--|-------------------------------------|
| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | | (UNITS) | | | | | |
| NOV 19... | 1000 | 7.1 | 610 | 8.2 | 4.5 | 2 | 12.0 | 92 | 330 |
| FEB 26... | 1215 | 535 | 480 | 8.1 | 1.5 | 30 | 12.1 | 86 | 210 |
| MAR 29... | 1350 | 122 | 605 | 8.5 | 15.0 | 5 | 12.8 | 120 | 310 |
| MAY 03... | 1630 | 236 | 645 | 8.4 | 17.0 | 25 | 9.5 | 98 | 310 |
| JUN 26... | 1445 | 18 | 605 | 8.2 | 25.0 | 10 | 8.3 | 99 | 300 |
| AUG 25... | 1135 | 9.4 | 565 | 8.2 | 20.5 | 20 | 9.5 | 100 | 280 |
| DATE | NON-SOLUBLE HARDNESS (MG/L) | DISSOLVED CALCIUM (CA) (MG/L) | DISSOLVED MAGNESIUM (MG/L) | DISSOLVED SODIUM (NA) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L) | TOTAL NON-FILTERABLE RESIDUE (MG/L) |
| NOV 19... | 14 | 69 | 39 | 17 | 316 | 0 | 60 | 392 | 28 |
| FEB 26... | 02 | 48 | 21 | 11 | 152 | 0 | 38 | 309 | 98 |
| MAR 29... | 100 | 70 | 34 | 9.7 | 238 | 11 | 56 | 373 | 36 |
| MAY 03... | 14 | 73 | 31 | 8.1 | 280 | 4 | 53 | 384 | 91 |
| JUN 26... | 04 | 68 | 32 | 11 | 288 | 0 | 48 | 374 | 59 |
| AUG 25... | 01 | 64 | 29 | 11 | 266 | 0 | 43 | 365 | 46 |
| DATE | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL NITRATE PLUS NITRITE (N) (MG/L) | TOTAL ORGANIC NITROGEN (N) (MG/L) | TOTAL KJELDAHL NITROGEN (N) (MG/L) | TOTAL NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL ORTHO PHOSPHORUS (P) (MG/L) | TOTAL IRON (FE) (UG/L) |
| NOV 19... | .25 | .01 | .27 | .24 | .25 | .52 | .03 | .01 | 130 |
| FEB 26... | 5.8 | .06 | 5.9 | 1.2 | 1.7 | 7.6 | .24 | .15 | 2200 |
| MAR 29... | 4.7 | .04 | 4.7 | .36 | .39 | 5.1 | .05 | .01 | 390 |
| MAY 03... | 9.5 | .12 | 9.7 | .63 | .72 | 10 | .11 | .07 | 1200 |
| JUN 26... | 1.7 | .01 | 1.7 | .60 | .64 | 2.3 | .07 | .04 | 490 |
| AUG 25... | 1.5 | .01 | 1.6 | .54 | .60 | 2.2 | .08 | .04 | 900 |

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|------|------|------|------|------|------|------|--------|------|-----------|------|------|
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 12.5 | 8.0 | 16.0 | 12.5 | 23.0 | 21.0 | 24.5 | 21.5 | 22.0 | 18.5 | --- | --- |
| 2 | 14.0 | 11.0 | 17.0 | 14.5 | 21.5 | 19.0 | 24.5 | 21.5 | 24.0 | 18.0 | --- | --- |
| 3 | 13.0 | 10.0 | 16.5 | 15.0 | 21.5 | 18.0 | 24.0 | 21.0 | 22.5 | 18.5 | --- | --- |
| 4 | 10.0 | 9.0 | 16.5 | 15.5 | 21.5 | 17.0 | 25.0 | 21.0 | 23.5 | 19.0 | --- | --- |
| 5 | 10.0 | 7.0 | 18.0 | 16.0 | 20.5 | 18.5 | 27.0 | 24.0 | 25.0 | 21.5 | --- | --- |
| 6 | 6.5 | 5.0 | 18.0 | 17.0 | 21.5 | 19.5 | 28.0 | 25.0 | 25.0 | 22.5 | --- | --- |
| 7 | 9.0 | 4.0 | 17.0 | 15.0 | 20.0 | 16.5 | 28.5 | 25.5 | 24.5 | 22.5 | --- | --- |
| 8 | 10.5 | 7.0 | 16.5 | 13.0 | 18.0 | 15.0 | 28.0 | 25.0 | 23.0 | 22.0 | 23.0 | 22.0 |
| 9 | 10.0 | 6.5 | 15.0 | 12.0 | 19.0 | 15.0 | 26.5 | 25.0 | --- | --- | 23.0 | 19.5 |
| 10 | 13.0 | 8.0 | 14.0 | 10.5 | 20.0 | 15.5 | 25.0 | 23.0 | --- | --- | 22.5 | 19.5 |
| 11 | 15.0 | 11.5 | 15.5 | 11.0 | 19.0 | 17.5 | 24.0 | 21.5 | --- | --- | 20.0 | 16.0 |
| 12 | 16.5 | 13.5 | 16.0 | 13.0 | 20.5 | 17.0 | 24.5 | 22.5 | --- | --- | 18.0 | 15.0 |
| 13 | 17.5 | 14.5 | 18.0 | 14.5 | 21.5 | 19.0 | 27.0 | 23.5 | --- | --- | 20.0 | 17.0 |
| 14 | 17.5 | 15.0 | 19.0 | 16.5 | 22.0 | 20.5 | 25.5 | 22.0 | --- | --- | 19.5 | 18.0 |
| 15 | 17.0 | 14.5 | 19.5 | 17.0 | 23.0 | 20.0 | 26.0 | 23.0 | --- | --- | 19.5 | 16.5 |
| 16 | 17.0 | 14.0 | 20.0 | 17.0 | 22.5 | 20.0 | 26.0 | 24.0 | --- | --- | 20.0 | 18.5 |
| 17 | 16.5 | 15.0 | 20.5 | 18.0 | 24.5 | 21.5 | 26.0 | 23.0 | --- | --- | 21.0 | 18.5 |
| 18 | 18.0 | 14.5 | 21.5 | 19.0 | 24.0 | 22.5 | 27.0 | 23.0 | --- | --- | 22.0 | 19.0 |
| 19 | 18.5 | 16.5 | 22.0 | 20.0 | 23.5 | 22.0 | 27.5 | 25.0 | --- | --- | 22.0 | 20.5 |
| 20 | 18.5 | 16.5 | 22.5 | 20.0 | 24.5 | 22.0 | 27.5 | 24.0 | --- | --- | 21.0 | 18.0 |
| 21 | 18.5 | 17.0 | 23.0 | 20.0 | 23.5 | 21.0 | 27.0 | 24.5 | --- | --- | 18.0 | 16.0 |
| 22 | 18.0 | 17.0 | 22.5 | 20.5 | 22.0 | 19.0 | 26.0 | 23.0 | --- | --- | 18.0 | 14.0 |
| 23 | 17.5 | 16.0 | 23.0 | 20.5 | 21.0 | 17.5 | 24.5 | 20.5 | --- | --- | 19.5 | 15.5 |
| 24 | 16.0 | 14.0 | 23.0 | 21.0 | 22.0 | 19.5 | 24.0 | 20.0 | --- | --- | 19.5 | 17.5 |
| 25 | 13.5 | 11.0 | 22.5 | 21.5 | 23.0 | 21.0 | 24.0 | 22.5 | --- | --- | 19.5 | 17.5 |
| 26 | 13.0 | 9.5 | 23.0 | 20.0 | 25.0 | 21.0 | 24.0 | 20.5 | --- | --- | 20.0 | 18.5 |
| 27 | 15.0 | 10.0 | 23.0 | 20.0 | 24.0 | 22.0 | 23.5 | 18.5 | --- | --- | 18.5 | 16.5 |
| 28 | 14.0 | 11.5 | 23.0 | 20.5 | 24.5 | 22.5 | 23.0 | 18.0 | --- | --- | 17.0 | 15.0 |
| 29 | 13.5 | 9.0 | 22.5 | 21.0 | 25.0 | 22.5 | 21.5 | 20.0 | --- | --- | 16.5 | 13.0 |
| 30 | 14.0 | 10.0 | 23.0 | 19.5 | 23.5 | 21.0 | 23.0 | 19.0 | --- | --- | 16.5 | 13.0 |
| 31 | --- | --- | 23.0 | 21.0 | --- | --- | 24.0 | 20.0 | --- | --- | --- | --- |
| MONTH | 18.5 | 4.0 | 23.0 | 10.5 | 25.0 | 15.0 | 28.5 | 18.0 | 25.0 | 18.0 | 23.0 | 13.0 |
| YEAR | 28.5 | 0.0 | | | | | | | | | | |

SCIOTO RIVER BASIN

03232470 PAINT CREEK BELOW PAINT CREEK DAM, NEAR BAINBRIDGE, OH

LOCATION.--Lat 39°15'08", long 83°20'58", Highland County, Hydrologic Unit 05060003, on right bank, 400 ft (122 m) downstream from Paint Creek dam, 700 ft (213 m) upstream from Cliff Creek, and 4.5 mi (7.2 km) northwest of Bainbridge.

DRAINAGE AREA.--570 mi² (1,476 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.-- Water years 1962-67, (occasional low-flow measurements), water years 1963-67 (annual maximums). Published as "at damsite near Bainbridge" 1963-67.

GAGE.--Water-stage recorder. Datum of gage is 700.00 ft (213.360 m) above mean sea level (levels by Corps of Engineers). Prior to May 3, 1968, water-stage recorder and crest-stage gage at partial-record site 1,000 ft (305 m) downstream at datum 42.96 ft (13.094 m) higher.

REMARKS.--Records good except those for winter periods, which are fair. Flow regulated by Paint Creek Lake (see station 03232460).

AVERAGE DISCHARGE.--10 years, 538 ft³/s (15.24 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 45,000 ft³/s (1,270 m³/s) Mar. 10, 1964, gage height, 27.3 ft (8.32 m), site and datum then in use; minimum daily, 4.7 ft³/s (0.13 m³/s) Sept. 1, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,370 ft³/s (67.1 m³/s) May 7, gage height, 51.84 ft (15.801 m); minimum daily, 9.3 ft³/s (0.26 m³/s) July 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|----------|------|------|------|-------|-------|-------|------|--------|------|------|
| 1 | 37 | 41 | 86 | 26 | 17 | 583 | 182 | 417 | 221 | 69 | 53 | 49 |
| 2 | 37 | 41 | 71 | 24 | 17 | 385 | 187 | 916 | 210 | 69 | 55 | 49 |
| 3 | 37 | 40 | 48 | 20 | 17 | 435 | 683 | 589 | 124 | 69 | 53 | 49 |
| 4 | 39 | 184 | 37 | 18 | 17 | 1250 | 390 | 516 | 79 | 69 | 55 | 49 |
| 5 | 39 | 426 | 37 | 16 | 17 | 1680 | 459 | 595 | 68 | 41 | 55 | 49 |
| 6 | 40 | 426 | 36 | 15 | 17 | 1420 | 910 | 815 | 68 | 28 | 56 | 49 |
| 7 | 40 | 421 | 36 | 15 | 17 | 707 | 440 | 1740 | 68 | 184 | 56 | 49 |
| 8 | 40 | 381 | 36 | 15 | 17 | 601 | 896 | 1350 | 46 | 28 | 56 | 48 |
| 9 | 40 | 345 | 40 | 15 | 17 | 455 | 999 | 722 | 34 | 28 | 56 | 49 |
| 10 | 39 | 345 | 67 | 15 | 17 | 403 | 930 | 669 | 34 | 28 | 52 | 49 |
| 11 | 39 | 341 | 97 | 15 | 17 | 330 | 589 | 464 | 33 | 28 | 46 | 49 |
| 12 | 39 | 341 | 97 | 15 | 20 | 288 | 337 | 360 | 49 | 51 | 46 | 49 |
| 13 | 39 | 341 | 69 | 15 | 39 | 943 | 288 | 215 | 58 | 86 | 46 | 49 |
| 14 | 40 | 337 | 48 | 15 | 80 | 1680 | 278 | 241 | 58 | 161 | 44 | 51 |
| 15 | 40 | 288 | 35 | 15 | 150 | 1040 | 275 | 271 | 59 | 202 | 46 | 51 |
| 16 | 41 | 218 | 34 | 15 | 300 | 655 | 253 | 184 | 192 | 42 | 47 | 52 |
| 17 | 40 | 215 | 34 | 15 | 160 | 490 | 247 | 124 | 238 | 27 | 47 | 51 |
| 18 | 40 | 215 | 33 | 15 | 90 | 1030 | 215 | 199 | 172 | 26 | 47 | 49 |
| 19 | 40 | 215 | 33 | 15 | 83 | 1750 | 202 | 192 | 172 | 26 | 47 | 49 |
| 20 | 41 | 213 | 33 | 15 | 80 | 1160 | 150 | 132 | 120 | 20 | 47 | 49 |
| 21 | 41 | 213 | 33 | 15 | 77 | 757 | 128 | 118 | 99 | 9.6 | 47 | 49 |
| 22 | 41 | 213 | 33 | 15 | 75 | 669 | 128 | 118 | 56 | 9.6 | 47 | 49 |
| 23 | 41 | 210 | 33 | 16 | 100 | 669 | 128 | 118 | 35 | 9.3 | 48 | 49 |
| 24 | 41 | 199 | 33 | 17 | 971 | 678 | 128 | 118 | 32 | 9.6 | 48 | 49 |
| 25 | 41 | 187 | 33 | 17 | 1780 | 516 | 128 | 118 | 80 | 11 | 48 | 49 |
| 26 | 40 | 180 | 33 | 17 | 1900 | 399 | 166 | 116 | 109 | 20 | 49 | 49 |
| 27 | 40 | 180 | 32 | 17 | 1670 | 345 | 177 | 116 | 79 | 42 | 48 | 49 |
| 28 | 40 | 180 | 32 | 17 | 815 | 315 | 210 | 114 | 69 | 46 | 48 | 49 |
| 29 | 40 | 180 | 32 | 17 | --- | 202 | 262 | 114 | 69 | 52 | 48 | 49 |
| 30 | 40 | 148 | 31 | 17 | --- | 215 | 305 | 113 | 69 | 52 | 49 | 49 |
| 31 | 41 | --- | 30 | 17 | --- | 319 | --- | 192 | --- | 52 | 49 | --- |
| TOTAL | 1233 | 7264 | 1362 | 511 | 8577 | 22369 | 10670 | 12066 | 2800 | 1595.1 | 1539 | 1478 |
| MEAN | 39.8 | 242 | 43.9 | 16.5 | 306 | 722 | 356 | 389 | 93.3 | 51.5 | 49.6 | 49.3 |
| MAX | 41 | 426 | 97 | 26 | 1900 | 1750 | 999 | 1740 | 238 | 202 | 56 | 52 |
| MIN | 37 | 40 | 30 | 15 | 17 | 202 | 128 | 113 | 32 | 9.3 | 44 | 48 |
| CAL YR 1976 | TOTAL | 115266.6 | MEAN | 315 | MAX | 5170 | MIN | 6.5 | | | | |
| WTR YR 1977 | TOTAL | 71464.1 | MEAN | 196 | MAX | 1900 | MIN | 9.3 | | | | |

SCIOTO RIVER BASIN

273

03232470 PAINT CREEK BELOW PAINT CREEK DAM, NEAR BAINBRIDGE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA, MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | |
|--------------|------|---|--|---|------------------------------------|--|--------------------------------------|--|---|--|--|---|---|
| | | | | | | | | | | | | | |
| MAR 29... | 1300 | 1.6 | 625 | 8.2 | 13.0 | 11.2 | 106 | .8 | 300 | 100 | 70 | 30 | |
| JUN 14... | 1245 | 56 | 555 | 8.2 | 21.5 | 9.2 | 100 | 4.4 | 250 | 73 | 50 | 31 | |
| DATE | | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 29... | 9.3 | 1.8 | 240 | 0 | 197 | 2.4 | 49 | 30 | .2 | 4.5 | 313 | 5.5 | |
| JUN 14... | 8.8 | 2.1 | 216 | 0 | 177 | 2.2 | 50 | 28 | .2 | 1.4 | 278 | 3.7 | |
| DATE | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 29... | .04 | .15 | .11 | 1 | 10 | 3 | 20 | 3 | 30 | .4 | 0 | -- | |
| JUN 14... | .09 | .20 | .05 | 2 | 10 | 2 | 10 | 0 | 10 | .0 | 10 | 6.0 | |

SCIOTO RIVER BASIN

03232500 ROCKY FORK NEAR BARRETTS MILLS, OH

LOCATION.--Lat 39°13'06", long 83°23'08", Highland County, Hydrologic Unit 05060003, on left bank at downstream side of highway bridge, 1.1 mi (1.8 km) north of Barretts Mills, 2 mi (3 km) east of Rainsboro, 2.8 mi (4.5 km) upstream from mouth, and 6 mi (10 km) downstream from Rocky Fork Lake.

DRAINAGE AREA.--140 mi² (363 km²).

WATER-DISCHARGE RECORDS

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 (234.94 m) above mean sea level, levels by Corps of Engineers. Prior to Feb. 15, 1940, nonrecording gage at same site and datum.

REMARKS.--Records fair except those for winter periods, which are poor. Some diurnal fluctuation caused by mill 6 mi (10 km) upstream from station. Flow regulated by Rocky Fork Lake 6 mi (10 km) upstream, since 1952, capacity, 34,100 acre-ft (42.0 hm³).

AVERAGE DISCHARGE.--38 years, 151 ft³/s (4.28 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,400 ft³/s (379 m³/s) Mar. 10, 1964 from rating curve extended above 8,800 ft³/s (249 m³/s) on basis of velocity-area studies; maximum gage height, 15.56 ft (4.743 m) Mar. 6, 1945; minimum daily discharge, 0.90 ft³/s (0.025 m³/s) Sept. 10, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 979 ft³/s (27.7 m³/s) Apr. 3, gage height, 5.42 ft (1.652 m); minimum daily, 5.8 ft³/s (0.16 m³/s) Nov. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|---------|-------|-------|--------|------|------|------|-------|--------|-------|-------|
| 1 | 38 | 97 | 12 | 8.6 | 8.9 | 148 | 29 | 53 | 19 | 76 | 8.8 | 22 |
| 2 | 35 | 90 | 11 | 8.6 | 8.8 | 125 | 226 | 79 | 15 | 76 | 6.3 | 21 |
| 3 | 29 | 97 | 10 | 8.6 | 8.8 | 122 | 860 | 84 | 14 | 67 | 6.8 | 20 |
| 4 | 25 | 69 | 9.8 | 8.6 | 8.8 | 565 | 610 | 90 | 12 | 52 | 6.3 | 17 |
| 5 | 20 | 141 | 9.6 | 8.6 | 8.7 | 516 | 778 | 140 | 9.4 | 43 | 6.3 | 13 |
| 6 | 17 | 158 | 9.3 | 8.4 | 8.7 | 376 | 586 | 174 | 13 | 34 | 6.3 | 12 |
| 7 | 16 | 10 | 9.0 | 8.4 | 8.7 | 281 | 441 | 426 | 13 | 27 | 6.3 | 12 |
| 8 | 13 | 10 | 8.8 | 8.4 | 8.8 | 217 | 320 | 352 | 11 | 21 | 6.3 | 13 |
| 9 | 41 | 8.9 | 8.7 | 13 | 8.9 | 180 | 236 | 229 | 13 | 17 | 7.0 | 11 |
| 10 | 56 | 9.1 | 8.6 | 13 | 9.3 | 159 | 158 | 160 | 13 | 18 | 6.7 | 10 |
| 11 | 36 | 7.4 | 8.6 | 30 | 12 | 135 | 97 | 122 | 13 | 98 | 9.6 | 8.1 |
| 12 | 25 | 5.8 | 8.5 | 30 | 16 | 230 | 94 | 99 | 12 | 120 | 23 | 8.0 |
| 13 | 21 | 7.4 | 8.4 | 32 | 21 | 440 | 90 | 86 | 11 | 131 | 50 | 6.8 |
| 14 | 18 | 11 | 8.5 | 34 | 28 | 370 | 84 | 76 | 12 | 129 | 49 | 7.0 |
| 15 | 23 | 9.8 | 8.6 | 32 | 37 | 290 | 79 | 67 | 11 | 85 | 49 | 7.6 |
| 16 | 16 | 10 | 8.6 | 32 | 58 | 190 | 73 | 58 | 11 | 66 | 46 | 43 |
| 17 | 14 | 11 | 8.6 | 8.5 | 80 | 150 | 71 | 53 | 9.6 | 48 | 39 | 102 |
| 18 | 13 | 15 | 8.6 | 8.5 | 58 | 500 | 68 | 48 | 9.6 | 37 | 30 | 100 |
| 19 | 13 | 113 | 8.7 | 8.5 | 37 | 450 | 67 | 43 | 27 | 28 | 21 | 95 |
| 20 | 13 | 13 | 8.6 | 8.5 | 24 | 330 | 64 | 36 | 22 | 22 | 15 | 92 |
| 21 | 24 | 11 | 8.7 | 8.6 | 19 | 250 | 60 | 29 | 16 | 18 | 11 | 64 |
| 22 | 26 | 9.4 | 8.7 | 8.7 | 23 | 200 | 59 | 64 | 15 | 16 | 13 | 41 |
| 23 | 19 | 8.6 | 8.7 | 8.7 | 50 | 240 | 63 | 18 | 15 | 14 | 14 | 30 |
| 24 | 93 | 8.0 | 8.7 | 8.8 | 180 | 190 | 62 | 14 | 14 | 11 | 85 | 24 |
| 25 | 102 | 7.4 | 8.7 | 8.9 | 386 | 156 | 60 | 15 | 21 | 10 | 29 | 20 |
| 26 | 80 | 9.5 | 8.6 | 9.0 | 290 | 144 | 56 | 14 | 26 | 9.4 | 20 | 17 |
| 27 | 75 | 52 | 8.6 | 9.1 | 225 | 133 | 52 | 14 | 26 | 8.7 | 44 | 15 |
| 28 | 76 | 119 | 8.6 | 9.2 | 174 | 131 | 53 | 15 | 34 | 7.6 | 31 | 13 |
| 29 | 57 | 14 | 8.6 | 9.2 | --- | 126 | 60 | 16 | 42 | 8.0 | 23 | 13 |
| 30 | 49 | 13 | 8.6 | 9.1 | --- | 105 | 55 | 15 | 42 | 7.6 | 29 | 10 |
| 31 | 97 | --- | 8.6 | 9.0 | --- | 28 | --- | 19 | --- | 12 | 35 | --- |
| TOTAL | 1180 | 1145.3 | 277.6 | 416.5 | 1806.4 | 7477 | 5611 | 2708 | 521.6 | 1317.3 | 732.7 | 867.5 |
| MEAN | 38.1 | 38.2 | 8.95 | 13.4 | 64.5 | 241 | 187 | 87.4 | 17.4 | 42.5 | 23.6 | 28.9 |
| MAX | 102 | 158 | 12 | 34 | 386 | 565 | 860 | 426 | 42 | 131 | 85 | 102 |
| MIN | 13 | 5.8 | 8.4 | 8.4 | 8.7 | 28 | 29 | 14 | 9.4 | 7.6 | 6.3 | 6.8 |
| CAL YR 1976 | TOTAL | 41999.9 | MEAN | 115 | MAX | 2460 | MIN | 5.8 | | | | |
| WTR YR 1977 | TOTAL | 24060.9 | MEAN | 65.9 | MAX | 860 | MIN | 5.8 | | | | |

SCIOTO RIVER BASIN

275

03232500 ROCKY FORK NEAR BARRETTS MILLS, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1965 to current year.

WATER QUALITY DATA. WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE | PH | TEMPERATURE (DEG C) | DIS-SOLVED OXYGEN (MG/L) | PERCENT SATURATION | BIO-CHEMICAL OXYGEN DEMAND 5 DAY | HARDNESS (CA+MG) (MG/L) | NON-CARBONATE HARDNESS | DIS-SOLVED CALCIUM | DIS-SOLVED MAGNESIUM | |
|-----------|------|----------------------------------|-----------------------------------|-----------------------------|----------------------------|-----------------------------|---------------------------------|----------------------------------|--------------------------------|----------------------------------|--|--------------------------|---------------------------------|
| | | | (MICRO-MHOS) | | | | | (CA+MG) | | (MG/L) | (CA) | (MG/L) | |
| MAR 29... | 1130 | 131 | 420 | 8.3 | 10.0 | 11.6 | 103 | .5 | 200 | 37 | 45 | 22 | |
| JUN 15... | 1100 | 12 | 445 | 8.1 | 21.5 | 7.6 | 85 | 2.3 | 210 | 23 | 46 | 23 | |
| DATE | | DIS-SOLVED POTASSIUM (NA) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | DIS-SOLVED SILICA (SI02) (MG/L) | DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | |
| MAR 29... | 6.4 | 3.0 | 200 | 1 | 166 | 1.6 | 28 | 15 | .1 | 2.5 | 222 | .82 | |
| JUN 15... | 5.6 | 2.6 | 228 | 0 | 187 | 2.9 | 30 | 11 | .2 | 4.1 | 235 | .35 | |
| DATE | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 29... | .02 | .14 | .04 | 1 | 10 | 2 | 20 | 3 | 50 | .6 | 80 | -- | |
| JUN 15... | .01 | .05 | .06 | 3 | 20 | 2 | 10 | 0 | 10 | .0 | 10 | 6.3 | |

SCIOTO RIVER BASIN

03234000 PAINT CREEK NEAR BOURNEVILLE, CH

LOCATION.--Lat 39°15'49", long 83°10'01", Ross County, Hydrologic Unit 05060003, on upstream side of left abutment of highway bridge, 0.2 mi (0.3 km) downstream from Sulfur Lick, 1.2 mi (1.9 km) southwest of Bourneville, and 1.2 mi (1.9 km) upstream from Upper Twin Creek.

DRAINAGE AREA.--807 mi² (2,090 km²).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WRD Ohio 1972: 1971.

GAGE.--Water-stage recorder. Datum of gage is 665.56 ft (202.863 m) above mean sea level. See WSP 1725 for history of changes prior to May 3, 1939.

REMARKS.--Records good except those for winter period, which are fair. Flow regulated by Paint Creek Lake 17 mi (27.4 km) upstream since 1971, capacity 145,000 acre-ft (179 hm³) and Rocky Fork Lake 23 mi (37 km) upstream since 1952, capacity, 34,100 acre-ft (42.0 hm³).

AVERAGE DISCHARGE.--54 years (1921-36, 1939-77), 786 ft³/s (22.26 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 56,900 ft³/s (1,610 m³/s) Mar. 10, 1964, gage height, 20.50 ft (6.248 m), from rating curve extended above 30,000 ft³/s (736 m³/s) on basis of contracted-opening measurement at gage height 20.08 ft (6.120 m); minimum daily, 5 ft³/s (0.1 m³/s) Oct. 29, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,620 ft³/s (103 m³/s) May 7, gage height, 6.30 ft (1.920 m); minimum daily, 30 ft³/s (0.85 m³/s) Feb. 6-10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|-------|-------|-------|-------|------|------|------|------|
| 1 | 87 | 140 | 127 | 62 | 31 | 872 | 371 | 460 | 234 | 139 | 83 | 79 |
| 2 | 83 | 130 | 105 | 59 | 31 | 594 | 384 | 1240 | 234 | 136 | 79 | 74 |
| 3 | 80 | 123 | 94 | 56 | 31 | 674 | 2460 | 1010 | 182 | 120 | 69 | 70 |
| 4 | 78 | 116 | 84 | 53 | 31 | 1900 | 1460 | 835 | 125 | 111 | 68 | 68 |
| 5 | 75 | 443 | 76 | 50 | 31 | 2590 | 1670 | 1070 | 99 | 104 | 67 | 67 |
| 6 | 75 | 668 | 76 | 48 | 30 | 2250 | 2060 | 1350 | 98 | 82 | 66 | 65 |
| 7 | 78 | 466 | 76 | 45 | 30 | 1350 | 1270 | 2820 | 95 | 76 | 65 | 64 |
| 8 | 79 | 417 | 77 | 43 | 30 | 1020 | 1440 | 2420 | 95 | 72 | 65 | 64 |
| 9 | 86 | 356 | 105 | 41 | 30 | 822 | 1660 | 1400 | 86 | 70 | 68 | 63 |
| 10 | 110 | 352 | 130 | 39 | 30 | 715 | 1530 | 1050 | 77 | 83 | 67 | 61 |
| 11 | 98 | 351 | 150 | 37 | 31 | 562 | 1110 | 849 | 75 | 89 | 66 | 60 |
| 12 | 91 | 350 | 140 | 35 | 37 | 597 | 698 | 621 | 73 | 136 | 81 | 59 |
| 13 | 86 | 350 | 130 | 34 | 70 | 2450 | 581 | 456 | 82 | 205 | 93 | 56 |
| 14 | 84 | 349 | 110 | 33 | 120 | 2430 | 524 | 344 | 86 | 259 | 95 | 60 |
| 15 | 80 | 345 | 90 | 33 | 300 | 2020 | 503 | 387 | 83 | 360 | 89 | 58 |
| 16 | 77 | 233 | 84 | 32 | 420 | 1100 | 467 | 333 | 92 | 190 | 83 | 74 |
| 17 | 75 | 223 | 82 | 32 | 230 | 956 | 438 | 208 | 243 | 105 | 81 | 123 |
| 18 | 72 | 222 | 82 | 32 | 140 | 1680 | 407 | 225 | 168 | 92 | 77 | 124 |
| 19 | 71 | 342 | 82 | 32 | 120 | 2730 | 359 | 273 | 172 | 83 | 72 | 112 |
| 20 | 72 | 241 | 81 | 32 | 110 | 2050 | 327 | 207 | 165 | 78 | 68 | 104 |
| 21 | 80 | 208 | 80 | 32 | 100 | 1430 | 257 | 167 | 116 | 71 | 66 | 95 |
| 22 | 85 | 200 | 80 | 32 | 120 | 1230 | 249 | 169 | 110 | 64 | 66 | 85 |
| 23 | 81 | 190 | 80 | 32 | 200 | 1170 | 249 | 168 | 79 | 59 | 65 | 79 |
| 24 | 88 | 180 | 79 | 31 | 1290 | 1060 | 249 | 148 | 71 | 55 | 70 | 76 |
| 25 | 131 | 180 | 78 | 31 | 2270 | 982 | 239 | 145 | 76 | 52 | 81 | 72 |
| 26 | 131 | 177 | 77 | 31 | 2490 | 717 | 251 | 138 | 126 | 50 | 76 | 72 |
| 27 | 120 | 181 | 76 | 31 | 2300 | 615 | 280 | 137 | 130 | 51 | 86 | 68 |
| 28 | 110 | 336 | 74 | 31 | 1240 | 562 | 297 | 136 | 117 | 60 | 83 | 66 |
| 29 | 103 | 213 | 71 | 31 | --- | 447 | 428 | 135 | 122 | 73 | 78 | 64 |
| 30 | 101 | 173 | 68 | 31 | --- | 391 | 434 | 135 | 116 | 69 | 75 | 63 |
| 31 | 119 | --- | 65 | 31 | --- | 380 | --- | 160 | --- | 69 | 84 | --- |
| TOTAL | 2786 | 8255 | 2809 | 1172 | 11893 | 38346 | 22652 | 19196 | 3627 | 3263 | 2332 | 2245 |
| MEAN | 89.9 | 275 | 90.6 | 37.8 | 425 | 1237 | 755 | 619 | 121 | 105 | 75.2 | 74.8 |
| MAX | 131 | 668 | 150 | 62 | 2490 | 2730 | 2460 | 2820 | 243 | 360 | 95 | 124 |
| MIN | 71 | 116 | 65 | 31 | 30 | 380 | 239 | 135 | 71 | 50 | 65 | 56 |

CAL YR 1976 TOTAL 187526 MEAN 512 MAX 5940 MIN 60
WTR YR 1977 TOTAL 118576 MEAN 325 MAX 2820 MIN 30

SCIOTO RIVER BASIN

277

03234000 PAINT CREEK NEAR BOURNEVILLE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) |
|--------------|------|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| DATE | TIME | | | | | | | | | | | |
| MAR 29... | 1545 | 387 | 560 | 8.2 | 13.5 | 10.6 | 100 | 1.1 | 260 | 75 | 60 | 26 |
| JUN 13... | 1345 | 86 | 569 | 8.3 | 22.5 | 9.9 | 110 | 3.3 | 280 | 58 | 62 | 30 |
| | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 29... | 8.0 | 2.4 | 222 | 0 | 182 | 2.2 | 42 | 22 | .2 | 4.2 | 274 | 3.8 |
| JUN 13... | 7.3 | 2.3 | 264 | 2 | 220 | 2.1 | 46 | 20 | .2 | 4.1 | 304 | 2.0 |
| | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CH) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 29... | .04 | .06 | .08 | 1 | 20 | 4 | 20 | 0 | 30 | .0 | 10 | -- |
| JUN 13... | .02 | .06 | .04 | 3 | 10 | 3 | 10 | 0 | 10 | .0 | 10 | 6.5 |

SCIOTO RIVER BASIN

03234500 SCIOTO RIVER AT HIGBY, OH
(NATIONAL STREAM QUALITY ACCOUNTING NETWORK STATION)

LOCATION.--Lat 39°12'44", long 82°51'50", in sec. 6, T.7 N., R.20 W., Ross County, Hydrologic Unit 05060002, on left bank at downstream side of highway bridge, 0.8 mi (1.3 km) downstream from Walnut Creek, 1.2 mi (1.9 km) north of Higby, 3 mi (5 km) northwest of Richmondale and 5.0 mi (8.0 km) upstream from Salt Creek.

DRAINAGE AREA.--5,131 mi² (13,289 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1930 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 893: 1937(M). WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 567.28 ft (172.907 m) above mean sea level. Prior to Nov. 7, 1930, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are fair. Flow slightly regulated by 7 reservoirs 45 mi (72 km) to 105 mi (169 km) upstream from station. See stations 03220500, 03221500, 03225000, 03228400, 03228805, 03230890, 03232460, and since 1952 by Rocky Fork Lake 51 mi (82 km) upstream, capacity, 34,100 acre-ft (42.0 hm³).

AVERAGE DISCHARGE.--47 years, 4,460 ft³/s (126 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 177,000 ft³/s (5,010 m³/s Jan. 23, 1937, from rating curve extended above 112,000 ft³/s (3,170 m³/s); maximum gage height, 26.4 ft (8.05 m) Jan. 23, 1937, from floodmarks, and Jan. 23, 1959; minimum daily discharge, 244 ft³/s (6.91 m³/s) Oct. 23, 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 31.6 ft (9.63 m) occurred Mar. 26, 1913, and has not been exceeded since.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 22,400 ft³/s (634 m³/s) Apr. 5, gage height, 12.64 ft (3.853 m); minimum daily, 570 ft³/s (16.1 m³/s) Jan. 16-19, Feb. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------------|---------|-------|-------|-------|-------|--------|--------|--------|-------|-------|-------|-------|
| 1 | 1290 | 2350 | 1200 | 680 | 589 | 9560 | 4320 | 3500 | 1150 | 1810 | 1480 | 695 |
| 2 | 1350 | 2500 | 1100 | 660 | 589 | 6520 | 3990 | 3700 | 1220 | 2180 | 1200 | 733 |
| 3 | 1270 | 1970 | 1000 | 640 | 590 | 5280 | 14500 | 3720 | 1120 | 1970 | 860 | 772 |
| 4 | 1250 | 1760 | 930 | 630 | 580 | 6900 | 17800 | 3970 | 994 | 1670 | 733 | 1370 |
| 5 | 1320 | 1740 | 860 | 620 | 580 | 10300 | 21600 | 5380 | 904 | 1760 | 695 | 1270 |
| 6 | 1450 | 2060 | 800 | 620 | 580 | 10400 | 20600 | 8720 | 919 | 1590 | 670 | 815 |
| 7 | 1430 | 2100 | 900 | 610 | 570 | 8660 | 15200 | 11200 | 919 | 1400 | 660 | 1270 |
| 8 | 1480 | 1970 | 1300 | 600 | 580 | 6740 | 9320 | 12100 | 815 | 1090 | 1150 | 1150 |
| 9 | 1540 | 1920 | 1350 | 600 | 590 | 5440 | 7410 | 7820 | 860 | 1240 | 2110 | 860 |
| 10 | 1600 | 1850 | 1240 | 590 | 630 | 4300 | 8870 | 5260 | 2130 | 1350 | 1430 | 720 |
| 11 | 1650 | 1760 | 1190 | 590 | 700 | 3660 | 8430 | 4120 | 2150 | 1120 | 1100 | 651 |
| 12 | 1350 | 1730 | 1170 | 580 | 880 | 3560 | 7410 | 3330 | 1760 | 1140 | 1170 | 611 |
| 13 | 1170 | 1700 | 1290 | 580 | 1400 | 12100 | 7180 | 2840 | 1460 | 1380 | 1790 | 589 |
| 14 | 1070 | 1680 | 1340 | 580 | 2200 | 16200 | 5180 | 2470 | 1370 | 1980 | 1510 | 626 |
| 15 | 1040 | 1710 | 1240 | 580 | 2100 | 12900 | 4260 | 2300 | 1290 | 1290 | 1480 | 1070 |
| 16 | 994 | 1670 | 1250 | 570 | 1950 | 9140 | 3630 | 2180 | 1190 | 1430 | 1370 | 1730 |
| 17 | 979 | 1520 | 1240 | 570 | 1850 | 6590 | 3190 | 1950 | 1100 | 1030 | 1170 | 1820 |
| 18 | 979 | 1320 | 1240 | 570 | 1700 | 7990 | 3000 | 1810 | 1120 | 933 | 1030 | 2080 |
| 19 | 1040 | 1290 | 1200 | 570 | 1600 | 12800 | 2730 | 1730 | 1090 | 1200 | 889 | 1520 |
| 20 | 1100 | 1420 | 1200 | 580 | 1500 | 12800 | 2550 | 1630 | 1240 | 964 | 815 | 1630 |
| 21 | 1030 | 1290 | 1170 | 590 | 1450 | 11000 | 2400 | 1510 | 1030 | 860 | 720 | 1900 |
| 22 | 1240 | 1300 | 1120 | 600 | 1400 | 10200 | 2160 | 1400 | 919 | 1650 | 682 | 1630 |
| 23 | 1120 | 1340 | 1070 | 610 | 1800 | 9470 | 2110 | 1370 | 845 | 1540 | 772 | 1520 |
| 24 | 1040 | 1300 | 1030 | 620 | 7720 | 8430 | 2250 | 1380 | 759 | 1140 | 874 | 1480 |
| 25 | 1570 | 1240 | 980 | 630 | 13000 | 7540 | 2620 | 1450 | 746 | 904 | 785 | 1380 |
| 26 | 2180 | 1170 | 940 | 620 | 14500 | 6230 | 2950 | 1370 | 733 | 964 | 759 | 1270 |
| 27 | 1820 | 1170 | 900 | 620 | 14300 | 4640 | 2870 | 1270 | 785 | 1030 | 707 | 1170 |
| 28 | 1590 | 1380 | 860 | 610 | 12300 | 3900 | 2870 | 1170 | 845 | 889 | 707 | 1120 |
| 29 | 1450 | 1490 | 810 | 610 | --- | 3970 | 3590 | 1090 | 2180 | 845 | 695 | 1070 |
| 30 | 1370 | 1320 | 770 | 604 | --- | 3920 | 4120 | 1140 | 2300 | 830 | 720 | 964 |
| 31 | 1480 | --- | 730 | 597 | --- | 4260 | --- | 1190 | --- | 800 | 790 | --- |
| TOTAL | 41242 | 49020 | 33420 | 18731 | 88228 | 245400 | 199110 | 104070 | 35943 | 39979 | 31523 | 35486 |
| MEAN | 1330 | 1634 | 1078 | 604 | 3151 | 7916 | 6637 | 3357 | 1198 | 1290 | 1017 | 1183 |
| MAX | 2180 | 2500 | 1350 | 680 | 14500 | 16200 | 21600 | 12100 | 2300 | 2180 | 2110 | 2080 |
| MIN | 979 | 1170 | 730 | 570 | 570 | 3560 | 2110 | 1090 | 733 | 800 | 660 | 589 |
| CAL YR 1976 TOTAL | 1322130 | | | 3612 | | 33700 | | | | | | |
| WTR YR 1977 TOTAL | 922152 | | | 2526 | | 21600 | | | | | | |

SCIOTO RIVER BASIN

279

03234500 SCIOTO RIVER AT HIGBY, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1954 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1967 to current year.

pH: March 1967 to current year.

WATER TEMPERATURES: October 1953 to current year.

DISSOLVED OXYGEN: March 1967 to current year.

SUSPENDED SEDIMENT DISCHARGE: Water years 1954-74 (daily mean concentration and discharge), 1975 to current year (periodic instantaneous concentration and discharge).

INSTRUMENTATION.--Water-quality monitor since March 1967.

REMARKS.--Samples were collected each month as part of the National Stream Quality Accounting Network. Interruptions in the water-quality record were due to malfunction of the instrument. Dissolved oxygen concentrations listed as 15.0 mg/L represent concentrations of 15.0 mg/L or higher due to instrument limitations.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,060 micromhos Feb. 10, 1977; minimum, 113 micromhos Sept. 16, 1975.

pH: Maximum, 9.2 units May 28, June 4, 1977; minimum, 6.7 units Mar. 5, 1973, Jan. 4, 1977.

WATER TEMPERATURES: Maximum, 34.0°C June 29, 1966; minimum, 0.0°C on many days during winter periods.

DISSOLVED OXYGEN: Maximum, 15.0 mg/L or higher on several days during 1971, 1972, 1976-77; minimum, 0.0 mg/L on many days during 1968, Sept. 13, 1969.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,520 mg/L June 23, 1954; minimum daily mean, 1 mg/L on several days during 1955-56.

SEDIMENT LOADS: Maximum daily, 550,000 tons (499,000 tonnes) Jan. 23, 1959; minimum daily, 0.82 ton (0.74 tonne) Sept. 8, 1955.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,060 micromhos Feb. 10; minimum, 285 micromhos Mar. 13.

pH: Maximum, 9.2 units May 28, June 4; minimum, 6.7 units Jan. 4.

WATER TEMPERATURES: Maximum, 31.0°C July 19, 20; minimum, 0.0 °C Dec. 24, 25, 27, 30, Jan. 1, 2, 8, 11-13.

DISSOLVED OXYGEN: Maximum, 15.0 mg/L or higher May 27, 28, June 3, 4, 17; minimum, 2.9 mg/L June 30, Aug. 9.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICRO-MHOS) | PH (UNITS) | TEMPERATURE (DEG C) | TURBIDITY (JTU) | DISSOLVED OXYGEN (MG/L) | PERCENT SATURATION | FECAL COLIFORMS (COL./100 ML) | FECAL STREPTOCOCCI (COL. PER 100 ML) | HARDNESS (CA,MG/L) |
|-----------|------|-------------------------------|-----------------------------------|------------|---------------------|-----------------|-------------------------|--------------------|-------------------------------|--------------------------------------|--------------------|
| OCT 14... | 1100 | 1090 | 730 | 8.0 | 15.0 | 12 | 6.3 | 62 | 1000 | 170 | 290 |
| NOV 11... | 1030 | 1760 | 640 | 7.7 | 6.5 | -- | 8.4 | 68 | 1200 | 560 | -- |
| DEC 02... | 1100 | 1170 | 745 | 7.9 | 3.0 | -- | 9.3 | 69 | 350 | 130 | -- |
| JAN 26... | 1600 | 651 | 955 | 7.8 | 2.0 | -- | 6.3 | 46 | 340 | 180 | -- |
| FEB 15... | 1030 | 2100 | 890 | 7.3 | 1.0 | 13 | 9.0 | 64 | 12000 | 9400 | 270 |
| MAR 10... | 1000 | 4280 | 610 | 7.7 | 7.0 | -- | 10.2 | 84 | 930 | 1000 | -- |
| APR 06... | 1300 | 20400 | 450 | 7.6 | 9.5 | 85 | 8.8 | 76 | 6000 | 21000 | 220 |
| MAY 03... | 0930 | 3740 | 620 | 8.0 | 17.5 | -- | 7.7 | 80 | 1400 | 920 | -- |
| JUN 01... | 1005 | 1170 | 770 | 8.6 | 24.5 | -- | 6.8 | 81 | 270 | 340 | -- |
| JUL 13... | 1200 | 1370 | 675 | 7.8 | 26.5 | 1 | 5.0 | 62 | 830 | 1400 | 290 |
| AUG 10... | 1430 | 1380 | 650 | 7.7 | 26.0 | -- | 4.1 | 50 | 5200 | 650 | -- |
| SEP 21... | 1030 | 1950 | 645 | 7.6 | 21.5 | -- | 6.5 | 73 | 1200 | 400 | -- |

03234500 SCIOTO RIVER AT HIGBY, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG/L) | DIS-SOLVED SODIUM (NA) (MG/L) | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) |
|-----------|--------------------------------|---------------------------------|---|--|---------------------------------------|------------------------------------|---------------------------|-----------------------------|-----------------------------|---------------------------------|------------------------------------|
| OCT 14... | 97 | 75 | 26 | 36 | 4.4 | 240 | 0 | 197 | 3.8 | 100 | 50 |
| NOV 11... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DEC 02... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JAN 26... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| FEB 15... | 110 | 66 | 26 | 72 | 6.0 | 198 | 0 | 162 | 16 | 120 | 110 |
| MAR 10... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| APR 06... | 97 | 55 | 19 | 11 | 3.6 | 145 | 0 | 120 | 5.8 | 54 | 23 |
| MAY 03... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUN 01... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 13... | 110 | 72 | 26 | 37 | 4.3 | 220 | 0 | 180 | 5.6 | 98 | 49 |
| AUG 10... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| SEP 21... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DATE | DIS-SOLVED FLUORIDE (F) (MG/L) | DIS-SOLVED SILICA (SiO2) (MG/L) | DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L) | DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL KJELDAHL NITROGEN (N) (MG/L) | TOTAL NITROGEN (N) (MG/L) | TOTAL NITROGEN (NO3) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | TOTAL PHYTOPLANKTON (CELLS PER ML) |
| OCT 14... | .5 | 6.1 | 447 | 417 | 1.9 | 1.5 | 3.4 | 15 | .56 | 9.8 | 14000 |
| NOV 11... | -- | -- | -- | -- | 1.7 | 1.2 | 2.9 | 13 | .42 | -- | 18000 |
| DEC 02... | -- | -- | -- | -- | 1.8 | 1.8 | 3.6 | 16 | .55 | -- | 5300 |
| JAN 26... | -- | -- | -- | -- | 1.5 | 7.4 | 8.9 | 39 | 1.4 | -- | 26000 |
| FEB 15... | .5 | 5.0 | 541 | 503 | 1.9 | 3.3 | 5.2 | 23 | .88 | 11 | 42000 |
| MAR 10... | -- | -- | -- | -- | 4.1 | 1.7 | 5.8 | 26 | .33 | -- | 29000 |
| APR 06... | .2 | 6.5 | 300 | 244 | 4.4 | 2.0 | 6.4 | 28 | .34 | 11 | 2100 |
| MAY 03... | -- | -- | -- | -- | 3.6 | 1.3 | 4.9 | 22 | .30 | -- | 25000 |
| JUN 01... | -- | -- | -- | -- | 2.0 | 2.8 | 4.8 | 21 | .67 | -- | 340000 |
| JUL 13... | .3 | 5.6 | 438 | 401 | 1.8 | 1.8 | 3.6 | 16 | .59 | 6.1 | 35000 |
| AUG 10... | -- | -- | -- | -- | 1.1 | 1.7 | 2.8 | 12 | .52 | -- | -- |
| SEP 21... | -- | -- | -- | -- | 1.6 | 1.1 | 2.7 | 12 | .47 | -- | -- |

SCIOTO RIVER BASIN

281

03234500 SCIOTO RIVER AT HIGBY, OH--Continued

ANALYSES OF MINOR ELEMENTS

| DATE | TIME | TOTAL ARSENIC (AS) (UG/L) | DIS- SOLVED ARSENIC (AS) (UG/L) | TOTAL CAD- MIUM (CD) (UG/L) | DIS- SOLVED CAD- MIUM (CD) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | DIS- SOLVED CHRO- MIUM (CR) (UG/L) | TOTAL COBALT (CO) (UG/L) | DIS- SOLVED COBALT (CO) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) |
|--------------|------|------------------------------------|---|---|--|--|---|-----------------------------------|--|-----------------------------------|--|---------------------------------|
| OCT 14... | 1100 | 2 | 2 | 1 | 0 | <10 | <10 | 1 | 1 | 0 | 0 | 490 |
| FEB 15... | 1030 | 4 | 2 | 0 | 0 | <10 | <10 | 1 | 1 | 10 | 10 | 800 |
| APR 06... | 1300 | 1 | 1 | 0 | 0 | 20 | 0 | 4 | 0 | 21 | 21 | 7400 |
| JUL 13... | 1200 | 3 | 2 | 0 | 0 | 30 | 1 | 2 | 0 | 9 | 9 | 1100 |

| DATE | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED LEAD (PB) (UG/L) | TOTAL MAN- GANESE (MN) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | DIS- SOLVED MERCURY (HG) (UG/L) | TOTAL SELE- NIUM (SE) (UG/L) | DIS- SOLVED SELE- NIUM (SE) (UG/L) | TOTAL ZINC (ZN) (UG/L) | DIS- SOLVED ZINC (ZN) (UG/L) |
|--------------|--|---------------------------------|--|---|--|------------------------------------|---|--|---|---------------------------------|--|
| OCT 14... | 50 | 9 | 3 | 120 | 100 | <.5 | <.5 | 0 | 0 | 30 | 30 |
| FEB 15... | 70 | 15 | 7 | 110 | 80 | <.5 | <.5 | 0 | 0 | 40 | 20 |
| APR 06... | 30 | 17 | 0 | 140 | 0 | .0 | .0 | 0 | 0 | 20 | 10 |
| JUL 13... | 30 | 4 | 4 | 130 | 50 | .0 | .0 | 0 | 0 | 50 | 10 |

SUSPENDED SEDIMENT DISCHARGE

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | TEMPER- ATURE (DEG C) | SUS- PENDE SEDI- MENT DIS- CHARGE (MG/L) | SUS- PENDE SEDI- MENT DIS- CHARGE (T/DAY) |
|--------------|------|---|-----------------------------|--|---|
| OCT 14... | 1100 | 1090 | 15.0 | 18 | 53 |
| NOV 11... | 1030 | 1760 | 6.5 | 16 | 76 |
| DEC 02... | 1100 | 1170 | 3.0 | 13 | 41 |
| JAN 26... | 1600 | 651 | 2.0 | 23 | 40 |
| FEB 15... | 1030 | 2750 | 1.0 | 36 | 267 |
| MAR 10... | 1000 | 4280 | 7.0 | 39 | 451 |
| APR 06... | 1300 | 20400 | 9.5 | 217 | 12000 |
| MAY 03... | 0930 | 3740 | 17.5 | 80 | 808 |
| JUN 01... | 1005 | 1170 | 24.5 | 52 | 164 |
| JUL 13... | 1200 | 1370 | 26.5 | 69 | 255 |
| AUG 10... | 1430 | 1380 | 26.0 | 79 | 294 |
| SEP 21... | 1030 | 1950 | 21.5 | 56 | 295 |

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|------|-----------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 681 | 654 | 684 | 651 | 753 | 743 | 837 | 801 | 999 | 956 | 491 | 467 |
| 2 | 654 | 647 | 701 | 611 | 749 | 740 | 875 | 783 | 1030 | 1000 | 507 | 471 |
| 3 | 669 | 647 | 608 | 579 | 767 | 743 | 864 | 854 | 1050 | 1020 | 537 | 506 |
| 4 | 693 | 660 | 600 | 581 | 756 | 644 | 861 | 839 | 1040 | 1000 | 534 | 405 |
| 5 | 698 | 677 | 635 | 600 | 786 | 758 | 843 | 819 | 1010 | 984 | 528 | 435 |
| 6 | 677 | 662 | 608 | 587 | 795 | 681 | 842 | 824 | 984 | 945 | 567 | 527 |
| 7 | 674 | 666 | 611 | 593 | 795 | 749 | 825 | 812 | 995 | 950 | 558 | 539 |
| 8 | 696 | 656 | 632 | 612 | 780 | 678 | 834 | 804 | 1010 | 993 | 576 | 546 |
| 9 | 669 | 620 | 644 | 630 | 780 | 678 | 843 | 804 | 1050 | 1000 | 599 | 575 |
| 10 | 666 | 617 | 647 | 635 | 812 | 801 | 861 | 815 | 1060 | 1050 | 627 | 602 |
| 11 | 674 | 662 | 642 | 632 | 803 | 777 | 884 | 863 | 1050 | 984 | 644 | 627 |
| 12 | 695 | 675 | 638 | 632 | 774 | 758 | 905 | 876 | 978 | 842 | 654 | 627 |
| 13 | 690 | 627 | 645 | 636 | 783 | 764 | 912 | 903 | 825 | 669 | 551 | 285 |
| 14 | 730 | 666 | 653 | 642 | 804 | 783 | 906 | 888 | 818 | 684 | 488 | 458 |
| 15 | 678 | 668 | 717 | 650 | 804 | 794 | 897 | 890 | 923 | 815 | 558 | 495 |
| 16 | 692 | 672 | 719 | 678 | 798 | 783 | 890 | 881 | 948 | 879 | 585 | 560 |
| 17 | 722 | 690 | 705 | 696 | 782 | 740 | 914 | 887 | 882 | 815 | 606 | 584 |
| 18 | 752 | 723 | 740 | 729 | 743 | 735 | 945 | 914 | 836 | 807 | 611 | 384 |
| 19 | 762 | 753 | 729 | 717 | 755 | 735 | 954 | 935 | 833 | 819 | 549 | 444 |
| 20 | 764 | 752 | 720 | 695 | 773 | 756 | 960 | 933 | 831 | 816 | 564 | 512 |
| 21 | 764 | 737 | 725 | 696 | 770 | 761 | 980 | 957 | 834 | 815 | 584 | 569 |
| 22 | 738 | 729 | 753 | 725 | 770 | 707 | 984 | 972 | 824 | 774 | 584 | 570 |
| 23 | 731 | 699 | 759 | 753 | 800 | 749 | 980 | 971 | 765 | 521 | 594 | 527 |
| 24 | 699 | 689 | 758 | 755 | 752 | 738 | 974 | 947 | 543 | 477 | 602 | 531 |
| 25 | 702 | 662 | 762 | 743 | 761 | 701 | 966 | 941 | 485 | 458 | 611 | 600 |
| 26 | 711 | 674 | 743 | 731 | 737 | 671 | 962 | 951 | 557 | 491 | 606 | 599 |
| 27 | 708 | 621 | 740 | 731 | 738 | 674 | 962 | 954 | 597 | 560 | 618 | 602 |
| 28 | 636 | 623 | 752 | 741 | 750 | 734 | 971 | 950 | 557 | 492 | 636 | 617 |
| 29 | 648 | 638 | 746 | 720 | 749 | 737 | 989 | 972 | --- | --- | 650 | 635 |
| 30 | 659 | 650 | 768 | 732 | 774 | 735 | 971 | 954 | --- | --- | 662 | 648 |
| 31 | 660 | 639 | --- | --- | 801 | 777 | 980 | 956 | --- | --- | 675 | 662 |
| MONTH | 764 | 617 | 768 | 579 | 812 | 644 | 989 | 783 | 1060 | 458 | 675 | 285 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 677 | 662 | 632 | 615 | 770 | 749 | 653 | 620 | 585 | 486 | 815 | 773 |
| 2 | 666 | 386 | 636 | 600 | 771 | 747 | 660 | 596 | 720 | 597 | 803 | 623 |
| 3 | 464 | 327 | 633 | 600 | 783 | 759 | 636 | 611 | 728 | 680 | 684 | 578 |
| 4 | 477 | 455 | 651 | 579 | 764 | 731 | 668 | 596 | 738 | 686 | 734 | 686 |
| 5 | 467 | 437 | 593 | 533 | 749 | 731 | 644 | 615 | 771 | 743 | 738 | 713 |
| 6 | 450 | 440 | 606 | 537 | 765 | 740 | 701 | 662 | 786 | 771 | 725 | 669 |
| 7 | 471 | 443 | 600 | 506 | 776 | 752 | 701 | 686 | 816 | 768 | 659 | 612 |
| 8 | 509 | 470 | 560 | 522 | 809 | 774 | 764 | 723 | 843 | 786 | 656 | 618 |
| 9 | 552 | 507 | 578 | 561 | 818 | 750 | 762 | 747 | 867 | 782 | 731 | 660 |
| 10 | 572 | 543 | 609 | 581 | 819 | 770 | 755 | 671 | 809 | 593 | 725 | 698 |
| 11 | 543 | 527 | 623 | 605 | 873 | 657 | 749 | 702 | 594 | 582 | 713 | 693 |
| 12 | 530 | 509 | 642 | 621 | 654 | 636 | 705 | 690 | 605 | 576 | 764 | 711 |
| 13 | 516 | 506 | 659 | 642 | 666 | 653 | 687 | 674 | 618 | 591 | 795 | 762 |
| 14 | 558 | 512 | 680 | 656 | 699 | 671 | 581 | 471 | 710 | 620 | 801 | 792 |
| 15 | 593 | 564 | 687 | 674 | 719 | 684 | 647 | 575 | 713 | 629 | 821 | 794 |
| 16 | 612 | 591 | 692 | 677 | 746 | 707 | 656 | 377 | 629 | 599 | 791 | 555 |
| 17 | 635 | 614 | 696 | 684 | 753 | 698 | 681 | 473 | 669 | 624 | 683 | 597 |
| 18 | 648 | 632 | 707 | 693 | 753 | 711 | 722 | 683 | 678 | 666 | 636 | 584 |
| 19 | 660 | 645 | 708 | 698 | 747 | 717 | 762 | 723 | 695 | 677 | 633 | 588 |
| 20 | 663 | 654 | 719 | 695 | 753 | 680 | 785 | 710 | 735 | 696 | 587 | 572 |
| 21 | 668 | 651 | 735 | 668 | 785 | 638 | 776 | 533 | 770 | 738 | 645 | 581 |
| 22 | 683 | 669 | --- | --- | 800 | 732 | 776 | 587 | 788 | 770 | 657 | 627 |
| 23 | 693 | 684 | --- | --- | 810 | 722 | 609 | 521 | 789 | 773 | 629 | 615 |
| 24 | 710 | 689 | --- | --- | 788 | 746 | 669 | 441 | 783 | 771 | 644 | 617 |
| 25 | 725 | 704 | 779 | 773 | 794 | 708 | 707 | 659 | 809 | 776 | 686 | 645 |
| 26 | 720 | 660 | 782 | 768 | 819 | 741 | 711 | 692 | 828 | 807 | 710 | 690 |
| 27 | 672 | 645 | 771 | 698 | 815 | 798 | 729 | 707 | 839 | 788 | 711 | 704 |
| 28 | 675 | 660 | 740 | 711 | 804 | 773 | 813 | 732 | 800 | 774 | 725 | 714 |
| 29 | 657 | 636 | 749 | 722 | 815 | 780 | 819 | 771 | 786 | 768 | 729 | 722 |
| 30 | 657 | 621 | 773 | 737 | 806 | 644 | 770 | 734 | 818 | 788 | 734 | 723 |
| 31 | --- | --- | 756 | 744 | --- | --- | 756 | 741 | 825 | 803 | --- | --- |
| MONTH | 725 | 327 | 782 | 506 | 873 | 636 | 819 | 377 | 867 | 486 | 821 | 555 |
| YEAR | 1060 | 285 | | | | | | | | | | |

283

PH (UNITS), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|-----|-----------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 8.2 | 7.8 | --- | --- | 8.0 | 7.7 | 7.8 | 7.2 | --- | --- | 7.8 | 7.8 |
| 2 | 8.2 | 8.0 | --- | --- | 8.0 | 7.9 | 7.8 | 7.7 | --- | --- | 7.8 | 7.7 |
| 3 | 8.2 | 8.1 | --- | --- | 8.0 | 7.7 | 7.8 | 7.6 | --- | --- | 7.8 | 7.7 |
| 4 | 8.3 | 8.1 | --- | --- | 8.0 | 7.9 | 7.6 | 6.7 | --- | --- | 7.8 | 7.7 |
| 5 | 8.3 | 8.1 | --- | --- | 8.2 | 7.8 | 7.6 | 7.5 | --- | --- | 7.8 | 7.8 |
| 6 | 8.2 | 8.1 | 8.0 | 7.8 | 8.2 | 8.1 | 7.6 | 7.5 | --- | --- | 7.9 | 7.8 |
| 7 | 8.0 | 7.9 | 8.0 | 7.7 | 8.2 | 8.0 | 7.6 | 7.5 | --- | --- | 7.9 | 7.8 |
| 8 | 8.1 | 7.9 | 7.7 | 7.5 | 8.1 | 8.0 | 7.6 | 7.5 | --- | --- | 7.9 | 7.5 |
| 9 | 8.1 | 7.9 | 7.9 | 7.5 | 8.1 | 8.0 | 7.4 | 7.3 | --- | --- | 7.9 | 7.6 |
| 10 | 8.1 | 7.9 | 7.8 | 7.7 | 7.9 | 7.7 | 7.5 | 7.3 | --- | --- | 7.9 | 7.7 |
| 11 | 8.1 | 7.9 | 7.7 | 7.6 | 7.9 | 7.8 | 7.5 | 7.4 | --- | --- | 7.9 | 7.6 |
| 12 | 8.2 | 7.9 | 7.8 | 7.6 | 7.9 | 7.9 | 7.5 | 7.3 | --- | --- | 7.9 | 7.8 |
| 13 | 8.2 | 8.1 | 7.8 | 7.5 | 7.9 | 7.8 | 7.6 | 7.3 | --- | --- | 7.9 | 7.6 |
| 14 | 8.2 | 8.0 | 7.8 | 7.5 | 7.9 | 7.8 | 7.3 | 7.1 | --- | --- | 7.8 | 7.6 |
| 15 | 8.2 | 8.0 | 8.2 | 7.6 | 7.9 | 7.8 | 7.4 | 7.2 | --- | --- | 8.0 | 7.7 |
| 16 | 8.2 | 7.9 | 8.2 | 7.8 | 7.9 | 7.8 | 7.6 | 7.4 | --- | --- | 8.0 | 7.8 |
| 17 | 8.0 | 7.9 | 7.7 | 7.7 | 7.9 | 7.8 | 7.7 | 7.5 | --- | --- | 7.9 | 7.7 |
| 18 | 8.0 | 7.9 | 7.7 | 7.5 | 7.9 | 7.9 | 7.6 | 7.4 | --- | --- | 7.8 | 7.7 |
| 19 | 8.1 | 7.9 | 7.7 | 7.5 | 7.9 | 7.8 | 7.5 | 7.2 | --- | --- | 7.7 | 7.6 |
| 20 | 8.1 | 7.9 | 7.7 | 7.5 | 7.9 | 7.8 | 7.3 | 7.1 | --- | --- | 7.8 | 7.6 |
| 21 | 8.0 | 7.9 | 7.6 | 7.4 | 7.8 | 7.7 | 7.2 | 7.1 | --- | --- | 7.9 | 7.6 |
| 22 | 8.0 | 7.9 | 7.6 | 7.5 | 7.8 | 7.7 | 7.3 | 7.0 | --- | --- | 7.9 | 7.7 |
| 23 | 8.0 | 7.9 | 8.1 | 7.7 | 7.9 | 7.8 | 7.5 | 7.1 | 7.8 | 7.7 | 7.8 | 7.6 |
| 24 | 8.1 | 8.0 | 8.2 | 7.9 | 7.9 | 7.4 | 7.2 | 7.1 | 7.7 | 7.6 | 7.9 | 7.6 |
| 25 | 8.1 | 8.0 | 8.2 | 7.9 | 7.9 | 7.9 | 7.7 | 7.2 | 7.7 | 7.6 | 7.9 | 7.6 |
| 26 | 8.3 | 7.6 | 8.2 | 8.2 | 8.0 | 7.9 | 7.8 | 7.7 | 7.9 | 7.7 | 7.9 | 7.6 |
| 27 | 7.8 | 7.6 | 8.3 | 8.1 | 8.0 | 7.8 | 7.8 | 7.7 | 7.9 | 7.9 | 8.0 | 7.8 |
| 28 | 7.7 | 7.5 | 8.1 | 8.0 | 7.8 | 7.7 | 7.8 | 7.7 | 7.9 | 7.8 | 8.0 | 7.9 |
| 29 | 7.7 | 7.5 | 8.0 | 7.8 | 7.8 | 7.6 | 7.8 | 7.7 | --- | --- | 8.1 | 7.9 |
| 30 | 7.7 | 7.6 | 7.9 | 7.7 | 7.8 | 7.1 | --- | --- | --- | --- | 8.1 | 7.9 |
| 31 | --- | --- | --- | --- | 7.5 | 7.2 | --- | --- | --- | --- | 8.0 | 7.8 |
| MONTH | 8.3 | 7.5 | 8.3 | 7.4 | 8.2 | 7.1 | 7.8 | 6.7 | 7.9 | 7.6 | 8.1 | 7.5 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 8.0 | 7.8 | 8.2 | 7.8 | 9.0 | 8.6 | 8.2 | 7.7 | 7.9 | 7.7 | 8.2 | 7.9 |
| 2 | 8.0 | 7.8 | 8.1 | 7.9 | 8.8 | 8.5 | 8.0 | 7.7 | 7.9 | 7.7 | 8.3 | 8.0 |
| 3 | 7.8 | 7.7 | 8.2 | 8.0 | 8.8 | 8.3 | 7.7 | 7.6 | 7.8 | 7.6 | 8.4 | 8.1 |
| 4 | 7.8 | 7.6 | 8.1 | 8.0 | 9.2 | 8.5 | 7.9 | 7.6 | 7.9 | 7.6 | 8.5 | 8.2 |
| 5 | 7.8 | 7.6 | 8.0 | 7.9 | 8.9 | 8.6 | 7.8 | 7.7 | 8.2 | 7.8 | 8.5 | 7.9 |
| 6 | 7.8 | 7.6 | 8.0 | 7.8 | 8.7 | 8.3 | 8.1 | 7.6 | 8.4 | 8.0 | 8.1 | 7.7 |
| 7 | 7.9 | 7.7 | 8.0 | 7.9 | 8.8 | 8.4 | 8.0 | 7.8 | 8.4 | 8.1 | 7.9 | 7.5 |
| 8 | 7.9 | 7.8 | 8.0 | 7.8 | 8.6 | 8.2 | 8.2 | 7.9 | 8.3 | 8.2 | 7.8 | 7.5 |
| 9 | 7.9 | 7.8 | 8.0 | 7.8 | 8.8 | 8.2 | 8.2 | 8.1 | 8.1 | 7.5 | 7.9 | 7.5 |
| 10 | 8.1 | 7.8 | 8.0 | 7.8 | 8.5 | 8.4 | 8.2 | 7.8 | 7.7 | 7.5 | 8.1 | 7.6 |
| 11 | 8.0 | 7.9 | 8.0 | 7.8 | 8.4 | 7.8 | 7.9 | 7.7 | 7.6 | 7.5 | 7.9 | 7.6 |
| 12 | 8.0 | 7.9 | 8.0 | 7.8 | 8.3 | 7.8 | 7.8 | 7.8 | 7.6 | 7.5 | 7.6 | 7.5 |
| 13 | 8.1 | 7.8 | 8.2 | 7.9 | 8.9 | 8.2 | 8.2 | 7.8 | 7.5 | 7.4 | 7.6 | 7.5 |
| 14 | 8.0 | 7.8 | 8.3 | 7.9 | 8.7 | 8.3 | 8.0 | 7.7 | 7.5 | 7.4 | 7.6 | 7.5 |
| 15 | 8.1 | 7.9 | 8.6 | 8.0 | 8.8 | 8.2 | 8.1 | 7.8 | 7.6 | 7.3 | 7.7 | 7.5 |
| 16 | 8.1 | 7.9 | 8.7 | 8.1 | 8.8 | 8.4 | 8.0 | 7.5 | 7.6 | 7.5 | 7.6 | 7.4 |
| 17 | 8.1 | 7.9 | 8.8 | 8.3 | 9.0 | 8.5 | 8.4 | 7.8 | 7.7 | 7.6 | 7.5 | 7.3 |
| 18 | 8.1 | 7.9 | 8.9 | 8.5 | 8.8 | 8.6 | 8.5 | 8.1 | 7.9 | 7.6 | 7.5 | 7.4 |
| 19 | 8.1 | 7.9 | 8.8 | 8.5 | 8.8 | 8.4 | 8.5 | 8.3 | 7.9 | 7.6 | 7.5 | 7.3 |
| 20 | 8.1 | 7.9 | 8.7 | 8.2 | 8.9 | 8.6 | 8.6 | 8.0 | 7.9 | 7.7 | 7.5 | 7.4 |
| 21 | 8.1 | 7.9 | 8.2 | 8.0 | 9.0 | 8.3 | 8.5 | 8.3 | 7.9 | 7.7 | 7.6 | 7.4 |
| 22 | 8.1 | 7.9 | 8.2 | 8.0 | 8.9 | 8.5 | 8.5 | 7.9 | 8.0 | 7.8 | 7.6 | 7.4 |
| 23 | 8.1 | 7.8 | 8.3 | 8.0 | 9.0 | 8.5 | 8.2 | 7.4 | 8.0 | 7.8 | 7.7 | 7.5 |
| 24 | 8.0 | 7.8 | 8.2 | 8.0 | 9.0 | 8.7 | 7.9 | 7.5 | 8.0 | 7.7 | 7.6 | 7.5 |
| 25 | 7.9 | 7.7 | 8.2 | 7.9 | 8.7 | 8.4 | 7.9 | 7.6 | 8.1 | 7.5 | 7.6 | 7.5 |
| 26 | 7.8 | 7.5 | 8.5 | 7.9 | 8.9 | 8.2 | 8.4 | 7.9 | 8.2 | 7.8 | 7.6 | 7.4 |
| 27 | 8.1 | 7.5 | 9.0 | 8.1 | 8.7 | 8.4 | 8.3 | 8.1 | 8.3 | 7.8 | 7.6 | 7.4 |
| 28 | 8.1 | 7.8 | 9.2 | 8.7 | 8.5 | 8.1 | 8.5 | 8.1 | 8.4 | 7.9 | 7.6 | 7.5 |
| 29 | 8.1 | 7.5 | 9.1 | 8.8 | 8.3 | 7.8 | 8.4 | 7.8 | 8.4 | 8.1 | 7.7 | 7.6 |
| 30 | 8.0 | 7.6 | 8.8 | 8.6 | 7.8 | 7.5 | 7.8 | 7.6 | 8.4 | 8.1 | 7.7 | 7.5 |
| 31 | --- | --- | 8.9 | 8.6 | --- | --- | 7.8 | 7.6 | 8.3 | 7.8 | --- | --- |
| MONTH | 8.1 | 7.5 | 9.2 | 7.8 | 9.2 | 7.5 | 8.6 | 7.4 | 8.4 | 7.3 | 8.5 | 7.3 |
| YEAR | 9.2 | 6.7 | | | | | | | | | | |

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|--------|----------|-----------|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 18.5 | 16.5 | 8.5 | 7.0 | 3.5 | 2.0 | 1.0 | 0.0 | 1.0 | 0.5 | 3.0 | 2.0 |
| 2 | 18.0 | 17.5 | 8.5 | 7.5 | 3.5 | 2.5 | 1.0 | 0.0 | 1.0 | 0.5 | 3.5 | 2.0 |
| 3 | 19.0 | 17.5 | 9.5 | 8.5 | 2.0 | 1.0 | 1.5 | 0.5 | 2.0 | 1.0 | 4.5 | 3.0 |
| 4 | 19.0 | 17.5 | 9.0 | 7.5 | 2.0 | 1.5 | 1.5 | 1.0 | 2.0 | 1.5 | 5.5 | 4.5 |
| 5 | 19.5 | 18.0 | 8.0 | 7.0 | 2.0 | 1.0 | 2.0 | 1.0 | 1.5 | 0.5 | 5.5 | 5.0 |
| 6 | 19.5 | 18.0 | 7.5 | 6.5 | 3.0 | 1.5 | 1.5 | 1.0 | 1.0 | 0.5 | 5.5 | 4.5 |
| 7 | 18.0 | 16.5 | 8.0 | 7.0 | 3.0 | 2.0 | 1.5 | 0.5 | 0.5 | 0.5 | 5.0 | 4.5 |
| 8 | 16.5 | 16.0 | 7.0 | 6.0 | 2.0 | 1.5 | 0.5 | 0.0 | 1.0 | 0.5 | 6.0 | 3.5 |
| 9 | 16.0 | 14.0 | 7.0 | 5.5 | 2.0 | 1.5 | 1.0 | 0.5 | 2.0 | 0.5 | 7.5 | 5.0 |
| 10 | 14.5 | 13.0 | 7.0 | 6.5 | 3.5 | 2.5 | 1.0 | 0.5 | 3.5 | 1.5 | 8.5 | 6.5 |
| 11 | 15.0 | 13.5 | 7.0 | 6.5 | 4.0 | 3.5 | 0.5 | 0.0 | 3.5 | 1.5 | 10.5 | 7.5 |
| 12 | 15.0 | 13.5 | 6.5 | 6.0 | 4.5 | 4.0 | 0.5 | 0.0 | 3.0 | 1.5 | 11.0 | 10.0 |
| 13 | 15.0 | 14.5 | 6.0 | 5.5 | 4.0 | 3.0 | 0.5 | 0.0 | 1.5 | 1.0 | 10.5 | 9.5 |
| 14 | 15.5 | 15.0 | 5.5 | 5.0 | 3.5 | 2.5 | 1.0 | 0.5 | 1.0 | 0.5 | 10.0 | 9.5 |
| 15 | 15.5 | 14.0 | 6.5 | 5.5 | 4.0 | 3.0 | 1.5 | 1.0 | 1.5 | 0.5 | 10.5 | 9.0 |
| 16 | 15.5 | 14.5 | 5.5 | 5.0 | 4.0 | 3.5 | 1.5 | 0.5 | 2.0 | 1.0 | 11.5 | 10.0 |
| 17 | 14.5 | 13.5 | 5.5 | 5.0 | 4.5 | 3.5 | 0.5 | 0.5 | 2.0 | 0.5 | 10.5 | 9.5 |
| 18 | 13.0 | 11.5 | 6.5 | 5.5 | 4.0 | 3.5 | 0.5 | 0.5 | 1.5 | 1.0 | 10.0 | 9.0 |
| 19 | 12.0 | 11.5 | 8.0 | 6.5 | 5.0 | 3.5 | 0.5 | 0.5 | 2.5 | 1.5 | 9.0 | 8.5 |
| 20 | 11.5 | 11.0 | 7.5 | 6.5 | 5.5 | 4.5 | 0.5 | 0.5 | 2.5 | 2.0 | 8.5 | 7.0 |
| 21 | 11.0 | 10.5 | 7.0 | 6.0 | 4.5 | 1.5 | 1.0 | 0.5 | 3.5 | 1.5 | 8.5 | 6.5 |
| 22 | 10.5 | 9.5 | 6.0 | 5.5 | 1.5 | 1.0 | 1.5 | 0.5 | 5.0 | 2.5 | 8.0 | 7.5 |
| 23 | 10.0 | 9.0 | 5.5 | 4.5 | 1.5 | 0.5 | 1.0 | 0.5 | 5.0 | 3.5 | 8.0 | 6.5 |
| 24 | 10.0 | 9.0 | 5.0 | 4.0 | 0.5 | 0.0 | 2.0 | 1.0 | 3.5 | 3.0 | 8.5 | 6.5 |
| 25 | 10.5 | 10.0 | 5.5 | 4.0 | 0.5 | 0.0 | 2.0 | 1.5 | 3.5 | 2.0 | 8.5 | 6.5 |
| 26 | 10.0 | 9.5 | 8.0 | 5.5 | 1.0 | 0.5 | 2.0 | 1.5 | 3.5 | 2.5 | 9.5 | 7.0 |
| 27 | 10.0 | 8.5 | 10.0 | 8.0 | 0.5 | 0.0 | 2.0 | 0.5 | 3.5 | 3.0 | 10.0 | 8.5 |
| 28 | 8.5 | 7.5 | 9.5 | 7.0 | 1.0 | 0.5 | 1.0 | 0.5 | 3.0 | 2.0 | 11.5 | 10.0 |
| 29 | 8.5 | 7.0 | 6.5 | 4.5 | 0.5 | 0.5 | 1.0 | 0.5 | --- | --- | 14.0 | 11.0 |
| 30 | 8.0 | 7.5 | 4.0 | 3.0 | 0.5 | 0.0 | 1.0 | 0.5 | --- | --- | 16.0 | 13.0 |
| 31 | 8.0 | 8.0 | --- | --- | 0.5 | 0.5 | 1.0 | 0.5 | --- | --- | 15.5 | 14.0 |
| MONTH | 19.5 | 7.0 | 10.0 | 3.0 | 5.5 | 0.0 | 2.0 | 0.0 | 5.0 | 0.5 | 16.0 | 2.0 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 14.0 | 12.5 | 17.5 | 14.5 | 26.0 | 24.5 | 27.0 | 24.5 | 26.0 | 24.0 | 28.0 | 26.5 |
| 2 | 14.0 | 13.0 | 19.0 | 16.5 | 25.5 | 23.5 | 27.0 | 24.5 | 26.5 | 24.5 | 27.5 | 26.0 |
| 3 | 13.5 | 12.5 | 19.0 | 17.5 | 24.5 | 22.0 | 26.0 | 24.5 | 27.0 | | | |

285

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|------|----------|------|---------|-----|----------|------|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 6.3 | 4.4 | 7.8 | 7.4 | 9.5 | 8.9 | 10.3 | 9.7 | 6.9 | 6.6 | 11.0 | 10.4 |
| 2 | 6.9 | 5.7 | 8.2 | 6.8 | 9.6 | 8.9 | 10.1 | 9.5 | 6.7 | 6.4 | 11.9 | 10.3 |
| 3 | 7.5 | 6.1 | 8.2 | 8.0 | 9.9 | 9.3 | 9.9 | 9.2 | 6.6 | 6.3 | 11.4 | 9.8 |
| 4 | 7.3 | 5.9 | 8.2 | 7.9 | 10.3 | 9.6 | 9.5 | 9.3 | 6.8 | 6.3 | 11.1 | 9.6 |
| 5 | 6.7 | 5.2 | 8.7 | 7.9 | 10.5 | 9.2 | 9.7 | 8.6 | 6.9 | 6.6 | 10.9 | 9.5 |
| 6 | 5.6 | 4.6 | 9.3 | 8.5 | 10.1 | 9.0 | 9.5 | 8.4 | 6.9 | 6.7 | 10.8 | 9.5 |
| 7 | 5.1 | 4.3 | 9.3 | 8.6 | 9.3 | 8.7 | 9.5 | 9.2 | 6.9 | 6.7 | 11.2 | 9.9 |
| 8 | 4.9 | 4.1 | 9.3 | 8.7 | 9.4 | 8.7 | 9.5 | 9.0 | 7.2 | 6.9 | 12.1 | 10.0 |
| 9 | 5.2 | 4.5 | 9.3 | 8.5 | 9.4 | 8.7 | 9.6 | 9.0 | 7.2 | 6.7 | 11.5 | 10.4 |
| 10 | 5.1 | 4.6 | 9.2 | 8.3 | 12.1 | 11.1 | 9.6 | 9.2 | 7.1 | 6.8 | 10.6 | 10.0 |
| 11 | 4.9 | 4.7 | 9.1 | 8.4 | 11.1 | 10.3 | 9.5 | 8.8 | 7.7 | 7.0 | 10.3 | 9.7 |
| 12 | 4.9 | 4.5 | 9.5 | 8.6 | 10.5 | 10.2 | 9.3 | 8.7 | 8.6 | 7.5 | 9.7 | 9.3 |
| 13 | --- | --- | 9.5 | 8.8 | 10.9 | 10.5 | 9.1 | 8.4 | 9.2 | 8.6 | 10.3 | 9.3 |
| 14 | --- | --- | 9.7 | 8.8 | 11.0 | 10.5 | 8.5 | 8.2 | 9.0 | 8.4 | 10.2 | 8.8 |
| 15 | --- | --- | 10.5 | 8.8 | 10.8 | 10.0 | 8.3 | 7.9 | 9.5 | 8.1 | 10.4 | 10.0 |
| 16 | --- | --- | 10.6 | 9.4 | 10.8 | 10.5 | 8.3 | 8.2 | 9.7 | 9.0 | 10.1 | 9.8 |
| 17 | --- | --- | 10.3 | 10.2 | 10.8 | 10.3 | 8.2 | 7.3 | 10.0 | 9.4 | 10.1 | 9.8 |
| 18 | --- | --- | 9.8 | 8.7 | 10.9 | 10.5 | 7.3 | 6.7 | 10.0 | 9.4 | 10.7 | 9.8 |
| 19 | --- | --- | 9.6 | 8.8 | 10.9 | 10.4 | 6.6 | 6.3 | 9.2 | 8.6 | 10.6 | 10.3 |
| 20 | --- | --- | 9.5 | 8.8 | 10.4 | 9.0 | 6.4 | 6.3 | 9.2 | 8.6 | 11.3 | 10.4 |
| 21 | --- | --- | 9.5 | 8.4 | 10.4 | 9.1 | 6.3 | 6.1 | 9.4 | 8.6 | 12.2 | 10.7 |
| 22 | --- | --- | 8.8 | 8.2 | 11.1 | 10.5 | 6.8 | 6.2 | 10.0 | 9.4 | 10.8 | 10.4 |
| 23 | --- | --- | 9.0 | 8.5 | 11.1 | 10.6 | 6.9 | 6.5 | 10.3 | 8.9 | 10.9 | 10.3 |
| 24 | --- | --- | 9.8 | 9.2 | 11.6 | 11.0 | 6.6 | 6.5 | 9.2 | 8.5 | 11.2 | 10.7 |
| 25 | --- | --- | 9.9 | 8.8 | 11.2 | 10.9 | 6.6 | 6.2 | 9.4 | 8.7 | 11.2 | 11.0 |
| 26 | 6.7 | 6.0 | 9.9 | 8.2 | 11.3 | 10.7 | 6.5 | 6.2 | 10.2 | 9.1 | 11.1 | 10.6 |
| 27 | 7.8 | 6.7 | 8.4 | 7.4 | 11.5 | 11.1 | 6.5 | 6.4 | 10.5 | 10.0 | 10.6 | 10.0 |
| 28 | 8.2 | 7.8 | 7.8 | 6.8 | 11.4 | 10.9 | 7.1 | 6.4 | 10.6 | 10.3 | 10.0 | 8.8 |
| 29 | 8.3 | 8.0 | 8.1 | 7.0 | 11.1 | 10.8 | 6.8 | 6.5 | --- | --- | 9.6 | 8.8 |
| 30 | 8.3 | 7.8 | 9.0 | 8.1 | 11.1 | 10.2 | 6.7 | 6.5 | --- | --- | 8.8 | 8.4 |
| 31 | 7.7 | 7.1 | --- | --- | 10.3 | 9.6 | 6.9 | 6.6 | --- | --- | 9.2 | 8.2 |
| MONTH | 8.3 | 4.1 | 10.6 | 6.8 | 12.1 | 8.7 | 10.3 | 6.1 | 10.6 | 6.3 | 12.2 | 8.2 |

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|-----|------|-----|------|-----|------|-----|--------|-----|-----------|-----|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 9.5 | 8.8 | 8.0 | 7.1 | 12.1 | 6.4 | 8.0 | 4.4 | 6.7 | 5.6 | 10.1 | 6.4 |
| 2 | 9.2 | 8.9 | 8.6 | 7.2 | 10.4 | 6.0 | 6.5 | 4.4 | 7.1 | 5.1 | 7.6 | 5.5 |
| 3 | 9.1 | 8.1 | 9.1 | 7.7 | 15.0 | 5.4 | 4.7 | 3.7 | 6.3 | 4.2 | --- | --- |
| 4 | 9.1 | 8.6 | 8.5 | 6.9 | 15.0 | 8.3 | 7.2 | 4.8 | 5.6 | 3.7 | --- | --- |
| 5 | 9.4 | 8.2 | 6.9 | 6.4 | 14.6 | 9.0 | 6.2 | 4.6 | 7.6 | 4.0 | --- | --- |
| 6 | 8.8 | 8.2 | 6.7 | 5.8 | 12.2 | 6.9 | 6.4 | 3.4 | 9.0 | 5.4 | 8.1 | 6.6 |
| 7 | 9.1 | 8.6 | 7.3 | 6.6 | 14.7 | 7.2 | 5.2 | 3.9 | 8.9 | 5.6 | 9.1 | 5.6 |
| 8 | 8.9 | 8.5 | 7.4 | 6.9 | 12.4 | 8.3 | 6.5 | 3.4 | 7.4 | 4.5 | 7.5 | 5.1 |
| 9 | 8.7 | 8.2 | 7.4 | 7.1 | 14.1 | 6.7 | 6.0 | 4.4 | 6.2 | 2.9 | 7.8 | 5.0 |
| 10 | 8.6 | 8.3 | 7.7 | 7.1 | --- | --- | 5.6 | 3.6 | 4.4 | 3.6 | 8.1 | 5.3 |
| 11 | 8.5 | 7.7 | 7.8 | 7.2 | --- | --- | 5.0 | 3.4 | 5.7 | 3.8 | 7.8 | 5.7 |
| 12 | 7.7 | 7.1 | 7.7 | 6.8 | --- | --- | 4.7 | 4.1 | 5.1 | 4.2 | 6.2 | 4.3 |
| 13 | 7.4 | 6.7 | 8.2 | 6.7 | --- | --- | 7.8 | 5.0 | 4.8 | 4.1 | 5.0 | 3.8 |
| 14 | 7.1 | 6.6 | 8.9 | 6.7 | --- | --- | 6.3 | 4.7 | 5.3 | 4.0 | 5.0 | 3.6 |
| 15 | 6.8 | 6.5 | 11.5 | 6.8 | --- | --- | 6.2 | 4.9 | 6.2 | 3.7 | 6.9 | 4.4 |
| 16 | 6.6 | 6.4 | 13.0 | 7.7 | 13.4 | 7.4 | 6.5 | 5.0 | 6.3 | 4.2 | 5.9 | 5.2 |
| 17 | 6.8 | 6.3 | 14.0 | 8.7 | 15.0 | 7.6 | 8.2 | 5.1 | 7.0 | 4.0 | 5.4 | 4.4 |
| 18 | 6.6 | 6.2 | 13.7 | 8.4 | 10.7 | 6.6 | 8.0 | 4.7 | 8.7 | 5.6 | 5.9 | 5.0 |
| 19 | 6.6 | 6.2 | 11.0 | 7.8 | 10.4 | 4.4 | 9.0 | 4.9 | 9.4 | 5.0 | --- | --- |
| 20 | 6.7 | 5.9 | 8.9 | 5.8 | 11.8 | 5.8 | 10.9 | 4.5 | 9.6 | 6.2 | --- | --- |
| 21 | 6.8 | 5.9 | 5.7 | 4.4 | 14.0 | 5.0 | --- | --- | 9.0 | 7.3 | --- | --- |
| 22 | 6.7 | 6.0 | 6.0 | 4.3 | 11.5 | 7.7 | --- | --- | 10.0 | 7.1 | --- | --- |
| 23 | 6.7 | 5.9 | 6.8 | 4.5 | 14.1 | 6.5 | --- | --- | 10.2 | 6.4 | --- | --- |
| 24 | 6.6 | 5.9 | 6.7 | 4.7 | 12.7 | 8.0 | --- | --- | 9.9 | 6.3 | --- | --- |
| 25 | 6.3 | 5.8 | 7.2 | 4.2 | 10.5 | 6.1 | 5.7 | 5.3 | 10.5 | 5.5 | --- | --- |
| 26 | 7.0 | 5.8 | 11.1 | 4.4 | 12.5 | 5.3 | 9.3 | 5.6 | 10.8 | 7.7 | --- | --- |
| 27 | 7.9 | 6.9 | 15.0 | 5.8 | 8.5 | 5.3 | 11.1 | 5.2 | 11.2 | 7.0 | --- | --- |
| 28 | 7.9 | 7.5 | 15.0 | 8.2 | 8.0 | 6.4 | 12.9 | 6.6 | 10.8 | 6.9 | --- | --- |
| 29 | 7.8 | 7.2 | 13.6 | 7.5 | 8.4 | 5.1 | 11.6 | 5.3 | 9.8 | 6.1 | --- | --- |
| 30 | 7.7 | 6.9 | 11.9 | 5.5 | 5.2 | 2.9 | 7.1 | 4.1 | 10.1 | 6.0 | --- | --- |
| 31 | --- | --- | 12.1 | 6.2 | --- | --- | 5.6 | 3.8 | 10.5 | 5.7 | --- | --- |
| MONTH | 9.5 | 5.8 | 15.0 | 4.2 | 15.0 | 2.9 | 12.9 | 3.4 | 11.2 | 2.9 | 10.1 | 3.6 |

| YEAR | 15.0 | 2.9 |
|------|------|-----|
|------|------|-----|

SCIOTO RIVER BASIN

03235500 TAR HOLLOW CREEK AT TAR HOLLOW STATE PARK, OH

LOCATION.--Lat 39°23'22", long 82°45'03", in NE 1/4 sec. 36, T.10 N., R.20 W., Ross County, Hydrologic Unit 05060002, in Tar Hollow State Park, on left bank 2.0 mi (3.2 km) upstream from mouth and 5.2 mi (8.4 km) south of Adelphi.

DRAINAGE AREA.--1.35 mi² (3.50 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1946 to current year.

REVISED RECORDS.--WSP 1908: Drainage area.

GAGE.--Water-stage recorder and V-notch weir. Datum of gage is 793.63 ft (241.898 m) above mean sea level.

REMARKS.--Records good except those for winter periods, which are fair.

AVERAGE DISCHARGE.--31 years, 1.25 ft³/s (0.0354 m³/s), 12.57 in/yr (319 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 957 ft³/s (27.1 m³/s) May 24, 1968, gage height, 5.66 ft (1.725 m) (in gage well), 5.84 ft (1.780 m) (from floodmark), from rating curve extended above 92 ft³/s (2.61 m³/s) on basis of slope-area measurements at gage height 5.21 ft (1.588 m) and at peak flow; no flow many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 38.2 ft³/s (1.081 m³/s) Mar. 12, gage height, 2.77 ft (0.844 m), no peak above base of 50 ft³/s (1.42 m³/s); minimum, no flow Jan. 20 to Feb. 11, June 26, 27, July 8, and Aug. 28-31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--------------|----------|--------|---------|----------|---------|-------|-------|------|------|------|------|
| 1 | 1.1 | .75 | .14 | .05 | .00 | 1.4 | 1.3 | .75 | .02 | .44 | .28 | .01 |
| 2 | .04 | .54 | .14 | .04 | .00 | 1.4 | 9.1 | .75 | .01 | .20 | .20 | .28 |
| 3 | .05 | .44 | .14 | .04 | .00 | 1.4 | 9.5 | .75 | .01 | .10 | .10 | .36 |
| 4 | .06 | .36 | .14 | .04 | .00 | 11 | 6.5 | 2.2 | .01 | .03 | .06 | .20 |
| 5 | .06 | .28 | .14 | .03 | .00 | 6.5 | 8.3 | 3.4 | .01 | .03 | .03 | .14 |
| 6 | .04 | .20 | .14 | .03 | .00 | 3.6 | 5.3 | 2.9 | .06 | .02 | .02 | .14 |
| 7 | .04 | .20 | .44 | .03 | .00 | 2.9 | 4.2 | 3.9 | .02 | .01 | .02 | .10 |
| 8 | .04 | .20 | .75 | .03 | .00 | 2.2 | 3.4 | 3.6 | .02 | .01 | .02 | .10 |
| 9 | .72 | .20 | .64 | .02 | .00 | 2.0 | 2.4 | 2.4 | .03 | .03 | .02 | .06 |
| 10 | .87 | .20 | .53 | .02 | .00 | 2.0 | 2.2 | 1.8 | .03 | .06 | .02 | .06 |
| 11 | .54 | .20 | .50 | .02 | .02 | 1.4 | 1.8 | 1.4 | .03 | .75 | .14 | .03 |
| 12 | .36 | .14 | .48 | .02 | 2.4 | 5.7 | 1.6 | 1.0 | .03 | .87 | .75 | .03 |
| 13 | .28 | .14 | .46 | .02 | 4.6 | 13 | 1.4 | .87 | .01 | 1.0 | .53 | .03 |
| 14 | .20 | .10 | .43 | .01 | 3.4 | 4.9 | 1.3 | .75 | .02 | 1.1 | .28 | .03 |
| 15 | .28 | .10 | .41 | .01 | 2.7 | 3.4 | 1.1 | .53 | .02 | .36 | .14 | .10 |
| 16 | .28 | .10 | .39 | .01 | 2.0 | 2.6 | 1.0 | .44 | .02 | .20 | .10 | 3.6 |
| 17 | .20 | .10 | .37 | .01 | 1.6 | 2.2 | 1.0 | .36 | .02 | .20 | .10 | .87 |
| 18 | .20 | .10 | .34 | .01 | 1.3 | 14 | .87 | .36 | .02 | .10 | .10 | .44 |
| 19 | .20 | .10 | .32 | .01 | 1.1 | 5.3 | .87 | .28 | .02 | .06 | .06 | .28 |
| 20 | .10 | .10 | .30 | .00 | .90 | 3.1 | .75 | .20 | .02 | .03 | .02 | .14 |
| 21 | .20 | .10 | .28 | .00 | .85 | 2.2 | .75 | .20 | .01 | .28 | .02 | .10 |
| 22 | .28 | .10 | .27 | .00 | .86 | 2.6 | .75 | .14 | .01 | .75 | .03 | .06 |
| 23 | .20 | .06 | .24 | .00 | .95 | 2.2 | .75 | .14 | .01 | .28 | .03 | .06 |
| 24 | .24 | .14 | .20 | .00 | 3.9 | 1.8 | .75 | .14 | .01 | .14 | .03 | .06 |
| 25 | .75 | .14 | .17 | .00 | 4.6 | 1.4 | .64 | .14 | .01 | .14 | .03 | .03 |
| 26 | .36 | .14 | .15 | .00 | 3.1 | 1.3 | .53 | .10 | .00 | .14 | .03 | .10 |
| 27 | .32 | .20 | .13 | .00 | 2.4 | 1.1 | .53 | .10 | .00 | .03 | .02 | .06 |
| 28 | .36 | .20 | .11 | .00 | 1.8 | 1.1 | .75 | .06 | .01 | .02 | .01 | .06 |
| 29 | .28 | .28 | .09 | .00 | --- | 1.0 | 1.0 | .03 | .01 | .03 | .01 | .03 |
| 30 | .36 | .20 | .08 | .00 | --- | 1.0 | .87 | .02 | .03 | .03 | .01 | .03 |
| 31 | .93 | --- | .07 | .00 | --- | 1.1 | --- | .02 | --- | .06 | .01 | --- |
| TOTAL | 9.94 | 6.11 | 8.99 | .45 | 38.48 | 106.8 | 71.21 | 29.73 | .53 | 7.50 | 3.22 | 7.59 |
| MEAN | .32 | .20 | .29 | .015 | 1.37 | 3.45 | 2.37 | .96 | .018 | .24 | .10 | .25 |
| MAX | 1.1 | .75 | .75 | .05 | 4.6 | 14 | 9.5 | 3.9 | .06 | 1.1 | .75 | 3.6 |
| MIN | .04 | .06 | .07 | .00 | .00 | 1.0 | .53 | .02 | .00 | .01 | .01 | .01 |
| CFSM | .24 | .15 | .22 | .01 | 1.02 | 2.56 | 1.76 | .71 | .01 | .18 | .07 | .19 |
| IN. | .27 | .17 | .25 | .01 | 1.06 | 2.94 | 1.96 | .82 | .01 | .21 | .09 | .21 |
| CAL YR 1976 | TOTAL 325.07 | MEAN .89 | MAX 15 | MIN .00 | CFSM .66 | IN 8.96 | | | | | | |
| WTR YR 1977 | TOTAL 290.55 | MEAN .80 | MAX 14 | MIN .00 | CFSM .59 | IN 8.00 | | | | | | |

SCIOTO RIVER BASIN

287

03235500 TAR HOLLOW CREEK AT TAR HOLLOW STATE PARK, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPEC- IFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | |
|--------------|------|---|--|---|------------------------------------|--|--------------------------------------|--|---|--|--|---|---|
| | | | | | | | | | | | | | |
| MAR 31... | 1330 | .77 | 110 | 6.8 | 9.0 | 10.4 | 90 | .4 | 37 | 27 | 7.1 | 4.7 | |
| JUL 19... | 1330 | .05 | 160 | 7.0 | 23.0 | 7.0 | 80 | .6 | 52 | 19 | 10 | 6.5 | |
| DATE | | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 31... | 3.2 | 1.0 | 12 | 0 | 10 | 3.0 | 29 | 2.1 | .0 | 10 | 64 | .22 | |
| JUL 19... | 4.0 | 2.5 | 40 | 0 | 33 | 6.4 | 27 | 2.3 | .0 | 14 | 86 | .24 | |
| DATE | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 31... | .00 | .00 | .00 | 0 | <10 | 0 | 10 | 0 | 20 | .4 | 10 | -- | |
| JUL 19... | .00 | .01 | .01 | 0 | 10 | 3 | 10 | 0 | 0 | .0 | 10 | 4.0 | |

RESERVOIRS IN SCIOTO RIVER BASIN

03220500 O'SHAUGHNESSY RESERVOIR NEAR DUBLIN.--Lat 40°09'14", long 83°07'33", Delaware County, Hydrologic Unit 05060001, in gate house of dam on Scioto River, 4.0 mi (6.4 km) north of Dublin. DRAINAGE AREA, 979 mi² (2,536 km²). 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 at mean sea level (levels by city of Columbus). Prior to Dec. 2, 1940, nonrecording gage at same site and datum.

Reservoir is formed by concrete dam; dam completed and storage began in 1924. Usable capacity, 14,500 acre-ft (5.55 hm³), between elevations, 789.5 ft (240.64 m) (sill of outlet gate), and 845 ft (258 m) (crest of spillway), based on survey made in 1942. Flashboards installed May 8, 1945, additional capacity, 2,480 acre-ft (3.06 hm³), between elevations 845 ft (258 m) (crest of spillway), and 847.9 ft (258.44 m) (crest of flashboards). Dead storage below elevation 789.5 ft (240.64 m), 55 acre-ft (67,800 m³). Figures given herein represent usable contents. Water 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, 24,240 acre-ft (29.9 hm³) Jan. 22, 1959, elevation, 854.40 ft (260.421 m); minimum, 43 acre-ft (53,000 m³) Feb. 11, 1945, elevation, 791.97 ft (241.392 m).

EXTREMES FOR CURRENT YEAR: Maximum contents, 19,410 acre-ft (23.9 hm³) Apr. 3, elevation, 850.29 ft (259.168 m); minimum, 11,050 acre-ft (13.6 hm³) Feb. 12, elevation, 840.09 ft (256.059 m).

03221500 GRIGGS RESERVOIR NEAR COLUMBUS.--Lat 40°00'54", long 83°05'38", Franklin County, Hydrologic Unit 05060001, on left abutment of dam on Scioto River, 6.2 mi (10.0 km) northwest of State Capitol building in Columbus, and 6.5 mi (10.5 km) upstream from Olentangy River. DRAINAGE AREA, 1,044 mi² (2,704 km²). 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 (207.380 m) above mean sea level, adjustment of 1912 (levels by city of Columbus); gage readings have been reduced to elevations above mean sea level. Prior to Oct. 4, 1940 nonrecording gage at same site and datum.

Reservoir formed by concrete dam; dam completed and storage began in 1905. Usable capacity, 3,700 acre-ft (4.56 hm³) between elevations, 735.4 ft (224.15 m) (lowest outlets), and 753.4 ft (229.64 m) (crest of spillway), based on survey made in 1935. Flashboards installed July 28, 1945, additional capacity, 750 acre-ft (925,000 m³), between elevations, 753.4 ft (229.64 m) (crest of spillway) and 755.6 ft (230.31 m) (crest of flashboards). Dead storage below elevation, 735.4 ft (224.15 m), 239 acre-ft (295,000 m³). 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 (9.24 hm³) Jan. 22, 1959, elevation, 763.91 ft (232.840 m); minimum, 38 acre-ft (46,900 m³) Jan. 24, 1945, elevation, 735.78 ft (224.266 m).

EXTREMES FOR CURRENT YEAR: Maximum contents, 5,460 acre-ft (6.73 hm³) Apr. 2, elevation, 758.43 ft (231.169 m); minimum, 2,690 acre-ft (3.32 hm³) Feb. 22, elevation, 750.31 ft (228.654 m).

03225000 DELAWARE LAKE NEAR DELAWARE.--Lat 40°21'31", long 83°04'10", in T.5 N., R.19 W., Delaware County, Hydrologic Unit 05060001, in gate house of dam on Olentangy River, 4.0 mi (6.4 km) north of Delaware. DRAINAGE AREA, 386 mi² (1,000 km²). PERIOD OF RECORD, March 1951 to current year. Prior to October 1971 published as Delaware Reservoir. GAGE, water-stage recorder. Datum of gage is at mean sea level, Sandy Hook datum (levels by Corps of Engineers).

Lake is formed by earthfill dam with concrete spillway; storage began Mar. 20, 1951. Usable capacity 24,500 acre-ft (30.2 hm³) between elevation, 884.0 ft (269.44 m) (lowest outlet) and 922.0 ft (281.03 m) (crest of spillway). Additional flood-control storage above elevation 922.0 ft (281.03 m) by taintor gates on spillway, 107,500 acre-ft (133 hm³). Normal conservation pool storage 8,400 acre-ft (10.4 hm³), elevation, 910.0 ft (277.37 m) winter, and 14,000 acre-ft (17.3 hm³), elevation, 915.0 ft (278.89 m) summer. No dead storage. Figures given herein represent usable contents. Lake is used primarily for flood control although the conservation pool is operated to augment low flow for water supply, pollution abatement, and for recreation and wildlife conservation purposes. Outflow is controlled mostly by operation of gates in sluiceways through dam, but above spillway level, taintor gates on spillway can be used. Capacity curve furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD: Maximum contents, 113,000 acre-ft (139 hm³) Jan. 25, 1959, elevation, 944.75 ft (287.960 m); minimum, 2,070 acre-ft (2.55 hm³) Feb. 13, 1970, elevation, 899.43 ft (274.146 m).

EXTREMES FOR CURRENT YEAR: Maximum contents, 40,600 acre-ft (50.1 hm³) Apr. 4, elevation, 928.30 ft (282.946 m); minimum, 8,030 acre-ft (9.90 hm³) Mar. 25, elevation, 909.59 ft (277.243 m).

03228400 HOOVER RESERVOIR AT CENTRAL COLLEGE.--Lat 40°06'30", long 82°52'59", in T.2 N., R.17 W., Franklin County, Hydrologic Unit 05060001, in gate house of dam on Big Walnut Creek, 0.5 mi (0.8 km) northeast of Central College, and 12 mi (19 km) northeast of Columbus. DRAINAGE AREA, 190 mi² (492 km²). PERIOD OF RECORD, March 1955 to current year. GAGE, water-stage recorder. Datum of gage is at mean sea level. Prior to Sept. 10, 1956, nonrecording gage at same site and datum.

Reservoir formed by earthfill dam with concrete spillway; dam completed in 1954 and storage began in March 1955. Usable capacity, 60,130 acre-ft (74.1 hm³) between elevations 830.0 ft (252.98 m) (lowest outlet), and 890.0 ft (271.27 m) (crest of spillway). Additional flood-control storage above elevation 890.0 ft (271.27 m) by bascule gates installed in May 1970, 25,750 acre-ft (31.7 hm³). Dead storage below elevation 830.0 ft (252.98 m), 214 acre-ft (264,000 m³). 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, 86,810 acre-ft (107 km³) Feb. 24, 1975, elevation, 898.26 ft (273.790 m); minimum, 19,010 acre-ft (23.4 hm³) Mar. 1, 1964, elevation, 868.58 ft (264.743 m).

EXTREMES FOR CURRENT YEAR: Maximum contents, 70,110 acre-ft (86.4 hm³) Apr. 3, elevation, 893.45 ft (272.324 m); minimum, 25,760 acre-ft (31.8 hm³) Feb. 13, elevation, 873.98 ft (266.369 m).

RESERVOIRS IN SCIOTO RIVER BASIN--Continued

- 03228804 ALUM CREEK LAKE NEAR WORTHINGTON.--Lat 40°11'03", long 82°57'50", Delaware County, Hydrologic Unit 05060001, in outlet structure of dam on Alum Creek, 180 ft (54.9 m) upstream from Lewis Center Road, 0.3 mi (0.48 km) west of Africa, 4.2 mi (6.84 km) northwest of Westerville, and 7.0 mi (11.3 km) north of Worthington. DRAINAGE AREA, 122 mi² (316 km²). PERIOD OF RECORD, January 1975 to current year. GAGE, water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).
- Lake formed by earthfill dam with concrete gravity channel section; dam completed and storage began in 1974, station established Jan. 16, 1975. Usable capacity, 48,940 acre-ft (60.3 hm³) between elevation 835.0 ft (254.51 m) (lowest outlet) and 878.0 ft (267.61 m) (crest of spillway). Additional flood-control storage above 878.0 ft (267.61 m) by taintor gates on spillway 85,000 acre-ft (104.8 hm³). Normal conservation pool storage 71,120 acre-ft (87.7 hm³) elevation 885.0 ft (269.75 m) winter, and 80,860 acre-ft (99.7 hm³) elevation 888.0 ft (270.66 m) summer. Dead storage 879 acre-ft (1.08 hm³) below 835.0 ft (254.51 m). Figures given herewith represent usable contents. Lake is used for flood control, recreation, water supply, and wild life conservation purposes. Outflow is controlled mostly by operation of gates in sluiceway through dam, but above spillway level, taintor gates can be used. Capacity table furnished by Corps of Engineers.
- EXTREMES FOR PERIOD OF RECORD: Maximum contents, 83,020 acre-ft (102 hm³) Feb. 23, 1976, elevation, 888.63 ft (270.854 m); minimum, 5,860 acre-ft (7.23 hm³) Jan. 25, 1975, elevation, 849.59 ft (258.955 m).
- EXTREMES FOR CURRENT YEAR: Maximum contents, 78,850 acre-ft (97.2 hm³) Oct. 1, elevation, 887.40 ft (270.480 m); minimum, 54,960 acre-ft (67.8 hm³) Sept. 13, elevation, 879.35 ft (268.026 m).
- 03230890 DEER CREEK LAKE NEAR PANCASTEBURG.--Lat 39°37'20", long 83°12'58", Pickaway County, Hydrologic Unit 05060002, in outlet tower of dam on Deer Creek, 1,000 ft (305 m) upstream from Crownover Mill Road, and 2.8 mi (4.5 km) east of Pancoastburg. DRAINAGE AREA, 277 mi² (717 km²). PERIOD OF RECORD, April 1968 to current year. Prior to October 1971 published as Deer Creek Reservoir. GAGE, water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).
- Lake formed by earthfill dam with concrete spillway; dam completed in 1968 and storage began April 1, 1968. Usable capacity 26,440 acre-ft (32.6 hm³) between elevation 772.0 ft (235.31 m) (lowest outlet) and 814.0 ft (248.11 m) crest of spillway. Additional flood control storage above 814.0 ft (248.11 m) by taintor gates on spillway 76,100 acre-ft (93.8 hm³). Normal conservation pool storage 6,420 acre-ft (7.92 hm³), elevation, 796.0 ft (242.62 m) winter, and 21,030 acre-ft (25.9 hm³), elevation, 810.0 ft (246.89 m) summer. Dead storage 2 acre-ft (2.470 m³) below 772.0 ft (235.31 m). Figures given herein represent usable contents. Lake is used primarily for flood control although the conservation pool is operated to augment low flow for water supply, pollution abatement and for recreation and wildlife conservation purposes. Outflow is controlled mostly by operation of gates in sluiceways through dam, but above spillway level, taintor gates on spillway can be used. Capacity table furnished by Corps of Engineers.
- EXTREMES FOR PERIOD OF RECORD: Maximum contents, 71,830 acre-ft (88.6 hm³) May 31, 1968, elevation, 835.25 ft (254.584 m); minimum, 1,140 acre-ft (1.41 hm³) Jan. 8, 1970, elevation, 784.75 ft (239.192 m).
- EXTREMES FOR CURRENT YEAR: Maximum contents, 22,780 acre-ft (28.1 hm³) Aug. 3, elevation, 811.34 ft (247.296 m); minimum, 6,440 acre-ft (7.94 hm³) Nov. 29, elevation, 796.02 ft (242.627 m).
- 03232460 PAINT CREEK LAKE NEAR BAINBRIDGE.--Lat 39°15'09", long 83°20'59", Highland County, Hydrologic Unit 05060003, in outlet structure of dam on Paint Creek, 1.9 mi (3.1 km) upstream from Rocky Fork, and 4.5 mi (7.2 km) northwest of Bainbridge. DRAINAGE AREA, 570 mi² (1,476 km²). PERIOD OF RECORD, April 1974 to current year. GAGE, water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).
- Lake is formed by earth and rock embankment dam with concrete spillway. Dam completed in 1974 and storage began April 8, 1974. Usable capacity 37,420 acre-ft (46.1 hm³) between elevation 750.0 ft (228.60 m) (lowest outlet), and 810.0 ft (246.89 m) (crest of spillway). Additional flood control storage above elevation 810.0 ft (246.89 m) by three taintor gates on spillway, 107,600 acre-ft (132.67 hm³). Seasonal pool storage 20,310 acre-ft (25.0 hm³) elevation, 798.0 ft (243.23 m). Dead storage 5 acre-ft (6.170 m³) below elevation 750.0 ft (228.60 m). Figures given herein represent usable contents. Lake is used primarily for flood control although seasonal pool is used for water quality control, water supply, recreation and wildlife conservation purposes. Outflow is controlled mostly by operation of gates in sluiceway through dam but above spillway level taintor gates on spillway can be used. Capacity table furnished by Corps of Engineers.
- EXTREMES FOR PERIOD OF RECORD: Maximum contents, 74,580 acre-ft (92.0 hm³) Feb. 28, 1975, elevation, 826.40 ft (251.887 m); minimum since initial filling was completed on May 6, 1974, 8,930 acre-ft (11.0 hm³) Mar. 28, 1975, elevation, 786.03 ft (239.582 m).
- EXTREMES FOR CURRENT YEAR: Maximum contents, 23,140 acre-ft (28.5 hm³) Apr. 8, elevation, 800.30 ft (243.931 m); minimum, 9,590 acre-ft (11.8 hm³) Mar. 28, elevation, 786.94 ft (239.859 m).

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| Date | 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) |
|---------------|---------------------|-----------------------------|--------------------------------------|---------------------|-----------------------------|--------------------------------------|---------------------|-----------------------------|--------------------------------------|
| | 03220500 | O'SHAUGHNESSY RESERVOIR | | 03221500 | GRIGGS RESERVOIR | | 03225000 | DELAWARE LAKE | |
| Sept. 30..... | 848.03 | 17090 | -- | 755.47 | 4400 | -- | 915.22 | 14290 | -- |
| Oct. 31..... | 848.05 | 17110 | +20 | 755.55 | 4430 | +30 | 915.12 | 14160 | -130 |
| Nov. 30..... | 848.03 | 17090 | -20 | 755.39 | 4370 | -60 | 910.14 | 8540 | -5620 |
| Dec. 31..... | 848.02 | 17080 | -10 | 753.85 | 3850 | -520 | 910.06 | 8460 | -80 |
| CAL YR 1976 | -- | -- | -1370 | -- | -- | -1120 | -- | -- | -3390 |
| Jan. 31..... | 846.54 | 15750 | -1330 | 751.65 | 3100 | -750 | 910.08 | 8480 | +20 |
| Feb. 28..... | 847.91 | 16980 | +1230 | 756.16 | 4640 | -1540 | 911.15 | 9550 | +1070 |
| Mar. 31..... | 848.61 | 17670 | +690 | 756.16 | 4640 | 0 | 910.45 | 8850 | -700 |
| Apr. 30..... | 848.37 | 17430 | -240 | 755.92 | 4550 | -90 | 914.89 | 13860 | +5010 |
| May 31..... | 848.09 | 17150 | -280 | 755.46 | 4400 | -150 | 915.27 | 14350 | +490 |
| June 30..... | 848.14 | 17200 | +50 | 755.58 | 4440 | +40 | 915.25 | 14320 | -30 |
| July 31..... | 848.02 | 17080 | -120 | 755.30 | 4340 | -100 | 915.12 | 14160 | -160 |
| Aug. 31..... | 847.85 | 16930 | -150 | 753.54 | 3740 | -600 | 914.08 | 12800 | -1360 |
| Sept. 30..... | 848.02 | 17080 | +150 | 755.36 | 4360 | +620 | 914.84 | 13790 | +990 |
| WTR YR 1977 | -- | -- | -10 | -- | -- | -40 | -- | -- | -500 |
| | 03228400 | HOOVER RESERVOIR | | 03228804 | ALUM CREEK LAKE | | 03230890 | DEER CREEK LAKE | |
| Sept. 30..... | 886.60 | 51160 | -- | 887.40 | 78850 | -- | 806.59 | 16870 | -- |
| Oct. 31..... | 883.50 | 43520 | -7640 | 886.27 | 75150 | -3700 | 802.17 | 11990 | -4880 |
| Nov. 30..... | 881.40 | 38940 | -4580 | 885.07 | 71340 | -3810 | 796.04 | 6450 | -5540 |
| Dec. 31..... | 879.24 | 34740 | -4210 | 881.67 | 61280 | -10060 | 796.23 | 6590 | +140 |
| CAL YR 1976 | -- | -- | -7790 | -- | -- | +3320 | -- | -- | -410 |
| Jan. 31..... | 875.63 | 28380 | -6360 | 879.91 | 56440 | -4840 | 796.25 | 6610 | -20 |
| Feb. 28..... | 882.13 | 40460 | +12080 | 880.88 | 59070 | +2630 | 796.67 | 6930 | +320 |
| Mar. 31..... | 889.93 | 59940 | +19480 | 880.38 | 57710 | -1360 | 801.36 | 11160 | +4230 |
| Apr. 30..... | 892.26 | 66440 | +6500 | 880.35 | 57630 | -80 | 810.62 | 21830 | +10670 |
| May 31..... | 891.29 | 63670 | -2770 | 879.80 | 56150 | -1480 | 810.38 | 21520 | -310 |
| June 30..... | 889.18 | 57920 | -5750 | 879.87 | 56330 | +180 | 810.89 | 22180 | +660 |
| July 31..... | 887.00 | 52180 | -5740 | 879.72 | 55940 | -390 | 811.32 | 22750 | +570 |
| Aug. 31..... | 884.32 | 45450 | -6730 | 879.57 | 55540 | -400 | 811.01 | 22340 | -410 |
| Sept. 30..... | 881.40 | 38940 | -6510 | 879.37 | 55010 | -530 | 802.56 | 12400 | -9940 |
| WTR YR 1977 | -- | -- | -12220 | -- | -- | -23840 | -- | -- | -4470 |
| | 03232460 | PAINT CREEK LAKE | | | | | | | |
| Sept. 30..... | 798.18 | 20530 | -- | | | | | | |
| Oct. 31..... | 798.73 | 21190 | +660 | | | | | | |
| Nov. 30..... | 787.71 | 10180 | -11010 | | | | | | |
| Dec. 31..... | 787.52 | 10040 | -140 | | | | | | |
| CAL YR 1976 | -- | -- | -2020 | | | | | | |
| Jan. 31..... | 787.56 | 10070 | +30 | | | | | | |
| Feb. 28..... | 787.82 | 10270 | +200 | | | | | | |
| Mar. 31..... | 788.15 | 10530 | +260 | | | | | | |
| Apr. 30..... | 798.64 | 21080 | +10550 | | | | | | |
| May 31..... | 798.57 | 21000 | -80 | | | | | | |
| June 30..... | 798.35 | 20730 | -270 | | | | | | |
| July 31..... | 798.06 | 20380 | -350 | | | | | | |
| Aug. 31..... | 798.53 | 20950 | +570 | | | | | | |
| Sept. 30..... | 797.91 | 20200 | -750 | | | | | | |
| WTR YR 1977 | -- | -- | -330 | | | | | | |

UPPER TWIN CREEK BASIN

03237280 UPPER TWIN CREEK AT MCGAW, OH

(HYDROLOGIC BENCH-MARK STATION)

LOCATION.--Lat 38°38'37", long 83°12'57", Scioto County, Hydrologic Unit 05090201, on right bank, 0.3 mi (0.5 km) downstream from Brown Run, 0.3 mi (0.5 km) upstream from Tucker Run, 0.7 mi (1.1 km) upstream from bridge on U.S. Highway 52 at McGaw, 2.7 mi (4.3 km) northeast of Buena Vista, and 3.2 mi (5.1 km) upstream from mouth.

DRAINAGE AREA.--12.2 mi² (31.6 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 543.41 ft (165.631 m) above mean sea level, Ohio Department of Highways bench mark. Prior to July 21, 1972 at site 0.7 mi (1.1 km) downstream at datum 23.41 ft (7.135 m) lower.

REMARKS.--Records fair except those above 250 cfs, which are poor.

AVERAGE DISCHARGE.--14 years, 12.9 ft³/s (0.365 m³/s), 14.36 in/yr (365 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,500 ft³/s (99.1 m³/s) Mar. 4, 1964, gage height, 9.7 ft (2.96 m), in gage well, 10.2 ft (3.11 m), from outside highwater mark from rating curve extended above 300 ft³/s on basis of slope-area measurement of peak measurement of peak flow; no flow for many days most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 3, 1960 reached a stage of 11.62 ft (3.542 m), discharge, 7,230 ft³/s (205 m³/s), on basis of contracted-opening and flow over road measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 450 ft³/s (12.7 m³/s) and maximums (*):

| Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) | Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) |
|---------|------|--|----------------------------|---------|------|--|----------------------------|
| Mar. 12 | 2215 | *789 22.3 | *5.00 1.524 | Aug. 14 | 0615 | 634 18.0 | 4.55 1.387 |

Minimum discharge, 0.15 ft³/s (0.004 m³/s) Sept. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--------|---------|--------|------|-------|-------|-------|--------|-------|--------|--------|-------|
| 1 | 6.5 | 29 | 1.2 | 3.1 | 2.0 | 14 | 4.9 | 7.2 | .38 | 93 | .49 | .62 |
| 2 | 5.6 | 18 | 1.1 | 2.9 | 2.0 | 12 | 23 | 6.0 | .29 | 14 | .49 | .49 |
| 3 | 3.3 | 14 | 1.0 | 2.8 | 2.0 | 14 | 58 | 6.3 | .22 | 4.0 | .49 | .38 |
| 4 | 1.9 | 10 | .98 | 2.7 | 2.0 | 142 | 51 | 5.6 | .15 | 1.6 | .38 | .38 |
| 5 | 1.3 | 7.9 | .94 | 2.6 | 2.1 | 56 | 79 | 22 | .15 | .92 | .38 | .29 |
| 6 | .92 | 6.5 | .92 | 2.5 | 2.2 | 31 | 52 | 66 | .15 | .76 | .38 | .29 |
| 7 | .76 | 5.6 | 56 | 2.4 | 2.3 | 21 | 40 | 69 | .08 | .62 | .38 | .29 |
| 8 | .76 | 4.4 | 35 | 2.3 | 2.6 | 17 | 28 | 33 | .15 | .62 | .49 | .22 |
| 9 | 28 | 3.7 | 20 | 2.3 | 3.0 | 11 | 22 | 18 | 3.3 | .49 | .62 | .22 |
| 10 | 19 | 3.7 | 15 | 2.3 | 4.0 | 13 | 18 | 12 | .92 | .49 | 36 | .22 |
| 11 | 9.4 | 2.9 | 15 | 2.2 | 7.9 | 11 | 15 | 8.4 | .62 | .49 | 12 | .22 |
| 12 | 6.0 | 2.2 | 15 | 2.2 | 95 | 79 | 13 | 6.0 | .49 | .76 | 13 | .22 |
| 13 | 3.7 | 1.6 | 13 | 2.2 | 85 | 131 | 11 | 4.4 | .38 | .62 | 15 | .22 |
| 14 | 2.5 | 1.3 | 11 | 2.1 | 37 | 41 | 9.0 | 2.9 | .38 | .49 | 130 | .22 |
| 15 | 1.9 | 1.3 | 10 | 2.1 | 26 | 25 | 7.4 | 1.9 | .29 | .49 | 12 | .22 |
| 16 | 1.9 | 1.3 | 8.9 | 2.1 | 22 | 18 | 6.2 | 1.1 | .22 | .49 | 3.7 | 1.6 |
| 17 | 1.6 | 1.1 | 7.9 | 2.1 | 20 | 15 | 5.6 | .92 | .15 | .49 | 1.9 | 1.3 |
| 18 | 1.1 | 1.1 | 6.5 | 2.1 | 19 | 58 | 5.1 | .76 | .15 | .49 | 1.3 | .92 |
| 19 | 1.1 | 1.1 | 5.6 | 2.1 | 17 | 38 | 5.1 | .76 | .22 | .38 | .92 | .76 |
| 20 | 1.1 | 1.1 | 6.0 | 2.1 | 16 | 27 | 4.6 | .62 | .22 | .38 | .76 | .62 |
| 21 | 2.2 | 1.1 | 5.6 | 2.1 | 14 | 20 | 4.1 | .62 | .49 | .38 | .62 | .49 |
| 22 | 2.5 | 1.1 | 4.4 | 2.1 | 26 | 19 | 3.9 | .49 | .49 | .38 | .49 | .38 |
| 23 | 2.2 | .92 | 4.8 | 2.1 | 61 | 16 | 4.4 | .49 | .49 | .38 | .38 | .29 |
| 24 | 18 | .92 | 3.7 | 2.1 | 62 | 14 | 4.3 | .49 | .49 | .38 | 2.9 | .29 |
| 25 | 33 | .76 | 4.0 | 2.1 | 35 | 12 | 4.2 | .49 | .62 | .38 | 1.9 | .29 |
| 26 | 25 | .76 | 4.8 | 2.1 | 25 | 10 | 3.6 | .38 | .76 | .38 | 1.1 | .29 |
| 27 | 15 | .92 | 4.4 | 2.1 | 21 | 9.1 | 2.9 | .38 | .62 | .38 | .92 | .22 |
| 28 | 11 | 1.1 | 4.8 | 2.1 | 16 | 8.9 | 4.4 | .29 | 5.6 | .38 | .76 | .22 |
| 29 | 7.9 | 1.3 | 4.0 | 2.1 | --- | 8.2 | 14 | .29 | 27 | .49 | .62 | .22 |
| 30 | 8.9 | 1.2 | 3.7 | 2.1 | --- | 6.9 | 9.2 | .38 | 12 | .49 | .76 | .22 |
| 31 | 53 | --- | 3.3 | 2.0 | --- | 6.0 | --- | .38 | --- | .49 | .76 | --- |
| TOTAL | 277.04 | 127.88 | 278.54 | 70.2 | 629.1 | 904.1 | 512.9 | 277.54 | 57.47 | 126.09 | 241.89 | 12.61 |
| MEAN | 8.94 | 4.26 | 8.99 | 2.26 | 22.5 | 29.2 | 17.1 | 8.95 | 1.92 | 4.07 | 7.80 | .42 |
| MAX | 53 | 29 | 56 | 3.1 | 95 | 142 | 79 | 69 | 27 | 93 | 130 | 1.6 |
| MIN | .76 | .76 | .92 | 2.0 | 2.0 | 6.0 | 2.9 | .29 | .08 | .38 | .38 | .22 |
| CFSM | .70 | .33 | .70 | .18 | 1.76 | 2.28 | 1.34 | .70 | .15 | .32 | .61 | .03 |
| IN. | .81 | .37 | .81 | .20 | 1.83 | 2.63 | 1.49 | .81 | .17 | .37 | .70 | .04 |
| CAL YR 1976 | TOTAL | 3809.79 | MEAN | 10.4 | MAX | 222 | MIN | .22 | CFSM | .81 | IN | 11.07 |
| WTR YR 1977 | TOTAL | 3515.36 | MEAN | 9.63 | MAX | 142 | MIN | .08 | CFSM | .75 | IN | 10.22 |

03237280 UPPER TWIN CREEK AT MCGAW, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964 to current year.

PERIOD OF RECORD.--

WATER TEMPERATURES: Water years 1963-66, 1967-70, July 1972 to current year.

SUSPENDED SEDIMENT DISCHARGE: Water years 1964-69 (periodic), 1969 to 1973 (daily), 1974 to current year (periodic).

INSTRUMENTATION.--Water temperature recorder since July 1972.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 36.0°C July 20, 21, 1977; minimum, 0.0°C on several days during 1973.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 36.0°C July 20, 21; minimum, 0.5°C Dec. 23-25, 27, 30, 31, Jan. 1-16, Feb. 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICRO-MHOS) | PH (UNITS) | TEMPERATURE (DEG C) | DISSOLVED OXYGEN (MG/L) | PERCENT SATURATION | IMMEDIATE COLIFORM (COL. PER 100 ML) | FECAL COLIFORM (COL./100 ML) | FECAL STREPTOCOCCI KF AGAR (COL. PER 100 ML) |
|-----------|------|-------------------------------|-----------------------------------|------------|---------------------|-------------------------|--------------------|--------------------------------------|------------------------------|--|
| OCT 12... | 1230 | 5.7 | 110 | 6.2 | 15.0 | 9.0 | 88 | 1400 | 41 | 99 |
| NOV 10... | 1330 | 3.7 | 80 | 6.9 | 8.5 | 11.2 | 96 | 1100 | 10 | 11 |
| DEC 02... | 1500 | 1.1 | 110 | 6.7 | 3.0 | 12.2 | 90 | 54 | 2 | 6 |
| JAN 26... | 1230 | -- | 100 | 6.7 | 1.0 | 12.5 | 88 | 32 | 4 | 250 |
| FEB 24... | 1230 | 62 | 75 | 6.5 | 4.5 | 11.0 | 85 | 140 | 25 | 1300 |
| MAR 09... | 1430 | 14 | 85 | 6.8 | 8.5 | 11.2 | 96 | 30 | 3 | 37 |
| APR 19... | 1100 | 5.8 | 100 | 6.8 | 16.5 | 10.4 | 110 | 870 | 19 | 18 |
| MAY 03... | 1400 | 6.6 | 105 | 7.0 | 17.0 | 10.0 | 100 | 350 | 22 | 36 |
| JUN 14... | 1130 | .41 | 125 | 6.6 | 21.5 | 8.9 | 100 | 480 | 160 | 150 |
| JUL 14... | 1230 | .46 | 120 | 6.8 | 30.0 | 7.7 | 100 | 490 | 80 | 270 |
| AUG 10... | 1130 | .61 | 135 | 7.5 | 25.5 | 8.5 | 100 | 430 | 83 | 400 |
| SEP 20... | 1100 | .66 | 125 | 6.8 | 21.0 | 8.8 | 98 | 380 | 40 | 700 |

| DATE | HARDNESS (CA, MG/L) | NON-CARBONATE HARDNESS (MG/L) | DISSOLVED CALCIUM (CA) (MG/L) | DISSOLVED MAGNESIUM (MG/L) | DISSOLVED SODIUM (NA) (MG/L) | DISSOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) |
|-----------|---------------------|-------------------------------|-------------------------------|----------------------------|------------------------------|--------------------------------|---------------------------|------------------------|----------------------------|
| OCT 12... | 34 | 18 | 5.8 | 4.8 | 3.1 | 2.0 | 20 | 0 | 16 |
| NOV 10... | 30 | 15 | 5.3 | 4.1 | 2.9 | 1.8 | 18 | 0 | 15 |
| DEC 02... | 37 | 23 | 5.9 | 5.5 | 3.2 | 1.7 | 18 | 0 | 15 |
| JAN 26... | 32 | 17 | 5.8 | 4.2 | 3.9 | 1.5 | 18 | 0 | 15 |
| FEB 24... | 24 | 17 | 3.6 | 3.6 | 1.9 | 1.6 | 8 | 0 | 7 |
| MAR 09... | 29 | 17 | 4.7 | 4.1 | 2.6 | 1.7 | 14 | 0 | 11 |
| APR 19... | 36 | 23 | 5.0 | 5.7 | 3.1 | 2.2 | 16 | 0 | 13 |
| MAY 03... | 34 | 26 | 5.7 | 4.8 | 3.2 | 2.3 | 10 | 0 | 8 |
| JUN 14... | 40 | 27 | 6.7 | 5.7 | 3.9 | 2.5 | 16 | 0 | 13 |
| JUL 14... | 40 | 22 | 6.8 | 5.5 | 3.9 | 2.7 | 21 | 0 | 17 |
| AUG 10... | 44 | 29 | 8.0 | 5.9 | 4.4 | 3.0 | 19 | 0 | 16 |
| SEP 20... | 42 | 26 | 7.3 | 5.8 | 4.0 | 2.7 | 20 | 0 | 16 |

WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977--Continued

| DATE | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) |
|-----------|--------------------------------------|--|---|--|--|--|--|--|---|
| OCT 12... | 20 | 26 | 1.6 | .1 | 11 | 68 | 64 | .55 | .02 |
| NOV 10... | 3.6 | 23 | 2.2 | .1 | 9.6 | 56 | 58 | .08 | .02 |
| DEC 02... | 5.7 | 29 | .4 | .1 | 8.2 | 61 | 63 | .13 | .03 |
| JAN 26... | 5.7 | 28 | 2.6 | .1 | 8.1 | 60 | 63 | .19 | .02 |
| FEB 24... | 4.0 | 20 | 1.6 | .0 | 8.3 | 58 | 45 | .33 | .01 |
| MAR 09... | 3.6 | 23 | 1.5 | .0 | 9.5 | 48 | 54 | .20 | .01 |
| APR 19... | 4.1 | 27 | 1.5 | .0 | 11 | 73 | 63 | .13 | .00 |
| MAY 03... | 1.6 | 26 | 1.4 | .0 | 9.9 | 68 | 58 | .07 | .00 |
| JUN 14... | 6.4 | 34 | 2.4 | .0 | 10 | 82 | 73 | .21 | .00 |
| JUL 14... | 5.3 | 30 | 3.6 | .0 | 11 | 68 | 74 | .20 | .00 |
| AUG 10... | 1.0 | 31 | 2.5 | .0 | 11 | 68 | 75 | .24 | .01 |
| SEP 20... | 5.1 | 30 | 3.6 | .0 | 11 | 76 | 74 | .35 | .01 |

RADIOCHEMICAL ANALYSES

[illegible]

UPPER TWIN CREEK BASIN

295

03237280 UPPER TWIN CREEK AT MCGAW, OH--Continued

WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977--Continued

ANALYSES OF MINOR ELEMENTS

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CAD- MIUM (CD) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) |
|--------------|------|---|------------------------------------|-----------------------------------|---|--|-----------------------------------|
| OCT 12... | 1230 | 5.7 | 0 | 100 | 0 | <10 | 0 |
| NOV 10... | 1330 | 3.7 | -- | -- | -- | -- | -- |
| DEC 02... | 1500 | 1.1 | -- | -- | -- | -- | -- |
| FEB 24... | 1230 | 62 | -- | -- | -- | -- | -- |
| MAR 09... | 1430 | 14 | -- | -- | -- | -- | -- |
| APR 19... | 1100 | 5.8 | 1 | 0 | 0 | <10 | 0 |
| MAY 03... | 1400 | 6.6 | -- | -- | -- | -- | -- |
| JUN 14... | 1130 | .41 | -- | -- | -- | -- | -- |
| JUL 14... | 1230 | .46 | -- | -- | -- | -- | -- |
| AUG 10... | 1130 | .61 | -- | -- | -- | -- | -- |
| SEP 20... | 1100 | .66 | -- | -- | -- | -- | -- |

| DATE | TOTAL LEAD (PB) (UG/L) | TOTAL MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL SELE- NIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL ZINC (ZN) (UG/L) |
|--------------|---------------------------------|---|------------------------------------|--|-----------------------------------|---------------------------------|
| OCT 12... | 0 | 10 | <.5 | 0 | 0 | 0 |
| NOV 10... | -- | -- | -- | -- | -- | -- |
| DEC 02... | -- | -- | -- | -- | -- | -- |
| FEB 24... | -- | -- | -- | -- | -- | -- |
| MAR 09... | -- | -- | -- | -- | -- | -- |
| APR 19... | 0 | 0 | .0 | 0 | 0 | 10 |
| MAY 03... | -- | -- | -- | -- | -- | -- |
| JUN 14... | -- | -- | -- | -- | -- | -- |
| JUL 14... | -- | -- | -- | -- | -- | -- |
| AUG 10... | -- | -- | -- | -- | -- | -- |
| SEP 20... | -- | -- | -- | -- | -- | -- |

[illegible]

UPPER TWIN CREEK BASIN

297

03237280 UPPER TWIN CREEK AT MCGAW, OH--Continued

PESTICIDES ANALYSES OF BOTTOM MATERIAL

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | PCB IN BOTTOM MA- TERIAL (UG/KG) | ALDRIN IN BOTTOM MA- TERIAL (UG/KG) | CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG) | DDD IN BOTTOM MA- TERIAL (UG/KG) | DDE IN BOTTOM MA- TERIAL (UG/KG) |
|-----------|------|---|---|--|--|---|---|
| OCT 12... | 1230 | 5.7 | 0 | .0 | 0 | .0 | .1 |
| NOV 10... | 1330 | 3.7 | -- | -- | -- | -- | -- |
| DEC 02... | 1500 | 1.1 | -- | -- | -- | -- | -- |
| FEB 24... | 1230 | 62 | -- | -- | -- | -- | -- |
| MAR 09... | 1430 | 14 | -- | -- | -- | -- | -- |
| APR 19... | 1100 | 5.8 | -- | -- | -- | -- | -- |
| MAY 03... | 1400 | 6.6 | -- | -- | -- | -- | -- |
| JUN 14... | 1130 | .41 | -- | -- | -- | -- | -- |
| JUL 14... | 1230 | .46 | -- | -- | -- | -- | -- |
| AUG 10... | 1130 | .61 | -- | -- | -- | -- | -- |
| SEP 20... | 1100 | .66 | -- | -- | -- | -- | -- |

| DATE | DDT IN BOTTOM MA- TERIAL (UG/KG) | DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG) | ENDRIN IN BOTTOM MA- TERIAL (UG/KG) | HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG) | HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG) | LINDANE IN BOTTOM MA- TERIAL (UG/KG) |
|-----------|---|---|--|---|---|---|
| OCT 12... | .0 | .0 | .0 | .0 | .0 | .0 |
| NOV 10... | -- | -- | -- | -- | -- | -- |
| DEC 02... | -- | -- | -- | -- | -- | -- |
| FEB 24... | -- | -- | -- | -- | -- | -- |
| MAR 09... | -- | -- | -- | -- | -- | -- |
| APR 19... | -- | -- | -- | -- | -- | -- |
| MAY 03... | -- | -- | -- | -- | -- | -- |
| JUN 14... | -- | -- | -- | -- | -- | -- |
| JUL 14... | -- | -- | -- | -- | -- | -- |
| AUG 10... | -- | -- | -- | -- | -- | -- |
| SEP 20... | -- | -- | -- | -- | -- | -- |

UPPER TWIN CREEK BASIN

03237280 UPPER TWIN CREEK AT McGAW, OH--Continued

SUSPENDED SEDIMENT DISCHARGE

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | TEMPER- ATURE (DEG C) | SUS- PEN- DED SEDI- MENT (MG/L) | SUS- PEN- DED SEDI- MENT DIS- CHARGE (T/DAY) |
|-------|------|---|-----------------------------|--|---|
| OCT | | | | | |
| 12... | 1230 | 5.8 | 15.0 | 0 | .00 |
| NOV | | | | | |
| 10... | 1330 | 3.7 | 8.5 | 1 | .01 |
| DEC | | | | | |
| 02... | 1500 | 1.1 | 3.0 | 1 | .00 |
| JAN | | | | | |
| 26... | 1230 | 2.1 | 1.0 | 1 | .01 |
| FEB | | | | | |
| 24... | 1230 | 62 | 4.5 | 9 | 1.5 |
| MAR | | | | | |
| 09... | 1430 | 14 | 8.5 | 1 | .04 |
| APR | | | | | |
| 19... | 1100 | 5.8 | 16.5 | 2 | .03 |
| MAY | | | | | |
| 03... | 1400 | 6.6 | 17.0 | 2 | .04 |
| JUN | | | | | |
| 14... | 1130 | .40 | 21.5 | 0 | .00 |
| JUL | | | | | |
| 14... | 1230 | .50 | 30.0 | 1 | .00 |
| AUG | | | | | |
| 10... | 1130 | .60 | 25.5 | 2 | .00 |
| SEP | | | | | |
| 20... | 1100 | .70 | 21.0 | 4 | .01 |

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| Day | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min |
|-------|---------|------|----------|------|----------|------|---------|------|----------|------|-----------|------|
| | October | | November | | December | | January | | February | | March | |
| | | | | | | | | | | | | |
| 1 | 18.0 | 14.5 | 10.0 | 8.0 | 3.5 | 2.0 | 0.5 | 0.5 | 1.5 | 1.5 | 5.0 | 2.5 |
| 2 | 17.5 | 14.5 | 9.5 | 7.0 | 4.0 | 1.0 | 0.5 | 0.5 | 1.5 | 1.0 | 5.0 | 2.5 |
| 3 | 19.5 | 15.0 | 11.0 | 8.5 | 2.0 | 1.0 | 0.5 | 0.5 | 1.0 | 1.0 | 6.0 | 3.0 |
| 4 | 20.0 | 15.0 | 9.0 | 6.5 | 3.5 | 1.0 | 0.5 | 0.5 | 1.0 | 1.0 | 6.5 | 5.0 |
| 5 | 20.0 | 15.0 | 8.0 | 6.0 | 3.0 | 1.0 | 0.5 | 0.5 | 1.0 | 1.0 | 7.0 | 4.5 |
| 6 | 18.0 | 15.5 | 8.5 | 5.0 | 1.5 | 1.0 | 0.5 | 0.5 | 1.0 | 1.0 | 7.0 | 4.5 |
| 7 | 15.5 | 14.5 | 8.5 | 5.5 | 3.0 | 1.0 | 0.5 | 0.5 | 1.0 | 1.0 | 5.5 | 4.0 |
| 8 | 16.0 | 14.0 | 6.5 | 4.5 | 3.0 | 2.0 | 0.5 | 0.5 | 1.0 | 1.0 | 7.5 | 4.0 |
| 9 | 14.0 | 12.5 | 8.0 | 4.5 | 2.5 | 1.5 | 0.5 | 0.5 | 1.0 | 1.0 | 9.0 | 4.0 |
| 10 | 15.0 | 11.5 | 9.0 | 5.5 | 4.0 | 1.5 | 0.5 | 0.5 | 1.0 | 1.0 | 9.0 | 5.0 |
| 11 | 15.5 | 11.5 | 6.5 | 5.0 | 4.5 | 4.0 | 0.5 | 0.5 | 1.0 | 0.5 | 10.5 | 5.0 |
| 12 | 16.0 | 11.0 | 7.0 | 4.5 | 5.0 | 4.0 | 0.5 | 0.5 | 1.0 | 1.0 | 9.5 | 8.0 |
| 13 | 17.5 | 12.0 | 6.5 | 3.5 | 4.0 | 2.0 | 0.5 | 0.5 | 3.5 | 1.0 | 8.5 | 7.0 |
| 14 | 16.0 | 11.5 | 5.5 | 3.0 | 3.0 | 2.0 | 0.5 | 0.5 | 3.0 | 2.5 | 10.5 | 6.5 |
| 15 | 17.0 | 10.5 | 7.5 | 4.0 | 4.0 | 2.0 | 0.5 | 0.5 | 3.0 | 2.5 | 11.5 | 6.5 |
| 16 | 15.0 | 12.0 | 6.5 | 3.0 | 3.5 | 1.5 | 0.5 | 0.5 | 3.0 | 2.0 | 11.5 | 7.5 |
| 17 | 14.5 | 10.0 | 7.0 | 3.0 | 4.5 | 2.5 | --- | --- | 2.0 | 1.5 | 9.0 | 6.0 |
| 18 | 13.5 | 8.5 | 7.5 | 4.5 | 4.0 | 2.5 | --- | --- | 2.0 | 1.5 | 11.0 | 7.5 |
| 19 | 12.5 | 8.5 | 9.5 | 5.5 | 4.5 | 2.5 | --- | --- | 3.5 | 2.0 | 8.5 | 6.5 |
| 20 | 11.0 | 9.5 | 7.5 | 4.5 | 5.0 | 2.5 | --- | --- | 2.5 | 2.0 | 8.5 | 6.0 |
| 21 | 11.0 | 9.0 | 6.5 | 4.0 | 2.5 | 1.0 | --- | --- | 3.5 | 2.0 | 9.5 | 5.5 |
| 22 | 11.0 | 7.5 | 5.5 | 4.0 | 1.5 | 1.0 | --- | --- | 5.0 | 2.0 | 8.0 | 6.0 |
| 23 | 9.0 | 7.0 | 5.5 | 3.5 | 1.5 | 0.5 | --- | --- | 5.5 | 3.0 | 8.5 | 4.5 |
| 24 | 10.5 | 8.5 | 4.5 | 3.0 | 0.5 | 0.5 | --- | --- | 5.5 | 4.5 | 9.5 | 5.0 |
| 25 | 11.5 | 10.5 | 7.0 | 2.5 | 1.0 | 0.5 | --- | --- | 6.5 | 4.0 | 9.5 | 4.5 |
| 26 | 11.0 | 9.5 | 9.5 | 6.0 | 1.5 | 1.0 | 1.5 | 1.5 | 8.0 | 4.5 | 10.5 | 5.0 |
| 27 | 9.5 | 8.0 | 13.0 | 8.5 | 1.5 | 0.5 | 1.5 | 1.5 | 7.0 | 4.5 | 10.0 | 6.5 |
| 28 | 9.5 | 6.5 | 9.0 | 5.0 | 2.0 | 1.0 | 1.5 | 1.5 | 6.0 | 4.0 | 11.5 | 9.0 |
| 29 | 9.5 | 5.5 | 5.0 | 3.0 | 1.0 | 1.0 | 1.5 | 1.5 | --- | --- | 15.0 | 9.5 |
| 30 | 7.5 | 6.5 | 3.0 | 2.0 | 1.0 | 0.5 | 1.5 | 1.5 | --- | --- | 16.5 | 11.0 |
| 31 | 9.5 | 7.5 | --- | --- | 0.5 | 0.5 | 1.5 | 1.5 | --- | --- | 15.0 | 10.0 |
| MONTH | 20.0 | 5.5 | 13.0 | 2.0 | 5.0 | 0.5 | 1.5 | 0.5 | 8.0 | 0.5 | 16.5 | 2.5 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 14.5 | 8.0 | 18.0 | 11.5 | 29.5 | 18.5 | 20.0 | 17.5 | 30.0 | 21.5 | 30.5 | 22.0 |
| 2 | 14.0 | 11.0 | 19.5 | 13.5 | 28.5 | 17.0 | 21.5 | 16.5 | 30.5 | 19.0 | 30.0 | 22.0 |
| 3 | 11.5 | 10.0 | 18.5 | 14.5 | 30.0 | 16.0 | 23.5 | 17.0 | 32.0 | 18.5 | 28.5 | 21. |

OHIO BRUSH CREEK BASIN

03237500 OHIO BRUSH CREEK NEAR WEST UNION, OH

LOCATION.--Lat 38°48'13", long 83°25'16", Adams County, Hydrologic Unit 05090201, on right bank at downstream side of bridge on State Highway 348, 0.3 mi (0.5 km) downstream from Cedar Run, 7.0 mi (11.3 km) east of West Union, and 7.1 mi (11.4 km) upstream from Beasley Fork.

DRAINAGE AREA.--387 mi² (1,002 km²).

WATER-DISCHARGE RECORDS

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 (155.63 m) above mean sea level, adjustment of 1912. Prior to Nov. 22, 1940, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are fair.

AVERAGE DISCHARGE.--46 years, 441 ft³/s (12.49 m³/s), 15.47 in/yr (392 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 59,200 ft³/s (1,680 m³/s) Mar. 10, 1964, gage height, 27.91 ft (8.507 m), from rating curve extended above 22,000 ft³/s (623 m³/s) on basis of slope-area measurement at gage heights 22.70 ft (6.919 m), 26.5 ft (8.077 m), and 27.91 ft (8.507 m); no flow Sept. 13-23, 27, 28, 1955 and for part of each day Sept. 17, 18, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,400 ft³/s (351 m³/s) Mar. 13 (base 11,000 ft³/s, 312 m³/s) gage height, 14.89 ft (4.538 m); minimum discharge 6.7 ft³/s (0.190 m³/s) Aug. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|----------|----------|-----------|---------|----------|----------|------|--------|------|--------|--------|
| 1 | 54 | 470 | 43 | 26 | 10 | 254 | 140 | 91 | 41 | 1710 | 17 | 43 |
| 2 | 38 | 229 | 36 | 20 | 10 | 245 | 798 | 78 | 23 | 501 | 14 | 36 |
| 3 | 30 | 159 | 35 | 19 | 10 | 247 | 4000 | 88 | 17 | 179 | 12 | 30 |
| 4 | 25 | 123 | 33 | 17 | 10 | 5210 | 1110 | 117 | 13 | 93 | 11 | 24 |
| 5 | 21 | 98 | 32 | 16 | 10 | 1760 | 2230 | 205 | 11 | 63 | 9.3 | 20 |
| 6 | 19 | 83 | 40 | 15 | 10 | 755 | 1260 | 149 | 16 | 46 | 7.5 | 78 |
| 7 | 19 | 74 | 586 | 14 | 10 | 495 | 1250 | 321 | 12 | 34 | 9.2 | 34 |
| 8 | 20 | 66 | 559 | 13 | 10 | 349 | 763 | 377 | 10 | 27 | 16 | 20 |
| 9 | 392 | 59 | 263 | 12 | 11 | 274 | 509 | 199 | 72 | 22 | 59 | 16 |
| 10 | 526 | 56 | 176 | 11 | 16 | 227 | 382 | 109 | 95 | 20 | 43 | 13 |
| 11 | 191 | 51 | 167 | 11 | 148 | 193 | 307 | 81 | 51 | 44 | 126 | 11 |
| 12 | 107 | 47 | 205 | 10 | 1020 | 659 | 245 | 68 | 34 | 180 | 1330 | 9.9 |
| 13 | 72 | 45 | 176 | 10 | 4410 | 5750 | 205 | 59 | 25 | 408 | 1120 | 9.0 |
| 14 | 57 | 41 | 118 | 10 | 1150 | 1240 | 180 | 51 | 19 | 985 | 1660 | 8.5 |
| 15 | 45 | 38 | 118 | 10 | 593 | 663 | 161 | 44 | 15 | 173 | 570 | 8.0 |
| 16 | 36 | 37 | 100 | 10 | 362 | 446 | 143 | 39 | 12 | 79 | 199 | 11 |
| 17 | 32 | 36 | 92 | 10 | 255 | 312 | 127 | 33 | 10 | 52 | 110 | 368 |
| 18 | 27 | 35 | 83 | 10 | 208 | 1490 | 117 | 29 | 8.9 | 36 | 72 | 140 |
| 19 | 24 | 34 | 74 | 10 | 173 | 987 | 110 | 26 | 8.8 | 28 | 52 | 69 |
| 20 | 27 | 33 | 78 | 10 | 167 | 588 | 101 | 24 | 8.5 | 23 | 39 | 149 |
| 21 | 45 | 33 | 90 | 10 | 182 | 476 | 94 | 21 | 8.0 | 18 | 31 | 87 |
| 22 | 90 | 32 | 62 | 10 | 225 | 1060 | 90 | 18 | 7.8 | 15 | 26 | 54 |
| 23 | 77 | 30 | 67 | 10 | 1840 | 756 | 95 | 16 | 14 | 12 | 23 | 36 |
| 24 | 711 | 29 | 49 | 10 | 2520 | 469 | 103 | 14 | 45 | 11 | 1350 | 27 |
| 25 | 730 | 29 | 47 | 10 | 1150 | 335 | 108 | 13 | 423 | 29 | 598 | 22 |
| 26 | 315 | 29 | 46 | 10 | 637 | 268 | 103 | 12 | 570 | 41 | 197 | 38 |
| 27 | 179 | 32 | 49 | 10 | 489 | 226 | 94 | 11 | 148 | 27 | 208 | 63 |
| 28 | 123 | 37 | 57 | 10 | 361 | 218 | 87 | 11 | 519 | 18 | 233 | 56 |
| 29 | 94 | 56 | 56 | 10 | --- | 222 | 114 | 18 | 603 | 23 | 103 | 34 |
| 30 | 105 | 56 | 40 | 10 | --- | 186 | 125 | 229 | 256 | 41 | 67 | 24 |
| 31 | 760 | --- | 33 | 10 | --- | 163 | --- | 76 | --- | 24 | 54 | --- |
| TOTAL | 4991 | 2177 | 3610 | 374 | 15997 | 26523 | 15151 | 2627 | 3096.0 | 4962 | 8366.0 | 1538.4 |
| MEAN | 161 | 72.6 | 116 | 12.1 | 571 | 856 | 505 | 84.7 | 103 | 160 | 270 | 51.3 |
| MAX | 760 | 470 | 586 | 26 | 4410 | 5750 | 4000 | 377 | 603 | 1710 | 1660 | 368 |
| MIN | 19 | 29 | 32 | 10 | 10 | 163 | 87 | 11 | 7.8 | 11 | 7.5 | 8.0 |
| CFSM | .42 | .19 | .30 | .03 | 1.48 | 2.21 | 1.31 | .22 | .27 | .41 | .70 | .13 |
| IN. | .48 | .21 | .35 | .04 | 1.54 | 2.55 | 1.46 | .25 | .30 | .48 | .80 | .15 |
| CAL YR 1976 | TOTAL | 122647.1 | MEAN 335 | MAX 13000 | MIN 3.7 | CFSM .87 | IN 11.79 | | | | | |
| WTR YR 1977 | TOTAL | 89412.4 | MEAN 245 | MAX 5750 | MIN 7.5 | CFSM .63 | IN 8.59 | | | | | |

OHIO BRUSH CREEK BASIN

301

03237500 OHIO BRUSH CREEK NEAR WEST UNION, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.

REMARKS.--Sediment data collected at this site 1969 to 1974.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|------|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| DATE | TIME | | | | | | | | | | | |
| MAR 30... | 1145 | 183 | 480 | 8.3 | 14.5 | 10.5 | 102 | .3 | 240 | 54 | 57 | 24 |
| JUN 22... | 1120 | 7.3 | 463 | 7.8 | 22.5 | 6.6 | 77 | 1.0 | 220 | 34 | 54 | 21 |
| | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 30... | 5.3 | 2.1 | 224 | 2 | 187 | 1.8 | 45 | 9.5 | .1 | 2.1 | 258 | .38 |
| JUN 22... | 6.6 | 3.9 | 228 | 0 | 187 | 5.8 | 37 | 11 | .1 | 4.8 | 251 | .57 |
| | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 30... | .01 | .01 | .02 | 1 | <10 | 3 | 30 | 0 | 30 | .4 | 0 | -- |
| JUN 22... | .01 | .05 | .03 | 2 | 20 | 4 | 30 | 3 | 70 | .0 | 20 | 7.1 |

WHITEOAK CREEK BASIN

03238500 WHITEOAK CREEK NEAR GEORGETOWN, OH

LOCATION.--Lat 38°51'29", long 83°55'43", Brown County, Hydrologic Unit 05090201, on left bank 150 ft (46 m) upstream from diversion dam for Georgetown water treatment plant, 0.7 mi (1.1 km) upstream from Town Run, 1.4 mi (2.3 km) southwest of Georgetown, and 7.2 mi (11.6 km) upstream from mouth.

DRAINAGE AREA.--218 mi² (565 km²).

WATER-DISCHARGE RECORDS

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 Ohio 1974: 1973(P).

GAGE.--Water-stage recorder. Datum of gage is 604.20 ft (184.160 m) above mean sea level. Prior to Oct. 12, 1972 nonrecording gage at a site 1.0 mi (1.6 km) downstream at a datum 35.24 ft (10.741 m) lower. See WSP 2108 for history of changes prior to Dec. 8, 1940.

REMARKS.--Records poor prior to Mar. 8, fair thereafter.

AVERAGE DISCHARGE.--50 years, 250 ft³/s (7.080 m³/s), 15.57 in/yr (395 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,400 ft³/s (634 m³/s) Mar. 10, 1964; maximum gage height, 20.87 ft (6.361 m), May 14, 1933, site and datum then in use; no flow at times in 1930, 1940-41, 1943, 1948, 1951-53, 1959, 1969, 1970, 1976, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge above base of 5,500 ft³/s (156 m³/s), 5,780 ft³/s (164 m³/s) Apr. 3, gage height, 6.42 ft (1.957 m); minimum, no flow part of each day July 8, 9, 12, 16, 18-20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|--------|------|--------|------|---------|-------|-------|--------|---------|--------|--------|--------|
| 1 | 11 | 450 | 35 | 4.2 | 1.5 | 120 | 41 | 38 | 1.3 | 721 | 5.8 | 19 |
| 2 | 8.0 | 150 | 31 | 3.2 | 1.5 | 150 | 421 | 29 | 2.1 | 315 | 4.6 | 15 |
| 3 | 6.5 | 100 | 29 | 2.2 | 1.5 | 340 | 3910 | 44 | 3.1 | 89 | 4.4 | 11 |
| 4 | 6.5 | 72 | 28 | 1.8 | 2.2 | 2100 | 673 | 53 | 1.0 | 44 | 4.6 | 8.3 |
| 5 | 5.2 | 56 | 27 | 1.5 | 3.1 | 750 | 2710 | 44 | 1.3 | 27 | 4.8 | 5.8 |
| 6 | 6.5 | 45 | 26 | 1.5 | 2.2 | 300 | 817 | 88 | 1.4 | 18 | 4.0 | 6.6 |
| 7 | 8.0 | 37 | 330 | 1.5 | 5.2 | 150 | 889 | 315 | 1.1 | 13 | 3.4 | 5.2 |
| 8 | 6.5 | 32 | 300 | 1.5 | 10 | 110 | 349 | 252 | .09 | 9.3 | 2.9 | 5.2 |
| 9 | 35 | 29 | 140 | 1.5 | 32 | 88 | 179 | 100 | .45 | 7.5 | 3.6 | 5.2 |
| 10 | 50 | 27 | 100 | 1.5 | 75 | 92 | 126 | 60 | 5.5 | 13 | 23 | 4.5 |
| 11 | 57 | 25 | 110 | 1.5 | 230 | 85 | 100 | 44 | 2.0 | 93 | 63 | 3.0 |
| 12 | 23 | 24 | 88 | 1.5 | 500 | 437 | 88 | 35 | 4.3 | 198 | 617 | 1.5 |
| 13 | 9.6 | 22 | 72 | 1.5 | 1900 | 3180 | 74 | 29 | 4.5 | 235 | 491 | 4.7 |
| 14 | 6.5 | 21 | 63 | 1.5 | 700 | 508 | 60 | 26 | 3.6 | 165 | 332 | 7.0 |
| 15 | 8.0 | 20 | 60 | 1.5 | 800 | 223 | 57 | 20 | 1.7 | 56 | 145 | 7.8 |
| 16 | 6.5 | 19 | 41 | 1.5 | 450 | 149 | 53 | 18 | .65 | 29 | 53 | 688 |
| 17 | 5.2 | 18 | 38 | 1.5 | 280 | 113 | 47 | 11 | 1.3 | 18 | 32 | 736 |
| 18 | 5.2 | 18 | 32 | 1.5 | 160 | 1190 | 44 | 9.0 | 1.1 | 13 | 20 | 144 |
| 19 | 6.5 | 17 | 25 | 1.5 | 100 | 778 | 41 | 8.1 | .59 | 7.4 | 14 | 83 |
| 20 | 6.5 | 17 | 21 | 1.5 | 80 | 246 | 38 | 9.9 | 10 | 5.0 | 11 | 244 |
| 21 | 11 | 17 | 16 | 1.5 | 95 | 195 | 38 | 7.6 | 19 | 3.3 | 10 | 97 |
| 22 | 15 | 17 | 14 | 1.5 | 400 | 377 | 35 | 8.3 | 10 | 3.6 | 16 | 50 |
| 23 | 36 | 17 | 11 | 1.5 | 1100 | 302 | 38 | 9.3 | 5.7 | 3.5 | 8.6 | 31 |
| 24 | 120 | 17 | 9.5 | 1.5 | 2700 | 140 | 38 | 6.2 | 11 | 2.7 | 792 | 24 |
| 25 | 460 | 17 | 8.0 | 1.5 | 1500 | 92 | 44 | 5.3 | 25 | 3.0 | 395 | 17 |
| 26 | 280 | 18 | 6.5 | 1.5 | 400 | 70 | 44 | 4.4 | 276 | 5.7 | 263 | 17 |
| 27 | 170 | 22 | 7.2 | 1.5 | 190 | 60 | 38 | 3.7 | 78 | 22 | 838 | 14 |
| 28 | 100 | 28 | 6.4 | 1.5 | 130 | 60 | 38 | 4.0 | 238 | 22 | 197 | 11 |
| 29 | 62 | 32 | 5.8 | 1.5 | --- | 63 | 50 | 2.4 | 317 | 16 | 71 | 10 |
| 30 | 44 | 37 | 6.4 | 1.5 | --- | 60 | 47 | 1.6 | 146 | 12 | 42 | 6.8 |
| 31 | 130 | --- | 5.2 | 1.5 | --- | 50 | --- | 1.7 | --- | 7.4 | 27 | --- |
| TOTAL | 1705.2 | 1421 | 1692.0 | 51.9 | 11849.2 | 12578 | 11127 | 1287.5 | 1172.78 | 2177.4 | 4498.7 | 2282.6 |
| MEAN | 55.0 | 47.4 | 54.6 | 1.67 | 423 | 406 | 371 | 41.5 | 39.1 | 70.2 | 145 | 76.1 |
| MAX | 460 | 450 | 330 | 4.2 | 2700 | 3180 | 3910 | 315 | 317 | 721 | 838 | 736 |
| MIN | 5.2 | 17 | 5.2 | 1.5 | 1.5 | 50 | 35 | 1.6 | .09 | 2.7 | 2.9 | 1.5 |
| CFSM | .25 | .22 | .25 | .008 | 1.94 | 1.86 | 1.70 | .19 | .18 | .32 | .67 | .35 |
| IN. | .29 | .24 | .29 | .01 | 2.02 | 2.15 | 1.90 | .22 | .20 | .37 | .77 | .39 |

CAL YR 1976 TOTAL 69539.69 MEAN 190 MAX 10500 MIN .00 CFSM .87 IN 11.87
WTR YR 1977 TOTAL 51843.28 MEAN 142 MAX 3910 MIN .09 CFSM .65 IN 8.85

Note: No gage height record Oct. 22 to Dec. 13, Jan. 8 to Mar. 8.

WHITEOAK CREEK BASIN

303

03238500 WHITEOAK CREEK NEAR GEORGETOWN, OHIO--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) |
|--------------|------|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| | | | | | | | | | | | | |
| MAR 08... | 1430 | 120 | 440 | 8.2 | 9.0 | 10.8 | 93 | 3.0 | 200 | 66 | 58 | 14 |
| JUN 21... | 1115 | 22 | 490 | 8.1 | 24.5 | 7.9 | 94 | 2.0 | 220 | 49 | 54 | 21 |
| DATE | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 08... | 10 | 4.6 | 166 | 0 | 136 | 1.7 | 52 | 20 | .1 | 6.5 | 247 | 2.0 |
| JUN 21... | 11 | 4.5 | 210 | 0 | 172 | 2.7 | 44 | 19 | .1 | 2.7 | 260 | .19 |
| DATE | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 08... | .02 | .03 | .10 | 1 | 20 | 4 | 100 | 6 | 20 | .0 | 40 | 7.1 |
| JUN 21... | .00 | .12 | .07 | 2 | 10 | 6 | 150 | 3 | 20 | .0 | 40 | 6.3 |

LITTLE MIAMI RIVER BASIN

03240000 LITTLE MIAMI RIVER NEAR OLDTOWN, OH

LOCATION.--Lat 39°44'54", long 83°55'53", in sec. 34, R.7, T.4, Greene County, Hydrologic Unit 05090202, on right bank at downstream side of bridge on U.S. Highway 68, 0.8 mi (1.3 km) downstream from Conner Branch, 0.9 mi (1.4 km) upstream from Massies Creek, and 1.3 mi (2.1 km) northeast of Oldtown.

DRAINAGE AREA.--129 mi² (334 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1952 to current year.

GAGE.--Water-stage recorder. Datum of gage is 816.56 ft (248.887 m) above mean sea level.

REMARKS.--Records good, except those for the winter period, which are fair.

AVERAGE DISCHARGE.--25 years, 108 ft³/s (3.059 m³/s), 11.37 in/yr (289 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,800 ft³/s (419 m³/s) Jan. 21, 1959, gage height, 12.20 ft (3.719 m), from rating curve extended above 4,400 ft³/s (125 m³/s) on basis of slope-area measurements of peak flow; minimum, 5.4 ft³/s (0.15 m³/s) July 29, 1954, result of temporary storage at rock dam upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 800 ft³/s (22.7 m³/s) and maximums (*):

| Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) |
|---------|---------|---|-------------------------|
| Feb. 23 | unknown | ice jam | *6.56 1.999 |
| Feb. 24 | unknown | a*1350 38.2 | ice jam |

Minimum discharge, 8.2 ft³/s (0.232 m³/s) Sept. 11, 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|---------|------|-------|--------|------|------|------|------|-------|------|-------|
| 1 | 29 | 54 | 22 | 11 | 9.8 | 132 | 68 | 66 | 29 | 25 | 35 | 11 |
| 2 | 26 | 47 | 24 | 11 | 9.8 | 111 | 301 | 63 | 27 | 26 | 18 | 12 |
| 3 | 25 | 42 | 22 | 11 | 9.8 | 137 | 297 | 59 | 27 | 21 | 15 | 18 |
| 4 | 25 | 39 | 19 | 11 | 9.8 | 400 | 295 | 83 | 26 | 19 | 14 | 20 |
| 5 | 24 | 37 | 18 | 11 | 9.8 | 306 | 444 | 113 | 26 | 18 | 13 | 16 |
| 6 | 26 | 34 | 18 | 11 | 9.6 | 206 | 292 | 97 | 30 | 17 | 12 | 14 |
| 7 | 28 | 33 | 19 | 11 | 9.6 | 156 | 209 | 94 | 27 | 17 | 12 | 13 |
| 8 | 27 | 33 | 19 | 11 | 9.6 | 126 | 162 | 81 | 27 | 18 | 14 | 12 |
| 9 | 29 | 31 | 18 | 10 | 9.6 | 110 | 128 | 69 | 31 | 16 | 13 | 12 |
| 10 | 28 | 31 | 18 | 10 | 10 | 96 | 110 | 63 | 27 | 16 | 12 | 11 |
| 11 | 28 | 28 | 17 | 10 | 11 | 85 | 96 | 59 | 26 | 16 | 12 | 10 |
| 12 | 26 | 28 | 17 | 10 | 20 | 147 | 85 | 55 | 26 | 16 | 14 | 9.3 |
| 13 | 26 | 30 | 16 | 10 | 34 | 269 | 79 | 52 | 25 | 17 | 16 | 11 |
| 14 | 26 | 27 | 15 | 10 | 28 | 180 | 75 | 50 | 28 | 16 | 14 | 13 |
| 15 | 25 | 28 | 15 | 10 | 23 | 139 | 71 | 47 | 26 | 15 | 22 | 11 |
| 16 | 25 | 25 | 15 | 11 | 21 | 110 | 66 | 45 | 24 | 14 | 18 | 14 |
| 17 | 24 | 27 | 18 | 11 | 20 | 99 | 63 | 43 | 23 | 13 | 20 | 16 |
| 18 | 25 | 26 | 15 | 11 | 19 | 172 | 61 | 42 | 23 | 14 | 19 | 15 |
| 19 | 26 | 26 | 15 | 11 | 18 | 147 | 59 | 40 | 29 | 13 | 16 | 16 |
| 20 | 31 | 26 | 14 | 10 | 25 | 140 | 58 | 39 | 27 | 12 | 15 | 16 |
| 21 | 33 | 26 | 14 | 10 | 70 | 128 | 56 | 37 | 24 | 11 | 14 | 14 |
| 22 | 29 | 26 | 14 | 10 | 150 | 187 | 57 | 35 | 22 | 16 | 16 | 14 |
| 23 | 28 | 25 | 13 | 10 | 700 | 159 | 58 | 36 | 23 | 15 | 14 | 13 |
| 24 | 46 | 25 | 13 | 10 | 800 | 124 | 58 | 34 | 22 | 15 | 16 | 13 |
| 25 | 80 | 25 | 13 | 10 | 394 | 104 | 59 | 50 | 22 | 13 | 15 | 12 |
| 26 | 59 | 29 | 12 | 10 | 272 | 92 | 56 | 39 | 25 | 12 | 14 | 13 |
| 27 | 47 | 30 | 12 | 10 | 222 | 87 | 52 | 35 | 21 | 11 | 14 | 15 |
| 28 | 40 | 27 | 12 | 10 | 161 | 97 | 59 | 33 | 21 | 9.5 | 13 | 15 |
| 29 | 37 | 28 | 12 | 9.8 | --- | 88 | 97 | 32 | 21 | 55 | 12 | 15 |
| 30 | 37 | 33 | 12 | 9.8 | --- | 78 | 78 | 32 | 20 | 25 | 12 | 14 |
| 31 | 47 | --- | 12 | 9.8 | --- | 71 | --- | 30 | --- | 25 | 12 | --- |
| TOTAL | 1012 | 926 | 493 | 321.4 | 3085.4 | 4483 | 3649 | 1653 | 755 | 546.5 | 476 | 408.3 |
| MEAN | 32.6 | 30.9 | 15.9 | 10.4 | 110 | 145 | 122 | 53.3 | 25.2 | 17.6 | 15.4 | 13.6 |
| MAX | 80 | 54 | 24 | 11 | 800 | 400 | 444 | 113 | 31 | 55 | 35 | 20 |
| MIN | 24 | 25 | 12 | 9.8 | 9.6 | 71 | 52 | 30 | 20 | 9.5 | 12 | 9.3 |
| CFSM | .25 | .24 | .12 | .08 | .85 | 1.12 | .95 | .41 | .20 | .14 | .12 | .11 |
| IN. | .29 | .27 | .14 | .09 | .89 | 1.29 | 1.05 | .48 | .22 | .16 | .14 | .12 |
| CAL YR 1976 | TOTAL | 32986.0 | MEAN | 90.1 | MAX | 1350 | MIN | 12 | CFSM | .70 | IN | 9.51 |
| WTR YR 1977 | TOTAL | 17808.6 | MEAN | 48.8 | MAX | 800 | MIN | 9.3 | CFSM | .38 | IN | 5.14 |

a/ About.

LITTLE MIAMI RIVER BASIN

305

03240000 LITTLE MIAMI RIVER NEAR OLDTOWN, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|------|--|---|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| DATE | TIME | | | | | | | | | | | |
| MAR 02... | 1225 | 121 | 660 | 8.2 | 3.5 | 12.2 | 92 | .5 | 370 | 98 | 87 | 36 |
| JUN 13... | 1045 | 23 | 740 | 7.9 | 18.5 | 8.0 | 85 | 1.3 | 370 | 84 | 84 | 38 |
| | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- PIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 02... | 8.7 | 2.1 | 326 | 0 | 267 | 3.3 | 42 | 29 | .2 | 7.7 | 373 | 4.4 |
| JUN 13... | 13 | 1.9 | 344 | 0 | 282 | 6.9 | 63 | 28 | .2 | 8.6 | 406 | 1.8 |
| | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 02... | .03 | .10 | .09 | 1 | 10 | 28 | 20 | 5 | 30 | .0 | 30 | 2.0 |
| JUN 13... | .01 | .05 | .17 | 2 | <10 | 4 | 10 | 0 | 20 | .3 | 10 | 7.1 |

LITTLE MIAMI RIVER BASIN

03241500 MASSIES CREEK AT WILBERFORCE, OH

LOCATION.--Lat 39°43'22", long 83°52'58", Greene County, Hydrologic Unit 05090202, on right bank 200 ft (61 m) downstream from bridge on Wilberforce-Clifton Road, 0.5 mi (0.8 km) northwest of Wilberforce, 0.6 mi (1.0 km) downstream from unnamed right bank tributary and 1.7 mi (2.7 km) upstream from Clark Run.

DRAINAGE AREA.--63.2 mi² (164 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1952 to current year. Prior to October 1962, published as Massie Creek at Wilberforce.

REVISIONS.--WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 865.15 ft (263.698 m) above mean sea level. Prior to Aug. 4, 1972 at site 150 ft (46 m) upstream at same datum.

REMARKS.--Records good except those for the winter period and no gage height record, which are fair.

AVERAGE DISCHARGE.--25 years, 58.9 ft³/s (1.668 m³/s), 12.65 in/yr (321 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,300 ft³/s (207 m³/s) Jan. 21, 1959, Mar. 4, 1963, gage height, 11.25 ft (3.429 m), from rating curve extended above 3,100 ft³/s (87.8 m³/s); minimum, 0.3 ft³/s (0.008 m³/s) Sept. 3-7, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 500 ft³/s (14.2 m³/s) July 21, gage height, 4.54 ft (1.384 m), no peak above base of 600 ft³/s (17.0 m³/s); minimum, 2.0 ft³/s (0.057 m³/s) Dec. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|--------|------|------|------|-------|-------|-------|-------|
| 1 | 9.4 | 19 | 7.8 | 4.6 | 4.4 | 70 | 33 | 28 | 11 | 13 | 19 | 3.2 |
| 2 | 8.9 | 17 | 7.8 | 4.8 | 4.4 | 64 | 99 | 28 | 11 | 8.3 | 9.9 | 2.9 |
| 3 | 7.8 | 16 | 6.5 | 4.7 | 4.4 | 62 | 169 | 27 | 11 | 6.4 | 7.3 | 6.0 |
| 4 | 7.8 | 15 | 7.4 | 4.7 | 4.4 | 216 | 128 | 30 | 10 | 5.5 | 6.1 | 16 |
| 5 | 7.8 | 13 | 6.9 | 4.7 | 4.4 | 212 | 225 | 31 | 9.8 | 5.0 | 5.4 | 11 |
| 6 | 10 | 12 | 9.2 | 4.7 | 4.4 | 135 | 149 | 31 | 12 | 4.4 | 4.9 | 7.6 |
| 7 | 10 | 12 | 9.0 | 4.7 | 4.5 | 99 | 107 | 33 | 11 | 4.5 | 5.5 | 6.2 |
| 8 | 10 | 10 | 8.6 | 4.6 | 4.7 | 76 | 85 | 30 | 10 | 6.0 | 11 | 4.6 |
| 9 | 12 | 11 | 8.4 | 4.6 | 4.9 | 65 | 68 | 27 | 13 | 4.7 | 14 | 4.1 |
| 10 | 11 | 11 | 8.2 | 4.6 | 5.2 | 56 | 60 | 25 | 10 | 4.3 | 8.2 | 4.3 |
| 11 | 11 | 10 | 8.0 | 4.6 | 5.6 | 48 | 52 | 24 | 9.4 | 4.4 | 7.6 | 3.4 |
| 12 | 10 | 10 | 7.8 | 4.6 | 6.6 | 57 | 46 | 22 | 9.7 | 4.4 | 11 | 3.4 |
| 13 | 10 | 10 | 7.6 | 4.6 | 16 | 126 | 43 | 22 | 9.0 | 4.2 | 8.2 | 3.9 |
| 14 | 9.4 | 10 | 7.4 | 4.6 | 14 | 97 | 41 | 21 | 11 | 4.0 | 17 | 8.8 |
| 15 | 9.4 | 10 | 7.2 | 4.6 | 12 | 75 | 37 | 20 | 9.8 | 3.7 | 9.7 | 5.8 |
| 16 | 9.4 | 9.4 | 7.0 | 4.7 | 11 | 60 | 34 | 19 | 8.3 | 3.7 | 7.4 | 12 |
| 17 | 8.3 | 8.9 | 6.8 | 4.8 | 10 | 50 | 33 | 18 | 7.6 | 3.9 | 6.8 | 11 |
| 18 | 8.3 | 8.9 | 7.0 | 4.8 | 9.6 | 78 | 31 | 17 | 10 | 2.9 | 5.6 | 11 |
| 19 | 7.8 | 8.9 | 6.6 | 4.7 | 9.4 | 86 | 31 | 16 | 11 | 2.9 | 5.0 | 11 |
| 20 | 12 | 8.9 | 6.2 | 4.6 | 9.0 | 74 | 29 | 15 | 9.5 | 2.6 | 4.6 | 10 |
| 21 | 12 | 8.9 | 6.0 | 4.5 | 30 | 62 | 28 | 14 | 7.6 | 59 | 5.0 | 9.5 |
| 22 | 10 | 8.9 | 5.8 | 4.5 | 120 | 86 | 28 | 13 | 7.4 | 23 | 5.1 | 8.9 |
| 23 | 10 | 7.8 | 5.6 | 4.5 | 320 | 85 | 29 | 13 | 7.9 | 7.1 | 4.9 | 8.3 |
| 24 | 19 | 8.3 | 5.4 | 4.4 | 250 | 67 | 28 | 14 | 7.4 | 5.2 | 5.9 | 7.6 |
| 25 | 26 | 8.3 | 5.2 | 4.4 | 170 | 56 | 28 | 30 | 8.4 | 6.5 | 4.9 | 7.4 |
| 26 | 22 | 10 | 5.2 | 4.4 | 130 | 49 | 27 | 20 | 10 | 6.2 | 4.2 | 7.6 |
| 27 | 17 | 11 | 5.2 | 4.4 | 100 | 44 | 25 | 16 | 7.6 | 5.7 | 3.9 | 7.4 |
| 28 | 15 | 10 | 5.2 | 4.4 | 85 | 48 | 28 | 15 | 9.2 | 5.1 | 3.7 | 7.2 |
| 29 | 14 | 8.3 | 5.0 | 4.4 | --- | 45 | 33 | 14 | 7.7 | 32 | 3.5 | 6.8 |
| 30 | 15 | 7.8 | 5.0 | 4.4 | --- | 40 | 31 | 13 | 7.3 | 20 | 3.6 | 6.4 |
| 31 | 19 | --- | 4.9 | 4.4 | --- | 36 | --- | 12 | --- | 11 | 3.5 | --- |
| TOTAL | 369.3 | 320.3 | 209.9 | 142.2 | 1353.9 | 2424 | 1785 | 658 | 284.6 | 279.6 | 222.4 | 223.3 |
| MEAN | 11.9 | 10.7 | 6.77 | 4.59 | 48.4 | 78.2 | 59.5 | 21.2 | 9.49 | 9.02 | 7.17 | 7.44 |
| MAX | 26 | 19 | 9.2 | 4.8 | 320 | 216 | 225 | 33 | 13 | 59 | 19 | 16 |
| MIN | 7.8 | 7.8 | 4.9 | 4.4 | 4.4 | 36 | 25 | 12 | 7.3 | 2.6 | 3.5 | 2.9 |
| CFSM | .19 | .17 | .11 | .07 | .77 | 1.24 | .94 | .34 | .15 | .14 | .11 | .12 |
| IN. | .22 | .19 | .12 | .08 | .80 | 1.43 | 1.05 | .39 | .17 | .16 | .13 | .13 |

CAL YR 1976 TOTAL 16133.6 MEAN 44.1 MAX 941 MIN 4.3 CFSM .70 IN 9.50
WTR YR 1977 TOTAL 6272.5 MEAN 22.7 MAX 320 MIN 2.6 CFSM .36 IN 4.87

Note: No gage height record Jan. 12 to Mar. 2.

LITTLE MIAMI RIVER BASIN

307

03241500 MASSIES CREEK AT WILBERFORCE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND | HARD- NESS | NON- CAR- BONATE HARD- NESS | DIS- SOLVED CAL- CIUM | DIS- SOLVED MAG- NE- SIUM | |
|--------------|------|--------------------------------------|--|--------------------------|------------------|--------------------------|---------------------------------|---|---------------------------------|---|--------------------------------|---|----------------------------|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | | 5 DAY | (CA,MG) | (MG/L) | (CA) | (MG) | |
| MAR 02... | 1445 | 66 | 670 | 8.2 | 5.0 | 12.4 | 97 | .9 | 360 | 110 | 86 | 35 | |
| JUN 13... | 1230 | 8.5 | 740 | 8.1 | 21.0 | 11.3 | 120 | 3.6 | 360 | 96 | 79 | 39 | |
| | | DIS- SOLVED SODIUM | DIS- SOLVED PO- TAS- SIUM | BICAR- BONATE | CAR- BONATE | ALKA- LINITY AS | CARBON DIOXIDE | DIS- SOLVED SULFATE | DIS- SOLVED CHLO- RIDE | DIS- SOLVED FLUO- RIDE | DIS- SOLVED SILICA | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) | TOTAL NITRATE |
| DATE | | (NA) | (K) | (HCO3) | (CO3) | CACO3 | (CO2) | (SO4) | (CL) | (F) | (SI02) | (MG/L) | (N) |
| | | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) |
| MAR 02... | 7.1 | 1.6 | 304 | 0 | 249 | 3.1 | 62 | 27 | .2 | 7.4 | 376 | 5.3 | |
| JUN 13... | 16 | 2.3 | 319 | 0 | 262 | 4.1 | 69 | 35 | .2 | 8.3 | 406 | 1.2 | |
| | | TOTAL NITRITE | TOTAL AMMONIA NITRO- GEN | TOTAL PHOS- PHORUS | TOTAL ARSENIC | TOTAL CHRO- MIUM | TOTAL COPPER | DIS- SOLVED IRON | TOTAL LEAD | DIS- SOLVED MAN- GANESE | TOTAL MERCURY | TOTAL ZINC | TOTAL ORGANIC CARBON |
| DATE | | (N) | (N) | (P) | (AS) | (CR) | (CU) | (FE) | (PB) | (MN) | (HG) | (ZN) | (C) |
| | | (MG/L) | (MG/L) | (MG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (MG/L) |
| MAR 02... | .05 | .14 | .09 | 1 | 20 | 5 | 20 | 5 | 30 | .0 | 20 | 3.4 | |
| JUN 13... | .02 | .27 | .31 | 3 | <10 | 5 | 20 | 0 | 20 | .0 | 30 | 6.2 | |

LITTLE MIAMI RIVER BASIN

03242050 LITTLE MIAMI RIVER NEAR SPRING VALLEY, OH

LOCATION.--Lat 39°35'00, long 84°01'49", Greene County, Hydrologic Unit 05090202, on right bank at downstream side of bridge on New Burlington Road, 0.3 mi (0.5 km) upstream from unnamed right bank tributary, 2.2 mi (3.5 km) southwest of Spring Valley, and 2.8 mi (4.5 km) downstream from Gladly Run.

DRAINAGE AREA.--366 mi² (948 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1925 to December 1935 and October 1939 to December 1951 (published as "at Spring Valley"), July 1968 to current year.

REVISED RECORDS.--WSP 893: 1932(M). WSP 1053: 1929. WSP 2108: 1969.

GAGE.--Water-stage recorder. Datum of gage is 729.29 ft (222.288 m) above mean sea level. Prior to Dec. 12, 1939 nonrecording gage and Dec. 13, 1939 to Dec. 31, 1951 water-stage recorder at site 2.5 mi (4.0 km) upstream at datum 8.6 ft (2.62 m) higher.

REMARKS.--Records good except those for winter periods, which are fair.

AVERAGE DISCHARGE.--31 years (1925-35, 1939-51, 1969-77), 379 ft³/s (10.73 m³/s), 14.06 in/yr (357 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,400 ft³/s (521 m³/s) Feb. 26, 1929, gage height, 16.8 ft (5.12 m) site and datum then in use; minimum, 23 ft³/s (0.65 m³/s) July 27, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 21, 1959 reached a stage of 18.1 ft (5.52 m) at present site and datum, discharge, 36,400 ft³/s (1,030 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,640 ft³/s (46.4 m³/s) July 29, gage height, 7.54 ft (2.298 m), no peak above base of 3,600 ft³/s (102 m³/s); minimum, 69 ft³/s (1.95 m³/s) Dec. 30, July 28, 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|-------|----------|----------|--------|----------|---------|------|------|------|------|------|
| 1 | 111 | 157 | 103 | 76 | 74 | 372 | 205 | 220 | 103 | 144 | 144 | 87 |
| 2 | 103 | 150 | 103 | 76 | 74 | 321 | 600 | 190 | 99 | 103 | 112 | 85 |
| 3 | 99 | 140 | 98 | 76 | 74 | 297 | 789 | 173 | 98 | 91 | 95 | 85 |
| 4 | 97 | 131 | 102 | 76 | 74 | 946 | 624 | 267 | 97 | 86 | 90 | 86 |
| 5 | 96 | 126 | 97 | 76 | 74 | 854 | 938 | 323 | 95 | 85 | 87 | 91 |
| 6 | 104 | 122 | 97 | 76 | 72 | 562 | 697 | 354 | 96 | 86 | 85 | 89 |
| 7 | 111 | 118 | 118 | 76 | 72 | 432 | 519 | 432 | 99 | 84 | 94 | 89 |
| 8 | 100 | 115 | 107 | 76 | 72 | 364 | 432 | 313 | 97 | 89 | 92 | 86 |
| 9 | 106 | 115 | 99 | 76 | 72 | 323 | 367 | 246 | 126 | 86 | 226 | 85 |
| 10 | 112 | 113 | 102 | 76 | 78 | 290 | 330 | 216 | 103 | 87 | 118 | 87 |
| 11 | 101 | 112 | 105 | 76 | 95 | 261 | 302 | 198 | 99 | 93 | 106 | 84 |
| 12 | 101 | 110 | 104 | 76 | 120 | 318 | 274 | 183 | 98 | 85 | 145 | 81 |
| 13 | 98 | 109 | 101 | 76 | 230 | 555 | 254 | 173 | 95 | 84 | 116 | 83 |
| 14 | 95 | 109 | 97 | 76 | 180 | 475 | 239 | 162 | 105 | 82 | 267 | 142 |
| 15 | 95 | 107 | 99 | 78 | 160 | 377 | 226 | 154 | 101 | 81 | 137 | 94 |
| 16 | 94 | 107 | 102 | 78 | 150 | 321 | 211 | 148 | 94 | 80 | 112 | 121 |
| 17 | 94 | 105 | 98 | 78 | 140 | 274 | 200 | 143 | 91 | 81 | 158 | 109 |
| 18 | 93 | 106 | 94 | 78 | 130 | 382 | 193 | 137 | 90 | 83 | 110 | 100 |
| 19 | 95 | 106 | 92 | 78 | 130 | 402 | 189 | 133 | 147 | 79 | 100 | 142 |
| 20 | 115 | 105 | 90 | 78 | 130 | 379 | 184 | 130 | 110 | 77 | 95 | 111 |
| 21 | 133 | 104 | 88 | 78 | 230 | 347 | 193 | 125 | 100 | 84 | 93 | 95 |
| 22 | 108 | 105 | 86 | 78 | 247 | 413 | 193 | 118 | 97 | 157 | 107 | 92 |
| 23 | 104 | 106 | 84 | 78 | 697 | 416 | 198 | 117 | 95 | 93 | 95 | 90 |
| 24 | 205 | 105 | 82 | 78 | 1360 | 357 | 186 | 117 | 93 | 83 | 127 | 88 |
| 25 | 184 | 104 | 80 | 78 | 1100 | 309 | 190 | 128 | 94 | 78 | 102 | 86 |
| 26 | 172 | 125 | 78 | 78 | 694 | 274 | 180 | 131 | 124 | 78 | 94 | 84 |
| 27 | 147 | 132 | 78 | 78 | 551 | 252 | 167 | 119 | 99 | 73 | 93 | 85 |
| 28 | 133 | 112 | 76 | 76 | 448 | 292 | 203 | 112 | 106 | 71 | 91 | 84 |
| 29 | 124 | 109 | 76 | 76 | --- | 274 | 290 | 108 | 93 | 430 | 87 | 84 |
| 30 | 125 | 103 | 76 | 76 | --- | 243 | 250 | 107 | 89 | 407 | 88 | 84 |
| 31 | 208 | --- | 76 | 76 | --- | 220 | --- | 106 | --- | 126 | 88 | --- |
| TOTAL | 3663 | 3468 | 2888 | 2382 | 7528 | 11902 | 9823 | 5583 | 3033 | 3446 | 3554 | 2809 |
| MEAN | 118 | 116 | 93.2 | 76.8 | 269 | 384 | 327 | 180 | 101 | 111 | 115 | 93.6 |
| MAX | 208 | 157 | 118 | 78 | 1360 | 946 | 938 | 432 | 147 | 430 | 267 | 142 |
| MIN | 93 | 103 | 76 | 76 | 72 | 220 | 167 | 106 | 89 | 71 | 85 | 81 |
| CFSM | .32 | .32 | .26 | .21 | .74 | 1.05 | .89 | .49 | .28 | .30 | .31 | .26 |
| IN. | .37 | .35 | .29 | .24 | .77 | 1.21 | 1.00 | .57 | .31 | .35 | .36 | .29 |
| CAL YR 1976 | TOTAL | 96222 | MEAN 263 | MAX 3450 | MIN 76 | CFSM .72 | IN 9.78 | | | | | |
| WTR YR 1977 | TOTAL | 60079 | MEAN 165 | MAX 1360 | MIN 71 | CFSM .45 | IN 6.11 | | | | | |

LITTLE MIAMI RIVER BASIN

309

03242050 LITTLE MIAMI RIVER NEAR SPRING VALLEY, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--September 1968 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: September 1968 to current year.

pH: September 1968 to current year.

WATER TEMPERATURES: September 1968 to current year.

DISSOLVED OXYGEN: September 1968 to current year.

INSTRUMENTATION.--Water-quality monitor.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,570 micromhos Feb. 1, 1971; minimum, 161 micromhos July 4, 1975.

pH: Maximum, 9.2 units Dec. 30, 1971; minimum, 6.6 units Nov. 29, 1972, July 11, 12, 1974.

WATER TEMPERATURES: Maximum, 34.5°C June 26, 1971; minimum, 0.0°C on many days during winter periods.

DISSOLVED OXYGEN: Maximum, 15.0 mg/L or higher Jan. 8, 9, Feb. 11, 12, 1973, Mar. 24-27, 1974; minimum, 1.0 mg/L July 29, 1974.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,050 micromhos Sept. 2; minimum, 300 micromhos July 30.

pH: Maximum recorded, 8.6 units Dec. 16; minimum recorded, 7.2 units Nov. 28.

WATER TEMPERATURES: Maximum, 29.5°C July 6, 7, 8, 19, 20; minimum, 0.0°C on many days during winter period.

DISSOLVED OXYGEN: Maximum, 14.5 mg/L Nov. 16, 17; minimum, 1.0 mg/L July 29.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|------|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| DATE | TIME | (CFS) | | (UNITS) | | | | | | | | |
| MAR 07... | 1550 | 431 | 765 | 8.2 | 5.0 | 10.2 | 80 | 2.0 | 360 | 100 | 88 | 34 |
| JUN 06... | 1230 | 92 | 907 | 8.0 | 21.0 | 7.2 | 80 | 2.8 | 380 | 81 | 91 | 37 |
| | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) |
| MAR 07... | 21 | 2.9 | 312 | 0 | 256 | 3.1 | 61 | 47 | .2 | 8.6 | 417 | 5.5 |
| JUN 06... | 50 | 3.8 | 364 | 0 | 299 | 5.8 | 61 | 83 | .2 | 11 | 517 | 2.5 |
| | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | (MG/L) | (MG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (MG/L) |
| MAR 07... | .06 | .49 | .32 | 2 | 10 | 13 | 20 | 8 | 40 | .0 | 30 | 9.2 |
| JUN 06... | .23 | .31 | 1.0 | 1 | 30 | 2 | 30 | 0 | 100 | .3 | 10 | 5.1 |

03242050 LITTLE MIAMI RIVER NEAR SPRING VALLEY, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|------|----------|------|-----------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 824 | 767 | 783 | 600 | 923 | 885 | --- | --- | --- | --- | 630 | 482 |
| 2 | 824 | 755 | 819 | 774 | 917 | 891 | --- | --- | --- | --- | 821 | 618 |
| 3 | 834 | 750 | 806 | 779 | 920 | 885 | --- | --- | --- | --- | 891 | 750 |
| 4 | 873 | 810 | 804 | 780 | 924 | 750 | 909 | 906 | --- | --- | 809 | 536 |
| 5 | 890 | 843 | 809 | 792 | 903 | 876 | 915 | 906 | --- | --- | 555 | 519 |
| 6 | 854 | 822 | 818 | 794 | 923 | 885 | 1020 | 908 | --- | --- | 671 | 557 |
| 7 | 935 | 815 | 822 | 782 | 926 | 891 | 1020 | 1010 | --- | --- | 767 | 627 |
| 8 | 867 | 813 | 812 | 788 | 999 | 900 | --- | --- | --- | --- | 761 | 728 |
| 9 | 903 | 867 | 828 | 789 | 920 | 896 | --- | --- | --- | --- | 785 | 752 |
| 10 | 930 | 797 | 834 | 795 | 921 | 891 | --- | --- | --- | --- | 806 | 768 |
| 11 | 806 | 767 | 848 | 795 | 914 | 893 | --- | --- | --- | --- | 806 | 768 |
| 12 | 860 | 795 | --- | --- | 926 | 891 | --- | --- | --- | --- | 791 | 728 |
| 13 | 906 | 840 | --- | --- | 906 | 881 | 995 | 963 | --- | --- | 675 | 620 |
| 14 | 905 | 843 | --- | --- | 900 | 879 | 978 | 941 | --- | --- | 726 | 644 |
| 15 | 858 | 843 | --- | --- | 936 | 899 | 939 | 891 | --- | --- | 753 | 726 |
| 16 | 861 | 843 | 863 | 836 | 999 | 897 | --- | --- | --- | --- | 773 | 753 |
| 17 | 870 | 855 | 870 | 839 | 992 | 954 | --- | --- | --- | --- | 788 | 750 |
| 18 | 971 | 864 | 875 | 840 | 974 | 935 | --- | --- | --- | --- | 792 | 617 |
| 19 | 911 | 879 | 882 | 863 | 995 | 948 | --- | --- | --- | --- | 704 | 648 |
| 20 | 914 | 846 | 890 | 870 | 989 | 933 | --- | --- | --- | --- | 741 | 692 |
| 21 | 854 | 701 | 885 | 855 | 975 | 936 | --- | --- | --- | --- | 750 | 696 |
| 22 | 761 | 693 | 881 | 861 | 966 | 906 | --- | --- | --- | --- | 761 | 680 |
| 23 | 819 | 764 | 879 | 860 | --- | --- | --- | --- | --- | --- | 723 | 690 |
| 24 | 819 | 552 | 890 | 866 | --- | --- | --- | --- | 435 | 324 | 717 | 684 |
| 25 | 677 | 548 | 890 | 867 | --- | --- | --- | --- | 402 | 329 | 746 | 696 |
| 26 | 749 | 681 | 894 | 855 | --- | --- | --- | --- | 444 | 405 | 767 | 732 |
| 27 | 755 | 728 | 918 | 785 | --- | --- | --- | --- | 471 | 447 | 770 | 723 |
| 28 | 782 | 720 | 807 | 774 | --- | --- | --- | --- | 479 | 462 | 777 | 702 |
| 29 | 824 | 776 | 837 | 801 | --- | --- | --- | --- | --- | --- | 768 | 708 |
| 30 | 816 | 789 | 881 | 824 | --- | --- | --- | --- | --- | --- | 762 | 738 |
| 31 | 806 | 612 | --- | --- | --- | --- | --- | --- | --- | --- | 771 | 732 |
| MONTH | 971 | 548 | 918 | 600 | 999 | 750 | 1020 | 891 | 479 | 324 | 891 | 482 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 801 | 731 | 777 | 729 | --- | --- | 969 | 852 | 873 | 752 | 1010 | 995 |
| 2 | 776 | 450 | 848 | 722 | --- | --- | 819 | 697 | 783 | 716 | 1050 | 998 |
| 3 | 599 | 503 | 816 | 750 | --- | --- | 961 | 823 | 908 | 785 | 1040 | 465 |
| 4 | 647 | 602 | 798 | 582 | --- | --- | 981 | 961 | 926 | 882 | 989 | 953 |
| 5 | 629 | 518 | 777 | 597 | --- | --- | 993 | 927 | 984 | 906 | 966 | 875 |
| 6 | 669 | 606 | 740 | 605 | 908 | 881 | 973 | 939 | 981 | 960 | 969 | 861 |
| 7 | 720 | 671 | 705 | 572 | 897 | 864 | 976 | 949 | 1010 | 953 | 1020 | 971 |
| 8 | 728 | 708 | 755 | 653 | 902 | 854 | 994 | 951 | 977 | 852 | 1020 | 975 |
| 9 | 746 | 717 | 795 | 750 | 923 | 851 | 1020 | 913 | 956 | 446 | 990 | 960 |
| 10 | 762 | 717 | 849 | 794 | 911 | 716 | 991 | 937 | 780 | 588 | 978 | 963 |
| 11 | 747 | 708 | 845 | 764 | 875 | 830 | 984 | 915 | 905 | 789 | 999 | 963 |
| 12 | 755 | 719 | 845 | 770 | 900 | 878 | 947 | 873 | 1010 | 740 | 987 | 942 |
| 13 | 773 | 737 | 830 | 788 | 891 | 863 | 966 | 914 | 854 | 725 | 987 | 963 |
| 14 | 777 | 734 | 822 | 794 | 927 | 849 | 960 | 941 | 849 | 854 | 1010 | 630 |
| 15 | 788 | 752 | 791 | 761 | 914 | 834 | 959 | 938 | 803 | 548 | 750 | 558 |
| 16 | 783 | 747 | 804 | 743 | 866 | 839 | 957 | 899 | 889 | 807 | 879 | 744 |
| 17 | 812 | 741 | 870 | 777 | 872 | 846 | 977 | 842 | 985 | 621 | 885 | 729 |
| 18 | 813 | 761 | 855 | 821 | 864 | 833 | 968 | 900 | 845 | 610 | 891 | 786 |
| 19 | 834 | 774 | 846 | 813 | 881 | 548 | 900 | 857 | 910 | 855 | 909 | 693 |
| 20 | 824 | 776 | 887 | 822 | 749 | 576 | 918 | 839 | 962 | 894 | 780 | 663 |
| 21 | 818 | 779 | 885 | 855 | 822 | 752 | 929 | 852 | 969 | 940 | 879 | 774 |
| 22 | 801 | 767 | 872 | 834 | 897 | 794 | 935 | 600 | 975 | 935 | 936 | 882 |
| 23 | 810 | 756 | 855 | 822 | 915 | 870 | 635 | 513 | 984 | 852 | 960 | 936 |
| 24 | 792 | 741 | --- | --- | 908 | 810 | 794 | 644 | 980 | 909 | 966 | 954 |
| 25 | 810 | 741 | --- | --- | 863 | 837 | 863 | 801 | 945 | 742 | 975 | 960 |
| 26 | 821 | 741 | --- | --- | 855 | 770 | 944 | 858 | 939 | 825 | 996 | 966 |
| 27 | 819 | 764 | --- | --- | 782 | 656 | 1040 | 860 | 990 | 930 | 1000 | 966 |
| 28 | 801 | 654 | --- | --- | 900 | 744 | 1020 | 992 | 1010 | 985 | 1030 | 999 |
| 29 | 686 | 468 | --- | --- | 833 | 773 | 1000 | 311 | 1000 | 974 | 1010 | 993 |
| 30 | 774 | 690 | --- | --- | 960 | 937 | 522 | 300 | 1010 | 972 | 1020 | 993 |
| 31 | --- | --- | --- | --- | --- | --- | 750 | 531 | 1020 | 1000 | --- | --- |
| MONTH | 834 | 450 | 887 | 572 | 960 | 548 | 1040 | 300 | 1020 | 446 | 1050 | 465 |
| YEAR | 1050 | 300 | | | | | | | | | | |

LITTLE MIAMI RIVER BASIN

03242050 LITTLE MIAMI RIVER NEAR SPRING VALLEY, OH--Continued

311

PH (UNITS), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|-----|-----------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 8.0 | 7.6 | 7.7 | 7.5 | 8.1 | 7.7 | --- | --- | --- | --- | --- | --- |
| 2 | 7.9 | 7.6 | 7.8 | 7.5 | 8.1 | 7.8 | --- | --- | --- | --- | --- | --- |
| 3 | 7.9 | 7.6 | 7.7 | 7.3 | 8.1 | 7.8 | --- | --- | --- | --- | --- | --- |
| 4 | 7.9 | 7.4 | 7.8 | 7.4 | 8.2 | 8.1 | 7.9 | 7.9 | --- | --- | --- | --- |
| 5 | 8.0 | 7.3 | 7.9 | 7.8 | 8.2 | 8.1 | 8.0 | 7.6 | --- | --- | --- | --- |
| 6 | 8.0 | 7.8 | 8.0 | 7.9 | 8.2 | 8.1 | 7.6 | 7.2 | --- | --- | --- | --- |
| 7 | 7.9 | 7.8 | 8.0 | 7.9 | 8.2 | 8.1 | 7.5 | 7.3 | --- | --- | --- | --- |
| 8 | 7.9 | 7.7 | 8.0 | 7.9 | 8.2 | 7.8 | --- | --- | --- | --- | 8.2 | 8.1 |
| 9 | 7.9 | 7.8 | 7.9 | 7.8 | 8.2 | 8.1 | --- | --- | --- | --- | 8.1 | 8.0 |
| 10 | 8.0 | 7.6 | 8.0 | 7.8 | 8.2 | 8.1 | --- | --- | --- | --- | 8.1 | 7.9 |
| 11 | 8.0 | 7.6 | 8.2 | 7.9 | 8.2 | 8.1 | --- | --- | --- | --- | 8.1 | 7.9 |
| 12 | 7.9 | 7.6 | --- | --- | 8.2 | 8.1 | --- | --- | --- | --- | 8.0 | 7.8 |
| 13 | 7.9 | 7.5 | --- | --- | 8.2 | 8.1 | 7.8 | 7.6 | --- | --- | 8.0 | 7.8 |
| 14 | 7.9 | 7.8 | --- | --- | 8.2 | 8.1 | 7.8 | 7.8 | --- | --- | 8.0 | 7.8 |
| 15 | 7.8 | 7.7 | --- | --- | 8.3 | 8.0 | 7.8 | 7.7 | --- | --- | 8.0 | 7.8 |
| 16 | 7.9 | 7.8 | 8.2 | 7.9 | 8.6 | 8.1 | --- | --- | --- | --- | 8.1 | 7.9 |
| 17 | 7.8 | 7.8 | 8.2 | 7.7 | 8.5 | 8.3 | --- | --- | --- | --- | 8.1 | 8.0 |
| 18 | 8.1 | 7.7 | 8.2 | 7.8 | 8.4 | 8.3 | --- | --- | --- | --- | 8.1 | 8.0 |
| 19 | 8.1 | 7.5 | 8.2 | 8.0 | 8.4 | 8.3 | --- | --- | --- | --- | 8.3 | 8.1 |
| 20 | 8.0 | 7.6 | 8.2 | 7.5 | 8.4 | 8.3 | --- | --- | --- | --- | 8.3 | 8.0 |
| 21 | 8.1 | 7.7 | 8.2 | 8.1 | 8.5 | 8.4 | --- | --- | --- | --- | 8.2 | 7.9 |
| 22 | 7.9 | 7.6 | 8.2 | 8.1 | 8.5 | 8.4 | --- | --- | --- | --- | --- | --- |
| 23 | 7.9 | 7.8 | 8.3 | 8.1 | --- | --- | --- | --- | --- | --- | --- | --- |
| 24 | 7.9 | 7.4 | 8.2 | 8.2 | --- | --- | --- | --- | --- | --- | --- | --- |
| 25 | 7.6 | 7.4 | 8.2 | 8.1 | --- | --- | --- | --- | --- | --- | --- | --- |
| 26 | 7.7 | 7.5 | 8.1 | 7.5 | --- | --- | --- | --- | --- | --- | --- | --- |
| 27 | 7.8 | 7.5 | 8.1 | 7.3 | --- | --- | --- | --- | --- | --- | --- | --- |
| 28 | 7.8 | 7.5 | 7.8 | 7.2 | --- | --- | --- | --- | --- | --- | --- | --- |
| 29 | 7.9 | 7.3 | 8.2 | 7.9 | --- | --- | --- | --- | --- | --- | --- | --- |
| 30 | 7.9 | 7.8 | 8.2 | 7.8 | --- | --- | --- | --- | --- | --- | --- | --- |
| 31 | 7.8 | 7.3 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| MONTH | 8.1 | 7.3 | 8.3 | 7.2 | 8.6 | 7.7 | 8.0 | 7.2 | --- | --- | 8.3 | 7.8 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | --- | --- | --- | --- | --- | --- | 7.8 | 7.5 | 8.4 | 8.0 | 8.1 | 7.8 |
| 2 | --- | --- | 7.8 | 7.6 | --- | --- | 7.7 | 7.4 | 8.3 | 7.9 | 8.1 | 7.8 |
| 3 | --- | --- | 7.7 | 7.3 | --- | --- | 7.7 | 7.5 | 8.0 | 7.8 | --- | --- |
| 4 | --- | --- | 7.9 | 7.3 | --- | --- | 7.8 | 7.6 | 8.1 | 7.8 | 8.1 | 7.8 |
| 5 | --- | --- | 8.3 | 7.3 | --- | --- | 8.0 | 7.6 | 8.1 | 7.9 | 8.1 | 7.8 |
| 6 | --- | --- | 8.3 | 8.1 | 7.8 | 7.7 | 8.0 | 7.7 | 8.2 | 7.9 | 8.0 | 7.8 |
| 7 | --- | --- | --- | --- | 7.8 | 7.6 | 8.1 | 7.8 | 8.3 | 8.0 | 8.1 | 7.8 |
| 8 | --- | --- | --- | --- | 7.7 | 7.6 | 8.0 | 7.8 | 8.1 | 7.9 | 8.1 | 7.9 |
| 9 | --- | --- | --- | --- | 7.7 | 7.5 | 7.9 | 7.7 | 8.0 | 7.5 | 8.1 | 7.9 |
| 10 | --- | --- | --- | --- | 7.7 | 7.4 | 7.8 | 7.6 | 8.0 | 7.9 | 8.1 | 8.0 |
| 11 | --- | --- | --- | --- | 7.7 | 7.5 | 7.8 | 7.6 | 8.1 | 7.9 | 8.2 | 8.1 |
| 12 | --- | --- | --- | --- | 7.7 | 7.5 | 7.8 | 7.6 | 8.0 | 7.9 | 8.2 | 8.1 |
| 13 | --- | --- | --- | --- | 7.7 | 7.6 | 7.9 | 7.6 | 8.0 | 7.8 | 8.2 | 8.1 |
| 14 | --- | --- | --- | --- | 7.7 | 7.6 | 8.1 | 7.7 | 8.0 | 7.7 | 8.3 | 8.0 |
| 15 | --- | --- | --- | --- | 7.7 | 7.5 | 8.1 | 7.7 | 7.7 | 7.5 | 8.1 | 7.9 |
| 16 | --- | --- | --- | --- | 7.8 | 7.5 | 8.1 | 7.7 | 7.9 | 7.7 | 8.1 | 7.8 |
| 17 | --- | --- | --- | --- | 7.8 | 7.6 | 8.2 | 7.7 | 7.8 | 7.3 | 8.0 | 7.9 |
| 18 | --- | --- | --- | --- | 7.8 | 7.6 | 8.2 | 7.8 | 7.8 | 7.6 | 8.2 | 8.0 |
| 19 | --- | --- | --- | --- | 7.7 | 7.4 | 8.4 | 7.8 | 7.8 | 7.7 | 8.2 | 8.0 |
| 20 | --- | --- | 8.0 | 7.9 | 7.7 | 7.4 | 8.4 | 7.9 | 7.9 | 7.7 | 8.1 | 7.8 |
| 21 | --- | --- | 7.9 | 7.8 | 7.7 | 7.5 | 8.2 | 7.9 | 7.8 | 7.8 | 8.0 | 7.9 |
| 22 | --- | --- | 7.9 | 7.7 | 7.6 | 7.5 | 8.0 | 7.7 | 7.9 | 7.7 | 8.1 | 7.8 |
| 23 | --- | --- | 7.8 | 7.7 | 7.6 | 7.5 | 7.8 | 7.6 | 7.9 | 7.7 | 8.0 | 7.8 |
| 24 | --- | --- | --- | --- | 7.7 | 7.5 | 8.1 | 7.8 | 7.8 | 7.7 | 8.0 | 7.9 |
| 25 | --- | --- | --- | --- | 7.7 | 7.6 | 8.3 | 8.0 | 7.9 | 7.6 | 8.1 | 7.9 |
| 26 | --- | --- | --- | --- | 7.7 | 7.5 | 8.2 | 7.9 | 7.9 | 7.7 | 8.1 | 8.0 |
| 27 | --- | --- | --- | --- | 7.7 | 7.4 | 8.1 | 7.6 | 8.0 | 7.8 | 8.1 | 8.0 |
| 28 | --- | --- | --- | --- | 7.7 | 7.5 | 7.9 | 7.6 | 8.0 | 7.8 | 8.2 | 8.1 |
| 29 | --- | --- | --- | --- | 7.8 | 7.5 | 7.8 | 7.2 | 7.9 | 7.8 | 8.2 | 8.2 |
| 30 | --- | --- | --- | --- | 7.9 | 7.6 | 7.5 | 7.2 | 8.0 | 7.8 | 8.3 | 8.1 |
| 31 | --- | --- | --- | --- | --- | --- | 7.8 | 7.4 | 8.1 | 7.8 | --- | --- |
| MONTH | --- | --- | 8.3 | 7.3 | 7.9 | 7.4 | 8.4 | 7.2 | 8.4 | 7.3 | 8.3 | 7.8 |
| YEAR | 8.6 | 7.2 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

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

03242050 LITTLE MIAMI RIVER NEAR SPRING VALLEY, OH--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|------|------|------|------|------|------|------|------|--------|------|-----------|------|
| APRIL | | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 13.0 | 9.5 | 17.5 | 14.0 | --- | --- | 25.5 | 22.0 | 24.5 | 22.5 | 27.0 | 24.0 |
| 2 | 14.0 | 12.0 | 20.0 | 16.5 | --- | --- | 25.5 | 22.0 | 24.5 | 21.0 | 27.0 | 24.5 |
| 3 | 14.0 | 12.5 | 19.5 | 18.0 | --- | --- | 24.5 | 22.0 | 24.5 | 21.5 | 26.5 | 24.5 |
| 4 | 13.0 | 11.5 | 18.5 | 18.0 | --- | --- | 26.0 | 22.0 | 25.0 | 22.5 | 25.5 | 22.5 |
| 5 | 12.0 | 8.5 | 20.5 | 18.0 | --- | --- | 28.5 | 24.5 | 26.0 | 24.0 | 25.5 | 23.5 |
| 6 | 8.5 | 7.0 | 20.5 | 19.5 | 22.0 | 20.5 | 29.5 | 26.0 | 27.0 | 24.5 | 24.5 | 23.5 |
| 7 | 9.5 | 6.0 | 19.5 | 17.5 | 20.5 | 18.0 | 29.5 | 27.0 | 26.5 | 25.0 | 22.5 | 22.5 |
| 8 | 11.0 | 9.0 | 19.0 | 17.0 | 19.0 | 17.0 | 29.5 | 26.5 | 25.5 | 23.5 | 24.5 | 21.5 |
| 9 | 11.0 | 8.5 | 17.5 | 15.0 | 20.0 | 16.0 | 28.0 | 26.5 | 24.5 | 23.0 | 23.5 | 21.5 |
| 10 | 14.0 | 9.5 | 16.5 | 13.5 | 20.5 | 16.5 | 26.0 | 24.0 | 24.5 | 23.5 | 23.0 | 21.0 |
| 11 | 17.0 | 12.5 | 17.5 | 13.5 | 20.0 | 18.5 | 25.5 | 23.0 | 25.0 | 23.5 | 21.0 | 18.5 |
| 12 | 18.5 | 15.0 | 18.0 | 15.0 | 22.0 | 18.5 | 26.0 | 24.0 | 24.0 | 22.5 | 19.0 | 17.5 |
| 13 | 19.0 | 15.5 | 20.0 | 15.5 | 22.5 | 19.5 | 28.0 | 24.0 | 23.5 | 22.0 | 20.5 | 17.5 |
| 14 | 18.5 | 16.5 | 21.0 | 18.0 | 22.5 | 21.0 | 29.0 | 25.0 | 24.5 | 21.5 | 21.0 | 19.0 |
| 15 | 17.5 | 15.5 | 22.0 | 18.5 | 24.0 | 20.5 | 29.0 | 26.5 | 25.5 | 23.0 | 20.0 | 18.5 |
| 16 | 18.5 | 15.0 | 22.5 | 19.0 | 24.5 | 21.5 | 28.5 | 27.0 | 26.0 | 23.5 | 20.5 | 19.0 |
| 17 | 19.0 | 16.5 | 23.0 | 19.5 | 26.0 | 22.5 | 29.0 | 25.5 | 25.5 | 24.0 | 22.0 | 19.5 |
| 18 | 20.0 | 16.5 | 24.0 | 20.5 | 25.0 | 23.5 | 29.0 | 26.0 | 24.0 | 21.5 | 23.0 | 20.5 |
| 19 | 19.5 | 18.0 | 25.0 | 21.5 | 24.0 | 22.5 | 29.5 | 26.5 | 22.0 | 20.0 | 22.0 | 21.0 |
| 20 | 20.5 | 17.5 | 25.5 | 22.0 | 24.5 | 22.0 | 29.5 | 26.5 | 22.0 | 19.0 | 21.0 | 18.5 |
| 21 | 20.0 | 18.0 | 25.0 | 22.0 | 24.0 | 21.0 | 29.0 | 26.5 | 21.0 | 20.0 | 18.5 | 16.5 |
| 22 | 19.0 | 18.0 | 24.0 | 22.0 | 22.5 | 19.5 | 27.5 | 25.5 | 20.0 | 19.5 | 18.0 | 15.0 |
| 23 | 18.0 | 16.5 | 23.5 | 21.5 | 21.5 | 18.5 | 26.0 | 23.0 | 22.5 | 20.0 | 19.0 | 16.5 |
| 24 | 16.5 | 15.0 | --- | --- | 22.5 | 20.5 | 26.0 | 22.5 | 22.0 | 21.0 | 19.5 | 18.5 |
| 25 | 15.0 | 12.0 | --- | --- | 24.0 | 22.0 | 26.5 | 24.5 | 21.5 | 19.0 | 20.5 | 18.5 |
| 26 | 14.0 | 11.0 | --- | --- | 26.0 | 22.0 | 25.5 | 22.5 | 22.5 | 19.5 | 21.0 | 19.0 |
| 27 | 16.0 | 11.5 | --- | --- | 25.0 | 23.0 | 24.5 | 21.5 | 24.5 | 21.5 | 20.0 | 18.0 |
| 28 | 15.5 | 13.0 | --- | --- | 25.5 | 23.0 | 24.5 | 20.5 | 26.0 | 23.0 | 18.5 | 17.0 |
| 29 | 14.0 | 11.0 | --- | --- | 26.0 | 23.0 | 24.0 | 22.0 | 25.0 | 24.0 | 18.0 | 15.5 |
| 30 | 15.5 | 12.0 | --- | --- | 24.5 | 22.0 | 24.0 | 21.5 | 25.5 | 23.5 | 18.0 | 15.5 |
| 31 | --- | --- | --- | --- | --- | --- | 25.0 | 22.0 | 26.0 | 23.0 | --- | --- |
| MONTH | 20.5 | 6.0 | 25.5 | 13.5 | 26.0 | 16.0 | 29.5 | 20.5 | 27.0 | 19.0 | 27.0 | 15.0 |
| YEAR | 29.5 | 0.0 | | | | | | | | | | |

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|---------|------|----------|------|----------|------|---------|------|----------|------|-----------|------|------|
| OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | | |
| 1 | 6.9 | 6.0 | 10.0 | 7.2 | 13.2 | 10.5 | --- | --- | --- | --- | 10.5 | 10.2 |
| 2 | 7.3 | 6.2 | 9.9 | 8.2 | 13.1 | 10.7 | --- | --- | --- | --- | 10.3 | 10.0 |
| 3 | 6.9 | 6.0 | 9.6 | 7.4 | 13.5 | 11.2 | --- | --- | --- | --- | 10.0 | 9.4 |
| 4 | 7.0 | 5.9 | 10.2 | 7.9 | 13.1 | 11.2 | 10.7 | 9.7 | --- | --- | 9.4 | 7.8 |
| 5 | 6.9 | 5.5 | 10.6 | 8.1 | 13.4 | 11.0 | 11.4 | 9.3 | --- | --- | 9.6 | 8.7 |
| 6 | 5.7 | 5.1 | 11.4 | 8.6 | 12.8 | 11.1 | 11.1 | 9.5 | --- | --- | 9.9 | 9.5 |
| 7 | 5.7 | 5.2 | 11.8 | 8.6 | 11.0 | 9.5 | 9.5 | 9.4 | --- | --- | 10.2 | 9.5 |
| 8 | 7.0 | 5.5 | 12.6 | 9.0 | 13.0 | 9.0 | --- | --- | --- | --- | 10.1 | 9.6 |
| 9 | 6.8 | 6.2 | 12.6 | 9.3 | 13.6 | 11.1 | --- | --- | --- | --- | 9.5 | 8.9 |
| 10 | 7.1 | 6.3 | 12.1 | 8.3 | 13.0 | 10.8 | --- | --- | --- | --- | 8.9 | 8.6 |
| 11 | 8.1 | 6.9 | 13.1 | 8.4 | 12.6 | 9.3 | --- | --- | --- | --- | 8.7 | 8.2 |
| 12 | 7.8 | 6.8 | --- | --- | 11.6 | 8.2 | --- | --- | --- | --- | 8.1 | 6.6 |
| 13 | 7.1 | 6.2 | --- | --- | 13.2 | 9.4 | 10.6 | 9.6 | --- | --- | 8.3 | 6.8 |
| 14 | 7.3 | 6.0 | --- | --- | 13.8 | 10.4 | 9.5 | 8.1 | --- | --- | 8.6 | 8.3 |
| 15 | 7.6 | 6.2 | --- | --- | 13.8 | 10.6 | 9.3 | 7.4 | --- | --- | 8.7 | 8.2 |
| 16 | 8.0 | 6.2 | 14.5 | 11.6 | 11.6 | 9.8 | --- | --- | --- | --- | 8.5 | 7.8 |
| 17 | 8.4 | 6.6 | 14.5 | 9.9 | 12.9 | 9.2 | --- | --- | --- | --- | 8.9 | 8.1 |
| 18 | 9.3 | 7.3 | 13.8 | 9.3 | 13.0 | 9.8 | --- | --- | --- | --- | 8.5 | 7.6 |
| 19 | 9.5 | 7.4 | 13.4 | 8.4 | 12.7 | 9.7 | --- | --- | --- | --- | 10.0 | 8.6 |
| 20 | 7.2 | 6.4 | 13.0 | 8.3 | 9.8 | 8.1 | --- | --- | --- | --- | 9.7 | 9.1 |
| 21 | 7.2 | 6.1 | 12.4 | 8.5 | 13.0 | 8.4 | --- | --- | --- | --- | 10.6 | 9.6 |
| 22 | 9.0 | 6.5 | 12.5 | 8.6 | 11.5 | 9.4 | --- | --- | --- | --- | 9.4 | 8.4 |
| 23 | 8.9 | 7.4 | 13.9 | 9.1 | --- | --- | --- | --- | --- | --- | 10.5 | 9.4 |
| 24 | 8.0 | 6.0 | 13.0 | 9.5 | --- | --- | --- | --- | 10.5 | 10.1 | 10.4 | 9.2 |
| 25 | 6.7 | 6.2 | 12.8 | 9.1 | --- | --- | --- | --- | 10.9 | 10.3 | 10.3 | 9.0 |
| 26 | 8.1 | 6.7 | 9.7 | 7.3 | --- | --- | --- | --- | 10.2 | 9.8 | 10.4 | 8.6 |
| 27 | 9.2 | 7.6 | 7.6 | 5.3 | --- | --- | --- | --- | 10.1 | 9.6 | 9.9 | 8.3 |
| 28 | 9.9 | 8.5 | 7.4 | 5.6 | --- | --- | --- | --- | 10.6 | 10.1 | 8.1 | 7.4 |
| 29 | 10.1 | 8.5 | 11.0 | 7.4 | --- | --- | --- | --- | --- | --- | 9.8 | 7.1 |
| 30 | 9.0 | 8.1 | 12.3 | 9.7 | --- | --- | --- | --- | --- | --- | 9.2 | 6.1 |
| 31 | 8.1 | 6.9 | --- | --- | --- | --- | --- | --- | --- | --- | 8.6 | 6.1 |
| MONTH | 10.1 | 5.1 | 14.5 | 5.3 | 13.8 | 8.1 | 11.4 | 7.4 | 10.9 | 9.6 | 10.6 | 6.1 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 10.5 | 7.1 | 9.0 | 6.8 | --- | --- | 7.0 | 4.4 | 5.7 | 4.4 | 9.2 | 4.6 |
| 2 | 8.2 | 5.3 | 7.8 | 6.0 | --- | --- | 6.5 | 3.7 | 5.2 | 4.9 | 9.4 | 4.6 |
| 3 | 7.4 | 6.2 | 6.6 | 5.5 | --- | --- | 6.5 | 4.1 | 5.7 | 4.5 | 9.2 | 5.7 |
| 4 | 7.4 | 7.1 | 5.4 | 4.8 | --- | --- | 6.8 | 4.4 | 6.0 | 4.3 | 8.9 | 4.9 |
| 5 | 8.7 | 6.2 | 5.8 | 5.0 | --- | --- | 7.7 | 4.1 | 7.0 | 4.3 | 8.9 | 4.6 |
| 6 | 9.6 | 8.7 | 5.9 | 5.1 | 8.7 | 6.9 | 7.8 | 4.2 | 8.8 | 4.7 | 8.0 | 4.7 |
| 7 | 10.5 | 9.2 | 6.5 | 4.5 | 8.9 | 5.3 | 8.7 | 3.9 | 9.3 | 4.8 | 9.6 | 4.8 |
| 8 | 10.6 | 9.2 | 6.7 | 6.4 | 8.1 | 5.6 | 7.4 | 3.7 | 6.0 | 4.6 | 9.5 | 5.0 |
| 9 | 10.8 | 9.5 | 7.2 | 6.8 | 7.7 | 5.3 | 6.5 | 3.2 | 5.7 | 3.3 | 10.5 | 5.1 |
| 10 | 9.8 | 8.7 | 7.5 | 7.0 | 9.5 | 4.6 | 5.7 | 3.4 | 5.5 | 5.0 | 8.8 | 5.6 |
| 11 | 9.2 | 7.6 | 7.5 | 6.9 | 7.3 | 5.4 | 7.4 | 3.5 | 6.0 | 4.5 | 8.7 | 5.9 |
| 12 | 9.3 | 6.8 | 7.3 | 6.8 | 7.8 | 5.1 | 7.7 | 3.6 | 5.3 | 4.1 | 7.8 | 6.2 |
| 13 | 9.4 | 6.6 | 6.9 | 6.2 | 8.0 | 5.2 | 8.6 | 3.9 | 5.8 | 4.6 | 8.1 | 6.0 |
| 14 | 8.7 | 6.3 | 6.5 | 6.0 | 7.2 | 5.1 | 9.6 | 4.0 | 5.8 | 4.3 | 6.4 | 4.3 |
| 15 | 8.6 | 6.3 | 6.4 | 5.7 | 8.1 | 4.4 | 9.8 | 4.0 | 5.6 | 5.0 | 7.3 | 4.4 |
| 16 | 9.4 | 6.7 | 6.6 | 5.4 | 8.4 | 5.0 | 8.2 | 4.2 | 5.7 | 4.7 | 6.5 | 5.5 |
| 17 | 8.3 | 6.1 | 6.3 | 5.4 | 8.4 | 5.0 | 11.1 | 4.2 | 5.3 | 4.0 | 6.7 | 5.0 |
| 18 | 8.7 | 6.1 | 6.7 | 5.2 | 9.0 | 4.9 | 11.5 | 4.3 | 6.1 | 4.8 | 6.7 | 5.0 |
| 19 | 7.2 | 5.7 | 6.8 | 5.0 | 5.9 | 3.5 | 9.3 | 4.2 | 6.7 | 5.3 | 5.2 | 4.5 |
| 20 | 8.1 | 5.2 | 6.8 | 4.6 | 6.6 | 4.1 | 7.4 | 4.6 | 7.0 | 5.7 | 6.1 | 4.0 |
| 21 | 7.5 | 5.3 | 6.8 | 4.5 | 6.8 | 4.5 | 9.8 | 4.1 | 6.6 | 5.6 | 6.3 | 5.1 |
| 22 | 6.9 | 5.3 | 7.1 | 4.7 | 6.2 | 4.5 | 5.6 | 2.9 | 7.0 | 5.3 | 7.2 | 5.8 |
| 23 | 7.0 | 4.6 | 6.7 | 4.8 | 7.1 | 5.0 | 5.3 | 3.6 | 7.3 | 4.9 | 6.8 | 5.4 |
| 24 | 7.9 | 5.7 | --- | --- | 7.4 | 4.5 | 6.6 | 3.9 | 5.8 | 5.0 | 6.2 | 5.0 |
| 25 | 8.1 | 6.2 | --- | --- | 7.8 | 4.8 | 6.7 | 3.8 | 7.3 | 4.5 | 6.9 | 4.8 |
| 26 | 9.8 | 7.2 | --- | --- | 6.6 | 4.2 | 6.9 | 4.4 | 7.4 | 5.8 | 6.8 | 4.7 |
| 27 | 10.3 | 7.4 | --- | --- | 7.7 | 4.0 | 9.0 | 5.9 | 7.6 | 5.4 | 6.7 | 4.8 |
| 28 | 7.4 | 6.2 | --- | --- | 6.9 | 4.0 | 10.3 | 5.2 | 8.0 | 5.1 | 6.5 | 4.7 |
| 29 | 8.8 | 4.0 | --- | --- | 7.5 | 3.8 | 7.5 | 1.0 | 7.7 | 4.9 | 7.8 | 5.1 |
| 30 | 9.5 | 7.6 | --- | --- | 9.1 | 5.0 | 4.9 | 3.9 | 8.4 | 4.9 | 7.9 | 5.6 |
| 31 | --- | --- | --- | --- | --- | --- | 5.2 | 4.6 | 8.8 | 4.7 | --- | --- |
| MONTH | 10.8 | 4.0 | 9.0 | 4.5 | 9.5 | 3.5 | 11.5 | 1.0 | 9.3 | 3.3 | 10.5 | 4.0 |
| YEAR | 14.5 | 1.0 | | | | | | | | | | |

LITTLE MIAMI RIVER BASIN

03242150 CAESAR CREEK NEAR XENIA, OH

LOCATION.--Lat 39°37'25", long 83°54'09", Greene County, Hydrologic Unit 05090202, on left bank at downstream side of bridge on Winchester Road, 0.2 mi (0.3 km) downstream from unnamed left bank tributary, 4.5 mi (7.2 km) south of Xenia, and 7.4 mi (11.9 km) upstream from Anderson Fork.

DRAINAGE AREA.--71.4 mi² (185 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 894.18 ft (272.546 m) above mean sea level.

REMARKS.--Records good except those for winter period, which are fair. Since 1964, some regulation by seasonal changes in storage in Lake Shawnee, 7.2 mi (11.6 km) upstream, drainage area 10.9 mi² (28.2 km²). Summer storage is about 1,100 acre-ft (1.36 hm³) more than winter.

AVERAGE DISCHARGE.--9 years, 74.6 ft³/s (2.113 m³/s), 14.19 in/yr (360 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,170 ft³/s (146 m³/s) July 4, 1975, gage height, 13.47 ft (4.106 m) from rating curve extended above 1,240 ft³/s (35.1 m³/s) on the basis of rating extension study; minimum daily, 0.42 ft³/s (0.012 m³/s) July 20, 21, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 24, 1968, reached a stage of 15.9 ft (4.846 m) outside, from flood mark; discharge, 12,500 ft³/s (354 m³/s) result of contracted opening estimate.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 400 ft³/s (11.33 m³/s) Feb. 23 (base 1,000 ft³/s, 28.3 m³/s); minimum daily discharge, 0.42 ft³/s (0.012 m³/s) July 20, 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|----------|------|------|--------|------|------|-------|------|-------|-------|-------|
| 1 | 2.6 | 4.2 | 3.3 | 1.4 | 1.3 | 162 | 21 | 18 | 4.2 | 2.9 | 6.2 | 1.4 |
| 2 | 2.4 | 4.2 | 3.1 | 1.4 | 1.3 | 52 | 190 | 27 | 3.4 | 3.6 | 3.9 | 1.3 |
| 3 | 2.0 | 3.9 | 3.0 | 1.4 | 1.3 | 48 | 192 | 20 | 3.1 | 3.9 | 2.0 | 1.3 |
| 4 | 2.0 | 3.4 | 3.0 | 1.4 | 1.3 | 250 | 153 | 23 | 2.9 | 2.2 | 1.4 | 1.1 |
| 5 | 1.7 | 2.9 | 3.1 | 1.4 | 1.3 | 199 | 254 | 39 | 2.4 | 1.7 | 1.5 | 1.2 |
| 6 | 1.7 | 2.6 | 3.1 | 1.4 | 1.3 | 124 | 134 | 60 | 2.4 | 1.5 | 1.7 | 1.2 |
| 7 | 2.0 | 2.4 | 3.1 | 1.4 | 1.3 | 92 | 110 | 150 | 2.4 | 2.2 | 2.4 | 1.2 |
| 8 | 2.2 | 2.4 | 3.2 | 1.4 | 1.4 | 75 | 83 | 83 | 2.6 | 3.4 | 3.6 | 1.2 |
| 9 | 2.9 | 2.4 | 3.1 | 1.4 | 1.5 | 67 | 63 | 51 | 2.9 | 3.4 | 4.7 | 1.2 |
| 10 | 3.4 | 2.4 | 3.0 | 1.4 | 1.7 | 41 | 55 | 32 | 2.9 | 4.9 | 6.2 | 1.1 |
| 11 | 2.9 | 2.9 | 2.8 | 1.4 | 3.5 | 31 | 46 | 26 | 2.9 | 4.6 | 2.9 | 1.1 |
| 12 | 3.1 | 2.9 | 2.6 | 1.4 | 20 | 42 | 39 | 21 | 2.9 | 2.2 | 9.8 | 1.1 |
| 13 | 2.4 | 2.9 | 2.4 | 1.4 | 32 | 118 | 35 | 19 | 2.9 | 2.0 | 7.1 | .83 |
| 14 | 2.4 | 2.9 | 2.3 | 1.4 | 20 | 78 | 32 | 16 | 3.1 | 1.4 | 4.7 | 1.6 |
| 15 | 2.4 | 4.4 | 2.2 | 1.4 | 16 | 58 | 30 | 16 | 2.9 | 1.2 | 2.6 | 1.7 |
| 16 | 2.0 | 113 | 2.1 | 1.4 | 14 | 44 | 32 | 14 | 2.4 | 1.1 | 10 | 6.0 |
| 17 | 2.0 | 99 | 2.1 | 1.4 | 13 | 34 | 32 | 10 | 2.0 | 1.1 | 7.0 | 9.6 |
| 18 | 2.0 | 85 | 2.0 | 1.4 | 12 | 73 | 32 | 9.2 | 1.7 | 1.4 | 5.3 | 5.4 |
| 19 | 2.0 | 70 | 2.2 | 1.3 | 11 | 75 | 31 | 8.6 | 1.7 | 1.5 | 3.5 | 3.7 |
| 20 | 3.4 | 58 | 2.5 | 1.3 | 10 | 61 | 27 | 7.5 | 2.6 | .42 | 2.6 | 3.6 |
| 21 | 5.3 | 47 | 3.0 | 1.3 | 20 | 49 | 19 | 6.6 | 2.4 | .42 | 2.4 | 3.6 |
| 22 | 5.3 | 39 | 2.5 | 1.3 | 55 | 78 | 17 | 6.2 | 2.0 | 2.9 | 2.8 | 3.2 |
| 23 | 4.9 | 31 | 2.1 | 1.3 | 400 | 73 | 23 | 5.7 | 2.0 | 4.9 | 2.8 | 2.6 |
| 24 | 6.6 | 26 | 1.9 | 1.3 | 340 | 54 | 24 | 5.3 | 2.0 | 2.6 | 2.8 | 2.3 |
| 25 | 10 | 22 | 1.8 | 1.3 | 150 | 44 | 24 | 5.3 | 2.2 | 1.8 | 2.8 | 1.7 |
| 26 | 6.6 | 21 | 1.7 | 1.3 | 100 | 37 | 19 | 5.3 | 2.2 | 1.4 | 2.6 | 1.7 |
| 27 | 4.9 | 18 | 1.6 | 1.3 | 85 | 32 | 14 | 4.9 | 1.7 | .82 | 2.1 | 1.7 |
| 28 | 3.6 | 15 | 1.5 | 1.3 | 72 | 40 | 19 | 4.9 | 2.9 | .74 | 1.8 | 1.7 |
| 29 | 3.1 | 14 | 1.5 | 1.3 | --- | 40 | 37 | 4.6 | 2.0 | .66 | 1.4 | 1.7 |
| 30 | 2.6 | 3.6 | 1.4 | 1.3 | --- | 33 | 21 | 4.6 | 1.7 | .82 | 1.4 | 1.7 |
| 31 | 2.9 | --- | 1.4 | 1.3 | --- | 26 | --- | 4.9 | --- | 2.4 | 1.4 | --- |
| TOTAL | 103.3 | 748.0 | 74.6 | 42.1 | 1387.2 | 2230 | 1808 | 708.6 | 75.4 | 92.18 | 221.4 | 68.73 |
| MEAN | 3.33 | 24.9 | 2.41 | 1.36 | 49.5 | 71.9 | 60.3 | 22.9 | 2.51 | 2.97 | 7.14 | 2.29 |
| MAX | 10 | 113 | 3.3 | 1.4 | 400 | 250 | 254 | 150 | 4.2 | 2.9 | 4.7 | 9.6 |
| MIN | 1.7 | 2.4 | 1.4 | 1.3 | 1.3 | 26 | 14 | 4.6 | 1.7 | .42 | 1.4 | .83 |
| CFSM | .05 | .35 | .03 | .02 | .69 | 1.01 | .85 | .32 | .04 | .04 | .10 | .03 |
| IN. | .05 | .39 | .04 | .02 | .72 | 1.16 | .94 | .37 | .04 | .05 | .12 | .04 |
| CAL YR 1976 | TOTAL | 17597.80 | MEAN | 48.1 | MAX | 1710 | MIN | 1.2 | CFSM | .67 | IN | 9.17 |
| WTR YR 1977 | TOTAL | 7559.51 | MEAN | 20.7 | MAX | 400 | MIN | .42 | CFSM | .29 | IN | 3.94 |

LITTLE MIAMI RIVER BASIN

315

03242150 CAESAR CREEK NEAR XENIA, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND | HARD- NESS | NON- CAR- BONATE HARD- NESS | DIS- SOLVED CAL- CIUM | DIS- SOLVED MAG- NE- SIUM |
|--------------|------|---------------------------------------|--|------------------|------------------------|--------------------------|---------------------------------|---|----------------------------------|---|--|---------------------------------------|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | | 5 DAY | (CA+MG) | (MG/L) | (CA) | (MG/L) |
| MAR 03... | 1250 | 47 | 575 | 7.7 | 3.0 | 11.6 | 86 | 1.0 | 300 | 68 | 67 | 32 |
| JUN 14... | 1445 | 3.6 | 645 | 7.7 | 21.5 | 7.9 | 89 | 2.5 | 310 | 65 | 68 | 34 |
| | | DIS- SOLVED PO- TAS- SIUM | BICAR- BONATE | CAR- BONATE | ALKA- LINITY AS | CARBON DIOXIDE | DIS- SOLVED SULFATE | DIS- SOLVED CHLO- RIDE | DIS- SOLVED FLUO- RIDE | DIS- SOLVED SILICA | DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) | TOTAL NITRATE |
| DATE | | (NA) | (HCO3) | (CO3) | (MG/L) | (CO2) | (SO4) | (CL) | (F) | (SI02) | (MG/L) | (N) |
| MAR 03... | 11 | 2.2 | 282 | 0 | 231 | 9.0 | 48 | 30 | .2 | 5.7 | 335 | 2.9 |
| JUN 14... | 11 | 2.4 | 298 | 0 | 244 | 9.5 | 43 | 27 | .2 | 6.8 | 339 | .65 |
| | | TOTAL AMMONIA NITRO- GEN | TOTAL PHOS- PHORUS | TOTAL ARSENIC | TOTAL CHRO- MIUM | TOTAL COPPER | DIS- SOLVED IRON | TOTAL LEAD | DIS- SOLVED MAN- GANESE | TOTAL MERCURY | TOTAL ZINC | TOTAL ORGANIC CARBON |
| DATE | | (N) | (P) | (AS) | (UG/L) | (UG/L) | (FE) | (PB) | (MN) | (HG) | (ZN) | (C) |
| MAR 03... | .03 | .39 | .09 | 1 | 40 | 4 | 20 | 1 | 70 | .0 | 40 | 8.2 |
| JUN 14... | .01 | .08 | .08 | 2 | <10 | 5 | 40 | 0 | 20 | .4 | 20 | 4.9 |

LITTLE MIAMI RIVER BASIN

03242200 ANDERSON FORK NEAR NEW BURLINGTON, OH

LOCATION.--Lat 39°33'59", long 83°54'10", Greene County, Hydrologic Unit 05090202, on right bank at downstream side of bridge on Old Winchester Trail, 1.0 mi (1.6 km) downstream from Painters Run, 3.4 mi (5.5 km) east of New Burlington, and 5.0 mi (8.0 km) upstream from mouth.

DRAINAGE AREA.--77.8 mi² (202 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 883.67 ft (269.343 m) above mean sea level.

REMARKS.--Records good except those for winter periods, which are fair.

AVERAGE DISCHARGE.--9 years, 79.2 ft³/s (2.243 m³/s), 13.82 in/yr (351 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,510 ft³/s (156 m³/s) Feb. 24, 1975, gage height, 12.76 ft (3.889 m); minimum, 0.08 ft³/s (0.002 m³/s) Sept. 24, 25, 1970.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 24, 1968 reached a stage of 15.7 ft (4.785 m), present datum, from floodmarks, discharge about 9,400 ft³/s (266 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 452 ft³/s (12.8 m³/s) Feb. 24, gage height, 6.15 ft (1.875 m), no peak above base of 1,000 ft³/s (28.3 m³/s); minimum, 0.45 ft³/s (0.013 m³/s) Feb. 6-9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------------|----------|------|------|-----------|----------|---------|----------|---------|-------|-------|-------|-------|
| 1 | 1.7 | 4.2 | 1.7 | .96 | .46 | 59 | 25 | 43 | 18 | 12 | 3.1 | 1.8 |
| 2 | 1.4 | 4.4 | 1.5 | .94 | .46 | 45 | 131 | 80 | 14 | 12 | 2.7 | 1.5 |
| 3 | 1.2 | 4.2 | 1.4 | .90 | .46 | 45 | 210 | 95 | 12 | 10 | 2.1 | 1.4 |
| 4 | 1.1 | 3.7 | 1.3 | .86 | .46 | 293 | 141 | 75 | 8.5 | 7.5 | 1.8 | 1.3 |
| 5 | .99 | 3.5 | 1.3 | .82 | .46 | 223 | 187 | 109 | 7.8 | 6.5 | 1.7 | 1.4 |
| 6 | 1.5 | 3.0 | 1.3 | .80 | .45 | 131 | 140 | 126 | 7.4 | 5.6 | 1.3 | 1.8 |
| 7 | 2.3 | 3.0 | 1.4 | .76 | .45 | 92 | 110 | 193 | 7.4 | 4.9 | 1.1 | 1.8 |
| 8 | 2.0 | 2.8 | 1.4 | .74 | .45 | 67 | 87 | 217 | 7.0 | 5.1 | 2.3 | 1.5 |
| 9 | 1.8 | 2.6 | 1.4 | .70 | .45 | 55 | 66 | 123 | 8.1 | 5.2 | 2.2 | 1.3 |
| 10 | 1.7 | 2.3 | 1.4 | .68 | .60 | 45 | 57 | 84 | 8.1 | 7.0 | 1.6 | 1.7 |
| 11 | 1.6 | 2.3 | 1.3 | .66 | 2.0 | 37 | 48 | 64 | 6.7 | 6.2 | 3.0 | 1.4 |
| 12 | 1.6 | 2.3 | 1.3 | .64 | 18 | 43 | 40 | 52 | 6.4 | 5.2 | 8.2 | 1.2 |
| 13 | 2.0 | 3.7 | 1.3 | .62 | 16 | 123 | 37 | 43 | 6.4 | 4.3 | 7.0 | 1.1 |
| 14 | 1.8 | 4.2 | 1.2 | .60 | 14 | 95 | 36 | 39 | 90 | 3.9 | 6.5 | 1.7 |
| 15 | 1.7 | 4.0 | 1.2 | .58 | 13 | 67 | 31 | 34 | 81 | 3.4 | 24 | 1.6 |
| 16 | 1.6 | 4.0 | 1.2 | .56 | 12 | 52 | 27 | 28 | 39 | 3.0 | 13 | 9.8 |
| 17 | 1.6 | 3.5 | 1.2 | .55 | 12 | 40 | 25 | 25 | 26 | 30 | 11 | 18 |
| 18 | 1.5 | 2.8 | 1.3 | .54 | 11 | 111 | 23 | 23 | 24 | 9.2 | 60 | 17 |
| 19 | 1.4 | 2.3 | 1.4 | .53 | 10 | 135 | 22 | 19 | 67 | 5.2 | 24 | 12 |
| 20 | 1.8 | 2.1 | 1.6 | .52 | 10 | 95 | 18 | 17 | 27 | 3.9 | 12 | 8.9 |
| 21 | 4.4 | 2.1 | 2.0 | .51 | 20 | 72 | 18 | 16 | 19 | 3.2 | 7.8 | 8.3 |
| 22 | 5.2 | 2.0 | 1.8 | .50 | 68 | 104 | 16 | 14 | 14 | 3.9 | 6.7 | 6.4 |
| 23 | 4.2 | 1.8 | 1.6 | .50 | 333 | 95 | 17 | 16 | 13 | 2.8 | 5.3 | 5.1 |
| 24 | 7.4 | 1.7 | 1.5 | .50 | 359 | 70 | 22 | 14 | 11 | 2.9 | 5.2 | 4.4 |
| 25 | 9.3 | 1.7 | 1.4 | .50 | 228 | 55 | 23 | 13 | 10 | 2.6 | 5.1 | 3.8 |
| 26 | 7.0 | 2.0 | 1.3 | .48 | 140 | 47 | 22 | 12 | 9.8 | 2.2 | 5.4 | 3.7 |
| 27 | 5.8 | 2.3 | 1.2 | .48 | 108 | 41 | 19 | 12 | 8.2 | 1.9 | 5.0 | 3.3 |
| 28 | 4.7 | 2.6 | 1.2 | .47 | 75 | 43 | 33 | 11 | 7.8 | 1.6 | 3.8 | 2.9 |
| 29 | 3.3 | 3.7 | 1.1 | .47 | --- | 41 | 94 | 10 | 9.7 | 1.5 | 3.2 | 2.7 |
| 30 | 2.8 | 2.5 | 1.0 | .47 | --- | 35 | 57 | 64 | 9.1 | 1.5 | 2.6 | 2.4 |
| 31 | 3.3 | --- | 1.0 | .46 | --- | 31 | --- | 30 | --- | 1.6 | 1.9 | --- |
| TOTAL | 89.69 | 87.3 | 42.2 | 19.30 | 1453.70 | 2487 | 1782 | 1701 | 583.4 | 175.8 | 240.6 | 131.2 |
| MEAN | 2.89 | 2.91 | 1.36 | .62 | 51.9 | 80.2 | 59.4 | 54.9 | 19.4 | 5.67 | 7.76 | 4.37 |
| MAX | 9.3 | 4.4 | 2.0 | .96 | 359 | 293 | 210 | 217 | 90 | 30 | 60 | 18 |
| MIN | .99 | 1.7 | 1.0 | .46 | .45 | 31 | 16 | 10 | 6.4 | 1.5 | 1.1 | 1.1 |
| CFSM | .04 | .04 | .02 | .008 | .67 | 1.03 | .76 | .71 | .25 | .07 | .10 | .06 |
| IN. | .04 | .04 | .02 | .01 | .70 | 1.19 | .85 | .81 | .28 | .08 | .12 | .06 |
| CAL YR 1976 TOTAL | 15177.12 | | | MEAN 41.5 | MAX 1750 | MIN .72 | CFSM .53 | IN 7.26 | | | | |
| WTR YR 1977 TOTAL | 8793.19 | | | MEAN 24.1 | MAX 359 | MIN .45 | CFSM .31 | IN 4.20 | | | | |

LITTLE MIAMI RIVER BASIN

317

03242200 ANDERSON FORK NEAR NEW BURLINGTON, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | |
|--------------|------|---|--|---|------------------------------------|--|--------------------------------------|--|---|--|--|---|---|
| | | | | | | | | | | | | | |
| MAR 03... | 1015 | 40 | 650 | 7.7 | 2.5 | 12.0 | 88 | .5 | 340 | 91 | 80 | 33 | |
| JUN 20... | 1430 | 27 | 665 | 8.1 | 25.5 | 7.7 | 94 | 1.5 | 310 | 120 | 72 | 31 | |
| DATE | | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 03... | 19 | 1.9 | 298 | 0 | 244 | 9.5 | 60 | 48 | .2 | 6.8 | 396 | 4.6 | |
| JUN 20... | 9.5 | 2.0 | 232 | 0 | 190 | 2.9 | 49 | 30 | .2 | 8.4 | 317 | 12 | |
| DATE | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 03... | .03 | .12 | .06 | 0 | 40 | 2 | 20 | 3 | 20 | .0 | 20 | 2.6 | |
| JUN 20... | .05 | .03 | .16 | 2 | 10 | 4 | 20 | 8 | 10 | .1 | 40 | 7.8 | |

LITTLE MIAMI RIVER BASIN

03245500 LITTLE MIAMI RIVER AT MILFORD, OH

NATIONAL STREAM-QUALITY ACCOUNTING NETWORK STATION

LOCATION.--Lat 39°10'17", long 84°17'53", Clermont County, Hydrologic Unit 05090202, on right bank 500 ft (152 m) downstream from Wooster Pike Bridge on U.S. Highway 50 in Milford, 1.2 mi (1.9 km) upstream from East Fork, and 6.4 mi (10.3 km) downstream from North Branch Creek.

DRAINAGE AREA.--1,203 mi² (3,116 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1915 to September 1917, October 1917 to May 1920 (gage heights only), March 1925 to September 1936, October 1938 to current year. Monthly discharge only for some periods, published in WSP 1305, published as "at Miamiville" 1915-20.

REVISED RECORDS.--WSP 728: 1931. WSP 743: 1932. WSP 873: 1925-36. WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 499.35 ft (152.202 m) above mean sea level, adjustment of 1912. June 22, 1915, to May 14, 1920, nonrecording gage at site 4 mi (6 km) upstream at different datum. Mar. 11, 1925, to Aug. 16, 1928, nonrecording gage at bridge 500 ft (152 m) upstream at datum 0.72 ft (0.219 m) higher.

REMARKS.--Records good except those for winter periods, which are fair. Some regulation since 1948 by Cowan Lake, capacity, 12,000 acre-ft (14.8 hm³), 45 mi (72 km) upstream on Cowan Creek, tributary to Todd Fork, and Caesar Creek Reservoir capacity 242,200 acre-ft (298.6 hm³) 41.3 mi (66.4 km) upstream on Caesar Creek. Annual figures of runoff are considered to be within 10 percent of natural yield.

AVERAGE DISCHARGE.--52 years, (1915-17, 1925-36, 1938-77), 1,217 ft³/s (34.47 m³/s), 13.74 in/yr (349 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 84,100 ft³/s (2,380 m³/s) Jan. 22, 1959, gage height, 22.30 ft (6.797 m), from rating curve extended above 60,000 ft³/s (1,700 m³/s) on basis of slope-area measurement of peak flow; minimum observed, 27 ft³/s (0.76 m³/s) Sept. 18, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 25.5 ft (7.77 m), present datum, from information by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,320 ft³/s (207 m³/s) Mar. 4 (base, 15,000 ft³/s, 425 m³/s), gage height, 5.39 ft (1.643 m); minimum daily discharge, 86 ft³/s (2.43 m³/s) Jan. 8-17, Feb. 4-10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|----------|-----------|--------|----------|---------|-------|------|------|------|------|
| 1 | 194 | 371 | 190 | 90 | 88 | 1020 | 450 | 653 | 229 | 613 | 221 | 116 |
| 2 | 174 | 314 | 180 | 90 | 88 | 887 | 1350 | 2240 | 212 | 393 | 194 | 113 |
| 3 | 159 | 276 | 170 | 90 | 88 | 936 | 4600 | 1270 | 194 | 272 | 200 | 134 |
| 4 | 144 | 252 | 160 | 92 | 86 | 5890 | 2520 | 978 | 181 | 208 | 156 | 111 |
| 5 | 135 | 230 | 150 | 96 | 86 | 3970 | 4550 | 2340 | 174 | 174 | 131 | 109 |
| 6 | 144 | 220 | 160 | 90 | 86 | 2100 | 3090 | 2370 | 170 | 153 | 119 | 109 |
| 7 | 153 | 213 | 174 | 88 | 86 | 1420 | 2020 | 4010 | 161 | 139 | 114 | 111 |
| 8 | 150 | 197 | 174 | 86 | 86 | 1120 | 1490 | 3160 | 161 | 130 | 355 | 108 |
| 9 | 150 | 187 | 184 | 86 | 86 | 762 | 1180 | 1570 | 234 | 120 | 284 | 108 |
| 10 | 144 | 181 | 184 | 86 | 86 | 807 | 978 | 1060 | 226 | 202 | 261 | 101 |
| 11 | 147 | 181 | 184 | 86 | 110 | 719 | 867 | 828 | 222 | 351 | 312 | 98 |
| 12 | 153 | 178 | 181 | 86 | 250 | 880 | 775 | 688 | 202 | 254 | 700 | 98 |
| 13 | 141 | 174 | 181 | 86 | 700 | 2410 | 688 | 591 | 184 | 239 | 384 | 96 |
| 14 | 135 | 171 | 171 | 86 | 960 | 1710 | 641 | 522 | 224 | 176 | 300 | 97 |
| 15 | 129 | 168 | 165 | 86 | 600 | 1210 | 596 | 470 | 255 | 151 | 379 | 118 |
| 16 | 124 | 168 | 159 | 86 | 520 | 957 | 558 | 428 | 336 | 132 | 324 | 207 |
| 17 | 121 | 170 | 159 | 86 | 460 | 788 | 516 | 391 | 256 | 120 | 731 | 190 |
| 18 | 121 | 200 | 162 | 88 | 440 | 3750 | 492 | 369 | 209 | 123 | 634 | 230 |
| 19 | 119 | 260 | 159 | 90 | 420 | 2670 | 468 | 351 | 197 | 162 | 359 | 239 |
| 20 | 141 | 300 | 159 | 90 | 400 | 1620 | 450 | 335 | 249 | 151 | 278 | 213 |
| 21 | 184 | 260 | 160 | 90 | 390 | 1330 | 433 | 319 | 252 | 202 | 218 | 212 |
| 22 | 194 | 240 | 140 | 90 | 380 | 1650 | 428 | 302 | 225 | 114 | 203 | 174 |
| 23 | 190 | 220 | 130 | 90 | 550 | 1700 | 433 | 283 | 225 | 131 | 190 | 156 |
| 24 | 346 | 210 | 120 | 90 | 3300 | 1220 | 628 | 279 | 194 | 172 | 236 | 135 |
| 25 | 428 | 200 | 110 | 90 | 3800 | 915 | 801 | 287 | 302 | 187 | 211 | 127 |
| 26 | 411 | 210 | 110 | 90 | 2240 | 719 | 664 | 260 | 1120 | 156 | 221 | 118 |
| 27 | 277 | 240 | 100 | 90 | 1600 | 628 | 540 | 262 | 383 | 117 | 175 | 108 |
| 28 | 266 | 220 | 98 | 88 | 1290 | 622 | 474 | 240 | 337 | 102 | 152 | 101 |
| 29 | 234 | 210 | 96 | 88 | --- | 694 | 775 | 225 | 439 | 98 | 141 | 93 |
| 30 | 241 | 200 | 94 | 88 | --- | 615 | 833 | 212 | 273 | 421 | 130 | 91 |
| 31 | 367 | --- | 92 | 88 | --- | 516 | --- | 201 | --- | 413 | 120 | --- |
| TOTAL | 6016 | 6621 | 4656 | 2746 | 19276 | 46235 | 34288 | 27494 | 8026 | 6376 | 8433 | 4021 |
| MEAN | 194 | 221 | 150 | 88.6 | 688 | 1491 | 1143 | 887 | 268 | 206 | 272 | 134 |
| MAX | 428 | 371 | 190 | 96 | 3800 | 5890 | 4600 | 4010 | 1120 | 613 | 731 | 239 |
| MIN | 119 | 168 | 92 | 86 | 86 | 516 | 428 | 201 | 161 | 98 | 114 | 91 |
| CFSM | .16 | .18 | .13 | .07 | .57 | 1.24 | .95 | .74 | .22 | .17 | .23 | .11 |
| IN. | .19 | .20 | .14 | .08 | .60 | 1.43 | 1.06 | .85 | .25 | .20 | .26 | .12 |
| CAL YR 1976 | TOTAL | 278587 | MEAN 761 | MAX 15900 | MIN 89 | CFSM .63 | IN 8.61 | | | | | |
| WTR YR 1977 | TOTAL | 174188 | MEAN 477 | MAX 5890 | MIN 86 | CFSM .40 | IN 5.39 | | | | | |

LITTLE MIAMI RIVER BASIN

319

03245500 LITTLE MIAMI RIVER AT MILFORD, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1965 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1975 to current year.

pH: May 1975 to current year.

WATER TEMPERATURES: May 1975 to current year.

DISSOLVED OXYGEN: May 1975 to current year.

SUSPENDED SEDIMENT DISCHARGE: January 1975 to current year (periodic).

INSTRUMENTATION.--Water-quality monitor since May 1975. Prior to May 1975, sampling site was 4.2 mi (6.76 km) upstream.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. Dissolved oxygen concentrations listed as 15.0 mg/L represent concentrations of 15.0 mg/L or higher due to instrument limitations.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,200 micromhos Feb. 12, 1977; minimum, 197 micromhos July 4, 1975.

pH: Maximum, 9.3 units June 10, 1977; minimum, 7.2 units Aug. 20, 1975, July 21, 1977.

WATER TEMPERATURES: Maximum, 33.0°C July 8, 18, 20, 1977; minimum, 0.0°C on many days during winter periods.

DISSOLVED OXYGEN: Maximum, 15.0 mg/L or higher on many days during 1976 and 1977; minimum, 3.8 mg/L July 21, 1977.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,200 micromhos Feb. 12; minimum, 374 micromhos Mar. 18.

pH: Maximum, 9.3 units June 10; minimum, 7.2 units July 21.

WATER TEMPERATURES: Maximum, 33.0°C July 8, 18, 20; minimum, 0.0°C on many days during winter period.

DISSOLVED OXYGEN: Maximum, 15.0 mg/L on many days during December, May to July; minimum, 3.8 mg/L July 21.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | TURBIDITY (JTU) | DISSOLVED OXYGEN (MG/L) | PERCENT SATURATION | FECAL COLIFORM (7UM-MF (COL./100 ML) | FECAL STREPTOCOCCI (COL. PER 100 ML) | HARDNESS (CA,MG) (MG/L) |
|-----------|------|-------------------------------|----------------------------------|------------|---------------------|-----------------|-------------------------|--------------------|--------------------------------------|--------------------------------------|-------------------------|
| OCT 13... | 1030 | 168 | 885 | 8.2 | 15.0 | 9 | 8.8 | 86 | 18 | 200 | 390 |
| NOV 09... | 1130 | 187 | 800 | 8.9 | 5.0 | -- | 13.3 | 100 | 2 | 4 | -- |
| DEC 06... | 1500 | 159 | 825 | 8.2 | 1.0 | -- | 13.0 | 93 | 14 | 14 | -- |
| JAN 12... | 1600 | 86 | 1060 | 8.1 | .0 | -- | 10.9 | 75 | 14 | 130 | -- |
| FEB 10... | 1000 | 86 | 1040 | 7.7 | .0 | 5 | 10.3 | 70 | 27 | 130 | 390 |
| MAR 08... | 1600 | 1120 | 680 | 8.2 | 6.5 | -- | 11.5 | 94 | 28 | 350 | -- |
| APR 05... | 1600 | 4700 | 505 | 8.0 | 10.0 | 85 | 10.0 | 88 | 3000 | 17000 | 220 |
| MAY 04... | 0930 | 978 | 580 | 8.1 | 18.0 | -- | 7.4 | 78 | 1200 | 780 | -- |
| JUN 02... | 1530 | 210 | 750 | 8.9 | 26.0 | -- | 17.0 | 210 | 2500 | 290 | -- |
| JUL 12... | 1600 | 280 | 570 | 8.4 | 27.0 | 1 | 10.5 | 130 | 1200 | 1700 | 240 |
| AUG 09... | 1430 | 252 | 520 | 7.8 | 26.0 | -- | 7.2 | 88 | 3200 | 2600 | -- |
| SEP 20... | 1130 | 213 | 860 | 8.1 | 22.5 | -- | 6.9 | 78 | 1300 | 310 | -- |

LITTLE MIAMI RIVER BASIN

03245500 LITTLE MIAMI RIVER AT MILFORD, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) |
|-----------|--------------------------------|---------------------------------|---|--|---------------------------------------|------------------------------------|---------------------------|-----------------------------|-----------------------------|---------------------------------|------------------------------------|
| OCT 13... | 110 | 98 | 35 | 50 | 4.1 | 342 | 0 | 281 | 3.5 | 61 | 90 |
| NOV 09... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DEC 06... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JAN 12... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| FEB 10... | 85 | 97 | 37 | 63 | 4.3 | 377 | 0 | 309 | 12 | 78 | 100 |
| MAR 08... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| APR 05... | 75 | 58 | 19 | 14 | 3.2 | 180 | 0 | 150 | 2.9 | 49 | 31 |
| MAY 04... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUN 02... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 12... | 63 | 63 | 21 | 29 | 3.5 | 220 | 0 | 180 | 1.4 | 42 | 48 |
| AUG 09... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| SEP 20... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DATE | DIS-SOLVED FLUORIDE (F) (MG/L) | DIS-SOLVED SILICA (SiO2) (MG/L) | DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L) | DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL KjELDAHL NITROGEN (N) (MG/L) | TOTAL NITROGEN (N) (MG/L) | TOTAL NITROGEN (NO3) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | TOTAL PHYTOPLANKTON (CELLS PER ML) |
| OCT 13... | .3 | 7.0 | 527 | 514 | 2.1 | .75 | 2.9 | 13 | .85 | 4.3 | 5800 |
| NOV 09... | -- | -- | -- | -- | 1.7 | .48 | 2.2 | 9.7 | .53 | -- | 450 |
| DEC 06... | -- | -- | -- | -- | 2.1 | .83 | 2.9 | 13 | .80 | -- | 4100 |
| JAN 12... | -- | -- | -- | -- | 3.5 | 1.8 | 5.3 | 23 | 1.3 | -- | 3500 |
| FEB 10... | .3 | 6.6 | 630 | 572 | 3.0 | 2.4 | 5.4 | 24 | 1.5 | 4.4 | 12000 |
| MAR 08... | -- | -- | -- | -- | 5.4 | 1.0 | 6.4 | 28 | .27 | -- | 1500 |
| APR 05... | .2 | 6.3 | 323 | 270 | 3.3 | 1.9 | 5.2 | 23 | .32 | 8.0 | 1400 |
| MAY 04... | -- | -- | -- | -- | 2.6 | 1.0 | 3.6 | 16 | .32 | -- | 22000 |
| JUN 02... | -- | -- | -- | -- | .00 | 1.6 | 1.6 | 7.1 | .50 | -- | 65000 |
| JUL 12... | .2 | 1.2 | 342 | 316 | .38 | 1.4 | 1.8 | 7.9 | .43 | 4.7 | -- |
| AUG 09... | -- | -- | -- | -- | .91 | 2.1 | 3.0 | 13 | .58 | -- | -- |
| SEP 20... | -- | -- | -- | -- | 2.1 | 1.0 | 3.1 | 14 | .90 | -- | -- |

LITTLE MIAMI RIVER BASIN

321

03245500 LITTLE MIAMI RIVER AT MILFORD, OH--Continued

ANALYSES OF MINOR ELEMENTS

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | TOTAL ARSENIC (AS) (UG/L) | DIS- SOLVED ARSENIC (AS) (UG/L) | TOTAL CAD- MIUM (CD) (UG/L) | DIS- SOLVED CAD- MIUM (CD) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | DIS- SOLVED CHRO- MIUM (CR) (UG/L) | TOTAL COBALT (CO) (UG/L) | DIS- SOLVED COBALT (CO) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) |
|--------------|------|------------------------------------|---|---|--|--|---|-----------------------------------|--|-----------------------------------|--|---------------------------------|
| OCT 13... | 1030 | 2 | 1 | 1 | 0 | <10 | <10 | 1 | 1 | 0 | 0 | 550 |
| FEB 10... | 1000 | 1 | 1 | 0 | 0 | <10 | <10 | 0 | 0 | 20 | 20 | 100 |
| APR 05... | 1600 | 1 | 1 | 0 | 0 | 20 | 2 | 3 | 0 | 14 | 14 | 6600 |
| JUL 12... | 1600 | 2 | 2 | 0 | 0 | <10 | 0 | 3 | 0 | 3 | 3 | 1200 |

| DATE | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED LEAD (PB) (UG/L) | TOTAL MAN- GANESE (MN) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | DIS- SOLVED MERCURY (HG) (UG/L) | TOTAL SELE- NIUM (SE) (UG/L) | DIS- SOLVED SELE- NIUM (SE) (UG/L) | TOTAL ZINC (ZN) (UG/L) | DIS- SOLVED ZINC (ZN) (UG/L) |
|--------------|--|---------------------------------|--|---|--|------------------------------------|---|--|---|---------------------------------|--|
| OCT 13... | 10 | 9 | 3 | 40 | 10 | <.5 | <.5 | 0 | 0 | 10 | 10 |
| FEB 10... | 10 | 5 | 1 | 30 | 30 | <.5 | <.5 | 0 | 0 | 20 | 20 |
| APR 05... | 30 | 14 | 0 | 190 | 10 | .0 | .0 | 0 | 0 | 10 | 10 |
| JUL 12... | 0 | 3 | 0 | 120 | 10 | 4.6 | .0 | 0 | 0 | 20 | 10 |

SUSPENDED SEDIMENT DISCHARGE

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | TEMPER- ATURE (DEG C) | SUS- PENDE SEDI- MENT DIS- CHARGE (MG/L) | SUS- PENDE SEDI- MENT DIS- CHARGE (T/DAY) |
|--------------|------|---|-----------------------------|--|---|
| OCT 13... | 1030 | 168 | 15.0 | 22 | 10 |
| NOV 09... | 1130 | 187 | 5.0 | 2 | 1.0 |
| DEC 06... | 1500 | 159 | 1.0 | 6 | 2.6 |
| JAN 12... | 1600 | 86 | .0 | 3 | .70 |
| FEB 10... | 1000 | 86 | .0 | 4 | .93 |
| MAR 08... | 1600 | 1120 | 6.5 | 29 | 88 |
| APR 05... | 1600 | 4700 | 10.0 | 208 | 2640 |
| MAY 04... | 0930 | 978 | 18.0 | 56 | 148 |
| JUN 02... | 1530 | 210 | 26.0 | 23 | 13 |
| JUL 12... | 1600 | 280 | 27.0 | 66 | 50 |
| AUG 09... | 1430 | 252 | 26.0 | 262 | 178 |
| SEP 20... | 1130 | 213 | 22.5 | 78 | 45 |

03245500 LITTLE MIAMI RIVER AT MILFORD, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|------|----------|------|-----------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 813 | 713 | 738 | 671 | 864 | 821 | 1010 | 983 | 1030 | 983 | --- | --- |
| 2 | 825 | 776 | 789 | 713 | 864 | 830 | 1020 | 989 | 1020 | 989 | --- | --- |
| 3 | 843 | 791 | 804 | 756 | 890 | 852 | 1010 | 980 | 1030 | 989 | --- | --- |
| 4 | 840 | 809 | 824 | 788 | 912 | 863 | 1010 | 965 | 1040 | 986 | --- | --- |
| 5 | 852 | 776 | 836 | 791 | 891 | 821 | 1020 | 968 | 1090 | 1010 | --- | --- |
| 6 | 803 | 753 | 834 | 758 | 846 | 822 | 1000 | 966 | 1130 | 1060 | --- | --- |
| 7 | 792 | 728 | 785 | 719 | 867 | 831 | 1020 | 984 | 1130 | 1060 | --- | --- |
| 8 | 798 | 737 | 794 | 752 | 932 | 881 | 1090 | 1020 | 1100 | 1050 | --- | --- |
| 9 | 833 | 800 | 828 | 780 | 951 | 896 | 1120 | 1080 | 1100 | 1050 | --- | --- |
| 10 | 857 | 819 | 836 | 788 | 942 | 896 | 1110 | 1050 | 1080 | 1030 | --- | --- |
| 11 | 855 | 815 | 836 | 803 | 935 | 894 | 1080 | 1040 | 1170 | 1030 | --- | --- |
| 12 | 872 | 834 | 851 | 807 | 941 | 894 | 1080 | 1030 | 1200 | 975 | --- | --- |
| 13 | 897 | 851 | 857 | 816 | 921 | 879 | 1070 | 1010 | 975 | 692 | --- | --- |
| 14 | 888 | 855 | 861 | 819 | 941 | 887 | 1050 | 1010 | 728 | 633 | --- | --- |
| 15 | 920 | 869 | 858 | 812 | 930 | 896 | 1050 | 1010 | 741 | 656 | --- | --- |
| 16 | 903 | 864 | 854 | 806 | 942 | 906 | 1080 | 1030 | 650 | 623 | --- | --- |
| 17 | 875 | 840 | 869 | 813 | 939 | 884 | 1130 | 1080 | 675 | 638 | 704 | 687 |
| 18 | 888 | 845 | 845 | 713 | 926 | 870 | 1130 | 1100 | 690 | 662 | 699 | 374 |
| 19 | 891 | 855 | 717 | 635 | 915 | 870 | 1120 | 1060 | 738 | 687 | 521 | 383 |
| 20 | 866 | 839 | 663 | 603 | 902 | 872 | 1080 | 1040 | 797 | 741 | 581 | 525 |
| 21 | 873 | 749 | 639 | 599 | 894 | 875 | 1080 | 1040 | 813 | 774 | 614 | 582 |
| 22 | 854 | 768 | 641 | 584 | 924 | 882 | 1070 | 1040 | 836 | 759 | 623 | 587 |
| 23 | 863 | 822 | 657 | 602 | 944 | 893 | 1080 | 1030 | 792 | 516 | 615 | 588 |
| 24 | 858 | 654 | 719 | 642 | 971 | 906 | 1060 | 1010 | --- | --- | 635 | 618 |
| 25 | 780 | 669 | 789 | 717 | 960 | 920 | 1030 | 992 | 455 | 437 | 665 | 632 |
| 26 | 786 | 756 | 792 | 744 | 954 | 906 | 1050 | 996 | 471 | 459 | 686 | 660 |
| 27 | 798 | 719 | 794 | 755 | 939 | 902 | 1090 | 1040 | --- | --- | 704 | 672 |
| 28 | 785 | 731 | 801 | 753 | 953 | 900 | 1080 | 1030 | --- | --- | 698 | 678 |
| 29 | 810 | 773 | 800 | 765 | 996 | 932 | 1060 | 1010 | --- | --- | 711 | 680 |
| 30 | 794 | 683 | 854 | 794 | 968 | 927 | 1040 | 986 | --- | --- | 704 | 672 |
| 31 | 698 | 597 | --- | --- | 1020 | 945 | 1020 | 977 | --- | --- | 698 | 675 |
| MONTH | 920 | 597 | 869 | 584 | 1020 | 821 | 1130 | 965 | 1200 | 437 | 711 | 374 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 699 | 678 | 704 | 627 | 797 | 740 | 617 | 524 | 864 | 705 | 885 | 863 |
| 2 | 693 | 572 | 614 | 392 | 789 | 728 | 597 | 522 | 695 | 494 | 896 | 866 |
| 3 | 527 | 459 | 531 | 404 | 771 | 710 | 627 | 600 | 488 | 446 | 864 | 818 |
| 4 | 561 | 464 | 624 | 540 | 755 | 713 | 615 | 584 | 468 | 446 | 839 | 788 |
| 5 | 558 | 474 | 639 | 383 | 753 | 717 | 605 | 573 | 506 | 468 | 806 | 774 |
| 6 | 572 | 524 | 563 | 416 | 764 | 738 | 600 | 573 | 561 | 506 | 839 | 803 |
| 7 | 597 | 570 | 527 | 393 | 774 | 731 | 632 | 603 | 614 | 560 | 855 | 815 |
| 8 | 645 | 594 | 546 | 435 | 770 | 741 | 644 | 633 | 666 | 377 | 897 | 849 |
| 9 | 663 | 642 | 605 | 549 | 786 | 729 | 651 | 642 | 555 | 419 | 914 | 878 |
| 10 | 677 | 653 | 648 | 606 | 744 | 723 | 653 | 497 | 600 | 537 | 905 | 878 |
| 11 | 692 | 662 | 699 | 650 | 774 | 735 | 630 | 462 | 735 | 617 | 911 | 888 |
| 12 | 687 | 662 | 714 | 687 | 798 | 759 | 606 | 467 | 660 | 444 | 941 | 897 |
| 13 | 693 | 662 | 735 | 713 | 789 | 758 | 654 | 603 | 662 | 594 | 971 | 938 |
| 14 | 698 | 666 | 753 | 729 | 774 | 735 | 626 | 564 | 624 | 576 | 977 | 954 |
| 15 | 708 | 674 | 755 | 735 | 759 | 717 | 635 | 585 | 606 | 566 | 996 | 921 |
| 16 | 716 | 689 | 770 | 743 | 780 | 704 | 684 | 636 | 743 | 615 | 960 | 899 |
| 17 | 723 | 695 | 765 | 743 | 753 | 714 | 696 | 677 | 722 | 435 | 897 | 810 |
| 18 | 713 | 689 | 764 | 744 | 753 | 723 | 711 | 687 | 612 | 506 | 893 | 855 |
| 19 | 729 | 699 | 768 | 734 | 737 | 699 | 707 | 695 | --- | --- | 932 | 855 |
| 20 | 729 | 699 | 767 | 729 | 701 | 681 | 735 | 707 | --- | --- | 909 | 821 |
| 21 | 735 | 710 | 764 | 714 | 744 | 705 | 720 | 434 | --- | --- | 897 | 762 |
| 22 | 746 | 732 | 762 | 729 | 773 | 738 | 711 | 488 | --- | --- | 789 | 755 |
| 23 | 767 | 746 | 765 | 728 | 777 | 708 | 764 | 713 | 819 | 765 | 842 | 798 |
| 24 | 764 | 707 | 774 | 723 | 771 | 731 | 783 | 765 | 812 | 641 | 837 | 807 |
| 25 | 719 | 633 | 776 | 747 | 779 | 491 | 788 | 624 | 756 | 642 | 840 | 813 |
| 26 | 695 | 665 | 783 | 734 | 596 | 431 | 753 | 690 | 798 | 756 | 860 | 827 |
| 27 | 686 | 666 | 774 | 719 | 503 | 446 | 729 | 696 | 846 | 794 | 872 | 848 |
| 28 | 708 | 681 | 779 | 719 | 560 | 501 | 780 | 732 | 869 | 831 | 869 | 843 |
| 29 | 708 | 671 | 767 | 728 | 609 | 492 | 800 | 710 | 870 | 807 | 840 | 810 |
| 30 | 714 | 689 | 764 | 726 | 611 | 585 | 890 | 738 | 878 | 839 | 840 | 813 |
| 31 | --- | --- | 785 | 741 | --- | --- | 845 | 693 | 872 | 834 | --- | --- |
| MONTH | 767 | 459 | 785 | 383 | 798 | 431 | 890 | 434 | 878 | 377 | 996 | 755 |
| YEAR | 1200 | 374 | | | | | | | | | | |

03245500 LITTLE MIAMI RIVER AT MILFORD, OH--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|--------|----------|-----------|-------|------|-----|--|-----|--|-----|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | | | | | | | |
| 1 | 18.0 | 15.0 | 8.0 | 6.0 | 2.0 | 0.5 | 0.5 | 0.0 | 0.5 | 0.0 | --- | --- | | | | | | |
| 2 | 18.5 | 16.0 | 8.0 | 5.5 | 1.5 | 0.5 | 0.5 | 0.0 | 0.5 | 0.0 | --- | --- | | | | | | |
| 3 | 19.5 | 16.5 | 8.5 | 6.5 | 1.0 | 0.0 | 0.0 | 0.0 | 0.5 | 0.5 | --- | --- | | | | | | |
| 4 | 19.5 | 17.0 | 7.0 | 6.0 | 1.5 | 0.5 | 0.5 | 0.0 | 1.0 | 0.5 | --- | --- | | | | | | |
| 5 | 20.5 | 17.5 | 6.5 | 5.5 | 1.5 | 0.5 | 0.5 | 0.0 | 0.5 | 0.0 | --- | --- | | | | | | |
| 6 | 19.5 | 17.0 | 6.5 | 4.5 | 1.0 | 0.5 | 0.0 | 0.0 | 0.5 | 0.0 | --- | --- | | | | | | |
| 7 | 17.0 | 14.5 | 6.5 | 5.0 | 1.0 | 0.5 | 0.0 | 0.0 | 0.5 | 0.0 | --- | --- | | | | | | |
| 8 | 15.0 | 14.0 | 5.5 | 4.0 | 1.0 | 0.0 | 0.5 | 0.0 | 0.5 | 0.0 | --- | --- | | | | | | |
| 9 | 14.5 | 13.0 | 6.0 | 4.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.5 | 0.0 | --- | --- | | | | | | |
| 10 | 14.5 | 12.0 | 6.5 | 5.5 | 1.5 | 0.5 | 0.0 | 0.0 | 0.5 | 0.0 | --- | --- | | | | | | |
| 11 | 14.0 | 11.5 | 6.0 | 5.0 | 2.0 | 1.5 | 0.0 | 0.0 | 0.5 | 0.0 | --- | --- | | | | | | |
| 12 | 15.5 | 12.0 | 5.5 | 4.0 | 3.0 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | --- | --- | | | | | | |
| 13 | 17.0 | 14.0 | 5.0 | 3.5 | 2.5 | 1.5 | 0.0 | 0.0 | 0.0 | 0.0 | --- | --- | | | | | | |
| 14 | 16.0 | 14.0 | 4.0 | 3.0 | 1.5 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | --- | --- | | | | | | |
| 15 | 16.5 | 13.5 | 5.0 | 3.5 | 2.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | --- | --- | | | | | | |
| 16 | 15.0 | 13.0 | 4.5 | 3.0 | 1.5 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | --- | --- | | | | | | |
| 17 | 14.0 | 12.0 | 4.5 | 2.5 | 2.5 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.5 | 10.0 | | | | | | |
| 18 | 12.5 | 10.0 | 5.0 | 3.5 | 2.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.0 | 8.0 | | | | | | |
| 19 | 11.5 | 10.0 | 5.5 | 4.5 | 3.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 8.0 | 7.0 | | | | | | |
| 20 | 11.0 | 10.0 | 5.5 | 4.0 | 3.5 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 7.0 | 6.0 | | | | | | |
| 21 | 10.5 | 9.0 | 5.0 | 4.0 | 2.0 | 0.5 | 1.0 | 0.0 | 0.0 | 0.0 | 7.5 | 5.0 | | | | | | |
| 22 | 9.5 | 8.0 | 4.0 | 3.0 | 0.5 | 0.0 | 1.0 | 0.5 | 0.5 | 0.0 | 8.0 | 6.0 | | | | | | |
| 23 | 8.5 | 7.5 | 3.5 | 2.5 | 1.0 | 0.0 | 1.0 | 0.0 | 0.5 | 0.0 | 7.5 | 5.5 | | | | | | |
| 24 | 9.5 | 8.0 | 3.0 | 2.0 | 0.5 | 0.0 | 1.0 | 0.0 | --- | --- | 8.0 | 5.5 | | | | | | |
| 25 | 10.0 | 9.0 | 4.5 | 1.5 | 0.5 | 0.0 | 0.5 | 0.0 | 2.5 | 1.5 | 8.5 | 5.5 | | | | | | |
| 26 | 9.5 | 8.5 | 6.5 | 4.5 | 0.5 | 0.0 | 0.5 | 0.0 | 2.0 | 2.0 | 9.5 | 6.0 | | | | | | |
| 27 | 8.0 | 7.0 | 8.0 | 6.5 | 0.5 | 0.0 | 0.5 | 0.0 | --- | --- | 9.5 | 8.0 | | | | | | |
| 28 | 7.5 | 5.5 | 7.0 | 4.5 | 1.0 | 0.5 | 0.5 | 0.0 | --- | --- | 11.5 | 9.5 | | | | | | |
| 29 | 7.0 | 5.0 | 4.5 | 2.0 | 0.5 | 0.0 | 0.5 | 0.0 | --- | --- | 14.0 | 11.0 | | | | | | |
| 30 | 6.5 | 6.0 | 2.0 | 0.5 | 0.5 | 0.0 | 0.5 | 0.5 | --- | --- | 16.5 | 13.5 | | | | | | |
| 31 | 7.5 | 6.5 | --- | --- | 0.5 | 0.0 | 0.5 | 0.5 | --- | --- | 15.5 | 13.0 | | | | | | |
| MONTH | 20.5 | 5.0 | 8.5 | 0.5 | 3.5 | 0.0 | 1.0 | 0.0 | 2.5 | 0.0 | 16.5 | 5.0 | | | | | | |
| DAY | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | MAX | | MIN | | | |
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | | | | | | | |
| 1 | 14.5 | 12.0 | 17.0 | 14.5 | 27.5 | 25.0 | 26.0 | 23.0 | 28.5 | 25.5 | 30.0 | 27.0 | | | | | | |
| 2 | 14.0 | 13.5 | 17.5 | 15.5 | 25.5 | 23.0 | 26.5 | 22.5 | 28.0 | 24.5 | 30.0 | 27.5 | | | | | | |
| 3 | 13.5 | 12.0 | 18.0 | 16.5 | 25.0 | 22.0 | 27.0 | 23.0 | 28.0 | 24.5 | 29.5 | 27.0 | | | | | | |
| 4 | 12.0 | 11.5 | 19.0 | 17.5 | 25.5 | 22.0 | 28.5 | 24.0 | 29.0 | 26.0 | 28.5 | 26.0 | | | | | | |
| 5 | 11.5 | 8.5 | 19.5 | 17.0 | 24.5 | 23.5 | 30.5 | 27.0 | 30.0 | 27.0 | 28.0 | 26.0 | | | | | | |
| 6 | 8.5 | 6.5 | 20.0 | 19.0 | 25.5 | 23.0 | 32.0 | 28.0 | 30.5 | 27.5 | 27.0 | 25.5 | | | | | | |
| 7 | 8.5 | 5.5 | 19.5 | 18.0 | 23.0 | 21.0 | 32.5 | 29.5 | 29.5 | 27.5 | 28.0 | 25.0 | | | | | | |
| 8 | 10.0 | 7.5 | 19.0 | 17.0 | 21.5 | 19.5 | 33.0 | 29.0 | 28.0 | 24.5 | 28.0 | 25.0 | | | | | | |
| 9 | 10.5 | 7.5 | 18.0 | 16.0 | 21.5 | 18.5 | 30.5 | 29.0 | 27.0 | 24.0 | 28.0 | 25.0 | | | | | | |
| 10 | 13.0 | 8.5 | 17.5 | 15.0 | 22.0 | 18.5 | 29.0 | 24.5 | 27.5 | 25.5 | 27.5 | 25.0 | | | | | | |
| 11 | 15.0 | 10.0 | 18.0 | 14.5 | 22.0 | 20.0 | 26.0 | 24.0 | 28.0 | 25.5 | 25.5 | 22.5 | | | | | | |
| 12 | 17.5 | 13.5 | 18.5 | 15.5 | 24.5 | 20.5 | 27.5 | 24.0 | 26.0 | 24.0 | 23.5 | 21.0 | | | | | | |
| 13 | 19.0 | 15.5 | 20.5 | 16.5 | 25.0 | 22.0 | 29.5 | 25.5 | 25.0 | 23.5 | 23.5 | 21.0 | | | | | | |
| 14 | 20.0 | 16.5 | 21.5 | 18.5 | 24.5 | 23.5 | 31.5 | 27.5 | 27.5 | 24.5 | 23.0 | 21.5 | | | | | | |
| 15 | 20.5 | 18.0 | 23.5 | 19.5 | 27.0 | 23.0 | 31.5 | 29.0 | 28.5 | 25.5 | 23.5 | 21.0 | | | | | | |
| 16 | 21.0 | 18.0 | 23.5 | 20.5 | 27.0 | 23.5 | 32.5 | 29.0 | 28.5 | 26.0 | 23.5 | 22.5 | | | | | | |
| 17 | 20.5 | 18.5 | 24.5 | 20.5 | 28.0 | 24.5 | 32.5 | 29.0 | 28.0 | 25.0 | 24.5 | 22.0 | | | | | | |
| 18 | 21.5 | 18.5 | 25.5 | 21.5 | 27.5 | 26.0 | 33.0 | 29.0 | 26.5 | 24.5 | 25.5 | 22.5 | | | | | | |
| 19 | 20.5 | 19.5 | 27.0 | 22.5 | 26.5 | 24.5 | 32.5 | 29.5 | 26.0 | 23.0 | 25.0 | 22.0 | | | | | | |
| 20 | 21.5 | 18.5 | 27.5 | 23.5 | 27.5 | 25.0 | 33.0 | 30.0 | 25.5 | 22.5 | 24.0 | 22.0 | | | | | | |
| 21 | 21.0 | 19.5 | 27.5 | 24.0 | 27.0 | 24.0 | 31.0 | 29.0 | 25.0 | 23.0 | 21.5 | 20.0 | | | | | | |
| 22 | 20.5 | 19.5 | 26.5 | 24.0 | 25.5 | 22.5 | 30.5 | 28.0 | 26.0 | 23.0 | 22.0 | 18.5 | | | | | | |
| 23 | 19.5 | 18.5 | 26.5 | 23.5 | 24.0 | 21.0 | 30.0 | 26.0 | 26.0 | 23.5 | 23.0 | 20.5 | | | | | | |
| 24 | 18.5 | 16.5 | 26.5 | 23.5 | 24.5 | 23.0 | 29.0 | 26.0 | 25.5 | 23.5 | 22.5 | 21.5 | | | | | | |
| 25 | 16.5 | 13.5 | 26.5 | 24.0 | 25.0 | 23.5 | 29.0 | 27.0 | 25.0 | 21.5 | 23.0 | 21.0 | | | | | | |
| 26 | 15.5 | 12.0 | 27.0 | 23.5 | 25.5 | 22.0 | 28.0 | 24.5 | 25.5 | 22.5 | 24.0 | 21.5 | | | | | | |
| 27 | 16.5 | 12.5 | 27.5 | 23.5 | 25.5 | 23.0 | 27.5 | 24.0 | 27.0 | 24.0 | 23.0 | 21.0 | | | | | | |
| 28 | 15.5 | 10.0 | 27.5 | 24.0 | 26.5 | 25.0 | 27.5 | 22.5 | 28.5 | 26.0 | 21.5 | 19.0 | | | | | | |
| 29 | 15.0 | 12.0 | 26.5 | 24.5 | 26.5 | 23.0 | 26.5 | 25.0 | 29.0 | 26.5 | 21.5 | 18.5 | | | | | | |
| 30 | 16.0 | 12.0 | 27.0 | 23.0 | 26.5 | 23.5 | 28.0 | 24.0 | 28.5 | 26.5 | 21.0 | 18.0 | | | | | | |
| 31 | --- | --- | 28.5 | 25.0 | --- | --- | 27.5 | 25.0 | 29.5 | 26.5 | --- | --- | | | | | | |
| MONTH | 21.5 | 5.5 | 28.5 | 14.5 | 28.0 | 18.5 | 33.0 | 22.5 | 30.5 | 21.5 | 30.0 | 18.0 | | | | | | |
| YEAR | 33.0 | 0.0 | | | | | | | | | | | | | | | | |

LITTLE MIAMI RIVER BASIN

03246200 EAST FORK LITTLE MIAMI RIVER NEAR MARATHON, OH

LOCATION.--Lat 39°06'52", long 84°01'29", Clermont County, Hydrologic Unit 05090202, on right bank at downstream side of bridge on Blue Sky Park Road, 500 ft (152 m) upstream from Fivemile Creek, 1.0 mi (1.6 km) downstream from Sixmile Creek, and 2.3 mi (3.7 km) southwest of Marathon.

DRAINAGE AREA.--195 mi² (505 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 842.32 ft (256.739 m) above mean sea level.

REMARKS.--Records good except those for winter period, which are fair.

AVERAGE DISCHARGE.--9 years, 233 ft³/s (6.60 m³/s), 16.23 in/yr (412 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,400 ft³/s (323 m³/s) Apr. 2, 1970, Feb. 24, 1975; maximum gage height, 18.57 ft (5.660 m) Apr. 2, 1970, in gage well, about 19.8 ft (6.04 m) outside; minimum discharge, 0.50 ft³/s (1.42 m³/s) Oct. 15, 16, 17, 1969.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85.0 m³/s) and maximums (*):

| Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) | Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) |
|--------|------|---|-------------------------|--------|------|---|-------------------------|
| Mar. 4 | 1200 | 3900 110 | 12.20 3.719 | Apr. 3 | 0300 | *5350 152 | *13.76 4.194 |

Minimum discharge, 3.2 ft³/s (0.091 m³/s) Oct. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|--------|------|-------|-------|---------|-------|------|------|--------|--------|--------|-------|
| 1 | 12 | 306 | 30 | 6.0 | 3.5 | 154 | 50 | 52 | 30 | 405 | 5.0 | 10 |
| 2 | 9.8 | 134 | 32 | 5.4 | 3.5 | 146 | 1050 | 150 | 18 | 252 | 4.6 | 11 |
| 3 | 8.5 | 83 | 30 | 5.0 | 3.5 | 255 | 3650 | 191 | 15 | 90 | 4.3 | 13 |
| 4 | 6.5 | 57 | 29 | 4.6 | 3.5 | 3070 | 614 | 114 | 14 | 37 | 4.2 | 9.0 |
| 5 | 5.7 | 43 | 28 | 4.3 | 3.5 | 980 | 1620 | 522 | 12 | 22 | 4.0 | 6.7 |
| 6 | 5.1 | 36 | 27 | 4.0 | 3.5 | 337 | 640 | 821 | 12 | 16 | 4.0 | 5.7 |
| 7 | 4.3 | 30 | 26 | 3.8 | 3.5 | 202 | 469 | 1900 | 11 | 12 | 4.0 | 5.3 |
| 8 | 4.0 | 27 | 69 | 3.7 | 4.0 | 142 | 261 | 742 | 10 | 9.8 | 5.0 | 5.1 |
| 9 | 3.6 | 25 | 79 | 3.6 | 6.0 | 108 | 167 | 258 | 10 | 8.2 | 16 | 5.0 |
| 10 | 3.2 | 23 | 47 | 3.5 | 7.0 | 91 | 128 | 146 | 11 | 104 | 24 | 4.9 |
| 11 | 3.8 | 22 | 35 | 3.5 | 9.0 | 77 | 106 | 99 | 13 | 335 | 25 | 4.6 |
| 12 | 12 | 21 | 30 | 3.5 | 60 | 132 | 87 | 76 | 17 | 252 | 202 | 4.5 |
| 13 | 12 | 20 | 28 | 3.5 | 1100 | 1350 | 71 | 56 | 16 | 410 | 361 | 4.5 |
| 14 | 7.6 | 19 | 26 | 3.5 | 950 | 415 | 60 | 46 | 16 | 138 | 167 | 4.5 |
| 15 | 5.7 | 18 | 24 | 3.5 | 750 | 215 | 53 | 38 | 15 | 51 | 95 | 4.5 |
| 16 | 6.7 | 16 | 23 | 3.5 | 470 | 148 | 47 | 33 | 14 | 26 | 36 | 45 |
| 17 | 6.2 | 16 | 22 | 3.5 | 300 | 103 | 40 | 29 | 13 | 19 | 23 | 123 |
| 18 | 5.5 | 16 | 21 | 3.5 | 220 | 2110 | 36 | 27 | 13 | 14 | 23 | 70 |
| 19 | 5.1 | 15 | 20 | 3.5 | 170 | 964 | 35 | 24 | 13 | 11 | 20 | 78 |
| 20 | 5.7 | 15 | 19 | 3.5 | 150 | 365 | 32 | 22 | 13 | 9.0 | 15 | 62 |
| 21 | 8.9 | 15 | 18 | 3.5 | 130 | 304 | 30 | 20 | 12 | 7.6 | 11 | 33 |
| 22 | 14 | 15 | 17 | 3.4 | 270 | 348 | 29 | 18 | 12 | 6.4 | 10 | 27 |
| 23 | 23 | 15 | 15 | 3.4 | 1690 | 313 | 30 | 16 | 11 | 6.2 | 8.7 | 17 |
| 24 | 116 | 15 | 14 | 3.4 | 2290 | 176 | 44 | 16 | 9.2 | 5.6 | 263 | 12 |
| 25 | 402 | 15 | 13 | 3.4 | 1000 | 125 | 74 | 16 | 81 | 6.9 | 97 | 9.9 |
| 26 | 215 | 15 | 12 | 3.5 | 412 | 100 | 60 | 16 | 87 | 13 | 67 | 8.3 |
| 27 | 104 | 18 | 11 | 3.5 | 328 | 85 | 46 | 15 | 39 | 12 | 48 | 7.6 |
| 28 | 57 | 20 | 10 | 3.5 | 245 | 83 | 37 | 14 | 179 | 7.1 | 44 | 6.2 |
| 29 | 39 | 23 | 9.0 | 3.5 | --- | 98 | 64 | 20 | 271 | 5.4 | 38 | 5.5 |
| 30 | 33 | 25 | 8.0 | 3.5 | --- | 87 | 84 | 18 | 110 | 5.4 | 20 | 5.3 |
| 31 | 274 | --- | 7.0 | 3.5 | --- | 64 | --- | 76 | --- | 5.2 | 13 | --- |
| TOTAL | 1418.9 | 1118 | 779.0 | 117.0 | 10585.5 | 13147 | 9714 | 5591 | 1097.2 | 2301.8 | 1661.8 | 608.1 |
| MEAN | 45.8 | 37.3 | 25.1 | 3.77 | 378 | 424 | 324 | 180 | 36.6 | 74.3 | 53.6 | 20.3 |
| MAX | 402 | 306 | 79 | 6.0 | 2290 | 3070 | 3650 | 1900 | 271 | 410 | 361 | 123 |
| MIN | 3.2 | 15 | 7.0 | 3.4 | 3.5 | 64 | 29 | 14 | 9.2 | 5.2 | 4.0 | 4.5 |
| CFSM | .24 | .19 | .13 | .02 | 1.94 | 2.17 | 1.66 | .92 | .19 | .38 | .28 | .10 |
| IN. | .27 | .21 | .15 | .02 | 2.02 | 2.51 | 1.85 | 1.07 | .21 | .44 | .32 | .12 |

CAL YR 1976 TOTAL 53830.0 MEAN 147 MAX 5540 MIN 2.5 CFSM .75 IN 10.27
WTR YR 1977 TOTAL 48139.3 MEAN 132 MAX 3650 MIN 3.2 CFSM .68 IN 9.18

LITTLE MIAMI RIVER BASIN

327

03246200 EAST FORK LITTLE MIAMI RIVER NEAR MARATHON, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA, MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | |
|--------------|------|---|--|---|------------------------------------|--|--------------------------------------|--|---|--|--|---|---|
| | | | | | | | | | | | | | |
| MAR 09... | 1500 | 102 | 720 | 8.0 | 10.0 | 10.8 | 96 | 4.2 | 240 | 68 | 65 | 19 | |
| JUN 21... | 1430 | 11 | 540 | 8.0 | 25.0 | 7.8 | 94 | 2.1 | 260 | 56 | 63 | 24 | |
| DATE | | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CAC03 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 09... | 11 | 3.9 | 210 | 0 | 172 | 3.4 | 56 | 27 | .1 | 7.5 | 293 | 3.6 | |
| JUN 21... | 10 | 3.7 | 244 | 0 | 200 | 3.9 | 44 | 23 | .1 | 4.2 | 292 | .59 | |
| DATE | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 09... | .03 | .07 | .12 | 1 | 10 | 5 | 40 | 6 | 30 | .0 | 30 | 9.0 | |
| JUN 21... | .02 | .09 | .10 | 4 | 10 | 12 | 70 | 3 | 50 | .5 | 30 | 6.0 | |

LITTLE MIAMI RIVER BASIN

03247050 EAST FORK LITTLE MIAMI RIVER NEAR BATAVIA, OH

LOCATION.--Lat 39°03'36", long 84°10'32", Clermont County, Hydrologic Unit 05090202, on right bank on Elk Lick Road, 230 ft (70 m) upstream from unnamed right bank tributary, 1,400 ft (427 m) upstream from Lucy Run, and 1.3 mi (2.1 km) south of Batavia.

DRAINAGE AREA.--352 mi² (912 km²), includes that of unnamed tributary.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 571.68 ft (174.248 m) above mean sea level. Prior to July 17, 1968, nonrecording gage 1,100 ft (335 m) downstream at same datum.

REMARKS.--Records good except for the winter period, which are fair. Flow partially regulated by unfinished East Fork Lake Dam, since 1974.

AVERAGE DISCHARGE.--12 years, 414 ft³/s (11.72 m³/s), 15.97 in/yr (406 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,700 ft³/s (813 m³/s) Apr. 2, 1970, gage height, 20.31 ft (6.190 m); minimum daily, 0.14 ft³/s (0.004 m³/s) Sept. 23, 27, 1967. Maximum discharge since start of construction of East Fork Dam 31,000 ft³/s (878 m³/s) Aug. 30, 1974, gage height, 20.80 ft (6.400 m) in gage well, 21.8 ft (6.645 m) from floodmarks, result of failure of cofferdam.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1964 reached a stage of 21.46 ft (6.541 m) at site 1,100 ft (335 m) downstream from information by local resident, discharge, about 32,000 ft³/s (906 m³/s), from flood study.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,170 ft³/s (118 m³/s) Apr. 3, gage height, 11.67 ft (3.557 m); minimum daily, 3.4 ft³/s (0.10 m³/s) Aug. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|----------|----------|----------|---------|----------|----------|------|--------|--------|--------|--------|
| 1 | 28 | 573 | 31 | 8.8 | 4.5 | 289 | 84 | 88 | 34 | 591 | 15 | 37 |
| 2 | 42 | 294 | 38 | 7.8 | 4.5 | 255 | 600 | 131 | 43 | 474 | 14 | 29 |
| 3 | 32 | 161 | 37 | 6.8 | 5.6 | 369 | 3760 | 167 | 27 | 220 | 11 | 57 |
| 4 | 24 | 115 | 30 | 6.2 | 7.0 | 3220 | 3490 | 151 | 19 | 106 | 7.5 | 60 |
| 5 | 19 | 90 | 34 | 5.8 | 6.2 | 3580 | 3020 | 154 | 15 | 61 | 5.5 | 34 |
| 6 | 18 | 75 | 44 | 5.6 | 5.4 | 1900 | 2290 | 704 | 13 | 40 | 3.6 | 25 |
| 7 | 16 | 64 | 60 | 5.5 | 7.2 | 416 | 1160 | 1550 | 11 | 30 | 3.4 | 22 |
| 8 | 14 | 53 | 96 | 5.5 | 10 | 264 | 505 | 1710 | 9.6 | 24 | 4.2 | 19 |
| 9 | 14 | 43 | 78 | 5.5 | 13 | 204 | 260 | 416 | 21 | 20 | 4.5 | 16 |
| 10 | 14 | 43 | 94 | 5.5 | 15 | 161 | 174 | 178 | 22 | 26 | 4.9 | 14 |
| 11 | 23 | 32 | 70 | 5.5 | 17 | 139 | 139 | 110 | 16 | 139 | 43 | 11 |
| 12 | 21 | 30 | 58 | 5.5 | 50 | 241 | 118 | 90 | 13 | 573 | 326 | 9.9 |
| 13 | 15 | 27 | 46 | 5.5 | 1000 | 1880 | 97 | 77 | 14 | 772 | 659 | 8.1 |
| 14 | 11 | 25 | 40 | 5.5 | 900 | 1310 | 88 | 66 | 24 | 329 | 413 | 8.4 |
| 15 | 25 | 25 | 36 | 5.5 | 700 | 416 | 79 | 56 | 21 | 143 | 256 | 13 |
| 16 | 23 | 24 | 34 | 5.4 | 400 | 241 | 71 | 48 | 16 | 75 | 121 | 454 |
| 17 | 17 | 23 | 32 | 5.4 | 300 | 171 | 64 | 44 | 13 | 47 | 72 | 363 |
| 18 | 13 | 22 | 29 | 5.4 | 200 | 1320 | 59 | 40 | 12 | 34 | 43 | 166 |
| 19 | 11 | 21 | 27 | 5.4 | 170 | 2610 | 54 | 36 | 13 | 27 | 36 | 333 |
| 20 | 15 | 21 | 25 | 5.4 | 150 | 1070 | 50 | 38 | 14 | 32 | 29 | 322 |
| 21 | 25 | 19 | 23 | 5.4 | 140 | 497 | 47 | 31 | 12 | 20 | 27 | 123 |
| 22 | 31 | 18 | 21 | 5.3 | 160 | 482 | 48 | 27 | 12 | 15 | 38 | 74 |
| 23 | 28 | 18 | 19 | 5.2 | 1400 | 538 | 53 | 26 | 18 | 11 | 41 | 52 |
| 24 | 224 | 18 | 18 | 5.1 | 2300 | 279 | 62 | 23 | 18 | 9.8 | 879 | 43 |
| 25 | 466 | 18 | 17 | 5.0 | 2200 | 185 | 106 | 22 | 69 | 15 | 410 | 34 |
| 26 | 474 | 20 | 15 | 4.9 | 992 | 145 | 103 | 23 | 131 | 23 | 239 | 28 |
| 27 | 220 | 24 | 14 | 4.8 | 591 | 123 | 81 | 20 | 108 | 16 | 1440 | 23 |
| 28 | 128 | 30 | 13 | 4.7 | 451 | 113 | 71 | 18 | 178 | 12 | 193 | 20 |
| 29 | 90 | 31 | 12 | 4.6 | --- | 113 | 118 | 17 | 345 | 21 | 82 | 17 |
| 30 | 75 | 29 | 11 | 4.5 | --- | 115 | 99 | 18 | 274 | 37 | 68 | 16 |
| 31 | 289 | --- | 10 | 4.5 | --- | 97 | --- | 18 | --- | 21 | 56 | --- |
| TOTAL | 2445 | 1986 | 1112 | 171.5 | 12199.4 | 22743 | 16950 | 6097 | 1535.6 | 3963.8 | 5544.6 | 2431.4 |
| MEAN | 78.9 | 66.2 | 35.9 | 5.53 | 436 | 734 | 565 | 197 | 51.2 | 128 | 179 | 81.0 |
| MAX | 474 | 573 | 96 | 8.8 | 2300 | 3580 | 3760 | 1710 | 345 | 772 | 1440 | 454 |
| MIN | 11 | 18 | 10 | 4.5 | 4.5 | 97 | 47 | 17 | 9.6 | 9.8 | 3.4 | 8.1 |
| CFSM | .22 | .19 | .10 | .02 | 1.24 | 2.09 | 1.61 | .56 | .15 | .36 | .51 | .23 |
| IN. | .26 | .21 | .12 | .02 | 1.29 | 2.40 | 1.79 | .64 | .16 | .42 | .59 | .26 |
| CAL YR 1976 | TOTAL | 102962.2 | MEAN 281 | MAX 5120 | MIN 3.3 | CFSM .80 | IN 10.88 | | | | | |
| WTR YR 1977 | TOTAL | 77179.3 | MEAN 211 | MAX 3760 | MIN 3.4 | CFSM .60 | IN 8.16 | | | | | |

LITTLE MIAMI RIVER BASIN

329

03247050 EAST FORK LITTLE MIAMI RIVER NEAR BATAVIA, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA,MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | |
|--------------|------|---|--|---|------------------------------------|--|--------------------------------------|--|---|--|--|--|---|
| | | | | | | | | | | | | | |
| MAR 09... | 1100 | 214 | 460 | 8.0 | 8.0 | 10.6 | 89 | 3.2 | 220 | 80 | 63 | 16 | |
| JUN 22... | 1040 | 11 | 550 | 8.0 | 23.0 | 6.8 | 80 | 2.8 | 250 | 47 | 62 | 24 | |
| DATE | | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 09... | 11 | 4.5 | 174 | 0 | 143 | 2.8 | 50 | 26 | .1 | 7.0 | 264 | 2.9 | |
| JUN 22... | 15 | 3.1 | 252 | 0 | 207 | 4.0 | 46 | 27 | .1 | .9 | 302 | .01 | |
| DATE | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 09... | .03 | .08 | .11 | 2 | <10 | 5 | 60 | 6 | 70 | .0 | 50 | 9.0 | |
| JUN 22... | .00 | .08 | .08 | 4 | 10 | 7 | 80 | 0 | 10 | .2 | 30 | 5.9 | |

LITTLE MIAMI RIVER BASIN

03247500 EAST FORK LITTLE MIAMI RIVER AT PERINTOWN, OH

LOCATION.--Lat 39°08'13", long 84°14'17", Clermont County, Hydrologic Unit 05090202, on left bank at downstream side of highway bridge at Perintown, 0.2 mi (0.3 km) downstream from Sugarcamp Run, and 5 mi (8 km) upstream from mouth.

DRAINAGE AREA.--476 mi² (1,233 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1915 to September 1917, October 1917 to May 1920 (gage heights only), January 1925 to current year.

GAGE.--Water-stage recorder. Datum of gage is 507.03 ft (154.543 m) above mean sea level. Prior to Feb. 6, 1940, nonrecording gage, at same site and datum.

REMARKS.--Records good except those for winter periods, which are fair. Occasional regulation by Stonelick Creek 14 mi (23 km) upstream. Surface area at spillway level, 171 acres (69 ha²). Flow partially regulated by unfinished East Fork Lake dam, since 1974.

AVERAGE DISCHARGE.--54 years (1915-17, 1925-77), 540 ft³/s (15.29 m³/s), 15.41 in/yr (391 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,400 ft³/s (1,200 m³/s) Mar. 10, 1964, gage height, 23.84 ft (7.266 m); minimum daily, 0.4 ft³/s (0.011 m³/s) July 24, 1930, Sept. 11, 12, 23, 1939; minimum gage height, -0.18 ft (-0.055 m) Oct. 3-7, 1917. Maximum discharge since start of construction of East Fork Dam 23,200 ft³/s (657 m³/s) Aug. 30, 1974, gage height, 19.52 ft (5.950 m), result of failure of cofferdam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,510 ft³/s (269 m³/s) Apr. 2, gage height, 12.73 ft (3.880 m); minimum daily, 14 ft³/s (0.40 m³/s) Jan. 21-25, Jan. 28 to Feb. 3, Feb. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|----------|----------|--------|----------|---------|-------|------|------|------|------|
| 1 | 37 | 461 | 50 | 19 | 14 | 340 | 118 | 164 | 33 | 916 | 32 | 59 |
| 2 | 33 | 317 | 60 | 18 | 14 | 305 | 2270 | 302 | 57 | 666 | 25 | 47 |
| 3 | 35 | 178 | 56 | 17 | 14 | 491 | 4150 | 293 | 45 | 320 | 24 | 44 |
| 4 | 28 | 123 | 52 | 17 | 15 | 4240 | 3440 | 286 | 35 | 169 | 22 | 91 |
| 5 | 24 | 94 | 48 | 16 | 16 | 3320 | 3300 | 862 | 29 | 94 | 19 | 54 |
| 6 | 24 | 77 | 46 | 16 | 15 | 2010 | 2580 | 1180 | 26 | 65 | 17 | 41 |
| 7 | 23 | 66 | 75 | 16 | 14 | 499 | 1540 | 2210 | 23 | 49 | 16 | 33 |
| 8 | 21 | 56 | 113 | 16 | 16 | 320 | 714 | 2060 | 22 | 41 | 20 | 31 |
| 9 | 22 | 49 | 96 | 16 | 18 | 246 | 406 | 773 | 31 | 36 | 37 | 28 |
| 10 | 22 | 44 | 115 | 16 | 20 | 202 | 300 | 326 | 37 | 233 | 25 | 25 |
| 11 | 21 | 40 | 106 | 15 | 24 | 173 | 246 | 215 | 31 | 221 | 23 | 23 |
| 12 | 25 | 36 | 90 | 15 | 200 | 343 | 209 | 165 | 25 | 610 | 308 | 22 |
| 13 | 21 | 34 | 85 | 15 | 1200 | 1920 | 178 | 137 | 22 | 760 | 834 | 20 |
| 14 | 19 | 32 | 69 | 15 | 1190 | 1480 | 153 | 117 | 25 | 432 | 507 | 21 |
| 15 | 17 | 32 | 60 | 15 | 911 | 487 | 140 | 99 | 31 | 218 | 363 | 21 |
| 16 | 23 | 31 | 52 | 15 | 479 | 311 | 126 | 87 | 27 | 118 | 180 | 314 |
| 17 | 22 | 29 | 46 | 15 | 334 | 228 | 115 | 78 | 21 | 71 | 113 | 468 |
| 18 | 19 | 28 | 44 | 15 | 220 | 2060 | 108 | 71 | 20 | 53 | 73 | 214 |
| 19 | 17 | 28 | 42 | 15 | 190 | 2600 | 98 | 64 | 19 | 42 | 54 | 455 |
| 20 | 18 | 27 | 41 | 15 | 180 | 1310 | 92 | 65 | 19 | 41 | 42 | 445 |
| 21 | 34 | 27 | 40 | 14 | 170 | 583 | 86 | 58 | 19 | 37 | 46 | 191 |
| 22 | 30 | 25 | 38 | 14 | 220 | 695 | 88 | 50 | 20 | 29 | 46 | 110 |
| 23 | 29 | 58 | 36 | 14 | 1180 | 637 | 98 | 47 | 24 | 25 | 57 | 71 |
| 24 | 165 | 70 | 34 | 14 | 2530 | 394 | 219 | 43 | 25 | 22 | 1410 | 59 |
| 25 | 394 | 70 | 32 | 14 | 2260 | 272 | 309 | 41 | 197 | 32 | 596 | 49 |
| 26 | 428 | 70 | 30 | 15 | 1060 | 211 | 239 | 40 | 458 | 44 | 211 | 41 |
| 27 | 233 | 53 | 28 | 15 | 583 | 178 | 172 | 39 | 171 | 32 | 1300 | 36 |
| 28 | 138 | 52 | 26 | 14 | 458 | 171 | 144 | 35 | 209 | 25 | 340 | 32 |
| 29 | 93 | 52 | 24 | 14 | --- | 167 | 247 | 32 | 499 | 25 | 128 | 29 |
| 30 | 82 | 48 | 22 | 14 | --- | 163 | 202 | 32 | 372 | 53 | 85 | 26 |
| 31 | 283 | --- | 20 | 14 | --- | 144 | --- | 31 | --- | 45 | 82 | --- |
| TOTAL | 2380 | 2307 | 1676 | 473 | 13545 | 26500 | 22087 | 10002 | 2572 | 5524 | 7035 | 3100 |
| MEAN | 76.8 | 76.9 | 54.1 | 15.3 | 484 | 855 | 736 | 323 | 85.7 | 178 | 227 | 103 |
| MAX | 428 | 461 | 115 | 19 | 2530 | 4240 | 4150 | 2210 | 499 | 916 | 1410 | 468 |
| MIN | 17 | 25 | 20 | 14 | 14 | 144 | 86 | 31 | 19 | 22 | 16 | 20 |
| CFSM | .16 | .16 | .11 | .03 | 1.02 | 1.80 | 1.55 | .68 | .18 | .37 | .48 | .22 |
| IN. | .19 | .18 | .13 | .04 | 1.06 | 2.07 | 1.73 | .78 | .20 | .43 | .55 | .24 |
| CAL YR 1976 | TOTAL | 112249 | MEAN 307 | MAX 7230 | MIN 11 | CFSM .65 | IN 8.77 | | | | | |
| WTR YR 1977 | TOTAL | 97201 | MEAN 266 | MAX 4240 | MIN 14 | CFSM .56 | IN 7.60 | | | | | |

LITTLE MIAMI RIVER BASIN

331

03247500 EAST FORK LITTLE MIAMI RIVER AT PERINTOWN, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1964 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPECIFIC CON- DUCTANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | |
|--------------|------|---|--|---|------------------------------------|--|--------------------------------------|--|---|--|--|---|---|
| | | | | | | | | | | | | | |
| MAR 09... | 0930 | 259 | 400 | 8.0 | 7.0 | 10.8 | 88 | 7.0 | 210 | 78 | 59 | 15 | |
| JUN 22... | 0830 | 17 | 660 | 7.8 | 23.0 | 6.1 | 72 | 3.7 | 270 | 51 | 73 | 21 | |
| DATE | | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 09... | 13 | 4.7 | 160 | 0 | 131 | 2.6 | 51 | 30 | .1 | 6.9 | 259 | 2.6 | |
| JUN 22... | 27 | 4.1 | 266 | 0 | 218 | 6.7 | 50 | 39 | .1 | 3.3 | 349 | .45 | |
| DATE | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 09... | .03 | .28 | .32 | 2 | 10 | 8 | 40 | 13 | 40 | .0 | 40 | 9.1 | |
| JUN 22... | .06 | .56 | .75 | 3 | 20 | 5 | 20 | 0 | 20 | .7 | 10 | 6.5 | |

MILL CREEK BASIN

03255500 MILL CREEK AT READING, OH

LOCATION.--Lat 39°13'14", long 84°26'49", in sec. 32, R.1, T.4, Hamilton County, Hydrologic Unit 05090203, on right bank at upstream side of Koehler Street Bridge at Reading, 1.0 mi (1.6 km) upstream from West Fork Mill Creek, and 13.0 mi (20.9 km) upstream from mouth.

DRAINAGE AREA.--73.0 mi² (189 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to April 1939, June 1939 to current year.

REVISED RECORDS.--WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 527.00 ft (160.630 m) above mean sea level, Ohio River datum. Prior to Oct. 1, 1951, water-stage recorder or nonrecording gage at same site at datum 4.00 ft (1.219 m) higher. Oct. 1, 1951, to Apr. 25, 1954, nonrecording gage at present site and datum.

REMARKS.--Records good except those for the winter period, which are fair. Some diversion and ground water pumpage from Mill Creek and Great Miami River basin by industrial plants of the greater Cincinnati area upstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,780 ft³/s (164 m³/s) Mar. 6, 1945, gage height, 20.00 ft (6.096 m) present datum; no flow for many days in 1940-41, 1944, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,720 ft³/s (48.7 m³/s) Mar. 4 (base 1,700 ft³/s), gage height, 9.75 ft (2.97 m); minimum daily discharge, 2.1 ft³/s (0.059 m³/s) Jan. 28 to Feb. 2, Feb. 6-8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|---------|-------|-------|--------|------|------|-------|--------|-------|--------|-------|
| 1 | 13 | 34 | 8.2 | 2.9 | 2.1 | 53 | 23 | 17 | 6.7 | 173 | 5.7 | 8.7 |
| 2 | 4.3 | 18 | 6.5 | 3.1 | 2.1 | 42 | 292 | 53 | 5.6 | 18 | 5.2 | 8.1 |
| 3 | 7.6 | 13 | 5.6 | 5.4 | 2.2 | 244 | 141 | 22 | 5.2 | 8.4 | 4.8 | 17 |
| 4 | 4.7 | 9.8 | 4.6 | 6.4 | 2.5 | 813 | 219 | 53 | 4.6 | 6.2 | 5.5 | 3.1 |
| 5 | 5.8 | 8.7 | 4.0 | 6.8 | 2.3 | 177 | 309 | 274 | 3.2 | 5.5 | 5.5 | 3.1 |
| 6 | 45 | 6.2 | 8.0 | 7.6 | 2.1 | 75 | 103 | 93 | 6.3 | 6.1 | 4.1 | 6.2 |
| 7 | 16 | 4.7 | 26 | 6.0 | 2.1 | 56 | 71 | 129 | 5.7 | 8.0 | 7.1 | 8.1 |
| 8 | 6.7 | 8.7 | 10 | 4.5 | 2.1 | 44 | 49 | 44 | 18 | 6.5 | 223 | 8.1 |
| 9 | 21 | 9.8 | 7.6 | 4.0 | 2.3 | 38 | 38 | 30 | 65 | 6.0 | 32 | 6.7 |
| 10 | 7.6 | 11 | 9.8 | 4.0 | 4.6 | 34 | 33 | 23 | 6.9 | 121 | 15 | 4.3 |
| 11 | 5.4 | 9.8 | 15 | 5.4 | 8.0 | 29 | 32 | 20 | 4.7 | 25 | 184 | 2.4 |
| 12 | 7.6 | 9.8 | 8.0 | 5.0 | 56 | 362 | 31 | 18 | 3.1 | 43 | 223 | 5.4 |
| 13 | 6.7 | 6.7 | 7.5 | 5.8 | 120 | 305 | 29 | 17 | 4.4 | 11 | 21 | 7.1 |
| 14 | 7.1 | 4.7 | 8.2 | 4.8 | 58 | 85 | 27 | 13 | 75 | 6.7 | 9.8 | 12 |
| 15 | 7.6 | 7.6 | 8.2 | 4.0 | 25 | 57 | 27 | 10 | 10 | 5.8 | 9.8 | 9.8 |
| 16 | 5.4 | 8.1 | 7.6 | 3.7 | 21 | 44 | 21 | 9.3 | 7.1 | 6.2 | 9.2 | 44 |
| 17 | 4.7 | 8.7 | 6.6 | 3.4 | 18 | 37 | 18 | 9.9 | 6.0 | 36 | 280 | 11 |
| 18 | 5.8 | 9.2 | 5.8 | 3.1 | 16 | 506 | 21 | 9.4 | 5.5 | 9.4 | 24 | 4.0 |
| 19 | 4.7 | 8.7 | 5.4 | 2.9 | 14 | 100 | 21 | 9.7 | 2.9 | 7.2 | 11 | 38 |
| 20 | 66 | 6.7 | 12 | 2.7 | 16 | 87 | 21 | 22 | 6.0 | 9.0 | 6.2 | 8.7 |
| 21 | 24 | 5.0 | 8.6 | 2.5 | 19 | 59 | 21 | 10 | 6.4 | 9.6 | 12 | 6.7 |
| 22 | 9.2 | 7.6 | 6.6 | 2.4 | 62 | 144 | 28 | 7.7 | 59 | 6.9 | 13 | 6.2 |
| 23 | 25 | 8.7 | 4.6 | 2.3 | 188 | 64 | 31 | 8.4 | 21 | 4.0 | 8.1 | 6.2 |
| 24 | 261 | 9.8 | 2.9 | 2.3 | 339 | 48 | 35 | 9.8 | 9.7 | 2.6 | 123 | 4.3 |
| 25 | 66 | 7.1 | 2.7 | 2.2 | 77 | 41 | 33 | 9.4 | 102 | 36 | 17 | 2.9 |
| 26 | 24 | 41 | 3.1 | 2.3 | 45 | 34 | 28 | 8.3 | 239 | 10 | 9.2 | 5.8 |
| 27 | 15 | 36 | 4.6 | 2.2 | 54 | 27 | 19 | 8.1 | 41 | 6.0 | 6.7 | 6.2 |
| 28 | 12 | 12 | 7.0 | 2.1 | 36 | 66 | 60 | 4.8 | 156 | 4.9 | 4.7 | 6.2 |
| 29 | 11 | 11 | 6.4 | 2.1 | --- | 41 | 56 | 13 | 85 | 31 | 7.6 | 6.2 |
| 30 | 110 | 8.7 | 5.6 | 2.1 | --- | 34 | 17 | 3.6 | 30 | 59 | 8.1 | 6.7 |
| 31 | 153 | --- | 3.4 | 2.1 | --- | 27 | --- | 6.0 | --- | 5.5 | 8.1 | --- |
| TOTAL | 962.9 | 350.8 | 230.1 | 116.1 | 1196.4 | 3773 | 1854 | 965.4 | 1001.0 | 693.5 | 1303.4 | 273.2 |
| MEAN | 31.1 | 11.7 | 7.42 | 3.75 | 42.7 | 122 | 61.8 | 31.1 | 33.4 | 22.4 | 42.0 | 9.11 |
| MAX | 261 | 41 | 26 | 7.6 | 339 | 813 | 309 | 274 | 239 | 173 | 280 | 44 |
| MIN | 4.3 | 4.7 | 2.7 | 2.1 | 2.1 | 27 | 17 | 3.6 | 2.9 | 2.6 | 4.1 | 2.4 |
| CAL YR 1976 | TOTAL | 15687.3 | MEAN | 42.9 | MAX | 1110 | MIN | 2.7 | | | | |
| WTR YR 1977 | TOTAL | 12719.8 | MEAN | 34.8 | MAX | 813 | MIN | 2.1 | | | | |

MILL CREEK BASIN

333

03255500 MILL CREEK AT READING, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPEC- IFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | |
|--------------|------|---|--|---|------------------------------------|--|--------------------------------------|--|---|--|--|--|---|
| | | | | | | | | | | | | | |
| MAR 10... | 0900 | 32 | 850 | 8.0 | 9.5 | 8.8 | 76 | 4.5 | 340 | 100 | 98 | 24 | |
| JUN 27... | 1315 | 29 | 645 | 7.9 | 25.5 | 6.5 | 78 | 3.5 | 240 | 79 | 66 | 18 | |
| DATE | | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITU- TENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 10... | 42 | 3.9 | 296 | 0 | 243 | 4.7 | 88 | 77 | .2 | 8.8 | 488 | 1.7 | |
| JUN 27... | 30 | 4.1 | 195 | 0 | 160 | 3.9 | 77 | 50 | .2 | 9.0 | 351 | 1.8 | |
| DATE | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 10... | .07 | 1.0 | .72 | 2 | 10 | 4 | 30 | 6 | 160 | .0 | 20 | 10 | |
| JUN 27... | .10 | .36 | .38 | 3 | 20 | 22 | 10 | 46 | 70 | .0 | 40 | 8.9 | |

MILL CREEK BASIN

03256500 WEST FORK MILL CREEK LAKE NEAR GREENHILLS, OH

LOCATION.--Lat 39°15'34", long 84°29'41", in SE 1/4 sec.17, T.3, R.1, Hamilton County, Hydrologic Unit 05090203, in gate house of dam on West Fork Mill Creek, 1.2 mi (1.9 km) east of Greenhills.

DRAINAGE AREA.--29.9 mi² (77.4 km²).

PERIOD OF RECORD.--April 1953 to current year. Prior to October 1971, published as West Fork Mill Creek Reservoir near Greenhills, Ohio.

REVISED RECORDS.--WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 600.00 ft (182.880 m) above mean sea level, adjustment of 1912 (levels by Corps of Engineers); gage readings have been reduced to elevations above mean sea level.

REMARKS.--Reservoir is formed by earthfill dam with concrete spillway; operation for flood control began Dec. 20, 1952; storage to maintain conservation pool began Apr. 19, 1953. Usable capacity 11,310 acre-ft (13.9 hm³) between elevations 655.0 ft (199.64 m), lowest outlet, and 702.0 ft (213.97 m), crest of spillway, of which 1,470 acre-ft (1.81 hm³) is in conservation pool. Dead storage below elevation 655.0 ft (199.64 m), 65 acre-ft (80,100 m³). Figures given herein represent usable contents. Reservoir is used for flood control and recreation. There are no gates on spillway and all regulation is done by gates in conduit through dam.

COOPERATION.--Capacity table furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 9,680 acre-ft (11.9 hm³) Jan. 22, 1959, elevation, 698.95 ft (213.040 m); minimum, 729 acre-ft (899,000 m³) Feb. 26, 1964, elevation, 670.00 ft (204.216 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,670 acre-ft (3.29 hm³) Mar. 4, elevation, 680.42 ft (207.392 m); minimum, 1,460 acre-ft (1.80 hm³) Aug. 20, 21, elevation, 674.94 ft (205.722 m).

MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| Date | Elevation (feet) | Contents (acre-feet) | Change in contents (acre-feet) |
|------------------|---------------------|-------------------------|-----------------------------------|
| Sept. 30..... | 675.20 | 1500 | - |
| Oct. 31..... | 676.17 | 1690 | +190 |
| Nov. 30..... | 675.13 | 1490 | -200 |
| Dec. 31..... | 675.12 | 1490 | 0 |
| CAL YR 1976..... | - | - | -320 |
| Jan. 31..... | 674.98 | 1460 | -30 |
| Feb. 28..... | 675.10 | 1490 | +30 |
| Mar. 31..... | 675.08 | 1480 | -10 |
| Apr. 30..... | 675.15 | 1490 | +10 |
| May 31..... | 675.33 | 1530 | +40 |
| June 30..... | 675.32 | 1530 | 0 |
| July 31..... | 675.32 | 1530 | 0 |
| Aug. 31..... | 675.13 | 1490 | -40 |
| Sept. 30..... | 675.13 | 1490 | 0 |
| WTR YR 1977..... | - | - | -10 |

MILL CREEK BASIN

03257500 WEST FORK MILL CREEK AT WOODLAWN, OH

LOCATION.--Lat 39°15'14", long 84°28'13", in NE 1/4 sec.10, E.1, T.3, Hamilton County, Hydrologic Unit 05090203, on left bank at upstream side of Riddle Road Bridge in Woodlawn, 0.5 mi (0.8 km) upstream from small left bank tributary, 1.9 mi (3.1 km) downstream from West Fork Mill Creek Dam, and 4.0 mi (6.4 km) upstream from mouth.

DRAINAGE AREA.--32.2 mi² (83.4 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1952 to current year.

REVISED RECORDS.--WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 570.00 ft (173.736 m) above mean sea level, adjustment of 1912 (Corps of Engineers bench mark).

REMARKS.--Records good except those for winter period, and May 3 to September 30, which are fair. Flow regulated by West Fork Mill Creek Reservoir 1.9 mi (3.1 km) upstream beginning 1953 (see station 03256500).

AVERAGE DISCHARGE.--24 years (1953-77), 31.0 ft³/s (0.878 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,000 ft³/s (56.6 m³/s) Apr. 4, 1956, gage height, 6.82 ft (2.079 m); no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,550 ft³/s (43.9 m³/s) Aug. 12, gage height, 5.96 ft (1.817 m); minimum daily, 0.09 ft³/s (0.003 m³/s) June 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|--------|---------|-------|-------|-------|--------|-------|-------|---------|--------|---------|--------|
| 1 | 5.4 | 4.6 | .96 | .46 | 4.4 | 16 | 6.3 | 1.9 | 8.1 | 189 | 2.6 | .55 |
| 2 | 3.2 | 4.9 | .94 | .46 | 3.9 | 24 | 66 | 17 | 1.3 | 6.6 | 2.6 | .55 |
| 3 | 3.0 | 5.4 | .92 | .45 | 3.6 | 48 | 167 | 8.7 | .98 | 1.3 | 2.2 | .55 |
| 4 | 1.6 | 6.0 | .86 | .45 | 3.3 | 457 | 20 | 21 | .98 | 1.1 | .70 | .48 |
| 5 | .35 | 4.9 | .80 | .45 | 3.4 | 540 | 229 | 320 | .98 | .98 | .55 | .55 |
| 6 | 13 | 3.4 | .92 | .45 | 4.1 | 92 | 33 | 154 | 1.3 | .88 | .55 | .55 |
| 7 | 25 | 3.4 | 5.6 | .48 | 5.2 | 40 | 37 | 34 | 1.2 | .79 | .70 | .55 |
| 8 | 6.6 | 2.8 | 7.4 | .54 | 6.8 | 23 | 33 | 29 | 1.3 | .79 | 116 | .55 |
| 9 | 6.3 | 1.1 | 3.5 | .66 | 9.0 | 14 | 18 | 14 | 77 | .88 | 138 | .55 |
| 10 | 8.7 | .98 | 3.0 | .80 | 12 | 8.5 | 6.9 | 12 | 33 | 24 | 2.8 | .55 |
| 11 | 8.7 | 1.1 | 4.4 | 12 | 55 | 6.3 | 9.4 | 5.4 | 1.3 | 13 | 15 | .55 |
| 12 | 8.7 | 1.1 | 5.2 | 2.3 | 185 | 33 | 12 | 4.4 | 1.2 | 47 | 525 | .55 |
| 13 | 8.1 | 1.1 | 3.2 | 2.2 | 116 | 243 | 10 | 3.6 | 1.2 | 23 | 53 | .62 |
| 14 | 3.0 | 1.1 | 2.9 | 2.5 | 26 | 106 | 8.4 | 3.2 | 3.0 | .88 | 29 | .62 |
| 15 | .18 | 1.1 | 2.8 | 2.9 | 17 | 36 | 8.4 | 3.0 | 4.6 | .79 | .98 | .62 |
| 16 | .10 | 1.2 | 2.3 | 4.0 | 12 | 21 | 7.5 | 3.0 | 4.6 | .98 | .98 | 2.2 |
| 17 | .10 | 1.1 | 1.1 | 6.4 | 1.1 | 13 | 2.0 | 2.0 | 3.6 | 41 | 500 | 4.1 |
| 18 | .12 | 1.1 | .90 | 4.2 | 2.4 | 307 | 3.2 | 2.6 | .98 | 28 | 15 | 1.5 |
| 19 | .15 | 1.1 | .85 | 3.1 | 3.9 | 81 | 4.8 | 2.8 | .79 | 4.1 | 1.5 | 76 |
| 20 | 12 | 1.1 | 2.3 | 2.6 | 8.1 | 37 | 4.6 | 18 | .10 | .79 | .55 | 2.6 |
| 21 | 28 | 1.1 | 2.0 | 2.1 | 11 | 28 | 4.5 | 16 | .09 | .70 | .55 | 1.1 |
| 22 | 14 | 1.1 | 1.5 | 1.6 | 16 | 29 | 21 | 3.9 | 5.2 | .70 | .55 | .70 |
| 23 | 7.5 | 1.1 | .95 | 1.5 | 57 | 35 | 25 | 3.0 | 83 | .70 | .48 | .62 |
| 24 | 150 | 1.1 | .84 | 1.9 | 245 | 30 | 5.9 | 2.4 | 7.5 | .70 | 300 | .62 |
| 25 | 24 | 1.1 | .80 | 2.5 | 43 | 18 | 29 | 2.4 | 59 | .79 | .55 | .70 |
| 26 | 24 | 9.1 | .80 | 2.8 | 38 | 11 | 18 | 2.4 | 318 | .79 | .55 | .88 |
| 27 | 6.6 | 24 | .78 | 2.3 | 38 | 7.2 | 4.4 | 2.4 | 6.6 | .70 | .55 | 6.3 |
| 28 | 3.0 | 18 | .78 | 2.2 | 23 | 24 | 4.8 | 1.8 | 36 | .62 | .55 | 1.3 |
| 29 | 2.0 | 9.4 | .78 | 3.0 | --- | 33 | 30 | 3.0 | 423 | .88 | .55 | .70 |
| 30 | 5.7 | 3.6 | .75 | 3.6 | --- | 17 | 12 | 49 | 18 | 2.2 | .55 | .79 |
| 31 | 159 | --- | .60 | 4.2 | --- | 6.0 | --- | 45 | --- | 2.6 | .55 | --- |
| TOTAL | 538.10 | 118.18 | 61.43 | 75.10 | 953.2 | 2384.0 | 841.1 | 790.9 | 1103.90 | 397.24 | 1713.14 | 108.50 |
| MEAN | 17.4 | 3.94 | 1.98 | 2.42 | 34.0 | 76.9 | 28.0 | 25.5 | 36.8 | 12.8 | 55.3 | 3.62 |
| MAX | 159 | 24 | 7.4 | 12 | 245 | 540 | 229 | 320 | 423 | 189 | 525 | 76 |
| MIN | .10 | .98 | .60 | .45 | 1.1 | 6.0 | 2.0 | 1.8 | .09 | .62 | .48 | .48 |
| CAL YR 1976 | TOTAL | 7130.63 | MEAN | 19.5 | MAX | 398 | MIN | .10 | | | | |
| WTR YR 1977 | TOTAL | 9084.79 | MEAN | 24.9 | MAX | 540 | MIN | .09 | | | | |

MILL CREEK BASIN

337

03257500 WEST FORK MILL CREEK AT WOODLAWN, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | |
|--------------|------|---|--|---|------------------------------------|--|--------------------------------------|--|---|--|--|---|---|
| | | | | | | | | | | | | | |
| MAR 10... | 1230 | 10 | 550 | 8.0 | 8.5 | 10.8 | 92 | 4.1 | 160 | 58 | 50 | 9.2 | |
| JUN 27... | 1130 | 3.2 | 430 | 7.7 | 22.5 | 6.7 | 76 | 3.4 | 150 | 41 | 44 | 10 | |
| DATE | | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 10... | 42 | 3.2 | 128 | 0 | 105 | 2.0 | 46 | 75 | .2 | 5.5 | 294 | 1.5 | |
| JUN 27... | 25 | 3.3 | 134 | 0 | 110 | 4.3 | 33 | 40 | .2 | 2.0 | 224 | .35 | |
| DATE | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 10... | .05 | .22 | .29 | 3 | 30 | 7 | 130 | 21 | 50 | .0 | 40 | 12 | |
| JUN 27... | .01 | .13 | .17 | 3 | <10 | 4 | 20 | 11 | 20 | .2 | 50 | 9.2 | |

MILL CREEK BASIN

03259000 MILL CREEK AT CARTHAGE, OH

LOCATION.--Lat 39°12'07", long 84°28'16", in SW 1/4 sec. 1, R.1, T.3, Hamilton County, Hydrologic Unit 05090203, on right bank 100 ft (30 m) downstream from Anthony Wayne Avenue Bridge in Carthage, 1.0 mi (1.6 km) downstream from West Fork Mill Creek, and 11.0 mi (17.7 km) upstream from mouth.

DRAINAGE AREA.--115 mi² (298 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1946 to current year.

REVISED RECORDS.--WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 512.00 ft (156.058 m) above mean sea level, Ohio River datum. Prior to Oct. 1, 1954 at site 100 ft (30 m) upstream at same datum.

REMARKS.--Records good except those for the winter period, which are fair. Some inter-basin transfers of water between Mill Creek and Great Miami River basins by industrial and municipal operations. Flow regulated by West Fork Mill Creek Reservoir, 6.9 mi (11.1 km) upstream, beginning 1953 (see station 03256500).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,900 ft³/s (252 m³/s) Jan. 21, 1959, gage height, 16.17 ft (4.929 m), from rating curve extended above 4,000 ft³/s (79.3 m³/s) on basis of slope-area measurement of peak flow; no flow many days in 1947-48.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,750 ft³/s (49.6 m³/s) Mar. 4, gage height, 6.03 ft (1.838 m); minimum daily, 2.4 ft³/s (0.068 m³/s) Jan. 23 result of freezeup.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------------|---------|------|-------|-----------|----------|---------|------|------|------|------|------|------|
| 1 | 25 | 40 | 15 | 7.4 | 9.5 | 61 | 30 | 31 | 30 | 234 | 22 | 14 |
| 2 | 14 | 28 | 13 | 7.8 | 10 | 56 | 313 | 74 | 21 | 40 | 22 | 13 |
| 3 | 16 | 25 | 11 | 8.2 | 11 | 263 | 301 | 33 | 21 | 22 | 21 | 20 |
| 4 | 16 | 19 | 10 | 8.6 | 12 | 1180 | 242 | 89 | 20 | 20 | 20 | 11 |
| 5 | 13 | 18 | 9.4 | 8.8 | 9.8 | 511 | 467 | 491 | 19 | 19 | 20 | 10 |
| 6 | 60 | 15 | 13 | 8.6 | 8.0 | 147 | 173 | 245 | 22 | 21 | 21 | 11 |
| 7 | 67 | 13 | 25 | 9.4 | 8.8 | 101 | 141 | 180 | 21 | 22 | 23 | 13 |
| 8 | 27 | 15 | 20 | 9.8 | 10 | 70 | 104 | 94 | 37 | 21 | 264 | 13 |
| 9 | 31 | 15 | 17 | 8.8 | 9.0 | 59 | 69 | 54 | 114 | 20 | 114 | 12 |
| 10 | 27 | 15 | 15 | 14 | 11 | 48 | 39 | 47 | 45 | 140 | 30 | 12 |
| 11 | 22 | 14 | 18 | 20 | 60 | 36 | 40 | 36 | 22 | 51 | 199 | 11 |
| 12 | 25 | 15 | 21 | 22 | 220 | 390 | 43 | 33 | 21 | 81 | 380 | 11 |
| 13 | 24 | 12 | 16 | 10 | 110 | 488 | 41 | 32 | 21 | 46 | 69 | 12 |
| 14 | 16 | 10 | 15 | 11 | 81 | 207 | 36 | 29 | 89 | 22 | 51 | 17 |
| 15 | 14 | 12 | 14 | 12 | 36 | 115 | 35 | 26 | 29 | 20 | 25 | 15 |
| 16 | 11 | 13 | 15 | 13 | 28 | 73 | 30 | 28 | 25 | 26 | 26 | 53 |
| 17 | 9.4 | 13 | 13 | 14 | 17 | 51 | 25 | 27 | 24 | 65 | 462 | 25 |
| 18 | 9.8 | 14 | 11 | 9.0 | 17 | 774 | 25 | 26 | 22 | 46 | 43 | 14 |
| 19 | 11 | 14 | 10 | 7.0 | 17 | 210 | 27 | 29 | 21 | 29 | 22 | 84 |
| 20 | 67 | 12 | 17 | 5.2 | 21 | 162 | 28 | 43 | 22 | 22 | 13 | 19 |
| 21 | 86 | 10 | 15 | 4.2 | 23 | 117 | 27 | 35 | 22 | 25 | 15 | 14 |
| 22 | 33 | 12 | 12 | 3.2 | 60 | 201 | 60 | 24 | 88 | 21 | 18 | 13 |
| 23 | 26 | 14 | 9.5 | 2.4 | 209 | 127 | 63 | 25 | 79 | 18 | 13 | 13 |
| 24 | 400 | 14 | 8.5 | 4.0 | 517 | 96 | 68 | 25 | 34 | 18 | 210 | 12 |
| 25 | 146 | 13 | 8.2 | 8.0 | 121 | 67 | 66 | 25 | 150 | 50 | 27 | 11 |
| 26 | 66 | 39 | 8.2 | 10 | 79 | 48 | 58 | 24 | 357 | 26 | 15 | 11 |
| 27 | 31 | 56 | 9.0 | 12 | 87 | 34 | 26 | 24 | 56 | 20 | 12 | 12 |
| 28 | 20 | 31 | 12 | 13 | 53 | 109 | 85 | 22 | 196 | 19 | 11 | 12 |
| 29 | 18 | 25 | 11 | 11 | --- | 84 | 98 | 38 | 235 | 37 | 12 | 12 |
| 30 | 130 | 17 | 9.6 | 8.0 | --- | 58 | 37 | 34 | 53 | 73 | 14 | 12 |
| 31 | 320 | --- | 9.0 | 10 | --- | 33 | --- | 46 | --- | 22 | 13 | --- |
| TOTAL | 1781.2 | 563 | 410.4 | 300.4 | 1855.1 | 5976 | 2797 | 1969 | 1916 | 1296 | 2207 | 512 |
| MEAN | 57.5 | 18.8 | 13.2 | 9.69 | 66.3 | 193 | 93.2 | 63.5 | 63.9 | 41.8 | 71.2 | 17.1 |
| MAX | 400 | 56 | 25 | 22 | 517 | 1180 | 467 | 491 | 357 | 234 | 462 | 84 |
| MIN | 9.4 | 10 | 8.2 | 2.4 | 8.0 | 33 | 25 | 22 | 19 | 18 | 11 | 10 |
| CAL YR 1976 TOTAL | 24325.7 | | | MEAN 66.5 | MAX 1360 | MIN 8.0 | | | | | | |
| WTR YR 1977 TOTAL | 21583.1 | | | MEAN 59.1 | MAX 1180 | MIN 2.4 | | | | | | |

MILL CREEK BASIN

339

03259000 MILL CREEK AT CARTHAGE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPEC- IFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA,MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | |
|--------------|------|--|--|---|--|--|--|--|--|--|---|---|---|
| | | | | | | | | | | | | | |
| MAR 10... | 1015 | 48 | 760 | 8.0 | 9.5 | 9.6 | 83 | 5.1 | 270 | 77 | 81 | 17 | |
| JUN 28... | 1125 | 51 | 570 | 7.7 | 23.5 | 6.5 | 76 | 4.2 | 190 | 56 | 55 | 12 | |
| DATE | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | |
| MAR 10... | 45 | 3.8 | 238 | 0 | 195 | 3.8 | 72 | 80 | .2 | 8.4 | 425 | 1.5 | |
| JUN 28... | 34 | 3.7 | 159 | 0 | 130 | 5.1 | 53 | 52 | .3 | 5.9 | 294 | .87 | |
| DATE | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 10... | .07 | .75 | .59 | 3 | 20 | 6 | 20 | 13 | 110 | .0 | 40 | 8.7 | |
| JUN 28... | .06 | .14 | .49 | 3 | 10 | 14 | 40 | 14 | 130 | .1 | 90 | 12 | |

LOCATION.--Lat 40°20'50", long 83°53'28", in E. 1/2 sec. 3, R.14, T.2, Logan County, Hydrologic Unit 05C80001, on right bank at downstream side of county road bridge, 2 mi (3 km) downstream from Bluejacket Creek, 2.8 mi (4.5 km) northeast of De Graff, and 4 mi (6 km) upstream from mouth.

PERIOD OF RECORD.--October 1957 to current year. Prior to October 1962, published as Buckongahelas Creek near Degraff.

GAGE.--Water-stage recorder. Datum of gage is 1.008.76 ft (307.470 m) above mean sea level.

REMARKS.--Records good except those for the period Oct. 23 to Feb. 25, which are fair. Diurnal fluctuation caused by municipal plant operation in Bellefontaine, 9.8 mi (15.8 km) upstream; since storage capacity is small, daily flows are not affected appreciably. Water-quality data collected at this site 1965 to 1973.

COOPERATION.--Gage-height charts, tapes, and 8 discharge measurements furnished by Miami Conservancy District.

AVERAGE DISCHARGE.--20 years, 32.2 ft³/s (0.912 m³/s), 12.05 in/yr (306 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,780 ft³/s (50.4 m³/s) Jan. 21, 1959, gage height, 6.83 ft (2.082 m); minimum daily, 2.2 ft³/s (0.062 m³/s) Sept. 29, 30, Oct. 7, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 426 ft³/s (12.1 m³/s) Apr. 2, (base 300ft³/s, 8.50 m³/s), gage height, 4.64 ft (1.414 m); minimum daily, 4.6 ft³/s (0.13 m³/s) Feb. 6-10.

| | | | | | | | | | | | | |
|-------------|-------|--------|------|------|-----|-----|-----|-----|------|-----|----|------|
| CAL YR 1976 | TOTAL | 8939.4 | MEAN | 24.4 | MAX | 464 | MIN | 4.9 | CFSM | .67 | IN | 9.16 |
| WTR YR 1977 | TOTAL | 4801.3 | MEAN | 13.2 | MAX | 191 | MIN | 4.6 | CFSM | .36 | IN | 4.92 |

03261500 GREAT MIAMI RIVER AT SIDNEY, OH

LOCATION.--Lat 40°17'13", long 84°09'00", Shelby County, Hydrologic Unit 05080001, on right bank 50 ft (15 m) upstream from North Street Bridge in Sidney, and 0.5 mi (0.8 km) downstream from Tawawa Creek.

DRAINAGE AREA.--541 mi² (1,401 km²).

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 (281.848 m) above mean sea level, adjustment of 1912. Prior to Sept. 18, 1919, nonrecording gage at site 50 ft (15 m) downstream at datum 1.76 ft (0.536 m) higher. Sept. 18, 1919, to August, 1925, nonrecording gage at site 50 ft (15 m) downstream at present datum.

REMARKS.--Records good except those for winter periods, which are fair. Water supply for city of Sidney is pumped from the Great Miami River 1,200 ft (366 m) upstream and from wells adjacent to Great Miami River upstream from station. The pumpage averaged 4.1 ft³/s (0.12 m³/s) in 1977 and is returned as sewage 1.2 mi (1.9 km) downstream from the station. Some regulation by Indian Lake, 28 mi (45 km) upstream, capacity, 45,900 acre-ft (56.6 km³) prior to 1926; water diverted into Miami and Erie Canal at Port Jefferson, 2.8 mi (4.5 km) upstream, prior to 1926; amount of diversion not published.

COOPERATION.--Gage-height charts, tapes, and 8 discharge measurements furnished by Miami Conservancy District.

AVERAGE DISCHARGE.--52 years (1925-77) 473 ft³/s (13.40 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,700 ft³/s (586 m³/s) Mar. 20, 1927, gage height, 14.4 ft (4.39 m), from rating curve extended above 8,700 ft³/s (195 m³/s) on basis of velocity-area studies; maximum gage height, 15.91 ft (4.849 m) Jan. 21, 1959; minimum discharge, 1.5 ft³/s (0.041 m³/s) Aug. 13, 1963, result of temporary storage behind dam upstream; minimum daily discharge, 8.0 ft³/s (0.23 m³/s) Sept. 23, 1935.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 25, 1913 reached a stage of 19.6 ft (5.97 m), present datum, discharge, 44,000 ft³/s (1,250 m³/s), computed by Miami Conservancy District.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,480 ft³/s (98.6 m³/s) Apr. 3 (base, 4,000 ft³/s, 113 m³/s), gage height, 6.73 ft (2.051 m); minimum daily, 22 ft³/s (0.62 m³/s) Aug. 5, result of temporary storage behind dam upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|-------|-------|------|------|------|------|------|
| 1 | 49 | 76 | 51 | 54 | 31 | 603 | 410 | 191 | 62 | 99 | 27 | 32 |
| 2 | 47 | 76 | 46 | 52 | 30 | 373 | 1500 | 187 | 55 | 100 | 28 | 31 |
| 3 | 46 | 69 | 44 | 50 | 30 | 303 | 3180 | 184 | 59 | 78 | 26 | 33 |
| 4 | 43 | 63 | 52 | 48 | 29 | 920 | 2320 | 597 | 58 | 61 | 24 | 37 |
| 5 | 41 | 61 | 49 | 48 | 29 | 1470 | 1790 | 1090 | 53 | 51 | 22 | 37 |
| 6 | 48 | 60 | 49 | 47 | 28 | 1110 | 1350 | 785 | 51 | 46 | 23 | 37 |
| 7 | 50 | 58 | 54 | 47 | 27 | 780 | 1060 | 606 | 54 | 46 | 40 | 33 |
| 8 | 52 | 56 | 62 | 46 | 27 | 539 | 794 | 479 | 84 | 48 | 53 | 30 |
| 9 | 57 | 57 | 54 | 45 | 26 | 416 | 554 | 404 | 279 | 50 | 49 | 28 |
| 10 | 56 | 60 | 49 | 45 | 26 | 355 | 394 | 347 | 477 | 44 | 48 | 26 |
| 11 | 55 | 56 | 46 | 44 | 40 | 307 | 338 | 237 | 262 | 41 | 53 | 27 |
| 12 | 51 | 54 | 45 | 43 | 78 | 326 | 293 | 186 | 178 | 38 | 61 | 24 |
| 13 | 47 | 55 | 44 | 43 | 422 | 754 | 263 | 169 | 139 | 37 | 58 | 39 |
| 14 | 45 | 56 | 43 | 42 | 428 | 779 | 245 | 164 | 118 | 35 | 64 | 56 |
| 15 | 44 | 54 | 43 | 42 | 320 | 561 | 232 | 152 | 99 | 33 | 63 | 92 |
| 16 | 46 | 59 | 42 | 42 | 250 | 431 | 205 | 139 | 85 | 32 | 50 | 126 |
| 17 | 44 | 160 | 42 | 42 | 180 | 379 | 185 | 123 | 71 | 39 | 52 | 144 |
| 18 | 44 | 177 | 41 | 42 | 140 | 775 | 180 | 113 | 63 | 50 | 46 | 154 |
| 19 | 45 | 179 | 41 | 42 | 120 | 1330 | 166 | 107 | 62 | 47 | 41 | 107 |
| 20 | 57 | 181 | 54 | 41 | 110 | 1130 | 156 | 100 | 56 | 39 | 37 | 90 |
| 21 | 62 | 181 | 50 | 40 | 110 | 904 | 145 | 91 | 53 | 40 | 36 | 98 |
| 22 | 62 | 182 | 46 | 39 | 130 | 910 | 151 | 86 | 54 | 45 | 36 | 91 |
| 23 | 62 | 180 | 45 | 38 | 626 | 1260 | 187 | 81 | 50 | 42 | 36 | 67 |
| 24 | 81 | 178 | 44 | 38 | 1520 | 1070 | 246 | 79 | 48 | 38 | 34 | 56 |
| 25 | 89 | 154 | 44 | 37 | 1450 | 820 | 261 | 76 | 51 | 39 | 34 | 52 |
| 26 | 81 | 102 | 43 | 37 | 1040 | 562 | 231 | 73 | 49 | 38 | 37 | 50 |
| 27 | 73 | 97 | 43 | 36 | 1130 | 430 | 211 | 75 | 52 | 35 | 34 | 50 |
| 28 | 66 | 83 | 42 | 35 | 1010 | 498 | 192 | 73 | 63 | 33 | 32 | 55 |
| 29 | 61 | 71 | 42 | 34 | --- | 807 | 282 | 66 | 206 | 35 | 35 | 56 |
| 30 | 63 | 58 | 45 | 33 | --- | 683 | 233 | 72 | 149 | 32 | 34 | 49 |
| 31 | 74 | --- | 50 | 32 | --- | 510 | --- | 67 | --- | 30 | 33 | --- |
| TOTAL | 1741 | 2953 | 1445 | 1304 | 9387 | 22095 | 17754 | 7199 | 3140 | 1421 | 1246 | 1807 |
| MEAN | 56.2 | 98.4 | 46.6 | 42.1 | 335 | 713 | 592 | 232 | 105 | 45.8 | 40.2 | 60.2 |
| MAX | 89 | 182 | 62 | 54 | 1520 | 1470 | 3180 | 1090 | 477 | 100 | 64 | 154 |
| MIN | 41 | 54 | 41 | 32 | 26 | 303 | 145 | 66 | 48 | 30 | 22 | 24 |

CAL YR 1976 TOTAL 130207 MEAN 356 MAX 4600 MIN 37
WTR YR 1977 TOTAL 71492 MEAN 196 MAX 3180 MIN 22

GREAT MIAMI RIVER BASIN

03261950 LORAMIE CREEK NEAR NEWPORT, OH

LOCATION.--Lat 40°18'25", long 84°23'02", in SE 1/4 sec, 24, T.11 N., R.4 E., Shelby County, Hydrologic Unit 05080001, right bank at downstream side of bridge on Cardo Roman Road, 1.1 mi (1.8 km) northwest of Newport, 3 mi (5 km) south of Fort Loramie, and 3 mi (5 km) downstream from Mile Creek.

DRAINAGE AREA.--152 mi² (394 km²).

PERIOD OF RECORD.--October 1964 to current year.

REVISED RECORDS.--WRD Ohio 1971: 1966(M).

GAGE.--Water-stage recorder. Datum of gage is 927.00 ft (282.550 m) above mean sea level, adjustment of 1912.

REMARKS.--Records good, except those for winter periods, which are fair. Some regulation by Lake Loramie 5 mi (8 km) upstream, capacity, 13,000 acre-ft (16.0 hm³).

COOPERATION.--Gage-height charts and 8 discharge measurements furnished by Miami Conservancy District.

AVERAGE DISCHARGE.--13 years, 125 ft³/s (3.540 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,370 ft³/s (95.4 m³/s) Feb. 24, 1975, gage height, 14.08 ft (4.292 m); minimum daily, 0.10 ft³/s (0.003 m³/s) Aug. 15, 16, 1965, Sept. 10-12, 14, 15, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 25, 1913 reached a stage of 17.0 ft (5.18 m) and flood of Jan. 21, 1959 a stage of 14.2 ft (4.33 m), from flood profile furnished by Miami Conservancy District.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 1,310 ft³/s (37.1 m³/s) Apr. 3 (base, 1,500 ft³/s, 42.5 m³/s), gage height, 10.40 ft (3.170 m); minimum daily, 0.29 ft³/s (0.008 m³/s) June 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|-------|-------|---------|------|------|--------|--------|--------|--------|--------|
| 1 | 2.0 | 4.6 | 3.2 | .86 | .54 | 166 | 85 | 18 | .29 | 51 | 1.2 | .94 |
| 2 | 2.0 | 3.1 | 2.8 | .84 | .52 | 84 | 473 | 19 | .70 | 22 | .98 | .85 |
| 3 | 1.7 | 2.7 | 2.6 | .82 | .52 | 62 | 1230 | 21 | .85 | 9.6 | .85 | .98 |
| 4 | 1.6 | 2.6 | 2.4 | .80 | .52 | 404 | 924 | 86 | .81 | 5.0 | 1.1 | .97 |
| 5 | 1.4 | 2.0 | 2.3 | .78 | .52 | 577 | 404 | 170 | .75 | 3.7 | .99 | .70 |
| 6 | 2.3 | 1.5 | 2.2 | .76 | .54 | 289 | 214 | 101 | .81 | 3.1 | .94 | .64 |
| 7 | 9.4 | 1.4 | 2.1 | .74 | .62 | 146 | 127 | 66 | .98 | 2.7 | 12 | .71 |
| 8 | 3.0 | 1.4 | 2.0 | .72 | 1.7 | 86 | 93 | 37 | 1.0 | 9.1 | 5.3 | .84 |
| 9 | 1.8 | 1.2 | 1.9 | .70 | 11 | 62 | 60 | 26 | 12 | 5.1 | 3.5 | .93 |
| 10 | 2.7 | 1.2 | 1.9 | .68 | 16 | 51 | 49 | 13 | 5.8 | 3.0 | 2.8 | 1.2 |
| 11 | 1.9 | 1.2 | 1.8 | .66 | 18 | 45 | 41 | 8.0 | 4.2 | 1.8 | 5.9 | 1.5 |
| 12 | 1.8 | 1.2 | 1.7 | .64 | 41 | 55 | 36 | 5.0 | 3.4 | 1.6 | 22 | 1.2 |
| 13 | 1.6 | 1.2 | 1.7 | .62 | 84 | 212 | 30 | 3.3 | 2.5 | 2.1 | 14 | 3.2 |
| 14 | 1.8 | 1.2 | 1.6 | .60 | 42 | 179 | 31 | 2.7 | 2.3 | 1.8 | 11 | 26 |
| 15 | 1.8 | 1.1 | 1.6 | .60 | 23 | 106 | 27 | 2.6 | 2.2 | 1.5 | 4.5 | 11 |
| 16 | 1.8 | 1.1 | 1.5 | .58 | 17 | 68 | 19 | 1.6 | 1.9 | 1.4 | 3.1 | 88 |
| 17 | 1.9 | 1.1 | 1.5 | .58 | 14 | 49 | 17 | 1.1 | 1.7 | 43 | 2.9 | 224 |
| 18 | 1.8 | 1.1 | 1.4 | .58 | 52 | 300 | 17 | .85 | 1.8 | 47 | 1.8 | 97 |
| 19 | 1.8 | 1.1 | 1.4 | .56 | 90 | 443 | 20 | .76 | 2.3 | 14 | 1.2 | 47 |
| 20 | 4.2 | 1.1 | 1.3 | .56 | 74 | 258 | 26 | .64 | 2.4 | 5.8 | 1.1 | 26 |
| 21 | 5.9 | 1.1 | 1.2 | .56 | 76 | 186 | 19 | .57 | 2.3 | 3.5 | 1.1 | 14 |
| 22 | 4.8 | 1.1 | 1.2 | .56 | 82 | 292 | 17 | .37 | 2.0 | 2.7 | 5.0 | 8.6 |
| 23 | 4.4 | 1.1 | 1.2 | .54 | 96 | 477 | 36 | .33 | 2.8 | 2.0 | 4.2 | 5.6 |
| 24 | 8.6 | 1.1 | 1.1 | .54 | 271 | 312 | 36 | .33 | 2.8 | 1.6 | 2.0 | 4.4 |
| 25 | 7.1 | 1.1 | 1.1 | .54 | 289 | 182 | 27 | 8.2 | 7.6 | 1.9 | 1.6 | 4.1 |
| 26 | 3.7 | 3.5 | 1.1 | .54 | 215 | 114 | 25 | 9.6 | 30 | 2.9 | .94 | 3.6 |
| 27 | 2.0 | 5.8 | 1.0 | .54 | 404 | 81 | 18 | 1.8 | 8.9 | 1.7 | .70 | 7.0 |
| 28 | 1.6 | 5.8 | .98 | .54 | 376 | 291 | 20 | .77 | 9.0 | 1.1 | .57 | 7.5 |
| 29 | 1.4 | 4.5 | .96 | .54 | --- | 394 | 32 | .52 | 184 | .96 | .64 | 7.3 |
| 30 | 1.7 | 3.8 | .92 | .54 | --- | 222 | 24 | .42 | 136 | 2.3 | 3.0 | 6.8 |
| 31 | 5.4 | --- | .90 | .54 | --- | 128 | --- | .33 | --- | 1.8 | 1.6 | --- |
| TOTAL | 94.9 | 62.0 | 50.56 | 19.66 | 2296.48 | 6321 | 4177 | 606.79 | 434.09 | 256.76 | 118.51 | 602.56 |
| MEAN | 3.06 | 2.07 | 1.63 | .63 | 62.0 | 204 | 139 | 19.6 | 14.5 | 8.28 | 3.82 | 20.1 |
| MAX | 9.4 | 5.8 | 3.2 | .86 | 404 | 577 | 1230 | 170 | 184 | 51 | 22 | 224 |
| MIN | 1.4 | 1.1 | .90 | .54 | .52 | 45 | 17 | .33 | .29 | .96 | .57 | .64 |

CAL YR 1976 TOTAL 32973.19 MEAN 90.1 MAX 2500 MIN .64
WTR YR 1977 TOTAL 15040.31 MEAN 41.2 MAX 1230 MIN .29

GREAT MIAMI RIVER BASIN

343

03262000 LORAMIE CREEK AT LOCKINGTON, OH

LOCATION.--Lat 40°12'35", long 84°14'32", in NE 1/4 sec. 30, T.7 N., R.6 E., Shelby County, Hydrologic Unit 05080001, on left bank at downstream side of county road bridge, 1,300 ft (396 m) downstream from Lockington Dam, 0.5 mi (0.8 km) northwest of Lockington, and 1.5 mi (2.4 km) upstream from mouth.

DRAINAGE AREA.--257 mi² (666 km²).

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

REVISED RECORDS.--WSP 923: 1916. WSP 1908: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 800.03 ft (243.849 m) above mean sea level, adjustment of 1912. Prior to July 3, 1924 nonrecording gage at same site at datum 75.96 ft (23.153 m) higher. July 3, 1924, to Aug. 17, 1926, nonrecording gage, and Aug. 18 to Sept. 30, 1926, water-stage recorder, at same site at datum 74.96 ft (22.848 m) higher.

REMARKS.--Records good, except those for winter periods, which are fair. Slight regulation by Lake Loramie 18 mi (29 km) upstream, capacity, 13,000 acre-ft (16.0 hm³). Flood flow regulated by Lockington retarding basin beginning in 1921.

COOPERATION.--Gage-height charts, tapes and 8 discharge measurements furnished by Miami Conservancy District.

AVERAGE DISCHARGE.--62 years, 205 ft³/s (5.806 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,400 ft³/s (295 m³/s) May 7, 1916, gage height, 86.4 ft (26.33 m), present datum, from rating curve extended above 5,400 ft³/s (153 m³/s); minimum daily, 1.7 ft³/s (0.048 m³/s) Sept. 4, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 25, 1913 reached a stage of 91.6 ft (27.92 m), present datum, discharge, 25,600 ft³/s (725 m³/s), at site upstream from Turtle Creek, drainage area, 211 mi² (546 km²), computed by Miami Conservancy District.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,680 ft³/s (75.9 m³/s) Apr. 2, gage height, 81.60 ft (24.872 m); minimum daily, 1.7 ft³/s (0.048 m³/s) Sept. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|---------|-------|-------|--------|------|------|------|-------|-------|-------|-------|
| 1 | 6.1 | 8.7 | 5.3 | 4.1 | 4.0 | 259 | 141 | 45 | 12 | 76 | 5.7 | 5.9 |
| 2 | 5.9 | 9.5 | 4.8 | 4.0 | 4.0 | 148 | 1310 | 40 | 11 | 41 | 5.9 | 6.1 |
| 3 | 5.3 | 10 | 4.4 | 4.4 | 4.0 | 108 | 1730 | 40 | 10 | 25 | 5.5 | 3.6 |
| 4 | 5.7 | 8.9 | 4.3 | 5.0 | 4.0 | 665 | 1210 | 175 | 9.8 | 17 | 4.8 | 1.7 |
| 5 | 5.7 | 8.7 | 4.3 | 5.0 | 4.0 | 881 | 665 | 270 | 9.8 | 13 | 4.8 | 2.7 |
| 6 | 5.7 | 8.1 | 4.4 | 4.8 | 4.0 | 441 | 317 | 187 | 9.5 | 11 | 4.3 | 5.7 |
| 7 | 5.5 | 7.6 | 5.1 | 4.6 | 4.0 | 233 | 213 | 141 | 9.2 | 9.8 | 6.6 | 5.5 |
| 8 | 5.9 | 8.1 | 5.3 | 4.5 | 4.0 | 148 | 167 | 100 | 9.2 | 10 | 9.5 | 4.7 |
| 9 | 6.6 | 7.8 | 4.8 | 4.3 | 20 | 111 | 122 | 71 | 11 | 14 | 11 | 3.9 |
| 10 | 8.7 | 7.6 | 4.8 | 4.2 | 54 | 90 | 98 | 57 | 15 | 12 | 9.8 | 3.6 |
| 11 | 6.8 | 7.6 | 5.1 | 4.2 | 53 | 78 | 88 | 44 | 14 | 9.8 | 8.9 | 3.6 |
| 12 | 6.1 | 7.6 | 4.9 | 4.2 | 54 | 96 | 76 | 37 | 14 | 8.7 | 9.2 | 3.5 |
| 13 | 5.9 | 7.3 | 4.9 | 4.2 | 163 | 441 | 68 | 32 | 13 | 8.1 | 19 | 3.8 |
| 14 | 5.1 | 7.1 | 4.8 | 4.2 | 148 | 287 | 62 | 28 | 12 | 7.6 | 17 | 5.7 |
| 15 | 4.1 | 7.1 | 4.8 | 4.2 | 75 | 187 | 63 | 25 | 10 | 7.1 | 15 | 22 |
| 16 | 4.4 | 6.8 | 4.8 | 4.2 | 47 | 125 | 52 | 24 | 9.5 | 6.3 | 11 | 77 |
| 17 | 4.8 | 7.3 | 4.8 | 4.2 | 33 | 90 | 43 | 21 | 8.4 | 6.3 | 9.5 | 184 |
| 18 | 4.3 | 6.8 | 4.8 | 4.2 | 42 | 484 | 43 | 20 | 8.7 | 39 | 8.1 | 138 |
| 19 | 5.3 | 6.8 | 4.8 | 4.2 | 128 | 621 | 41 | 19 | 7.8 | 33 | 7.1 | 72 |
| 20 | 6.6 | 6.8 | 5.5 | 4.2 | 119 | 386 | 44 | 18 | 8.9 | 17 | 6.1 | 45 |
| 21 | 7.1 | 7.1 | 5.1 | 4.2 | 122 | 270 | 43 | 16 | 8.9 | 13 | 6.3 | 29 |
| 22 | 6.3 | 6.8 | 4.6 | 4.4 | 155 | 372 | 40 | 15 | 11 | 10 | 6.6 | 20 |
| 23 | 7.6 | 7.1 | 4.5 | 4.5 | 417 | 654 | 49 | 15 | 12 | 7.8 | 6.3 | 15 |
| 24 | 9.8 | 6.8 | 4.5 | 4.7 | 813 | 425 | 65 | 14 | 9.5 | 6.8 | 8.4 | 12 |
| 25 | 10 | 6.1 | 4.4 | 4.6 | 458 | 259 | 54 | 14 | 9.2 | 6.3 | 8.4 | 8.9 |
| 26 | 14 | 7.3 | 4.4 | 4.5 | 311 | 179 | 46 | 25 | 13 | 6.3 | 6.3 | 6.3 |
| 27 | 11 | 9.2 | 4.4 | 4.4 | 688 | 135 | 42 | 25 | 28 | 5.5 | 5.9 | 8.5 |
| 28 | 9.2 | 8.4 | 4.4 | 4.3 | 511 | 357 | 39 | 18 | 17 | 4.9 | 5.9 | 8.3 |
| 29 | 7.8 | 9.2 | 4.4 | 4.2 | --- | 579 | 66 | 15 | 32 | 6.3 | 4.9 | 6.9 |
| 30 | 7.1 | 6.3 | 4.3 | 4.1 | --- | 344 | 57 | 14 | 159 | 6.1 | 5.9 | 6.6 |
| 31 | 8.7 | --- | 4.3 | 4.0 | --- | 200 | --- | 13 | --- | 6.1 | 5.9 | --- |
| TOTAL | 213.1 | 230.5 | 146.0 | 134.8 | 4443.0 | 9653 | 7054 | 1578 | 512.4 | 450.8 | 249.6 | 719.5 |
| MEAN | 6.87 | 7.68 | 4.71 | 4.35 | 159 | 311 | 235 | 50.9 | 17.1 | 14.5 | 8.05 | 24.0 |
| MAX | 14 | 10 | 5.5 | 5.0 | 813 | 881 | 1730 | 270 | 159 | 76 | 19 | 184 |
| MIN | 4.1 | 6.1 | 4.3 | 4.0 | 4.0 | 78 | 39 | 13 | 7.8 | 4.9 | 4.3 | 1.7 |
| CAL YR 1976 | TOTAL | 54359.7 | MEAN | 149 | MAX | 3810 | MIN | 4.1 | | | | |
| WTR YR 1977 | TOTAL | 25384.7 | MEAN | 69.5 | MAX | 1730 | MIN | 1.7 | | | | |

GREAT MIAMI RIVER BASIN

03262700 GREAT MIAMI RIVER AT TROY, OH

LOCATION.--Lat 40°02'25", long 84°11'52", Miami County, Hydrologic Unit 05080001, 400 ft (122 m) downstream from B. and O. Railroad bridge, 1,300 ft (396 m) downstream from bridge on State Highway 55 at Troy, 1.2 mi (1.9 km) upstream from small left bank tributary, and 2.3 mi (3.7 km) downstream from Spring Creek.

DRAINAGE AREA.--926 mi² (2,398 km²).

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1961, 1962 (published as Miami River at Troy). October 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 810.67 ft (247.092 m) above mean sea level.

REMARKS.--Records good except those for winter periods, which are fair. Flood flow regulated by retarding basin on Loramie Creek, 18 mi (29 km) upstream. Low and medium flow slightly regulated by Indian Lake; capacity, 45,900 acre-ft (56.6 hm³), 54 mi (87 km) upstream. Water supply for city of Troy is pumped from wells adjacent to the Great Miami River upstream from the station. The pumpage averaged 4.5 ft³/s (0.13 m³/s) in 1977 and is returned as sewage 1 mi (2 km) downstream from the station. Water-quality data collected at this site 1965 to 1974.

COOPERATION.--Gage-height charts, tapes, and 9 discharge measurements furnished by Miami Conservancy District.

AVERAGE DISCHARGE.--15 years, 766 ft³/s (21.69 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,300 ft³/s (490 m³/s) Mar. 6, 1963, gage height, 14.66 ft (4.468 m); minimum, 0.50 ft³/s (0.014 m³/s) July 12, 13, 1963, result of temporary storage during repair of dam upstream; minimum daily discharge, 4.3 ft³/s (0.122 m³/s) July 17, 1977 result of dam closure upstream.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 11, 1958 reached a stage of 16.4 ft (5.00 m), discharge, 21,000 ft³/s (595 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,890 ft³/s (195 m³/s) Apr. 3, gage height, 8.82 ft (2.688 m); minimum daily discharge, 4.3 ft³/s (0.122 m³/s) July 17 result of dam closure upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|----------|------|------|-------|-------|-------|-------|------|--------|------|------|
| 1 | 53 | 93 | 76 | 31 | 28 | 1150 | 651 | 315 | 100 | 268 | 66 | 53 |
| 2 | 49 | 91 | 76 | 42 | 28 | 679 | 2530 | 295 | 84 | 169 | 58 | 59 |
| 3 | 45 | 92 | 59 | 52 | 28 | 501 | 6030 | 285 | 78 | 138 | 55 | 59 |
| 4 | 37 | 86 | 57 | 60 | 27 | 1310 | 4360 | 679 | 77 | 114 | 51 | 57 |
| 5 | 43 | 81 | 71 | 56 | 27 | 2700 | 3080 | 1630 | 80 | 97 | 49 | 56 |
| 6 | 52 | 77 | 73 | 50 | 27 | 1910 | 2130 | 1320 | 83 | 93 | 42 | 59 |
| 7 | 63 | 76 | 86 | 44 | 27 | 1220 | 1560 | 968 | 82 | 82 | 48 | 70 |
| 8 | 58 | 73 | 74 | 39 | 27 | 813 | 1180 | 744 | 90 | 84 | 68 | 47 |
| 9 | 71 | 61 | 67 | 37 | 27 | 610 | 852 | 571 | 131 | 119 | 71 | 43 |
| 10 | 80 | 57 | 62 | 35 | 27 | 521 | 624 | 540 | 502 | 155 | 71 | 40 |
| 11 | 76 | 56 | 56 | 35 | 70 | 461 | 527 | 398 | 362 | 85 | 97 | 37 |
| 12 | 76 | 59 | 50 | 34 | 162 | 481 | 467 | 325 | 233 | 70 | 115 | 33 |
| 13 | 72 | 61 | 48 | 33 | 290 | 1170 | 411 | 269 | 193 | 62 | 95 | 41 |
| 14 | 61 | 67 | 46 | 32 | 508 | 1330 | 369 | 249 | 145 | 58 | 104 | 92 |
| 15 | 64 | 68 | 44 | 31 | 352 | 943 | 358 | 234 | 134 | 52 | 100 | 96 |
| 16 | 61 | 59 | 42 | 31 | 264 | 658 | 325 | 198 | 106 | 29 | 96 | 221 |
| 17 | 59 | 73 | 40 | 30 | 216 | 565 | 290 | 182 | 120 | 4.3 | 88 | 288 |
| 18 | 57 | 177 | 38 | 30 | 186 | 986 | 275 | 170 | 113 | 21 | 81 | 356 |
| 19 | 48 | 185 | 38 | 30 | 216 | 2150 | 264 | 162 | 105 | 94 | 66 | 235 |
| 20 | 62 | 185 | 42 | 30 | 244 | 1810 | 244 | 148 | 101 | 92 | 50 | 159 |
| 21 | 64 | 189 | 46 | 29 | 220 | 1400 | 234 | 127 | 91 | 87 | 54 | 123 |
| 22 | 67 | 189 | 42 | 29 | 295 | 1280 | 249 | 118 | 80 | 87 | 79 | 117 |
| 23 | 76 | 177 | 39 | 29 | 943 | 2030 | 285 | 107 | 76 | 82 | 71 | 104 |
| 24 | 116 | 175 | 37 | 28 | 2530 | 1770 | 310 | 111 | 74 | 90 | 83 | 86 |
| 25 | 105 | 186 | 34 | 28 | 2400 | 1300 | 381 | 104 | 71 | 78 | 87 | 74 |
| 26 | 95 | 172 | 33 | 28 | 1700 | 885 | 347 | 102 | 72 | 78 | 80 | 81 |
| 27 | 86 | 134 | 32 | 28 | 1940 | 651 | 310 | 130 | 88 | 55 | 69 | 77 |
| 28 | 83 | 119 | 31 | 28 | 1900 | 790 | 331 | 117 | 98 | 47 | 50 | 76 |
| 29 | 81 | 105 | 30 | 28 | --- | 1500 | 375 | 109 | 128 | 45 | 53 | 80 |
| 30 | 80 | 80 | 29 | 28 | --- | 1240 | 417 | 104 | 361 | 69 | 67 | 79 |
| 31 | 95 | --- | 28 | 28 | --- | 828 | --- | 108 | --- | 75 | 55 | --- |
| TOTAL | 2135 | 3303 | 1526 | 1073 | 14709 | 35642 | 29766 | 10919 | 4058 | 2679.3 | 2219 | 2998 |
| MEAN | 68.9 | 110 | 49.2 | 34.6 | 525 | 1150 | 992 | 352 | 135 | 86.4 | 71.6 | 99.9 |
| MAX | 116 | 189 | 86 | 60 | 2530 | 2700 | 6030 | 1630 | 502 | 268 | 115 | 356 |
| MIN | 37 | 56 | 28 | 28 | 27 | 461 | 234 | 102 | 71 | 4.3 | 42 | 33 |
| CAL YR 1976 | TOTAL | 205042.0 | MEAN | 560 | MAX | 9190 | MIN | 28 | | | | |
| WTR YR 1977 | TOTAL | 111027.3 | MEAN | 304 | MAX | 6030 | MIN | 4.3 | | | | |

GREAT MIAMI RIVER BASIN

345

03263000 GREAT MIAMI RIVER AT TAYLORSVILLE, OH

LOCATION.--Lat 39°52'22", long 84°09'51", in SW 1/4 sec. 36, R.8, T.2, Montgomery County, Hydrologic Unit 05080001, on left bank 600 ft (183 m) downstream from Taylorsville Dam, 0.8 mi (1.3 km) north of Taylorsville, 2.1 mi (3.4 km) east of Vandalia (revised) and 9.5 mi (15.3 km) upstream from Stillwater River.

DRAINAGE AREA.--1,149 mi² (2,976 km²).

PERIOD OF RECORD.--January 1914 to September 1917 (published as Miami River at Tadmor), October 1921 to current year (published as Miami River at Taylorsville 1921-62). Monthly discharge only for some periods, published in WSP 1305. Gage-height records collected at site at Tadmor, January 1914 to July 1920, are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 743: 1924(M). WSP 853: 1930, 1937. WSP 923: 1922-24. WSP 1385: 1916. WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 700.08 ft (213.384 m) above mean sea level, adjustment of 1912. Prior to October 1921, nonrecording gage at site 1.8 mi (2.9 km) upstream at different datum. Jan. 1, 1922, to Nov. 11, 1925, nonrecording gage at site 600 ft (183 m) upstream at outlet works of Taylorsville Dam at present datum.

REMARKS.--Records good except those for winter periods, which are fair. Flood flow regulated by retarding basins on Great Miami River, just upstream from station and on Loramie Creek 28 mi (45 km) upstream from station beginning in 1921. Low and medium flow slightly regulated by Indian Lake 64 mi (103 km) upstream from station, and by Lake Loramie 47 mi (76 km) upstream from station on Loramie Creek; combined capacity, 58,900 acre-ft (72.6 hm³).

COOPERATION.--Gage-height charts, tapes and 8 discharge measurements furnished by Miami Conservancy District.

AVERAGE DISCHARGE.--59 years, 984 ft³/s (27.87 m³/s), 11.63 in/yr (295 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,400 ft³/s (889 m³/s) Jan. 22, 1959, gage height, 75.44 ft (22.994 m); minimum daily, 25 ft³/s (0.71 m³/s) July 18, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 25.4 ft (7.74 m) at site at Tadmor, discharge, 127,000 ft³/s (3,600 m³/s) computed by Miami Conservancy District.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,420 ft³/s (267 m³/s) Apr. 3 gage height, 69.45 ft (21.168 m); minimum daily, 25 ft³/s (0.71 m³/s) July 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------------|--------|------|----------|-----------|--------|----------|---------|-------|------|------|------|------|
| 1 | 96 | 137 | 80 | 42 | 34 | 1360 | 767 | 461 | 145 | 627 | 68 | 65 |
| 2 | 89 | 127 | 68 | 52 | 34 | 823 | 2610 | 413 | 131 | 262 | 63 | 70 |
| 3 | 83 | 134 | 60 | 70 | 34 | 605 | 8560 | 411 | 114 | 199 | 57 | 65 |
| 4 | 78 | 127 | 60 | 83 | 33 | 1270 | 5570 | 1140 | 106 | 167 | 60 | 69 |
| 5 | 66 | 120 | 83 | 88 | 32 | 3000 | 3830 | 2150 | 115 | 141 | 55 | 75 |
| 6 | 70 | 112 | 81 | 83 | 32 | 2230 | 2620 | 1850 | 106 | 124 | 52 | 94 |
| 7 | 91 | 108 | 106 | 70 | 31 | 1480 | 1930 | 1530 | 119 | 110 | 68 | 86 |
| 8 | 86 | 106 | 101 | 56 | 31 | 1030 | 1510 | 1150 | 120 | 103 | 89 | 86 |
| 9 | 86 | 102 | 80 | 50 | 30 | 760 | 1180 | 868 | 157 | 111 | 91 | 63 |
| 10 | 104 | 88 | 74 | 48 | 30 | 628 | 902 | 754 | 400 | 165 | 90 | 60 |
| 11 | 105 | 83 | 72 | 46 | 100 | 543 | 749 | 613 | 463 | 156 | 105 | 54 |
| 12 | 101 | 85 | 70 | 45 | 252 | 578 | 659 | 487 | 291 | 99 | 149 | 53 |
| 13 | 99 | 84 | 68 | 44 | 334 | 1230 | 583 | 414 | 237 | 82 | 130 | 53 |
| 14 | 92 | 94 | 66 | 43 | 710 | 1520 | 527 | 371 | 197 | 78 | 152 | 139 |
| 15 | 81 | 97 | 64 | 42 | 638 | 1130 | 496 | 343 | 175 | 65 | 125 | 135 |
| 16 | 86 | 96 | 64 | 41 | 478 | 819 | 465 | 311 | 150 | 66 | 133 | 222 |
| 17 | 83 | 81 | 64 | 40 | 356 | 662 | 415 | 291 | 137 | 43 | 120 | 287 |
| 18 | 82 | 160 | 62 | 40 | 276 | 894 | 390 | 266 | 138 | 25 | 103 | 376 |
| 19 | 81 | 217 | 62 | 39 | 239 | 2210 | 371 | 251 | 131 | 63 | 90 | 317 |
| 20 | 88 | 216 | 62 | 38 | 299 | 2000 | 353 | 236 | 122 | 116 | 71 | 219 |
| 21 | 118 | 217 | 74 | 38 | 266 | 1580 | 346 | 207 | 114 | 109 | 66 | 164 |
| 22 | 90 | 212 | 64 | 37 | 301 | 1380 | 366 | 190 | 105 | 103 | 91 | 148 |
| 23 | 96 | 211 | 60 | 36 | 1300 | 1990 | 406 | 184 | 97 | 94 | 91 | 137 |
| 24 | 161 | 206 | 56 | 36 | 2930 | 1940 | 424 | 178 | 94 | 82 | 98 | 114 |
| 25 | 160 | 213 | 52 | 35 | 2920 | 1480 | 487 | 169 | 93 | 78 | 86 | 96 |
| 26 | 135 | 233 | 50 | 35 | 2000 | 1090 | 466 | 158 | 88 | 84 | 78 | 90 |
| 27 | 126 | 181 | 48 | 35 | 1930 | 798 | 410 | 178 | 99 | 73 | 76 | 92 |
| 28 | 114 | 145 | 46 | 35 | 2070 | 799 | 443 | 167 | 125 | 55 | 64 | 85 |
| 29 | 118 | 129 | 44 | 35 | --- | 1440 | 561 | 164 | 125 | 61 | 57 | 88 |
| 30 | 118 | 113 | 42 | 34 | --- | 1410 | 587 | 155 | 306 | 57 | 68 | 84 |
| 31 | 152 | --- | 40 | 34 | --- | 1010 | --- | 149 | --- | 69 | 78 | --- |
| TOTAL | 3135 | 4234 | 2023 | 1450 | 17720 | 39689 | 38983 | 16209 | 4800 | 3667 | 2724 | 3686 |
| MEAN | 101 | 141 | 65.3 | 46.8 | 633 | 1280 | 1299 | 523 | 160 | 118 | 87.9 | 123 |
| MAX | 161 | 233 | 106 | 88 | 2930 | 3000 | 8560 | 2150 | 463 | 627 | 152 | 376 |
| MIN | 66 | 81 | 40 | 34 | 30 | 543 | 346 | 149 | 88 | 25 | 52 | 53 |
| CFSM | .09 | .12 | .06 | .04 | .55 | 1.11 | 1.13 | .46 | .14 | .10 | .08 | .11 |
| IN. | .10 | .14 | .07 | .05 | .57 | 1.28 | 1.26 | .52 | .16 | .12 | .09 | .12 |
| CAL YR 1976 TOTAL | 264340 | | MEAN 722 | MAX 10300 | MIN 40 | CFSM .63 | IN 8.56 | | | | | |
| WTR YR 1977 TOTAL | 138320 | | MEAN 379 | MAX 8560 | MIN 25 | CFSM .33 | IN 4.48 | | | | | |

GREAT MIAMI RIVER BASIN

03264000 GREENVILLE CREEK NEAR BRADFORD, OH

LOCATION (revised).--Lat 40°06'08", long 84°25'48", in SW 1/4 NW 1/4 sec. 34, T.9 N., R.4 E., Miami County, Hydrologic Unit 05080001, on left bank at downstream side of bridge on State Highway 721, 0.8 mi (1.3 km) downstream from small left bank tributary, 1.8 mi (2.9 km) south of Bradford, and 6 mi (10 km) upstream from mouth.

DRAINAGE AREA.--193 mi² (500 km²).

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

REVISED RECORDS.--WSP 803: 1933(M). WSP 1235: 1936, 1937(M). WRD 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 948.9 ft (289.22 m) above mean sea level, adjustment of 1912. 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 (61 m) downstream at same datum.

REMARKS.--Records good except those for winter periods, which are fair. Some diurnal fluctuation caused by mill 8 mi (13 km) upstream from station; daily flows are not affected appreciably.

COOPERATION.--Gage-height charts, tapes, and 8 discharge measurements furnished by Miami Conservancy District.

AVERAGE DISCHARGE.--47 years, 168 ft³/s (4.758 m³/s), 11.82 in/yr (300 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,320 ft³/s (264 m³/s) May 14, 1933, gage height, 9.2 ft (2.80 m); maximum gage height, 10.31 ft (3.142 m) Mar. 5, 1963, from high-water mark in well (ice jam); minimum discharge, 4.8 ft³/s (0.14 m³/s) Sept. 17, 1963.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 12.1 ft (3.69 m), discharge, 18,200 ft³/s (515 m³/s), at site with drainage area of 213 mi² (552 km²), computed by Miami Conservancy District.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,720 ft³/s (48.7 m³/s) Apr. 3 (base 1,500 ft³/s, 42.5 m³/s), gage height, 5.50 ft (1.676 m), maximum gage height, 6.37 ft (1.942 m) Feb. 11 (ice jam); minimum, 7.0 ft³/s (0.20 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 11 | 30 | 22 | 18 | 14 | 150 | 104 | 68 | 30 | 35 | 12 | 20 |
| 2 | 7.7 | 28 | 20 | 19 | 14 | 114 | 688 | 68 | 27 | 33 | 12 | 17 |
| 3 | 19 | 24 | 19 | 19 | 14 | 109 | 1640 | 65 | 28 | 28 | 11 | 18 |
| 4 | 20 | 23 | 19 | 19 | 14 | 518 | 814 | 185 | 34 | 23 | 11 | 15 |
| 5 | 18 | 25 | 18 | 19 | 14 | 523 | 478 | 213 | 27 | 20 | 11 | 14 |
| 6 | 24 | 27 | 19 | 18 | 14 | 261 | 317 | 158 | 28 | 18 | 11 | 14 |
| 7 | 33 | 22 | 22 | 18 | 14 | 176 | 238 | 137 | 29 | 17 | 28 | 32 |
| 8 | 24 | 21 | 20 | 18 | 14 | 136 | 190 | 115 | 29 | 17 | 35 | 39 |
| 9 | 21 | 20 | 21 | 17 | 14 | 117 | 158 | 97 | 37 | 19 | 32 | 16 |
| 10 | 23 | 20 | 23 | 17 | 14 | 103 | 146 | 83 | 52 | 21 | 21 | 14 |
| 11 | 20 | 22 | 20 | 17 | 36 | 90 | 134 | 74 | 47 | 20 | 21 | 13 |
| 12 | 18 | 25 | 16 | 17 | 76 | 124 | 113 | 69 | 36 | 18 | 59 | 13 |
| 13 | 18 | 20 | 16 | 17 | 100 | 245 | 107 | 66 | 31 | 19 | 42 | 14 |
| 14 | 29 | 17 | 15 | 17 | 86 | 170 | 101 | 62 | 30 | 17 | 46 | 34 |
| 15 | 28 | 18 | 21 | 17 | 72 | 131 | 95 | 58 | 29 | 17 | 33 | 37 |
| 16 | 23 | 21 | 26 | 17 | 60 | 107 | 95 | 52 | 27 | 17 | 28 | 111 |
| 17 | 27 | 22 | 29 | 17 | 54 | 92 | 86 | 49 | 25 | 15 | 22 | 127 |
| 18 | 21 | 32 | 25 | 17 | 49 | 149 | 83 | 49 | 22 | 14 | 18 | 71 |
| 19 | 21 | 27 | 22 | 16 | 44 | 149 | 81 | 45 | 23 | 14 | 17 | 28 |
| 20 | 32 | 23 | 22 | 16 | 38 | 140 | 78 | 45 | 25 | 14 | 15 | 33 |
| 21 | 36 | 25 | 18 | 16 | 34 | 122 | 76 | 43 | 22 | 14 | 20 | 24 |
| 22 | 39 | 25 | 16 | 16 | 56 | 144 | 76 | 40 | 22 | 13 | 32 | 23 |
| 23 | 31 | 25 | 15 | 16 | 210 | 216 | 94 | 37 | 22 | 13 | 17 | 23 |
| 24 | 48 | 24 | 14 | 16 | 552 | 167 | 78 | 43 | 23 | 12 | 19 | 17 |
| 25 | 40 | 25 | 14 | 16 | 487 | 128 | 73 | 40 | 22 | 12 | 22 | 27 |
| 26 | 39 | 29 | 13 | 15 | 277 | 105 | 65 | 35 | 42 | 11 | 18 | 21 |
| 27 | 29 | 43 | 13 | 15 | 363 | 103 | 66 | 33 | 30 | 11 | 16 | 20 |
| 28 | 24 | 32 | 12 | 15 | 250 | 168 | 76 | 33 | 42 | 11 | 16 | 17 |
| 29 | 21 | 34 | 12 | 15 | --- | 255 | 95 | 30 | 64 | 12 | 17 | 18 |
| 30 | 25 | 27 | 12 | 14 | --- | 181 | 74 | 35 | 40 | 26 | 33 | 18 |
| 31 | 38 | --- | 11 | 14 | --- | 133 | --- | 44 | --- | 16 | 22 | --- |
| TOTAL | 807.7 | 756 | 565 | 518 | 2984 | 5326 | 6519 | 2171 | 945 | 547 | 717 | 888 |
| MEAN | 26.1 | 25.2 | 18.2 | 16.7 | 107 | 172 | 217 | 70.0 | 31.5 | 17.6 | 23.1 | 29.6 |
| MAX | 48 | 43 | 29 | 19 | 552 | 523 | 1640 | 213 | 64 | 35 | 59 | 127 |
| MIN | 7.7 | 17 | 11 | 14 | 14 | 90 | 65 | 30 | 22 | 11 | 11 | 13 |
| CFSM | .14 | .13 | .09 | .09 | .55 | .89 | 1.12 | .36 | .16 | .09 | .12 | .15 |
| IN. | .16 | .15 | .11 | .10 | .58 | 1.03 | 1.26 | .42 | .18 | .11 | .14 | .17 |

CAL YR 1976 TOTAL 42843.9 MEAN 117 MAX 1950 MIN 7.2 CFSM .61 IN 8.26
WTR YR 1977 TOTAL 22743.7 MEAN 62.3 MAX 1640 MIN 7.7 CFSM .32 IN 4.38

GREAT MIAMI RIVER BASIN

347

03265000 STILLWATER RIVER AT PLEASANT HILL, OH

LOCATION.--Lat 40°03'28", long 84°21'22", in SW 1/4 sec. 18, T.7 N., R.5 E., Miami County, Hydrologic Unit 05080001, on left bank at downstream side of bridge on Laurer Road, 0.8 mi (1.3 km) northwest of Pleasant Hill, 2 mi (3 km) downstream from Painter Creek, and 2 mi (3 km) upstream from Canyon Run.

DRAINAGE AREA.--503 mi² (1,303 km²).

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 (258.083 m) above mean sea level, adjustment of 1912. Prior to Dec. 23, 1934, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are fair.

COOPERATION.--Gage-height charts, tapes and 9 discharge measurements furnished by Miami Conservancy District.

AVERAGE DISCHARGE.--55 years, 433 ft³/s (12.26 m³/s), 11.69 in/yr (297 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,400 ft³/s (748 m³/s) Jan. 14, 1937, from rating curve extended above 14,500 ft³/s (396 m³/s) on basis of velocity-area study; maximum gage height, 17.98 ft (5.480 m) Jan. 21, 1959; minimum discharge observed, 4 ft³/s (0.11 m³/s) Oct. 17, 1920, July 12, 22, Aug. 30, 1921.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of January 25, 1913 reached a stage of 17.5 ft (5.33 m). Discharge, at site about 3 mi (5 km) upstream, 51,400 ft³/s (1,460 m³/s), computed by Miami Conservancy District. This stage is not comparable with present gage heights because of failure of levee in 1913.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,600 ft³/s (159 m³/s) Apr. 3 (base, 5,000 ft³/s, 142 m³/s) gage height, 9.33 ft (2.844 m); minimum, 8.8 ft³/s (0.25 m³/s) Aug. 3, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|-------|-------|------|------|------|-------|------|
| 1 | 31 | 52 | 35 | 20 | 19 | 335 | 234 | 130 | 45 | 53 | 19 | 28 |
| 2 | 18 | 46 | 28 | 19 | 19 | 222 | 2030 | 123 | 42 | 44 | 13 | 23 |
| 3 | 13 | 43 | 25 | 19 | 19 | 212 | 4810 | 123 | 38 | 36 | 9.7 | 19 |
| 4 | 24 | 39 | 27 | 26 | 19 | 1100 | 2000 | 303 | 40 | 31 | 10 | 21 |
| 5 | 25 | 39 | 30 | 26 | 19 | 1300 | 1050 | 537 | 38 | 28 | 10 | 17 |
| 6 | 27 | 41 | 32 | 26 | 19 | 565 | 679 | 374 | 38 | 24 | 9.6 | 16 |
| 7 | 42 | 40 | 39 | 25 | 19 | 369 | 500 | 303 | 42 | 25 | 14 | 17 |
| 8 | 35 | 36 | 35 | 25 | 19 | 273 | 405 | 249 | 42 | 23 | 31 | 33 |
| 9 | 39 | 33 | 34 | 25 | 19 | 226 | 325 | 205 | 46 | 25 | 35 | 28 |
| 10 | 35 | 33 | 35 | 24 | 22 | 201 | 290 | 172 | 57 | 32 | 33 | 16 |
| 11 | 36 | 32 | 37 | 24 | 38 | 175 | 257 | 149 | 64 | 32 | 32 | 13 |
| 12 | 30 | 37 | 37 | 23 | 75 | 212 | 222 | 133 | 56 | 27 | 49 | 12 |
| 13 | 25 | 37 | 28 | 22 | 200 | 666 | 201 | 123 | 48 | 26 | 63 | 14 |
| 14 | 25 | 33 | 31 | 22 | 260 | 429 | 188 | 114 | 45 | 22 | 51 | 19 |
| 15 | 34 | 31 | 32 | 21 | 180 | 294 | 175 | 104 | 45 | 20 | 53 | 40 |
| 16 | 31 | 33 | 33 | 21 | 140 | 230 | 163 | 94 | 40 | 18 | 43 | 121 |
| 17 | 28 | 33 | 43 | 21 | 120 | 188 | 157 | 90 | 38 | 18 | 38 | 166 |
| 18 | 31 | 34 | 36 | 21 | 95 | 359 | 143 | 85 | 35 | 16 | 30 | 124 |
| 19 | 26 | 39 | 39 | 20 | 85 | 521 | 135 | 81 | 33 | 14 | 25 | 74 |
| 20 | 36 | 36 | 40 | 20 | 75 | 364 | 130 | 76 | 32 | 12 | 25 | 52 |
| 21 | 44 | 33 | 25 | 20 | 70 | 307 | 123 | 76 | 31 | 14 | 26 | 42 |
| 22 | 45 | 35 | 30 | 20 | 120 | 344 | 130 | 68 | 31 | 13 | 36 | 35 |
| 23 | 49 | 34 | 31 | 20 | 439 | 672 | 140 | 66 | 30 | 12 | 33 | 33 |
| 24 | 62 | 34 | 24 | 20 | 1140 | 449 | 138 | 64 | 32 | 12 | 27 | 29 |
| 25 | 64 | 34 | 24 | 20 | 1080 | 316 | 126 | 61 | 33 | 16 | 28 | 26 |
| 26 | 57 | 42 | 24 | 20 | 565 | 253 | 117 | 58 | 38 | 16 | 27 | 30 |
| 27 | 49 | 58 | 24 | 19 | 737 | 222 | 110 | 57 | 71 | 11 | 24 | 28 |
| 28 | 39 | 57 | 22 | 19 | 629 | 359 | 121 | 54 | 74 | 12 | 21 | 29 |
| 29 | 35 | 52 | 21 | 19 | --- | 672 | 166 | 48 | 57 | 14 | 25 | 26 |
| 30 | 36 | 42 | 20 | 19 | --- | 439 | 149 | 46 | 54 | 15 | 33 | 29 |
| 31 | 48 | --- | 19 | 19 | --- | 312 | --- | 50 | --- | 27 | 33 | --- |
| TOTAL | 1119 | 1168 | 940 | 665 | 6241 | 12586 | 15414 | 4216 | 1315 | 688 | 906.3 | 1160 |
| MEAN | 36.1 | 38.9 | 30.3 | 21.5 | 223 | 406 | 514 | 136 | 43.8 | 22.2 | 29.2 | 38.7 |
| MAX | 64 | 58 | 43 | 26 | 1140 | 1300 | 4810 | 537 | 74 | 53 | 63 | 166 |
| MIN | 13 | 31 | 19 | 19 | 19 | 175 | 110 | 46 | 30 | 11 | 9.6 | 12 |
| CFSM | .07 | .08 | .06 | .04 | .44 | .81 | 1.02 | .27 | .09 | .04 | .06 | .08 |
| IN. | .08 | .09 | .07 | .05 | .46 | .93 | 1.14 | .31 | .10 | .05 | .07 | .09 |

CAL YR 1976 TOTAL 104249.0 MEAN 285 MAX 6380 MIN 10 CFSM .57 IN 7.71
WTR YR 1977 TOTAL 46418.3 MEAN 127 MAX 4810 MIN 9.6 CFSM .25 IN 3.43

GREAT MIAMI RIVER BASIN

03266000 STILLWATER RIVER AT ENGLEWOOD, OH

LOCATION.--Lat 39°52'10", long 84°16'57", in NW 1/4 sec. 23, T.5 N., R.5 E., Montgomery County, Hydrologic Unit 05080001, on right bank 1,000 ft (305 m) downstream from Englewood Dam, 1 mi (2 km) southeast of Englewood, and 8.5 mi (13.7 km) upstream from mouth.

DRAINAGE AREA.--650 mi² (1,684 km²).

PERIOD OF RECORD.--October 1925 to current year (monthly discharge only, October 1925, published in WSP 1305).

REVISED RECORDS.--WSP 1908: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 699.97 ft (213.351 m) above mean sea level, adjustment of 1912.

REMARKS.--Records good except those for winter periods, which are fair. Flood flow regulated by Englewood retarding basin.

COOPERATION.--Gage-height tapes and 9 discharge measurements furnished by Miami Conservancy District.

AVERAGE DISCHARGE.--52 years, 564 ft³/s (15.97 m³/s), 11.78 in/yr (299 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,980 ft³/s (283 m³/s) June 15, 1958, gage height, 80.88 ft (24.652 m); minimum, 3.7 ft³/s (0.10 m³/s) Sept. 30, Oct. 1, 1944, gage height, 71.36 ft (21.751 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a discharge of 85,400 ft³/s (2,420 m³/s) at site 1 mi (2 km) downstream, computed by Miami Conservancy District.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,120 ft³/s (145 m³/s) Apr. 3, gage height, 77.42 ft (23.598 m); minimum, 14 ft³/s (0.40 m³/s) Aug. 5,6, gage height, 71.58 ft (21.817 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|----------|----------|--------|----------|---------|------|------|------|------|------|
| 1 | 41 | 57 | 50 | 29 | 28 | 497 | 333 | 211 | 69 | 360 | 20 | 39 |
| 2 | 39 | 59 | 51 | 28 | 27 | 314 | 1310 | 197 | 67 | 211 | 24 | 35 |
| 3 | 35 | 57 | 45 | 28 | 27 | 267 | 4700 | 188 | 62 | 113 | 20 | 31 |
| 4 | 28 | 54 | 40 | 29 | 28 | 817 | 4610 | 360 | 57 | 74 | 17 | 28 |
| 5 | 24 | 50 | 42 | 31 | 28 | 1930 | 2550 | 837 | 56 | 59 | 14 | 27 |
| 6 | 34 | 47 | 42 | 32 | 28 | 919 | 1350 | 670 | 59 | 48 | 14 | 27 |
| 7 | 36 | 48 | 48 | 34 | 28 | 519 | 898 | 579 | 54 | 42 | 33 | 24 |
| 8 | 40 | 47 | 48 | 35 | 28 | 374 | 678 | 457 | 54 | 41 | 33 | 23 |
| 9 | 48 | 44 | 44 | 36 | 28 | 302 | 526 | 367 | 67 | 37 | 34 | 25 |
| 10 | 43 | 43 | 44 | 36 | 29 | 267 | 441 | 296 | 61 | 34 | 40 | 36 |
| 11 | 42 | 42 | 47 | 35 | 33 | 235 | 395 | 256 | 69 | 36 | 43 | 29 |
| 12 | 41 | 41 | 47 | 34 | 45 | 246 | 346 | 225 | 76 | 41 | 50 | 23 |
| 13 | 40 | 41 | 47 | 33 | 80 | 741 | 302 | 206 | 69 | 38 | 50 | 22 |
| 14 | 34 | 44 | 42 | 33 | 327 | 687 | 284 | 193 | 64 | 34 | 80 | 34 |
| 15 | 31 | 43 | 42 | 32 | 273 | 449 | 267 | 180 | 57 | 31 | 66 | 27 |
| 16 | 29 | 41 | 45 | 31 | 193 | 340 | 246 | 164 | 56 | 29 | 62 | 45 |
| 17 | 33 | 40 | 43 | 30 | 157 | 273 | 235 | 149 | 51 | 30 | 54 | 137 |
| 18 | 30 | 42 | 44 | 30 | 129 | 314 | 220 | 142 | 49 | 28 | 45 | 171 |
| 19 | 30 | 43 | 45 | 30 | 108 | 628 | 211 | 135 | 47 | 25 | 39 | 147 |
| 20 | 39 | 43 | 47 | 30 | 97 | 511 | 202 | 132 | 43 | 22 | 33 | 94 |
| 21 | 41 | 47 | 45 | 30 | 86 | 417 | 188 | 116 | 41 | 21 | 33 | 66 |
| 22 | 40 | 42 | 41 | 29 | 102 | 388 | 206 | 110 | 42 | 22 | 34 | 57 |
| 23 | 44 | 41 | 40 | 29 | 327 | 628 | 216 | 99 | 41 | 21 | 34 | 49 |
| 24 | 67 | 43 | 40 | 29 | 948 | 636 | 216 | 97 | 39 | 19 | 47 | 43 |
| 25 | 74 | 42 | 39 | 29 | 1350 | 441 | 206 | 97 | 40 | 17 | 38 | 40 |
| 26 | 74 | 51 | 38 | 28 | 788 | 340 | 193 | 94 | 42 | 16 | 33 | 34 |
| 27 | 66 | 59 | 35 | 28 | 670 | 290 | 176 | 89 | 42 | 17 | 34 | 33 |
| 28 | 61 | 62 | 34 | 28 | 898 | 314 | 188 | 84 | 69 | 18 | 31 | 31 |
| 29 | 53 | 62 | 32 | 28 | --- | 696 | 230 | 80 | 78 | 22 | 30 | 30 |
| 30 | 51 | 56 | 31 | 28 | --- | 636 | 235 | 74 | 71 | 23 | 32 | 28 |
| 31 | 64 | --- | 30 | 28 | --- | 441 | --- | 69 | --- | 20 | 35 | --- |
| TOTAL | 1352 | 1431 | 1308 | 950 | 6890 | 15857 | 22158 | 6953 | 1692 | 1549 | 1152 | 1435 |
| MEAN | 43.6 | 47.7 | 42.2 | 30.6 | 246 | 512 | 739 | 224 | 56.4 | 50.0 | 37.2 | 47.8 |
| MAX | 74 | 62 | 51 | 36 | 1350 | 1930 | 4700 | 837 | 78 | 360 | 80 | 171 |
| MIN | 24 | 40 | 30 | 28 | 27 | 235 | 176 | 69 | 39 | 16 | 14 | 22 |
| CFSM | .07 | .07 | .07 | .05 | .38 | .79 | 1.14 | .35 | .09 | .08 | .06 | .07 |
| IN. | .08 | .08 | .07 | .05 | .39 | .91 | 1.27 | .40 | .10 | .09 | .07 | .08 |
| CAL YR 1976 | TOTAL | 135475 | MEAN 370 | MAX 5800 | MIN 19 | CFSM .57 | IN 7.75 | | | | | |
| WTR YR 1977 | TOTAL | 62727 | MEAN 172 | MAX 4700 | MIN 14 | CFSM .27 | IN 3.59 | | | | | |

GREAT MIAMI RIVER BASIN

03266500 MAD RIVER AT ZANESFIELD, OH

LOCATION.--Lat 40°21'01", long 83°40'28", Logan County, Hydrologic Unit 05080001, on left bank at upstream side of bridge on County Road No. 5 (adjacent to former U.S. Highway 33), 0.8 mi (1.3 km) upstream from Sugar Creek, and 1 mi (2 km) north of Zanesfield.

DRAINAGE AREA.--7.31 mi² (18.9 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,208.28 ft (368.284 m) above mean sea level.

REMARKS.--Records good except those for winter period, which are fair.

AVERAGE DISCHARGE.--31 years, 7.69 ft³/s (0.218 m³/s), 14.29 in/yr (363 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,100 ft³/s (59.5 m³/s) Apr. 13, 1972, gage height, 9.54 ft (2.908 m) in gage house, from rating curve extended above 220 ft³/s (6.23 m³/s) on basis of critical-depth measurement of peak flow; minimum, 0.30 ft³/s (0.008 m³/s) Jan. 16, 1966, gage height, 0.58 ft (0.177 m), result of freezeup.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 192 ft³/s (5.43 m³/s) Apr. 2, gage height, 2.19 ft (0.668), no peak above base of 200 ft³/s (5.66 m³/s); minimum, 0.53 ft³/s (0.015 m³/s) Jan. 26, Feb. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------------|---------|------|-------|-----------|---------|---------|----------|----------|------|------|------|------|
| 1 | .96 | 1.5 | 1.0 | .80 | .74 | 4.4 | 5.0 | 5.9 | 1.8 | 2.8 | 1.4 | 1.1 |
| 2 | .95 | 1.4 | 1.0 | .80 | .80 | 3.3 | 93 | 5.7 | 1.7 | 2.1 | 1.2 | 1.2 |
| 3 | .96 | 1.4 | 1.0 | .80 | .76 | 3.8 | 41 | 5.1 | 1.7 | 1.9 | 1.2 | 1.3 |
| 4 | .85 | 1.4 | 1.0 | .78 | .72 | 21 | 22 | 22 | 1.7 | 1.8 | 1.2 | 1.2 |
| 5 | .88 | 1.4 | 1.0 | .76 | .70 | 10 | 16 | 16 | 1.8 | 1.7 | 1.1 | 1.1 |
| 6 | 1.3 | 1.3 | 1.1 | .76 | .70 | 5.7 | 13 | 12 | 1.8 | 1.6 | 1.2 | 1.1 |
| 7 | 1.3 | 1.3 | 1.0 | .74 | .70 | 4.4 | 11 | 10 | 1.7 | 2.2 | 1.9 | 1.2 |
| 8 | 1.0 | 1.3 | .95 | .74 | .70 | 3.6 | 8.8 | 7.4 | 8.7 | 2.0 | 1.4 | 1.3 |
| 9 | 1.3 | 1.3 | .90 | .72 | .70 | 3.6 | 7.9 | 5.7 | 9.9 | 1.7 | 1.4 | 1.3 |
| 10 | 1.0 | 1.3 | .88 | .72 | .70 | 3.4 | 7.0 | 5.6 | 4.5 | 1.6 | 1.9 | 1.3 |
| 11 | .93 | 1.3 | .86 | .72 | 1.2 | 3.7 | 6.3 | 4.8 | 3.1 | 1.6 | 1.7 | 1.2 |
| 12 | .91 | 1.3 | .84 | .72 | 1.9 | 11 | 5.6 | 4.5 | 2.8 | 1.6 | 1.8 | 1.1 |
| 13 | .88 | 1.3 | .84 | .72 | 2.6 | 16 | 5.2 | 4.3 | 2.5 | 1.4 | 1.5 | 3.2 |
| 14 | .89 | 1.3 | .82 | .72 | 1.8 | 6.5 | 4.8 | 4.4 | 2.4 | 1.3 | 1.9 | 2.9 |
| 15 | .87 | 1.2 | .86 | .72 | 1.4 | 5.0 | 4.6 | 4.1 | 2.2 | 1.3 | 1.8 | 2.0 |
| 16 | .89 | 1.2 | .84 | .72 | 1.2 | 3.8 | 4.5 | 3.5 | 2.1 | 1.3 | 1.5 | 3.5 |
| 17 | .89 | 1.2 | .82 | .72 | 1.1 | 3.3 | 4.5 | 3.1 | 2.0 | 1.8 | 1.4 | 1.9 |
| 18 | .89 | 1.3 | .80 | .72 | .99 | 26 | 4.3 | 3.0 | 2.0 | 1.4 | 1.3 | 1.9 |
| 19 | .93 | 1.3 | .80 | .72 | .93 | 10 | 4.2 | 3.0 | 1.9 | 1.4 | 1.3 | 1.7 |
| 20 | 1.7 | 1.2 | 1.2 | .72 | .90 | 7.6 | 4.1 | 2.9 | 1.9 | 1.3 | 1.3 | 1.6 |
| 21 | 1.5 | 1.2 | .90 | .72 | .88 | 5.6 | 3.9 | 2.6 | 1.8 | 1.6 | 1.6 | 1.6 |
| 22 | 1.4 | 1.2 | .88 | .72 | 2.0 | 15 | 6.2 | 2.5 | 1.8 | 1.4 | 1.4 | 1.5 |
| 23 | 1.4 | 1.2 | .86 | .72 | 14 | 11 | 8.7 | 2.4 | 1.9 | 1.3 | 1.3 | 1.5 |
| 24 | 2.7 | 1.1 | .84 | .72 | 23 | 6.5 | 7.5 | 2.5 | 1.9 | 1.3 | 1.3 | 1.6 |
| 25 | 1.7 | 1.3 | .82 | .72 | 12 | 5.3 | 7.0 | 2.3 | 2.0 | 1.3 | 1.2 | 1.8 |
| 26 | 1.5 | 1.9 | .82 | .70 | 7.6 | 4.5 | 6.9 | 2.1 | 1.7 | 1.2 | 1.2 | 1.8 |
| 27 | 1.3 | 1.6 | .82 | .70 | 11 | 4.3 | 6.0 | 2.0 | 2.8 | 1.2 | 1.2 | 1.9 |
| 28 | 1.3 | 1.4 | .82 | .70 | 5.7 | 7.5 | 7.2 | 1.9 | 3.7 | 1.2 | 1.2 | 1.9 |
| 29 | 1.3 | 1.2 | .80 | .70 | --- | 6.5 | 7.4 | 1.9 | 5.7 | 1.3 | 1.2 | 1.9 |
| 30 | 1.4 | 1.0 | .80 | .70 | --- | 5.5 | 6.4 | 1.9 | 2.6 | 1.3 | 1.3 | 1.9 |
| 31 | 1.8 | --- | .80 | .70 | --- | 5.2 | --- | 1.9 | --- | 1.4 | 1.2 | --- |
| TOTAL | 37.58 | 39.3 | 27.67 | 22.62 | 97.42 | 233.0 | 340.0 | 157.0 | 84.1 | 48.3 | 43.5 | 50.5 |
| MEAN | 1.21 | 1.31 | .89 | .73 | 3.48 | 7.52 | 11.3 | 5.06 | 2.80 | 1.56 | 1.40 | 1.68 |
| MAX | 2.7 | 1.9 | 1.2 | .80 | 23 | 26 | 93 | 22 | 9.9 | 2.8 | 1.9 | 3.5 |
| MIN | .85 | 1.0 | .80 | .70 | .70 | 3.3 | 3.9 | 1.9 | 1.7 | 1.2 | 1.1 | 1.1 |
| CFSM | .17 | .18 | .12 | .10 | .48 | 1.03 | 1.55 | .69 | .38 | .21 | .19 | .23 |
| IN. | .19 | .20 | .14 | .12 | .50 | 1.19 | 1.73 | .80 | .43 | .25 | .22 | .26 |
| CAL YR 1976 TOTAL | 2103.35 | | | MEAN 5.75 | MAX 105 | MIN .73 | CFSM .79 | IN 10.70 | | | | |
| WTR YR 1977 TOTAL | 1180.99 | | | MEAN 3.24 | MAX 93 | MIN .70 | CFSM .44 | IN 6.01 | | | | |

GREAT MIAMI RIVER BASIN

351

03266500 MAD RIVER AT ZANESFIELD, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|--------------|--|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| DATE | TIME | (CFS) | | (UNITS) | | | | | | | | |
| MAR 28... | 1145 | 8.0 | 590 | 8.0 | 9.0 | 11.3 | 97 | .2 | 310 | 67 | 76 | 30 |
| JUN 07... | 1215 | 1.8 | 650 | 8.2 | 13.5 | 10.4 | 99 | .8 | 350 | 36 | 83 | 34 |
| | | | | | | | | | | | | |
| | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 28... | 6.7 | 1.7 | 300 | 0 | 246 | 4.8 | 52 | 12 | .2 | 5.5 | 332 | 1.2 |
| JUN 07... | 7.9 | 2.6 | 380 | 0 | 312 | 3.8 | 41 | 11 | .2 | 9.4 | 377 | .85 |
| | | | | | | | | | | | | |
| | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | | | | | | | | | | | |
| MAR 28... | .01 | .02 | .00 | 0 | <10 | 2 | 50 | 3 | 40 | .0 | 0 | -- |
| JUN 07... | .02 | .12 | .01 | 1 | 20 | 1 | 70 | 0 | 30 | .0 | 10 | 4.9 |

GREAT MIAMI RIVER BASIN

03267000 MAD RIVER NEAR URBANA, OH

LOCATION.--Lat 40°06'27", long 83°47'57", on west line of sec. 35, T.5 E., R.11 N., Champaign County, Hydrologic Unit 05080001, on left bank at downstream side of bridge on U.S. Highway 36, 1.8 mi (2.9 km) upstream from Dugan Run, 1.8 mi (2.9 km) downstream from Muddy Creek, and 2.5 mi (4.0 km) west of Urbana.

DRAINAGE AREA.--162 mi² (420 km²).

PERIOD OF RECORD.--September 1925 to September 1931, August 1939 to current year.

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 (300.295 m) above mean 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 (183 m) downstream at datum 0.36 ft (0.110 m) lower. Aug. 1 to Sept. 25, 1939, nonrecording gage at present site and datum.

REMARKS.--Records good except those for periods of no gage-height record and winter periods, which are fair.

COOPERATION.--Gage-height graph, tapes and 8 discharge measurements furnished by Miami Conservancy District.

AVERAGE DISCHARGE.--44 years, 140 ft³/s (3.965 m³/s), 11.74 in/yr (298 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,000 ft³/s (227 m³/s) Jan. 22, 1959, gage height, 12.05 ft (3.673 m), from rating curve extended above 4,000 ft³/s (113 m³/s) on basis of estimate of peak flow based on contracted-opening measurement at site 3 mi (5 km) downstream with drainage area of 235 mi² (609 km²) adjusted to gage site by 0.8 power of the drainage-area ratio; minimum, 2.1 ft³/s (0.059 m³/s) Jan. 21, 1963, gage height, 2.33 ft (0.710 m), result of freezeup; minimum daily, 24 ft³/s (0.68 m³/s) Feb. 2, 3, 1945, Jan. 13, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,740 ft³/s (49.3 m³/s) Apr. 2 (base, 1,400 ft³/s, 39.6 m³/s), gage height, 5.87 ft (1.789 m); minimum daily, 30 ft³/s Jan. 25-28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 59 | 63 | 54 | 56 | 52 | 120 | 98 | 109 | 79 | 92 | 45 | 41 |
| 2 | 58 | 63 | 54 | 72 | 48 | 110 | 613 | 109 | 76 | 80 | 44 | 40 |
| 3 | 57 | 62 | 55 | 58 | 46 | 110 | 694 | 107 | 76 | 74 | 43 | 39 |
| 4 | 57 | 61 | 54 | 50 | 45 | 370 | 310 | 281 | 75 | 71 | 41 | 38 |
| 5 | 57 | 61 | 53 | 47 | 44 | 280 | 266 | 251 | 72 | 67 | 41 | 38 |
| 6 | 60 | 60 | 53 | 45 | 43 | 190 | 213 | 189 | 73 | 66 | 40 | 37 |
| 7 | 60 | 59 | 54 | 44 | 43 | 150 | 186 | 175 | 72 | 65 | 45 | 35 |
| 8 | 59 | 59 | 52 | 44 | 42 | 124 | 169 | 150 | 75 | 68 | 44 | 35 |
| 9 | 60 | 59 | 52 | 43 | 42 | 118 | 157 | 137 | 110 | 66 | 42 | 35 |
| 10 | 59 | 59 | 53 | 43 | 42 | 113 | 149 | 129 | 87 | 63 | 42 | 34 |
| 11 | 58 | 58 | 53 | 42 | 45 | 108 | 143 | 124 | 81 | 61 | 45 | 34 |
| 12 | 58 | 58 | 53 | 41 | 50 | 115 | 137 | 119 | 78 | 62 | 44 | 34 |
| 13 | 58 | 58 | 52 | 40 | 90 | 234 | 132 | 116 | 75 | 61 | 42 | 35 |
| 14 | 58 | 58 | 52 | 39 | 70 | 157 | 124 | 113 | 74 | 61 | 41 | 47 |
| 15 | 58 | 57 | 52 | 38 | 62 | 133 | 120 | 109 | 73 | 57 | 41 | 38 |
| 16 | 58 | 57 | 52 | 37 | 58 | 120 | 116 | 106 | 71 | 61 | 41 | 47 |
| 17 | 58 | 57 | 52 | 36 | 56 | 112 | 115 | 106 | 68 | 64 | 42 | 43 |
| 18 | 57 | 56 | 52 | 35 | 54 | 217 | 112 | 105 | 67 | 59 | 40 | 40 |
| 19 | 58 | 55 | 52 | 35 | 54 | 182 | 110 | 100 | 67 | 56 | 40 | 40 |
| 20 | 61 | 54 | 53 | 34 | 52 | 147 | 107 | 98 | 66 | 54 | 40 | 38 |
| 21 | 61 | 54 | 51 | 33 | 52 | 133 | 106 | 96 | 64 | 54 | 41 | 37 |
| 22 | 59 | 54 | 59 | 32 | 60 | 146 | 109 | 94 | 64 | 56 | 43 | 37 |
| 23 | 60 | 54 | 52 | 31 | 120 | 153 | 114 | 93 | 64 | 54 | 42 | 37 |
| 24 | 67 | 54 | 53 | 31 | 450 | 129 | 111 | 95 | 63 | 54 | 43 | 36 |
| 25 | 69 | 54 | 51 | 30 | 260 | 119 | 110 | 91 | 63 | 55 | 42 | 36 |
| 26 | 64 | 57 | 51 | 30 | 220 | 113 | 107 | 89 | 62 | 48 | 43 | 37 |
| 27 | 61 | 57 | 51 | 30 | 220 | 108 | 104 | 87 | 76 | 47 | 43 | 36 |
| 28 | 60 | 56 | 51 | 30 | 150 | 117 | 109 | 85 | 142 | 46 | 42 | 36 |
| 29 | 61 | 54 | 49 | 32 | --- | 119 | 131 | 85 | 94 | 45 | 44 | 36 |
| 30 | 62 | 56 | 48 | 36 | --- | 109 | 115 | 83 | 83 | 47 | 46 | 36 |
| 31 | 65 | --- | 46 | 44 | --- | 102 | --- | 81 | --- | 45 | 44 | --- |
| TOTAL | 1857 | 1724 | 1619 | 1238 | 2570 | 4558 | 5187 | 3712 | 2290 | 1859 | 1316 | 1132 |
| MEAN | 59.9 | 57.5 | 52.2 | 39.9 | 91.8 | 147 | 173 | 120 | 76.3 | 60.0 | 42.5 | 37.7 |
| MAX | 69 | 63 | 59 | 72 | 450 | 370 | 694 | 281 | 142 | 92 | 46 | 47 |
| MIN | 57 | 54 | 46 | 30 | 42 | 102 | 98 | 81 | 62 | 45 | 40 | 34 |
| CFSM | .37 | .36 | .32 | .25 | .57 | .91 | 1.07 | .74 | .47 | .37 | .26 | .23 |
| IN. | .43 | .40 | .37 | .28 | .59 | 1.05 | 1.19 | .85 | .53 | .43 | .30 | .26 |
| CAL YR 1976 TOTAL | 43310 | | | | 1160 | | 46 | | | | | |
| WTR YR 1977 TOTAL | 29062 | | | | 694 | | 30 | | | | | |
| MEAN | 118 | | | | | | | .73 | | 9.95 | | |
| MAX | 79.6 | | | | | | | .49 | | 6.67 | | |
| MIN | | | | | | | | | | | | |

Note: No gage height record Jan. 13 to Mar. 7.

GREAT MIAMI RIVER BASIN

03267900 MAD RIVER AT ST. PARIS PIKE AT EAGLE CITY, OH

LOCATION.--Lat 39°57'51", long 83°49'54", in W 1/2 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 (1.3 km) southeast of Eagle City, 1.1 mi (1.8 km) downstream from Moore Run, 3.1 mi (5.0 km) upstream from Buck Creek, and 3.3 mi (5.3 km) south of Tremont City.

DRAINAGE AREA.--310 mi² (803 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 904.66 ft (275.740 m) above mean sea level.

REMARKS.--Records good, except those for the winter period, which are fair. Water supply for city of Springfield is pumped from wells, adjacent to Mad River, just upstream from station. Recharge to the well field is largely by induced infiltration from Mad River and Moore Run. The pumpage average 26.5 ft³/s (0.75 m³/s) in 1977 and is returned as sewage 1.4 mi (2.3 km) upstream from gaging station near Springfield (station 03269500).

AVERAGE DISCHARGE.--12 years, 294 ft³/s (8.326 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,700 ft³/s (275 m³/s) June 26, 1971, gage height, 16.00 ft (4.877 m), from rating curve extended above 3,060 ft³/s (86.7 m³/s); minimum daily, 60 ft³/s (1.70 m³/s) Jan. 27, 28, 1977 (result of freezeup).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 19.8 ft (6.04 m), from data furnished by Miami Conservancy District. Flood of Jan. 21, 1959 reached a stage of 15.7 ft (4.79 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,390 ft³/s (209 m³/s) Apr. 2, (base, 2,500 ft³/s, 70.8 m³/s) gage height 14.85 ft (4.526 m); minimum daily, 60 ft³/s (1.70 m³/s) Jan. 27, 28 (result of freezeup).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|------|-------|------|------|------|------|------|
| 1 | 113 | 133 | 115 | 260 | 110 | 245 | 151 | 212 | 146 | 290 | 130 | 87 |
| 2 | 112 | 129 | 111 | 200 | 100 | 206 | 2250 | 207 | 144 | 167 | 98 | 86 |
| 3 | 110 | 125 | 110 | 150 | 98 | 199 | 1580 | 205 | 142 | 149 | 95 | 86 |
| 4 | 111 | 123 | 111 | 120 | 96 | 670 | 805 | 690 | 140 | 142 | 93 | 84 |
| 5 | 112 | 120 | 105 | 98 | 94 | 628 | 681 | 633 | 139 | 138 | 92 | 88 |
| 6 | 121 | 118 | 106 | 96 | 92 | 374 | 525 | 489 | 141 | 132 | 90 | 93 |
| 7 | 113 | 116 | 113 | 94 | 90 | 287 | 441 | 445 | 139 | 129 | 100 | 87 |
| 8 | 111 | 116 | 105 | 92 | 88 | 240 | 380 | 347 | 139 | 152 | 103 | 86 |
| 9 | 123 | 118 | 103 | 90 | 86 | 218 | 336 | 298 | 181 | 136 | 106 | 84 |
| 10 | 115 | 116 | 105 | 88 | 84 | 200 | 310 | 270 | 154 | 127 | 96 | 84 |
| 11 | 113 | 115 | 103 | 86 | 88 | 184 | 287 | 249 | 149 | 127 | 132 | 82 |
| 12 | 113 | 115 | 101 | 84 | 100 | 240 | 268 | 233 | 142 | 128 | 120 | 82 |
| 13 | 113 | 116 | 100 | 82 | 205 | 649 | 255 | 222 | 137 | 126 | 103 | 86 |
| 14 | 111 | 116 | 100 | 80 | 183 | 365 | 244 | 212 | 136 | 123 | 113 | 157 |
| 15 | 113 | 116 | 100 | 78 | 141 | 267 | 233 | 202 | 131 | 118 | 101 | 103 |
| 16 | 113 | 116 | 100 | 76 | 124 | 217 | 223 | 195 | 125 | 126 | 100 | 126 |
| 17 | 111 | 115 | 98 | 74 | 120 | 192 | 218 | 192 | 123 | 159 | 105 | 112 |
| 18 | 113 | 116 | 97 | 72 | 111 | 462 | 212 | 191 | 122 | 130 | 95 | 113 |
| 19 | 115 | 115 | 95 | 70 | 106 | 407 | 207 | 182 | 119 | 116 | 93 | 109 |
| 20 | 133 | 113 | 100 | 68 | 103 | 305 | 202 | 176 | 118 | 111 | 91 | 103 |
| 21 | 133 | 113 | 94 | 66 | 100 | 258 | 196 | 169 | 115 | 110 | 93 | 99 |
| 22 | 125 | 113 | 116 | 66 | 210 | 319 | 205 | 164 | 115 | 149 | 94 | 98 |
| 23 | 123 | 111 | 97 | 64 | 600 | 328 | 211 | 163 | 115 | 108 | 92 | 97 |
| 24 | 165 | 109 | 131 | 64 | 1100 | 246 | 204 | 165 | 116 | 103 | 95 | 97 |
| 25 | 155 | 111 | 97 | 62 | 760 | 213 | 205 | 162 | 117 | 105 | 90 | 96 |
| 26 | 138 | 129 | 92 | 62 | 480 | 192 | 199 | 157 | 118 | 102 | 89 | 97 |
| 27 | 131 | 121 | 88 | 60 | 436 | 178 | 189 | 154 | 128 | 99 | 88 | 97 |
| 28 | 127 | 116 | 84 | 60 | 310 | 206 | 233 | 151 | 230 | 96 | 87 | 98 |
| 29 | 125 | 113 | 90 | 62 | --- | 211 | 289 | 148 | 170 | 101 | 88 | 99 |
| 30 | 127 | 136 | 110 | 70 | --- | 180 | 234 | 146 | 163 | 99 | 90 | 100 |
| 31 | 144 | --- | 220 | 90 | --- | 162 | --- | 146 | --- | 99 | 88 | --- |
| TOTAL | 3782 | 3539 | 3297 | 2784 | 6215 | 9048 | 11973 | 7575 | 4154 | 3997 | 3050 | 2916 |
| MEAN | 122 | 118 | 106 | 89.8 | 222 | 292 | 399 | 244 | 138 | 129 | 98.4 | 97.2 |
| MAX | 165 | 136 | 220 | 260 | 1100 | 670 | 2250 | 690 | 230 | 290 | 132 | 157 |
| MIN | 110 | 109 | 84 | 60 | 84 | 162 | 151 | 146 | 115 | 96 | 87 | 82 |

CAL YR 1976 TOTAL 86069 MEAN 235 MAX 2450 MIN 84
WTR YR 1977 TOTAL 62330 MEAN 171 MAX 2250 MIN 60

GREAT MIAMI RIVER BASIN

355

03267900 MAD RIVER AT ST. PARIS PIKE AT EAGLE CITY, OH--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA,MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | |
|--------------|------|---|--|---|------------------------------------|--|--------------------------------------|--|---|--|--|---|---|
| DATE | TIME | | | (UNITS) | | | | | | | | | |
| MAR 02... | 1030 | 203 | 730 | 8.0 | 3.5 | 11.6 | 87 | .7 | 400 | 110 | 99 | 37 | |
| JUN 23... | 1220 | 113 | 730 | 8.2 | 15.5 | 13.6 | 140 | .6 | 380 | 74 | 93 | 37 | |
| | | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | | | | | | | | | | | | |
| MAR 02... | 7.5 | 2.3 | 358 | 0 | 294 | 5.7 | 83 | 18 | .2 | 8.8 | 432 | 3.2 | |
| JUN 23... | 9.6 | 1.9 | 373 | 0 | 306 | 3.8 | 62 | 19 | .2 | 8.0 | 414 | 2.7 | |
| | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | | | | | | | | | | | | |
| MAR 02... | .02 | .07 | .05 | 1 | 20 | 27 | 10 | 5 | 50 | .0 | 20 | 2.6 | |
| JUN 23... | .02 | .02 | .05 | 2 | 10 | 6 | 10 | 0 | 0 | .0 | 30 | 6.1 | |

GREAT MIAMI RIVER BASIN

03268090 CLARENCE J. BROWN RESERVOIR NEAR SPRINGFIELD, OH

LOCATION.--Lat 39°57'01", long 83°44'51", in SE 1/4 sec. 13, R.10, T.5, Clark County, Hydrologic Unit 05080001, in gatehouse of dam on Buck Creek, 1.3 mi (2.1 km) upstream from Beaver Creek, and 4.0 mi (6.4 km) northeast of city hall in Springfield.

DRAINAGE AREA.--82.0 mi² (212 km²).

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

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).

REMARKS.--Reservoir is formed by rolled rock-fill dam having an impervious core with sand and gravel shell, and an open cut spillway. Storage began in January 1974, recorder was installed and records began April 16, 1974. Usable capacity 63,690 acre-ft (78.5 hm³) between elevations 968.0 ft (295.05 m), lowest outlet, and 1,023.0 ft (311.81 m), crest of spillway. Dead storage below elevation 968.0 ft (295.05 m) 6 acre-ft (7,400 m³). Figures given herein represent usable contents. Reservoir is used for flood control, low-flow augmentation and recreation. There are no gates on spillway and all regulation is done by gates in conduit through dam.

COOPERATION.--Capacity table furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 42,630 acre-ft (52.6 hm³) Feb. 28, 1975, elevation, 1,014.60 ft (309.250 m); minimum, 12,990 acre-ft (16.0 hm³) May 7, 1974, elevation, 997.73 ft (304.108 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 37,890 acre-ft (46.7 hm³) July 19, elevation, 1,012.45 ft (308.595 m); minimum, 26,750 acre-ft (33.0 hm³) Jan. 13, elevation, 1,006.81 ft (306.876 m).

MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| Date | Elevation (feet) | Contents (acre-feet) | Change in contents (acre-feet) |
|------------------|---------------------|-------------------------|-----------------------------------|
| Sept. 30..... | 1011.48 | 35840 | - |
| Oct. 31..... | 1010.52 | 33860 | -1980 |
| Nov. 30..... | 1009.13 | 31100 | -2760 |
| Dec. 31..... | 1008.69 | 30250 | -850 |
| CAL YR 1976..... | - | - | +8170 |
| Jan. 31..... | 1006.85 | 26820 | -3430 |
| Feb. 28..... | 1008.27 | 29450 | +2630 |
| Mar. 31..... | 1010.27 | 33360 | +3910 |
| Apr. 30..... | 1012.10 | 37140 | +3780 |
| May 31..... | 1012.11 | 37160 | +20 |
| June 30..... | 1012.38 | 37740 | +580 |
| July 31..... | 1011.75 | 36400 | -1340 |
| Aug. 31..... | 1011.17 | 35190 | -1210 |
| Sept. 30..... | 1010.89 | 34610 | -580 |
| WTR YR 1977..... | | | -1230 |

03269500 MAD RIVER NEAR SPRINGFIELD, OH

LOCATION.--Lat 39°55'23", long 83°52'13", in NW 1/4 sec. 16, R.9, T.4, Clark County, Hydrologic Unit 05080001, on right bank 150 ft (46 m) downstream from Rock Run, 300 ft (91 m) downstream from bridge on Lower Valley Pike, 2 mi (3 km) downstream from Buck Creek, and 3 mi (5 km) west of Springfield.

DRAINAGE AREA.--490 mi² (1,269 km²).

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 (268.657 m) above mean sea level, adjustment of 1912. Jan. 1, 1904 to Mar. 31, 1906, nonrecording gage at site 0.3 mi (0.5 km) downstream at different datum. Feb. 1, 1914, to Feb. 29, 1924, nonrecording gage at site 1.8 mi (2.9 km) upstream at datum 6.39 ft (1.948 m) higher. Mar. 1, 1924, to July 31, 1925, nonrecording gage at site 300 ft (91 m) upstream at same datum.

REMARKS.--Records good except those for winter periods, which are fair. Some regulation by C.J. Brown Reservoir, 8.3 mi (13.4 km) upstream on Buck Creek, since 1972. Occasional low-flow regulation by powerplant 2.3 mi (3.7 km) upstream; daily flows are not affected appreciably. Water-quality data collected at this site 1965 to 1973.

COOPERATION.--Gage-height charts, tapes and 8 discharge measurements furnished by Miami Conservancy District.

AVERAGE DISCHARGE.--64 years, (1904-05, 1914-77), 481 ft³/s (13.62 m³/s), 13.33 in/yr (339 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,500 ft³/s (864 m³/s) Jan. 21, 1959, gage height, 15.76 ft (4,804 m), from rating curve extended above 14,000 ft³/s (396 m³/s) on basis of slope-area and contracted opening measurements of peak flow; minimum daily discharge, 30 ft³/s (0.85 m³/s) Sept. 15, 1904.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 25, 1913 reached a stage of 16.9 ft (5.15 m), present datum, discharge, 55,400 ft³/s (1,570 m³/s) computed by Miami Conservancy District.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,840 ft³/s (165 m³/s) Apr. 2, gage height, 8.62 ft (2.627 m); minimum daily, 100 ft³/s (2.832 m³/s) Jan. 26-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|------|-------|-------|-------|------|------|------|------|
| 1 | 245 | 279 | 241 | 270 | 130 | 367 | 275 | 317 | 217 | 406 | 315 | 168 |
| 2 | 237 | 270 | 221 | 300 | 150 | 324 | 2430 | 314 | 217 | 230 | 256 | 165 |
| 3 | 233 | 266 | 206 | 340 | 150 | 337 | 2190 | 332 | 217 | 205 | 247 | 174 |
| 4 | 233 | 262 | 198 | 350 | 140 | 822 | 1010 | 885 | 209 | 201 | 252 | 159 |
| 5 | 229 | 262 | 187 | 350 | 130 | 761 | 982 | 927 | 230 | 193 | 261 | 159 |
| 6 | 209 | 258 | 202 | 345 | 130 | 498 | 677 | 734 | 209 | 189 | 305 | 172 |
| 7 | 241 | 253 | 217 | 345 | 130 | 411 | 535 | 697 | 205 | 197 | 477 | 165 |
| 8 | 245 | 253 | 198 | 325 | 130 | 361 | 453 | 606 | 209 | 225 | 356 | 162 |
| 9 | 279 | 253 | 194 | 340 | 130 | 334 | 398 | 540 | 261 | 189 | 275 | 165 |
| 10 | 249 | 253 | 198 | 311 | 150 | 313 | 369 | 441 | 217 | 181 | 221 | 199 |
| 11 | 249 | 249 | 198 | 258 | 180 | 295 | 350 | 406 | 225 | 181 | 270 | 194 |
| 12 | 245 | 249 | 191 | 170 | 250 | 415 | 334 | 367 | 213 | 185 | 480 | 195 |
| 13 | 245 | 245 | 191 | 150 | 365 | 752 | 332 | 356 | 213 | 193 | 280 | 202 |
| 14 | 241 | 245 | 191 | 140 | 355 | 498 | 316 | 335 | 230 | 181 | 230 | 503 |
| 15 | 213 | 249 | 191 | 130 | 284 | 401 | 308 | 315 | 205 | 197 | 200 | 166 |
| 16 | 209 | 229 | 191 | 120 | 210 | 347 | 294 | 305 | 197 | 181 | 190 | 254 |
| 17 | 206 | 245 | 191 | 120 | 190 | 317 | 289 | 300 | 197 | 252 | 210 | 178 |
| 18 | 209 | 245 | 187 | 120 | 180 | 563 | 288 | 300 | 193 | 193 | 180 | 162 |
| 19 | 209 | 245 | 187 | 110 | 170 | 516 | 277 | 290 | 193 | 178 | 170 | 174 |
| 20 | 258 | 245 | 209 | 110 | 160 | 446 | 280 | 280 | 201 | 295 | 180 | 158 |
| 21 | 229 | 241 | 220 | 110 | 160 | 392 | 272 | 270 | 189 | 252 | 200 | 148 |
| 22 | 213 | 245 | 190 | 110 | 260 | 493 | 311 | 261 | 189 | 270 | 220 | 144 |
| 23 | 225 | 241 | 170 | 110 | 892 | 470 | 311 | 256 | 189 | 174 | 200 | 141 |
| 24 | 335 | 245 | 150 | 110 | 1330 | 388 | 314 | 252 | 189 | 161 | 197 | 137 |
| 25 | 270 | 241 | 170 | 110 | 866 | 349 | 304 | 243 | 185 | 178 | 169 | 134 |
| 26 | 262 | 293 | 160 | 100 | 600 | 323 | 294 | 238 | 181 | 230 | 141 | 135 |
| 27 | 270 | 262 | 150 | 100 | 531 | 306 | 280 | 234 | 213 | 230 | 168 | 131 |
| 28 | 266 | 253 | 140 | 100 | 437 | 367 | 378 | 225 | 290 | 234 | 164 | 129 |
| 29 | 262 | 249 | 130 | 100 | --- | 348 | 384 | 221 | 238 | 275 | 169 | 161 |
| 30 | 284 | 237 | 150 | 100 | --- | 312 | 345 | 217 | 243 | 290 | 173 | 162 |
| 31 | 311 | --- | 200 | 110 | --- | 289 | --- | 221 | --- | 295 | 170 | --- |
| TOTAL | 7611 | 7562 | 5819 | 5864 | 8790 | 13115 | 15580 | 11685 | 6364 | 6841 | 7326 | 5296 |
| MEAN | 246 | 252 | 188 | 189 | 314 | 423 | 519 | 377 | 212 | 221 | 236 | 177 |
| MAX | 335 | 293 | 241 | 350 | 1330 | 822 | 2430 | 927 | 290 | 406 | 480 | 503 |
| MIN | 206 | 229 | 130 | 100 | 130 | 289 | 272 | 217 | 181 | 161 | 141 | 129 |
| CFSM | .50 | .51 | .38 | .39 | .64 | .86 | 1.06 | .77 | .43 | .45 | .48 | .36 |
| IN. | .58 | .57 | .44 | .45 | .67 | 1.00 | 1.18 | .89 | .48 | .52 | .56 | .40 |

CAL YR 1976 TOTAL 138424 MEAN 378 MAX 3220 MIN 130 CFSM .77 IN 10.51
WTR YR 1977 TOTAL 101853 MEAN 279 MAX 2430 MIN 100 CFSM .57 IN 7.73

GREAT MIAMI RIVER BASIN

03270000 MAD RIVER NEAR DAYTON, OH

LOCATION.--Lat 39°47'50". long 84°05'19", in SW 1/4 sec. 7, R. 8, T.2, Green County, Hydrologic Unit 05080001, on left bank in retarding basin 300 ft (91 m) upstream from Huffman Dam, 2.3 mi (3.7 km) downstream from Mud Run, and 6.2 mi (10.0 km) northeast of Dayton. Water-quality sampling site on left bank 900 ft (274 m) downstream.

DRAINAGE AREA.--635 mi² (1,645 km²).

WATER-DISCHARGE RECORDS

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). drainage area.

GAGE.--Water-stage recorder. Datum of gage is 777.06 ft (236.848 m) above mean sea level. Jan. 21, 1959 to Dec. 14, 1967, at site 900 ft (274 m) downstream, at datum 77.01 ft (23.473 m) lower. See WSP 1725 for history of changes prior to Jan. 21, 1959.

REMARKS.--Records good except those for winter periods, which are fair. Flood flows affected by backwater from Huffman retarding dam beginning in 1921, some regulation by C.J. Brown Reservoir 26 mi (48.8 km) upstream on Buck Creek since 1972. Also see REMARKS for station 03269500.

COOPERATION.--Gage-height charts, tapes and 10 discharge measurements furnished by Miami Conservancy District.

AVERAGE DISCHARGE.--63 years, 617 ft³/s (17.47 m³/s), 13.20 in/yr (335 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,200 ft³/s (600 m³/s) Jan. 22, 1959 (based on Huffman retarding basin outflow records); maximum gage height, 87.9 ft (26.79 m) Feb. 26, 1929 at site and datum then in use; minimum daily discharge, 94 ft³/s (2.66 m³/s) Aug. 6, 1934, but may have been less during period 1921-24.

EXTREMES FOR PERIOD OF RECORD.--Flood of March 25, 1913 reached a stage of 14.0 ft (4.27 m), original site and datum, discharge 75,700 ft³/s (2,140 m³/s), computed by Miami Conservancy District.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,420 ft³/s (153 m³/s) Apr. 3, gage height, 11.61 ft (3.539 m); minimum daily, 150 ft³/s (4.25 m³/s) Jan. 27, 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|------|------|------|------|-------|-------|-------|-------|------|------|------|------|
| 1 | 290 | 320 | 305 | 360 | 170 | 501 | 348 | 482 | 268 | 503 | 324 | 203 |
| 2 | 278 | 312 | 278 | 380 | 170 | 431 | 2950 | 451 | 263 | 313 | 277 | 195 |
| 3 | 272 | 309 | 253 | 370 | 170 | 425 | 3130 | 442 | 260 | 254 | 261 | 210 |
| 4 | 268 | 303 | 260 | 360 | 170 | 940 | 1640 | 567 | 255 | 235 | 257 | 174 |
| 5 | 268 | 303 | 239 | 350 | 160 | 1080 | 1490 | 1330 | 253 | 223 | 261 | 188 |
| 6 | 257 | 297 | 238 | 350 | 160 | 710 | 1040 | 1120 | 283 | 218 | 267 | 193 |
| 7 | 261 | 291 | 276 | 350 | 160 | 577 | 836 | 935 | 260 | 215 | 483 | 190 |
| 8 | 265 | 287 | 249 | 350 | 160 | 496 | 705 | 872 | 260 | 255 | 411 | 177 |
| 9 | 293 | 287 | 239 | 340 | 170 | 448 | 617 | 715 | 304 | 219 | 346 | 167 |
| 10 | 290 | 289 | 234 | 320 | 180 | 416 | 560 | 624 | 292 | 209 | 254 | 214 |
| 11 | 276 | 289 | 239 | 290 | 245 | 389 | 520 | 514 | 270 | 206 | 328 | 239 |
| 12 | 275 | 289 | 235 | 260 | 309 | 494 | 479 | 444 | 272 | 208 | 605 | 242 |
| 13 | 271 | 286 | 231 | 230 | 426 | 928 | 484 | 421 | 263 | 210 | 285 | 258 |
| 14 | 265 | 282 | 228 | 210 | 445 | 718 | 470 | 398 | 284 | 206 | 268 | 803 |
| 15 | 253 | 282 | 226 | 200 | 360 | 569 | 450 | 379 | 269 | 201 | 240 | 230 |
| 16 | 241 | 284 | 226 | 190 | 282 | 488 | 432 | 370 | 255 | 215 | 233 | 285 |
| 17 | 236 | 268 | 226 | 180 | 237 | 433 | 415 | 363 | 249 | 279 | 268 | 245 |
| 18 | 235 | 278 | 226 | 180 | 231 | 580 | 411 | 362 | 255 | 235 | 217 | 175 |
| 19 | 233 | 282 | 226 | 180 | 221 | 695 | 401 | 354 | 247 | 201 | 205 | 329 |
| 20 | 263 | 282 | 231 | 170 | 218 | 583 | 389 | 344 | 238 | 224 | 208 | 228 |
| 21 | 281 | 282 | 255 | 170 | 208 | 517 | 398 | 333 | 248 | 357 | 230 | 202 |
| 22 | 248 | 282 | 250 | 170 | 255 | 601 | 402 | 322 | 235 | 299 | 254 | 187 |
| 23 | 242 | 281 | 230 | 170 | 954 | 615 | 452 | 319 | 237 | 225 | 242 | 180 |
| 24 | 380 | 282 | 220 | 160 | 1820 | 524 | 425 | 314 | 236 | 188 | 310 | 169 |
| 25 | 323 | 288 | 220 | 160 | 1250 | 457 | 437 | 307 | 253 | 181 | 251 | 160 |
| 26 | 294 | 356 | 210 | 160 | 825 | 418 | 411 | 297 | 231 | 215 | 204 | 155 |
| 27 | 289 | 348 | 200 | 150 | 696 | 391 | 396 | 288 | 219 | 237 | 201 | 153 |
| 28 | 288 | 319 | 200 | 150 | 612 | 457 | 381 | 281 | 299 | 235 | 216 | 147 |
| 29 | 285 | 309 | 190 | 160 | --- | 443 | 619 | 275 | 295 | 280 | 205 | 162 |
| 30 | 292 | 288 | 180 | 160 | --- | 389 | 543 | 271 | 272 | 295 | 197 | 190 |
| 31 | 370 | --- | 300 | 170 | --- | 362 | --- | 270 | --- | 285 | 199 | --- |
| TOTAL | 8582 | 8855 | 7320 | 7400 | 11264 | 17075 | 22231 | 14764 | 7825 | 7626 | 8507 | 6650 |
| MEAN | 277 | 295 | 236 | 239 | 402 | 551 | 741 | 476 | 261 | 246 | 274 | 222 |
| MAX | 380 | 356 | 305 | 380 | 1820 | 1080 | 3130 | 1330 | 304 | 503 | 605 | 803 |
| MIN | 233 | 268 | 180 | 150 | 160 | 362 | 348 | 270 | 219 | 181 | 197 | 147 |
| CFSM | .44 | .47 | .37 | .38 | .63 | .87 | 1.17 | .75 | .41 | .39 | .43 | .35 |
| IN. | .50 | .52 | .43 | .43 | .66 | 1.00 | 1.30 | .86 | .46 | .45 | .50 | .39 |

CAL YR 1976 TOTAL 177927 MEAN 486 MAX 3760 MIN 180 CFSM .77 IN 10.42
WTR YR 1977 TOTAL 128099 MEAN 351 MAX 3130 MIN 147 CFSM .55 IN 7.50

GREAT MIAMI RIVER BASIN

359

03270000 MAD RIVER NEAR DAYTON, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1947-48, 1962-63, July 1966 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1968 to current year.

pH: June 1968 to current year.

WATER TEMPERATURES: June 1968 to current year.

DISSOLVED OXYGEN: June 1968 to current year.

INSTRUMENTATION.--Water-quality monitor since June 1968.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. Dissolved oxygen concentrations listed as 15.0 mg/L represent concentrations of 15.0 mg/L or higher due to instrument limitations.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 3,000 micromhos Sept. 13, 14, 1974; minimum, 165 micromhos June 26, 1971.

pH: Maximum, 10.1 units July 21, 1973; minimum, 4.4 units Apr. 8, 1971.

WATER TEMPERATURES: Maximum, 32.5°C July 15, 1977; minimum, 0.0°C on several days during winter periods.

DISSOLVED OXYGEN: Maximum, 15.0 mg/L or higher on many days during 1970-77; minimum, 3.2 mg/L July 9, 1977.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 909 micromhos Dec. 6; minimum, 306 micromhos Apr. 3.

pH: Maximum, 9.4 units Sept. 5; minimum, 7.0 units Dec. 6.

WATER TEMPERATURES: Maximum, 32.5°C July 15; minimum, 0.0°C Jan. 10.

DISSOLVED OXYGEN: Maximum, 15.0 mg/L or higher Oct. 28, 29, Nov. 1, Apr. 1; minimum, 3.2 mg/L July 9.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE | PH | TEMPERATURE (DEG C) | DISSOLVED OXYGEN (MG/L) | PERCENT SATURATION | BIO-CHEMICAL OXYGEN DEMAND | HARDNESS (CA+MG) | NON-CARBONATE HARDNESS (MG/L) | DISSOLVED CALCIUM (CA) (MG/L) | DISSOLVED MAGNESIUM (MG/L) | |
|-----------|------|-------------------------------|-----------------------------------|-----------------------------|---------------------------|----------------------------|-----------------------------|--------------------------------|--------------------------------|---------------------------------|--------------------------------|---|---------------------------------|
| | | | (MICROMHOS) | | | | | 5 DAY (MG/L) | | | | | |
| MAR 24... | 1145 | 492 | 640 | 7.9 | 8.0 | 11.8 | 99 | 1.6 | 350 | 93 | 83 | 34 | |
| JUN 15... | 1130 | 269 | 760 | 7.6 | 20.5 | 5.8 | 64 | 2.4 | 350 | 95 | 83 | 35 | |
| DATE | | DISSOLVED SODIUM (NA) (MG/L) | DISSOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED CHLORIDE (CL) (MG/L) | DISSOLVED FLUORIDE (F) (MG/L) | DISSOLVED SILICA (SiO2) (MG/L) | DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| MAR 24... | 16 | 2.8 | 310 | 0 | 254 | 6.2 | 68 | 32 | .2 | 4.5 | 393 | 3.1 | |
| JUN 15... | 19 | 3.0 | 312 | 0 | 256 | 13 | 72 | 33 | .2 | 7.5 | 407 | 2.5 | |
| DATE | | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DISSOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DISSOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| MAR 24... | .05 | .24 | .24 | 1 | 20 | 4 | 20 | 5 | 30 | .0 | 40 | -- | |
| JUN 15... | .18 | .19 | .57 | 2 | 10 | 7 | 20 | 0 | 50 | .2 | 20 | 5.9 | |

03270000 MAD RIVER NEAR DAYTON, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|-----|-------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 663 | 651 | 639 | 603 | 753 | 723 | 731 | 698 | --- | --- | 737 | 704 |
| 2 | 684 | 654 | 666 | 639 | 747 | 720 | --- | --- | --- | --- | 758 | 728 |
| 3 | 678 | 660 | 675 | 654 | 780 | 747 | --- | --- | --- | --- | 887 | 680 |
| 4 | 678 | 660 | 672 | 657 | 786 | 759 | 707 | 698 | --- | --- | 743 | 623 |
| 5 | 684 | 657 | 666 | 651 | 792 | 756 | 722 | 689 | --- | --- | 638 | 614 |
| 6 | 699 | 651 | 669 | 648 | 909 | 765 | 803 | 707 | --- | --- | 692 | 641 |
| 7 | 681 | 657 | 666 | 651 | 882 | 759 | 794 | 710 | --- | --- | 728 | 695 |
| 8 | 675 | 648 | 657 | 642 | 858 | 777 | 728 | 710 | --- | --- | 752 | 722 |
| 9 | 675 | 648 | 663 | 642 | 786 | 756 | 716 | 692 | --- | --- | 767 | 740 |
| 10 | 648 | 603 | 660 | 648 | 777 | 750 | 695 | 686 | --- | --- | 761 | 746 |
| 11 | 657 | 624 | 660 | 648 | 885 | 771 | 716 | 698 | --- | --- | 761 | 749 |
| 12 | 672 | 648 | 666 | 645 | 801 | 783 | 722 | 704 | --- | --- | 791 | 658 |
| 13 | 669 | 654 | 660 | 642 | 798 | 750 | 770 | 725 | --- | --- | 701 | 620 |
| 14 | 669 | 651 | 657 | 639 | 771 | 744 | 758 | 737 | --- | --- | 686 | 641 |
| 15 | 672 | 651 | 648 | 636 | 771 | 753 | 746 | 719 | --- | --- | 731 | 689 |
| 16 | 681 | 657 | 660 | 633 | 765 | 741 | 773 | 740 | --- | --- | 743 | 728 |
| 17 | 681 | 657 | 683 | 659 | 762 | 732 | --- | --- | --- | --- | 740 | 731 |
| 18 | 678 | 651 | 684 | 669 | 762 | 735 | --- | --- | --- | --- | 758 | 662 |
| 19 | --- | --- | 686 | 677 | 762 | 735 | --- | --- | --- | --- | 665 | 617 |
| 20 | 690 | 672 | 687 | 675 | 759 | 735 | --- | --- | --- | --- | 692 | 644 |
| 21 | 681 | 627 | 692 | 674 | 747 | 723 | --- | --- | --- | --- | 713 | 680 |
| 22 | 669 | 624 | 688 | 673 | 741 | 723 | --- | --- | --- | --- | 734 | 677 |
| 23 | 702 | 666 | 701 | 677 | 744 | 717 | --- | --- | --- | --- | 695 | 668 |
| 24 | 684 | 567 | 724 | 685 | 762 | 741 | --- | --- | --- | --- | 704 | 689 |
| 25 | 609 | 567 | 729 | 705 | 762 | 744 | --- | --- | --- | --- | 719 | 704 |
| 26 | 678 | 612 | 862 | 694 | 762 | 738 | --- | --- | --- | --- | 725 | 713 |
| 27 | 675 | 666 | 717 | 684 | 765 | 729 | --- | --- | --- | --- | 731 | 713 |
| 28 | 672 | 654 | 727 | 694 | 782 | 746 | --- | --- | 701 | 695 | 743 | 701 |
| 29 | 672 | 660 | 720 | 705 | 767 | 752 | --- | --- | --- | --- | 719 | 695 |
| 30 | 666 | 636 | 768 | 702 | 767 | 731 | --- | --- | --- | --- | 734 | 695 |
| 31 | 645 | 612 | --- | --- | 746 | 704 | --- | --- | --- | --- | 729 | 705 |
| MONTH | 702 | 567 | 862 | 603 | 909 | 704 | 803 | 686 | 701 | 695 | 887 | 614 |

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|-----|-----|-----|------|-----|------|-----|--------|-----|-----------|-----|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 732 | 717 | 711 | 693 | 747 | 726 | 705 | 561 | 666 | 630 | 723 | 687 |
| 2 | 771 | 327 | 717 | 702 | 750 | 729 | 669 | 543 | 639 | 603 | 720 | 681 |
| 3 | 528 | 306 | 717 | 681 | 762 | 732 | 741 | 672 | 687 | 645 | 732 | 681 |
| 4 | 630 | 537 | 714 | 525 | 771 | 735 | 756 | 726 | 690 | 666 | 717 | 657 |
| 5 | 636 | 582 | 639 | 528 | 768 | 738 | 762 | 726 | 687 | 663 | 711 | 465 |
| 6 | 678 | 630 | 681 | 642 | 753 | 726 | 759 | 720 | 681 | 651 | 711 | 672 |
| 7 | 720 | 681 | 696 | 633 | 738 | 699 | 768 | 729 | 663 | 498 | 702 | 672 |
| 8 | 729 | 714 | 705 | 687 | 786 | 732 | 756 | 717 | 528 | 408 | 714 | 684 |
| 9 | 741 | 726 | 708 | 693 | 756 | 714 | 744 | 681 | 618 | 543 | 723 | 687 |
| 10 | 756 | 738 | 726 | 702 | 741 | 699 | 741 | 693 | 687 | 579 | 741 | 681 |
| 11 | 765 | 744 | 735 | 720 | 732 | 702 | 747 | 705 | 699 | 423 | 705 | 657 |
| 12 | 762 | 747 | 744 | 720 | 735 | 726 | 756 | 726 | 636 | 384 | 681 | 651 |
| 13 | 759 | 747 | 750 | 732 | 750 | 726 | 762 | 723 | 681 | 522 | 684 | 595 |
| 14 | 753 | 741 | 747 | 729 | 744 | 729 | 762 | 726 | 732 | 681 | 594 | 375 |
| 15 | 747 | 735 | 744 | 720 | 741 | 693 | 762 | 714 | 732 | 693 | 627 | 447 |
| 16 | 753 | 732 | 741 | 726 | 753 | 720 | 777 | 717 | 750 | 705 | 696 | 528 |
| 17 | 747 | 732 | 741 | 732 | 759 | 732 | 753 | 582 | 741 | 720 | 675 | 606 |
| 18 | 741 | 726 | 744 | 732 | 759 | 675 | 702 | 642 | 738 | 663 | 711 | 615 |
| 19 | 738 | 726 | 747 | 735 | 750 | 720 | 726 | 663 | 735 | 693 | 720 | 426 |
| 20 | 759 | 726 | 744 | 717 | 750 | 720 | 744 | 714 | 753 | 720 | 723 | 702 |
| 21 | 735 | 723 | 741 | 705 | 747 | 714 | 756 | 450 | 753 | 708 | 783 | 711 |
| 22 | 750 | 711 | 741 | 717 | 747 | 714 | 693 | 546 | 726 | 678 | 795 | 774 |
| 23 | 720 | 693 | 741 | 726 | 741 | 711 | 678 | 630 | 702 | 663 | 804 | 780 |
| 24 | 720 | 702 | 741 | 723 | 753 | 729 | 732 | 681 | 723 | 666 | 804 | 774 |
| 25 | 720 | 675 | 747 | 729 | 753 | 600 | 744 | 711 | 678 | 558 | 801 | 762 |
| 26 | 723 | 684 | 750 | 732 | 744 | 666 | 744 | 699 | 717 | 636 | 798 | 774 |
| 27 | 729 | 711 | 759 | 741 | 747 | 711 | 732 | 684 | 744 | 702 | 801 | 768 |
| 28 | 732 | 570 | 756 | 738 | 744 | 696 | 705 | 675 | 747 | 702 | 807 | 771 |
| 29 | 684 | 582 | 756 | 732 | 684 | 654 | 705 | 585 | 720 | 678 | 795 | 774 |
| 30 | 702 | 657 | 750 | 723 | 726 | 636 | 681 | 651 | 714 | 672 | 798 | 762 |
| 31 | --- | --- | 750 | 735 | --- | --- | 675 | 645 | 720 | 681 | --- | --- |
| MONTH | 771 | 306 | 759 | 525 | 786 | 600 | 777 | 450 | 753 | 384 | 807 | 375 |
| YEAR | 909 | 306 | | | | | | | | | | |

361

PH (UNITS), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|------|----------|------|---------|--------|----------|-----------|-------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 7.9 | 7.6 | 8.1 | 7.5 | 8.1 | 7.6 | 7.9 | 7.7 | --- | --- | 7.8 | 7.6 |
| 2 | 8.0 | 7.6 | 8.1 | 7.6 | 8.0 | 7.6 | --- | --- | --- | --- | 7.9 | 7.6 |
| 3 | 8.0 | 7.6 | 8.1 | 7.7 | 7.6 | 7.3 | --- | --- | --- | --- | 7.8 | 7.6 |
| 4 | 8.1 | 7.6 | 8.0 | 7.6 | 7.3 | 7.2 | 7.6 | 7.4 | --- | --- | 7.7 | 7.6 |
| 5 | 8.3 | 7.6 | 8.1 | 7.6 | 7.4 | 7.1 | 7.7 | 7.2 | --- | --- | 7.6 | 7.6 |
| 6 | 7.9 | 7.7 | 8.2 | 7.7 | 7.4 | 7.0 | 7.9 | 7.4 | --- | --- | 7.8 | 7.6 |
| 7 | 7.8 | 7.6 | 8.1 | 7.7 | 7.7 | 7.4 | 7.9 | 7.4 | --- | --- | 7.9 | 7.7 |
| 8 | 8.0 | 7.6 | 8.1 | 7.6 | 7.6 | 7.3 | 7.8 | 7.6 | --- | --- | 7.9 | 7.7 |
| 9 | 7.9 | 7.7 | 8.3 | 7.7 | 7.5 | 7.2 | 7.8 | 7.5 | --- | --- | 8.0 | 7.7 |
| 10 | 7.9 | 7.6 | 8.3 | 7.7 | 7.6 | 7.2 | 7.9 | 7.5 | --- | --- | 8.0 | 7.7 |
| 11 | 8.2 | 7.7 | 8.1 | 7.6 | 7.6 | 7.2 | 7.8 | 7.7 | --- | --- | 8.1 | 7.7 |
| 12 | 8.1 | 7.7 | 8.2 | 7.6 | 7.5 | 7.2 | 7.7 | 7.6 | --- | --- | 7.9 | 7.7 |
| 13 | 8.3 | 7.7 | 8.2 | 7.6 | 7.6 | 7.2 | 7.6 | 7.4 | --- | --- | 7.8 | 7.6 |
| 14 | 8.1 | 7.8 | 8.2 | 7.6 | 7.7 | 7.2 | 7.5 | 7.1 | --- | --- | 8.0 | 7.7 |
| 15 | 8.1 | 7.7 | 8.2 | 7.6 | 7.8 | 7.1 | 7.5 | 7.1 | --- | --- | 8.1 | 7.7 |
| 16 | 8.1 | 7.7 | 8.5 | 7.6 | 7.8 | 7.5 | 7.8 | 7.4 | --- | --- | 8.2 | 7.7 |
| 17 | 8.0 | 7.7 | 8.2 | 7.5 | 8.1 | 7.6 | --- | --- | --- | --- | 8.0 | 7.7 |
| 18 | 7.8 | 7.7 | 8.4 | 7.6 | 8.1 | 7.6 | --- | --- | --- | --- | 7.9 | 7.7 |
| 19 | --- | --- | 8.2 | 7.6 | 8.1 | 7.7 | --- | --- | --- | --- | 8.0 | 7.7 |
| 20 | 7.9 | 7.7 | 8.2 | 7.6 | 8.1 | 7.7 | --- | --- | --- | --- | 8.0 | 7.7 |
| 21 | 8.2 | 7.6 | 8.1 | 7.6 | 8.1 | 7.5 | --- | --- | --- | --- | 8.6 | 7.8 |
| 22 | 8.2 | 7.6 | 8.1 | 7.5 | 8.0 | 7.7 | --- | --- | --- | --- | 8.3 | 7.9 |
| 23 | 7.8 | 7.6 | 8.2 | 7.5 | 8.2 | 7.6 | --- | --- | --- | --- | 8.5 | 7.8 |
| 24 | 7.7 | 7.5 | 7.9 | 7.5 | 7.8 | 7.5 | --- | --- | --- | --- | 8.4 | 7.8 |
| 25 | 8.2 | 7.4 | 8.1 | 7.2 | 7.7 | 7.5 | --- | --- | --- | --- | 8.4 | 7.8 |
| 26 | 8.1 | 7.6 | 7.9 | 7.6 | 7.8 | 7.5 | --- | --- | --- | --- | 8.5 | 7.7 |
| 27 | 8.0 | 7.6 | 7.7 | 7.4 | 8.0 | 7.4 | --- | --- | --- | --- | 8.4 | 7.7 |
| 28 | 8.5 | 7.6 | 7.8 | 7.5 | 8.1 | 7.6 | --- | --- | 7.7 | 7.6 | 8.3 | 7.8 |
| 29 | 8.3 | 7.7 | 8.0 | 7.5 | 8.0 | 7.6 | --- | --- | --- | --- | 8.5 | 7.7 |
| 30 | 7.9 | 7.7 | 7.9 | 7.6 | 8.0 | 7.7 | --- | --- | --- | --- | 8.5 | 7.8 |
| 31 | 7.7 | 7.5 | --- | --- | 8.0 | 7.7 | --- | --- | --- | --- | 8.3 | 7.7 |
| MONTH | 8.5 | 7.4 | 8.5 | 7.2 | 8.2 | 7.0 | 7.9 | 7.1 | 7.7 | 7.6 | 8.6 | 7.6 |
| JAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 8.6 | 7.7 | 8.5 | 7.9 | 8.5 | 8.0 | 7.9 | 7.6 | 8.2 | 7.8 | 8.4 | 7.8 |
| 2 | 8.1 | 7.4 | 8.5 | 7.9 | 8.6 | 8.0 | 8.0 | 7.6 | 8.4 | 7.8 | 8.4 | 7.8 |
| 3 | 7.8 | 7.6 | 8.3 | 7.9 | 8.6 | 8.0 | 8.2 | 7.7 | 8.4 | 7.8 | 8.4 | 7.9 |
| 4 | 7.8 | 7.8 | 8.1 | 7.6 | 8.6 | 7.9 | 8.3 | 7.8 | 8.4 | 7.8 | 8.4 | 7.9 |
| 5 | 8.0 | 7.8 | 8.0 | 7.8 | 8.4 | 8.0 | 8.3 | 7.9 | 8.4 | 7.8 | 9.4 | 7.9 |
| 6 | 8.0 | 7.8 | 8.3 | 7.9 | 8.4 | 8.0 | 8.4 | 7.9 | 8.3 | 7.8 | 8.3 | 7.9 |
| 7 | 8.0 | 7.8 | 8.1 | 7.9 | 8.6 | 7.9 | 8.4 | 7.9 | 8.0 | 7.7 | 8.4 | 7.9 |
| 8 | 8.1 | 7.8 | 8.2 | 8.0 | 8.5 | 8.0 | 8.3 | 7.7 | 7.9 | 7.5 | 8.4 | 7.9 |
| 9 | 8.1 | 7.9 | 8.2 | 8.0 | 8.6 | 8.0 | 8.3 | 7.7 | 8.1 | 7.8 | 8.5 | 7.9 |
| 10 | 8.2 | 7.9 | 8.3 | 8.0 | 8.6 | 7.9 | 8.2 | 7.8 | 8.2 | 7.7 | 8.4 | 7.9 |
| 11 | 8.2 | 7.8 | 8.3 | 8.0 | 8.4 | 8.0 | 8.2 | 7.9 | 8.3 | 7.8 | 8.4 | 7.9 |
| 12 | 8.2 | 7.8 | 8.4 | 7.9 | 8.6 | 8.0 | 8.2 | 7.7 | 7.9 | 7.6 | 8.3 | 7.9 |
| 13 | 8.2 | 7.8 | 8.4 | 7.9 | 8.6 | 8.0 | 8.3 | 7.7 | 8.0 | 7.7 | 8.4 | 7.9 |
| 14 | 8.2 | 7.9 | 8.5 | 8.0 | 8.5 | 8.0 | 8.3 | 7.7 | 8.2 | 7.8 | 8.0 | 7.6 |
| 15 | 8.2 | 7.9 | 8.5 | 7.9 | 8.7 | 8.0 | 8.4 | 7.7 | 8.3 | 7.8 | 8.0 | 7.7 |
| 16 | 8.3 | 7.9 | 8.5 | 8.0 | 8.6 | 8.0 | 8.3 | 7.7 | 8.2 | 7.9 | 8.1 | 7.8 |
| 17 | 8.2 | 7.9 | 8.5 | 7.9 | 8.6 | 8.0 | 8.2 | 7.7 | 8.3 | 7.8 | 8.1 | 7.8 |
| 18 | 8.3 | 7.9 | 8.5 | 7.9 | 8.5 | 8.0 | 8.2 | 7.6 | 8.3 | 7.8 | 8.1 | 7.8 |
| 19 | 8.2 | 7.8 | 8.4 | 8.0 | 8.5 | 8.0 | 8.4 | 7.6 | 8.3 | 7.8 | 8.1 | 7.9 |
| 20 | 8.3 | 7.9 | 8.5 | 7.9 | 8.6 | 8.0 | 8.3 | 7.7 | 8.4 | 7.9 | 8.1 | 7.9 |
| 21 | 8.2 | 7.9 | 8.5 | 7.9 | 8.7 | 8.1 | 8.3 | 7.6 | 8.2 | 7.9 | 8.2 | 7.9 |
| 22 | 8.1 | 7.8 | 8.5 | 8.0 | 8.4 | 8.0 | 8.2 | 7.5 | 8.4 | 7.9 | 8.2 | 7.9 |
| 23 | 8.1 | 7.8 | 8.4 | 8.0 | 8.7 | 8.0 | 8.3 | 7.7 | 8.4 | 7.8 | 8.3 | 7.9 |
| 24 | 8.3 | 7.9 | 8.5 | 7.9 | 8.5 | 8.0 | 8.4 | 7.7 | 8.1 | 7.8 | 8.1 | 7.9 |
| 25 | 8.2 | 7.9 | 8.5 | 8.0 | 8.6 | 8.0 | 8.4 | 7.8 | 8.4 | 7.7 | 8.3 | 7.9 |
| 26 | 8.3 | 7.9 | 8.6 | 7.9 | 8.7 | 8.0 | 8.4 | 7.8 | 8.4 | 7.8 | 8.4 | 7.9 |
| 27 | 8.4 | 7.9 | 8.6 | 7.9 | 8.6 | 8.0 | 8.4 | 7.8 | 8.4 | 7.8 | 8.3 | 7.9 |
| 28 | 8.1 | 7.9 | 8.6 | 8.0 | 8.5 | 8.0 | 8.4 | 7.8 | 8.4 | 7.9 | 8.4 | 7.9 |
| 29 | 8.2 | 7.8 | 8.5 | 8.0 | 8.6 | 8.0 | 8.0 | 7.8 | 8.3 | 7.8 | 8.4 | 7.9 |
| 30 | 8.4 | 7.9 | 8.6 | 7.9 | 8.2 | 7.7 | 8.3 | 7.8 | 8.3 | 7.9 | 8.4 | 7.9 |
| 31 | --- | --- | 8.6 | 8.0 | --- | --- | 8.3 | 7.8 | 8.4 | 7.8 | --- | --- |
| MONTH | 8.6 | 7.4 | 8.6 | 7.8 | 8.7 | 7.7 | 8.4 | 7.5 | 8.4 | 7.5 | 9.4 | 7.6 |
| YEAR | 9.4 | 7.0 | | | | | | | | | | |

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

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|------|------|------|------|------|------|------|--------|------|-----------|------|------|
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 16.0 | 9.0 | 19.0 | 13.5 | 25.0 | 20.0 | 26.0 | 21.0 | 26.5 | 23.0 | 28.5 | 24.5 |
| 2 | 15.0 | 12.0 | 20.5 | 15.5 | 24.0 | 19.0 | 26.0 | 20.0 | 27.5 | 19.5 | 29.5 | 25.5 |
| 3 | 15.0 | 11.5 | 19.5 | 16.5 | 25.5 | 17.5 | 25.5 | 20.0 | 27.5 | 22.5 | 28.0 | 25.0 |
| 4 | 11.5 | 10.5 | 19.0 | 16.5 | 25.5 | 19.0 | 27.5 | 21.5 | 27.5 | 23.5 | 27.5 | 21.5 |
| 5 | 12.0 | 9.5 | 20.0 | 16.5 | 23.5 | 20.5 | 29.5 | 24.5 | 28.5 | 25.0 | 27.0 | |

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|--------|----------|-----------|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 10.2 | 7.1 | 15.0 | 9.7 | 11.2 | 9.5 | 11.6 | 10.1 | --- | --- | 10.7 | 9.5 |
| 2 | 10.6 | 7.1 | 14.3 | 9.1 | 11.9 | 9.2 | --- | --- | --- | --- | 10.3 | 9.3 |
| 3 | 10.6 | 6.9 | 12.2 | 8.0 | 11.7 | 9.3 | --- | --- | --- | --- | 9.5 | 8.7 |
| 4 | 11.2 | 6.9 | 12.1 | 8.3 | 10.4 | 8.9 | 10.8 | 9.6 | --- | --- | 9.3 | 8.1 |
| 5 | 10.6 | 6.9 | 12.3 | 8.8 | 11.9 | 8.9 | 11.2 | 9.1 | --- | --- | 11.2 | 8.8 |
| 6 | 8.0 | 6.3 | 13.5 | 9.0 | 10.9 | 9.0 | 11.3 | 9.5 | --- | --- | 12.0 | 11.0 |
| 7 | 8.8 | 7.1 | 13.6 | 8.7 | 10.7 | 8.6 | 11.7 | 9.3 | --- | --- | 11.8 | 10.8 |
| 8 | 11.1 | 7.4 | 14.0 | 9.1 | 11.6 | 8.0 | 11.7 | 10.0 | --- | --- | 11.9 | 10.4 |
| 9 | 10.7 | 8.0 | 13.5 | 9.3 | 11.8 | 9.1 | 11.3 | 9.7 | --- | --- | 11.2 | 9.5 |
| 10 | 11.4 | 8.3 | 13.1 | 8.5 | 10.7 | 8.6 | 11.7 | 9.9 | --- | --- | 11.2 | 9.9 |
| 11 | 11.9 | 8.6 | 12.9 | 8.5 | 11.0 | 7.9 | 11.4 | 10.2 | --- | --- | 11.6 | 8.7 |
| 12 | 11.3 | 8.3 | 14.2 | 8.8 | 10.0 | 7.3 | 11.3 | 9.8 | --- | --- | 9.0 | 7.9 |
| 13 | 11.2 | 7.3 | 14.6 | 9.3 | 11.4 | 7.7 | 11.0 | 9.7 | --- | --- | 9.5 | 7.6 |
| 14 | 11.6 | 7.4 | 14.7 | 9.5 | 11.6 | 8.4 | 9.9 | 8.9 | --- | --- | 10.9 | 9.5 |
| 15 | 11.2 | 7.8 | 14.6 | 9.4 | 11.7 | 8.3 | 10.4 | 8.4 | --- | --- | 11.4 | 9.1 |
| 16 | 12.3 | 7.4 | 14.2 | 9.3 | 10.2 | 8.0 | 11.3 | 8.9 | --- | --- | 11.7 | 8.5 |
| 17 | 12.5 | 8.0 | 13.5 | 8.5 | 11.9 | 7.9 | --- | --- | --- | --- | 11.3 | 8.9 |
| 18 | 11.5 | 9.2 | 13.3 | 8.2 | 12.2 | 8.3 | --- | --- | --- | --- | 10.1 | 9.2 |
| 19 | --- | --- | 12.1 | 7.4 | 11.8 | 8.4 | --- | --- | --- | --- | 12.4 | 9.9 |
| 20 | 11.1 | 9.4 | 11.7 | 7.0 | 9.8 | 7.6 | --- | --- | --- | --- | 12.0 | 10.4 |
| 21 | 13.2 | 9.6 | 10.4 | 7.1 | 11.7 | 8.5 | --- | --- | --- | --- | 13.8 | 10.7 |
| 22 | 14.8 | 10.1 | 10.2 | 6.5 | 12.2 | 9.3 | --- | --- | --- | --- | 12.4 | 9.7 |
| 23 | 13.6 | 10.6 | --- | --- | 11.7 | 9.5 | --- | --- | --- | --- | 13.6 | 10.0 |
| 24 | 11.7 | 9.3 | --- | --- | 11.6 | 9.5 | --- | --- | --- | --- | 14.4 | 10.4 |
| 25 | 11.7 | 9.3 | --- | --- | 10.3 | 9.0 | --- | --- | --- | --- | 14.7 | 10.0 |
| 26 | 13.7 | 10.1 | --- | --- | 10.8 | 8.6 | --- | --- | --- | --- | 14.9 | 9.4 |
| 27 | 14.7 | 10.2 | --- | --- | 11.4 | 8.8 | --- | --- | --- | --- | 14.0 | 8.7 |
| 28 | 15.0 | 11.7 | --- | --- | 10.6 | 8.9 | --- | --- | 12.5 | 10.5 | 12.0 | 8.0 |
| 29 | 15.0 | 11.6 | 12.0 | 10.2 | 12.1 | 8.7 | --- | --- | --- | --- | 14.4 | 7.4 |
| 30 | 12.8 | 10.8 | 12.3 | 9.8 | 11.4 | 9.8 | --- | --- | --- | --- | 13.2 | 6.8 |
| 31 | 11.7 | 9.6 | --- | --- | 12.0 | 9.7 | --- | --- | --- | --- | 12.6 | 7.2 |
| MONTH | 15.0 | 6.3 | 15.0 | 6.5 | 12.2 | 7.3 | 11.7 | 8.4 | 12.5 | 10.5 | 14.9 | 6.8 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 15.0 | 8.1 | 12.7 | 7.9 | 10.2 | 4.9 | 6.4 | 4.5 | 7.0 | 4.4 | 11.5 | 5.3 |
| 2 | 8.6 | 7.0 | 12.5 | 6.9 | 11.1 | 5.1 | 8.1 | 4.8 | 8.3 | 4.8 | 11.6 | 5.2 |
| 3 | 9.3 | 8.0 | 10.3 | 6.6 | 11.8 | 5.2 | 9.6 | 4.8 | 7.8 | 4.3 | 11.1 | 5.5 |
| 4 | 9.4 | 9.0 | 7.4 | 6.9 | 11.7 | 5.0 | 9.8 | 5.0 | 8.6 | 4.1 | 11.7 | 6.2 |
| 5 | 10.2 | 9.1 | 8.1 | 6.9 | 9.5 | 4.8 | 9.7 | 4.4 | 7.6 | 4.4 | 10.1 | 5.8 |
| 6 | 11.0 | 10.2 | 7.9 | 6.7 | 9.9 | 5.2 | 9.8 | 3.9 | 7.1 | 4.0 | 10.6 | 5.9 |
| 7 | 11.0 | 9.9 | 8.9 | 7.1 | 11.8 | 5.1 | 9.4 | 3.5 | 5.4 | 3.7 | 11.4 | 6.7 |
| 8 | 10.7 | 9.7 | 9.4 | 7.6 | 11.3 | 5.5 | 9.2 | 3.4 | 6.3 | 3.5 | 11.3 | 6.6 |
| 9 | 11.0 | 9.6 | 10.1 | 7.9 | 12.0 | 5.6 | 9.3 | 3.2 | 6.1 | 4.4 | 11.7 | 6.3 |
| 10 | 10.9 | 8.8 | 10.5 | 8.2 | 12.4 | 5.3 | 8.7 | 4.1 | 8.3 | 4.2 | 11.4 | 6.3 |
| 11 | 10.9 | 7.9 | 10.8 | 7.9 | 10.6 | 5.1 | 10.0 | 4.8 | 8.6 | 5.0 | 11.8 | 7.2 |
| 12 | 10.4 | 7.6 | 11.2 | 7.5 | 12.5 | 5.5 | 9.6 | 4.8 | 5.8 | 4.7 | 11.5 | 7.6 |
| 13 | 10.3 | 7.4 | 11.4 | 7.2 | 12.3 | 5.4 | 9.8 | 4.7 | 7.5 | 5.9 | 10.0 | 7.5 |
| 14 | 10.1 | 7.3 | 11.7 | 6.6 | 10.8 | 4.9 | 10.1 | 4.7 | 8.7 | 5.9 | 7.4 | 6.1 |
| 15 | 10.8 | 7.5 | 12.3 | 6.3 | 12.6 | 4.9 | 10.0 | 4.3 | 8.7 | 5.1 | 8.5 | 6.5 |
| 16 | 11.0 | 7.7 | 11.8 | 6.2 | 11.8 | 4.4 | 9.0 | 4.1 | 8.6 | 5.2 | 8.1 | 6.4 |
| 17 | 10.5 | 7.4 | 11.1 | 6.1 | 11.4 | 4.2 | 8.7 | 4.1 | 9.7 | 5.2 | 8.5 | 6.3 |
| 18 | 10.9 | 7.3 | 10.5 | 5.6 | 9.7 | 4.0 | 9.3 | 3.5 | 10.1 | 5.3 | 8.2 | 5.8 |
| 19 | 9.0 | 7.0 | 9.9 | 5.4 | 10.4 | 4.0 | 9.3 | 3.7 | 10.9 | 6.7 | 7.5 | 5.6 |
| 20 | 10.8 | 7.0 | 10.2 | 5.1 | 10.7 | 4.4 | 9.2 | 4.0 | 12.2 | 7.5 | 8.4 | 5.9 |
| 21 | 10.0 | 6.7 | 10.4 | 5.1 | 11.9 | 4.9 | 8.0 | 3.8 | 10.5 | 6.8 | 8.9 | 6.5 |
| 22 | 8.9 | 6.5 | 10.2 | 5.1 | 9.6 | 4.4 | 8.3 | 3.5 | 12.2 | 7.0 | 9.7 | 7.0 |
| 23 | 9.2 | 6.5 | 10.6 | 5.3 | 12.2 | 5.6 | 9.0 | 4.5 | 12.0 | 6.3 | 9.5 | 6.5 |
| 24 | 10.7 | 7.1 | 10.9 | 5.3 | 10.3 | 5.2 | 8.9 | 4.4 | 9.8 | 6.4 | 8.7 | 6.2 |
| 25 | 10.6 | 7.5 | 10.8 | 5.2 | 10.6 | 4.6 | 7.7 | 4.1 | 11.9 | 6.5 | 9.4 | 6.0 |
| 26 | 12.0 | 8.6 | 11.2 | 4.9 | 11.4 | 4.2 | 9.3 | 4.7 | 12.2 | 6.8 | 9.3 | 5.9 |
| 27 | 12.3 | 8.1 | 11.3 | 4.9 | 9.7 | 4.1 | 9.5 | 4.8 | 12.0 | 6.1 | 9.5 | 6.0 |
| 28 | 8.7 | 7.4 | 11.5 | 5.0 | 9.8 | 4.2 | 9.2 | 4.5 | 11.6 | 5.3 | 9.7 | 6.3 |
| 29 | 11.5 | 7.4 | 10.8 | 4.7 | 10.7 | 4.1 | 6.2 | 4.2 | 9.6 | 4.8 | 10.3 | 6.8 |
| 30 | 12.5 | 8.5 | 11.8 | 5.0 | 9.2 | 4.0 | 7.8 | 4.5 | 10.7 | 5.8 | 10.1 | 6.3 |
| 31 | --- | --- | 10.9 | 5.0 | --- | --- | 7.9 | 3.8 | 11.1 | 5.9 | --- | --- |
| MONTH | 15.0 | 6.5 | 12.7 | 4.7 | 12.6 | 4.0 | 10.1 | 3.2 | 12.2 | 3.5 | 11.8 | 5.2 |
| YEAR | 15.0 | 3.2 | | | | | | | | | | |

GREAT MIAMI RIVER BASIN

03270500 GREAT MIAMI RIVER AT DAYTON, OH

LOCATION.--Lat 39°45'55", long 84°11'51", in sec. 10, R.7, T.1, Montgomery County, Hydrologic Unit 05080002, on left bank 1,000 ft (305 m) downstream from Main Street Bridge in Dayton, 0.7 mi (1.1 km) upstream from Wolf Creek, and 0.8 mi (1.3 km) downstream from Mad River.

DRAINAGE AREA.--2,511 mi² (6,503 km²).

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 700.00 ft (213.360 m) above mean sea level, adjustment of 1912. Prior to Oct. 1, 1921 nonrecording gage at Main Street Bridge at datum 23.73 ft (7.233 m) higher. Oct. 1, 1921, to July 24, 1931, nonrecording gage at Main Street Bridge at datum 21.00 ft (6.401 m) higher.

REMARKS.--Records good except those for winter periods and those subsequent to June 17, which are fair. Flood flow regulated by four retarding basins upstream from station beginning in 1920 on Mad River 6.5 mi (10.5 km) upstream, on Stillwater River 10.5 mi (16.9 km) upstream, on Great Miami River 11.5 mi (18.5 km) upstream, and on Loramie Creek 40 mi (64 km) upstream. Also see REMARKS for stations 03261500, 03261950 and 03269500. Water is diverted 6 mi (10 km) upstream from station for use in Dayton; most of return flow from diversions bypasses station in Dayton sewer systems.

COOPERATION.--Gage-height charts, tapes and 16 discharge measurements furnished by Miami Conservancy District.

AVERAGE DISCHARGE.--48 years (1929-77), 2,087 ft³/s (59.10 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 60,900 ft³/s (1,720 m³/s) Jan. 22, 1959, gage height, 35.45 ft (10.805 m) in gage well, from graph based on gage readings; 36.0 ft (10.97 m), from outside floodmarks; minimum daily, 109 ft³/s (3.09 m³/s) Aug. 8, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 26, 1913 reached a stage of 29.0 ft (8.84 m), site and datum then in use, discharge, 250,000 ft³/s (7,080 m³/s), computed by Miami Conservancy District.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 18,600 ft³/s (527 m³/s) Apr. 3, gage height, 28.53 ft (8.696 m) in gage well, 28.90 ft (8.809 m), from outside gage; minimum daily, 206 ft³/s (5.83 m³/s) July 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|--------|------|------|-------|-------|-------|-------|-------|------|------|-------|
| 1 | 377 | 526 | 403 | 360 | 250 | 2670 | 1420 | 1070 | 412 | 1200 | 263 | 233 |
| 2 | 338 | 459 | 383 | 340 | 250 | 1640 | 5800 | 999 | 390 | 681 | 241 | 230 |
| 3 | 320 | 431 | 383 | 330 | 260 | 1230 | 17100 | 969 | 365 | 364 | 231 | 226 |
| 4 | 314 | 431 | 332 | 320 | 270 | 2900 | 12400 | 2780 | 343 | 285 | 231 | 216 |
| 5 | 302 | 424 | 291 | 330 | 260 | 6160 | 8680 | 4530 | 345 | 268 | 231 | 231 |
| 6 | 345 | 417 | 332 | 320 | 240 | 4340 | 5540 | 3960 | 390 | 247 | 236 | 273 |
| 7 | 326 | 397 | 390 | 310 | 230 | 2820 | 4020 | 3550 | 360 | 236 | 417 | 232 |
| 8 | 332 | 410 | 345 | 300 | 240 | 2060 | 3190 | 2680 | 391 | 241 | 558 | 234 |
| 9 | 370 | 424 | 302 | 280 | 250 | 1530 | 2530 | 2090 | 478 | 226 | 558 | 222 |
| 10 | 377 | 397 | 308 | 270 | 300 | 1260 | 2060 | 1680 | 580 | 241 | 257 | 243 |
| 11 | 364 | 377 | 314 | 250 | 452 | 1100 | 1750 | 1400 | 774 | 257 | 445 | 229 |
| 12 | 377 | 377 | 285 | 240 | 640 | 1440 | 1490 | 1100 | 626 | 231 | 893 | 227 |
| 13 | 383 | 377 | 285 | 230 | 766 | 2870 | 1300 | 999 | 544 | 221 | 397 | 245 |
| 14 | 357 | 377 | 279 | 230 | 1150 | 3270 | 1200 | 931 | 524 | 216 | 466 | 1090 |
| 15 | 314 | 397 | 274 | 250 | 1170 | 2380 | 1110 | 874 | 455 | 211 | 320 | 362 |
| 16 | 291 | 397 | 279 | 270 | 855 | 1720 | 1050 | 834 | 437 | 206 | 362 | 581 |
| 17 | 285 | 383 | 285 | 250 | 706 | 1240 | 989 | 785 | 422 | 226 | 300 | 642 |
| 18 | 296 | 424 | 274 | 240 | 640 | 1750 | 950 | 752 | 600 | 216 | 251 | 764 |
| 19 | 296 | 534 | 263 | 230 | 534 | 3490 | 912 | 708 | 374 | 239 | 232 | 1070 |
| 20 | 377 | 503 | 302 | 240 | 566 | 3320 | 902 | 682 | 313 | 236 | 216 | 542 |
| 21 | 403 | 496 | 332 | 260 | 550 | 2700 | 865 | 625 | 277 | 326 | 226 | 315 |
| 22 | 338 | 511 | 290 | 250 | 606 | 2590 | 950 | 577 | 291 | 326 | 243 | 281 |
| 23 | 345 | 503 | 270 | 240 | 2210 | 3220 | 999 | 566 | 293 | 257 | 243 | 271 |
| 24 | 673 | 496 | 250 | 250 | 5660 | 3370 | 969 | 535 | 288 | 216 | 294 | 255 |
| 25 | 534 | 496 | 240 | 260 | 6030 | 2600 | 1030 | 515 | 319 | 221 | 259 | 238 |
| 26 | 466 | 648 | 240 | 260 | 4020 | 2010 | 1010 | 482 | 355 | 231 | 230 | 232 |
| 27 | 445 | 582 | 280 | 250 | 3390 | 1470 | 921 | 475 | 348 | 247 | 220 | 222 |
| 28 | 431 | 481 | 260 | 250 | 3890 | 1620 | 1110 | 465 | 393 | 236 | 220 | 213 |
| 29 | 424 | 466 | 240 | 260 | --- | 2570 | 1400 | 443 | 422 | 390 | 217 | 215 |
| 30 | 466 | 417 | 230 | 260 | --- | 2700 | 1270 | 430 | 521 | 291 | 228 | 228 |
| 31 | 656 | --- | 220 | 250 | --- | 1980 | --- | 426 | --- | 268 | 235 | --- |
| TOTAL | 11922 | 13558 | 9161 | 8380 | 36385 | 76020 | 84917 | 38912 | 12630 | 9257 | 9720 | 10562 |
| MEAN | 385 | 452 | 296 | 270 | 1299 | 2452 | 2831 | 1255 | 421 | 299 | 314 | 352 |
| MAX | 673 | 648 | 403 | 360 | 6030 | 6160 | 17100 | 4530 | 774 | 1200 | 893 | 1090 |
| MIN | 285 | 377 | 220 | 230 | 230 | 1100 | 865 | 426 | 277 | 206 | 216 | 213 |
| CAL YR 1976 | TOTAL | 562065 | MEAN | 1536 | MAX | 18500 | MIN | 220 | | | | |
| WTR YR 1977 | TOTAL | 321424 | MEAN | 881 | MAX | 17100 | MIN | 206 | | | | |

GREAT MIAMI RIVER BASIN

365

03270800 WOLF CREEK AT TROTWOOD, OH

LOCATION.--Lat 39°47'39", long 84°18'36", Montgomery County, Hydrologic Unit 05080002, on right bank 350 ft (107 m) downstream from Union Road Bridge, 700 ft (213 m) downstream from unnamed right bank tributary, 0.2 mi (0.3 km) south of Trotwood, and 0.3 mi (0.5 km) upstream from North Branch.

DRAINAGE AREA.--22.7 mi² (58.8 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 826.28 ft (251.850 m) above mean sea level.

REMARKS.--Records good except those for winter periods, which are fair.

COOPERATION.--Gage-height charts, tapes and 9 discharge measurements furnished by Miami Conservancy District.

AVERAGE DISCHARGE.--15 years, 20.1 ft³/s (0.569 m³/s), 12.02 in/yr (305 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,970 ft³/s (84.1 m³/s) May 24, 1968, gage height, 6.47 ft (1.972 m), from rating curve extended above 1,000 ft³/s (28.3 m³/s); no flow all or part of each day Sept. 8-17, Oct. 3, 1964, Sept. 16-19, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge during flood in January 1959, about 3,900 ft³/s (110 m³/s), gage height, 8.0 ft (2.44 m), computed by Miami Conservancy District on basis of estimate of peak flow based on contracted-opening measurement at site 1.1 mi (1.8 km) downstream with drainage area of 48.2 mi² (125 km²), adjusted to gage site by 0.8 power of the drainage-area ratio. Flood in March 1913 reached a stage of 9.4 ft (2.87 m), computed by Miami Conservancy District.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft³/s (5.66 m³/s) and maximums (*):

| Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) | Date | Time | Discharge (ft ³ /s) (m ³ /s) | Gage height (ft) (m) |
|---------|------|---|-------------------------|--------|------|---|-------------------------|
| Feb. 24 | 0330 | 391 11.1 | 2.44 0.744 | Apr. 2 | 1815 | *2190 62.0 | *5.43 1.655 |
| Mar. 4 | 1530 | 286 8.10 | 2.14 0.652 | May 4 | 0715 | 296 8.38 | 2.17 0.661 |

Minimum discharge, 0.24 ft³/s (0.007 m³/s) Nov. 22, 23, 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|--------|-------|--------|-------|------|-------|-------|-------|
| 1 | .63 | 2.7 | .47 | .38 | .46 | 15 | 11 | 13 | 1.4 | 29 | .71 | .59 |
| 2 | .52 | 1.5 | .43 | .54 | .46 | 11 | 680 | 12 | 1.4 | 12 | .60 | .52 |
| 3 | .54 | 1.2 | .43 | .72 | .50 | 14 | 279 | 11 | 1.6 | 5.3 | .54 | .48 |
| 4 | .75 | 1.1 | .50 | .58 | .54 | 193 | 117 | 118 | 1.5 | 3.1 | .49 | .49 |
| 5 | 1.3 | .93 | .60 | .54 | .60 | 73 | 78 | 65 | 1.5 | 2.2 | .46 | 1.0 |
| 6 | 4.7 | .88 | .75 | .52 | .60 | 33 | 45 | 41 | 1.9 | 1.5 | .41 | .40 |
| 7 | 5.7 | .87 | .96 | .49 | .58 | 22 | 31 | 63 | 2.3 | 1.3 | 2.2 | .56 |
| 8 | .68 | .81 | .76 | .46 | .56 | 16 | 24 | 39 | 3.1 | 1.1 | 6.0 | .48 |
| 9 | 1.0 | .96 | .64 | .49 | .54 | 13 | 19 | 23 | 7.2 | 1.0 | 3.7 | .54 |
| 10 | 1.7 | 1.0 | .58 | .55 | .52 | 11 | 17 | 17 | 2.9 | .86 | 1.4 | 1.0 |
| 11 | .76 | .81 | .54 | .52 | .58 | 8.8 | 14 | 13 | 2.2 | .87 | 1.5 | .65 |
| 12 | .76 | .72 | .52 | .50 | 2.0 | 47 | 12 | 11 | 2.3 | .92 | 4.5 | .45 |
| 13 | .96 | .76 | .50 | .49 | 60 | 78 | 11 | 9.5 | 2.1 | .85 | 1.7 | 2.9 |
| 14 | 1.3 | .74 | .47 | .48 | 38 | 31 | 10 | 8.1 | 2.7 | .68 | 13 | 3.5 |
| 15 | 1.3 | .73 | .44 | .48 | 16 | 21 | 9.0 | 6.7 | 2.4 | .63 | 3.0 | 1.8 |
| 16 | 1.5 | .69 | .42 | .48 | 12 | 15 | 8.2 | 5.3 | 1.9 | .59 | 2.1 | 3.3 |
| 17 | 1.5 | .75 | .41 | .47 | 9.6 | 12 | 7.7 | 4.7 | 1.8 | .54 | 1.8 | 1.5 |
| 18 | 1.8 | .85 | .40 | .47 | 8.0 | 38 | 7.2 | 4.2 | 4.9 | .52 | .89 | .90 |
| 19 | 1.3 | .61 | .40 | .47 | 6.8 | 24 | 6.9 | 3.6 | 4.9 | .46 | .67 | 1.5 |
| 20 | 6.1 | .36 | .39 | .47 | 6.0 | 24 | 6.2 | 3.0 | 1.8 | .44 | .60 | 1.4 |
| 21 | 6.7 | .38 | .39 | .47 | 5.4 | 19 | 5.8 | 2.6 | 1.5 | 2.0 | .76 | .81 |
| 22 | 2.2 | .35 | .38 | .47 | 20 | 29 | 12 | 2.2 | 1.6 | 2.1 | 1.0 | .72 |
| 23 | 2.6 | .34 | .37 | .47 | 170 | 22 | 11 | 2.1 | 2.3 | .95 | .68 | .67 |
| 24 | 14 | .32 | .36 | .47 | 158 | 17 | 10 | 2.0 | 2.0 | .60 | 1.8 | .60 |
| 25 | 5.6 | .34 | .36 | .47 | 48 | 14 | 10 | 1.9 | 2.7 | .53 | 1.2 | .67 |
| 26 | 3.4 | 5.1 | .35 | .47 | 25 | 12 | 8.6 | 1.7 | 4.7 | .50 | .66 | .69 |
| 27 | 1.8 | 3.7 | .35 | .47 | 42 | 11 | 7.1 | 1.5 | 3.1 | .41 | .61 | .63 |
| 28 | 1.2 | 1.0 | .35 | .47 | 20 | 32 | 24 | 1.5 | 3.0 | .41 | .56 | .63 |
| 29 | .96 | .92 | .35 | .47 | --- | 26 | 32 | 1.5 | 1.9 | 2.7 | .66 | .63 |
| 30 | .96 | .52 | .34 | .46 | --- | 18 | 18 | 1.5 | 2.9 | 7.9 | 1.5 | .70 |
| 31 | 11 | --- | .34 | .46 | --- | 14 | --- | 1.5 | --- | 1.2 | .78 | --- |
| TOTAL | 85.22 | 31.94 | 14.55 | 15.25 | 652.74 | 913.8 | 1531.7 | 491.1 | 77.5 | 83.16 | 56.48 | 30.71 |
| MEAN | 2.75 | 1.06 | .47 | .49 | 23.3 | 29.5 | 51.1 | 15.8 | 2.58 | 2.68 | 1.82 | 1.02 |
| MAX | 14 | 5.1 | .96 | .72 | 170 | 193 | 680 | 118 | 7.2 | 29 | 13 | 3.5 |
| MIN | .52 | .32 | .34 | .38 | .46 | 8.8 | 5.8 | 1.5 | 1.4 | .41 | .41 | .40 |
| CFSM | .12 | .05 | .02 | .02 | 1.03 | 1.30 | 2.25 | .70 | .11 | .12 | .08 | .05 |
| IN. | .14 | .05 | .02 | .02 | 1.07 | 1.50 | 2.51 | .80 | .13 | .14 | .09 | .05 |

| CAL YR 1976 | TOTAL | 4252.94 | MEAN 11.6 | MAX 421 | MIN .09 | CFSM .51 | IN 6.97 |
|-------------|-------|---------|-----------|---------|---------|----------|---------|
| WTR YR 1977 | TOTAL | 3984.15 | MEAN 10.9 | MAX 680 | MIN .32 | CFSM .48 | IN 6.53 |

GREAT MIAMI RIVER BASIN

03271500 GREAT MIAMI RIVER AT MIAMISBURG, OH

LOCATION.--Lat 39°38'40", long 84°17'23", in sec. 31, R.6, T.1, Montgomery County, Hydrologic Unit 05080002, on left bank 600 ft (183 m) downstream from bridge on State Highway 725 at Miamisburg, 0.3 mi (0.5 km) downstream from Bear Creek, and 3.2 mi (5.1 km) upstream from Crains Run.

DRAINAGE AREA.--2,711 mi² (7,021 km²).

PERIOD OF RECORD.--March 1916 to September 1920 (published as Maimi River at Franklin 1916-17), August 1924 to September 1935 (published as Miami River near Miamisburg), October 1952 to current year (published as Miami River at Miamisburg 1952-62). Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 743: 1929(M). WSP 1385: 1926. WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 678.60 ft (206.837 m) above mean sea level, adjustment of 1912. Mar. 16, 1916 to Sept. 30, 1920, nonrecording gage at site 6.7 mi (10.8 km) downstream at different datum. Aug. 29 to Sept. 16, 1924, nonrecording gage, and Sept. 17, 1924 to Sept. 30, 1935, water-stage recorder, at site 2.2 mi (3.5 km) downstream at datum 677.06 ft (206.368 m) above mean sea level.

REMARKS.--Records good except those for winter periods, which are fair. Diurnal fluctuation caused by powerplant 0.4 mi (0.6 km) upstream from station. Flood flow regulated by retarding dams beginning in 1920 on Mad River 19 mi (31 km) upstream, on Stillwater River 23 mi (37 km) upstream, on Great Miami River 23 mi (37 km) upstream and on Lorain Creek 52 mi (84 km) upstream. Also see REMARKS for stations 03261500 and 03269500.

COOPERATION.--Gage-height charts, tapes and 14 discharge measurements furnished by Miami Conservancy District.

AVERAGE DISCHARGE.--40 years, 2,342 ft³/s (66.33 m³/s), 11.73 in/yr (298 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 61,800 ft³/s (1,750 m³/s) Jan. 21, 22, 1959, gage height, 20.65 ft (6.294 m), in gage well, from graph based on gage readings; 21.3 ft (6.49 m), from outside floodmarks; minimum daily, 148 ft³/s (4.19 m³/s) Sept. 7, 1925.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 26, 1913 reached a discharge of 257,000 ft³/s (7,280 m³/s), computed by Miami Conservancy District.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 18,800 ft³/s (532 m³/s) Apr. 3, gage height, 11.40 ft (3.475 m); minimum daily, 270 ft³/s (7.65 m³/s) Dec. 30, Jan. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 486 | 599 | 451 | 280 | 290 | 2960 | 1790 | 1340 | 762 | 1350 | 363 | 469 |
| 2 | 458 | 564 | 436 | 290 | 310 | 2030 | 5820 | 1310 | 746 | 1030 | 374 | 450 |
| 3 | 444 | 538 | 415 | 320 | 320 | 1610 | 17400 | 1220 | 729 | 665 | 363 | 414 |
| 4 | 444 | 530 | 408 | 370 | 340 | 3600 | 13500 | 2910 | 707 | 537 | 368 | 365 |
| 5 | 451 | 523 | 381 | 400 | 350 | 6110 | 9810 | 4480 | 685 | 510 | 389 | 353 |
| 6 | 501 | 508 | 401 | 390 | 350 | 4710 | 6240 | 4270 | 718 | 493 | 391 | 451 |
| 7 | 465 | 486 | 451 | 370 | 350 | 3110 | 4620 | 4190 | 690 | 460 | 467 | 417 |
| 8 | 451 | 486 | 415 | 360 | 350 | 2310 | 3760 | 2980 | 687 | 470 | 579 | 397 |
| 9 | 472 | 486 | 401 | 350 | 350 | 1860 | 3080 | 2280 | 847 | 434 | 709 | 389 |
| 10 | 465 | 479 | 388 | 380 | 380 | 1610 | 2670 | 1890 | 758 | 415 | 451 | 421 |
| 11 | 465 | 465 | 388 | 360 | 460 | 1460 | 2150 | 1730 | 1000 | 460 | 476 | 375 |
| 12 | 472 | 451 | 381 | 340 | 980 | 1890 | 1840 | 1370 | 893 | 435 | 889 | 371 |
| 13 | 472 | 436 | 374 | 330 | 1100 | 3120 | 1660 | 1320 | 808 | 418 | 544 | 384 |
| 14 | 472 | 429 | 381 | 350 | 1300 | 3470 | 1500 | 1180 | 809 | 405 | 801 | 949 |
| 15 | 458 | 436 | 374 | 330 | 1400 | 2620 | 1380 | 1100 | 719 | 407 | 515 | 565 |
| 16 | 429 | 436 | 374 | 310 | 1100 | 2010 | 1320 | 1050 | 667 | 362 | 456 | 700 |
| 17 | 422 | 422 | 374 | 300 | 850 | 1600 | 1230 | 1010 | 617 | 361 | 683 | 641 |
| 18 | 429 | 422 | 367 | 300 | 720 | 2010 | 1190 | 969 | 827 | 399 | 446 | 775 |
| 19 | 422 | 486 | 354 | 310 | 650 | 3200 | 1150 | 928 | 823 | 354 | 413 | 976 |
| 20 | 486 | 486 | 374 | 330 | 610 | 3480 | 1150 | 906 | 559 | 353 | 403 | 665 |
| 21 | 494 | 472 | 395 | 330 | 591 | 2830 | 1120 | 860 | 503 | 413 | 409 | 512 |
| 22 | 451 | 486 | 370 | 320 | 671 | 2760 | 1220 | 822 | 502 | 509 | 449 | 460 |
| 23 | 436 | 501 | 340 | 320 | 1860 | 3030 | 1270 | 825 | 492 | 382 | 445 | 448 |
| 24 | 697 | 494 | 310 | 320 | 5660 | 3450 | 1210 | 832 | 479 | 319 | 542 | 426 |
| 25 | 590 | 479 | 290 | 340 | 6170 | 2740 | 1230 | 834 | 491 | 317 | 497 | 390 |
| 26 | 547 | 616 | 290 | 350 | 4280 | 2220 | 1260 | 791 | 531 | 314 | 466 | 397 |
| 27 | 523 | 581 | 280 | 340 | 3440 | 1820 | 1170 | 787 | 527 | 329 | 445 | 387 |
| 28 | 515 | 486 | 290 | 320 | 3930 | 1950 | 1410 | 783 | 536 | 320 | 443 | 378 |
| 29 | 508 | 479 | 320 | 300 | --- | 2430 | 1760 | 754 | 525 | 725 | 445 | 366 |
| 30 | 538 | 465 | 270 | 280 | --- | 2840 | 1570 | 738 | 535 | 498 | 451 | 379 |
| 31 | 725 | --- | 280 | 270 | --- | 2230 | --- | 745 | --- | 362 | 461 | --- |
| TOTAL | 15188 | 14727 | 11323 | 10260 | 39162 | 83070 | 96480 | 47204 | 20172 | 14806 | 15133 | 14670 |
| MEAN | 490 | 491 | 365 | 331 | 1399 | 2680 | 3216 | 1523 | 672 | 478 | 488 | 489 |
| MAX | 725 | 616 | 451 | 400 | 6170 | 6110 | 17400 | 4480 | 1000 | 1350 | 889 | 976 |
| MIN | 422 | 422 | 270 | 270 | 290 | 1460 | 1120 | 738 | 479 | 314 | 363 | 353 |
| CFSM | .18 | .18 | .14 | .12 | .52 | .99 | 1.19 | .56 | .25 | .18 | .18 | .18 |
| IN. | .21 | .20 | .16 | .14 | .54 | 1.14 | 1.32 | .65 | .28 | .20 | .21 | .20 |

CAL YR 1976 TOTAL 654436 MEAN 1788 MAX 21500 MIN 270 CFSM .66 IN 8.98
WTR YR 1977 TOTAL 382195 MEAN 1047 MAX 17400 MIN 270 CFSM .39 IN 5.24

GREAT MIAMI RIVER BASIN

367

03271600 GREAT MIAMI RIVER NEAR MIAMISBURG, OH

LOCATION.--Lat 39°36'39", long 84°17'28", Montgomery County, Hydrologic Unit 05080002, on Chautauqua Road bridge, about 2.0 mi (3.2 km) south of Miamisburg and 2.5 mi (4.0 km) downstream from discharge station at Miamisburg.

DRAINAGE AREA.--2,715 mi² (7,032 km²).

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1964 to current year.

pH: March 1964 to current year.

WATER TEMPERATURES: March 1964 to current year.

DISSOLVED OXYGEN: March 1964 to current year.

INSTRUMENTATION.--Water-quality monitor, since March 1964. Prior to November 1971, at site 400 ft (122 m) downstream, in G. H. Hutchings powerplant.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. Dissolved oxygen concentrations listed as 15.0 mg/L represent concentrations of 15.0 mg/L or higher due to instrument limitations. See records of daily discharge for station at Miamisburg (station 03271500).

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,350 micromhos Feb. 12, 1977; minimum, 219 micromhos June 22, 1974.

pH: Maximum, 9.3 units May 19, 20, 1971; minimum, 5.7 units Feb. 9, 1972.

WATER TEMPERATURES: Maximum, 42.5°C July 15, 1977; minimum, 0.0°C on several days during winter periods.

DISSOLVED OXYGEN: Maximum, 15.0 mg/L or higher on several days during most years; minimum, 0.0 mg/L on many days during 1964-66, 1970-71, 1974-75, 1977.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,350 micromhos Feb. 12; minimum, 391 micromhos Apr. 3.

pH: Maximum, 9.0 units June 12, 13; minimum, 7.1 units Aug. 19, Sept. 15.

WATER TEMPERATURES: Maximum, 42.5°C July 15; minimum, 0.0°C Jan. 10, 11, 16, Mar. 1, 2.

DISSOLVED OXYGEN: Maximum, 15.0 mg/L or higher June 12, 13; minimum, 0.0 mg/L Apr. 27.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | BIO- CHEM- ICAL OXYGEN DEMAND 5 DAY (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) |
|-----------|------|--|--|------------------------------------|--|--------------------------------------|--|--|--|---|---|---|
| DATE | TIME | 2670 | 680 | 8.1 | 8.0 | 9.6 | 81 | 4.2 | 300 | 99 | 77 | 26 |
| MAR 23... | 1305 | 459 | 660 | 7.4 | 29.0 | 2.0 | 26 | 7.2 | 210 | 60 | 50 | 21 |
| JUN 20... | 1215 | | | | | | | | | | | |
| | | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) |
| DATE | | (NA) (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) |
| MAR 23... | 22 | 3.2 | 244 | 0 | 200 | 3.1 | 73 | 45 | .2 | 5.5 | 372 | 8.5 |
| JUN 20... | 36 | 3.8 | 184 | 0 | 151 | 12 | 58 | 55 | .3 | 5.0 | 320 | 1.5 |
| | | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) |
| DATE | | (N) (MG/L) | (MG/L) | (MG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (UG/L) | (MG/L) |
| MAR 23... | .10 | .55 | .46 | 1 | 10 | 12 | 20 | 13 | 20 | .2 | 50 | 7.6 |
| JUN 20... | .23 | 2.3 | .88 | 4 | 10 | 11 | 50 | 23 | 50 | .8 | 50 | 8.1 |

03271600 GREAT MIAMI RIVER NEAR MIAMISBURG, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|-----|----------|------|-------|-----|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 813 | 774 | 750 | 663 | 867 | 843 | 957 | 951 | --- | --- | 609 | 549 |
| 2 | 843 | 771 | 798 | 726 | 879 | 837 | --- | --- | --- | --- | 636 | 594 |
| 3 | 840 | 816 | 813 | 795 | 891 | 852 | --- | --- | --- | --- | 657 | 633 |
| 4 | 834 | 807 | 852 | 822 | 915 | 861 | 945 | 861 | --- | --- | 651 | 564 |
| 5 | 852 | 801 | 849 | 825 | 897 | 867 | 1030 | 897 | --- | --- | 594 | 537 |
| 6 | 867 | 822 | 894 | 834 | 897 | 858 | 1030 | 897 | --- | --- | 552 | 522 |
| 7 | 858 | 783 | 870 | 834 | 903 | 855 | 1200 | 939 | 1120 | 1050 | 588 | 537 |
| 8 | 843 | 780 | 861 | 822 | 999 | 900 | 1050 | 927 | 1090 | 1030 | 645 | 582 |
| 9 | 876 | 834 | 867 | 825 | 957 | 921 | 1010 | 906 | 1120 | 1060 | 690 | 645 |
| 10 | 855 | 795 | 876 | 849 | 921 | 897 | 906 | 843 | 1130 | 1060 | 714 | 681 |
| 11 | 804 | 777 | 879 | 855 | 903 | 867 | 924 | 843 | 1330 | 1140 | 759 | 711 |
| 12 | 873 | 801 | 900 | 858 | 888 | 858 | 939 | 879 | 1350 | 1110 | 759 | 624 |
| 13 | 882 | 837 | 876 | 855 | 894 | 852 | 966 | 903 | 1110 | 990 | 651 | 564 |
| 14 | 861 | 843 | 879 | 843 | 888 | 837 | 999 | 945 | 999 | 915 | 678 | 642 |
| 15 | 882 | 852 | 849 | 822 | 966 | 891 | 1010 | 948 | 960 | 897 | 693 | 639 |
| 16 | 894 | 864 | 864 | 816 | 942 | 921 | 960 | 951 | 900 | 843 | 696 | 672 |
| 17 | 900 | 864 | --- | --- | 948 | 912 | --- | --- | 843 | 822 | 717 | 675 |
| 18 | 888 | 849 | --- | --- | 957 | 912 | --- | --- | 864 | 828 | 723 | 639 |
| 19 | 885 | 834 | --- | --- | 945 | 921 | --- | --- | 879 | 846 | 669 | 627 |
| 20 | 906 | 870 | --- | --- | 924 | 876 | --- | --- | 864 | 831 | 624 | 576 |
| 21 | 876 | 810 | --- | --- | 900 | 858 | --- | --- | 981 | 828 | 603 | 576 |
| 22 | 855 | 795 | --- | --- | 957 | 903 | --- | --- | 978 | 834 | 606 | 591 |
| 23 | 891 | 861 | --- | --- | 960 | 912 | --- | --- | 828 | 666 | 709 | 603 |
| 24 | 870 | 693 | --- | --- | 945 | 906 | --- | --- | 648 | 522 | 670 | 658 |
| 25 | 684 | 624 | --- | --- | 960 | 900 | --- | --- | 522 | 501 | 667 | 643 |
| 26 | 810 | 693 | --- | --- | 909 | 864 | --- | --- | 543 | 504 | 697 | 685 |
| 27 | 834 | 771 | --- | --- | 927 | 855 | --- | --- | 591 | 546 | 715 | 703 |
| 28 | 837 | 801 | --- | --- | 927 | 858 | --- | --- | 588 | 561 | 724 | 721 |
| 29 | 858 | 834 | 786 | 747 | 987 | 930 | --- | --- | --- | --- | 745 | 709 |
| 30 | 867 | 822 | 867 | 762 | 993 | 945 | --- | --- | --- | --- | 727 | 691 |
| 31 | 825 | 675 | --- | --- | 993 | 936 | --- | --- | --- | --- | 709 | 621 |
| MONTH | 906 | 624 | 900 | 663 | 999 | 837 | 1200 | 843 | 1350 | 501 | 759 | 522 |

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|-----|-----|-----|------|-----|------|------|--------|-----|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 724 | 691 | 774 | 750 | 933 | 876 | 945 | 750 | 894 | 816 | 1050 | 996 |
| 2 | 730 | 394 | 777 | 759 | 906 | 873 | 765 | 702 | 921 | 879 | 1020 | 984 |
| 3 | 445 | 391 | 828 | 780 | 924 | 888 | 720 | 687 | 957 | 891 | 1030 | 993 |
| 4 | 502 | 445 | 834 | 582 | 951 | 900 | 825 | 726 | 1020 | 957 | 1020 | 981 |
| 5 | 565 | 502 | 681 | 609 | 948 | 909 | 909 | 825 | 1020 | 975 | 981 | 969 |
| 6 | 610 | 565 | 678 | 663 | 942 | 906 | 927 | 879 | 1020 | 993 | 987 | 957 |
| 7 | 672 | 610 | 678 | 639 | 939 | 903 | 939 | 912 | 1010 | 975 | 966 | 930 |
| 8 | 684 | 660 | 714 | 666 | 972 | 921 | 951 | 930 | 963 | 780 | 1010 | 963 |
| 9 | 711 | 672 | 741 | 702 | 945 | 858 | 942 | 915 | 840 | 657 | 1070 | 1010 |
| 10 | 744 | 699 | 765 | 729 | 855 | 798 | 945 | 909 | 816 | 657 | 1040 | 1010 |
| 11 | 774 | 729 | 780 | 750 | 909 | 825 | 966 | 909 | 885 | 816 | 1010 | 930 |
| 12 | 783 | 762 | 804 | 771 | 876 | 834 | 948 | 903 | 852 | 588 | 942 | 930 |
| 13 | 804 | 768 | 834 | 792 | 888 | 837 | 996 | 948 | 765 | 603 | 1020 | 942 |
| 14 | 801 | 789 | 852 | 819 | 891 | 852 | 1030 | 975 | 714 | 567 | 1020 | 633 |
| 15 | 804 | 795 | 840 | 810 | 891 | 861 | 1040 | 1000 | 756 | 639 | 771 | 639 |
| 16 | 810 | 792 | 825 | 813 | 963 | 876 | 1040 | 1010 | 894 | 768 | 759 | 702 |
| 17 | 801 | 780 | 861 | 822 | 960 | 948 | 1020 | 993 | 879 | 723 | 702 | 651 |
| 18 | 804 | 777 | 867 | 846 | 987 | 927 | 1030 | 996 | 786 | 663 | 804 | 600 |
| 19 | 825 | 789 | 873 | 856 | 936 | 528 | 999 | 954 | 960 | 786 | 750 | 678 |
| 20 | 828 | 804 | 897 | 852 | 804 | 531 | 1040 | 981 | 990 | 960 | 741 | 678 |
| 21 | 816 | 774 | 891 | 852 | 933 | 819 | 1050 | 1010 | 966 | 954 | 849 | 741 |
| 22 | 819 | 768 | 885 | 855 | 951 | 924 | 999 | 894 | 954 | 927 | 912 | 834 |
| 23 | 771 | 744 | 876 | 855 | 948 | 912 | 897 | 855 | 948 | 906 | 948 | 845 |
| 24 | 777 | 765 | 933 | 876 | 975 | 939 | 903 | 867 | 954 | 888 | 942 | 924 |
| 25 | 789 | 753 | 909 | 888 | 969 | 942 | 960 | 909 | 903 | 849 | 966 | 939 |
| 26 | 801 | 789 | 933 | 891 | 957 | 897 | 990 | 939 | 918 | 849 | 972 | 945 |
| 27 | 828 | 792 | 960 | 906 | 927 | 834 | 1020 | 984 | 963 | 900 | 987 | 948 |
| 28 | 828 | 753 | 966 | 918 | 939 | 861 | 1030 | 990 | 996 | 957 | 1020 | 963 |
| 29 | 753 | 657 | 942 | 897 | 939 | 885 | 1030 | 657 | 984 | 954 | 1010 | 972 |
| 30 | 750 | 720 | 936 | 870 | 960 | 909 | 723 | 615 | 1000 | 945 | 1050 | 999 |
| 31 | --- | --- | 942 | 879 | --- | --- | 801 | 627 | 1020 | 972 | --- | --- |
| MONTH | 828 | 391 | 966 | 582 | 987 | 528 | 1050 | 615 | 1020 | 567 | 1070 | 600 |

| YEAR | 1350 | 391 | | | | | | | | | | |
|------|------|-----|--|--|--|--|--|--|--|--|--|--|
|------|------|-----|--|--|--|--|--|--|--|--|--|--|

PH (UNITS), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|---------|-----|----------|-----|----------|-----|---------|-----|----------|-----|-----------|-----|-----|
| OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | | |
| 1 | 7.7 | 7.6 | 7.9 | 7.6 | 8.2 | 7.8 | 8.0 | 7.9 | 8.4 | 8.2 | 8.0 | 7.8 |
| 2 | 7.7 | 7.6 | 7.9 | 7.5 | 8.1 | 7.9 | --- | --- | 8.5 | 8.1 | 7.8 | 7.7 |
| 3 | 8.0 | 7.6 | 7.8 | 7.6 | 8.1 | 7.9 | --- | --- | 8.5 | 8.4 | 7.8 | 7.7 |
| 4 | 8.4 | 7.6 | 7.8 | 7.7 | 8.0 | 7.9 | 7.9 | 7.6 | 8.6 | 8.5 | 7.8 | 7.7 |
| 5 | 8.2 | 7.9 | 7.8 | 7.5 | 7.9 | 7.8 | 7.9 | 7.7 | 8.5 | 8.1 | 7.9 | 7.8 |
| 6 | 7.9 | 7.7 | 7.9 | 7.5 | 7.8 | 7.6 | 7.9 | 7.7 | 8.4 | 8.2 | 7.9 | 7.8 |
| 7 | 7.8 | 7.6 | 7.9 | 7.7 | 7.9 | 7.6 | 7.9 | 7.7 | 8.6 | 8.3 | 7.9 | 7.8 |
| 8 | 7.8 | 7.6 | 8.0 | 7.8 | 8.0 | 7.8 | 8.0 | 7.8 | 8.6 | 8.2 | 7.8 | 7.8 |
| 9 | 7.9 | 7.8 | 8.0 | 7.7 | --- | --- | 7.9 | 7.7 | 8.5 | 8.2 | 7.9 | 7.8 |
| 10 | 8.1 | 7.8 | 8.2 | 8.0 | --- | --- | 8.0 | 7.7 | 8.5 | 8.0 | 7.9 | 7.8 |
| 11 | 8.1 | 7.9 | 8.1 | 7.9 | 7.9 | 7.7 | 8.1 | 8.0 | 8.4 | 7.9 | 8.0 | 7.8 |
| 12 | --- | --- | 7.9 | 7.8 | 7.8 | 7.6 | 8.1 | 7.9 | 8.3 | 7.9 | 8.0 | 7.8 |
| 13 | --- | --- | 7.9 | 7.7 | 7.7 | 7.4 | 8.1 | 8.0 | 8.5 | 8.3 | 8.0 | 7.8 |
| 14 | 8.0 | 7.8 | 7.8 | 7.6 | 7.8 | 7.5 | 8.0 | 7.7 | 8.5 | 8.1 | 8.0 | 7.9 |
| 15 | 8.1 | 7.9 | 7.9 | 7.7 | 7.7 | 7.4 | 7.9 | 7.8 | 8.4 | 8.1 | 8.0 | 7.9 |
| 16 | 8.1 | 7.9 | 7.9 | 7.7 | 7.8 | 7.5 | 7.9 | 7.8 | 8.4 | 7.9 | 8.0 | 7.8 |
| 17 | 8.1 | 7.9 | --- | --- | 7.9 | 7.7 | --- | --- | 8.4 | 8.1 | 7.9 | 7.7 |
| 18 | 8.2 | 7.9 | --- | --- | 7.9 | 7.6 | --- | --- | 8.2 | 7.8 | 7.8 | 7.7 |
| 19 | 8.2 | 8.0 | --- | --- | 7.9 | 7.7 | --- | --- | 8.1 | 7.9 | 7.9 | 7.8 |
| 20 | 8.0 | 7.8 | --- | --- | 7.8 | 7.6 | --- | --- | 8.1 | 7.5 | 7.9 | 7.9 |
| 21 | 7.9 | 7.8 | --- | --- | 7.9 | 7.6 | --- | --- | 8.2 | 7.9 | 7.9 | 7.8 |
| 22 | 7.8 | 7.7 | --- | --- | 8.0 | 7.9 | --- | --- | 8.2 | 7.9 | 7.9 | 7.8 |
| 23 | 8.0 | 7.8 | --- | --- | 8.0 | 7.8 | --- | --- | 8.1 | 8.0 | 8.1 | 7.9 |
| 24 | 7.9 | 7.7 | --- | --- | 7.9 | 7.8 | --- | --- | 8.1 | 7.7 | 8.1 | 7.9 |
| 25 | 7.8 | 7.6 | --- | --- | 8.0 | 7.7 | --- | --- | 8.2 | 8.0 | 7.9 | 7.8 |
| 26 | 8.0 | 7.8 | --- | --- | 7.9 | 7.8 | --- | --- | 8.0 | 7.9 | 7.9 | 7.8 |
| 27 | 8.0 | 7.8 | --- | --- | 8.0 | 7.7 | --- | --- | 8.1 | 7.9 | 8.1 | 7.5 |
| 28 | 8.0 | 7.8 | --- | --- | 8.0 | 7.8 | --- | --- | 8.1 | 7.8 | 7.9 | 7.7 |
| 29 | 7.9 | 7.7 | 7.7 | 7.6 | 7.9 | 7.7 | --- | --- | --- | --- | 8.2 | 7.8 |
| 30 | 7.9 | 7.8 | 7.8 | 7.5 | 8.0 | 7.7 | --- | --- | --- | --- | 8.2 | 8.0 |
| 31 | --- | --- | --- | --- | 8.0 | 7.6 | --- | --- | --- | --- | 8.1 | 7.9 |
| MONTH | 8.4 | 7.6 | 8.2 | 7.5 | 8.2 | 7.4 | 8.1 | 7.6 | 8.6 | 7.5 | 8.2 | 7.5 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 8.0 | 7.8 | 8.4 | 7.9 | 8.2 | 7.7 | 8.0 | 7.6 | --- | --- | 8.0 | 7.8 |
| 2 | 7.9 | 7.7 | 8.2 | 8.0 | 8.4 | 7.7 | 8.4 | 8.1 | 7.9 | 7.7 | 8.1 | 7.9 |
| 3 | 7.8 | 7.7 | 8.2 | 7.8 | 8.4 | 8.1 | 8.1 | 7.5 | 8.0 | 7.5 | 8.1 | 7.9 |
| 4 | 7.8 | 7.8 | 7.9 | 7.7 | 8.4 | 8.0 | 8.0 | 7.5 | 7.9 | 7.7 | 8.1 | 7.9 |
| 5 | 8.0 | 7.8 | 8.0 | 7.8 | 8.4 | 7.8 | 8.1 | 7.8 | 8.0 | 7.7 | --- | --- |
| 6 | 8.0 | 7.9 | 8.0 | 8.0 | 8.2 | 7.6 | 8.2 | 7.9 | 8.0 | 7.7 | 8.1 | 7.9 |
| 7 | 8.1 | 7.9 | 8.0 | 7.9 | 8.2 | 7.8 | 8.2 | 7.8 | 7.9 | 7.7 | 8.1 | 7.8 |
| 8 | 8.1 | 7.7 | 8.1 | 7.9 | 8.2 | 7.8 | 7.9 | 7.7 | 7.9 | 7.7 | 8.0 | 7.8 |
| 9 | 8.1 | 7.9 | 8.2 | 8.0 | 8.4 | 7.7 | 7.9 | 7.8 | 7.8 | 7.5 | 7.9 | 7.8 |
| 10 | 8.1 | 7.9 | 8.2 | 8.1 | 8.4 | 7.6 | 7.8 | 7.6 | 7.6 | 7.4 | 8.0 | 7.9 |
| 11 | 8.1 | 8.0 | 8.2 | 8.0 | 8.6 | 7.8 | 7.8 | 7.6 | 7.6 | 7.3 | 8.1 | 7.6 |
| 12 | 8.2 | 8.0 | 8.3 | 8.0 | 9.0 | 8.3 | 7.9 | 7.6 | 7.6 | 7.3 | 8.0 | 7.5 |
| 13 | 8.2 | 8.0 | --- | --- | 9.0 | 8.5 | 7.9 | 7.6 | 7.5 | 7.2 | 8.0 | 7.6 |
| 14 | 8.5 | 8.0 | --- | --- | 8.7 | 7.8 | 8.0 | 7.6 | 7.7 | 7.3 | 8.1 | 7.5 |
| 15 | 8.6 | 8.1 | --- | --- | 8.2 | 7.7 | 8.1 | 7.7 | 7.7 | 7.5 | 7.7 | 7.1 |
| 16 | 8.8 | 8.1 | --- | --- | 8.0 | 7.6 | 8.0 | 7.7 | 7.9 | 7.7 | 7.6 | 7.4 |
| 17 | 8.8 | 8.1 | --- | --- | 8.1 | 7.7 | 7.9 | 7.7 | 8.1 | 7.7 | 7.8 | 7.4 |
| 18 | 8.8 | 8.2 | --- | --- | 7.9 | 7.7 | 7.9 | 7.8 | 7.9 | 7.2 | 7.9 | 7.6 |
| 19 | 8.5 | 8.0 | --- | --- | 7.9 | 7.4 | 8.0 | 7.7 | 7.8 | 7.1 | 8.0 | 7.7 |
| 20 | 8.6 | 7.9 | 8.3 | 7.6 | 7.7 | 7.3 | 7.9 | 7.8 | 7.8 | 7.4 | 7.9 | 7.6 |
| 21 | 8.3 | 8.0 | 8.1 | 7.5 | 7.9 | 7.6 | 7.9 | 7.7 | 7.8 | 7.4 | 8.3 | 7.7 |
| 22 | 8.1 | 7.8 | 8.1 | 7.5 | 7.8 | 7.6 | 7.9 | 7.5 | 7.8 | 7.4 | 7.9 | 7.4 |
| 23 | 8.0 | 7.7 | 7.9 | 7.5 | 7.8 | 7.5 | 7.8 | 7.3 | 7.8 | 7.5 | 8.1 | 7.8 |
| 24 | 8.1 | 7.8 | 7.9 | 7.4 | 7.7 | 7.5 | 7.8 | 7.5 | 7.7 | 7.5 | 8.0 | 7.9 |
| 25 | 8.1 | 7.8 | --- | --- | 7.8 | 7.5 | 7.9 | 7.4 | 7.7 | 7.3 | 8.2 | 7.8 |
| 26 | 8.1 | 7.7 | --- | --- | 8.0 | 7.6 | 8.1 | 7.6 | 7.7 | 7.3 | 8.0 | 7.6 |
| 27 | 8.3 | 7.6 | --- | --- | 7.9 | 7.6 | 8.0 | 7.4 | 7.8 | 7.5 | 8.0 | 7.8 |
| 28 | 8.1 | 7.8 | --- | --- | 7.7 | 7.6 | 8.0 | 7.5 | 8.1 | 7.6 | 8.0 | 7.7 |
| 29 | 8.0 | 7.7 | 8.5 | 7.9 | 7.7 | 7.5 | --- | --- | 8.0 | 7.8 | 8.1 | 7.9 |
| 30 | 8.2 | 7.8 | 8.3 | 7.7 | 7.8 | 7.6 | --- | --- | 8.0 | 7.8 | 8.1 | 7.9 |
| 31 | --- | --- | 8.2 | 7.8 | --- | --- | --- | --- | 7.9 | 7.8 | --- | --- |
| MONTH | 8.8 | 7.6 | 8.5 | 7.4 | 9.0 | 7.3 | 8.4 | 7.3 | 8.1 | 7.1 | 8.3 | 7.1 |
| YEAR | 9.0 | 7.1 | | | | | | | | | | |

03271600 GREAT MIAMI RIVER NEAR MIAMISBURG, OH--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|------|---------|-----|----------|------|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 21.0 | 17.5 | 11.5 | 8.0 | 8.0 | 5.5 | 2.0 | 1.0 | 1.0 | 0.5 | 2.0 | 0.0 |
| 2 | 22.0 | 18.5 | 14.0 | 11.0 | 8.0 | 5.5 | --- | --- | 5.0 | 1.0 | 3.5 | 0.0 |
| 3 | 22.5 | 19.0 | 14.5 | 13.0 | 6.5 | 4.5 | --- | --- | 9.0 | 5.5 | 5.5 | 2.5 |
| 4 | 22.5 | 19.5 | 13.5 | 11.5 | 9.0 | 6.5 | 8.0 | 5.5 | 9.5 | 5.0 | 6.5 | 5.0 |
| 5 | 23.0 | 21.0 | 12.0 | 11.0 | 8.5 | 6.5 | 8.5 | 7.0 | 5.0 | 2.5 | 5.5 | 2.0 |
| 6 | 22.5 | 18.5 | 12.0 | 10.0 | 8.5 | 7.0 | 7.0 | 4.5 | 4.0 | 1.5 | 4.5 | 0.5 |
| 7 | 18.5 | 17.0 | 12.0 | 9.0 | 8.5 | 7.5 | 6.5 | 2.5 | 4.0 | 2.0 | 4.0 | 1.0 |
| 8 | 18.0 | 16.5 | 9.0 | 7.5 | 8.0 | 5.5 | 5.0 | 2.0 | 5.0 | 1.5 | 8.0 | 2.0 |
| 9 | 18.0 | 16.5 | 12.5 | 9.0 | 7.5 | 5.0 | 5.5 | 4.0 | 10.0 | 5.5 | 10.0 | 6.0 |
| 10 | 18.0 | 16.0 | 13.0 | 11.0 | 9.5 | 8.0 | 4.5 | 0.0 | 13.0 | 10.0 | 11.5 | 8.5 |
| 11 | 18.5 | 16.0 | 12.0 | 11.0 | 10.0 | 8.5 | 2.0 | 0.0 | 13.0 | 6.5 | 13.5 | 8.5 |
| 12 | 20.5 | 17.0 | 12.0 | 11.5 | 8.5 | 8.0 | 2.5 | 1.0 | 6.0 | 3.0 | 13.5 | 12.0 |
| 13 | 22.0 | 20.5 | 12.5 | 11.0 | 8.5 | 7.0 | 3.5 | 1.0 | 3.0 | 1.5 | 12.0 | 10.5 |
| 14 | 22.0 | 20.5 | 12.0 | 10.0 | 8.5 | 6.5 | 6.0 | 4.0 | 3.5 | 1.0 | 13.5 | 9.5 |
| 15 | 21.5 | 19.5 | 11.0 | 10.0 | 11.5 | 9.0 | 6.0 | 4.0 | 4.5 | 3.0 | 15.5 | 10.0 |
| 16 | 20.0 | 18.0 | 11.5 | 9.0 | 11.5 | 9.0 | 4.0 | 0.0 | 5.0 | 2.5 | 13.5 | 11.5 |
| 17 | 18.0 | 16.5 | --- | --- | 11.5 | 11.0 | --- | --- | 5.5 | 3.5 | 11.5 | 10.0 |
| 18 | 18.0 | 13.0 | --- | --- | 13.0 | 10.5 | --- | --- | 6.5 | 4.5 | 10.5 | 7.0 |
| 19 | 15.0 | 13.5 | --- | --- | 12.5 | 10.5 | --- | --- | 7.5 | 6.0 | 7.5 | 6.0 |
| 20 | 15.5 | 14.5 | --- | --- | 12.5 | 6.5 | --- | --- | 7.0 | 5.0 | 6.5 | 4.5 |
| 21 | 14.5 | 13.0 | --- | --- | 6.0 | 3.0 | --- | --- | 6.5 | 4.5 | 8.5 | 3.5 |
| 22 | 13.0 | 11.0 | --- | --- | 5.5 | 4.0 | --- | --- | 11.0 | 5.5 | 7.5 | 5.5 |
| 23 | 12.0 | 10.5 | --- | --- | 5.5 | 2.5 | --- | --- | 10.0 | 7.0 | 8.5 | 5.0 |
| 24 | 12.5 | 11.0 | --- | --- | 6.0 | 4.5 | --- | --- | 6.5 | 3.0 | 7.5 | 3.5 |
| 25 | 12.0 | 11.5 | --- | --- | 7.0 | 5.0 | --- | --- | 4.5 | 2.5 | 9.0 | 4.0 |
| 26 | 12.0 | 11.0 | --- | --- | 7.0 | 3.5 | --- | --- | 4.5 | 3.5 | 10.5 | 6.0 |
| 27 | 11.0 | 10.0 | --- | --- | 6.0 | 3.5 | --- | --- | 4.5 | 2.5 | 12.0 | 8.5 |
| 28 | 11.0 | 9.0 | --- | --- | 6.5 | 5.5 | --- | --- | 3.0 | 1.0 | 14.0 | 11.0 |
| 29 | 12.0 | 10.5 | 7.0 | 6.5 | 6.5 | 3.0 | --- | --- | --- | --- | 17.0 | 13.0 |
| 30 | 12.0 | 11.5 | 6.5 | 5.0 | 3.5 | 0.5 | --- | --- | --- | --- | 19.0 | 15.0 |
| 31 | 12.0 | 9.5 | --- | --- | 3.0 | 1.0 | --- | --- | --- | --- | 15.5 | 11.5 |
| MONTH | 23.0 | 9.0 | 14.5 | 5.0 | 13.0 | 0.5 | 8.5 | 0.0 | 13.0 | 0.5 | 19.0 | 0.0 |

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 15.0 | 10.0 | 19.5 | 15.0 | 28.0 | 24.5 | 27.5 | 25.5 | 28.5 | 25.0 | 41.0 | 29.5 |
| 2 | 15.0 | 14.0 | 21.5 | 19.0 | 24.5 | 22.5 | 27.5 | 24.5 | 32.5 | 24.5 | 42.0 | 30.5 |
| 3 | 14.0 | 11.0 | 21.5 | 19.5 | 24.0 | 21.5 | 26.5 | 24.0 | 34.0 | 24.5 | 40.0 | 30.5 |
| 4 | 12.5 | 10.5 | 20.5 | 19.0 | 24.5 | 21.5 | 28.5 | 25.0 | 34.5 | 25.0 | 31.0 | 29.0 |
| 5 | 10.5 | 7.0 | 21.0 | 18.0 | 24.5 | 23.0 | 32.5 | 27.5 | 37.0 | 26.5 | 33.0 | 28.5 |
| 6 | 7.0 | 5.5 | 20.5 | 19.5 | 25.0 | 23.5 | 36.0 | 29.0 | 31.5 | 27.5 | 32.0 | 28.0 |
| 7 | 10.0 | 5.0 | 20.5 | 18.0 | 23.0 | 21.0 | 39.0 | 31.0 | 28.5 | 27.0 | 36.5 | 27.0 |
| 8 | 10.0 | 8.0 | 20.0 | 17.0 | 21.5 | 20.0 | 39.5 | 31.0 | 28.0 | 26.0 | 35.0 | 26.5 |
| 9 | 10.5 | 7.5 | 18.0 | 15.5 | 20.0 | 18.0 | 32.5 | 31.0 | 27.0 | 25.5 | 35.0 | 27.0 |
| 10 | 14.0 | 9.0 | 18.0 | 15.0 | 21.5 | 18.5 | 31.0 | 27.0 | 26.5 | 25.0 | 28.0 | 26.0 |
| 11 | 17.5 | 12.5 | 19.0 | 15.0 | 22.0 | 20.0 | 32.5 | 25.5 | 35.0 | 25.5 | 26.5 | 24.0 |
| 12 | 20.0 | 15.5 | 20.5 | 16.0 | 23.0 | 20.0 | 34.5 | 26.5 | 26.5 | 24.0 | 31.0 | 22.5 |
| 13 | 21.5 | 17.0 | 22.5 | 17.5 | 23.5 | 21.0 | 38.0 | 28.0 | 24.5 | 23.0 | 24.5 | 21.5 |
| 14 | 21.5 | 18.5 | 23.5 | 19.5 | 23.5 | 22.0 | 39.5 | 30.0 | 27.5 | 23.0 | 23.0 | 21.5 |
| 15 | 20.5 | 18.0 | 25.0 | 20.5 | 26.5 | 23.0 | 42.5 | 31.5 | 27.5 | 25.0 | 21.5 | 19.5 |
| 16 | 22.0 | 17.0 | 26.0 | 21.5 | 28.0 | 25.0 | 41.5 | 32.5 | 31.5 | 26.5 | 22.0 | 21.0 |
| 17 | 22.5 | 19.0 | 26.5 | 22.5 | 30.0 | 26.5 | 42.0 | 32.0 | 27.5 | 26.0 | 23.5 | 21.0 |
| 18 | 23.5 | 19.0 | 27.5 | 23.5 | 28.5 | 27.0 | 39.0 | 31.0 | 26.0 | 24.0 | 24.0 | 22.0 |
| 19 | 22.5 | 20.5 | 29.0 | 24.0 | 27.0 | 24.5 | 41.0 | 29.5 | 26.0 | 23.5 | 23.5 | 22.0 |
| 20 | 23.5 | 20.5 | 29.0 | 25.0 | 27.0 | 24.5 | 42.0 | 32.0 | 26.5 | 24.0 | 22.0 | 20.5 |
| 21 | 23.0 | 21.5 | 28.5 | 25.5 | 27.0 | 24.5 | 37.0 | 31.0 | 25.0 | 23.0 | 20.5 | 18.5 |
| 22 | 21.5 | 20.0 | 27.5 | 25.0 | 25.5 | 23.5 | 31.5 | 29.0 | 25.0 | 22.0 | 25.5 | 17.5 |
| 23 | 20.0 | 18.0 | 26.0 | 23.5 | 25.0 | 22.5 | 29.0 | 26.0 | 26.5 | 24.0 | 26.0 | 19.5 |
| 24 | 18.5 | 16.5 | 26.5 | 24.0 | 26.5 | 24.0 | 29.0 | 26.5 | 25.5 | 24.5 | 22.5 | 21.5 |
| 25 | 16.0 | 13.5 | 27.0 | 24.5 | 27.5 | 25.5 | 37.5 | 27.5 | 24.0 | 22.5 | 23.0 | 20.5 |
| 26 | 16.5 | 12.5 | 27.0 | 24.5 | 28.0 | 25.5 | 35.0 | 25.5 | 26.0 | 22.0 | 23.0 | 21.5 |
| 27 | 18.5 | 14.0 | 27.5 | 24.5 | 27.5 | 26.0 | 30.5 | 25.0 | 27.0 | 24.0 | 24.0 | 21.0 |
| 28 | 17.5 | 13.5 | 28.0 | 25.5 | 28.0 | 25.5 | 33.5 | 24.5 | 29.0 | 26.0 | 25.5 | 21.0 |
| 29 | 15.5 | 11.5 | 28.0 | 26.0 | 24.5 | 26.0 | 32.0 | 22.5 | 35.5 | 27.0 | 29.0 | 19.5 |
| 30 | 17.0 | 13.0 | 28.5 | 25.5 | 27.5 | 26.0 | 26.5 | 22.0 | 34.5 | 26.0 | 30.0 | 21.0 |
| 31 | --- | --- | 28.5 | 26.5 | --- | --- | 29.5 | 24.5 | 37.0 | 26.5 | --- | --- |
| MONTH | 23.5 | 5.0 | 29.0 | 15.0 | 30.0 | 18.0 | 42.5 | 22.0 | 37.0 | 22.0 | 42.0 | 17.5 |
| YEAR | 42.5 | 0.0 | | | | | | | | | | |

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|---------|-----|----------|-----|----------|------|---------|------|----------|------|-------|------|------|
| OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | | |
| 1 | 2.6 | 1.9 | 7.0 | 6.0 | 9.0 | 7.1 | 8.9 | 7.2 | 7.0 | 6.8 | 12.9 | 12.3 |
| 2 | 2.9 | 1.8 | 7.1 | 3.9 | 7.2 | 6.2 | --- | --- | 6.9 | 2.6 | 12.2 | 11.3 |
| 3 | 5.1 | 1.7 | 5.9 | 4.1 | 7.5 | 6.6 | --- | --- | 4.9 | 2.6 | 11.3 | 10.1 |
| 4 | 7.3 | 3.3 | 5.3 | 3.3 | 7.5 | 5.4 | 7.8 | 6.0 | 4.8 | 2.6 | 11.0 | 10.1 |
| 5 | 6.6 | 2.3 | 5.1 | 4.0 | 6.4 | 5.1 | 8.4 | 6.3 | 5.1 | 2.4 | 12.2 | 10.8 |
| 6 | 3.1 | 1.4 | 5.4 | 3.9 | 7.1 | 5.6 | 8.7 | 6.9 | 5.9 | 3.6 | 12.5 | 11.9 |
| 7 | 1.7 | 0.8 | 6.0 | 4.6 | 6.7 | 4.1 | 8.7 | 6.3 | 6.9 | 3.9 | 12.2 | 11.5 |
| 8 | 2.4 | 1.5 | 6.7 | 5.7 | 6.4 | 4.8 | 9.6 | 8.2 | 7.5 | 4.1 | 11.6 | 11.0 |
| 9 | 3.1 | 2.6 | 7.1 | 5.3 | 6.8 | 5.9 | 9.5 | 6.6 | 5.7 | 2.5 | 11.0 | 9.2 |
| 10 | 4.3 | 3.3 | 6.5 | 3.8 | 6.6 | 5.4 | 10.2 | 7.8 | 5.1 | 1.7 | 9.0 | 7.7 |
| 11 | 4.9 | 4.3 | 5.9 | 4.2 | 6.2 | 4.3 | 10.2 | 7.6 | 4.1 | 0.9 | 8.1 | 6.8 |
| 12 | 5.1 | 3.3 | 5.6 | 4.2 | 6.4 | 5.0 | 8.8 | 6.2 | 6.5 | 1.0 | 6.6 | 5.2 |
| 13 | 3.8 | 2.7 | 5.8 | 4.3 | 7.0 | 4.7 | 8.6 | 6.5 | 9.1 | 5.6 | 8.7 | 6.9 |
| 14 | 3.9 | 2.8 | 6.9 | 5.5 | 7.8 | 5.0 | 9.1 | 6.0 | 9.4 | 8.5 | 9.3 | 8.7 |
| 15 | 4.2 | 2.6 | 8.4 | 6.6 | 6.6 | 3.3 | 7.0 | 4.8 | 10.5 | 8.3 | 8.9 | 8.1 |
| 16 | 4.4 | 3.8 | 8.6 | 6.7 | 5.6 | 3.0 | 6.2 | 5.1 | 10.3 | 9.3 | 8.5 | 7.1 |
| 17 | 4.7 | 4.2 | --- | --- | 5.1 | 2.5 | --- | --- | 9.6 | 8.3 | 7.9 | 6.2 |
| 18 | 6.4 | 4.5 | --- | --- | 5.9 | 3.3 | --- | --- | 8.6 | 5.7 | --- | --- |
| 19 | 6.3 | 4.5 | --- | --- | 6.2 | 3.2 | --- | --- | 6.6 | 3.5 | --- | --- |
| 20 | 4.4 | 3.0 | --- | --- | 5.2 | 3.1 | --- | --- | 6.6 | 3.9 | --- | --- |
| 21 | 5.2 | 3.3 | --- | --- | 5.4 | 3.6 | --- | --- | 7.7 | 5.8 | --- | --- |
| 22 | 5.3 | 3.8 | --- | --- | 6.3 | 4.7 | --- | --- | 7.0 | 4.5 | --- | --- |
| 23 | 5.4 | 4.8 | --- | --- | 6.4 | 4.0 | --- | --- | 7.2 | 4.5 | --- | --- |
| 24 | 6.7 | 4.7 | --- | --- | 5.1 | 3.8 | --- | --- | 12.1 | 7.9 | --- | --- |
| 25 | 6.5 | 5.6 | --- | --- | 6.2 | 3.4 | --- | --- | 13.0 | 12.2 | --- | --- |
| 26 | 6.0 | 4.8 | --- | --- | 4.8 | 3.2 | --- | --- | 13.2 | 12.3 | --- | --- |
| 27 | 6.0 | 5.2 | --- | --- | 5.9 | 4.4 | --- | --- | 12.9 | 12.2 | --- | --- |
| 28 | 6.5 | 5.5 | --- | --- | 6.8 | 3.7 | --- | --- | 13.6 | 12.8 | 8.0 | 4.6 |
| 29 | 6.5 | 5.0 | 7.6 | 5.6 | 7.0 | 5.4 | --- | --- | --- | --- | 9.0 | 4.8 |
| 30 | 5.9 | 4.4 | 9.0 | 7.3 | 10.1 | 7.2 | --- | --- | --- | --- | 7.9 | 5.1 |
| 31 | 6.8 | 5.3 | --- | --- | 10.0 | 3.9 | --- | --- | --- | --- | 8.9 | 6.4 |
| MONTH | 7.3 | 0.8 | 9.0 | 3.3 | 10.1 | 2.5 | 10.2 | 4.8 | 13.6 | 0.9 | 12.9 | 4.6 |

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|------|-----|------|------|------|------|------|--------|-----|-----------|-----|-----|
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 9.7 | 6.5 | 9.6 | 5.9 | 8.5 | 1.4 | 4.3 | 1.2 | 3.4 | 0.9 | 3.0 | 0.8 |
| 2 | 7.5 | 4.5 | 7.9 | 5.2 | 9.5 | 2.5 | 10.3 | 4.0 | 5.1 | 0.3 | 3.2 | 0.5 |
| 3 | 8.9 | 7.1 | 5.5 | 1.7 | 10.1 | 3.7 | 6.0 | 2.5 | 3.1 | 2.2 | 3.2 | 0.4 |
| 4 | 9.0 | 7.4 | 5.4 | 2.8 | 12.1 | 3.6 | 5.7 | 2.2 | --- | --- | 3.8 | 1.0 |
| 5 | 9.8 | 9.4 | 6.5 | 5.0 | 11.7 | 5.7 | 5.6 | 2.3 | --- | --- | 6.0 | 1.3 |
| 6 | 10.8 | 9.4 | 6.6 | 6.0 | 8.5 | 3.0 | 7.3 | 1.9 | --- | --- | 3.1 | 0.8 |
| 7 | 11.0 | 9.8 | 6.7 | 5.9 | 8.4 | 2.5 | 6.3 | 1.9 | --- | --- | 4.0 | 0.3 |
| 8 | 10.5 | 9.2 | 7.7 | 6.1 | 9.4 | 3.0 | 2.9 | 0.6 | --- | --- | 4.6 | 0.4 |
| 9 | 10.8 | 8.8 | 8.1 | 6.3 | 10.2 | 1.7 | 2.3 | 0.4 | --- | --- | 2.3 | 0.7 |
| 10 | 9.8 | 8.0 | 8.5 | 6.7 | 10.3 | 2.4 | 1.4 | 0.2 | --- | --- | 2.5 | 1.5 |
| 11 | 9.3 | 7.7 | 8.3 | 6.4 | 10.9 | 2.6 | 2.5 | 0.5 | 1.9 | 0.6 | 2.8 | 1.0 |
| 12 | 9.1 | 6.3 | 8.3 | 5.6 | 15.0 | 5.0 | 3.2 | 0.5 | 1.8 | 0.7 | 2.1 | 1.4 |
| 13 | 7.0 | 2.8 | 7.5 | 1.8 | 15.0 | 6.9 | 5.9 | 0.9 | 2.2 | 1.6 | 2.5 | 1.3 |
| 14 | 10.2 | 2.9 | 9.8 | 3.6 | 12.2 | 2.7 | 5.8 | 1.7 | 3.1 | 2.1 | 3.3 | 1.3 |
| 15 | 11.8 | 4.2 | 12.2 | 4.3 | 11.4 | 1.6 | 7.4 | 2.0 | 2.9 | 1.6 | 3.4 | 2.8 |
| 16 | 14.9 | 4.6 | 11.9 | 4.5 | 9.5 | 2.0 | 5.5 | 1.8 | 4.0 | 1.6 | 3.1 | 2.2 |
| 17 | 14.6 | 4.5 | 10.7 | 3.2 | 8.9 | 2.5 | 4.4 | 2.2 | 5.3 | 1.5 | 3.0 | 2.3 |
| 18 | 14.6 | 4.7 | 10.7 | 2.5 | 7.8 | 2.1 | 4.9 | 2.5 | 3.6 | 1.0 | 4.4 | 2.4 |
| 19 | 11.5 | 3.1 | 13.1 | 2.3 | 4.3 | 0.1 | 3.9 | 1.8 | 3.5 | 0.7 | 4.0 | 3.3 |
| 20 | 10.7 | 3.2 | 10.5 | 1.0 | 5.2 | 0.6 | 3.3 | 2.3 | 3.2 | 0.4 | 3.8 | 2.8 |
| 21 | 7.0 | 1.7 | 7.8 | 0.7 | 6.2 | 1.9 | 3.7 | 0.7 | 1.4 | 0.4 | 3.0 | 2.4 |
| 22 | 5.3 | 1.7 | 5.7 | 1.0 | 6.1 | 1.3 | 3.2 | 0.1 | 2.1 | 0.5 | 7.3 | 2.2 |
| 23 | 5.8 | 2.2 | 6.4 | 0.8 | 5.9 | 0.8 | 3.8 | 0.5 | 1.6 | 0.5 | 4.2 | 2.2 |
| 24 | 6.8 | 3.3 | 7.5 | 1.0 | 4.1 | 1.5 | 3.1 | 1.3 | 1.4 | 0.1 | 2.6 | 1.6 |
| 25 | 7.4 | 3.3 | 8.5 | 0.6 | 5.2 | 1.3 | 3.4 | 2.3 | 2.0 | 0.8 | 6.2 | 1.7 |
| 26 | 8.2 | 2.4 | 10.7 | 1.1 | 4.7 | 1.2 | 5.4 | 2.0 | 4.2 | 1.4 | 3.2 | 1.3 |
| 27 | 7.7 | .0 | 11.7 | 2.4 | 4.4 | 1.8 | 4.8 | 2.6 | 3.9 | 1.2 | 1.8 | 1.0 |
| 28 | 4.8 | 3.0 | 11.3 | 2.3 | 2.1 | 0.5 | 4.3 | 2.7 | 5.6 | 1.0 | 2.7 | 0.9 |
| 29 | 7.2 | 3.0 | 10.2 | 3.1 | 3.4 | 0.6 | 4.2 | 1.2 | 3.3 | 0.6 | 2.6 | 0.8 |
| 30 | 9.1 | 5.3 | 8.9 | 1.4 | 3.9 | 1.1 | 2.9 | 2.0 | 2.6 | 0.3 | 2.7 | 0.6 |
| 31 | --- | --- | 7.8 | 1.7 | --- | --- | 2.5 | 0.8 | 2.4 | 0.2 | --- | --- |
| MONTH | 14.9 | .0 | 13.1 | 0.6 | 15.0 | 0.1 | 10.3 | 0.1 | 5.6 | 0.1 | 7.3 | 0.3 |
| YEAR | 15.0 | .0 | | | | | | | | | | |

GREAT MIAMI RIVER BASIN

03271800 TWIN CREEK NEAR INGOMAR, OH

LOCATION.--Lat 39°42'28", long 84°31'30", in sec. 15, T.5 N., R.3 E., Preble County, Hydrologic Unit 05080002, on left bank at downstream side of bridge on Halderman Road, 0.5 mi (0.8 km) downstream from Bantas Fork, 1.4 mi (2.3 km) west of Ingomar, and 4.8 mi (7.7 km) upstream from Aukerman Creek.

DRAINAGE AREA.--197 mi² (510 km²).

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1959, 1961-62, October 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 815.42 ft (248.540 m) above mean sea level.

REMARKS.--Records good except those for winter periods, which are fair.

COOPERATION.--Gage-height charts, tapes and 9 discharge measurements furnished by Miami Conservancy District.

AVERAGE DISCHARGE.--15 years, 178 ft³/s (5.041 m³/s), 12.27 in/yr (312 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,300 ft³/s (547 m³/s) Mar. 4, 1963, gage height, 14.40 ft (4.389 m), from rating curve extended above 7,000 ft³/s (113 m³/s) on basis of contracted-opening measurement at gage height 18.8 ft (5.73 m); minimum daily, 2.5 ft³/s (0.071 m³/s) Sept. 12-14, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 21, 1959 reached a stage of 18.8 ft (5.73 m), discharge, 30,300 ft³/s (858 m³/s), computed by Miami Conservancy District. Flood of Mar. 25, 1913 reached a stage of 28.0 ft (8.53 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,000 ft³/s (340 m³/s) Apr. 2, (base 4,700 ft³/s, 133 m³/s), gage height, 11.81 ft (3.600 m); minimum, 4.3 ft³/s (0.12 m³/s) Oct. 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|--------|------|-------|------|------|--------|-------|-------|
| 1 | 6.1 | 16 | 9.0 | 6.5 | 7.0 | 143 | 114 | 71 | 21 | 922 | 8.1 | 7.6 |
| 2 | 5.7 | 14 | 8.2 | 7.0 | 7.2 | 104 | 3940 | 67 | 18 | 265 | 7.6 | 7.6 |
| 3 | 5.4 | 12 | 7.8 | 7.0 | 7.4 | 105 | 2420 | 61 | 17 | 114 | 7.1 | 7.6 |
| 4 | 5.1 | 11 | 7.2 | 6.6 | 7.4 | 1540 | 934 | 195 | 17 | 66 | 6.5 | 7.1 |
| 5 | 4.9 | 10 | 7.2 | 6.4 | 7.4 | 834 | 581 | 275 | 17 | 45 | 6.5 | 6.5 |
| 6 | 5.6 | 9.9 | 7.2 | 6.2 | 7.4 | 326 | 360 | 256 | 18 | 34 | 6.5 | 6.5 |
| 7 | 5.7 | 9.4 | 7.2 | 6.0 | 7.4 | 211 | 264 | 434 | 17 | 27 | 7.1 | 6.5 |
| 8 | 5.4 | 9.3 | 7.2 | 6.0 | 7.6 | 156 | 207 | 289 | 18 | 23 | 9.9 | 6.5 |
| 9 | 6.3 | 8.9 | 7.0 | 5.8 | 8.0 | 127 | 164 | 186 | 22 | 20 | 32 | 6.4 |
| 10 | 6.3 | 8.7 | 7.0 | 5.8 | 8.8 | 106 | 145 | 141 | 22 | 18 | 23 | 6.0 |
| 11 | 6.5 | 8.7 | 7.0 | 5.8 | 10 | 87 | 125 | 114 | 22 | 17 | 16 | 5.8 |
| 12 | 6.1 | 7.9 | 7.0 | 5.6 | 24 | 251 | 106 | 94 | 20 | 16 | 17 | 5.7 |
| 13 | 5.8 | 7.9 | 6.8 | 5.6 | 272 | 891 | 95 | 83 | 18 | 15 | 22 | 6.0 |
| 14 | 5.5 | 7.9 | 6.8 | 5.6 | 196 | 327 | 89 | 75 | 18 | 13 | 160 | 7.4 |
| 15 | 5.8 | 7.9 | 6.8 | 6.0 | 88 | 211 | 83 | 67 | 17 | 12 | 80 | 6.9 |
| 16 | 5.4 | 7.9 | 6.6 | 6.6 | 72 | 156 | 74 | 60 | 15 | 11 | 39 | 9.0 |
| 17 | 5.6 | 7.8 | 6.6 | 7.0 | 64 | 119 | 69 | 54 | 14 | 8.8 | 29 | 9.3 |
| 18 | 5.4 | 7.6 | 6.6 | 7.0 | 56 | 245 | 65 | 51 | 13 | 7.4 | 18 | 10 |
| 19 | 5.1 | 7.6 | 6.4 | 6.8 | 50 | 242 | 61 | 47 | 15 | 7.0 | 14 | 9.1 |
| 20 | 7.0 | 7.6 | 6.4 | 6.8 | 46 | 209 | 59 | 43 | 15 | 6.5 | 11 | 8.1 |
| 21 | 7.8 | 7.4 | 6.4 | 6.8 | 42 | 184 | 55 | 40 | 13 | 7.6 | 9.9 | 8.0 |
| 22 | 8.1 | 7.4 | 6.2 | 6.8 | 130 | 195 | 62 | 38 | 13 | 8.7 | 9.9 | 7.6 |
| 23 | 8.4 | 7.2 | 6.2 | 6.7 | 676 | 184 | 70 | 37 | 13 | 8.1 | 9.3 | 7.6 |
| 24 | 14 | 7.2 | 6.2 | 6.7 | 1400 | 150 | 64 | 35 | 13 | 7.6 | 12 | 7.5 |
| 25 | 17 | 7.2 | 6.0 | 6.7 | 506 | 121 | 65 | 34 | 20 | 7.6 | 11 | 7.1 |
| 26 | 15 | 11 | 5.8 | 6.7 | 252 | 104 | 60 | 31 | 85 | 6.5 | 9.3 | 6.7 |
| 27 | 12 | 17 | 5.6 | 6.8 | 338 | 93 | 53 | 28 | 44 | 6.5 | 8.7 | 6.5 |
| 28 | 11 | 16 | 5.4 | 6.8 | 231 | 310 | 58 | 26 | 56 | 5.6 | 7.6 | 6.4 |
| 29 | 9.6 | 14 | 5.4 | 6.6 | --- | 345 | 113 | 24 | 39 | 7.1 | 7.6 | 6.0 |
| 30 | 10 | 16 | 5.4 | 6.6 | --- | 205 | 86 | 24 | 28 | 9.3 | 8.1 | 6.1 |
| 31 | 15 | --- | 5.6 | 6.6 | --- | 151 | --- | 23 | --- | 8.7 | 8.1 | --- |
| TOTAL | 242.6 | 298.4 | 206.2 | 199.9 | 4528.6 | 8432 | 10641 | 3003 | 678 | 1731.0 | 621.8 | 215.1 |
| MEAN | 7.83 | 9.95 | 6.65 | 6.45 | 162 | 272 | 355 | 96.9 | 22.6 | 55.8 | 20.1 | 7.17 |
| MAX | 17 | 17 | 9.0 | 7.0 | 1400 | 1540 | 3940 | 434 | 85 | 922 | 160 | 10 |
| MIN | 4.9 | 7.2 | 5.4 | 5.6 | 7.0 | 87 | 53 | 23 | 13 | 5.6 | 6.5 | 5.7 |
| CFSM | .04 | .05 | .03 | .03 | .82 | 1.38 | 1.80 | .49 | .12 | .28 | .10 | .04 |
| IN. | .05 | .06 | .04 | .04 | .86 | 1.59 | 2.01 | .57 | .13 | .33 | .12 | .04 |

CAL YR 1976 TOTAL 36495.5 MEAN 99.7 MAX 3990 MIN 3.9 CFSM .51 IN 6.89
WTR YR 1977 TOTAL 30797.6 MEAN 84.4 MAX 3940 MIN 4.9 CFSM .43 IN 5.82

373

LOCATION.--Lat 39°38'10", long 84°23'48", in NW 1/4 sec. 11, T.3 N., R.4 E., Montgomery County, Hydrologic Unit 05080002, on right bank 0.3 mi (0.5 km) downstream from Germantown Dam, 1.5 mi (2.4 km) northwest of Germantown, and 3 mi (5 km) upstream from Little Twin Creek.

PERIOD OF RECORD.--April 1914 to December 1923, December 1926 to current year.

GAGE.--Water-stage recorder. Datum of gage is 700.24 ft (213.433 m) above mean sea level, adjustment of 1912. Prior to Dec. 18, 1926, nonrecording gage at site 1 mi (2 km) downstream at datum 12.49 ft (3.807 m) higher.

COOPERATION.--Gage-height charts, tapes and 9 discharge measurements furnished by Miami Conservancy District.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,390 ft³/s (266 m³/s) July 8, 1915, gage height, 11.7 ft (3.57 m), from graph based on gage readings, site and datum then in use; maximum gage height, 29.19 ft (8.897 m) Jan. 22, 1959; minimum discharge, 1.5 ft³/s (0.042 m³/s) Sept. 25, 1941.

EXTREMES FOR CURRENT YEAR. --Maximum discharge, 5,460 ft³/s (155 m³/s) Apr. 3, gage height, 26.11 ft (7.958 m); minimum, 6.1 ft³/s (0.17 m³/s) Sept. 29, 30, but may have been less during period of ice effect Dec. 21 to Jan. 1.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|------|-------|-------|------|------|--------|-------|-------|
| 1 | 10 | 33 | 16 | 9.8 | 14 | 217 | 162 | 108 | 33 | 627 | 13 | 12 |
| 2 | 9.1 | 30 | 14 | 11 | 14 | 161 | 1590 | 108 | 30 | 373 | 12 | 11 |
| 3 | 8.1 | 26 | 14 | 12 | 14 | 146 | 4970 | 97 | 27 | 161 | 11 | 11 |
| 4 | 7.5 | 23 | 13 | 11 | 15 | 1680 | 1500 | 411 | 25 | 92 | 10 | 10 |
| 5 | 7.2 | 21 | 13 | 11 | 15 | 1140 | 851 | 493 | 24 | 64 | 9.5 | 9.7 |
| 6 | 7.8 | 19 | 13 | 11 | 15 | 495 | 566 | 447 | 26 | 48 | 9.0 | 9.2 |
| 7 | 9.1 | 17 | 14 | 11 | 15 | 316 | 422 | 917 | 24 | 40 | 9.5 | 8.7 |
| 8 | 9.5 | 16 | 15 | 11 | 17 | 232 | 334 | 523 | 25 | 35 | 14 | 8.2 |
| 9 | 9.9 | 15 | 14 | 11 | 21 | 187 | 261 | 319 | 40 | 33 | 20 | 7.8 |
| 10 | 10 | 14 | 13 | 12 | 28 | 157 | 226 | 234 | 32 | 29 | 39 | 7.4 |
| 11 | 10 | 14 | 13 | 12 | 33 | 134 | 196 | 185 | 31 | 27 | 31 | 6.7 |
| 12 | 10 | 13 | 12 | 12 | 69 | 249 | 167 | 153 | 31 | 26 | 29 | 6.5 |
| 13 | 11 | 12 | 12 | 12 | 568 | 1060 | 149 | 133 | 29 | 24 | 26 | 7.7 |
| 14 | 14 | 12 | 12 | 12 | 570 | 494 | 138 | 120 | 28 | 22 | 95 | 62 |
| 15 | 14 | 11 | 11 | 13 | 354 | 312 | 127 | 106 | 26 | 20 | 140 | 16 |
| 16 | 16 | 11 | 11 | 14 | 285 | 228 | 116 | 96 | 25 | 19 | 66 | 20 |
| 17 | 16 | 11 | 11 | 14 | 230 | 174 | 106 | 87 | 23 | 18 | 50 | 17 |
| 18 | 14 | 11 | 10 | 14 | 198 | 265 | 100 | 81 | 22 | 16 | 36 | 35 |
| 19 | 15 | 10 | 10 | 14 | 164 | 348 | 95 | 76 | 23 | 14 | 26 | 49 |
| 20 | 18 | 10 | 11 | 13 | 149 | 286 | 90 | 70 | 23 | 13 | 20 | 25 |
| 21 | 20 | 10 | 10 | 13 | 134 | 262 | 85 | 64 | 22 | 13 | 19 | 15 |
| 22 | 20 | 10 | 9.2 | 13 | 209 | 282 | 95 | 61 | 21 | 12 | 19 | 12 |
| 23 | 20 | 10 | 8.6 | 13 | 2220 | 264 | 109 | 60 | 22 | 13 | 16 | 10 |
| 24 | 29 | 9.5 | 8.2 | 13 | 1640 | 216 | 101 | 57 | 21 | 12 | 25 | 9.7 |
| 25 | 31 | 9.5 | 7.8 | 13 | 731 | 175 | 99 | 54 | 29 | 11 | 22 | 9.3 |
| 26 | 30 | 13 | 7.6 | 13 | 387 | 151 | 96 | 53 | 121 | 10 | 17 | 8.4 |
| 27 | 26 | 19 | 7.6 | 14 | 423 | 135 | 85 | 47 | 81 | 9.7 | 15 | 7.2 |
| 28 | 23 | 22 | 7.4 | 14 | 359 | 294 | 87 | 43 | 82 | 9.2 | 13 | 6.5 |
| 29 | 20 | 20 | 7.4 | 13 | --- | 470 | 142 | 40 | 59 | 19 | 13 | 6.2 |
| 30 | 20 | 19 | 7.4 | 13 | --- | 291 | 131 | 38 | 45 | 20 | 12 | 6.1 |
| 31 | 31 | --- | 7.6 | 13 | --- | 212 | --- | 36 | --- | 16 | 12 | --- |
| TOTAL | 496.2 | 471.0 | 340.8 | 385.8 | 8891 | 11033 | 13196 | 5317 | 1050 | 1845.9 | 849.0 | 430.3 |
| MEAN | 16.0 | 15.7 | 11.0 | 12.4 | 318 | 356 | 440 | 172 | 35.0 | 59.5 | 27.4 | 14.3 |
| MAX | 31 | 33 | 16 | 14 | 2220 | 1680 | 4970 | 917 | 121 | 627 | 140 | 62 |
| MIN | 7.2 | 9.5 | 7.4 | 9.8 | 14 | 134 | 85 | 36 | 21 | 9.2 | 9.0 | 6.1 |
| CF5M | .06 | .06 | .04 | .05 | 1.16 | 1.30 | 1.60 | .63 | .13 | .22 | .10 | .05 |
| IN. | .07 | .06 | .05 | .05 | 1.20 | 1.49 | 1.79 | .72 | .14 | .25 | .11 | .05 |

| | | | | | | | |
|-------------|-------|---------|----------|----------|---------|----------|---------|
| CAL YR 1976 | TOTAL | 49988.5 | MEAN 137 | MAX 4560 | MIN 5.1 | CFSM .50 | IN 6.76 |
| WTR YR 1977 | TOTAL | 44306.0 | MEAN 121 | MAX 4970 | MIN 6.1 | CFSM .44 | IN 5.99 |

GREAT MIAMI RIVER BASIN

03272700 SEVENMILE CREEK AT CAMDEN, OH

LOCATION.--Lat 39°37'45", long 84°38'40", Preble County, Hydrologic Unit 05080002, 0.3 mi (0.5 km) downstream from Beasley Run on right bank at downstream side of bridge on State Highway 725 in Camden.

DRAINAGE AREA.--69.0 mi² (179 km²).

PERIOD OF RECORD.--December 1970 to current year.

GAGE.--Water-stage recorder. Datum of gage is 818.57 ft (249.501 m) (levels by Miami Conservancy District) above mean sea level. Prior to Oct. 1, 1975 at same site at datum 3.02 ft (0.920 m) higher.

REMARKS.--Records good except those for winter periods, which are fair. Water-quality data collected at this site 1972 to 1974.

COOPERATION.--Gage-height charts, tapes and 9 discharge measurements furnished by Miami Conservancy District.

AVERAGE DISCHARGE.--6 years (1972-77), 68.2 ft³/s (1.931 m³/s), 13.42 in/yr (341 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,210 ft³/s (176 m³/s) June 22, 1974, gage height 13.25 ft (4.039 m), present datum from rating curve extended above 2,200 ft³/s (62.3 m³/s); minimum daily, 1.6 ft³/s (0.045 m³/s) July 21, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,340 ft³/s (123 m³/s) Apr. 2 (base 1,500 ft³/s), gage height 11.19 ft (3.411 m); minimum daily, 1.6 ft³/s (0.045 m³/s) July 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------------|-------|---------|-------|-------|--------|------|------|------|-------|-------|-------|-------|
| 1 | 3.6 | 8.1 | 5.4 | 2.8 | 3.3 | 73 | 64 | 28 | 10 | 77 | 2.2 | 3.2 |
| 2 | 3.3 | 6.3 | 4.8 | 2.8 | 3.4 | 58 | 2040 | 28 | 8.8 | 37 | 2.1 | 2.9 |
| 3 | 2.9 | 5.4 | 4.5 | 2.8 | 3.5 | 105 | 799 | 25 | 7.8 | 18 | 1.9 | 2.9 |
| 4 | 2.8 | 4.8 | 4.2 | 2.9 | 3.5 | 674 | 307 | 118 | 7.8 | 11 | 2.1 | 2.5 |
| 5 | 3.0 | 4.6 | 4.0 | 3.5 | 3.5 | 298 | 214 | 108 | 7.8 | 8.3 | 4.0 | 2.5 |
| 6 | 4.0 | 4.3 | 5.4 | 4.4 | 3.5 | 158 | 145 | 110 | 12 | 6.9 | 2.1 | 2.4 |
| 7 | 6.2 | 4.0 | 6.8 | 4.1 | 3.5 | 110 | 117 | 272 | 7.4 | 5.7 | 1.9 | 4.5 |
| 8 | 3.8 | 3.8 | 5.6 | 4.0 | 3.5 | 86 | 89 | 145 | 8.3 | 6.1 | 5.3 | 4.3 |
| 9 | 3.6 | 3.9 | 4.6 | 3.9 | 3.7 | 74 | 72 | 88 | 15 | 6.1 | 9.3 | 3.1 |
| 10 | 3.4 | 3.8 | 5.4 | 3.8 | 4.2 | 64 | 65 | 64 | 9.3 | 4.9 | 4.6 | 2.8 |
| 11 | 3.0 | 3.8 | 6.0 | 3.7 | 5.6 | 55 | 57 | 52 | 6.9 | 4.9 | 3.4 | 2.2 |
| 12 | 3.0 | 3.8 | 6.0 | 3.6 | 108 | 195 | 48 | 43 | 6.5 | 4.9 | 8.3 | 2.0 |
| 13 | 3.1 | 3.7 | 5.2 | 3.5 | 229 | 313 | 44 | 42 | 6.1 | 4.0 | 4.0 | 2.7 |
| 14 | 2.9 | 4.0 | 5.2 | 3.7 | 86 | 149 | 40 | 37 | 6.5 | 2.7 | 67 | 6.2 |
| 15 | 2.9 | 3.8 | 5.4 | 4.0 | 53 | 108 | 36 | 32 | 6.1 | 2.2 | 27 | 5.1 |
| 16 | 3.0 | 4.1 | 5.2 | 3.8 | 38 | 82 | 33 | 28 | 4.9 | 2.1 | 11 | 11 |
| 17 | 2.9 | 4.0 | 5.4 | 3.7 | 31 | 69 | 31 | 24 | 4.6 | 1.9 | 15 | 9.1 |
| 18 | 2.9 | 4.1 | 5.2 | 3.6 | 27 | 125 | 29 | 23 | 4.9 | 1.7 | 6.1 | 10 |
| 19 | 3.2 | 4.0 | 5.4 | 3.5 | 24 | 107 | 27 | 22 | 4.6 | 1.7 | 4.0 | 13 |
| 20 | 5.3 | 3.9 | 5.4 | 3.4 | 22 | 105 | 27 | 18 | 4.9 | 1.7 | 3.2 | 6.7 |
| 21 | 6.6 | 3.8 | 4.5 | 3.3 | 20 | 92 | 25 | 17 | 4.3 | 1.6 | 3.7 | 3.2 |
| 22 | 4.3 | 3.8 | 4.0 | 3.3 | 99 | 107 | 35 | 16 | 4.6 | 4.3 | 5.7 | 3.0 |
| 23 | 4.3 | 3.9 | 3.6 | 3.2 | 347 | 89 | 35 | 16 | 5.3 | 2.7 | 4.9 | 2.8 |
| 24 | 14 | 3.9 | 3.4 | 3.2 | 527 | 74 | 30 | 15 | 4.6 | 2.1 | 8.8 | 2.7 |
| 25 | 8.5 | 4.0 | 3.3 | 3.2 | 197 | 65 | 29 | 15 | 5.3 | 2.1 | 6.1 | 2.4 |
| 26 | 5.7 | 9.9 | 3.2 | 3.4 | 118 | 59 | 27 | 13 | 17 | 1.7 | 3.7 | 2.3 |
| 27 | 4.5 | 14 | 3.1 | 3.3 | 160 | 56 | 24 | 12 | 8.8 | 1.9 | 3.4 | 2.2 |
| 28 | 4.0 | 9.0 | 3.0 | 3.2 | 101 | 156 | 35 | 11 | 11 | 1.7 | 2.9 | 2.1 |
| 29 | 3.8 | 6.8 | 3.0 | 3.2 | --- | 138 | 48 | 10 | 11 | 2.2 | 2.7 | 2.0 |
| 30 | 4.5 | 6.0 | 2.9 | 3.2 | --- | 98 | 33 | 18 | 8.3 | 6.9 | 4.9 | 2.1 |
| 31 | 13 | --- | 2.9 | 3.2 | --- | 76 | --- | 13 | --- | 2.9 | 4.0 | --- |
| TOTAL | 142.0 | 153.3 | 142.0 | 107.2 | 2228.2 | 4018 | 4605 | 1463 | 230.4 | 238.9 | 235.3 | 123.9 |
| MEAN | 4.58 | 5.11 | 4.58 | 3.46 | 79.6 | 130 | 154 | 47.2 | 7.68 | 7.71 | 7.59 | 4.13 |
| MAX | 14 | 14 | 6.8 | 4.4 | 527 | 674 | 2040 | 272 | 17 | 77 | 67 | 13 |
| MIN | 2.8 | 3.7 | 2.9 | 2.8 | 3.3 | 55 | 24 | 10 | 4.3 | 1.6 | 1.9 | 2.0 |
| CFSM | .07 | .07 | .07 | .05 | 1.15 | 1.88 | 2.23 | .68 | .11 | .11 | .11 | .06 |
| IN. | .08 | .08 | .08 | .06 | 1.20 | 2.17 | 2.48 | .79 | .12 | .13 | .13 | .07 |
| CAL YR 1976 | TOTAL | 14039.9 | MEAN | 38.4 | MAX | 1280 | MIN | 2.2 | CFSM | .56 | IN | 7.57 |
| WTR YR 1977 | TOTAL | 13687.2 | MEAN | 37.5 | MAX | 2040 | MIN | 1.6 | CFSM | .54 | IN | 7.38 |

GREAT MIAMI RIVER BASIN

375

03274000 GREAT MIAMI RIVER AT HAMILTON, OH

LOCATION.--Lat 39°23'28", long 84°34'20", in NE 1/4 sec. 6, T.1 N., R.3 E., Butler County, Hydrologic Unit 05080002, on right bank 1,000 ft (305 m) downstream from Columbia Bridge at Hamilton, 3 mi (5 km) downstream from Four Mile Creek, and 4.3 mi (6.9 km) upstream from Pleasant Run.

DRAINAGE AREA.--3,630 mi² (9,402 km²).

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 (1.1 km) 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 (152.394 m) above mean sea level, adjustment of 1912. Prior to Apr. 12, 1927, nonrecording gage at site 0.7 mi (1.1 km) upstream at datum 64.65 ft (19.705 m) higher.

REMARKS.--Records good. Some regulation 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). Small diversion about 6 mi (10 km) upstream from gage for municipal supply of Hamilton. Diversion averaged 0.68 ft³/s (0.019 m³/s) in 1977 and is returned as sewage 1.4 mi (2.3 km) downstream from the station. The Miami and Erie Canal diverted water from the basin 1.7 mi (2.7 km) upstream from station until Nov. 1, 1930, when canal was abandoned; amount of diversion not known. Water-quality data collected at this site water years 1950, 1951, 1973. Water temperature data collected at this site October 1950 to September 1951, October 1957 to September 1976.

COOPERATION.--Gage-height charts, tapes and 12 discharge measurements furnished by Miami Conservancy District.

AVERAGE DISCHARGE.--46 years (1931-77), 3.185 ft³/s (91.33 m³/s), 11.92 in/yr (303 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 352,000 ft³/s (9,970 m³/s) Mar. 26, 1913, gage height, 38.5 ft (11.73 m), site and datum then in use, computed by Miami Conservancy District; maximum discharge since construction of five retarding basins upstream in 1922, 108,000 ft³/s (3,059 m³/s) Jan. 21, 1959 gage height 79.47 ft (24.222 m); minimum daily discharge, 155 ft³/s (4.39 m³/s) Sept 27, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 24,500 ft³/s (694 m³/s) Apr. 3, gage height, 66.38 ft (20.233 m); minimum daily, 323 ft³/s (9.15 m³/s) Jan. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-------|-------|-------|-------|-------|-------|--------|--------|-------|-------|-------|-------|-------|
| 1 | 602 | 864 | 614 | 385 | 380 | 4170 | 2460 | 1800 | 704 | 1380 | 524 | 450 |
| 2 | 577 | 710 | 602 | 385 | 385 | 2780 | 5980 | 1770 | 691 | 2120 | 470 | 465 |
| 3 | 540 | 647 | 589 | 406 | 421 | 2330 | 23200 | 1560 | 672 | 1230 | 457 | 486 |
| 4 | 505 | 647 | 627 | 522 | 432 | 8440 | 17900 | 3470 | 643 | 884 | 445 | 463 |
| 5 | 516 | 614 | 614 | 552 | 459 | 8630 | 12600 | 5820 | 602 | 727 | 451 | 421 |
| 6 | 552 | 595 | 558 | 552 | 470 | 6790 | 7990 | 5630 | 590 | 664 | 490 | 407 |
| 7 | 608 | 558 | 688 | 540 | 448 | 4650 | 5800 | 7470 | 632 | 626 | 530 | 472 |
| 8 | 528 | 552 | 718 | 528 | 443 | 3570 | 4690 | 5310 | 620 | 566 | 850 | 493 |
| 9 | 522 | 564 | 667 | 499 | 454 | 2850 | 3780 | 3670 | 835 | 585 | 927 | 447 |
| 10 | 558 | 577 | 627 | 522 | 510 | 2360 | 3190 | 2910 | 766 | 554 | 718 | 457 |
| 11 | 528 | 570 | 614 | 482 | 640 | 2000 | 2770 | 2510 | 835 | 581 | 589 | 459 |
| 12 | 534 | 558 | 614 | 432 | 1250 | 2750 | 2510 | 2130 | 952 | 581 | 994 | 430 |
| 13 | 534 | 534 | 546 | 470 | 2510 | 5750 | 2260 | 1830 | 813 | 545 | 942 | 421 |
| 14 | 516 | 534 | 487 | 421 | 2180 | 5140 | 2090 | 1660 | 1030 | 516 | 1100 | 876 |
| 15 | 528 | 516 | 482 | 448 | 2040 | 4080 | 1930 | 1510 | 804 | 496 | 949 | 1050 |
| 16 | 493 | 577 | 470 | 437 | 1450 | 3040 | 1800 | 1380 | 710 | 500 | 721 | 866 |
| 17 | 454 | 570 | 465 | 385 | 1070 | 2360 | 1690 | 1310 | 652 | 473 | 1450 | 1020 |
| 18 | 406 | 558 | 465 | 359 | 961 | 2860 | 1590 | 1230 | 609 | 441 | 749 | 840 |
| 19 | 454 | 558 | 454 | 323 | 890 | 3670 | 1550 | 1160 | 1050 | 466 | 572 | 1290 |
| 20 | 522 | 653 | 443 | 364 | 630 | 4490 | 1480 | 1100 | 687 | 440 | 516 | 1250 |
| 21 | 653 | 627 | 470 | 395 | 822 | 3860 | 1470 | 1040 | 617 | 437 | 494 | 811 |
| 22 | 595 | 627 | 499 | 395 | 1030 | 3900 | 1520 | 933 | 600 | 569 | 525 | 653 |
| 23 | 534 | 634 | 465 | 400 | 3460 | 3660 | 1740 | 670 | 606 | 587 | 531 | 596 |
| 24 | 830 | 640 | 476 | 390 | 9230 | 4190 | 1630 | 893 | 561 | 505 | 651 | 549 |
| 25 | 943 | 640 | 406 | 395 | 8240 | 3590 | 1650 | 881 | 570 | 445 | 680 | 540 |
| 26 | 741 | 660 | 406 | 432 | 5970 | 2910 | 1650 | 857 | 1180 | 409 | 560 | 522 |
| 27 | 653 | 943 | 390 | 443 | 4840 | 2360 | 1530 | 809 | 1090 | 409 | 522 | 488 |
| 28 | 627 | 749 | 385 | 432 | 4920 | 2640 | 1460 | 788 | 975 | 408 | 492 | 467 |
| 29 | 595 | 660 | 427 | 421 | --- | 3200 | 2220 | 833 | 794 | 460 | 462 | 446 |
| 30 | 640 | 647 | 390 | 380 | --- | 3810 | 1990 | 747 | 712 | 1220 | 469 | 445 |
| 31 | 979 | --- | 348 | 353 | --- | 3090 | --- | 727 | --- | 618 | 467 | --- |
| TOTAL | 18267 | 18783 | 16006 | 13448 | 56735 | 119930 | 124140 | 64608 | 22602 | 20442 | 20297 | 18580 |
| MEAN | 589 | 626 | 516 | 434 | 2026 | 3869 | 4138 | 2084 | 753 | 659 | 655 | 619 |
| MAX | 979 | 943 | 718 | 552 | 9230 | 8630 | 23200 | 7470 | 1180 | 2120 | 1450 | 1290 |
| MIN | 406 | 516 | 348 | 323 | 380 | 2000 | 1460 | 727 | 561 | 408 | 445 | 407 |
| CFSM | .16 | .17 | .14 | .12 | .26 | 1.07 | 1.14 | .57 | .21 | .18 | .18 | .17 |
| IN. | .19 | .19 | .16 | .14 | .58 | 1.23 | 1.27 | .66 | .23 | .21 | .21 | .19 |

CAL YR 1976 TOTAL 833301 MEAN 2277 MAX 30300 MIN 348 CFSM .63 IN 8.54
WTR YR 1977 TOTAL 513838 MEAN 1408 MAX 23200 MIN 323 CFSM .39 IN 5.27

GREAT MIAMI RIVER BASIN

03274600 GREAT MIAMI RIVER AT NEW BALTIMORE, OH
NATIONAL STREAM-QUALITY ACCOUNTING NETWORK STATION

LOCATION.--Lat 39°15'47", long 84°40'04", in N 1/2 sec. 34, R.1, T.2, Hamilton County, Hydrologic Unit 05080002, at Blue Rock Road bridge at New Baltimore, 6.4 mi (10.3 km) downstream from Indian Creek, and 14.3 mi (23.0 km) downstream from discharge station at Hamilton.

DRAINAGE AREA.--3,814 mi² (9,878 km²).

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1966 to current year.

pH: March 1975 to current year.

WATER TEMPERATURES: July 1966 to current year.

DISSOLVED OXYGEN: July 1966 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. Dissolved oxygen concentrations listed as 15.0 mg/L represent concentrations of 15.0 mg/L or higher due to instrument limitations. Samples were collected each month as part of the National Stream Quality Accounting Network. See records of daily discharge for station at Hamilton (station 0327400).

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,160 micromhos Mar. 18, 1970; minimum, 230 micromhos May 24, 1968.

pH: Maximum recorded, 9.2 units Aug. 4, 1977; minimum recorded, 7.0 units June 19, 1975.

WATER TEMPERATURES: Maximum, 36.5°C July 15, 16, 21, 1977; minimum, 0.0°C on several days during winter months in 1970, 1971, 1977.

DISSOLVED OXYGEN: Maximum, 15.0 mg/L or higher on many days during 1971, 1972, 1975, and 1977; minimum, 0.0 mg/L June 27, 1971.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,120 micromhos Feb. 1, 2; minimum, 375 micromhos Apr. 3.

pH: Maximum recorded, 9.2 units Aug. 4; minimum recorded, 7.1 units May 21.

WATER TEMPERATURES: Maximum, 36.5°C July 15, 16, 21; minimum, 0.0°C on several days during December to February

DISSOLVED OXYGEN: Maximum, 15.0 mg/L or higher on several days during April to August; minimum, 1.5 mg/L June 1

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | TUR- BID- ITY (JTU) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | FECAL COLI- FORM .7UM-MF (COL./ 100 ML) | FECAL STREP- TOCOCCI KF AGAR (COL. PER 100 ML) | HARD- NESS (CA.MG) (MG/L) |
|--------------|------|--|--|---------------|-----------------------------|------------------------------|------------------------------------|---------------------------------|--|--|------------------------------------|
| OCT 13... | 1400 | 540 | 890 | 8.0 | 20.5 | 13 | 7.2 | 79 | 2600 | 1200 | 340 |
| NOV 09... | 1500 | 653 | 875 | 8.0 | 10.0 | -- | 8.3 | 73 | 1800 | 150 | -- |
| DEC 07... | 0930 | 673 | 880 | 7.9 | 6.0 | -- | 8.1 | 65 | 5000 | 1500 | -- |
| JAN 12... | 1400 | 400 | 1020 | 8.0 | .0 | -- | 11.3 | 77 | 2700 | 1600 | -- |
| FEB 09... | 1000 | 437 | 1060 | 7.8 | 2.5 | 7 | 10.7 | 78 | 6900 | 1200 | 380 |
| MAR 08... | 1200 | 3540 | 595 | 8.2 | 6.5 | -- | 9.3 | 76 | 6800 | 9000 | -- |
| APR 05... | 1200 | 12600 | 510 | 7.6 | 11.0 | 85 | 9.7 | 87 | 16000 | 19000 | 230 |
| MAY 04... | 1400 | 3790 | 690 | 8.0 | 20.0 | -- | 5.9 | 64 | 28000 | 110000 | -- |
| JUN 02... | 1200 | 680 | 930 | 8.0 | 26.0 | -- | 8.8 | 110 | 740 | 3800 | -- |
| JUL 12... | 1100 | 627 | 920 | 7.7 | 30.0 | -- | 4.7 | 62 | 680 | 790 | -- |
| AUG 09... | 1130 | 789 | 890 | 8.0 | 28.0 | 75 | 4.9 | 62 | 12000 | 2800 | 290 |
| SEP 20... | 1500 | 1080 | 745 | 7.8 | 22.5 | -- | 5.3 | 60 | 6500 | 3000 | -- |

GREAT MIAMI RIVER BASIN

377

03274600 GREAT MIAMI RIVER AT NEW BALTIMORE, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) |
|-----------|-------------------------------|--------------------------------|---------------------------|-------------------------------|---------------------------------|---------------------------|------------------------|----------------------------|-----------------------------|---------------------------------|---------------------------------|
| OCT 13... | 110 | 80 | 33 | 61 | 6.3 | 278 | 0 | 228 | 4.4 | 110 | 85 |
| NOV 09... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DEC 07... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JAN 12... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| FEB 09... | 110 | 87 | 39 | 77 | 7.2 | 322 | 0 | 264 | 8.2 | 120 | 110 |
| MAR 08... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| APR 05... | 93 | 58 | 20 | 12 | 3.4 | 163 | 0 | 130 | 6.6 | 53 | 28 |
| MAY 04... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUN 02... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 12... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| AUG 09... | 110 | 68 | 30 | 48 | 8.0 | 220 | 0 | 180 | 3.5 | 100 | 78 |
| SEP 20... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| DATE | DIS-SOLVED FLUORIDE (F) (MG/L) | DIS-SOLVED SILICA (SiO2) (MG/L) | DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L) | DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL KJELDAHL NITROGEN (N) (MG/L) | TOTAL NITROGEN (N) (MG/L) | TOTAL NITROGEN (NO3) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | TOTAL PHYTOPLANKTON (CELLS PER ML) |
|-----------|--------------------------------|---------------------------------|---|--|---------------------------------------|------------------------------------|---------------------------|-----------------------------|-----------------------------|---------------------------------|------------------------------------|
| OCT 13... | .7 | 7.5 | 548 | 521 | 5.4 | 2.2 | 7.6 | 34 | .92 | 8.2 | 80000 |
| NOV 09... | -- | -- | -- | -- | 2.6 | 2.1 | 4.7 | 21 | .92 | -- | 7000 |
| DEC 07... | -- | -- | -- | -- | 3.0 | 2.0 | 5.0 | 22 | .88 | -- | 23000 |
| JAN 12... | -- | -- | -- | -- | 2.7 | 3.9 | 6.6 | 29 | .93 | -- | 56000 |
| FEB 09... | .8 | 6.3 | 672 | 607 | 1.9 | 3.3 | 5.2 | 23 | 1.6 | 8.4 | 51000 |
| MAR 08... | -- | -- | -- | -- | 6.4 | 2.4 | 8.8 | 39 | .42 | -- | 7700 |
| APR 05... | .2 | 7.2 | 345 | 262 | 7.2 | 2.4 | 9.6 | 43 | .46 | 13 | 4400 |
| MAY 04... | -- | -- | -- | -- | 2.8 | 3.2 | 6.0 | 27 | .96 | -- | 13000 |
| JUN 02... | -- | -- | -- | -- | 3.9 | 1.5 | 5.4 | 24 | .67 | -- | 230000 |
| JUL 12... | -- | -- | -- | -- | 3.2 | 2.4 | 5.6 | 25 | 1.2 | -- | -- |
| AUG 09... | .6 | 5.9 | 502 | 447 | 2.2 | 4.9 | 7.1 | 31 | .62 | 8.0 | -- |
| SEP 20... | -- | -- | -- | -- | 3.9 | 1.7 | 5.6 | 25 | .66 | -- | -- |

GREAT MIAMI RIVER BASIN

03274600 GREAT MIAMI RIVER AT NEW BALTIMORE, OH--Continued

PESTICIDE ANALYSES

WATER QUALITY DATA. WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | TOTAL ALDRIN (UG/L) | ALDRIN IN BOTTOM MATERIAL (UG/KG) | TOTAL ATRA-ZINE (UG/L) | ATRA-ZINE IN BOTTOM MATERIAL (UG/KG DRY SOLIDS) | TOTAL CHLOR-DANE (UG/L) | CHLOR-DANE IN BOTTOM MATERIAL (UG/KG) | TOTAL DDD (UG/L) | DDD IN BOTTOM MATERIAL (UG/KG) | TOTAL DDE (UG/L) |
|-----------|------|--------------------------------|--|----------------------------------|---|-------------------------|---------------------------------------|---------------------------------------|---|-----------------------------|
| NOV 09... | 1500 | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| MAY 04... | 1400 | ND | -- | ND | -- | ND | -- | ND | -- | ND |
| AUG 09... | 1130 | ND | -- | ND | -- | ND | -- | ND | -- | ND |
| DATE | | TOTAL DDT (UG/L) | DDT IN BOTTOM MATERIAL (UG/KG) | TOTAL DI-AZINON (UG/L) | DI-AZINON IN BOTTOM MATERIAL (UG/KG) | TOTAL DI-ELDRIN (UG/L) | DI-ELDRIN IN BOTTOM MATERIAL (UG/KG) | TOTAL ENDRIN (UG/L) | ENDRIN IN BOTTOM MATERIAL (UG/KG) | TOTAL ETHION (UG/L) |
| NOV 09... | ND | ND | ND | ND | ND | ND | 1.1 | ND | .6 | ND |
| MAY 04... | -- | ND | -- | ND | -- | ND | -- | ND | -- | ND |
| AUG 09... | -- | ND | -- | -- | -- | ND | -- | ND | -- | -- |
| DATE | | TOTAL HEPTA-CHLOR (UG/L) | HEPTA-CHLOR IN BOTTOM MATERIAL (UG/KG) | TOTAL HEPTA-CHLOR EPOXIDE (UG/L) | HEPTA-CHLOR EPOXIDE IN BOTTOM MATERIAL (UG/KG) | TOTAL LINDANE (UG/L) | LINDANE IN BOTTOM MATERIAL (UG/KG) | TOTAL MALA-THION (UG/L) | MALA-THION IN BOTTOM MATERIAL (UG/KG) | TOTAL METH-OXY-CHLOR (UG/L) |
| NOV 09... | ND | ND | ND | ND | .1 | ND | ND | ND | ND | ND |
| MAY 04... | -- | ND | -- | ND | -- | ND | -- | ND | -- | ND |
| AUG 09... | -- | ND | -- | ND | -- | ND | -- | -- | -- | ND |
| DATE | | TOTAL METHYL-PARA-THION (UG/L) | METHYL-PARA-THION IN BOTTOM MATERIAL (UG/KG) | TOTAL METHYL-THION (UG/L) | METHYL-THION IN BOTTOM MATERIAL (UG/KG) | TOTAL PARA-THION (UG/L) | PARA-THION IN BOTTOM MATERIAL (UG/KG) | SIMA-ZINE TOTAL COUL-SON COND. (UG/L) | SIMA-ZINE IN BOTTOM MATERIAL (UG/KG DRY SOLIDS) | TOTAL TOX-APHENE (UG/L) |
| NOV 09... | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| MAY 04... | -- | ND | -- | ND | -- | ND | -- | ND | -- | ND |
| AUG 09... | -- | -- | -- | -- | -- | -- | -- | ND | -- | ND |
| DATE | | TOTAL TRI-THION (UG/L) | TRI-THION IN BOTTOM MATERIAL (UG/KG) | TOTAL 2,4-D (UG/L) | 2,4-D IN BOTTOM MATERIAL (UG/KG) | TOTAL 2,4,5-T (UG/L) | 2,4,5-T IN BOTTOM MATERIAL (UG/KG) | TOTAL SILVEX (UG/L) | SILVEX IN BOTTOM MATERIAL (UG/KG) | |
| NOV 09... | ND | ND | ND | ND | ND | ND | ND | ND | ND | ND |
| MAY 04... | -- | ND | -- | ND | -- | ND | -- | ND | -- | -- |
| AUG 09... | -- | -- | -- | ND | -- | ND | -- | ND | -- | -- |

GREAT MIAMI RIVER BASIN

379

03274600 GREAT MIAMI RIVER AT NEW BALTIMORE, OH--Continued

ANALYSES OF MINOR ELEMENTS

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | TOTAL ARSENIC (AS) (UG/L) | DIS- SOLVED ARSENIC (AS) (UG/L) | TOTAL CAD- MIUM (CD) (UG/L) | DIS- SOLVED CAD- MIUM (CD) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | DIS- SOLVED CHRO- MIUM (CR) (UG/L) | TOTAL COBALT (CO) (UG/L) | DIS- SOLVED COBALT (CO) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS- SOLVED COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) |
|--------------|------|------------------------------------|---|---|--|--|---|-----------------------------------|--|-----------------------------------|--|---------------------------------|
| OCT 13... | 1400 | 2 | 2 | 1 | 0 | <10 | <10 | 1 | 1 | 10 | 10 | 580 |
| FEB 09... | 1000 | 7 | 4 | 0 | 0 | 10 | <10 | 0 | 0 | 10 | 10 | 260 |
| APR 05... | 1200 | 1 | 1 | 0 | 0 | 30 | 1 | 4 | 0 | 22 | 7 | 7400 |
| AUG 09... | 1130 | 2 | 1 | 0 | 0 | 20 | 2 | 2 | 0 | 19 | 3 | 3700 |

| DATE | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS- SOLVED LEAD (PB) (UG/L) | TOTAL MAN- GANESE (MN) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | DIS- SOLVED MERCURY (HG) (UG/L) | TOTAL SELE- NIUM (SE) (UG/L) | DIS- SOLVED SELE- NIUM (SE) (UG/L) | TOTAL ZINC (ZN) (UG/L) | DIS- SOLVED ZINC (ZN) (UG/L) |
|--------------|--|---------------------------------|--|---|--|------------------------------------|---|--|---|---------------------------------|--|
| OCT 13... | 40 | 22 | 7 | 90 | 60 | <.5 | <.5 | 0 | 0 | 90 | 10 |
| FEB 09... | 160 | 25 | 10 | 150 | 140 | <.5 | <.5 | 5 | 4 | 150 | 120 |
| APR 05... | 30 | 75 | 0 | 190 | 0 | .0 | .0 | 1 | 1 | 20 | 20 |
| AUG 09... | 10 | 19 | 0 | 130 | 10 | .0 | .0 | 7 | 4 | 110 | 20 |

SUSPENDED SEDIMENT DISCHARGE

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | TEMPER- ATURE (DEG C) | SUS- PENDE SEDI- MENT DIS- CHARGE (MG/L) | SUS- PENDE SEDI- MENT DIS- CHARGE (T/DAY) |
|--------------|------|---|-----------------------------|--|---|
| OCT 13... | 1400 | 540 | 20.5 | 27 | 39 |
| NOV 09... | 1500 | 653 | 10.0 | 6 | 11 |
| DEC 07... | 0930 | 673 | 6.0 | 18 | 33 |
| JAN 12... | 1400 | 400 | .0 | 30 | 32 |
| FEB 09... | 1000 | 437 | 2.5 | 13 | 15 |
| MAR 08... | 1200 | 3540 | 6.5 | 82 | 784 |
| APR 05... | 1200 | 12600 | 11.0 | 438 | 14900 |
| MAY 04... | 1400 | 3790 | 20.0 | 674 | 6900 |
| JUN 02... | 1200 | 680 | 26.0 | 24 | 44 |
| JUL 12... | 1100 | 627 | 30.0 | 88 | 149 |
| AUG 09... | 1130 | 789 | 28.0 | 31 | 66 |
| SEP 20... | 1500 | 1080 | 22.5 | 74 | 216 |

03274600 GREAT MIAMI RIVER AT NEW BALTIMORE, CH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|-----|----------|-----|----------|-----|---------|------|----------|------|-----------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 782 | 747 | 837 | 789 | 806 | 789 | 1040 | 966 | 1120 | 1090 | 609 | 584 |
| 2 | 783 | 762 | 849 | 818 | 834 | 798 | 1020 | 939 | 1120 | 1070 | 648 | 602 |
| 3 | 816 | 767 | 900 | 836 | 855 | 809 | 1030 | 947 | 1070 | 1010 | 674 | 647 |
| 4 | 860 | 806 | 873 | 795 | 902 | 828 | 1050 | 978 | 1080 | 1010 | --- | --- |
| 5 | 876 | 834 | 857 | 783 | 881 | 839 | 999 | 977 | 1090 | 1020 | 587 | 530 |
| 6 | 899 | 833 | 869 | 825 | 860 | 819 | --- | --- | 1100 | 1050 | 603 | 578 |
| 7 | 887 | 822 | 962 | 833 | 882 | 821 | --- | --- | 1100 | 1060 | 594 | 576 |
| 8 | 897 | 843 | 915 | 860 | 875 | 815 | --- | --- | 1080 | 1040 | 629 | 588 |
| 9 | 890 | 851 | 932 | 873 | --- | --- | --- | --- | 1060 | 1050 | 653 | 606 |
| 10 | 879 | 867 | 980 | 893 | --- | --- | --- | --- | --- | --- | 695 | 656 |
| 11 | 893 | 870 | 951 | 896 | --- | --- | --- | --- | --- | --- | 737 | 699 |
| 12 | 900 | 843 | 932 | 891 | --- | --- | 1020 | 992 | --- | --- | 734 | 728 |
| 13 | 911 | 864 | 939 | 876 | 876 | 867 | 1060 | 1020 | --- | --- | --- | --- |
| 14 | 912 | 869 | 944 | 890 | 885 | 866 | 1030 | 956 | --- | --- | --- | --- |
| 15 | 866 | 851 | 929 | 890 | 899 | 878 | 966 | 939 | --- | --- | --- | --- |
| 16 | 891 | 854 | 915 | 887 | 924 | 900 | 989 | 954 | 885 | 858 | --- | --- |
| 17 | 894 | 873 | 902 | 875 | 938 | 918 | 1020 | 992 | 897 | 866 | 725 | 713 |
| 18 | 909 | 879 | 903 | 876 | 945 | 920 | 1040 | 1010 | 911 | 879 | 723 | 641 |
| 19 | 902 | 885 | 905 | 879 | 942 | 923 | 1050 | 1040 | 884 | 855 | 723 | 693 |
| 20 | 905 | 897 | 923 | 881 | 968 | 945 | --- | --- | 864 | 843 | 695 | 665 |
| 21 | 903 | 855 | 909 | 894 | 965 | 948 | --- | --- | 873 | 842 | 662 | 636 |
| 22 | 906 | 873 | 912 | 902 | 966 | 942 | --- | --- | --- | --- | 657 | 641 |
| 23 | 891 | 881 | 905 | 888 | 968 | 932 | --- | --- | 662 | 624 | 665 | 642 |
| 24 | 888 | 747 | 905 | 888 | 972 | 966 | --- | --- | 629 | 525 | 686 | 668 |
| 25 | 822 | 801 | 900 | 885 | 972 | 932 | --- | --- | 528 | 513 | 680 | 669 |
| 26 | 840 | 795 | 893 | 866 | 963 | 944 | 1060 | 1040 | 513 | 506 | --- | --- |
| 27 | --- | --- | 887 | 855 | 981 | 960 | 1090 | 1040 | 552 | 515 | --- | --- |
| 28 | --- | --- | 887 | 873 | 945 | 963 | 1090 | 1040 | 594 | 552 | 681 | 675 |
| 29 | 809 | 791 | 887 | 849 | 987 | 980 | 1050 | 1010 | --- | --- | 692 | 674 |
| 30 | 801 | 771 | 848 | 807 | 1020 | 962 | 1070 | 1020 | --- | --- | 690 | 675 |
| 31 | --- | --- | --- | --- | 1030 | 963 | 1100 | 1050 | --- | --- | 704 | 692 |
| MONTH | 912 | 747 | 980 | 783 | 1030 | 789 | 1100 | 939 | 1120 | 506 | 737 | 530 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 702 | 686 | 773 | 747 | 936 | 890 | 863 | 768 | 995 | 941 | 1010 | 960 |
| 2 | 693 | 498 | 767 | 749 | 948 | 914 | 896 | 828 | 938 | 855 | 1030 | 1010 |
| 3 | 522 | 375 | 791 | 762 | 930 | 908 | 818 | 725 | 855 | 804 | 1030 | 1010 |
| 4 | 468 | 395 | 797 | 564 | 924 | 902 | 776 | 720 | 806 | 744 | 1030 | 1000 |
| 5 | 537 | 473 | 1060 | 590 | 923 | 905 | 767 | 753 | 849 | 758 | 1040 | 1020 |
| 6 | 584 | 542 | 686 | 614 | 936 | 908 | 821 | 770 | 899 | 825 | 1070 | 1020 |
| 7 | 620 | 587 | 684 | 542 | 947 | 927 | 828 | 774 | 948 | 903 | 1060 | 1040 |
| 8 | 642 | 621 | 669 | 624 | 954 | 939 | 866 | 791 | 965 | 774 | 1070 | 1040 |
| 9 | 662 | 644 | 725 | 674 | 944 | 851 | 866 | 848 | 953 | 704 | 1040 | 1020 |
| 10 | 695 | 644 | 749 | 728 | 951 | 894 | 930 | 885 | 992 | 936 | 1050 | 996 |
| 11 | --- | --- | 767 | 752 | 947 | 902 | 936 | 801 | 980 | 795 | 998 | 905 |
| 12 | 710 | 693 | 788 | 762 | 968 | 938 | 963 | 897 | 890 | 696 | --- | --- |
| 13 | 729 | 711 | 791 | 762 | 938 | 879 | 966 | 905 | 857 | 759 | --- | --- |
| 14 | 738 | 725 | 804 | 774 | 912 | 864 | 933 | 917 | 893 | 776 | --- | --- |
| 15 | 741 | 725 | 815 | 777 | 914 | 848 | 992 | 929 | 888 | 699 | 989 | 921 |
| 16 | 750 | 720 | 815 | 782 | 897 | 820 | 995 | 915 | 755 | 699 | 954 | 878 |
| 17 | 750 | 722 | 818 | 764 | 933 | 872 | 975 | 890 | 740 | 548 | 909 | 843 |
| 18 | 755 | 723 | 804 | 782 | 989 | 876 | 1030 | 911 | 713 | 584 | 837 | 761 |
| 19 | 750 | 735 | 833 | 803 | 939 | 914 | 1050 | 978 | 792 | 633 | 801 | 732 |
| 20 | 761 | 746 | 866 | 839 | 986 | 930 | 1060 | 995 | 867 | 795 | 776 | 737 |
| 21 | 821 | 708 | 986 | 869 | 996 | 968 | 1070 | 1010 | 893 | 858 | 789 | 765 |
| 22 | 833 | 803 | 882 | 879 | 977 | 920 | 1030 | 999 | 873 | 840 | 827 | 771 |
| 23 | 830 | 804 | 900 | 879 | 909 | 753 | 1030 | 1020 | 896 | 855 | 822 | 806 |
| 24 | 824 | 804 | 903 | 876 | 818 | 756 | 999 | 960 | 921 | 771 | 864 | 824 |
| 25 | 804 | 792 | 905 | 875 | 896 | 806 | 1050 | 1000 | 954 | 774 | 893 | 852 |
| 26 | 812 | 794 | 897 | 878 | 923 | 888 | 1050 | 989 | 956 | 935 | 918 | 881 |
| 27 | 821 | 804 | 905 | 885 | 731 | 656 | 1010 | 989 | 965 | 938 | 950 | 915 |
| 28 | 839 | 815 | 920 | 899 | 872 | 656 | 999 | 968 | 969 | 951 | 983 | 951 |
| 29 | 839 | 777 | 924 | 879 | 783 | 716 | 1020 | 963 | 978 | 956 | 995 | 974 |
| 30 | 839 | 774 | 915 | 786 | 869 | 791 | 977 | 956 | 959 | 936 | 1000 | 983 |
| 31 | --- | --- | 945 | 900 | --- | --- | 999 | 965 | 959 | 939 | --- | --- |
| MONTH | 839 | 375 | 1060 | 542 | 996 | 656 | 1070 | 720 | 995 | 548 | 1070 | 732 |
| YEAR | 1120 | 375 | | | | | | | | | | |

GREAT MIAMI RIVER BASIN

381

03273600 GREAT MIAMI RIVER AT NEW BALTIMORE, OH--Continued

PH (UNITS), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|---------|-----|----------|-----|----------|-----|---------|-----|----------|-----|-------|-----|-----|
| OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | | |
| 1 | 8.0 | 7.9 | --- | --- | 8.5 | 8.0 | --- | --- | 8.1 | 7.7 | 8.3 | 8.1 |
| 2 | 8.0 | 7.8 | 8.0 | 7.9 | 8.2 | 8.0 | --- | --- | 8.1 | 7.9 | 8.3 | 8.1 |
| 3 | 8.2 | 8.0 | 8.1 | 7.8 | 8.2 | 8.0 | --- | --- | 8.0 | 7.5 | 8.2 | 8.2 |
| 4 | 8.1 | 7.9 | 8.2 | 8.1 | 8.1 | 7.9 | --- | --- | 7.8 | 7.5 | --- | --- |
| 5 | --- | --- | 8.2 | 8.1 | 8.2 | 7.9 | --- | --- | 8.0 | 7.6 | --- | --- |
| 6 | 8.0 | 7.9 | 8.2 | 8.0 | 8.2 | 7.7 | --- | --- | 8.0 | 7.8 | 8.2 | 7.9 |
| 7 | 8.0 | 7.9 | 8.2 | 8.1 | 8.1 | 7.7 | --- | --- | 8.0 | 7.8 | 8.3 | 7.9 |
| 8 | 8.4 | 8.1 | 8.3 | 8.2 | 8.3 | 8.0 | --- | --- | 8.1 | 7.9 | 8.3 | 8.1 |
| 9 | 8.4 | 8.2 | 8.2 | 7.9 | --- | --- | --- | --- | 7.9 | 7.7 | 8.5 | 8.4 |
| 10 | 8.2 | 8.1 | 7.9 | 7.7 | --- | --- | --- | --- | --- | --- | --- | --- |
| 11 | 8.2 | 8.0 | 7.8 | 7.7 | --- | --- | --- | --- | --- | --- | --- | --- |
| 12 | 8.2 | 8.1 | 7.8 | 7.7 | --- | --- | 8.2 | 7.8 | --- | --- | --- | --- |
| 13 | 8.1 | 8.0 | 8.0 | 7.7 | 8.1 | 7.9 | 8.2 | 7.7 | --- | --- | --- | --- |
| 14 | 8.2 | 8.1 | 8.1 | 7.9 | 8.1 | 7.8 | 8.0 | 7.7 | --- | --- | --- | --- |
| 15 | 8.3 | 8.2 | 8.3 | 7.9 | 8.2 | 7.9 | 8.3 | 8.0 | --- | --- | --- | --- |
| 16 | 8.4 | 8.2 | 8.4 | 7.9 | 8.3 | 8.2 | 8.5 | 8.3 | 8.3 | 8.1 | --- | --- |
| 17 | 8.5 | 8.2 | 8.2 | 7.8 | 8.3 | 8.2 | 8.5 | 8.0 | 8.3 | 7.9 | 7.9 | 7.9 |
| 18 | 8.7 | 8.3 | 8.3 | 7.9 | 8.3 | 7.9 | 8.3 | 8.0 | 8.2 | 7.9 | 7.9 | 7.8 |
| 19 | 8.5 | 8.3 | 8.4 | 8.2 | 8.1 | 7.9 | 8.4 | 7.7 | 8.0 | 8.0 | 7.9 | 7.8 |
| 20 | 8.3 | 8.3 | 8.3 | 8.2 | 8.1 | 7.9 | --- | --- | 8.1 | 8.0 | 7.9 | 7.8 |
| 21 | 8.3 | 8.1 | 8.2 | 8.2 | 8.2 | 8.1 | --- | --- | 8.2 | 8.0 | 8.0 | 7.8 |
| 22 | 8.3 | 8.2 | 8.2 | 8.0 | --- | --- | --- | --- | --- | --- | 8.0 | 7.9 |
| 23 | 8.3 | 8.1 | 8.2 | 8.0 | --- | --- | --- | --- | 8.2 | 8.0 | 8.0 | 7.9 |
| 24 | 8.1 | 7.7 | 8.1 | 8.0 | --- | --- | --- | --- | 8.2 | 7.5 | 8.1 | 8.0 |
| 25 | 8.0 | 7.7 | 8.1 | 8.0 | --- | --- | --- | --- | 8.2 | 7.9 | 8.1 | 7.8 |
| 26 | 8.2 | 7.9 | 8.1 | 8.0 | --- | --- | 8.0 | 7.7 | 8.3 | 8.2 | --- | --- |
| 27 | --- | --- | 8.1 | 7.8 | --- | --- | 8.2 | 8.0 | 8.3 | 8.2 | --- | --- |
| 28 | --- | --- | 8.3 | 8.1 | --- | --- | 8.4 | 7.9 | 8.3 | 8.2 | 8.1 | 8.0 |
| 29 | --- | --- | 8.4 | 7.9 | --- | --- | 8.1 | 7.5 | --- | --- | 8.2 | 8.1 |
| 30 | --- | --- | 9.0 | 8.2 | --- | --- | 8.0 | 7.8 | --- | --- | 8.1 | 7.9 |
| 31 | --- | --- | --- | --- | --- | --- | 8.1 | 7.9 | --- | --- | 8.3 | 8.1 |
| MONTH | 8.7 | 7.7 | 9.0 | 7.7 | 8.5 | 7.7 | 8.5 | 7.5 | 8.3 | 7.5 | 8.5 | 7.8 |

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-----|-----|-----|------|-----|------|-----|--------|-----|-----------|-----|-----|
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 8.3 | 8.1 | 7.9 | 7.7 | 7.9 | 7.8 | 7.7 | 7.5 | 8.5 | 7.9 | --- | --- |
| 2 | 8.2 | 7.7 | 7.9 | 7.7 | 8.0 | 7.8 | 7.8 | 7.5 | 8.8 | 7.9 | --- | --- |
| 3 | 7.8 | 7.5 | --- | --- | 8.0 | 7.9 | 7.8 | 7.5 | 9.1 | 8.4 | 8.2 | 7.8 |
| 4 | 7.9 | 7.7 | --- | --- | 8.1 | 7.8 | 7.8 | 7.5 | 9.2 | 8.4 | 8.3 | 7.9 |
| 5 | 8.1 | 7.9 | --- | --- | 8.1 | 7.8 | 7.8 | 7.7 | 9.0 | 8.2 | 8.2 | 7.9 |
| 6 | --- | --- | --- | --- | 7.9 | 7.7 | 7.9 | 7.6 | 8.9 | 8.0 | 8.3 | 7.9 |
| 7 | --- | --- | --- | --- | 8.0 | 7.8 | 7.8 | 7.4 | 8.7 | 8.4 | 8.2 | 7.9 |
| 8 | --- | --- | --- | --- | 7.9 | 7.8 | 7.8 | 7.5 | 8.3 | 7.8 | 8.4 | 8.0 |
| 9 | --- | --- | --- | --- | 8.0 | 7.7 | 7.8 | 7.6 | 8.0 | 7.7 | 8.4 | 8.1 |
| 10 | --- | --- | 8.1 | 7.7 | 7.9 | 7.7 | 7.7 | 7.6 | 8.0 | 7.7 | 8.6 | 8.0 |
| 11 | --- | --- | 8.1 | 7.5 | 7.9 | 7.7 | 7.8 | 7.5 | 8.1 | 7.8 | 8.0 | 7.4 |
| 12 | 8.1 | 8.0 | 8.0 | 7.5 | 7.9 | 7.6 | 8.0 | 7.3 | 7.9 | 7.9 | --- | --- |
| 13 | 8.2 | 8.1 | 8.0 | 7.5 | 7.8 | 7.5 | 8.5 | 7.9 | 7.9 | 7.8 | --- | --- |
| 14 | 8.4 | 8.1 | 8.2 | 7.5 | 7.8 | 7.6 | 8.8 | 8.2 | 7.8 | 7.6 | --- | --- |
| 15 | 8.6 | 8.2 | 8.3 | 7.7 | 7.8 | 7.6 | 8.6 | 8.4 | 7.9 | 7.6 | 8.1 | 7.9 |
| 16 | --- | --- | 8.5 | 7.8 | 7.8 | 7.5 | 8.4 | 8.1 | 8.0 | 7.6 | 8.0 | 7.7 |
| 17 | --- | --- | 8.4 | 7.8 | 7.8 | 7.5 | 8.2 | 7.8 | 8.0 | 7.5 | 7.8 | 7.7 |
| 18 | --- | --- | 8.3 | 7.9 | 7.9 | 7.5 | 7.9 | 7.4 | 8.1 | 7.8 | 7.8 | 7.6 |
| 19 | --- | --- | 8.2 | 7.6 | 8.0 | 7.7 | 7.9 | 7.4 | 8.1 | 7.8 | 7.8 | 7.7 |
| 20 | --- | --- | 7.9 | 7.3 | 7.9 | 7.6 | 8.0 | 7.6 | 8.3 | 7.9 | 7.9 | 7.8 |
| 21 | 8.7 | 8.6 | 7.6 | 7.1 | 7.9 | 7.7 | 8.1 | 7.6 | 8.2 | 8.0 | 8.0 | 7.9 |
| 22 | 8.6 | 8.4 | 7.5 | 7.4 | 7.9 | 7.8 | 8.2 | 7.5 | 8.3 | 8.0 | 8.0 | 7.8 |
| 23 | 8.1 | 7.9 | 7.8 | 7.5 | 7.9 | 7.8 | 7.8 | 7.5 | 8.4 | 8.0 | 8.0 | 7.9 |
| 24 | 8.0 | 7.8 | 7.9 | 7.5 | 7.9 | 7.6 | 8.5 | 8.0 | 8.2 | 8.0 | 7.9 | 7.8 |
| 25 | 8.0 | 7.8 | 7.8 | 7.6 | 8.0 | 7.6 | 8.3 | 7.9 | 8.6 | 8.4 | 8.0 | 7.9 |
| 26 | 8.1 | 7.8 | 7.8 | 7.6 | 7.8 | 7.7 | 8.4 | 7.9 | 8.6 | 8.1 | 8.2 | 7.9 |
| 27 | 8.1 | 7.8 | 7.8 | 7.6 | 7.8 | 7.6 | 8.4 | 7.8 | 8.7 | 8.3 | 8.4 | 8.0 |
| 28 | 8.0 | 7.8 | 7.7 | 7.5 | 7.8 | 7.6 | 8.7 | 7.9 | --- | --- | 8.5 | 8.2 |
| 29 | 8.0 | 7.8 | 7.8 | 7.5 | 7.8 | 7.5 | 8.4 | 8.0 | --- | --- | 8.5 | 8.2 |
| 30 | 8.0 | 7.8 | 7.8 | 7.5 | 7.8 | 7.5 | 8.0 | 7.9 | --- | --- | 8.6 | 8.2 |
| 31 | --- | --- | 7.8 | 7.6 | --- | --- | 8.2 | 7.9 | --- | --- | --- | --- |
| MONTH | 8.7 | 7.5 | 8.5 | 7.1 | 8.1 | 7.5 | 8.8 | 7.3 | 9.2 | 7.5 | 8.6 | 7.4 |
| YEAR | 9.2 | 7.1 | | | | | | | | | | |

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

03274600 GREAT MIAMI RIVER AT NEW BALTIMORE, CH--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|---------|------|----------|------|----------|-----|---------|-----|----------|-----|-------|------|
| | OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | |
| 1 | 20.0 | 17.5 | --- | --- | 5.5 | 3.5 | 0.5 | 0.0 | 0.5 | 0.0 | 5.5 | 4.0 |
| 2 | 21.0 | 17.5 | 12.5 | 10.5 | 5.0 | 3.5 | 1.0 | 0.0 | 0.0 | 0.0 | 6.0 | 3.5 |
| 3 | 21.5 | 17.5 | 13.0 | 11.0 | 4.5 | 3.0 | 2.0 | 0.5 | 1.0 | 0.0 | 5.5 | 5.0 |
| 4 | 21.0 | 16.5 | 10.5 | 9.5 | 6.5 | 4.5 | 4.5 | 2.0 | 3.5 | 1.0 | --- | --- |
| 5 | 24.0 | 18.0 | 9.5 | 8.5 | 5.5 | 4.0 | 5.0 | 3.5 | 4.0 | 2.0 | 7.5 | 7.0 |
| 6 | 21.5 | 18.5 | 10.0 | 8.0 | 5.5 | 4.5 | --- | --- | 2.5 | 0.5 | 7.0 | 5.5 |
| 7 | 18.5 | 16.0 | 10.5 | 8.5 | 6.5 | 5.0 | --- | --- | 2.5 | 0.0 | 7.0 | 5.5 |
| 8 | 17.5 | 16.0 | 9.0 | 7.5 | 5.0 | 3.5 | --- | --- | 3.0 | 0.0 | 8.5 | 5.5 |
| 9 | 17.0 | 14.5 | 10.0 | 7.5 | --- | --- | --- | --- | 2.5 | 1.5 | 10.0 | 7.0 |
| 10 | 17.0 | 13.5 | 11.0 | 8.5 | --- | --- | --- | --- | --- | --- | 11.5 | 8.5 |
| 11 | 17.5 | 14.0 | 10.0 | 8.5 | --- | --- | --- | --- | --- | --- | 13.5 | 10.0 |
| 12 | 19.5 | 14.0 | 10.0 | 8.0 | --- | --- | 0.5 | 0.0 | --- | --- | 13.5 | 13.5 |
| 13 | 20.5 | 17.5 | 10.0 | 7.5 | 7.0 | 5.0 | 0.5 | 0.0 | --- | --- | --- | --- |
| 14 | 19.5 | 16.0 | 9.5 | 7.0 | 7.0 | 5.0 | 0.5 | 0.0 | --- | --- | --- | --- |
| 15 | 19.5 | 16.5 | 9.5 | 7.0 | 8.0 | 5.5 | 2.5 | 0.5 | --- | --- | --- | --- |
| 16 | 18.0 | 15.0 | 10.0 | 6.5 | 6.5 | 5.5 | 1.5 | 0.0 | 4.5 | 3.5 | --- | --- |
| 17 | 16.5 | 13.5 | 10.0 | 7.5 | 7.5 | 5.0 | 0.0 | 0.0 | 4.5 | 1.5 | 13.0 | 12.5 |
| 18 | 15.5 | 12.0 | 10.0 | 8.5 | 8.5 | 5.5 | 0.0 | 0.0 | 5.5 | 4.0 | 12.5 | 10.5 |
| 19 | 14.5 | 12.5 | 10.5 | 8.5 | 9.0 | 6.5 | 0.0 | 0.0 | 6.0 | 5.0 | 11.0 | 9.5 |
| 20 | 13.5 | 13.0 | 10.5 | 8.5 | 9.0 | 6.5 | --- | --- | 6.0 | 5.5 | 10.5 | 9.0 |
| 21 | 13.5 | 11.5 | 9.0 | 7.5 | 6.5 | 4.0 | --- | --- | 6.0 | 4.5 | 10.0 | 8.0 |
| 22 | 12.5 | 10.5 | 8.0 | 7.0 | 5.0 | 3.5 | --- | --- | --- | --- | 10.0 | 8.5 |
| 23 | 11.0 | 10.0 | 7.5 | 6.5 | 4.5 | 2.5 | --- | --- | 7.0 | 6.5 | 10.5 | 8.0 |
| 24 | 12.5 | 10.5 | 6.5 | 6.0 | 3.5 | 1.5 | --- | --- | 6.5 | 4.5 | 10.5 | 8.0 |
| 25 | 13.0 | 12.0 | 8.5 | 6.0 | 4.0 | 2.5 | --- | --- | 5.0 | 3.5 | 12.5 | 8.0 |
| 26 | 13.0 | 11.0 | 10.0 | 8.5 | 4.0 | 2.5 | 5.0 | 3.0 | 5.0 | 4.5 | --- | --- |
| 27 | --- | --- | 11.0 | 10.0 | 4.0 | 1.5 | 3.0 | 1.5 | 5.0 | 4.5 | --- | --- |
| 28 | --- | --- | 10.0 | 7.0 | 5.0 | 3.5 | 2.0 | 0.0 | 5.0 | 3.5 | 14.5 | 13.0 |
| 29 | --- | --- | 6.5 | 4.5 | 4.0 | 3.0 | 0.0 | 0.0 | --- | --- | 17.0 | 13.5 |
| 30 | --- | --- | 5.0 | 3.5 | 3.5 | 1.5 | 1.0 | 0.0 | --- | --- | 19.0 | 16.0 |
| 31 | --- | --- | --- | --- | 2.5 | 0.0 | 0.5 | 0.0 | --- | --- | 17.0 | 14.5 |
| MONTH | 24.0 | 10.0 | 13.0 | 3.5 | 9.0 | 0.0 | 5.0 | 0.0 | 7.0 | 0.0 | 19.0 | 3.5 |

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|-------|-------|------|------|------|------|------|------|------|--------|------|-----------|------|
| | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | |
| 1 | 16.0 | 12.5 | 19.0 | 14.5 | 30.0 | 26.5 | 28.5 | 26.0 | 31.5 | 27.5 | 32.5 | 27.5 |
| 2 | 16.0 | 15.0 | 21.5 | 17.0 | 28.0 | 25.0 | 29.5 | 25.0 | 30.5 | 25.5 | 29.5 | 29.0 |
| 3 | 15.0 | 13.5 | 21.0 | 19.0 | 28.0 | 24.0 | 29.0 | 24.5 | 31.0 | 26.0 | 33.0 | 29.0 |
| 4 | 14.5 | 12.5 | 20.5 | 18.5 | 29.5 | 24.0 | 30.5 | 25.5 | 31.0 | 26.5 | 31.0 | 26.0 |
| 5 | 12.0 | 10.0 | 21.5 | 18.5 | 28.0 | 26.0 | --- | --- | 31.5 | 27.5 | 31.0 | 27.5 |
| 6 | 10.0 | 8.5 | 22.0 | 20.5 | 28.5 | 24.5 | 33.0 | 29.5 | 32.0 | 27.5 | 30.5 | 27.5 |
| 7 | 12.0 | 8.0 | 20.5 | 18.0 | 25.5 | 22.5 | 33.5 | 30.5 | 30.5 | 28.0 | 31.0 | 27.5 |
| 8 | 12.0 | 10.0 | 20.5 | 17.0 | 23.0 | 21.0 | 33.5 | 30.0 | 28.0 | 25.5 | 31.0 | 26.0 |
| 9 | 12.5 | 9.5 | 18.5 | 15.5 | 23.0 | 19.5 | --- | --- | 28.5 | 26.0 | 30.5 | 25.5 |
| 10 | 15.5 | 10.5 | 18.5 | 14.5 | 24.0 | 20.0 | 27.5 | 25.5 | 28.5 | 27.0 | 29.5 | 24.5 |
| 11 | --- | --- | 20.0 | 14.5 | 25.0 | 23.0 | 28.0 | 24.5 | 30.0 | 26.5 | 24.0 | 21.0 |
| 12 | 20.0 | 18.5 | 20.5 | 16.0 | 26.5 | 22.5 | 30.5 | 29.0 | 27.5 | 25.5 | --- | --- |
| 13 | 21.5 | 17.5 | 23.0 | 17.5 | 28.0 | 24.5 | 33.0 | 28.0 | 26.5 | 25.0 | --- | --- |
| 14 | 22.5 | 18.5 | 24.5 | 19.0 | 28.0 | 26.0 | 33.0 | 30.0 | 29.0 | 25.5 | --- | --- |
| 15 | 23.0 | 19.5 | 26.0 | 20.5 | 30.5 | 26.0 | 36.5 | 31.5 | 29.5 | 26.5 | 23.0 | 22.0 |
| 16 | 23.5 | 19.5 | 26.5 | 22.0 | 31.5 | 26.0 | 36.5 | 32.0 | 30.0 | 28.0 | 24.5 | 23.0 |
| 17 | 23.0 | 20.0 | 27.5 | 22.5 | 33.0 | 29.5 | 35.0 | 31.5 | 28.5 | 26.5 | 25.0 | 23.0 |
| 18 | 24.0 | 20.0 | 29.0 | 24.5 | 32.0 | 29.0 | 35.0 | 30.5 | 27.5 | 24.5 | 26.0 | 23.5 |
| 19 | 23.0 | 21.5 | 31.0 | 25.5 | 30.5 | 28.0 | 35.5 | 31.0 | 27.0 | 24.0 | 25.5 | 24.0 |
| 20 | 24.5 | 21.0 | 31.5 | 26.5 | 31.5 | 28.0 | 36.0 | 31.5 | 28.0 | 24.0 | 24.0 | 21.5 |
| 21 | 23.5 | 22.5 | 32.0 | 27.5 | 32.0 | 28.0 | 36.5 | 32.0 | 25.5 | 23.5 | 21.5 | 19.5 |
| 22 | 21.5 | 20.5 | 30.0 | 28.0 | 28.5 | 25.0 | 34.0 | 30.0 | 27.0 | 23.0 | 22.5 | 18.5 |
| 23 | 20.5 | 18.5 | 30.0 | 26.5 | 27.0 | 24.0 | 30.0 | 28.0 | 27.0 | 24.0 | 23.5 | 20.5 |
| 24 | 20.0 | 17.0 | 31.0 | 27.0 | 29.0 | 26.0 | 32.0 | 27.5 | 26.5 | 23.5 | 23.5 | 22.0 |
| 25 | 16.5 | 13.0 | 30.0 | 27.5 | 30.0 | 26.0 | 31.0 | 28.5 | 26.0 | 22.5 | 23.5 | 20.5 |
| 26 | 15.5 | 11.5 | 30.5 | 26.5 | 28.5 | 26.0 | 31.0 | 25.5 | 26.5 | 23.0 | 25.5 | 21.5 |
| 27 | 18.0 | 12.5 | 31.0 | 26.5 | 29.0 | 26.0 | 30.0 | 24.5 | 29.5 | 25.0 | 24.5 | 21.0 |
| 28 | 17.0 | 14.0 | 31.0 | 27.5 | 31.5 | 27.5 | 30.5 | 24.0 | 31.0 | 26.5 | 23.0 | 19.5 |
| 29 | 16.0 | 11.0 | 31.5 | 28.5 | 29.5 | 26.0 | 28.0 | 26.0 | 29.0 | 27.0 | 22.5 | 18.0 |
| 30 | 17.5 | 12.5 | 30.5 | 25.0 | 29.0 | 25.5 | 26.0 | 25.5 | 30.0 | 26.0 | 23.5 | 18.0 |
| 31 | --- | --- | 32.5 | 29.0 | --- | --- | 30.0 | 27.5 | 31.5 | 27.0 | --- | --- |
| MONTH | 24.5 | 8.0 | 32.5 | 14.5 | 33.0 | 19.5 | 36.5 | 24.0 | 32.0 | 22.5 | 33.0 | 18.0 |
| YEAR | 36.5 | 0.0 | | | | | | | | | | |

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
|---------|------|----------|------|----------|------|---------|------|----------|------|-----------|------|------|
| OCTOBER | | NOVEMBER | | DECEMBER | | JANUARY | | FEBRUARY | | MARCH | | |
| 1 | 7.1 | 4.1 | --- | --- | 8.4 | 7.8 | --- | --- | 11.8 | 10.5 | 11.8 | 11.1 |
| 2 | 7.2 | 4.7 | 8.5 | 6.6 | 8.4 | 7.6 | --- | --- | 11.6 | 10.3 | 11.7 | 11.0 |
| 3 | 7.9 | 5.3 | 7.8 | 6.8 | 8.3 | 7.5 | --- | --- | 10.2 | 8.7 | 11.2 | 10.8 |
| 4 | 8.1 | 5.7 | 7.8 | 6.8 | 8.0 | 7.3 | --- | --- | 10.5 | 8.6 | --- | --- |
| 5 | 8.3 | 5.9 | 7.8 | 7.0 | 8.7 | 7.5 | --- | --- | 10.9 | 8.3 | 9.1 | 5.5 |
| 6 | 6.7 | 4.7 | 8.6 | 7.1 | 8.9 | 7.6 | --- | --- | 11.1 | 8.4 | 9.8 | 9.1 |
| 7 | 6.2 | 4.0 | 8.0 | 5.9 | 8.2 | 6.7 | --- | --- | 12.8 | 9.5 | 9.6 | 9.1 |
| 8 | 7.7 | 3.7 | 7.5 | 5.9 | 7.9 | 6.3 | --- | --- | 12.7 | 10.1 | 9.6 | 9.0 |
| 9 | --- | --- | 8.1 | 5.9 | --- | --- | --- | --- | 10.7 | 9.8 | 9.1 | 8.5 |
| 10 | --- | --- | 7.4 | 6.1 | --- | --- | --- | --- | --- | --- | 8.0 | 6.8 |
| 11 | --- | --- | 6.5 | 5.6 | --- | --- | --- | --- | --- | --- | 7.8 | 6.8 |
| 12 | 8.5 | 6.6 | 7.1 | 5.5 | --- | --- | 11.3 | 10.7 | --- | --- | 6.9 | 6.8 |
| 13 | 7.8 | 4.9 | 7.7 | 5.6 | 9.6 | 7.2 | 11.2 | 9.8 | --- | --- | --- | --- |
| 14 | 8.0 | 4.8 | 8.4 | 5.7 | 9.4 | 7.3 | 10.5 | 9.6 | --- | --- | --- | --- |
| 15 | 9.7 | 5.6 | 8.6 | 5.8 | 9.1 | 6.9 | 10.7 | 9.5 | --- | --- | --- | --- |
| 16 | 9.9 | 5.7 | 9.0 | 6.0 | 7.7 | 6.5 | 10.8 | 9.3 | 10.8 | 10.6 | --- | --- |
| 17 | 10.7 | 6.4 | 8.7 | 6.5 | 9.0 | 6.6 | 11.3 | 10.0 | 10.6 | 10.1 | --- | --- |
| 18 | 13.6 | 7.5 | 8.9 | 6.3 | 8.5 | 6.3 | 11.1 | 10.2 | 10.1 | 9.4 | 9.7 | 8.5 |
| 19 | 11.9 | 7.9 | 8.6 | 6.0 | 9.0 | 6.1 | 10.6 | 9.8 | 9.4 | 8.7 | 10.2 | 8.8 |
| 20 | 8.0 | 7.0 | 8.2 | 6.0 | 7.0 | 5.6 | --- | --- | 9.2 | 8.3 | 9.6 | 8.5 |
| 21 | 9.2 | 5.7 | 7.0 | 6.1 | 7.8 | 5.7 | --- | --- | 9.0 | 8.5 | 10.3 | 9.2 |
| 22 | 9.3 | 6.7 | 7.3 | 6.2 | --- | --- | --- | --- | --- | --- | 9.9 | 9.3 |
| 23 | 8.8 | 7.6 | 8.6 | 6.5 | --- | --- | --- | --- | 10.2 | 9.4 | 9.6 | 9.0 |
| 24 | 7.7 | 6.3 | 7.8 | 7.2 | --- | --- | --- | --- | 10.6 | 9.4 | 10.3 | 8.9 |
| 25 | 7.1 | 6.2 | 8.3 | 6.9 | --- | --- | --- | --- | 11.5 | 9.2 | 9.9 | 9.3 |
| 26 | 7.9 | 6.6 | 6.9 | 6.0 | --- | --- | 10.0 | 8.4 | 11.5 | 10.8 | --- | --- |
| 27 | --- | --- | 5.8 | 5.2 | --- | --- | 10.2 | 8.3 | 11.6 | 10.9 | --- | --- |
| 28 | --- | --- | 6.5 | 5.6 | --- | --- | 10.8 | 8.9 | 11.8 | 11.2 | 9.1 | 8.2 |
| 29 | --- | --- | 7.7 | 6.5 | --- | --- | 11.2 | 9.3 | --- | --- | 9.1 | 7.8 |
| 30 | --- | --- | 8.4 | 7.5 | --- | --- | 12.1 | 10.1 | --- | --- | 8.7 | 7.3 |
| 31 | --- | --- | --- | --- | --- | --- | 12.6 | 10.6 | --- | --- | 9.6 | 7.2 |
| MONTH | 13.6 | 3.7 | 9.0 | 5.2 | 9.6 | 5.6 | 12.6 | 8.3 | 12.8 | 8.3 | 11.8 | 5.5 |
| DAY | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX | MIN |
| APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | |
| 1 | 9.8 | 7.8 | 8.1 | 5.8 | 10.4 | 4.5 | 5.9 | 3.3 | --- | --- | 10.2 | 3.9 |
| 2 | 8.6 | 7.4 | 9.8 | 5.8 | 10.7 | 5.1 | 4.8 | 3.1 | --- | --- | 4.4 | 3.0 |
| 3 | 7.9 | 6.5 | 9.0 | 5.9 | 15.0 | 5.6 | 4.2 | 3.3 | --- | --- | 9.7 | 3.0 |
| 4 | 9.0 | 7.9 | 6.9 | 5.4 | 15.0 | 6.6 | 4.7 | 3.9 | 15.0 | 11.7 | 9.7 | 2.8 |
| 5 | 9.3 | 8.7 | 7.2 | 5.9 | 14.2 | 7.1 | 4.3 | 3.4 | 15.0 | 6.9 | 9.1 | 2.9 |
| 6 | 9.6 | 9.1 | 6.3 | 6.0 | 14.7 | 6.5 | 5.2 | 2.9 | 15.0 | 6.2 | 9.6 | 3.0 |
| 7 | 9.4 | 8.7 | 7.1 | 6.3 | 15.0 | 5.3 | 5.9 | 2.8 | 12.1 | 4.6 | 9.4 | 2.6 |
| 8 | 9.1 | 8.6 | 7.5 | 7.1 | 15.0 | 4.7 | 6.7 | 3.3 | 6.8 | 3.2 | 11.6 | 3.7 |
| 9 | 9.2 | 8.4 | 8.1 | 7.1 | 15.0 | 6.5 | 4.2 | 3.0 | 6.8 | 2.7 | 12.3 | 4.4 |
| 10 | 9.0 | 8.5 | 8.4 | 7.6 | 10.7 | 5.1 | 4.8 | 3.4 | 5.8 | 2.7 | 14.3 | 3.6 |
| 11 | --- | --- | 9.0 | 7.1 | --- | --- | 5.9 | 3.3 | 6.8 | 2.7 | 12.0 | 3.7 |
| 12 | 8.2 | 7.4 | 9.4 | 7.3 | --- | --- | 9.3 | 3.4 | 4.1 | 2.8 | --- | --- |
| 13 | 8.8 | 6.9 | 10.7 | 6.8 | --- | --- | 14.1 | 4.3 | 5.1 | 2.7 | --- | --- |
| 14 | 10.0 | 6.6 | 13.4 | 6.4 | --- | --- | 15.0 | 5.7 | 6.3 | 2.1 | --- | --- |
| 15 | 12.0 | 6.6 | 12.2 | 6.2 | --- | --- | 15.0 | 6.1 | 7.3 | 2.7 | 7.9 | 5.7 |
| 16 | 13.8 | 7.0 | 15.0 | 5.6 | 4.6 | 1.9 | 10.9 | 5.0 | 7.8 | 3.2 | 8.0 | 3.8 |
| 17 | 15.0 | 7.2 | 15.0 | 6.9 | 4.5 | 1.5 | 7.2 | 3.3 | 6.0 | 2.7 | 6.6 | 3.2 |
| 18 | 15.0 | 7.1 | 12.8 | 5.8 | 4.8 | 1.9 | 8.3 | 2.6 | 7.0 | 4.0 | 6.9 | 3.5 |
| 19 | 12.1 | 6.8 | 10.1 | 4.6 | 4.1 | 1.9 | 11.4 | 3.0 | 7.7 | 3.7 | 5.1 | 3.6 |
| 20 | 12.3 | 6.2 | 7.1 | 4.8 | 6.6 | 2.1 | 12.6 | 3.5 | 9.2 | 4.2 | 5.7 | 3.8 |
| 21 | 11.6 | 6.9 | 7.1 | 4.4 | 9.2 | 2.5 | 12.7 | 3.5 | 7.2 | 4.7 | 6.3 | 4.3 |
| 22 | 9.4 | 6.1 | --- | --- | 6.0 | 3.6 | 13.3 | 3.1 | 8.9 | 4.5 | 6.8 | 4.7 |
| 23 | 8.2 | 5.6 | 10.2 | 5.5 | 8.0 | 3.2 | 6.6 | 3.1 | 9.3 | 4.6 | 8.2 | 4.7 |
| 24 | 8.0 | 5.7 | 10.9 | 5.6 | 7.6 | 4.2 | 15.0 | 6.2 | 7.7 | 3.9 | 6.8 | 4.2 |
| 25 | 8.3 | 5.9 | 9.8 | 5.3 | 7.5 | 3.7 | 11.2 | 1.9 | 11.6 | 4.2 | 7.5 | 4.5 |
| 26 | 10.0 | 6.8 | 10.9 | 5.4 | 4.9 | 3.3 | 13.7 | 1.6 | 11.6 | 4.4 | 10.4 | 4.8 |
| 27 | 9.7 | 6.8 | 11.2 | 5.8 | 6.6 | 2.9 | 13.9 | 3.9 | 13.0 | 5.8 | 11.1 | 5.6 |
| 28 | 7.8 | 6.4 | 9.5 | 5.3 | 4.2 | 2.3 | 14.2 | 5.0 | 15.0 | 5.6 | 11.4 | 5.9 |
| 29 | 8.4 | 6.1 | 8.8 | 5.0 | 4.9 | 2.3 | --- | --- | 8.9 | 4.9 | 12.7 | 6.5 |
| 30 | 8.7 | 6.5 | 7.4 | 3.7 | 6.1 | 3.2 | --- | --- | 8.6 | 3.4 | 13.8 | 6.7 |
| 31 | --- | --- | 9.3 | 3.7 | --- | --- | --- | --- | 11.5 | 3.7 | --- | --- |
| MONTH | 15.0 | 5.6 | 15.0 | 3.7 | 15.0 | 1.5 | 15.0 | 1.6 | 15.0 | 2.1 | 14.3 | 2.6 |
| YEAR | 15.0 | 1.5 | | | | | | | | | | |

PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

As the number of streams on which discharge and chemical quality data information is likely to be desired far exceeds the number of stations feasible to operate at one time, the Geological Survey collects limited data at sites other than regular stations. When limited 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 useable in low-flow or floodflow analyses, depending on the type 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 partial-record stations are presented in two parts. Given first are records of discharge measurements and chemical-quality data made at low flow sites followed by a table of annual maximum stage and discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low flow and high flow are given in a second table.

LOW-FLOW PARTIAL-RECORD STATIONS

Measurements of streamflow and chemical quality data in the area covered by this report made at low-flow partial-record stations are given in the following section. These measurements were made during periods of base flow when streamflow is primarily from ground-water storage. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will give a picture of the low-flow potentiality of a stream. The "PERIOD OF RECORD" paragraph shows the water years in which measurements were made at the same, or practically the same, site.

BEAVER RIVER BASIN

385

03092099 HINKLEY CREEK AT CHARLESTOWN, OH

LOCATION.--Lat 41°09'16", long 81°08'51", Portage County, Hydrologic Unit 05030103, at bridge on Rock Spring Road, 0.6 mi (0.9 km) south of Charlestown, 2.2 mi (3.5 km) upstream from mouth.

DRAINAGE AREA.--7.85 mi² (20.33 km²).

REMARKS.--Also operated as a crest-stage partial-record station.

PERIOD OF RECORD.--Discharge, water years 1969 to current year; chemical analyses, water years 1970 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA,MG) (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | |
|--------------|------|---|--|---|--|--|---|--|---|--|--|--|--|
| JUL 12... | 1615 | .46 | 570 | 7.4 | 25.5 | 6.4 | 210 | 58 | 15 | 32 | 2.4 | 172 | |
| | | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| JUL 12... | 0 | 42 | 61 | .2 | 8.7 | 305 | .01 | .01 | .05 | .04 | 210 | 400 | |

LITTLE BEAVER CREEK BASIN

03109100 MIDDLE FORK LITTLE BEAVER CREEK NEAR ROGERS, OH

LOCATION.--Lat 40°43'22", long 80°38'03", Columbiana County, Hydrologic Unit 05030101, at bridge on State Highway 7, 0.4 mi (0.6 km) upstream from West Fork Little Beaver Creek, 5 mi (8 km) south of Rogers.

DRAINAGE AREA.--149 mi² (386 km²).

PERIOD OF RECORD.--Discharge, water years 1972 to July 1977 (discontinued); chemical analyses, water years 1971 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA+MG) (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) |
|--------------|------|---|---|--|--|---|------------------------------------|--|---|--|--|--|
| JUL 14... | 0925 | 68 | 680 | 7.9 | 23.0 | 7.8 | 290 | 82 | 20 | 26 | 3.8 | 142 |
| DATE | TIME | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| JUL 14... | 0 | 150 | 37 | .3 | 5.3 | 395 | .67 | .01 | .01 | .13 | 50 | 70 |

LITTLE BEAVER CREEK BASIN

03109200 WEST FORK LITTLE BEAVER CREEK AT WEST POINT, OH

LOCATION.--Lat 40°42'38", long 80°41'49", Columbiana County, Hydrologic Unit 05030101, at bridge on U.S. Highway 30, 0.3 mi (0.5 km) downstream from Patterson Creek, at West Point.

DRAINAGE AREA.--99.9 mi² (258.7 km²).

PERIOD OF RECORD.--Discharge, water years 1959, 1972 to current year; chemical analyses, water years 1971 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA,MG) (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | |
|--------------|------|---|--|---|--|--|---|--|---|--|--|--|--|
| JUL 14... | 1515 | 23 | 595 | 8.0 | 27.0 | 9.0 | 270 | 75 | 19 | 14 | 3.1 | 98 | |
| DATE | | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| JUL 14... | 0 | 130 | 31 | .2 | 5.9 | 327 | 6.0 | .14 | .06 | .04 | 50 | 120 | |

03109400 NORTH FORK LITTLE BEAVER CREEK NEAR NEGLEY, OH

LOCATION.--Lat 40°46'30", long 80°32'36", Columbiana County, Hydrologic Unit 05030101, at county road bridge at Achor, 0.5 mi (0.8 km) downstream from Bull Creek, 1.1 mi (1.8 km) south of Negley.

DRAINAGE AREA.--166 mi² (430 km²).

PERIOD OF RECORD.--Discharge, water years 1959, 1972 to current year; chemical analyses, water years 1971 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA,MG) (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | |
|--------------|------|---|--|---|--|--|--|--|---|--|--|--|--|
| JUL 14... | 0840 | 108 | 1000 | 7.7 | 21.5 | 5.0 | 460 | 130 | 33 | 34 | 3.5 | 176 | |
| DATE | | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTIT- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| JUL 14... | 0 | 250 | 87 | .2 | 6.9 | 632 | .43 | .02 | .04 | .06 | 60 | 300 | |

LOW-FLOW PARTIAL-RECORD STATIONS

387

ISLAND CREEK BASIN

03110850 ISLAND CREEK NEAR TORONTO, OH

LOCATION.-- Lat 40°25'44", long 80°37'00", Jefferson County, Hydrologic Unit 05030101, at boat ramp on State Highway 7, below Little Island Creek, and 2 mi (3 km) south of Toronto.

DRAINAGE AREA.--26.4 mi² (68.4 km²).

PERIOD OF RECORD.--Discharge, water year 1976 to current year; chemical analyses, water year 1976 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | DISSOLVED OXYGEN (MG/L) | HARDNESS (CA+MG) (MG/L) | DISSOLVED CALCIUM (CA) (MG/L) | DISSOLVED MAGNESIUM (MG) (MG/L) | DISSOLVED SODIUM (NA) (MG/L) | DISSOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | |
|-----------|------|-------------------------------|----------------------------------|--------------------------------|-------------------------------|--------------------------------|---|-------------------------------|---------------------------------|-----------------------------------|--------------------------------|----------------------------|---------------------------------|
| JUL 13... | 1505 | 7.4 | 1000 | 8.2 | 27.5 | 9.1 | 530 | 150 | 37 | 16 | 3.2 | 159 | |
| DATE | | CARBONATE (CO3) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED CHLORIDE (CL) (MG/L) | DISSOLVED FLUORIDE (F) (MG/L) | DISSOLVED SILICA (SI02) (MG/L) | DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | DISSOLVED IRON (FE) (UG/L) | DISSOLVED MANGANESE (MN) (UG/L) |
| JUL 13... | 0 | 370 | 21 | .1 | 7.1 | 683 | .14 | .01 | .08 | .01 | 10 | 10 | |

LITTLE MUSKINGUM RIVER BASIN

03115300 LITTLE MUSKINGUM RIVER NEAR RINARD MILLS, OH

LOCATION.--Lat 39°36'25", long 81°07'21", Monroe County, Hydrologic Unit 05030201, at bridge on County Road 68, 1.5 mi (2.4 km) upstream from Straight Fork, 2.3 mi (3.7 km) northeast of Rinard Mills.

DRAINAGE AREA.--130 mi² (337 km²).

PERIOD OF RECORD.--Discharge, water years 1972 to current year; chemical analyses, water years 1971 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA+MG) (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | |
|--------------|------|---|--|---|--|--|---|--|---|--|--|--|--|
| JUL 13... | 1820 | 4.8 | 375 | 7.9 | 27.5 | 6.8 | 170 | 51 | 10 | 21 | 2.4 | 141 | |
| DATE | | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| JUL 13... | 0 | 26 | 51 | .1 | 3.9 | 235 | .06 | .00 | .04 | .01 | 10 | 50 | |

LOW-FLOW PARTIAL-RECORD STATIONS

DUCK CREEK BASIN

03115650 EAST FORK DUCK CREEK AT LOWER SALEM, OH

LOCATION.--Lat 39°34'26", long 81°23'25", Washington County, Hydrologic Unit 05030201, at bridge on Township Road 319, 0.9 mi (1.4 km) northeast of Lower Salem, 1.0 mi (1.6 km) upstream from Pawpaw Creek.

DRAINAGE AREA.--111 mi² (287 km²).

PERIOD OF RECORD.--Discharge, water years 1959, 1972 to July 1977 (discontinued); chemical analyses, water years 1971 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA+MG) (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | |
|--------------|------|---|---|---|--|--|---|--|---|--|--|--|--|
| JUL 14... | 0855 | 23 | 915 | 7.0 | 23.5 | 7.9 | 440 | 120 | 33 | 9.5 | 2.8 | 31 | |
| DATE | | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| JUL 14... | 0 | 420 | 10 | .2 | 11 | 625 | .23 | .01 | .06 | .03 | 0 | 3300 | |

MUSKINGUM RIVER BASIN

03115890 TUSCARAWAS RIVER AT UNIONTOWN, OH

LOCATION.--Lat 40°59'18", long 81°24'04", Stark County, Hydrologic Unit 05040001, at culvert on Pontius Street, 0.9 mi (1.4 km) north of Uniontown.

DRAINAGE AREA.--8.26 mi (21.39 km²).

PERIOD OF RECORD.--Discharge, water years 1974 to current year; chemical analyses, water years 1974 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA+MG) (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) |
|--------------|------|---|--|--|--|---|--|--|---|--|--|--|
| JUL 14... | 2040 | 3.1 | 882 | 8.3 | 22.5 | 6.9 | 390 | 120 | 23 | 23 | 2.6 | 284 |
| DATE | | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| JUL 14... | 2 | 120 | 45 | .1 | 11 | 487 | .61 | .02 | .04 | .17 | 60 | 100 |

LOW-FLOW PARTIAL-RECORD STATIONS

389

MUSKINGUM RIVER BASIN

03115900 TUSCARAWAS RIVER NEAR EAST LIBERTY, OH

LOCATION.--Lat 41°00'25", long 81°29'31", Summit County, Hydrologic Unit 05040001, at bridge on Arlington Road, 2.3 mi (3.7 km) north of East Liberty.

DRAINAGE AREA.--33.1 mi² (85.7 km²).

PERIOD OF RECORD.--Discharge, water years 1960 to 1967, 1969 to current year; chemical analyses, water years 1965 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPECIFIC CON- DUCTANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA, MG) (MG/L) | DIS- SOLVED | DIS- SOLVED | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED | BICAR- BONATE (HCO3) (MG/L) |
|--------------|-----------------------------------|---|---|--|--|---|-------------------------------------|-----------------------------------|--|--|--|--|
| | | | | | | | | CAL- CIUM (CA) (MG/L) | MAG- NE- SIUM (MG) (MG/L) | | POTAS- SIUM (K) (MG/L) | |
| JUL 14... | 1940 | 22 | 585 | 8.4 | 25.5 | 7.2 | 270 | 80 | 18 | 17 | 2.5 | 203 |
| DATE | CAP- BONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| | | | | | | | | | | | | |
| JUL 14... | 2 | 75 | 33 | .1 | 9.6 | 338 | .52 | .02 | .04 | .10 | 360 | 90 |

03115920 TUSCARAWAS RIVER AT BARBERTON, OH

LOCATION.--Lat 41°01'40", long 81°35'15", Summit County, Hydrologic Unit 05040001, at bridge on East State Street in Barberton.

DRAINAGE AREA.--72.5 mi² (187.8 km²).

PERIOD OF RECORD.--Discharge, water years 1947, 1951, 1974 to current year; chemical analyses, water years 1974 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA+MG) (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | |
|--------------|------|---|---|---|--|--|---|--|---|--|--|--|--|
| JUL 14... | 1615 | a/23 | 835 | 8.4 | 29.0 | 12.6 | 320 | 96 | 20 | 50 | 2.6 | 212 | |
| DATE | | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| JUL 14... | 4 | 100 | 90 | .1 | 11 | 479 | .08 | .01 | .12 | .02 | 220 | 210 | |

a/ Discharge includes both Tuscarawas River and Ohio Canal.

LOW-FLOW PARTIAL-RECORD STATIONS

MUSKINGUM RIVER BASIN

03115990 WOLF CREEK NEAR BARBERTON, OH

LOCATION.--Lat 41°02'56", long 81°36'00", Summit County, Hydrologic Unit 05040001, at bridge on Summit Road, 200 ft (61 m) downstream from mouth of Pigeon Creek, 2.5 mi (4.0 km) north of Barberton.

DRAINAGE AREA.--53.9 mi² (139.6 km²).

PERIOD OF RECORD.--Discharge, water years 1950, 1960 to 1961, 1974 to current year; chemical analyses, water years 1974 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | DISSOLVED OXYGEN (MG/L) | HARDNESS (CA, MG) | DISSOLVED CALCIUM (CA) (MG/L) | DISSOLVED MAGNESIUM (MG) | DISSOLVED SODIUM (NA) (MG/L) | DISSOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) |
|-----------|------|-------------------------------|----------------------------------|------------|---------------------|-------------------------|-------------------|-------------------------------|--------------------------|------------------------------|--------------------------------|---------------------------|
| JUL 14... | 1810 | 8.7 | 690 | 8.2 | 27.0 | 8.8 | 250 | 78 | 13 | 38 | 3.3 | 201 |

| DATE | CARBONATE (CO3) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED CHLORIDE (CL) (MG/L) | DISSOLVED FLUORIDE (F) (MG/L) | DISSOLVED SILICA (SiO2) (MG/L) | DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | DISSOLVED IRON (FE) (UG/L) | DISSOLVED MANGANESE (MN) (UG/L) |
|-----------|------------------------|--------------------------------|--------------------------------|-------------------------------|--------------------------------|---|--------------------------|--------------------------|-----------------------------------|-----------------------------|----------------------------|---------------------------------|
| JUL 14... | 0 | 88 | 50 | .2 | 7.2 | 377 | .26 | .03 | .15 | .10 | 220 | 110 |

03116075 CHIPPEWA CREEK AT SEVILLE, OH

LOCATION.--Lat 41°00'36", long 81°51'53", Medina County, Hydrologic Unit 05040001, at bridge on State Highway 3 in Seville.

DRAINAGE AREA.--44.0 mi² (114.0 km²).

PERIOD OF RECORD.--Discharge, water year 1976 to current year; chemical analyses, water year 1976 to June 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | DISSOLVED OXYGEN (MG/L) | HARDNESS (CA, MG) | DISSOLVED CALCIUM (CA) (MG/L) | DISSOLVED MAGNESIUM (MG) | DISSOLVED SODIUM (NA) (MG/L) | DISSOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) |
|-----------|------|-------------------------------|----------------------------------|------------|---------------------|-------------------------|-------------------|-------------------------------|--------------------------|------------------------------|--------------------------------|---------------------------|
| JUN 28... | 1530 | 1.8 | 710 | 7.5 | 23.0 | 4.8 | 290 | 88 | 18 | 33 | 4.2 | 254 |

| DATE | CARBONATE (CO3) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED CHLORIDE (CL) (MG/L) | DISSOLVED FLUORIDE (F) (MG/L) | DISSOLVED SILICA (SiO2) (MG/L) | DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | DISSOLVED IRON (FE) (UG/L) | DISSOLVED MANGANESE (MN) (UG/L) |
|-----------|------------------------|--------------------------------|--------------------------------|-------------------------------|--------------------------------|---|--------------------------|--------------------------|-----------------------------------|-----------------------------|----------------------------|---------------------------------|
| JUN 28... | 0 | 92 | 53 | .1 | 6.7 | 420 | .12 | .02 | .39 | .08 | 70 | 50 |

LOW-FLOW PARTIAL-RECORD STATIONS

391

MUSKINGUM RIVER BASIN

03116080 CHIPPEWA CREEK AT STERLING, OH

LOCATION.--Lat 40°57'24", long 81°50'31", Wayne County, Hydrologic Unit 05040001, at bridge on County Road 60, 0.8 mi (1.3 km) south of Sterling.

DRAINAGE AREA.--64.4 mi² (166.8 km²).

PERIOD OF RECORD.--Discharge, water years 1974 to current year; chemical analyses, water year 1974 to June 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA+MG) (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) |
|--------------|------|--|--|--|--|---|------------------------------------|--|---|--|--|--|
| DATE | TIME | (CFS) | | (UNITS) | | | | | | | | |
| JUN 28... | 1630 | 3.4 | 730 | 8.5 | 29.0 | 14.1 | 280 | 83 | 18 | 41 | 4.8 | 200 |
| | | | | | | | | | | | | |
| | | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| DATE | | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (UG/L) | (UG/L) |
| JUN 28... | 12 | 110 | 56 | .1 | 2.1 | 426 | .35 | .23 | .21 | .32 | 130 | 100 |

03116410 NIMISILA CREEK NEAR CANAL FULTON, OH

LOCATION.--Lat 40°54'57", long 81°33'43", Summit County, Hydrologic Unit 05040001, at bridge on State Highway 93, 2.5 mi (4.0 km) northeast of Canal Fulton, Stark County.

DRAINAGE AREA.--23.1 mi² (59.8 km²).

PERIOD OF RECORD.--Discharge, water years 1960 to 1961, 1974 to current year; chemical analyses, water years 1974 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | DIS-SOLVED OXYGEN (MG/L) | HARDNESS (CA,MG) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | |
|-----------|------|-------------------------------|----------------------------------|---------------------------------|--------------------------------|---------------------------------|--|--------------------------------|---------------------------|-----------------------------------|---------------------------------|-----------------------------|----------------------------------|
| JUL 14... | 1250 | 7.2 | 415 | 7.9 | 21.0 | 7.4 | 240 | 69 | 16 | 14 | 1.8 | 219 | |
| DATE | | CARBONATE (CO3) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | DIS-SOLVED SILICA (SIO2) (MG/L) | DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | DIS-SOLVED IRON (FE) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) |
| JUL 14... | 0 | 31 | 30 | .1 | 9.9 | 280 | .29 | .01 | .05 | .05 | 120 | 150 | |

LOW-FLOW PARTIAL-RECORD STATIONS

MUSKINGUM RIVER BASIN

03116950 NEWMAN CREEK NEAR MASSILLON, OH

LOCATION.--Lat 40°49'22", long 81°33'06", Stark County, Hydrologic Unit 05040001, at bridge on Beaumont Avenue, 1.9 mi (3.1 km) upstream from mouth, 2 mi (3 km) northwest of Massillon.

DRAINAGE AREA.--38.2 mi² (98.9 km²).

PERIOD OF RECORD.--Discharge, water year 1976 to current year; chemical analyses, water year 1976 to June 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA, MG) (MG/L) | DIS- SOLVED | DIS- SOLVED | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED | BICAR- BONATE (HCO3) (MG/L) |
|--------------|-----------------------------------|---|---|--|--|---|---|-----------------------------------|--|--|--|--|
| | | | | | | | | CAL- CIUM (CA) (MG/L) | MAG- NE- SIUM (MG) (MG/L) | | POTAS- SIUM (K) (MG/L) | |
| JUN 28... | 0940 | 3.2 | 735 | 7.8 | 23.5 | 6.8 | 300 | 79 | 24 | 34 | 6.2 | 257 |
| DATE | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| | | | | | | | | | | | | |
| JUN 28... | 0 | 98 | 49 | .2 | 5.5 | 423 | .17 | .01 | .07 | .06 | 140 | 240 |

03117150 SANDY CREEK AT MINEEVA, OH

LOCATION.--Lat 40°43'53", long 81°05'57", Stark County, Hydrologic Unit 05040001, at bridge on U.S. Highway 30 in Minerva.

DRAINAGE AREA.--61.9 mi² (160.3 km²).

PERIOD OF RECORD.--Discharge, water years 1974 to current year; chemical analyses, water years 1974 to June 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA, MG) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | |
|--------------|------|---|---|---|--|--|---|--|---|--|--|--|--|
| JUN 28... | 1615 | 12 | 505 | 8.2 | 24.0 | 10.3 | 190 | 55 | 12 | 18 | 2.9 | 166 | |
| DATE | | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| JUN 28... | 0 | 60 | 26 | .2 | 3.0 | 259 | .20 | .01 | .03 | .03 | 110 | 80 | |

LOW-FLOW PARTIAL-RECORD STATIONS

393

MUSKINGUM RIVER BASIN

03117160 STILL FORK NEAR MINEPVA, OH

LOCATION.--Lat 40°39'49", long 81°02'24", Carroll County, Hydrologic Unit 05040001, at bridge on State Highway 9, 1.4 mi (2.3 km) downstream from Pipes Fork, 5.5 mi (8.8 km) southeast of Minerva, Stark County.

DRAINAGE AREA.--36.2 mi² (93.8 km²).

PERIOD OF RECORD.--Discharge, water years 1974 to current year; chemical analyses, water years 1974 to June 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | DIS-SOLVED OXYGEN (MG/L) | HARDNESS (CA, MG) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) |
|-----------|------|-------------------------------|----------------------------------|---------------------------------|--------------------------------|---------------------------------|--------------------------|--------------------------------|-----------------------------------|-------------------------------|---------------------------------|----------------------------------|
| JUN 28... | 1745 | 5.0 | 270 | 6.8 | 24.0 | 7.9 | 87 | 22 | 7.8 | 17 | 2.4 | 94 |
| DATE | | CARBONATE (CO3) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | DIS-SOLVED SILICA (SIO2) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | DIS-SOLVED IRON (FE) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) |
| JUN 28... | | 0 | 23 | 9.8 | .2 | 3.1 | .19 | .01 | .04 | .11 | 1700 | 320 |

03117280 HUGLE RUN NEAR MALVERN, OH

LOCATION.--Lat 40°42'49", long 81°09'03", Carroll County, Hydrologic Unit 05040001, at bridge on private road, 1,000 ft (300 m) upstream from mouth, 2.2 mi (3.5 km) northeast of Malvern.

DRAINAGE AREA.--21.3 mi² (55.2 km²).

PERIOD OF RECORD.--Discharge, water year 1976 to current year; chemical analyses, water year 1976 to June 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | DIS-SOLVED OXYGEN (MG/L) | HARDNESS (CA, MG) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) |
|-----------|------|-------------------------------|----------------------------------|---------------------------------|--------------------------------|---------------------------------|--------------------------|--------------------------------|-----------------------------------|-------------------------------|---------------------------------|----------------------------------|
| JUN 28... | 1510 | 5.8 | 530 | 7.8 | 19.5 | 9.5 | 230 | 70 | 13 | 10 | 2.1 | 176 |
| DATE | | CARBONATE (CO3) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | DIS-SOLVED SILICA (SIO2) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | DIS-SOLVED IRON (FE) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) |
| JUN 28... | | 0 | 76 | 17 | .1 | 9.6 | .01 | .01 | .01 | .00 | 220 | 130 |

LOW-FLOW PARTIAL-RECORD STATIONS

MUSKINGUM RIVER BASIN

03117300 SANDY CREEK AT MALVERN, OH

LOCATION.--Lat 40°41'27", long 81°10'50", Carroll County, Hydrologic Unit 05040001, at bridge on State Highway 43 and 183, in Malvern.

DRAINAGE AREA.--163 mi² (422 km²).

PERIOD OF RECORD.--Discharge, water year 1976 to current year; chemical analyses, water year 1976 to June 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA+MG) (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | |
|--------------|------|---|---|---|--|--|---|--|---|--|--|--|--|
| JUN 28... | 1315 | 41 | 530 | 7.7 | 21.5 | 6.8 | 190 | 57 | 12 | 20 | 3.0 | 162 | |
| DATE | | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| JUN 28... | 0 | 60 | 30 | .1 | 6.3 | 269 | .25 | .04 | .09 | .19 | 260 | 230 | |

03117310 PIPE RUN AT MALVERN, OH

LOCATION.--Lat 40°41'16", long 81°11'02", Carroll County, Hydrologic Unit 05040001, at bridge in Malvern, 200 ft (60 m) upstream from mouth.

DRAINAGE AREA.--27.7 mi² (71.7 km²).

PERIOD OF RECORD.--Discharge, water year 1976 to current year; chemical analyses, water year 1976 to June 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA+MG) (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) |
|--------------|------|---|---|--|--|---|------------------------------------|--|---|--|--|--|
| JUN 28... | 1415 | .89 | 510 | 7.4 | 22.5 | 8.0 | 170 | 45 | 14 | 21 | 3.1 | 68 |
| DATE | | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTIT- UENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| JUN 28... | 0 | 110 | 33 | .2 | 6.2 | 268 | .26 | .00 | .04 | .05 | 1600 | 140 |

LOW-FLOW PARTIAL-RECORD STATIONS

395

MUSKINGUM RIVER BASIN

03117450 LITTLE SANDY CREEK NEAR ROBERTSVILLE, OH

LOCATION.--Lat 40°44'03", long 81°14'40", Stark County, Hydrologic Unit 05040001, at bridge on Hillchurch-Wynnfield Drive, 0.7 mi (1.1 km) downstream from Black Run, 3.5 mi (5.6 km) southwest of Robertsville, and 4.8 mi (7.7 km) upstream from mouth.

DRAINAGE AREA.--29.7 mi² (76.9 km²).

PERIOD OF RECORD.--Discharge, water year 1976 to current year; chemical analyses, water year 1976 to June 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA+MG) (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | |
|--------------|------|---|--|---|--|--|---|--|---|--|--|--|--|
| JUN 28... | 1130 | 6.9 | 800 | 7.6 | 18.5 | 8.2 | 330 | 98 | 21 | 24 | 3.2 | 180 | |
| DATE | | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| JUN 28... | 0 | 170 | 48 | .2 | 9.7 | 464 | .15 | .00 | .04 | .01 | 230 | 700 | |

03118100 EAST BRANCH NIMISHILLEN CREEK NEAR CANTON, OH

LOCATION.--Lat 40°49'24", long 81°17'55", Stark County, Hydrologic Unit 05040001, at bridge on Broadway Avenue, 1 mi (1.6 km) east of Canton city limits, 3.5 mi (5.6 km) upstream from Middle Branch.

DRAINAGE AREA.--33.4 mi² (86.5 km²).

PERIOD OF RECORD.--Discharge, water years 1974 to current year; chemical analyses, water years 1974 to June 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | DIS-SOLVED OXYGEN (MG/L) | HARDNESS (CA, MG) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | |
|-----------|------|-------------------------------|----------------------------------|---------------------------------|--------------------------------|---------------------------------|--|--------------------------------|---------------------------|-----------------------------------|---------------------------------|-----------------------------|----------------------------------|
| JUN 27... | 1640 | 5.7 | 1600 | 8.1 | 26.5 | 14.5 | 320 | 94 | 20 | 210 | 52 | 160 | |
| DATE | | CARBONATE (CO3) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | DIS-SOLVED SILICA (SI02) (MG/L) | DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | DIS-SOLVED IRON (FE) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) |
| JUN 27... | 0 | 250 | 150 | 13 | 9.1 | 878 | 41 | .42 | .64 | .50 | 250 | 550 | |

LOW-FLOW PARTIAL-RECORD STATIONS

MUSKINGUM RIVER BASIN

03118300 WEST BRANCH NIMISHILLEN CREEK AT CANTON, OH

LOCATION.--Lat 40°47'48", long 81°23'26", Stark County, Hydrologic Unit 05040001, at bridge on Sixth Street, 1.3 mi (2.1 km) upstream from mouth at Canton

DRAINAGE AREA.--43.9 mi² (113.7 km²).

PERIOD OF RECORD.--Discharge, water years 1974 to current year; chemical analyses, water years 1974 to June 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | DISSOLVED OXYGEN (MG/L) | HARDNESS (CA, MG) | DISSOLVED CALCIUM (CA) (MG/L) | DISSOLVED MAGNESIUM (MG) | DISSOLVED SODIUM (NA) (MG/L) | DISSOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | |
|-----------|------|-------------------------------|----------------------------------|--------------------------------|-------------------------------|--------------------------------|---|-------------------------------|--------------------------|-----------------------------------|--------------------------------|----------------------------|---------------------------------|
| JUN 27... | 1520 | 11 | 880 | 8.3 | 27.0 | 15.5 | 320 | 92 | 21 | 46 | 3.1 | 211 | |
| DATE | | CARBONATE (CO3) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED CHLORIDE (CL) (MG/L) | DISSOLVED FLUORIDE (F) (MG/L) | DISSOLVED SILICA (SiO2) (MG/L) | DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | DISSOLVED IRON (FE) (UG/L) | DISSOLVED MANGANESE (MN) (UG/L) |
| JUN 27... | 3 | 110 | 88 | .2 | 2.5 | 470 | .08 | .01 | .04 | .05 | 170 | 80 | |

03119580 TUSCARAWAS RIVER AT ZOAR, OH

LOCATION.--Lat 40°36'28", long 81°25'36", Tuscarawas County, Hydrologic Unit 05040001, at bridge on County Road 82, 0.5 mi (0.8 km) southwest of Zoar, 3 mi (5 km) upstream from Conotton Creek.

DRAINAGE AREA.--1,102 mi² (2,854 km²).

PERIOD OF RECORD.--Discharge, water years 1974 to current year; chemical analyses, water years 1974 to June 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA+MG) (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | |
|--------------|------|---|---|---|--|--|---|--|---|--|--|--|--|
| JUN 29... | 0900 | 392 | 1500 | 7.8 | 22.0 | 5.6 | 440 | 140 | 23 | 130 | 6.6 | 222 | |
| DATE | | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTIT- UENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| JUN 29... | 0 | 170 | 280 | .3 | 8.8 | 869 | 3.4 | .37 | .38 | .60 | 470 | 440 | |

LOW-FLOW PARTIAL-RECORD STATIONS

397

MUSKINGUM RIVER BASIN

03119900 CONOTTON CREEK AT LEESVILLE, OH

LOCATION.--Lat 40°26'44", long 81°11'49", Carroll County, Hydrologic Unit 05040001, at bridge on State Highway 164, 0.9 mi (1.4 km) southeast of Leesville, 2.5 mi (4.0 km) upstream from McGuire Creek.

DRAINAGE AREA.--87.1 mi² (225.6 km²).

PERIOD OF RECORD.--Discharge, water years 1959, 1972 to current year; chemical analyses, water years 1971 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA, MG) (MG/L) | DIS- SOLVED | DIS- SOLVED | DIS- SOLVED | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | |
|--------------|------|---|--|---|--|--|---|-----------------------------------|---------------------------------------|--|--|--|--|
| | | | | | | | | CAL- CIUM (CA) (MG/L) | MAG- NE- SIUM (MG) (MG/L) | SODIUM (NA) (MG/L) | | | |
| JUL 13... | 0945 | 53 | 310 | 7.5 | 22.0 | 7.2 | 190 | 51 | 14 | 17 | 3.2 | 95 | |
| DATE | TIME | CARB- ONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| | | | | | | | | | | | | | |
| JUL 13... | 0 | 93 | 26 | .1 | 10 | 261 | .86 | .02 | .05 | .10 | 80 | 100 | |

03121600 CONOTTON CREEK AT NEW CUMBERLAND, OH

LOCATION.--Lat 40°32'30", long 81°18'27", Tuscarawas County, Hydrologic Unit 05040001, at bridge on State Highway 212, 0.4 mi (0.6 km) southwest of New Cumberland, 3.0 mi (4.8 km) downstream from Indian Fork.

DRAINAGE AREA.--250 mi² (648 km²).

PERIOD OF RECORD.--Discharge, water years 1935, 1965, 1974 to current year; chemical analyses, water years 1964, 1965, 1974 to June 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | DIS-SOLVED OXYGEN (MG/L) | HARDNESS (CA, MG) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) (MG/L) | DIS-SOLVED SODIUM (NA) (MG/L) | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | |
|-----------|------|-------------------------------|----------------------------------|---------------------------------|--------------------------------|---------------------------------|--|--------------------------------|----------------------------------|-----------------------------------|---------------------------------|-----------------------------|----------------------------------|
| JUN 28... | 1900 | 148 | 315 | 7.4 | 19.0 | 7.8 | 100 | 28 | 7.7 | 12 | 2.3 | 68 | |
| DATE | TIME | CARBONATE (CO3) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | DIS-SOLVED SILICA (SiO2) (MG/L) | DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | DIS-SOLVED IRON (FE) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) |
| JUN 28... | 0 | 48 | 21 | .1 | 7.7 | 162 | .27 | .01 | .10 | .03 | 590 | 600 | |

LOW-FLOW PARTIAL-RECORD STATIONS

MUSKINGUM RIVER BASIN

03122850 SUGAR CREEK NEAR ORRVILLE, OH

LOCATION.--Lat 40°48'43", long 81°45'56", Wayne County, Hydrologic Unit 05040001, at bridge on State Highway 57, 2 mi (3 km) south of Orrville.

DRAINAGE AREA.--47.2 mi² (122.2 km²).

PERIOD OF RECORD.--Discharge, water years 1959, 1976 to current year; chemical analyses, water year 1976 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA+MG) (MG/L) | DIS- SOLVED | DIS- SOLVED | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED | BICAR- BONATE (HCO3) (MG/L) |
|--------------|-----------------------------------|---|--|--|--|---|------------------------------------|-----------------------------------|--|--|--|--|
| | | | | | | | | CAL- CIUM (CA) (MG/L) | MAG- NE- SIUM (MG) (MG/L) | | POTAS- SIUM (K) (MG/L) | |
| JUL 11... | 1315 | 9.1 | 385 | 8.0 | 23.5 | 7.6 | 240 | 65 | 20 | 27 | 5.0 | 181 |
| DATE | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| | | | | | | | | | | | | |
| JUL 11... | 0 | 62 | 52 | .2 | 8.2 | 329 | 4.7 | .08 | .16 | .22 | 30 | 200 |

03122900 SUGAR CREEK NEAR WEST LEBANON, OH

LOCATION.--Lat 40°44'12", long 81°39'12", Wayne County, Hydrologic Unit 05040001, at bridge on county road, 1.1 mi (1.8 km) northeast of West Lebanon.

DRAINAGE AREA.--69.8 mi² (180.8 km²).

PERIOD OF RECORD.--Discharge, water years 1973, 1976 to current year; chemical analyses, water year 1976 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | DISSOLVED OXYGEN (MG/L) | HARDNESS (CA+MG) (MG/L) | DISSOLVED CALCIUM (CA) (MG/L) | DISSOLVED MAGNESIUM (MG) (MG/L) | DISSOLVED SODIUM (NA) (MG/L) | DISSOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | |
|-----------|------|-------------------------------|----------------------------------|--------------------------------|-------------------------------|--------------------------------|---|-------------------------------|---------------------------------|-----------------------------------|--------------------------------|----------------------------|---------------------------------|
| JUL 11... | 1500 | 15 | 315 | 8.2 | 26.5 | 8.6 | 230 | 62 | 18 | 23 | 5.6 | 181 | |
| DATE | | CARBONATE (CO3) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED CHLORIDE (CL) (MG/L) | DISSOLVED FLUORIDE (F) (MG/L) | DISSOLVED SILICA (SI02) (MG/L) | DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | DISSOLVED IRON (FE) (UG/L) | DISSOLVED MANGANESE (MN) (UG/L) |
| JUL 11... | 0 | 53 | 47 | .1 | 8.9 | 307 | 4.2 | .09 | .07 | .15 | 30 | 240 | |

LOW-FLOW PARTIAL-RECORD STATIONS

399

MUSKINGUM RIVER BASIN

03124520 SUGAR CREEK AT DOVER, OH

LOCATION.--Lat 40°31'40", long 81°29'43", Tuscarawas County, Hydrologic Unit 05040001, at bridge on State Highway 39, 0.2 mi (0.3 km) west of Dover city limits, 1.8 mi (2.9 km) upstream from mouth.

DRAINAGE AREA.--348 mi² (901 km²).

PERIOD OF RECORD.--Discharge, water years 1940, 1974 to current year; chemical analyses, water years 1974 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA+MG) (MG/L) | DIS- SOLVED | DIS- SOLVED | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | |
|--------------|------|---|--|---|--|--|---|-----------------------------------|-----------------------------------|--|--|--|--|
| | | | | | | | | CAL- CIUM (CA) (MG/L) | MAG- NE- SIUM (MG) | | | | |
| JUL 11... | 1055 | 144 | 680 | 7.7 | 23.5 | 7.8 | 320 | 77 | 30 | 17 | 6.4 | 113 | |
| DATE | | CARB- ONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| | | | | | | | | | | | | | |
| JUL 11... | 0 | 210 | 34 | .2 | 9.2 | 441 | 2.2 | .07 | .07 | .13 | 10 | 1600 | |

03127100 CROOKED CREEK NEAR STILLWATER, OH

LOCATION.--Lat 40°18'29", long 81°19'26", Tuscarawas County, Hydrologic Unit 05040001, at bridge on State Highway 258, 0.7 mi (1.1 km) upstream from mouth, 1.2 mi (1.9 km) southwest of Stillwater.

DRAINAGE AREA.--47.5 mi² (123.0 km²).

PERIOD OF RECORD.--Discharge, water years 1974 to current year; chemical analyses, water years 1974 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA+MG) (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | |
|---------------|------|---|--|---|--|--|---|--|---|--|--|--|--|
| DATE | TIME | | | (UNITS) | | | | | | | | | |
| JUNE 27... | 1635 | 2.8 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| JUL 12... | 1600 | 6.2 | 420 | 7.7 | 23.5 | 7.3 | 170 | 48 | 12 | 36 | 3.7 | 120 | |
| | | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| DATE | | | | | | | | | | | | | |
| JUNE 27... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 12... | 0 | 30 | 84 | .1 | 4.2 | 277 | .34 | .02 | .10 | .07 | 20 | 190 | |

LOW-FLOW PARTIAL-RECORD STATIONS

MUSKINGUM RIVER BASIN

03128600 LITTLE STILLWATER CREEK NEAR DENNISON, OH

LOCATION.--Lat 40°24'19", long 81°17'18", Tuscarawas County, Hydrologic Unit 05040001, at county road bridge, 1.3 mi (2.1 km) upstream from Irish Run, 2.5 mi (4.0 km) east of Dennison.

DRAINAGE AREA.--96.4 mi² (249.7 km²).

PERIOD OF RECORD.--Discharge, water years 1974 to current year; chemical analyses, water year 1974 to June 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA+MG) (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) |
|--------------|------|---|--|--|--|---|------------------------------------|--|---|--|--|--|
| JUN 29... | 1900 | 49 | 685 | 7.7 | 21.0 | 8.2 | 300 | 79 | 24 | 13 | 2.5 | 114 |
| DATE | | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| JUN 29... | 0 | 200 | 17 | .1 | 5.0 | 399 | .04 | .01 | .05 | .07 | 650 | 1200 |

03128700 TUSCARAWAS RIVER AT TUSCARAWAS, OH

LOCATION.--Lat 40°23'37", long 81°23'26", Tuscarawas County, Hydrologic Unit 05040001, at bridge on County Road 62, 0.4 mi (0.6 km) east of Tuscarawas, 2.6 mi (4.2 km) downstream from Stillwater Creek.

DRAINAGE AREA.--2,367 mi² (6,130 km²).

PERIOD OF RECORD.--Discharge, water years 1974 to current year; chemical analyses, water years 1974 to June 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA+MG) (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | |
|--------------|------|---|--|---|--|--|---|--|---|--|--|--|--|
| JUN 29... | 1640 | 914 | 1200 | 7.8 | 25.0 | 9.0 | 370 | 110 | 23 | 90 | 6.2 | 144 | |
| DATE | | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| JUN 29... | 0 | 210 | 190 | .3 | 6.5 | 709 | 1.2 | .05 | .09 | .28 | 1300 | 740 | |

LOW-FLOW PARTIAL-RECORD STATIONS

401

MUSKINGUM RIVER BASIN

03129100 WHITE EYES CREEK NEAR FRESNO, OH

LOCATION.--Lat 40°18'17", long 81°45'01", Coshocton County, Hydrologic Unit 05040001, at bridge on private road adjacent to State Highway 93, 2 mi (3.2 km) south of Fresno.

DRAINAGE AREA.--52.1 mi² (134.9 km²).

PERIOD OF RECORD.--Discharge, water years 1972 to current; chemical analyses, water years 1972 to June 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA+MG) (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | |
|--------------|------|---|--|---|--|--|---|--|---|--|--|--|--|
| | | | | | | | | | | | | | |
| JUN 27... | 1430 | 2.9 | 360 | 7.2 | 25.0 | 7.5 | 160 | 44 | 12 | 13 | 3.8 | 112 | |
| DATE | | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| JUN 27... | 0 | 76 | 18 | .2 | 6.3 | 229 | .31 | .01 | .08 | .03 | 100 | 45 | |

03129150 TUSCARAWAS RIVER AT COSHOCTON, OH

LOCATION.--Lat 40°16'44", long 81°52'15", Coshocton County, Hydrologic Unit 05040001, at bridge on Bridge Street at Coshocton city limits, 0.3 mi (0.5 km) upstream from confluence with Walkonding River.

DRAINAGE AREA.--2,596 mi² (6,724 km²).

PERIOD OF RECORD.--Discharge, water years 1974 to current year; chemical analyses, water years 1974 to June 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA, MG) (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) |
|--------------|------|---|---|--|--|---|-------------------------------------|--|--|--|--|--|
| JUN 29... | 1215 | 930 | 1050 | 8.9 | 24.5 | 13.6 | 340 | 100 | 21 | 80 | 4.8 | 120 |
| DATE | | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| JUN 29... | 10 | 180 | 160 | .5 | .6 | 617 | .61 | .02 | .11 | .16 | 430 | 170 |

LOW-FLOW PARTIAL-RECORD STATIONS

MUSKINGUM RIVER BASIN

03134300 MUDDY FORK NEAR ROWSBURG, OH

LOCATION.--Lat 40°50'10", long 82°08'16", Ashland County, Hydrologic Unit 05040002, at bridge on Township Road 1550, 1.8 mi (2.9 km) southeast of Rowsburg.

DRAINAGE AREA.--66.2 mi² (171.5 km²).

PERIOD OF RECORD.--Discharge, water years 1972 to current year; chemical analyses, water years 1972 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | DIS-SOLVED OXYGEN (MG/L) | HARDNESS (CA, MG) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | |
|-----------|------|-------------------------------|----------------------------------|---------------------------------|--------------------------------|---------------------------------|--|--------------------------------|---------------------------|-----------------------------------|---------------------------------|-----------------------------|----------------------------------|
| JUL 26... | 0930 | 9.0 | 640 | 7.5 | 20.0 | 6.4 | 250 | 71 | 18 | 30 | 4.0 | 200 | |
| DATE | | CARBONATE (CO3) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | DIS-SOLVED SILICA (SI02) (MG/L) | DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | DIS-SOLVED IRON (FE) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) |
| JUL 26... | 0 | 76 | 46 | .2 | 8.4 | 352 | 1.7 | .03 | .09 | .09 | 40 | 60 | |

03138790 KILLBUCK CREEK AT BURBANK, OH

LOCATION.--Lat 40°59'24", long 81°59'41", on Wayne-Medina County Line, Hydrologic Unit 05040003, at bridge on State Highway 83 at Burbank.

DRAINAGE AREA.--42.4 mi² (109.8 km²).

PERIOD OF RECORD.--Discharge, water year 1976 to current year; chemical analyses, water year 1976 to June 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA+MG) (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | |
|--------------|------|---|--|---|--|--|---|--|---|--|--|--|--|
| JUN 28... | 1400 | 1.6 | 810 | 7.6 | 24.0 | 6.7 | 370 | 110 | 24 | 33 | 5.2 | 272 | |
| DATE | | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SI02) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| JUN 28... | 0 | 150 | 43 | .2 | 6.4 | 506 | .84 | .02 | .16 | .26 | 50 | 140 | |

LOW-FLOW PARTIAL-RECORD STATIONS

403

MUSKINGUM RIVER BASIN

03138800 KILLBUCK CREEK AT WOOSTER, OH

LOCATION.--Lat 40°48'03", long 81°58'30", Wayne County, Hydrologic Unit 05040003, at bridge on Old Mansfield Road, 2 mi (3 km) northwest of Wooster.

DRAINAGE AREA.--128 mi² (332 km²).

PERIOD OF RECORD.--Discharge, water years 1959, 1962 to 1967, 1970 to June 1977 (discontinued); chemical analyses, water years 1965 to 1967, 1970 to June 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA, MG) | DIS- SOLVED | DIS- SOLVED | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED | BICAR- BONATE (HCO3) (MG/L) |
|--------------|-----------------------------------|---|--|--|--|---|-----------------------------------|-----------------------------------|--|--|--|--|
| | | | | | | | | CAL- CIUM (CA) (MG/L) | MAG- NE- SIUM (MG) | | POTAS- SIUM (K) (MG/L) | |
| JUN 28... | 1200 | 8.1 | 635 | 7.6 | 23.0 | 6.6 | 290 | 80 | 21 | 20 | 4.3 | 222 |
| DATE | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| | | | | | | | | | | | | |
| JUN 28... | 0 | 110 | 33 | .1 | 6.5 | 384 | .28 | .01 | .04 | .11 | 50 | 90 |

03138820 APPLE CREEK AT WOOSTER, OH

LOCATION.--Lat 40°48'13", long 81°54'20", Wayne County, Hydrologic Unit 05040003, at bridge on Hillcrest Road, 0.5 mi (0.8 km) upstream from Little Apple Creek, at Wooster.

DRAINAGE AREA.--33.7 mi² (87.3 km²).

PERIOD OF RECORD.--Discharge, water years 1959, 1976 to current year; chemical analyses, water years 1976 to June 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA,MG) (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) |
|--------------|-----------------------------------|--|--|--|--|---|------------------------------------|--|---|--|---|--|
| DATE | TIME | (CFS) | | (UNITS) | | | | | | | | |
| JUN 28... | 1300 | 6.6 | 525 | 7.9 | 24.0 | 9.4 | 220 | 60 | 18 | 21 | 3.6 | 224 |
| | | | | | | | | | | | | |
| DATE | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| JUN 28... | 0 | 43 | 33 | .2 | 5.2 | 295 | .26 | .01 | .04 | .21 | 30 | 30 |

LOW-FLOW PARTIAL-RECORD STATIONS

MUSKINGUM RIVER BASIN

03146250 NORTH FORK LICKING RIVER ABOVE NEWARK, OH

LOCATION.--Lat 40°06'19", long 82°25'02", Licking County, Hydrologic Unit 05040006, at American Aggregates Plant, 1.3 mi (2.1 km) downstream from Dry Creek, 1.5 mi (2.4 km) upstream from Newark Water Supply Plant.

DRAINAGE AREA.--224 mi² (580 km²) .

PERIOD OF RECORD.--Discharge, water years 1944, 1964, 1972 to September 1977 (discontinued); chemical analyses, water years 1972 to September 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible]

03148450 JONATHAN CREEK AT EAST FULTONHAM, OH

LOCATION.--Lat 39°51'20", long 82°07'35", Muskingum County, Hydrologic Unit 05040004, at bridge on old U.S. Highway 22, at East Fultonham, 1 mi (2 km) upstream from Buckeye Fork.

DRAINAGE AREA.--125 mi² (324 km²).

PERIOD OF RECORD.--Discharge, water years 1972 to current year; chemical analyses, water years 1972 to June 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

[illegible]

LOW-FLOW PARTIAL-RECORD STATIONS

405

MUSKINGUM RIVER BASIN

03150480 WEST BRANCH WOLF CREEK NEAR WATERFORD, OH

LOCATION.--Lat 39°31'43", long 81°39'22", Washington County, Hydrologic Unit 05040004, adjacent to State Highway 339, 400 ft (122 m) upstream from South Branch, 1.2 mi (1.9 km) southwest of Waterford.

DRAINAGE AREA.--144 mi² (373 km²).

PERIOD OF RECORD.--Discharge, water years 1959, 1972 to current year; chemical analyses, water years 1972 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICRO-MHOS) | PH (UNITS) | TEMPERATURE (DEG C) | DIS-SOLVED OXYGEN (MG/L) | HARDNESS (CA, MG) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) |
|-----------|------|-------------------------------|-----------------------------------|------------|---------------------|--------------------------|-------------------|--------------------------------|---------------------------|-------------------------------|---------------------------------|---------------------------|
| NOV 10... | 1400 | 34 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 14... | 1300 | 45 | 420 | 8.0 | 27.5 | 10.1 | 160 | 43 | 12 | 19 | 4.3 | 128 |

| DATE | CARBONATE (CO3) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | DIS-SOLVED SILICA (SiO2) (MG/L) | DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | DIS-SOLVED IRON (FE) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) |
|-----------|------------------------|---------------------------------|---------------------------------|--------------------------------|---------------------------------|--|--------------------------|--------------------------|-----------------------------------|-----------------------------|-----------------------------|----------------------------------|
| NOV 10... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 14... | 0 | 54 | 25 | .1 | 5.1 | 226 | .45 | .01 | .12 | .05 | 10 | 110 |

03150490 SOUTH BRANCH WOLF CREEK NEAR WATERFORD, OH

LOCATION.--Lat 39°31'28", long 81°39'31", Washington County, Hydrologic Unit 05040004, at bridge on State Highway 339, 0.8 mi (1.3 km) upstream from mouth, 1.5 mi (2.4 km) southwest of Waterford.

DRAINAGE AREA.--79.3 mi² (205.4 km²).

PERIOD OF RECORD.--Discharge, water years 1972 to current year; chemical analyses, water years 1972 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICRO-MHOS) | PH (UNITS) | TEMPERATURE (DEG C) | DIS-SOLVED OXYGEN (MG/L) | HARDNESS (CA, MG) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) |
|-----------|------|-------------------------------|-----------------------------------|------------|---------------------|--------------------------|-------------------|--------------------------------|---------------------------|-------------------------------|---------------------------------|---------------------------|
| NOV 10... | 1510 | 11 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 14... | 1200 | 1.8 | 425 | 7.9 | 26.0 | 7.8 | 190 | 57 | 11 | 9.2 | 2.8 | 184 |

| DATE | CARBONATE (CO3) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | DIS-SOLVED SILICA (SiO2) (MG/L) | DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | DIS-SOLVED IRON (FE) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) |
|-----------|------------------------|---------------------------------|---------------------------------|--------------------------------|---------------------------------|--|--------------------------|--------------------------|-----------------------------------|-----------------------------|-----------------------------|----------------------------------|
| NOV 10... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 14... | 0 | 37 | 10 | .1 | 5.7 | 223 | .15 | .01 | .04 | .05 | 0 | 10 |

LOW-FLOW PARTIAL-RECORD STATIONS

CAMPAIGN CREEK BASIN

03160105 CAMPAIGN CREEK NEAR GALLIPOLIS, OH

LOCATION.--Lat 39°53'51", long 82°11'31", Gallia County, Hydrologic Unit 05030202, at bridge on Bulaville-Porter Road, 5.6 mi (9.0 km) upstream from mouth, 5.8 mi (9.3 km) north of Gallipolis.

DRAINAGE AREA.--35.5 mi² (91.9 km²).

PERIOD OF RECORD.--Discharge, water year 1976 to current year; chemical analyses, water year 1976 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA, MG) (MG/L) | DIS- | DIS- | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) |
|--------------|-----------------------------------|---|--|--|--|---|-------------------------------------|--|--|--|--|--|
| | | | | | | | | SOLVED CAL- CIUM (CA) (MG/L) | SOLVED MAG- NE- SIUM (MG) (MG/L) | | | |
| MAY 31... | 1835 | 0.81 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 05... | 1400 | 3.5 | 583 | 7.3 | 25.5 | 8.1 | 240 | 63 | 20 | 15 | 3.2 | 91 |
| DATE | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SiO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| | | | | | | | | | | | | |
| MAY 31... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 05... | 0 | 190 | 10 | .2 | 8.0 | 356 | .26 | .01 | .04 | .01 | 0 | 1900 |

INDIAN GUYAN CREEK BASIN

03205210 INDIAN GUYAN CREEK NEAR BRADRICK, OH

LOCATION.--Lat 38°28'41", long 82°23'54", Lawrence County, Hydrologic Unit 05090101, at bridge on Township Road C-69, 200 ft (61 m) upstream from relocated Fourmile Creek, 2.5 mi (4.0 km) north of Bradrick.

DRAINAGE AREA.--67.5 mi² (174.8 km²).

PERIOD OF RECORD.--Discharge, water years 1972 to current year; chemical analyses, water years 1972 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN | HARD- NESS (CA+MG) | DIS- SOLVED CAL- CIUM (CA) | DIS- SOLVED MAG- NE- SIUM (MG) | DIS- SOLVED SODIUM (NA) | DIS- SOLVED PO- TAS- SIUM (K) | BICAR- BONATE (HCO3) | |
|---------------|------|--------------------------------------|--|---|--|------------------------------------|---|--|---|--|--|--------------------------------|--|
| DATE | TIME | (CFS) | (UNITS) | | | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | |
| JUNE 01... | 1035 | 2.8 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| JUL 05... | 1625 | 13 | 378 | 7.5 | 24.5 | 7.6 | 150 | 45 | 9.0 | 9.0 | 3.0 | 73 | |
| | | CAR- BONATE (CO3) | DIS- SOLVED SULFATE (SO4) | DIS- SOLVED CHLO- RIDE (CL) | DIS- SOLVED FLUO- RIDE (F) | DIS- SOLVED SILICA (SIO2) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) | TOTAL NITRATE (N) | TOTAL NITRITE (N) | TOTAL AMMONIA NITRO- GEN (N) | TOTAL PHOS- PHORUS (P) | DIS- SOLVED IRON (FE) | DIS- SOLVED MAN- GANESE (MN) |
| DATE | | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (UG/L) | (UG/L) |
| JUNE 01... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 05... | 0 | 91 | 6.5 | .1 | 7.7 | 207 | .88 | .01 | .02 | .01 | 10 | 90 | |

LOW-FLOW PARTIAL-RECORD STATIONS

407

ICE CREEK BASIN

03216050 ICE CREEK AT IRONTON, OH

LOCATION.--Lat 38°31'05", long 82°38'09", Lawrence County, Hydrologic Unit 05090103, at bridge on private road, 0.6 mi (1.0 km) east of city limits of Ironton, 2 mi (3 km) upstream from mouth.

DRAINAGE AREA.--37.2 mi² (96.3 km²).

PERIOD OF RECORD.--Discharge, water year 1976 to current year; chemical analyses, water year 1976 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICRO-MHOS) | PH (UNITS) | TEMPERATURE (DEG C) | DIS-SOLVED OXYGEN (MG/L) | HARDNESS (CA, MG) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) |
|------------|------|-------------------------------|-----------------------------------|------------|---------------------|--------------------------|-------------------|--------------------------------|---------------------------|-------------------------------|---------------------------------|---------------------------|
| JUNE 01... | 1200 | 1.9 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 05... | 1805 | 7.9 | 450 | 7.6 | 24.5 | 7.7 | 180 | 51 | 12 | 13 | 3.7 | 108 |

| DATE | CARBONATE (CO3) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | DIS-SOLVED SILICA (SIO2) (MG/L) | DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | DIS-SOLVED IRON (FE) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) |
|------------|------------------------|---------------------------------|---------------------------------|--------------------------------|---------------------------------|--|--------------------------|--------------------------|-----------------------------------|-----------------------------|-----------------------------|----------------------------------|
| JUNE 05... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 05... | 0 | 94 | 12 | .1 | 10 | 249 | .59 | .01 | .02 | .01 | 20 | 130 |

PINE CREEK BASIN

03216640 PINE CREEK NEAR WHEELERSBURG, OH

LOCATION.--Lat 38°39'12", long 82°48'09", Scioto County, Hydrologic Unit 05090103, at Bridge on Junior Furnace-Powellsville Road, 1.7 mi (2.7 km) upstream from Poplar Fork, 6 mi (10 km) southeast of Wheelersburg.

DRAINAGE AREA.--152 mi² (394 km²).

PERIOD OF RECORD.--Discharge, water years 1972 to current year; chemical analyses, water years 1972 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICRO-MHOS) | PH (UNITS) | TEMPERATURE (DEG C) | DIS-SOLVED OXYGEN (MG/L) | HARDNESS (CA, MG) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) |
|-----------|------|-------------------------------|-----------------------------------|------------|---------------------|--------------------------|-------------------|--------------------------------|---------------------------|-------------------------------|---------------------------------|---------------------------|
| JUL 05... | 1930 | 42 | 378 | 7.2 | 23.5 | 7.4 | 150 | 41 | 11 | 6.9 | 3.4 | 44 |

| DATE | CARBONATE (CO3) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | DIS-SOLVED SILICA (SIO2) (MG/L) | DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | DIS-SOLVED IRON (FE) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) |
|-----------|------------------------|---------------------------------|---------------------------------|--------------------------------|---------------------------------|--|--------------------------|--------------------------|-----------------------------------|-----------------------------|-----------------------------|----------------------------------|
| JUL 05... | 0 | 110 | 6.8 | .1 | 11 | 212 | .61 | .01 | .07 | .03 | 50 | 500 |

LOW-FLOW PARTIAL-RECORD STATIONS

SCIOTO RIVER BASIN

03228200 BIG WALNUT CREEK ABOVE SUNBURY, OH

LOCATION.--Lat 40°15'04", long 82°50'46", Delaware County, Hydrologic Unit 05060001, at bridge on U.S. Highway 36, 0.5 mi (0.8 km) downstream from Perfect Creek, at Sunbury.

DRAINAGE AREA.--77.8 mi² (201.5 km²).

PERIOD OF RECORD.--Discharge, water years 1972 to current year; chemical analyses, water years 1972 to June 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA,MG) (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) |
|---------------|-----------------------------------|---|--|--|--|---|------------------------------------|--|---|--|--|--|
| DATE | TIME | | | (UNITS) | | | | | | | | |
| JUN 15... | 1400 | 2.8 | 580 | 8.5 | 23.0 | 11.3 | 270 | 65 | 26 | 17 | 3.8 | 229 |
| SEPT 08... | 0925 | 0.14 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| DATE | CAR- BONATE (CO3) (MG/L) | | | | | | | | | | | |
| JUN 15... | 8 | 73 | 27 | .3 | 1.6 | 335 | 1.2 | .01 | .13 | .04 | 40 | 30 |
| SEPT 08... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

03234080 NORTH FORK PAINT CREEK NEAR FRANKFORT, OH

LOCATION.--Lat 39°26'11", long 83°13'22", Ross County, Hydrologic Unit 05060003, at bridge on State Highway 138 at Austin, 3.5 mi (5.6 km) northwest of Frankfort.

DRAINAGE AREA.--151 mi² (391 km²).

PERIOD OF RECORD.--Discharge, water years 1972 to current year; chemical analyses, water years 1972 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA, MG) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | |
|--------------|------|--------------------------------------|--|---|--|--|---|--|---|--|--|--|--|
| DATE | TIME | (CFS) | | (UNITS) | | | | | | | | | |
| NOV 16... | 1500 | 12 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| JUL 07... | 1525 | 6.2 | 565 | 8.1 | 31.5 | 8.7 | 320 | 65 | 39 | 9.5 | 2.0 | 315 | |
| | | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| NOV 16... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 07... | 0 | 59 | 21 | .4 | 7.0 | 358 | .52 | .01 | .06 | .05 | 0 | 20 | |

SCIOTO RIVER BASIN

03235100 SALT CREEK AT LAURELVILLE, OH

LOCATION.--Lat 39°27'46", long 82°44'08", Hocking County, Hydrologic Unit 05060002, at bridge on Township Road 174, 200 ft (61 m) upstream from Brimstone Creek, 0.5 mi (0.8 km) south of Laurelville.

DRAINAGE area.--106 mi² (274 km²).

PERIOD OF RECORD.--Discharge, water years 1972 to current year; chemical analyses, water years 1972 to June 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA,MG) (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | |
|--------------|------|---|--|---|--|--|---|--|---|--|--|--|--|
| JUN 07... | 1030 | 14 | 430 | 7.9 | 15.5 | 9.5 | 220 | 55 | 20 | 6.4 | 2.3 | 222 | |
| DATE | | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| JUN 07... | 0 | 34 | 10 | .1 | 6.6 | 244 | .52 | .02 | .00 | .01 | 30 | 50 | |

03237130 SCIOTO BRUSH CREEK AT OTWAY, OH

LOCATION.--Lat 37°51'43", long 83°11'24", Scioto County, Hydrologic Unit 05060002, at bridge on State Highway 348, 600 ft (183 m) upstream from South Fork, at Otway.

DRAINAGE AREA.--94.4 mi² (244.5 km²).

PERIOD OF RECORD.--Discharge, water years 1956, 1972 to current year; chemical analyses, water years 1972 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | HARD- NESS | DIS- SOLVED CAL- CIUM | DIS- SOLVED MAG- NE- SIUM | DIS- SOLVED SODIUM | DIS- SOLVED PO- TAS- SIUM | BICAR- BONATE |
|--------------|------|--------------------------------------|--|----------------|------------------|-------------------------------|---------------|--------------------------------|---------------------------------------|--------------------------|---------------------------------------|------------------|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | (CA+MG) | (CA) | (MG/L) | (MG/L) | (NA) | (HCO3) |
| NOV 10... | 1635 | 11 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAY 23... | 1850 | 7.3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 06... | 0900 | 21 | 345 | 7.3 | 22.5 | 6.8 | 140 | 29 | 17 | 5.6 | 3.0 | 68 |
| | | CAR- BONATE | DIS- SOLVED | DIS- SOLVED | DIS- SOLVED | DIS- SOLVED | TOTAL | TOTAL | TOTAL | TOTAL | DIS- SOLVED | DIS- SOLVED |
| DATE | | (CO3) | SULFATE | CHLO- RIDE | SILICA | (SUM OF CONSTI- TUENTS) | NITRATE | NITRITE | AMMONIA | PHOS- PHORUS | IRON | MAN- GANESE |
| | | (MG/L) | (SO4) | (CL) | (F) | (SIO2) | (N) | (N) | (N) | (P) | (FE) | (MN) |
| NOV 10... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAY 23... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 06... | 0 | 82 | 7.2 | .1 | 10 | 188 | 1.2 | .01 | .04 | .00 | 10 | 80 |

LOW-FLOW PARTIAL-RECORD STATIONS

SCIOTO RIVER BASIN

03237150 SOUTH FORK SCIOTO BRUSH CREEK AT WAMSLEY, OH

LOCATION.--Lat 38°49'54", 83°16'42", Adams County, Hydrologic Unit 05060002, at bridge on State Highway 348, at Wamsley.

DRAINAGE AREA.--56.1 mi² (145.3 km²).

PERIOD OF RECORD.--Discharge, water years 1972 to current year; chemical analyses, water years 1972 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | HARD- NESS | DIS- SOLVED CAL- CIUM | DIS- SOLVED MAG- NE- SIUM | DIS- SOLVED SODIUM | DIS- SOLVED PO- TAS- SIUM | BICAR- BONATE |
|--------------|-----------------------------------|--|---|--|--|---|-----------------------------------|-----------------------------------|--|---|--|--|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | (CA,MG) | (CA) (MG/L) | (MG) (MG/L) | (NA) (MG/L) | (K) (MG/L) | (HCO3) (MG/L) |
| NOV 10... | 1545 | 16 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAY 23... | 1750 | 6.0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 06... | 1030 | 10 | 275 | 7.3 | 23.5 | 6.2 | 120 | 25 | 13 | 3.9 | 2.9 | 92 |
| DATE | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| NOV 10... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAY 23... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 06... | 0 | 42 | 3.8 | .1 | 10 | 146 | 1.1 | .01 | .04 | .01 | 20 | 90 |

OHIO BRUSH CREEK BASIN

03237295 OHIO BRUSH CREEK NEAR PEBBLES, OH

LOCATION.--Lat 38°58'06", long 83°25'34", Adams County, Hydrologic Unit 05090201, at bridge on State Highway 32, 1.6 mi (2.6 km) upstream from Little East Fork, 1.7 mi (2.7 km) northwest of Peebles.

DRAINAGE AREA.--154 mi² (399 km²).

PERIOD OF RECORD.--Discharge, water years 1959 to 1960, 1972 to current year; chemical analyses, water years 1972 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA, MG) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | |
|--------------|------|---|--|---|--|--|---|--|---|--|--|--|--|
| JUL 06... | 1345 | 16 | 490 | 7.9 | 28.5 | 7.6 | 230 | 54 | 23 | 5.1 | 3.3 | 223 | |
| DATE | | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| JUL 06... | 0 | 39 | 13 | .1 | 8.0 | 255 | 3.7 | .04 | .05 | .05 | 20 | 10 | |

LOW-FLOW PARTIAL-RECORD STATIONS

411

OHIO BRUSH CREEK BASIN

03237400 WEST FORK OHIO BRUSH CREEK AT LAWSHE, OH

LOCATION.--Lat 38°56'22", long 83°28'28", Adams County, Hydrologic Unit 05090201, at bridge on Township Road C-13 at Lawshe, 0.4 mi (0.6 km) upstream from mouth.

DRAINAGE AREA.--134 mi² (347 km²).

PERIOD OF RECORD.--Discharge, water years 1959 to 1960, 1972 to current year; chemical analyses, water years 1972 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DIS-CHARGE (CFS) | SPE-CIFIC CON-DUCTANCE (MICRO-MHOS) | PH (UNITS) | TEMPER-ATURE (DEG C) | DIS-SOLVED OXYGEN (MG/L) | HARD-NESS (CA,MG) | DIS-SOLVED CAL-CIUM (CA) (MG/L) | DIS-SOLVED MAG-NE-SIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | DIS-SOLVED PO-TAS-SIUM (K) (MG/L) | BICAR-BONATE (HCO3) (MG/L) | |
|-----------|------|--------------------------------|-------------------------------------|----------------------------------|---------------------------------|---------------------------------|---|---------------------------------|-----------------------------|------------------------------------|-----------------------------------|-----------------------------|-----------------------------------|
| JUL 06... | 1515 | 9.6 | 470 | 8.0 | 27.0 | 8.4 | 210 | 59 | 15 | 7.0 | 3.7 | 204 | |
| DATE | | CAR-BONATE (CO3) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLO-RIDE (CL) (MG/L) | DIS-SOLVED FLUO-RIDE (F) (MG/L) | DIS-SOLVED SILICA (SIO2) (MG/L) | DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO-GEN (N) (MG/L) | TOTAL PHOS-PHORUS (P) (MG/L) | DIS-SOLVED IRON (FE) (UG/L) | DIS-SOLVED MAN-GANESE (MN) (UG/L) |
| JUL 06... | 0 | 34 | 14 | .1 | 6.2 | 253 | 2.8 | .03 | .06 | .06 | 0 | 30 | |

BIG THREEMILE CREEK BASIN

03238020 BIG THREEMILE CREEK NEAR ABERDEEN, OH

LOCATION.--Lat 38°40'22", long 83°44'52", Brown County, Hydrologic Unit 05090201, at bridge on State Highway 763, 1.4 mi (2.3 km) northeast of Aberdeen, and 4.4 mi (7.1 km) upstream from mouth.

DRAINAGE AREA.--19.7 mi² (51.0 km²).

PERIOD OF RECORD.--Discharge, water year 1976 to current year; chemical analyses, July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | DIS-SOLVED OXYGEN (MG/L) | HARDNESS (CA+MG) (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) |
|-----------|------------------------|---------------------------------|----------------------------------|--------------------------------|---------------------------------|--|--------------------------|--------------------------------|-----------------------------------|-------------------------------|---------------------------------|----------------------------------|
| NOV 11... | 1445 | 1.7 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAY 23... | 1615 | .28 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 06... | 1715 | 1.8 | 435 | 8.2 | 30.5 | 8.6 | 190 | 59 | 11 | 8.1 | 3.0 | 180 |
| DATE | CARBONATE (CO3) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | DIS-SOLVED SILICA (SIO2) (MG/L) | DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | DIS-SOLVED IRON (FE) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) |
| NOV 11... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAY 23... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 06... | 0 | 43 | 15 | .1 | 3.2 | 231 | .22 | .01 | .01 | .02 | 0 | 10 |

LOW-FLOW PARTIAL-RECORD STATIONS

STRAIGHT CREEK BASIN

03238250 STRAIGHT CREEK NEAR HIGGINSPOET, OH

LOCATION.--Lat 38°47'56", long 83°48'20", Brown County, Hydrologic Unit 05090201, at bridge on Straight Creek Road, 2.8 mi (4.5 km) upstream from mouth, and 3 mi (5 km) east of Higginsport.

DRAINAGE AREA.--57.3 mi² (148.4 km²).

PERIOD OF RECORD.--Discharge, water year 1976 to current year; chemical analyses, water year 1976 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | DISSOLVED OXYGEN (MG/L) | HARDNESS (CA, MG) | DISSOLVED CALCIUM (CA) (MG/L) | DISSOLVED MAGNESIUM (MG) | DISSOLVED SODIUM (NA) (MG/L) | DISSOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) |
|-----------|------------------------|--------------------------------|----------------------------------|-------------------------------|--------------------------------|---|--------------------------|-------------------------------|-----------------------------------|------------------------------|--------------------------------|---------------------------------|
| NOV 11... | 1310 | 6.7 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAY 24... | 1555 | .64 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 06... | 0915 | 3.2 | 395 | 7.9 | 27.0 | 7.3 | 180 | 52 | 11 | 8.1 | 3.4 | 168 |
| DATE | CARBONATE (CO3) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED CHLORIDE (CL) (MG/L) | DISSOLVED FLUORIDE (F) (MG/L) | DISSOLVED SILICA (SiO2) (MG/L) | DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | DISSOLVED IRON (FE) (UG/L) | DISSOLVED MANGANESE (MN) (UG/L) |
| NOV 11... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAY 24 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 06... | 0 | 40 | 13 | .1 | 2.1 | 213 | .09 | .00 | .04 | .03 | 0 | 10 |

BULLSKIN CREEK BASIN

03238650 BULLSKIN CREEK NEAR FELICITY, OH

LOCATION.--Lat 38°48'02", long 84°03'21", Clermont County, Hydrologic Unit 05090201, at bridge on Felicity Cedron Road, just upstream from unnamed tributary on left bank, 0.3 mi (0.5 km) downstream from Slickaway Run, and 3.3 mi (5.3 km) southeast of Felicity.

DRAINAGE AREA.--47.7 mi² (123.5 km²).

PERIOD OF RECORD.--Discharge, water year 1976 to current year; chemical analyses, water years 1976 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE | SPE- CIFIC CON- DUCT- ANCE | PH | TEMPER- ATURE | DIS- SOLVED OXYGEN | HARD- NESS | DIS- SOLVED CAL- CIUM | DIS- SOLVED MAG- NE- SIUM | DIS- SOLVED SODIUM | DIS- SOLVED TAS- SIUM | BICAR- BONATE | |
|--------------|------|--------------------------------------|--|---|--|------------------------------------|---|--------------------------------|---------------------------------------|--|---------------------------------|--------------------------------|--|
| DATE | TIME | (CFS) | (MICRO- MHOS) | (UNITS) | (DEG C) | (MG/L) | (CA, MG) | (CA) (MG/L) | (MG) (MG/L) | (NA) (MG/L) | (K) (MG/L) | (HCO3) (MG/L) | |
| NOV 11... | 1205 | 6.9 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| MAY 24... | 1450 | 1.1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| JUL 06... | 2040 | 2.7 | 370 | 8.3 | 33.0 | 7.9 | 150 | 42 | 11 | 9.2 | 3.6 | 133 | |
| | | CAR- BONATE (CO3) | DIS- SOLVED SULFATE (SO4) | DIS- SOLVED CHLO- RIDE (CL) | DIS- SOLVED FLUO- RIDE (F) | DIS- SOLVED SILICA (SiO2) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) | TOTAL NITRATE (N) | TOTAL NITRITE (N) | TOTAL AMMONIA NITRO- GEN (N) | TOTAL PHOS- PHORUS (P) | DIS- SOLVED IRON (FE) | DIS- SOLVED MAN- GANESE (MN) |
| DATE | | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (UG/L) | (UG/L) |
| NOV 11... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAY 24... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 06... | 2 | 45 | 15 | .1 | 4.8 | 198 | .14 | .01 | .03 | .01 | 0 | 10 | |

INDIAN CREEK BASIN

03238730 INDIAN CREEK NEAR POINT PLEASANT, OH

LOCATION.--Lat 38°53'24", long 84°12'29", Clermont County, Hydrologic Unit 05090201, at bridge on State Highway 232, 1.4 mi (2.3 km) east of Point Pleasant, 1.6 mi (2.6 km) upstream from mouth.

DRAINAGE AREA.--38.7 mi² (100.8 km²).

PERIOD OF RECORD.--Discharge, water year 1976 to current year; chemical analyses, water years 1976 to July 1977 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | INSTAN- TANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | DIS- SOLVED OXYGEN (MG/L) | HARD- NESS (CA,MG) (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | DIS- SOLVED SODIUM (NA) (MG/L) | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | |
|--------------|------|---|--|---|--|--|---|--|---|--|--|--|--|
| DATE | TIME | | | (UNITS) | | | | | | | | | |
| MAY 24... | 1350 | 1.4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| JUL 06... | 1920 | 2.3 | 435 | 8.2 | 32.5 | 7.5 | 180 | 52 | 11 | 13 | 3.7 | 156 | |
| | | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | DIS- SOLVED SILICA (SIO2) (MG/L) | DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | DIS- SOLVED IRON (FE) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) |
| DATE | | | | | | | | | | | | | |
| MAY 24... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL 06... | 0 | 52 | 19 | .1 | 4.3 | 232 | .03 | .01 | .02 | .01 | 10 | 10 | |

DISCHARGE AT PARTIAL-RECORD STATIONS

Crest-stage partial-record stations

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

Annual maximum discharge at crest-stage partial-record stations during water year 1977

| Station No. | Station name | Location | Drainage area (mi ²) | Period of record | Annual maximum | | |
|---------------------------|---|--|--|------------------------|----------------|--------------------------|--|
| | | | | | Date | Gage height (feet) | Dis- charge (ft ³ /s) |
| Beaver River basin | | | | | | | |
| 03089500 | Mill Creek near Berlin Center, OH | Lat 41°00'01", long 80°58'07", Mahoning County, Hydrologic Unit 05030103, at bridge on county road, 1 mile upstream from flow line of Berlin Reservoir, 1.2 miles upstream from Turkeybroth Creek, 2 miles southwest of Berlin Center. | 19.1 | 1942-71, 1972-77 | 4- 2-77 | 6.05 | 740 |
| *03092099 | Hinkley Creek at Charlestown, OH | Lat 41°09'16", long 81°08'51", Portage County, Hydrologic Unit 05030103, at bridge on Rock Spring Road, 0.6 mile south of Charlestown, 2.2 miles upstream from mouth. | 7.85 | 1970-77 | 3-18-77 | 12.13 | 450 |
| 03094900 | Walnut Creek at Cortland, OH | Lat 41°19'49", long 80°43'28", Trumbull County, Hydrologic Unit 05030103, at Main Street Bridge in Cortland, 1.8 miles upstream from mouth. | 8.45 | 1947-77 | 3-13-77 | 3.52 | 430 |
| 03098500 | Mill Creek at Youngstown, OH | Lat 41°04'19", long 80°41'26", Mahoning County, Hydrologic Unit 05030103, 600 ft upstream from suspension bridge in Mill Creek Park at Youngstown, 1 mile downstream from Newport Dam, 2.5 miles upstream from mouth. | 66.3 | 1944-71, 1972-77 | 6-18-77 | 4.64 | 1,630 |
| 03098700 | Crab Creek at Youngstown, OH | Lat 41°07'20", long 80°38'08", Mahoning County, Hydrologic Unit 05030103, at bridge on Hubbard Road at Youngstown, 2 miles upstream from mouth. | 14.0 | 1959-77 | 4- 2-77 | 5.98 | 670 |
| 03102900 | Clear Creek at Dilworth, OH | Lat 41°26'45", long 80°39'56", Trumbull County, Hydrologic Unit 05030102, at bridge on State Highway 193 at Dilworth, 1.1 miles south of Gustavus, 3 miles upstream from mouth. | 1.13 | 1947-77 | 2- 24-77 | 9.96 | 51 |
| Little Beaver Creek basin | | | | | | | |
| 03109000 | Lisbon Creek at Lisbon, OH | Lat 40°46'55", long 80°45'53", Columbiana County, Hydrologic Unit 05030101, at city water works of Lisbon, 800 feet upstream from bridge on State High- way 164. | 6.19 | 1947-62, 1963-77 | 8- 7-77 | 3.97 | 410 |
| Duck Creek basin | | | | | | | |
| 03115600 | Barnes Run near Summerfield, OH | Lat 39°46'20", long 81°22'26", Noble County, Hydrologic Unit 05030201, at bridge on county road adjacent to State Highway 78, 2.5 miles southwest of Summerfield. | 3.46 | 1947-77 | 4- 3-77 | 10.91 | 289 |
| Muskingum River basin | | | | | | | |
| 03119600 | Jefferson Creek near Jewett, OH | Lat 40°22'57", long 80°58'36", Harrison County, Hydrologic Unit 05040001, at culvert adjacent to State Highway 9, 1.4 miles northeast of Jewett. | 2.54 | 1947-77 | 4- 3-77 | 10.23 | 70 |
| 03119700 | Conotton Creek at Jewett, OH | Lat 40°21'59", long 81°00'13", Harrison County, Hydrologic Unit 05040001, at bridge on State Highway 9 in Jewett. | 14.3 | 1947-77 | 6-18-77 | 11.82 | 490 |
| 03123400 | Dundee Creek at Dundee, OH | Lat 40°35'35", long 81°36'13", Tuscarawas County, Hydrologic Unit 05040001, at culvert on State Highway 93, 0.4 mile upstream from mouth, 0.5 mile northeast of Dundee. | .71 | 1966-77 | 7- 5-77 | 27.37 | 285 |
| 03129300 | Whetstone Creek tributary near Olivesburg, OH | Lat 40°53'15", long 82°24'25", Ashland County, Hydrologic Unit 05040002, at culvert on State Highway 96, 1.1 miles east of Olivesburg. | .24 | 1950-77 | 9-14-77 | 5.22 | 40 |

See footnotes at end of table, p 417.

Annual maximum discharge at crest-stage partial-record stations during water year 1977--Continued

| | | | | | Annual maximum | | |
|----------------------------------|---|--|----------------------------------|------------------|----------------|--------------------|---------------------------------|
| Station No. | Station name | Location | Drainage area (mi ²) | Period of record | Date | Gage height (feet) | Dis-charge (ft ³ /s) |
| Muskingum River basin--Continued | | | | | | | |
| 03138900 | Jennings Ditch tributary near Wooster, OH | Lat 40°44'45", long 81°55'48", Wayne County, Hydrologic Unit 05040003, at culvert on State Highway 83, 0.8 mile upstream from mouth, 4 miles south of Wooster. | .90 | 1946, 1966-77 | 4- 3-77 | 17.94 | 46 |
| 03144800 | Etna Creek at Etna, OH | Lat 39°58'08", long 82°40'55", Licking County, Hydrologic Unit 05040006, at culvert on State Highway 310, 0.7 mile north of Etna. | 1.10 | 1966-77 | 8- 7-77 | 11.06 | 98 |
| 03145600 | Otter Fork near Centerburg, OH | Lat 40°17'35", long 82°43'09", Knox County, Hydrologic Unit 05040006, at culvert on State Highway 3, 1.2 miles west of Centerburg. | 3.17 | 1947-77 | 4- 3-77 | 12.39 | 130 |
| 03147900 | Timber Run near Zanesville, OH | Lat 39°57'00", long 82°03'07", Muskingum County, Hydrologic Unit 05040006, at bridge on private road adjacent to old U.S. Highway 40, 0.5 mile west of junction of Interstate 70 with old U.S. Highway 40, 2 miles west of Zanesville. | 10.1 | 1947-77 | 4- 2-77 | 11.78 | 700 |
| 03148300 | Moxahala Creek at Roseville, OH | Lat 39°48'38", long 82°04'13", Muskingum County, Hydrologic Unit 05040004, at pumping station about 2,500 feet downstream from First Street bridge in Roseville. | 80.6 | 1964-77 | 4- 4-77 | 10.47 | 1,570 |
| 03150600 | Tupper Creek at DeVola, OH | Lat 39°28'24", long 81°27'58", Washington County, Hydrologic Unit 05040004, at culvert on State Highway 60 at DeVola. | .99 | 1966-77 | 4- 3-77 | 8.96 | 80 |
| Hocking River basin | | | | | | | |
| 03158100 | Hayden Run at Haydenville, OH | Lat 39°28'57", long 82°19'06", Hocking County, Hydrologic Unit 05030204, at culvert on U.S. Highway 33, 0.5 mile east of Haydenville. | 1.04 | 1966-77 | 4- 3-77 | 22.47 | 115 |
| Scioto River basin | | | | | | | |
| 03221900 | Dry Run at Columbus, OH | Lat 39°57'22", long 83°06'19", Franklin County, Hydrologic Unit 05060001, at culvert in Westinghouse employees parking lot at entrance to plant, 1,000 ft north of U.S. Highway 40, near west edge of Columbus. | 1.91 | 1965-77 | 9- 3-77 | 21.12 | 450 |
| 03226200 | Delaware Run near Delaware, OH | Lat 40°18'28", long 83°06'35", Delaware County, Hydrologic Unit 05060001, at culvert on county highway, 400 feet south of State Highway 37, 1 mile west of Delaware Corporation line. | 5.84 | 1947-77 | 4- 3-77 | 12.12 | 490 |
| 03226850 | Linworth Run near Linworth, OH | Lat 40°06'24", long 83°02'35", Franklin County, Hydrologic Unit 05060001, at culvert on Linworth Road, 0.4 mile upstream from mouth, 1.2 miles north of Linworth. | .40 | 1966-77 | 3-12-77 | 18.84 | 51 |
| 03226890 | Turkey Run at Upper Arlington, OH | Lat 40°02'10", long 83°04'06", Franklin County, Hydrologic Unit 05060001, at culvert on Lytham Road at Upper Arlington. | .90 | 1972-77 | 9- 3-77 | 17.15 | 270 |
| 03226900 | Fishinger and Kenny Road Creek at Upper Arlington, OH | Lat 40°01'27", long 83°02'38", Franklin County, Hydrologic Unit 05060001, at culvert on Kenny Road at Upper Arlington. | .45 | 1964-77 | 9- 3-77 | 19.15 | 259 |
| 03228000 | Scioto Big Run at Briggsdale, OH | Lat 39°54'56", long 83°03'55", Franklin County, Hydrologic Unit 05060001, at bridge on U.S. Highway 62 at Briggsdale 2.8 miles northeast of Grove City, 4 miles upstream from mouth. | 11.0 | 1947-58, 1959-77 | 9- 3-77 | 7.15 | 1,180 |
| 03230400 | Big Darby Creek at Darbydale, OH | Lat 39°50'58", long 83°11'20", Franklin County, Hydrologic Unit 05060001, at McKinley Bridge at Darbydale. | 449 | 1964-77 | 4- 3-77 | 12.93 | 6,800 |
| 03230600 | Hominy Creek at Circleville, OH | Lat 39°35'26", long 82°55'25", Pickaway County, Hydrologic Unit 05060002, at bridge adjacent to State Highway 56, 0.4 mile southeast of railroad crossing at east edge of Circleville. | 5.66 | 1947-77 | 3-13-77 | 4.41 | 315 |

See footnotes at end of table, p 417.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Annual maximum discharge at crest-stage partial-record stations during water year 1977--Continued

| Station No. | Station name | Location | Drainage area (mi ²) | Period of record | Annual maximum | | |
|-------------------------------|---|--|----------------------------------|------------------|----------------|--------------------|---------------------------------|
| | | | | | Date | Gage height (feet) | Dis-charge (ft ³ /s) |
| Scioto River basin--Continued | | | | | | | |
| 03231600 | East Fork Paint Creek near Sedalia, OH | Lat 39°42'36", long 83°27'48", Madison County, Hydrologic Unit 05060003, at culvert on State Highway 38, 1.8 miles southeast of Sedalia. | 3.82 | 1947-77 | - | <10.80 | <95 |
| 03234100 | Indian Creek at Massieville, OH | Lat 39°15'42", long 82°58'08", Ross County, Hydrologic Unit 05060002, at bridge adjacent to U.S. Highway 23, 0.2 mile south of Massieville. | 9.60 | 1947-77 | 4- 3-77 | 12.32 | 1,220 |
| 03235000 | Salt Creek at Tarlton, OH | Lat 39°33'20", long 82°46'51", Pickaway County, Hydrologic Unit 05060002, at bridge on State Highway 159 at Tarlton. | 11.5 | 1947-61, 1962-77 | - | <59.00 | <350 |
| 03235200 | Little Blackjack Branch near South Bloomingville, OH | Lat 39°27'23", long 82°30'25", Hocking County, Hydrologic Unit 05060002, at culvert on State Highway 664, 5.5 miles northeast of South Bloomingville. | .89 | 1966-77 | 3-18-77 | 20.08 | 140 |
| 03235400 | West Branch Tar Hollow Creek at Tar Hollow State Park, OH | Lat 39°23'35", long 82°45'12", Ross County, Hydrologic Unit 05060002, in Tar Hollow State Park, 300 feet upstream from Tar Hollow Creek, 5 miles south of Adelphi. | .30 | 1950-77 | 3-18-77 | 5.07 | 21 |
| 03235995 | Salt Creek above damsite near Londonderry, OH | Lat 39°17'26", long 82°44'45", Vinton County, Hydrologic Unit 05060002, at bridge on State Highway 671, 0.5 mile east of Ross County line, 2.8 miles northeast of Londonderry. | 268 | 1963-77 | 4- 3-77 | 12.75 | 6,900 |
| 03236100 | South Branch Little Salt Creek at Jackson, OH | Lat 39°02'38", long 82°38'35", Jackson County, Hydrologic Unit 05060002, at culvert adjacent to State Highway 139, 800 feet south of Jackson High School, 1 mile upstream from mouth. | 3.76 | 1947-77 | 3-13-77 | 14.63 | 440 |
| 03237210 | Rose Run near Portsmouth, OH | Lat 38°48'07", long 82°59'03", Scioto County, Hydrologic Unit 05060002, at culvert on U.S. Highway 23, 2.9 miles north of Portsmouth city limits. | 1.04 | 1966-77 | 3-13-77 | 15.11 | 76 |
| Ohio Brush Creek basin | | | | | | | |
| 03237300 | West Branch Turkey Run near Winchester, OH | Lat 38°56'56", long 83°40'19", Adams County, Hydrologic Unit 05090201, at culvert on State Highway 32, 1.3 miles west of Winchester. | .89 | 1956-77 | - | <11.20 | <110 |
| Whiteoak Creek basin | | | | | | | |
| 03238400 | Harwood Creek near Fayetteville, OH | Lat 39°07'51", long 83°51'00", Highland County, Hydrologic Unit 05090201, at culvert on State Highway 131, 0.2 mile west of junction of State Highways 131 and 134, 6 miles southeast of Fayetteville. | .88 | 1966-77 | 3- 4-77 | 19.38 | 140 |
| 03238600 | Higgins Run near Higginsport, OH | Lat 38°49'10", long 83°57'28", Brown County, Hydrologic Unit 05090201, at culvert on State Highway 221, 150 feet upstream from mouth, 2 miles north of Higginsport. | .55 | 1966-77 | 10- 9-76 | 22.02 | 590 |
| Ray Run basin | | | | | | | |
| 03238700 | Ray Run near Moscow, OH | Lat 38°51'15", long 84°12'00", Clermont County, Hydrologic Unit 05090201, at culvert on State Highway 743, 1.5 miles east of Moscow. | .86 | 1966-77 | 10- 9-76 | 19.94 | 84 |
| Little Miami River basin | | | | | | | |
| 03239000 | Little Miami River near Selma, OH | Lat 39°48'36", long 83°44'21", Clark County, Hydrologic Unit 05090202, at bridge on Selma Pike, 2.3 miles northwest of Selma, 3.1 miles upstream from North Fork. | 48.9 | 1952-58, 1959-77 | 4- 5-77 | 5.12 | 505 |
| 03239500 | North Fork Little Miami River near Pitchin, OH | Lat 39°49'40", long 83°46'38", Clark County, Hydrologic Unit 05090202, at bridge on county road, 1.1 miles upstream from Goose Creek, 1.3 miles southwest of Pitchin. | 28.9 | 1952-58, 1959-77 | - | <3.25 | <105 |

See footnotes at end of table, p 417.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

417

Annual maximum discharge at crest-stage partial-record stations during water year 1977--Continued

| | | | | | Annual maximum | | |
|-------------------------------------|--------------------------------------|--|---------------------|--------------------------------------|----------------|--------------------|--------------------|
| Station No. | Station name | Location | Drainage area (mi²) | Period of record | Date | Gage height (feet) | Dis-charge (ft³/s) |
| Little Miami River basin--Continued | | | | | | | |
| 03241600 | Shawnee Creek at Xenia, OH | Lat 39°40'32", long 83°55'32", Greene County, Hydrologic Unit 05090202, at bridge on U.S. Highway 68, 0.7 mile southeast of intersection with U.S. Highway 42 in Xenia. | 4.21 | 1948-77 | 4- 5-77 | 10.40 | 66 |
| 03242100 | Wayne Creek at Waynesville, OH | Lat 39°31'08", long 84°04'47", Warren County, Hydrologic Unit 05090202, at culvert on State Highway 73, 0.8 mile southeast of intersection of State Highway 73 and U.S. Highway 42 at Waynesville. | 1.01 | 1966-77 | - | <19.85 | <125 |
| 03247100 | Patterson Run near Owensville, OH | Lat 39°07'38", long 84°06'44", Clermont County, Hydrologic Unit 05090202, at bridge on private road, 200 feet north of U.S. Highway 50, 0.5 mile upstream from Brushy Fork, 1.2 miles east of Owensville. | 3.34 | 1947-77 | 3- 4-77 | 2.46 | 440 |
| 03248000 | Little Miami River at Plainville, OH | Lat 39°08'13", long 84°21'11", Hamilton County, Hydrologic Unit 05090202, at bridge on Newton Road, 0.5 mile east of Plainville, 0.7 mile northeast of Newton, 3.5 mile downstream from East Fork, and 8.2 mile upstream from mouth. | 1,713 | 1914-15*, 1918-20, 1965-71*, 1972-77 | 4- 3-77 | 13.55 | 6,200 |
| Great Miami River basin | | | | | | | |
| 03262750 | Millers Ditch at Tipp City, OH | Lat 39°57'59", long 84°10'22", Miami County, Hydrologic Unit 05080001, at culvert on 4th Street in Tipp City. | .83 | 1966-77 | 4- 2-77 | 13.98 | 145 |
| 03263100 | Poplar Creek near Vandalia, OH | Lat 39°51'10", long 84°11'21", Montgomery County, Hydrologic Unit 05090001, at culvert on Interstate Highway 75, 1.2 miles upstream from mouth, 1.5 miles southeast of Vandalia. | 3.11 | 1947-77 | 4- 2-77 | 3.86 | 334 |
| 03263700 | Bridge Creek near Greenville, OH | Lat 40°04'13", long 84°37'45", Darke County, Hydrologic Unit 05080001, at culvert on State Highway 49, 2.2 miles south of Greenville. | 4.83 | 1947-77 | 4- 3-77 | 10.13 | 31 |
| 03265100 | Hog Run tributary at Laura, OH | Lat 40°00'30", long 84°25'26", Miami County, Hydrologic Unit 05090001, at culvert on State Highway 571, 0.3 mile upstream from mouth, 1 mile northwest of Laura. | a/.46 | 1950-77 | 3-18-77 | 5.81 | 50 |
| 03268300 | Beaver Creek at Brighton, OH | Lat 39°55'46", long 83°34'04", Clark County, Hydrologic Unit 05090001, at culvert on U.S. Highway 40, 0.2 mile west of Brighton. | 3.33 | 1959-77 | - | <10.29 | <36 |
| 03272900 | Collins Creek at Collinsville, OH | Lat 39°31'05", long 84°36'53", Butler County, Hydrologic Unit 05090002, at culvert on U.S. Highway 127, 0.3 mile upstream from mouth, 0.4 mile north-west of Collinsville. | .94 | 1966-77 | 4- 3-77 | 19.10 | 110 |
| 03274100 | Blake Run near Reily, OH | Lat 39°27'59", long 84°45'22", Butler County, Hydrologic Unit 05090002, 600 feet upstream from culvert on Stevenson Road, 2.2 miles north of Reily, 3 miles upstream from mouth. | .29 | 1939-40, 1942-43, 1947-77 | 4- 2-77 | 3.33 | 69 |

* Also a low-flow partial-record station.

* Operated as a continuous-record gaging station.

< Less than.

418

DISCHARGE MEASUREMENTS MADE AT MISCELLANEOUS SITES DURING WATER YEAR 1977

| Stream | Tributary to | Location | Drainage area (mi ²) | Measured previously (water years) | Measurements Date | Discharge (ft ³ /s) |
|--------------------------|----------------------|---|--|--|----------------------|-----------------------------------|
| Muskingum River Basin | | | | | | |
| 03262650 Spring Creek | Great Miami River | Lat 40°05'18, long 84°10'27", Miami County, Hydrologic Unit 05080001, adjacent to DeWeese Road, 600 ft (180 m) south of Rusk Road, 2.5 (4.0 km) upstream from mouth, 3 mi (5 km) northeast of Troy. <u>a/</u> | 21.0 | 1968-74, 1976 | 10-19-76 | 0.03 |

a/ Data furnished by Miami Conservancy District.

WATER-QUALITY ASSESSMENT OF RATTLESNAKE CREEK IN THE SCIOTO RIVER BASIN

419

Six series of varied flow, chemical, biological, and physical quality samples of the surface water of Rattlesnake Creek and its tributaries were made during the 1977 water year. This study was made in cooperation with the Department of Agriculture, Soil Conservation Service, to identify and evaluate reaches of lowered or substandard water quality, and to interpret the effects of alternative land-management techniques.

3937240893700 RATTLESNAKE CREEK AT WEST LANCASTER, OH

LOCATION.--lat 39°37'24", long 83°37'00", Fayette County, Hydrologic Unit 05060003, at bridge on U.S. Highway 35 at West Lancaster.

DRAINAGE AREA.--25.0 mi² (64.8 km²).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | TURBIDITY (JTU) | DISSOLVED OXYGEN (MG/L) | PERCENT SATURATION | IMMEDIATE COLIFORM (COL. PER 100 ML) | FECAL COLIFORM (COL. PER 100 ML) |
|-----------|------|-------------------------------|----------------------------------|------------|---------------------|-----------------|-------------------------|--------------------|--------------------------------------|----------------------------------|
| NOV 17... | 0845 | .39 | 705 | 8.0 | 1.0 | 5 | 11.6 | 82 | 1600 | 76 |
| FEB 25... | 0930 | 95 | 410 | 7.8 | .0 | 25 | 9.8 | 67 | 14000 | 1000 |
| MAR 31... | 1125 | 13 | 645 | 8.2 | 9.5 | 4 | 12.2 | 110 | 480 | 120 |
| MAY 04... | 0850 | 10 | 650 | 7.9 | 15.5 | 9 | 7.4 | 74 | 8500 | 1400 |
| JUN 29... | 1430 | 1.0 | 610 | 8.6 | 26.5 | 20 | 12.8 | 160 | 12000 | 5900 |
| AUG 23... | 1000 | .22 | 610 | 8.0 | 20.5 | 15 | 8.6 | 94 | 1100 | 580 |

| DATE | STREPTOCOCCI (COLONIES PER 100 ML) | HARDNESS (CA, MG) (MG/L) | NON-CARBONATE HARDNESS (MG/L) | DISSOLVED CALCIUM (CA) (MG/L) | DISSOLVED MAGNESIUM (MG) (MG/L) | DISSOLVED SODIUM (NA) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L) |
|-----------|------------------------------------|--------------------------|-------------------------------|-------------------------------|---------------------------------|------------------------------|---------------------------|------------------------|--------------------------------|--|
| NOV 17... | 240 | 400 | 110 | 86 | 46 | 17 | 361 | 0 | 87 | 482 |
| FEB 25... | 1300 | 200 | 84 | 45 | 21 | 5.6 | 140 | 0 | 40 | 302 |
| MAR 31... | 56 | 340 | 110 | 77 | 37 | 7.8 | 284 | 0 | 56 | 380 |
| MAY 04... | 240 | 350 | 92 | 82 | 36 | 8.5 | 318 | 0 | 56 | 412 |
| JUN 29... | 3600 | 300 | 50 | 63 | 34 | 9.7 | 286 | 9 | 48 | 374 |
| AUG 23... | 420 | 300 | 78 | 63 | 35 | 15 | 273 | 0 | 49 | 399 |

| DATE | TOTAL NON-FILTERABLE RESIDUE (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL ORGANIC NITROGEN (N) (MG/L) | TOTAL KJELDAHL NITROGEN (N) (MG/L) | TOTAL NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL ORTHOPHOSPHORUS (P) (MG/L) | TOTAL IRON (FE) (UG/L) |
|-----------|-------------------------------------|--------------------------|--------------------------|---------------------------------------|-----------------------------------|------------------------------------|---------------------------|-----------------------------|----------------------------------|------------------------|
| NOV 17... | 38 | .74 | .01 | .75 | .33 | .35 | 1.1 | .20 | .16 | 210 |
| FEB 25... | 60 | 6.7 | .05 | 6.7 | 1.4 | 1.9 | 8.6 | .29 | .21 | 1800 |
| MAR 31... | 33 | 5.0 | .05 | 5.0 | .47 | .49 | 5.5 | .05 | .03 | 300 |
| MAY 04... | 69 | 5.4 | .08 | 5.5 | .56 | .65 | 6.2 | .10 | .06 | 640 |
| JUN 29... | 58 | .93 | .07 | 1.0 | .93 | 1.0 | 2.0 | .13 | .10 | 1000 |
| AUG 23... | 37 | .14 | .02 | .16 | .88 | .94 | 1.1 | .21 | .05 | 1300 |

WATER-QUALITY ASSESSMENT OF RATTLESNAKE CREEK

393553083362500 RATTLESNAKE CREEK NEAR MILLEDGEVILLE, OH

LOCATION.--Lat 39°35'53", long 83°36'25", Fayette County, Hydrologic Unit 05060003, at bridge on Milledgeville-Octa Road near Milledgeville.

DRAINAGE AREA.--34.3 mi² (88.8 km²).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | TURBIDITY (JTU) | DISSOLVED OXYGEN (MG/L) | PERCENT SATURATION | HARDNESS (CA+MG) (MG/L) |
|-----------|------|-------------------------------|----------------------------------|------------|---------------------|-----------------|-------------------------|--------------------|-------------------------|
| NOV 17... | 1230 | .54 | 1000 | 8.2 | 3.0 | 5 | 13.7 | 100 | 400 |
| FEB 25... | 1130 | -- | 430 | 7.7 | .5 | 25 | 9.8 | 68 | 200 |
| MAR 31... | 0920 | 20 | 675 | 7.7 | 9.5 | 4 | 9.7 | 84 | 330 |
| MAY 04... | 1040 | 18 | 710 | 7.8 | 15.0 | 6 | 6.9 | 68 | 330 |
| JUN 29... | 1630 | 2.3 | 760 | 7.9 | 24.5 | 15 | 5.5 | 65 | 320 |
| AUG 23... | 1315 | .59 | 895 | 7.7 | 20.5 | 25 | 3.2 | 35 | 330 |

| DATE | NON-CARBONATE HARDNESS (MG/L) | DISSOLVED CALCIUM (CA) (MG/L) | DISSOLVED MAGNESIUM (MG) (MG/L) | DISSOLVED SODIUM (NA) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L) | TOTAL NON-FILTERABLE RESIDUE (MG/L) |
|-----------|-------------------------------|-------------------------------|---------------------------------|------------------------------|---------------------------|------------------------|--------------------------------|--|-------------------------------------|
| NOV 17... | 67 | 85 | 45 | 78 | 403 | 0 | 57 | 667 | 454 |
| FEB 25... | 84 | 45 | 21 | 9.4 | 140 | 0 | 40 | 298 | 92 |
| MAR 31... | 110 | 73 | 36 | 13 | 275 | 0 | 57 | 393 | 33 |
| MAY 04... | 92 | 78 | 34 | 15 | 296 | 0 | 57 | 419 | 40 |
| JUN 29... | 44 | 72 | 34 | 32 | 336 | 0 | 50 | 453 | 53 |
| AUG 23... | 35 | 74 | 35 | 52 | 358 | 0 | 60 | 522 | 49 |

| DATE | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL ORGANIC NITROGEN (N) (MG/L) | TOTAL KJELDAHL NITROGEN (N) (MG/L) | TOTAL NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL ORTHOPHOSPHORUS (P) (MG/L) | TOTAL IRON (FE) (UG/L) |
|-----------|--------------------------|--------------------------|---------------------------------------|-----------------------------------|------------------------------------|---------------------------|-----------------------------|----------------------------------|------------------------|
| NOV 17... | .87 | .05 | .92 | 1.8 | 4.2 | 5.1 | 1.8 | 1.6 | 240 |
| FEB 25... | 6.3 | .06 | 6.4 | 1.4 | 1.9 | 8.3 | .31 | .20 | 1800 |
| MAR 31... | 4.4 | .05 | 4.4 | .43 | .57 | 5.0 | .15 | .13 | 290 |
| MAY 04... | 5.4 | .09 | 5.5 | .54 | .80 | 6.3 | .14 | .11 | 500 |
| JUN 29... | 1.4 | .18 | 1.6 | 1.0 | 2.5 | 4.1 | .84 | .80 | 690 |
| AUG 23... | .56 | .26 | .82 | .00 | 5.0 | 5.8 | 1.8 | 1.5 | 1400 |

WATER-QUALITY ASSESSMENT OF RATTLESNAKE CREEK

421

393103083361700 WILSON CREEK NEAR SABINA, OH

LOCATION.--Lat 39°31'03", long 83°36'17", Clinton County, Hydrologic Unit 05060003, at bridge on Borum Road near Sabina.

DRAINAGE AREA.--21.7 mi² (56.2 km²).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICRO-MHOS) | PH (UNITS) | TEMPERATURE (DEG C) | TURBIDITY (JTU) | DISSOLVED OXYGEN (MG/L) | PERCENT SATURATION | IMMEDIATE COLIFORM (COL. PER 100 ML) | FECAL COLIFORM (COL. PER 100 ML) |
|-----------|--------------------------------------|-------------------------------|-----------------------------------|---------------------------------------|-----------------------------------|-------------------------------------|---------------------------|-----------------------------|--------------------------------------|--|
| NOV 18... | 0845 | .33 | 1300 | 7.8 | 1.5 | 5 | 9.3 | 66 | 10000 | 80 |
| FEB 25... | 1310 | 43 | 520 | 7.7 | 2.0 | 25 | 10.0 | 72 | 20000 | 550 |
| MAR 30... | 0815 | 7.8 | 695 | 7.9 | 13.5 | 2 | 8.3 | 79 | 19000 | 340 |
| MAY 03... | 1130 | 24 | 690 | 7.9 | 14.5 | 6 | 9.5 | 92 | 42000 | 4600 |
| JUN 29... | 1115 | 6.4 | 690 | 7.7 | 22.0 | 10 | 4.1 | 46 | 24000 | 2600 |
| AUG 24... | 0820 | .99 | 855 | 7.8 | 19.5 | 20 | 4.0 | 43 | 16000 | 8800 |
| DATE | STREP-TOCOCCHI (COLONIES PER 100 ML) | HARDNESS (CA, MG/L) | NON-CARBONATE HARDNESS (MG/L) | DISSOLVED CALCIUM (CA) (MG/L) | DISSOLVED MAGNESIUM (MG/L) | DISSOLVED SODIUM (NA) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L) |
| NOV 18... | 1700 | 370 | 0 | 85 | 39 | 140 | 576 | 0 | 120 | 838 |
| FEB 25... | 1500 | 230 | 100 | 51 | 24 | 13 | 150 | 0 | 94 | 349 |
| MAR 30... | 360 | 310 | 110 | 68 | 34 | 19 | 244 | 0 | 63 | 406 |
| MAY 03... | 1700 | 320 | 120 | 75 | 32 | 11 | 240 | 0 | 56 | 395 |
| JUN 29... | 4200 | 310 | 86 | 75 | 30 | 17 | 274 | 0 | 49 | 434 |
| AUG 24... | 10000 | 330 | 32 | 78 | 32 | 43 | 363 | 0 | 60 | 507 |
| DATE | TOTAL NON-FILTERABLE RESIDUE (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL ORGANIC NITROGEN (N) (MG/L) | TOTAL KJEL-DAHL NITROGEN (N) (MG/L) | TOTAL NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL ORTHO PHOSPHORUS (P) (MG/L) | TOTAL IRON (FE) (UG/L) |
| NOV 18... | 48 | .59 | .10 | .69 | .00 | 23 | 24 | 7.3 | 6.6 | 440 |
| FEB 25... | 85 | 7.5 | .06 | 7.6 | 1.2 | 1.7 | 9.3 | .30 | .19 | 1700 |
| MAR 30... | 30 | 5.8 | .20 | 6.0 | 2.5 | 5.7 | 12 | .45 | .38 | 180 |
| MAY 03... | 64 | 11 | .15 | 11 | .61 | .83 | 12 | .16 | .13 | 670 |
| JUN 29... | 52 | 7.3 | .58 | 7.9 | 1.0 | 2.0 | 9.9 | .75 | .74 | 300 |
| AUG 24... | 32 | .45 | .30 | .75 | .80 | 5.4 | 6.2 | 2.0 | 1.8 | 1100 |

WATER-QUALITY ASSESSMENT OF RATTLESNAKE CREEK

393040083335400 WEST BRANCH RATTLESNAKE CREEK NEAR SABINA, OH

LOCATION.--Lat 39°30'40", long 83°33'54", Fayette County, Hydrologic Unit 05060003, at bridge on West Fork Road near Sabina.

DRAINAGE AREA.--59.8 mi² (154.9 km²).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | TURBIDITY (JTU) | DISSOLVED OXYGEN (MG/L) | PERCENT SATURATION | HARDNESS (CA.MG) (MG/L) |
|-----------|------|-------------------------------|----------------------------------|------------|---------------------|-----------------|-------------------------|--------------------|-------------------------|
| NOV 18... | 1115 | .24 | 945 | 9.2 | 4.0 | 9 | 17.8 | 140 | 300 |
| FEB 25... | 1500 | 162 | 480 | 7.6 | .0 | 25 | 8.9 | 61 | 190 |
| MAR 30... | 1455 | 21 | 620 | 8.6 | 18.5 | 2 | 12.1 | 130 | 290 |
| MAY 03... | 1430 | 61 | 655 | 8.0 | 16.5 | 10 | 9.2 | 94 | 330 |
| JUN 29... | 1000 | 12 | 585 | 7.9 | 22.5 | 15 | 6.9 | 78 | 270 |
| AUG 26... | 1040 | 1.6 | 750 | 8.0 | 22.5 | 15 | 9.5 | 110 | 320 |

| DATE | NON-CARBONATE HARDNESS (MG/L) | DISSOLVED CALCIUM (CA) (MG/L) | DISSOLVED MAGNESIUM (MG) | DISSOLVED SODIUM (NA) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L) | TOTAL NON-FILTERABLE RESIDUE (MG/L) |
|-----------|-------------------------------|-------------------------------|--------------------------|------------------------------|---------------------------|------------------------|--------------------------------|--|-------------------------------------|
| NOV 18... | 21 | 66 | 34 | 110 | 240 | 52 | 91 | 649 | 62 |
| FEB 25... | 86 | 43 | 19 | 17 | 122 | 0 | 38 | 313 | 63 |
| MAR 30... | 110 | 62 | 32 | 15 | 194 | 12 | 58 | 332 | 73 |
| MAY 03... | 130 | 78 | 32 | 9.8 | 237 | 0 | 54 | 380 | 47 |
| JUN 29... | 77 | 62 | 29 | 12 | 240 | 0 | 42 | 377 | 48 |
| AUG 26... | 62 | 75 | 33 | 30 | 318 | 0 | 58 | 475 | 40 |

| DATE | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL ORGANIC NITROGEN (N) (MG/L) | TOTAL KJELDAHL NITROGEN (N) (MG/L) | TOTAL NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL ORTHO PHOSPHORUS (P) (MG/L) | TOTAL IRON (FE) (UG/L) |
|-----------|--------------------------|--------------------------|---------------------------------------|-----------------------------------|------------------------------------|---------------------------|-----------------------------|-----------------------------------|------------------------|
| NOV 18... | 1.2 | .21 | 1.4 | 3.8 | 6.9 | 8.3 | 7.8 | 2.3 | 470 |
| FEB 25... | 6.3 | .07 | 6.4 | 1.1 | 1.6 | 8.0 | .24 | .16 | 1700 |
| MAR 30... | 6.2 | .15 | 6.3 | 3.2 | 4.5 | 11 | .18 | .15 | 180 |
| MAY 03... | 9.9 | .12 | 10 | .50 | .59 | 11 | .10 | .07 | 480 |
| JUN 29... | 4.2 | .14 | 4.3 | .93 | .99 | 5.3 | .28 | .15 | 200 |
| AUG 26... | .97 | .73 | 1.7 | .94 | 1.3 | 3.0 | .51 | .40 | 700 |

WATER-QUALITY ASSESSMENT OF RATTLESNAKE CREEK

423

393020083331800 RATTLESNAKE CREEK NEAR SABINA, OH

LOCATION.--Lat 39°30'20", long 83°33'18", Fayette County, Hydrologic Unit 05060003, at bridge on U.S. Highway 22 near Sabina.

DRAINAGE AREA.--106 mi² (275 km²).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | TURBIDITY (JTU) | DISSOLVED OXYGEN (MG/L) | PERCENT SATURATION | IMMEDIATE COLIFORM (COL. PER 100 ML) | FECAL COLIFORM (COL. PER 100 ML) |
|-----------|-------------------------------------|-------------------------------|----------------------------------|---------------------------------------|-----------------------------------|------------------------------------|---------------------------|-----------------------------|--------------------------------------|--|
| NOV 18... | 1345 | .59 | 850 | 9.0 | 6.5 | 6 | 16.8 | 140 | 190 | 4 |
| FEB 25... | 1615 | 440 | 445 | 7.7 | 1.0 | 25 | 9.7 | 68 | 11000 | 1200 |
| MAR 30... | 1120 | 48 | 630 | 8.4 | 15.5 | 3 | 10.6 | 110 | 340 | 20 |
| MAY 03... | 0900 | 98 | 620 | 7.5 | 16.5 | 7 | 6.3 | 64 | 22000 | 820 |
| JUN 29... | 0800 | 19 | 585 | 7.4 | 22.0 | 25 | 4.2 | 47 | 3400 | 550 |
| AUG 23... | 1515 | 2.2 | 700 | 8.2 | 24.5 | 15 | 9.2 | 110 | 190 | 110 |
| DATE | STREPTOCOCCI (COLONIES PER 100 ML) | HARDNESS (CA+MG) (MG/L) | NON-CARBONATE HARDNESS (MG/L) | DISSOLVED CALCIUM (CA) (MG/L) | DISSOLVED MAGNESIUM (MG/L) | DISSOLVED SODIUM (NA) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L) |
| NOV 18... | 72 | 340 | 69 | 71 | 40 | 65 | 268 | 32 | 99 | 597 |
| FEB 25... | 3000 | 170 | 76 | 40 | 18 | 14 | 120 | 0 | 34 | 277 |
| MAR 30... | 12 | 300 | 100 | 66 | 34 | 14 | 234 | 7 | 58 | 356 |
| MAY 03... | 1000 | 300 | 110 | 72 | 30 | 12 | 230 | 0 | 51 | 377 |
| JUN 29... | 1600 | 270 | 67 | 61 | 28 | 13 | 245 | 0 | 50 | 362 |
| AUG 23... | 130 | 310 | 64 | 70 | 32 | 25 | 296 | 0 | 56 | 445 |
| DATE | TOTAL NON-FILTERABLE RESIDUE (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL ORGANIC NITROGEN (N) (MG/L) | TOTAL KJELDAHL NITROGEN (N) (MG/L) | TOTAL NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL ORTHO PHOSPHORUS (P) (MG/L) | TOTAL IRON (FE) (UG/L) |
| NOV 18... | 29 | .36 | .06 | .42 | 1.1 | 1.6 | 2.0 | .79 | .63 | 300 |
| FEB 25... | 88 | 5.8 | .07 | 5.9 | 1.5 | 2.2 | 8.1 | .33 | .22 | 2300 |
| MAR 30... | 43 | 4.2 | .08 | 4.3 | .59 | .65 | 5.0 | .11 | .10 | 260 |
| MAY 03... | 57 | 8.8 | .14 | 8.9 | .98 | 1.1 | 10 | .10 | .07 | 400 |
| JUN 29... | 79 | 5.3 | .17 | 5.5 | .80 | .94 | 6.4 | .26 | .25 | 500 |
| AUG 23... | 35 | .93 | .47 | 1.4 | .97 | 1.2 | 2.6 | .29 | .21 | 800 |

WATER-QUALITY ASSESSMENT OF RATTLESNAKE CREEK

392039083303400 LEES CREEK NEAR LEESBURG, OH

LOCATION.--Lat 39°20'39", long 83°30'34", Highland County, Hydrologic Unit 05060003, at bridge on Monroe Road near Leesburg.

DRAINAGE AREA.--74.5 mi² (193.0 km²).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DISCHARGE (CFS) | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | TURBIDITY (JTU) | DISSOLVED OXYGEN (MG/L) | PERCENT SATURATION | HARDNESS (CA+MG) (MG/L) |
|-----------|------|-------------------------------|----------------------------------|------------|---------------------|-----------------|-------------------------|--------------------|-------------------------|
| NOV 17... | 1430 | 3.6 | 590 | 8.6 | 4.0 | 5 | 16.6 | 130 | 340 |
| FEB 26... | 1000 | 122 | 510 | 8.1 | 2.0 | 15 | 11.8 | 86 | 260 |
| MAR 29... | 1035 | 44 | 598 | 8.5 | 13.5 | 3 | 13.6 | 130 | 320 |
| MAY 02... | 1520 | 180 | 550 | 8.1 | 18.0 | 80 | 9.0 | 95 | 270 |
| JUN 28... | 1330 | 4.0 | 565 | 8.2 | 24.5 | 10 | 8.7 | 100 | 280 |
| AUG 25... | 0900 | 4.9 | 590 | 8.4 | 19.0 | 10 | 9.7 | 100 | 300 |

| DATE | NON-CARBONATE HARDNESS (MG/L) | DISSOLVED CALCIUM (CA) (MG/L) | DISSOLVED MAGNESIUM (MG/L) | DISSOLVED SODIUM (NA) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L) | TOTAL NON-FILTERABLE RESIDUE (MG/L) |
|-----------|-------------------------------|-------------------------------|----------------------------|------------------------------|---------------------------|------------------------|--------------------------------|--|-------------------------------------|
| NOV 17... | 79 | 70 | 40 | 12 | 281 | 18 | 63 | 378 | 38 |
| FEB 26... | 90 | 60 | 26 | 6.1 | 204 | 0 | 44 | 331 | 48 |
| MAR 29... | 98 | 73 | 34 | 7.4 | 251 | 11 | 53 | 355 | 38 |
| MAY 02... | 100 | 65 | 27 | 6.3 | 211 | 0 | 43 | 357 | 202 |
| JUN 28... | 53 | 61 | 32 | 9.7 | 282 | 0 | 44 | 367 | 40 |
| AUG 25... | 67 | 66 | 32 | 9.9 | 272 | 4 | 44 | 381 | 43 |

| DATE | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL ORGANIC NITROGEN (N) (MG/L) | TOTAL KJELDAHL NITROGEN (N) (MG/L) | TOTAL NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL ORTHO PHOSPHORUS (P) (MG/L) | TOTAL IRON (FE) (UG/L) |
|-----------|--------------------------|--------------------------|---------------------------------------|-----------------------------------|------------------------------------|---------------------------|-----------------------------|-----------------------------------|------------------------|
| NOV 17... | .48 | .01 | .49 | .21 | .25 | .74 | .04 | .03 | 110 |
| FEB 26... | 6.1 | .04 | 6.1 | .73 | .88 | 7.0 | .13 | .09 | 800 |
| MAR 29... | 5.2 | .03 | 5.2 | .37 | .38 | 5.6 | .01 | .01 | 270 |
| MAY 02... | 11 | .16 | 11 | 1.8 | 2.2 | 13 | .22 | .06 | 6700 |
| JUN 28... | 1.3 | .01 | 1.3 | .57 | .62 | 1.9 | .04 | .04 | 310 |
| AUG 25... | 1.9 | .01 | 1.9 | .41 | .44 | 2.3 | .07 | .05 | 320 |

WATER-QUALITY ASSESSMENT OF RATTLESNAKE CREEK

425

391755083275100 HARDIN CREEK NEAR CENTERFIELD, OH

LOCATION.--Lat 39°17'55", long 83°27'51", Highland County, Hydrologic Unit 05060003, at bridge on Cope Road near Centerfield.

DRAINAGE AREA.--21.3 mi² (55.2 km²).

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | INSTANTANEOUS DIS- CHARGE (CFS) | SPE- CIFIC CON- DUCT- ANCE (MICHO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | TUR- BID- ITY (JTU) | DIS- SOLVED OXYGEN (MG/L) | PER- CENT SATUR- ATION | HARD- NESS (CA, MG) |
|--------------|------|--|--|---------------|-----------------------------|------------------------------|------------------------------------|---------------------------------|---------------------------|
| NOV 19... | 1215 | 2.4 | 570 | 8.2 | 4.5 | 2 | 12.9 | 99 | 330 |
| FEB 26... | 1115 | 26 | 540 | 8.2 | 4.0 | 10 | 11.3 | 86 | 290 |
| MAR 29... | 1530 | 13 | 595 | 8.4 | 17.5 | 3 | 11.1 | 120 | 320 |
| MAY 02... | 1745 | 27 | 530 | 8.1 | 21.0 | 30 | 9.0 | 100 | 280 |
| JUN 28... | 1130 | 1.8 | 560 | 8.0 | 23.0 | 10 | 8.0 | 92 | 290 |
| AUG 24... | 1440 | 1.1 | 540 | 8.0 | 22.0 | 10 | 8.5 | 96 | 290 |

| DATE | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | DIS- SOLVED SODIUM (NA) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED SOLIDS (RESI- DUCE AT 180 C) (MG/L) | TOTAL NON- FILT- RABLE RESIDUE (MG/L) |
|--------------|---|--|---|--|--------------------------------------|-----------------------------------|--|---|--|
| NOV 19... | 64 | 73 | 36 | 7.1 | 325 | 0 | 52 | 380 | 10 |
| FEB 26... | 72 | 68 | 28 | 6.2 | 260 | 0 | 46 | 321 | 60 |
| MAR 29... | 74 | 74 | 33 | 6.2 | 285 | 8 | 49 | 350 | 6 |
| MAY 02... | 62 | 68 | 26 | 5.9 | 252 | 0 | 41 | 322 | 58 |
| JUN 28... | 35 | 69 | 29 | 5.9 | 313 | 0 | 40 | 350 | 19 |
| AUG 24... | 50 | 67 | 29 | 5.9 | 288 | 0 | 46 | 347 | 18 |

| DATE | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL ORGANIC NITRO- GEN (N) (MG/L) | TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L) | TOTAL NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL ORTHO PHOS- PHORUS (P) (MG/L) | TOTAL IRON (FE) (UG/L) |
|--------------|-----------------------------------|-----------------------------------|--|--|--|---|---|--|---------------------------------|
| NOV 19... | .23 | .01 | .24 | .13 | .15 | .39 | .08 | .08 | 80 |
| FEB 26... | 2.5 | .03 | 2.5 | .48 | .56 | 3.1 | .06 | .04 | 430 |
| MAR 29... | 2.0 | .01 | 2.0 | .35 | .36 | 2.4 | .01 | .00 | 220 |
| MAY 02... | 3.5 | .06 | 3.6 | 1.1 | 1.2 | 4.6 | .06 | .02 | 1400 |
| JUN 28... | .40 | .01 | .41 | .35 | .40 | .81 | .02 | .02 | 300 |
| AUG 24... | .11 | .00 | .11 | .30 | .33 | .44 | .02 | .02 | 400 |

GROUND-WATER RECORDS

ATHENS COUNTY

391934082065000. Local number, AT-10.

LOCATION.--Lat 39°19'34", long 82°06'50", Hydrologic Unit 05030204, 0.3 mi (0.5 km) south of fairgrounds in Athens.

Owner: City of Athens.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled public supply water-table well, diameter 26 in (0.66 m), depth 52 ft (15.8 m), screened below 35 ft (10.7 m).

PERIOD OF RECORD.--June 1967 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | SPECIFIC CONDUCTANCE (MICRO-MHOS) | PH (UNITS) | CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L) | DIS-SOLVED SODIUM (NA) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CAC03 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) |
|-----------|-----------------------------------|--------------------------|--|-----------------------------------|-----------------------------|----------------------------|----------------------------|-----------------------------|---------------------------------|---------------------------------|
| APR 19... | 1360 | 7.0 | 20 | 75 | 356 | 0 | 290 | 57 | 140 | 180 |
| DATE | TOTAL RESIDUE (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) | |
| APR 19... | 871 | .01 | .00 | .26 | .00 | <10 | 4800 | 2 | 630 | |

GROUND-WATER RECORDS

427

ATHENS COUNTY--Continued

392004082071600. Local number, AT-2A.

LOCATION.--Lat 39°20'04", long 82°07'16", Hydrologic Unit 05030204, 1.1 mi (1.8 km) west of city hall in Athens.

Owner: City of Athens.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Unused drilled water-table well, diameter 12 in (0.3 m), depth 43 ft (13.1 m), cased.

DATUM.--Land-surface datum is 641.81 ft (195.624 m) above mean sea level. Measuring point: Floor of instrument

shelter, 5.80 ft (1.768 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 20.00 ft (6.096 m) Oct. 4, 1955; minimum daily low, 1.05 ft (0.320 m) May 25, 28, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 19.52 ft (5.950 m) Feb. 11-12; minimum daily low, 15.99 ft (4.874 m) Apr. 10.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 18.09 | 18.32 | 18.75 | 18.91 | 19.23 | 18.33 | 17.44 | 17.06 | 17.76 | 18.33 | 18.54 | 18.71 |
| 2 | 18.11 | 18.25 | 18.77 | 18.92 | 19.25 | 18.32 | 17.36 | 17.09 | 17.85 | 18.26 | 18.46 | 18.72 |
| 3 | 18.14 | 18.19 | 18.78 | 18.92 | 19.28 | 18.30 | 17.30 | 17.10 | 17.93 | 18.23 | 18.45 | 18.73 |
| 4 | 18.17 | 18.19 | 18.81 | 18.92 | 19.32 | 18.27 | 16.95 | 17.07 | 17.98 | 18.23 | 18.49 | 18.73 |
| 5 | 18.18 | 18.21 | 18.81 | 18.94 | 19.37 | 18.21 | 16.69 | 16.98 | 18.03 | 18.20 | 18.53 | 18.71 |
| 6 | 18.22 | 18.23 | 18.82 | 18.94 | 19.41 | 18.10 | 16.46 | 16.87 | 18.11 | 18.17 | 18.57 | 18.73 |
| 7 | 18.24 | 18.27 | 18.82 | 18.97 | 19.44 | 18.03 | 16.26 | 16.78 | 18.14 | 18.15 | 18.60 | 18.74 |
| 8 | 18.25 | 18.30 | 18.78 | 18.98 | 19.45 | 18.00 | 16.11 | 16.61 | 18.14 | 18.19 | 18.62 | 18.75 |
| 9 | 18.26 | 18.31 | 18.74 | 18.98 | 19.48 | 18.00 | 16.03 | 16.41 | 18.20 | 18.24 | 18.63 | 18.76 |
| 10 | 18.25 | 18.35 | 18.69 | 19.01 | 19.51 | 18.03 | 15.99 | 16.35 | 18.22 | 18.28 | 18.63 | 18.78 |
| 11 | 18.21 | 18.38 | 18.67 | 19.02 | 19.52 | 18.05 | 16.10 | 16.37 | 18.23 | 18.31 | 18.64 | 18.80 |
| 12 | 18.18 | 18.41 | 18.66 | 19.04 | 19.52 | 18.05 | 16.16 | 16.40 | 18.27 | 18.33 | 18.64 | 18.81 |
| 13 | 18.21 | 18.42 | 18.67 | 19.04 | 19.49 | 18.06 | 16.22 | 16.45 | 18.31 | 18.34 | 18.60 | 18.83 |
| 14 | 18.23 | 18.44 | 18.66 | 19.04 | 19.39 | 17.90 | 16.33 | 16.53 | 18.34 | 18.34 | 18.52 | 18.86 |
| 15 | 18.30 | 18.46 | 18.66 | 19.05 | 19.30 | 17.78 | 16.41 | 16.60 | 18.37 | 18.35 | 18.50 | 18.88 |
| 16 | 18.32 | 18.48 | 18.69 | 19.08 | 19.20 | 17.72 | 16.48 | 16.74 | 18.40 | 18.37 | 18.47 | 18.88 |
| 17 | 18.34 | 18.49 | 18.73 | 19.09 | 19.14 | 17.69 | 16.56 | 16.83 | 18.42 | 18.39 | 18.48 | 18.87 |
| 18 | 18.36 | 18.52 | 18.74 | 19.10 | 19.10 | 17.66 | 16.64 | --- | 18.44 | 18.42 | 18.49 | 18.81 |
| 19 | 18.37 | 18.54 | 18.74 | 19.11 | 19.08 | 17.59 | 16.72 | --- | 18.47 | 18.44 | 18.51 | 18.76 |
| 20 | 18.39 | 18.56 | 18.77 | 19.12 | 19.07 | 17.39 | 16.76 | --- | 18.50 | 18.48 | 18.53 | 18.76 |
| 21 | 18.41 | 18.58 | 18.80 | 19.14 | 19.08 | 17.32 | 16.81 | --- | 18.53 | 18.50 | 18.54 | 18.81 |
| 22 | 18.43 | 18.60 | 18.80 | 19.15 | 19.07 | 17.25 | 16.86 | --- | 18.55 | 18.54 | 18.58 | 18.87 |
| 23 | 18.44 | 18.62 | 18.79 | 19.16 | 19.05 | 17.21 | 16.88 | --- | 18.57 | 18.54 | 18.60 | 18.93 |
| 24 | 18.44 | 18.64 | 18.78 | 19.14 | 18.97 | 17.19 | 16.88 | --- | 18.59 | 18.56 | 18.63 | 18.95 |
| 25 | 18.43 | 18.65 | 18.78 | 19.14 | 18.84 | 17.21 | 16.91 | --- | 18.61 | 18.57 | 18.64 | 18.95 |
| 26 | 18.40 | 18.67 | 18.81 | 19.15 | 18.67 | 17.24 | 16.96 | 17.55 | 18.61 | 18.56 | 18.64 | 18.95 |
| 27 | 18.37 | 18.69 | 18.82 | 19.16 | 18.50 | 17.25 | 16.98 | 17.57 | 18.57 | 18.53 | 18.66 | 18.97 |
| 28 | 18.35 | 18.70 | 18.84 | 19.18 | 18.40 | 17.29 | 17.06 | 17.61 | 18.54 | 18.56 | 18.66 | 18.98 |
| 29 | 18.36 | 18.73 | 18.86 | 19.18 | --- | 17.34 | 17.07 | 17.67 | 18.42 | 18.59 | 18.66 | 18.99 |
| 30 | 18.36 | 18.75 | 18.87 | 19.19 | --- | 17.38 | 17.05 | 17.69 | 18.36 | 18.60 | 18.68 | 18.99 |
| 31 | 18.37 | --- | 18.89 | 19.20 | --- | 17.43 | --- | 17.71 | --- | 18.56 | 18.69 | --- |
| MAX | 18.44 | 18.75 | 18.89 | 19.20 | 19.52 | 18.33 | 17.44 | --- | 18.61 | 18.60 | 18.69 | 18.99 |

GROUND-WATER RECORDS

AUGLAIZE COUNTY

403233083574500. Local number, AU-3.

LOCATION.--Lat 40°32'33", long 83°57'45", Hydrologic Unit 05080001, 1.0 mi (1.6 km) southwest of New Hampshire.

Owner: State of Ohio.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled test artesian well, diameter 12 in (0.3 m), depth 380 ft (115.8 m), cased to 52 ft (15.8 m).

DATUM.--Land-surface datum is 1,020 ft (310.896 m) above mean sea level. Measuring point: Floor of instrument shelter, 3.00 ft (0.914 m) above land-surface datum.

period of record.--December 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 11.87 ft (3.618 m) Feb. 7-8, 1977; minimum daily low, 6.95 ft (2.118 m) Mar. 30, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 11.87 ft (3.618 m) Feb. 7-8; minimum daily low, 8.81 ft (2.685 m) May 14.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|
| 1 | 9.75 | 10.30 | 10.67 | 11.18 | 11.69 | 11.64 | 10.21 | 9.17 | 8.97 | 8.90 | --- | 9.81 |
| 2 | 9.78 | 10.31 | 10.79 | 11.16 | 11.64 | 11.63 | 9.98 | 9.15 | 9.07 | 8.98 | 9.48 | 9.82 |
| 3 | 9.84 | 10.21 | 10.75 | 11.13 | 11.60 | 11.60 | 10.05 | 9.16 | 9.16 | 8.96 | 9.49 | 9.77 |
| 4 | 9.87 | 10.27 | 10.84 | 11.14 | 11.56 | 11.40 | 9.87 | 9.00 | 9.17 | 8.96 | 9.54 | 9.78 |
| 5 | 9.86 | 10.30 | 10.82 | 11.18 | 11.75 | 11.47 | 9.72 | 8.92 | 9.08 | 8.95 | 9.59 | 9.74 |
| 6 | 9.92 | 10.31 | 10.64 | 11.16 | 11.82 | 11.46 | 9.88 | 8.95 | 9.07 | 8.95 | 9.61 | 9.81 |
| 7 | 9.93 | 10.37 | 10.71 | 11.16 | 11.87 | 11.43 | 9.82 | 8.96 | 9.07 | 8.94 | 9.56 | 9.82 |
| 8 | 9.90 | 10.35 | 10.84 | 11.18 | 11.87 | 11.40 | 9.86 | 8.91 | 9.03 | 8.98 | 9.57 | 9.87 |
| 9 | 9.93 | 10.23 | 10.86 | 11.21 | 11.80 | 11.31 | 9.79 | 8.92 | 9.05 | 9.06 | 9.63 | 9.83 |
| 10 | 10.00 | 10.33 | 10.84 | 11.11 | 11.80 | 11.27 | 9.69 | 8.91 | 9.10 | 9.10 | 9.61 | 9.88 |
| 11 | 10.02 | 10.42 | 10.88 | 11.24 | 11.81 | 11.27 | 9.68 | 8.91 | 9.02 | 9.06 | 9.67 | 9.92 |
| 12 | 10.01 | 10.49 | 10.79 | 11.34 | 11.74 | 11.18 | 9.67 | 8.92 | 8.97 | 9.07 | 9.66 | 9.92 |
| 13 | 9.98 | 10.50 | 10.92 | 11.29 | 11.66 | 11.10 | 9.59 | 8.85 | 9.03 | 9.16 | 9.64 | 9.82 |
| 14 | 9.99 | 10.46 | 10.88 | 11.14 | 11.75 | 11.15 | 9.54 | 8.81 | 9.00 | 9.22 | 9.68 | 9.84 |
| 15 | 10.02 | 10.42 | 10.79 | 11.22 | 11.80 | 11.11 | 9.53 | 8.86 | 8.96 | 9.22 | 9.70 | 9.86 |
| 16 | 10.11 | 10.49 | 10.78 | 11.32 | 11.78 | 11.15 | 9.52 | 8.90 | 8.91 | 9.24 | 9.64 | 9.81 |
| 17 | 10.17 | 10.42 | 10.94 | 11.26 | 11.76 | 11.11 | 9.47 | 8.91 | 8.90 | 9.19 | 9.66 | 9.76 |
| 18 | 10.22 | 10.37 | 10.93 | 11.25 | 11.67 | 10.91 | 9.43 | 8.89 | 8.89 | 9.22 | 9.68 | 9.74 |
| 19 | 10.14 | 10.45 | 10.87 | 11.27 | 11.65 | 10.95 | 9.41 | 8.90 | 8.90 | 9.24 | 9.69 | 9.64 |
| 20 | 10.06 | 10.44 | 10.87 | 11.32 | 11.66 | 10.85 | 9.39 | 8.89 | 8.87 | 9.27 | 9.69 | 9.69 |
| 21 | 10.10 | 10.47 | 11.01 | 11.38 | 11.67 | 10.85 | 9.39 | 8.91 | 8.95 | 9.26 | 9.64 | 9.74 |
| 22 | 10.22 | 10.60 | 10.99 | 11.47 | 11.57 | 10.68 | 9.34 | 8.93 | 8.96 | 9.32 | 9.61 | 9.71 |
| 23 | 10.19 | 10.60 | 10.98 | 11.46 | 11.59 | 10.68 | 9.22 | 8.97 | 8.96 | 9.33 | 9.66 | 9.65 |
| 24 | 10.11 | 10.58 | 11.01 | 11.33 | 11.44 | 10.66 | 9.17 | 8.95 | 8.94 | 9.31 | 9.68 | 9.57 |
| 25 | 10.17 | 10.53 | 10.90 | 11.29 | 11.57 | 10.61 | 9.11 | 8.91 | 8.88 | 9.32 | 9.76 | 9.57 |
| 26 | 10.28 | 10.44 | 10.86 | 11.28 | 11.61 | 10.54 | 9.11 | 8.91 | 8.92 | 9.42 | 9.73 | 9.53 |
| 27 | 10.31 | 10.56 | 10.88 | 11.33 | 11.59 | 10.44 | 9.09 | 8.92 | 8.93 | 9.46 | 9.76 | 9.56 |
| 28 | 10.33 | 10.57 | 10.83 | 11.44 | 11.57 | 10.17 | 9.16 | 8.91 | 8.92 | 9.44 | 9.79 | 9.57 |
| 29 | 10.28 | 10.66 | 10.95 | 11.48 | --- | 10.24 | 9.21 | 8.97 | 8.91 | --- | 9.79 | 9.58 |
| 30 | 10.20 | 10.69 | 10.98 | 11.55 | --- | 10.18 | 9.20 | 9.04 | 8.89 | --- | 9.77 | 9.56 |
| 31 | 10.24 | --- | 11.06 | 11.54 | --- | 10.25 | --- | 9.00 | --- | --- | 9.78 | --- |
| MAX | 10.33 | 10.69 | 11.06 | 11.55 | 11.87 | 11.64 | 10.21 | 9.17 | 9.17 | 9.46 | 9.79 | 9.92 |

GROUND-WATER RECORDS

429

BELMONT COUNTY

400619080423200. Local number, B-1.
 LOCATION.--Lat 40°06'19", long 80°42'32", Hydrologic Unit 05030106, in the northeast part of Martins Ferry.
 Owner: City of Martins Ferry.
 AQUIFER.--Gravel of Quaternary Age.
 WELL CHARACTERISTICS.--Unused drilled water-table well, diameter 40 in (1.02 m), depth drilled 79 ft (24.1 m), present depth 61 ft (18.6 m), cased.
 DATUM.--Land-surface datum is 1,160 ft (353.568 m), above mean sea level. Measuring point: Surface of instrument platform, 13.40 ft (4.084 m) above land-surface datum.
 REMARKS.--Water level affected by Ohio River stage and by pumping from nearby municipal wells.
 PERIOD OF RECORD.--June 1948 to current year.
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 38.95 ft (11.872 m) Sept. 27, 1968; minimum daily low, 0.05 ft (0.015 m) Mar. 11, 1964.
 EXTREMES FOR CURRENT YEAR.--Maximum daily low, 35.12 ft (10.705 m) Feb. 11; minimum daily low, 20.91 ft (6.373 m) Apr. 3.

 WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
 MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 32.11 | 28.65 | 33.07 | 33.33 | 34.17 | 25.49 | 28.85 | 31.30 | 33.35 | 33.69 | 32.92 | 33.23 |
| 2 | 31.62 | 28.97 | 33.19 | 33.27 | 34.13 | 26.30 | 28.30 | 32.29 | 33.55 | 33.08 | 33.72 | 33.32 |
| 3 | 31.83 | 29.90 | 33.29 | 33.56 | 34.29 | 26.57 | 20.91 | 32.50 | 33.71 | 32.67 | 33.66 | 32.41 |
| 4 | 31.78 | 30.12 | 33.34 | 33.63 | 34.35 | 27.27 | 21.46 | 32.69 | 33.69 | 32.60 | 34.02 | 31.73 |
| 5 | 31.55 | 30.54 | 31.47 | 33.60 | 34.49 | 25.88 | 23.02 | 32.70 | 33.36 | 32.81 | 33.91 | 31.98 |
| 6 | 31.94 | 30.65 | 33.33 | 33.91 | 33.97 | 23.39 | 24.34 | 32.13 | 33.19 | 33.24 | 32.90 | 32.34 |
| 7 | 31.66 | 30.83 | 32.23 | 33.99 | 34.67 | 25.65 | 24.99 | 31.95 | 33.47 | 33.26 | 31.34 | 33.15 |
| 8 | 31.49 | 31.01 | 30.88 | 33.88 | 34.78 | 26.44 | 24.62 | 29.88 | 33.50 | 33.12 | 31.39 | 33.44 |
| 9 | 30.65 | 31.09 | 31.11 | 33.80 | 35.01 | 27.40 | 25.20 | 31.05 | 33.48 | 33.00 | 31.44 | 33.50 |
| 10 | 25.77 | 31.13 | 31.45 | 34.16 | 34.99 | 27.70 | 25.42 | 31.72 | 33.95 | 32.06 | 31.87 | 32.32 |
| 11 | 26.57 | 31.72 | 31.42 | 34.11 | 35.12 | 28.17 | 27.52 | 32.40 | 33.69 | 33.03 | 32.24 | 32.16 |
| 12 | 28.01 | 31.82 | 31.05 | 34.54 | 35.01 | 28.22 | 28.36 | 32.64 | 33.06 | 33.11 | 32.34 | 33.01 |
| 13 | 28.46 | 31.59 | 31.59 | 34.62 | 34.70 | 26.12 | 29.82 | 33.14 | 33.63 | 32.82 | 31.30 | 33.45 |
| 14 | 29.07 | 31.36 | 31.21 | 34.65 | 33.23 | 24.36 | 30.58 | 33.26 | 33.95 | 32.41 | 29.82 | 33.21 |
| 15 | 29.31 | 32.54 | 31.98 | 34.73 | 33.34 | 25.26 | 31.14 | 32.83 | 34.63 | 31.84 | 30.79 | 32.78 |
| 16 | 29.21 | 32.52 | 32.10 | 34.41 | 33.42 | 26.77 | 31.47 | 33.09 | 34.39 | 31.84 | 30.32 | 32.85 |
| 17 | 29.81 | 32.73 | 32.29 | 34.29 | 33.46 | 27.17 | 31.90 | 33.57 | 34.35 | 32.30 | 30.94 | 32.32 |
| 18 | 30.59 | 32.76 | 32.30 | 33.98 | 33.79 | 27.30 | 32.33 | 33.80 | 33.24 | 32.96 | 30.07 | 30.61 |
| 19 | 30.94 | 33.07 | 32.13 | 34.32 | 33.84 | 23.62 | 32.82 | 33.72 | 32.95 | 32.94 | 31.35 | 31.46 |
| 20 | 31.01 | 33.12 | 32.44 | 34.48 | 33.79 | 25.32 | 33.13 | 33.76 | 34.59 | 32.92 | 31.06 | 31.38 |
| 21 | 31.25 | 32.60 | 32.10 | 34.71 | 33.63 | 26.26 | 33.31 | 33.92 | 33.38 | 30.74 | 30.93 | 30.94 |
| 22 | 31.08 | 33.05 | 32.17 | 34.72 | 33.99 | 26.58 | 33.34 | 33.13 | 33.47 | 30.14 | 32.21 | 30.99 |
| 23 | 31.01 | 33.06 | 32.21 | 34.07 | 33.40 | 25.45 | 33.23 | 33.60 | 33.84 | 30.81 | 32.01 | 31.77 |
| 24 | 31.06 | 33.47 | 32.30 | 34.40 | 32.86 | 25.97 | 32.58 | 33.80 | 34.31 | 29.75 | 32.25 | 31.24 |
| 25 | 31.16 | 33.07 | 32.43 | 34.62 | 28.56 | 26.36 | 32.15 | 33.73 | 33.53 | 30.72 | 33.16 | 31.08 |
| 26 | 30.05 | 32.98 | 32.42 | 34.59 | 23.62 | 26.95 | 31.69 | 33.92 | 32.91 | 30.29 | 32.28 | 29.41 |
| 27 | 28.97 | 32.81 | 32.99 | 34.60 | 22.86 | 27.41 | 31.98 | 33.93 | 33.73 | 30.85 | 32.49 | 29.67 |
| 28 | 29.47 | 32.90 | 32.88 | 34.63 | 26.20 | 28.45 | 31.90 | 33.37 | 33.35 | 31.58 | 32.49 | 29.80 |
| 29 | 29.51 | 32.66 | 33.09 | 34.37 | --- | 27.62 | 31.73 | 33.20 | 33.92 | 32.34 | 33.40 | 29.78 |
| 30 | 29.83 | 32.87 | 33.55 | 33.98 | --- | 28.01 | 31.37 | 33.12 | 33.87 | 32.63 | 33.73 | 29.86 |
| 31 | 30.32 | --- | 33.68 | 34.49 | --- | 28.76 | --- | 33.25 | --- | 32.51 | 33.48 | --- |
| MAX | 32.11 | 33.47 | 33.68 | 34.73 | 35.12 | 28.76 | 33.34 | 33.93 | 34.63 | 33.69 | 34.02 | 33.50 |

GROUND-WATER RECORDS

BUTLER COUNTY

391805084261800. Local number, BU-9.

LOCATION.--Lat 39°18'05", long 84°26'18", Hydrologic Unit 05090203, 2.5 mi (4.0 km) northwest of Sharonville.

Owner: Olin-Mathieson Corp.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 26 in (0.66 m), depth 85 ft (26 m), cased.

DATUM.--Land-surface datum is 586.89 ft (178.884 m) above mean sea level. Measuring point: Floor of instrument shelter, 4.66 ft (1.420 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 24.40 ft (7.437 m) Mar. 16, 1954; minimum daily low, 4.40 ft (1.341 m) Aug. 3, 1958.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 16.45 ft (5.014 m) Sept. 28-29; minimum daily low, 10.27 ft (3.130 m) Apr. 5.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 15.53 | 15.18 | 15.05 | 15.36 | 15.55 | 13.43 | 11.93 | 12.34 | 13.48 | 13.92 | 14.87 | 15.21 |
| 2 | 15.53 | 15.15 | 15.15 | 15.41 | 15.59 | 13.47 | 11.64 | 12.20 | 13.77 | 14.04 | 14.93 | 15.29 |
| 3 | 15.49 | 14.87 | 15.16 | 15.22 | 15.18 | 13.24 | 11.15 | 12.23 | 14.07 | 13.98 | 15.11 | 15.35 |
| 4 | 15.46 | 15.02 | 15.15 | 15.23 | 15.04 | 11.76 | 10.90 | 12.03 | 14.10 | 13.77 | 15.38 | 15.25 |
| 5 | 15.45 | 15.08 | 15.20 | 15.36 | 15.46 | 11.62 | 10.27 | 11.98 | 14.00 | 13.73 | 15.52 | 14.99 |
| 6 | 15.53 | 15.03 | 14.98 | 15.37 | 15.55 | 11.61 | 10.59 | 11.44 | 13.96 | 13.74 | 15.48 | 15.10 |
| 7 | 15.55 | 14.95 | 14.90 | 15.56 | 15.59 | 11.68 | 10.58 | 11.45 | 14.15 | 13.84 | 15.37 | 15.23 |
| 8 | 15.46 | 15.01 | 15.26 | 15.56 | 15.40 | 11.75 | 10.79 | 11.45 | 14.15 | 14.08 | 15.35 | 15.29 |
| 9 | 15.28 | 14.79 | 15.36 | 15.50 | 15.16 | 11.88 | 10.82 | 11.47 | 14.55 | 14.11 | 15.34 | 15.34 |
| 10 | 15.37 | 14.90 | 15.22 | 15.59 | 15.21 | 12.19 | 10.72 | 11.63 | 14.62 | 14.07 | 15.34 | 15.62 |
| 11 | 15.43 | 15.08 | 15.28 | 15.85 | 15.14 | 12.25 | 10.82 | 11.77 | 14.58 | 13.85 | 15.43 | 15.67 |
| 12 | 15.45 | 15.23 | 14.97 | 15.83 | 14.82 | 12.15 | 10.94 | 11.82 | 14.43 | 13.95 | 15.33 | 15.58 |
| 13 | 15.35 | 15.25 | 15.26 | 15.78 | 14.22 | 10.91 | 10.95 | 11.82 | 14.65 | 14.20 | 15.06 | 15.48 |
| 14 | 15.42 | 15.08 | 15.20 | 15.31 | 14.24 | 10.96 | 11.18 | 11.85 | 14.75 | 14.30 | 14.90 | 15.93 |
| 15 | 15.48 | 14.89 | 14.92 | 15.41 | 14.31 | 10.95 | 11.36 | 11.99 | 14.76 | 14.35 | 15.04 | 15.94 |
| 16 | 15.68 | 15.14 | 14.93 | 15.73 | 14.27 | 11.28 | 11.46 | 12.22 | 14.73 | 14.29 | 14.97 | 15.93 |
| 17 | 15.70 | 15.10 | 15.13 | 15.72 | 14.12 | 11.28 | 11.46 | 12.29 | 14.73 | 14.13 | 14.90 | 15.89 |
| 18 | 15.78 | 15.02 | 15.29 | 15.42 | 13.91 | 10.82 | 11.57 | 12.34 | 14.67 | 14.09 | 14.98 | 15.74 |
| 19 | 15.66 | 15.05 | 15.15 | 15.41 | 13.89 | 10.78 | 11.71 | 12.54 | 14.62 | 14.19 | 15.01 | 15.50 |
| 20 | 15.60 | 15.06 | 14.95 | --- | 13.89 | 10.78 | 11.90 | 12.67 | 14.63 | 14.28 | 14.99 | 15.80 |
| 21 | 15.59 | 15.00 | 15.26 | --- | 13.95 | 10.78 | 12.08 | 12.77 | 14.87 | 14.40 | 14.85 | 16.01 |
| 22 | 15.92 | 15.28 | 15.24 | --- | 13.66 | 10.95 | 12.08 | 12.79 | 14.87 | 14.56 | 14.72 | 16.00 |
| 23 | 15.91 | 15.31 | 15.19 | --- | 13.66 | 11.01 | 11.92 | 12.94 | 14.82 | 14.56 | 14.79 | 15.99 |
| 24 | 15.57 | 15.18 | 15.25 | --- | 13.11 | 11.24 | 11.83 | 13.03 | 14.78 | 14.39 | 14.86 | 15.95 |
| 25 | 15.36 | 15.07 | 14.94 | 15.23 | 13.04 | 11.28 | 11.85 | 13.01 | 14.70 | 14.42 | 14.95 | 15.88 |
| 26 | 15.57 | 14.84 | 14.84 | 15.17 | 13.10 | 11.33 | 11.95 | 13.06 | 14.52 | 14.74 | 14.92 | 16.07 |
| 27 | 15.66 | 15.03 | 14.93 | 15.24 | 13.18 | 11.25 | 12.12 | 13.10 | 14.14 | 14.85 | 15.01 | 16.22 |
| 28 | 15.64 | 15.04 | 14.80 | 15.50 | 13.25 | 10.94 | 12.33 | 13.09 | 13.91 | 14.87 | 15.01 | 16.45 |
| 29 | 15.38 | 15.11 | 15.05 | 15.47 | --- | 11.37 | 12.48 | 13.22 | 13.91 | 14.81 | 14.96 | 16.45 |
| 30 | 15.24 | 15.12 | 15.05 | 15.48 | --- | 11.46 | 12.42 | 13.29 | 13.91 | 14.80 | 15.04 | 16.42 |
| 31 | 15.17 | --- | 15.27 | 15.44 | --- | 11.94 | --- | 13.29 | --- | 14.71 | 15.11 | --- |
| MAX | 15.92 | 15.31 | 15.36 | 15.85 | 15.59 | 13.47 | 12.48 | 13.29 | 14.87 | 14.87 | 15.52 | 16.45 |

GROUND-WATER RECORDS

431

BUTLER COUNTY--Continued

392445084333000. Local number BU-36.

LOCATION.--Lat 39°24'45", long 84°33'30", Hydrologic Unit 05080002, on right bank of Great Miami River 300 ft (90 m) downstream from Twomile Creek in Hamilton.

Owner: Champion Paper Company.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled industrial supply water-table well, diameter 30 in (0.76 m), depth 168 ft (51.2 m) cased.

PERIOD OF RECORD.--December 1965 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | HARDNESS (CA, MG) (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) |
|-----------|------|----------------------------------|------------|---------------------|--------------------------|--------------------------------|----------------------------------|---------------------------|------------------------|----------------------------|
| NOV 23... | 1500 | 900 | 7.2 | 14.5 | 410 | 110 | 34 | 380 | 0 | 312 |
| FEB 08... | 1600 | 900 | 7.3 | 16.0 | 420 | 110 | 36 | 376 | 0 | 308 |
| MAY 20... | 1030 | 940 | 7.2 | 19.0 | 450 | 120 | 36 | 380 | 0 | 310 |
| AUG 08... | 1530 | 875 | 7.3 | 18.0 | 450 | 120 | 36 | 390 | 0 | 320 |

| DATE | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | TOTAL FLUORIDE (F) (MG/L) | TOTAL RESIDUE (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | DIS-SOLVED ARSENIC (AS) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) |
|-----------|-----------------------------|---------------------------------|---------------------------------|---------------------------|----------------------|--------------------------|--------------------------|---------------------------|--------------------------------|----------------------------|
| NOV 23... | 38 | 96 | 41 | .2 | 540 | 1.1 | .02 | -- | -- | -- |
| FEB 08... | 30 | 120 | 44 | .2 | 498 | .99 | .01 | -- | -- | -- |
| MAY 20... | 38 | 120 | 47 | .2 | 592 | .99 | .00 | -- | -- | -- |
| AUG 08... | 31 | 110 | 45 | .1 | 560 | 1.1 | .01 | 0 | 0 | 10 |

| DATE | DIS-SOLVED CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS-SOLVED COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS-SOLVED LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) | TOTAL ZINC (ZN) (UG/L) | DIS-SOLVED ZINC (ZN) (UG/L) |
|-----------|---------------------------------|--------------------------|-------------------------------|------------------------|------------------------|-----------------------------|-----------------------------|------------------------|-----------------------------|
| NOV 23... | -- | -- | -- | 70 | -- | -- | 0 | -- | -- |
| FEB 08... | -- | -- | -- | 40 | -- | -- | 10 | -- | -- |
| MAY 20... | -- | -- | -- | 560 | -- | -- | 40 | -- | -- |
| AUG 08... | 6 | 2 | 2 | 60 | 0 | 0 | 0 | 70 | 70 |

GROUND-WATER RECORDS
BUTLER COUNTY--Continued

392528084323000. Local number, BU-10.

LOCATION.--Lat 39°25'28", long 84°32'30", Hydrologic Unit 05080002, 2.0 mi (3.2 km) north of courthouse in Hamilton.

Owner: Champion Paper Company.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth drilled 71 ft (21.6 m), present depth 68 ft (20.7 m), cased.

DATUM.--Land-surface datum is 580 ft (176.784 m) above mean sea level. Measuring point: Floor of instrument shelter 6.80 ft (2.073 m) above land surface datum.

REMARKS.--Water level affected by pumping of nearby North Hamilton well field and by stage of the Great Miami River.

PERIOD OF RECORD.--July 1960 to September 1977 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 21.21 ft (6.465 m) Feb. 11, 1977; minimum daily low, 5.11 ft (1.558 m) Feb. 25, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 21.21 ft (6.465 m) Feb. 11; minimum daily low, 14.35 ft (4.374 m) Apr. 4.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 18.39 | 17.94 | 18.05 | 18.98 | 19.77 | 17.74 | 17.74 | 16.50 | 18.45 | --- | 17.52 | 18.66 |
| 2 | 17.90 | 17.87 | 17.97 | 18.66 | 19.80 | 17.88 | 17.41 | 16.60 | 17.53 | --- | 17.50 | 18.89 |
| 3 | 17.62 | 18.85 | 17.94 | 18.55 | 19.89 | 18.89 | 14.99 | 16.69 | 18.16 | --- | 18.31 | 18.06 |
| 4 | 18.42 | 18.37 | 17.92 | 18.52 | 19.81 | 18.65 | 14.35 | 17.21 | 17.68 | --- | 18.93 | 17.73 |
| 5 | 17.99 | 18.07 | 17.92 | 18.49 | 19.81 | 17.58 | 14.36 | 16.38 | 17.33 | --- | 19.09 | 17.64 |
| 6 | 18.70 | 18.00 | 17.90 | 19.53 | 19.83 | 17.00 | 15.55 | 16.84 | 17.25 | --- | 18.33 | 18.45 |
| 7 | 18.14 | 17.96 | 17.87 | 19.79 | 19.85 | 17.23 | 15.27 | 16.01 | 17.25 | --- | 17.89 | 18.79 |
| 8 | 17.79 | 17.95 | 17.85 | 19.25 | 19.84 | 17.32 | 16.28 | 15.44 | 17.17 | --- | 17.73 | 18.08 |
| 9 | 17.70 | 17.95 | 18.80 | 18.88 | 19.85 | 17.41 | 15.85 | 15.61 | 17.15 | --- | 17.53 | 18.86 |
| 10 | 17.66 | 17.94 | 18.34 | 19.96 | 20.79 | 18.36 | 15.79 | 15.73 | 17.10 | --- | 17.41 | 18.21 |
| 11 | 18.54 | 18.71 | 18.09 | 20.21 | 21.21 | 17.89 | 16.79 | 15.81 | 17.07 | --- | 18.62 | 17.93 |
| 12 | 18.77 | 18.40 | 17.99 | 19.73 | 20.42 | 17.67 | 16.35 | 16.92 | --- | --- | 17.98 | 17.85 |
| 13 | 18.24 | 18.20 | 17.96 | 20.15 | 19.81 | 17.37 | 17.24 | 16.37 | --- | --- | 17.55 | 17.79 |
| 14 | 18.75 | 18.15 | 17.96 | 19.78 | 19.34 | 17.05 | 17.56 | 16.21 | --- | --- | 17.43 | 18.90 |
| 15 | 18.97 | 18.13 | 17.94 | 19.56 | 19.21 | 18.35 | 17.76 | 16.19 | --- | --- | 17.30 | 18.00 |
| 16 | 18.44 | 18.13 | 18.85 | 19.55 | 19.25 | 18.87 | 17.09 | 16.25 | --- | --- | 17.25 | 18.40 |
| 17 | 18.12 | 18.12 | 18.44 | 19.56 | 19.29 | 19.10 | 16.73 | 16.26 | --- | --- | 17.20 | 17.81 |
| 18 | 18.03 | 18.06 | 18.21 | 19.56 | 19.34 | 18.20 | 16.62 | 17.34 | --- | --- | 18.03 | 17.59 |
| 19 | 17.97 | 19.07 | 18.14 | 19.60 | 19.42 | 17.73 | 16.57 | 17.57 | --- | --- | 17.56 | 17.48 |
| 20 | 17.93 | 18.58 | 19.11 | 20.44 | 19.49 | 17.40 | 16.55 | 17.80 | --- | --- | 17.31 | 17.35 |
| 21 | 17.90 | 18.24 | 18.61 | 20.71 | 19.53 | 17.20 | 17.70 | 17.25 | --- | --- | 17.22 | 18.47 |
| 22 | 17.88 | 18.16 | 18.32 | 20.17 | 19.51 | 17.15 | 17.05 | 17.01 | --- | --- | 17.19 | 17.85 |
| 23 | 17.88 | 18.13 | 18.21 | 19.85 | 19.31 | 18.39 | 16.69 | 17.00 | --- | --- | 17.19 | 18.60 |
| 24 | 17.86 | 19.10 | 19.09 | 19.76 | 18.97 | 18.61 | 16.55 | 17.00 | --- | --- | 17.21 | 18.07 |
| 25 | 18.71 | 19.14 | 18.61 | 19.72 | 17.95 | 18.48 | 16.50 | 18.12 | --- | --- | 18.10 | 17.78 |
| 26 | 18.02 | 18.62 | 18.33 | 20.58 | 17.59 | 17.77 | 16.54 | 18.47 | --- | --- | 17.62 | 17.70 |
| 27 | 18.77 | 18.21 | 18.25 | 20.76 | 17.71 | 17.41 | 17.34 | 19.13 | --- | 18.50 | 17.37 | 17.67 |
| 28 | 18.37 | 18.04 | 18.20 | 20.22 | 17.72 | 17.45 | 17.43 | 19.14 | --- | 18.67 | 17.31 | 17.66 |
| 29 | 18.96 | 18.63 | 19.13 | 19.94 | --- | 17.47 | 17.00 | 18.19 | --- | 18.72 | 18.25 | 17.53 |
| 30 | 18.46 | 18.29 | 19.34 | 19.82 | --- | 17.37 | 16.61 | 17.67 | --- | 18.08 | 17.64 | 17.37 |
| 31 | 18.11 | --- | 19.48 | 19.78 | --- | 18.28 | --- | 17.48 | --- | 17.59 | 17.51 | --- |
| MAX | 18.97 | 19.14 | 19.48 | 20.76 | 21.21 | 19.10 | 17.76 | 19.14 | --- | --- | 19.09 | 18.90 |

GROUND-WATER RECORDS

433

BUTLER COUNTY--Continued

393202084241500. Local number, BU-15.

LOCATION.--Lat 39°32'02", long 84°24'15", Hydrologic Unit 05080002, at Hook Field (municipal airport) at Middletown.

Owner: City of Middletown.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in (0.15 m), depth 23 ft (7.0 m), cased.

DATUM.--Land-surface datum is 641 ft (195.377 m) above mean sea level. Measuring point: Floor of instrument shelter 3.50 ft (1.067 m) above land-surface datum.

REMARKS.--Water level affected by pumping wells nearby in Middletown well field.

PERIOD OF RECORD.--June 1972 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 14.05 ft (4.282 m) Feb. 8-9, 1977; minimum daily low, 0.06 ft (0.018 m) Feb. 25, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 14.05 ft (4.282 m) Feb. 8-9; minimum daily low, 7.51 ft (2.289 m) Apr. 4.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 12.74 | 12.22 | 12.90 | 13.44 | 13.87 | 11.72 | 11.24 | 11.08 | 11.80 | 12.45 | --- | 12.87 |
| 2 | 12.77 | 12.57 | 12.85 | 13.51 | 13.87 | 11.87 | 11.24 | 11.28 | 12.25 | 11.58 | --- | 12.92 |
| 3 | 12.73 | 12.77 | 12.74 | 13.52 | 13.84 | 11.99 | 10.55 | 11.45 | 12.40 | 11.25 | --- | 12.96 |
| 4 | 12.91 | 12.89 | 12.68 | 13.52 | 13.94 | 11.99 | 7.51 | 11.48 | 12.70 | 11.32 | --- | 13.00 |
| 5 | 12.98 | 12.95 | 12.55 | 13.49 | 13.97 | 11.60 | 7.82 | 11.17 | 12.97 | 11.68 | --- | 13.11 |
| 6 | 12.98 | 12.95 | 12.56 | 13.38 | 13.90 | 11.20 | 8.26 | 10.72 | 12.76 | 11.96 | --- | 13.15 |
| 7 | 12.97 | 12.58 | 12.57 | 13.40 | 14.01 | 11.19 | 8.56 | 10.48 | 13.12 | 11.96 | --- | 13.13 |
| 8 | 12.94 | 12.38 | 12.94 | 13.44 | 14.05 | 11.38 | 8.85 | 10.29 | 13.30 | 12.43 | --- | 13.05 |
| 9 | 12.91 | 12.28 | 12.97 | 13.45 | 14.05 | 11.48 | 9.13 | 10.49 | 13.30 | 12.47 | --- | 13.05 |
| 10 | 12.88 | 12.32 | 12.73 | 13.34 | 13.89 | 11.34 | 9.41 | 10.77 | 13.35 | 12.37 | --- | 13.01 |
| 11 | 12.43 | 12.71 | 12.87 | 13.41 | 13.77 | 11.32 | 9.48 | 10.86 | 13.38 | --- | --- | 12.85 |
| 12 | 12.47 | 12.94 | 12.97 | 13.44 | 13.60 | 11.33 | 9.53 | 11.00 | 13.10 | --- | --- | 12.94 |
| 13 | 12.56 | 13.07 | 13.04 | 13.38 | 13.36 | 11.29 | 9.92 | 11.15 | 12.98 | --- | --- | 12.98 |
| 14 | 12.55 | 13.16 | 13.04 | 13.27 | 13.31 | 10.96 | 10.09 | 11.28 | 12.58 | --- | --- | 12.90 |
| 15 | 12.64 | 13.22 | 12.93 | 13.20 | 13.36 | 11.24 | 10.25 | 11.40 | 12.70 | --- | --- | 12.50 |
| 16 | 12.65 | 13.25 | 12.95 | 13.15 | 13.44 | 11.38 | 10.40 | 11.41 | 12.65 | --- | --- | 12.52 |
| 17 | 12.48 | 13.28 | 12.96 | 13.58 | 13.50 | 11.45 | 10.42 | 11.45 | 12.63 | --- | --- | 12.37 |
| 18 | 12.91 | 13.41 | 12.95 | 13.73 | 13.52 | 11.61 | 10.52 | 11.63 | 12.70 | --- | 12.26 | 12.21 |
| 19 | 13.07 | 13.49 | 12.91 | 13.55 | 13.48 | 11.62 | 10.52 | 11.81 | 12.71 | --- | 12.25 | 12.12 |
| 20 | 13.09 | 13.17 | 13.03 | 13.61 | 13.37 | 11.52 | 10.53 | 11.96 | 12.50 | --- | 12.30 | 12.03 |
| 21 | 13.09 | 12.99 | 13.13 | 13.68 | 13.31 | 11.41 | 10.59 | 12.08 | 12.54 | --- | 12.50 | 12.07 |
| 22 | 13.01 | 12.87 | 13.20 | 13.68 | 13.26 | 10.90 | 10.61 | 12.18 | 12.67 | --- | 12.50 | 12.23 |
| 23 | 13.00 | 12.87 | 13.26 | 13.68 | 13.21 | 10.81 | 10.57 | 12.27 | 12.73 | --- | 12.50 | 12.41 |
| 24 | 12.99 | 13.10 | 13.31 | 13.68 | 12.90 | 10.72 | 10.55 | 12.35 | 12.76 | --- | 12.50 | 12.42 |
| 25 | 12.85 | 13.16 | 13.37 | 13.68 | 12.08 | 10.59 | 10.55 | 12.36 | 12.77 | --- | 12.35 | 12.38 |
| 26 | 12.62 | 12.99 | 13.41 | 13.68 | 11.62 | 10.62 | 10.55 | 12.32 | 12.74 | --- | 12.39 | 12.39 |
| 27 | 12.63 | 12.94 | 13.44 | 13.72 | 11.64 | 10.70 | 10.58 | 11.85 | 12.53 | --- | 12.47 | 12.64 |
| 28 | 12.76 | 12.85 | 13.44 | 13.72 | 11.65 | 11.10 | 10.62 | 11.68 | 12.36 | --- | 12.44 | 12.76 |
| 29 | 12.76 | 12.86 | 13.33 | 13.72 | --- | 11.17 | 10.60 | 11.70 | 12.39 | --- | 12.52 | 12.83 |
| 30 | 12.30 | 12.88 | 13.44 | 13.74 | --- | 11.17 | 10.87 | 11.76 | 12.45 | --- | 12.64 | 12.88 |
| 31 | 12.29 | --- | 13.46 | 13.78 | --- | 11.21 | --- | 11.78 | --- | --- | 12.76 | --- |
| MAX | 13.09 | 13.49 | 13.46 | 13.78 | 14.05 | 11.99 | 11.24 | 12.36 | 13.38 | --- | --- | 13.15 |

GROUND-WATER RECORDS
BUTLER COUNTY--Continued

392021084340300. Local number, BU-56.

LOCATION.--Lat 39°20'21", long 84°34'03", Hydrologic Unit 05080002, 1.3 mi (2.1 km) east of the Great Miami River in Fairfield.

Owner: Hamilton Water Department.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 5 in (0.13 m), depth 58 ft (17.7 m), cased.

DATUM.--Land-surface datum (revised) is 583.62 ft (177.887 m) above mean sea level. Measuring point: Floor of instrument shelter, 3.00 ft (0.914 m) above land-surface datum.

REMARKS.--Land-surface datum formerly reported as 583.60 ft (177.881 m) above mean sea level.

PERIOD OF RECORD.--November 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 39.11 ft (11.921 m) Feb. 25-26, 1977; minimum daily low, 26.81 ft (8.172 m) Apr. 10, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 39.11 ft (11.921 m) Feb. 25-26; minimum daily low, 35.59 ft (10.848 m) Apr. 24-25.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 36.92 | 37.43 | 37.59 | 38.10 | 38.91 | 39.02 | 37.15 | 35.71 | 36.56 | 37.20 | 38.22 | 37.62 |
| 2 | 36.94 | 37.42 | 37.61 | 38.10 | 38.95 | 38.98 | 36.87 | 35.71 | 36.58 | 37.20 | 38.23 | 37.62 |
| 3 | 36.99 | 37.44 | 37.64 | 38.14 | 38.99 | 38.94 | 36.61 | 35.72 | 36.66 | 37.21 | 38.28 | 37.61 |
| 4 | 37.00 | 37.48 | 37.66 | 38.20 | 39.01 | 38.87 | 36.45 | 35.71 | 36.70 | 37.21 | 38.14 | 37.60 |
| 5 | 36.66 | 37.49 | 37.67 | 38.26 | 39.02 | 38.83 | 36.50 | 35.70 | 36.77 | 37.26 | --- | 37.57 |
| 6 | 36.63 | 37.51 | 37.68 | 38.32 | 39.03 | 38.77 | 36.49 | 35.70 | 36.83 | 37.34 | --- | 37.54 |
| 7 | 36.85 | 37.53 | 37.69 | 38.38 | 39.04 | 38.70 | 36.42 | 35.70 | 36.88 | 37.41 | --- | 37.54 |
| 8 | 36.98 | 37.54 | 37.72 | 38.44 | 39.05 | 38.63 | 36.33 | 35.69 | 36.93 | 37.46 | --- | 37.53 |
| 9 | 37.07 | 37.56 | 37.73 | 38.49 | 39.06 | 38.57 | 36.24 | 35.66 | 36.97 | 37.47 | --- | 37.54 |
| 10 | 37.13 | 37.57 | 37.71 | 38.52 | 39.07 | 38.51 | 36.15 | 35.64 | 36.99 | 37.47 | --- | 37.56 |
| 11 | 37.15 | 37.58 | 37.63 | 38.58 | 39.07 | 38.46 | 36.07 | 35.63 | 37.01 | 37.47 | --- | 37.57 |
| 12 | 37.18 | 37.60 | 37.62 | 38.62 | 39.00 | 38.40 | 36.00 | 35.63 | 37.01 | 37.45 | --- | 37.54 |
| 13 | 37.24 | 37.62 | 37.61 | 38.66 | 38.95 | 38.34 | 35.91 | 35.62 | 37.06 | 37.51 | --- | 37.53 |
| 14 | 37.28 | 37.64 | 37.60 | 38.70 | 38.98 | 38.28 | 35.83 | 35.60 | 37.11 | 37.56 | --- | 37.53 |
| 15 | 37.29 | 37.64 | 37.58 | 38.73 | 38.98 | 38.20 | 35.78 | 35.60 | 37.13 | 37.63 | --- | 37.52 |
| 16 | 37.30 | 37.64 | 37.56 | 38.78 | 38.97 | 38.12 | 35.72 | 35.63 | 37.15 | 37.70 | --- | 37.48 |
| 17 | 37.33 | 37.64 | 37.55 | 38.81 | 38.95 | 38.05 | 35.67 | 35.74 | 37.18 | 37.74 | --- | 37.45 |
| 18 | 37.37 | 37.62 | 37.55 | 38.86 | 38.85 | 37.99 | 35.68 | 35.78 | 37.24 | 37.80 | --- | 37.39 |
| 19 | 37.40 | 37.64 | 37.55 | 38.88 | 38.93 | 37.95 | 35.71 | 35.85 | 37.26 | 37.87 | --- | 37.36 |
| 20 | 37.42 | 37.65 | 37.55 | 38.91 | 38.98 | 37.91 | 35.71 | 35.90 | 37.27 | 37.92 | --- | 37.35 |
| 21 | 37.45 | 37.63 | 37.65 | 38.92 | 39.03 | 37.87 | 35.65 | 35.95 | 37.30 | 37.97 | --- | 37.36 |
| 22 | 37.47 | 37.63 | 37.73 | 38.91 | 39.06 | 37.81 | 35.63 | 35.99 | 37.32 | 38.00 | --- | 37.35 |
| 23 | 37.49 | 37.68 | 37.79 | 38.86 | 39.09 | 37.76 | 35.60 | 36.02 | 37.32 | 38.08 | --- | 37.32 |
| 24 | 37.50 | 37.70 | 37.83 | 38.86 | 39.10 | 37.66 | 35.59 | 36.10 | 37.32 | 38.09 | --- | 37.28 |
| 25 | 37.50 | 37.69 | 37.85 | 38.85 | 39.11 | 37.58 | 35.59 | 36.14 | 37.30 | --- | --- | 37.25 |
| 26 | 37.51 | 37.65 | 37.91 | 38.87 | 39.11 | 37.52 | 35.61 | 36.21 | 37.30 | --- | --- | 37.20 |
| 27 | 37.51 | 37.64 | 37.99 | 38.84 | 39.09 | 37.45 | 35.63 | 36.28 | 37.28 | 38.10 | --- | 37.19 |
| 28 | 37.51 | 37.62 | 38.06 | 38.81 | 39.05 | 37.34 | 35.68 | 36.36 | 37.29 | 38.12 | --- | 37.19 |
| 29 | 37.50 | 37.59 | 38.10 | 38.81 | --- | 37.32 | 35.69 | 36.44 | 37.19 | 38.15 | --- | 37.17 |
| 30 | 37.48 | 37.58 | 38.11 | 38.86 | --- | 37.25 | 35.70 | 36.46 | 37.18 | 38.15 | --- | 37.16 |
| 31 | 37.45 | --- | 38.11 | 38.88 | --- | 37.20 | --- | 36.52 | --- | 38.17 | --- | --- |
| MAX | 37.51 | 37.70 | 38.11 | 38.92 | 39.11 | 39.02 | 37.15 | 36.52 | 37.32 | 38.17 | --- | 37.62 |

GROUND-WATER RECORDS

435

CLARK COUNTY

395835083491700. Local number CL-20.

LOCATION.--Lat 39°58'35", long 83°49'17", Hydrologic Unit 05080001, on left bank of Mad River 100 ft (30 m) upstream from Eagle City Road near Springfield.

Owner: City of Springfield.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled public supply water-table well, diameter 26 in (0.66 m), depth 96 ft (29.3 m), screened below 51 ft (15.5 m).

PERIOD OF RECORD.--June 1967 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | SPECIFIC CONDUCTANCE (MICRO-MHOS) | PH (UNITS) | CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L) | DIS-SOLVED SODIUM (NA) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) |
|-----------|-----------------------------------|--------------------------|--|-----------------------------------|-----------------------------|----------------------------|----------------------------|-----------------------------|---------------------------------|---------------------------------|
| JUN 22... | 808 | 7.2 | 5 | 13 | 376 | 0 | 310 | 38 | 80 | 29 |
| DATE | TOTAL RESIDUE (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) | |
| JUN 22... | 308 | .87 | .01 | .07 | .00 | 10 | 0 | 6 | 120 | |

GROUND-WATER RECORDS

CLERMONT COUNTY

385144084133900. Local number, CT-2.

LOCATION.--Lat 38°51'44", long 84°13'39", Hydrologic Unit 05090201, at the Wm. H. Zimmer Nuclear Power Station, Moscow, Ohio.

Owner: Cincinnati Gas and Electric Company.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled test water-table well, diameter 8 in (0.2 m), depth 90 ft (27.4 m), cased to 90 ft (27.4 m).

DATUM.--Land-surface is 500 ft (152.400 m) above mean sea level. Measuring point: Floor of instrument shelter 2.50 ft (0.762 m) above land-surface datum.

PERIOD OF RECORD.--January 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 40.56 ft (12.363 m) Feb. 28 to March 4, 1977; minimum daily low, 31.13 ft (9.488 m) March 30-31, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 40.56 ft (12.363 m) Feb. 28 to March 4; minimum daily low, 32.93 ft (10.037 m) Apr. 28-30.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | --- | 40.03 | 40.09 | 40.19 | 40.46 | 40.56 | 37.19 | 32.94 | 33.55 | 34.82 | 36.10 | 37.14 |
| 2 | --- | 40.04 | 40.10 | 40.19 | 40.47 | 40.56 | 37.03 | 32.95 | 33.59 | 34.87 | 36.13 | 37.17 |
| 3 | --- | 40.04 | 40.10 | 40.20 | 40.48 | 40.56 | 36.87 | 32.97 | 33.63 | 34.91 | 36.18 | 37.20 |
| 4 | --- | 40.04 | 40.11 | 40.20 | 40.49 | 40.56 | 36.74 | 32.98 | 33.67 | 34.96 | 36.21 | 37.23 |
| 5 | --- | 40.05 | 40.12 | 40.21 | 40.50 | 40.54 | 36.58 | 33.00 | 33.71 | 35.00 | 36.25 | 37.26 |
| 6 | --- | 40.05 | 40.12 | 40.21 | 40.52 | 40.53 | 36.45 | 33.01 | 33.75 | 35.04 | 36.29 | 37.28 |
| 7 | --- | 40.05 | 40.13 | 40.22 | 40.53 | 40.51 | 36.31 | 33.03 | 33.79 | 35.08 | 36.33 | 37.31 |
| 8 | --- | 40.05 | 40.13 | 40.22 | 40.54 | 40.48 | 36.14 | 33.04 | 33.84 | 35.13 | 36.37 | 37.34 |
| 9 | --- | 40.05 | 40.14 | 40.23 | 40.55 | 40.43 | 35.97 | 33.05 | 33.88 | 35.17 | 36.41 | 37.37 |
| 10 | --- | 40.05 | 40.15 | 40.24 | 40.56 | 40.38 | 35.78 | 33.07 | 33.92 | 35.21 | 36.44 | 37.39 |
| 11 | --- | 40.05 | 40.15 | 40.25 | 40.50 | 40.32 | 35.55 | 33.08 | 33.95 | 35.26 | 36.48 | 37.42 |
| 12 | --- | 40.05 | 40.15 | 40.26 | 40.44 | 40.25 | 35.31 | 33.08 | 33.99 | 35.29 | 36.52 | 37.45 |
| 13 | --- | 40.05 | 40.16 | 40.26 | 40.45 | 40.15 | 35.06 | 33.10 | 34.04 | 35.33 | 36.56 | 37.48 |
| 14 | --- | 40.05 | 40.16 | 40.27 | 40.46 | 40.06 | 34.78 | 33.11 | 34.08 | 35.37 | 36.59 | 37.51 |
| 15 | --- | 40.05 | 40.17 | 40.28 | 40.47 | 39.95 | 34.38 | 33.13 | 34.13 | 35.41 | 36.63 | 37.54 |
| 16 | --- | 40.05 | 40.17 | 40.29 | 40.48 | 39.84 | 34.25 | 33.14 | 34.17 | 35.45 | 36.66 | 37.56 |
| 17 | --- | 40.05 | 40.17 | 40.30 | 40.49 | 39.72 | 34.02 | 33.16 | 34.21 | 35.49 | 36.70 | 37.59 |
| 18 | --- | 40.05 | 40.17 | 40.31 | 40.50 | 39.57 | 33.82 | 33.18 | 34.26 | 35.53 | 36.73 | 37.62 |
| 19 | 39.90 | 40.05 | 40.17 | 40.32 | 40.51 | 39.42 | 33.63 | 33.20 | 34.30 | 35.58 | 36.76 | 37.65 |
| 20 | 39.91 | 40.05 | 40.17 | 40.33 | 40.52 | 39.27 | 33.48 | 33.22 | 34.35 | 35.62 | 36.79 | 37.68 |
| 21 | 39.92 | 40.05 | 40.17 | 40.34 | 40.53 | 39.12 | 33.34 | 33.25 | 34.39 | 35.66 | 36.83 | 37.71 |
| 22 | 39.93 | 40.05 | 40.17 | 40.35 | 40.53 | 38.95 | 33.23 | 33.27 | 34.44 | 35.70 | 36.86 | 37.73 |
| 23 | 39.94 | 40.06 | 40.17 | 40.36 | 40.53 | 38.77 | 33.14 | 33.29 | 34.48 | 35.75 | 36.88 | 37.76 |
| 24 | 39.95 | 40.06 | 40.17 | 40.37 | 40.54 | 38.60 | 33.06 | 33.32 | 34.52 | 35.78 | 36.91 | 37.79 |
| 25 | 39.96 | 40.06 | 40.17 | 40.38 | 40.55 | 38.43 | 33.01 | 33.34 | 34.56 | 35.83 | 36.95 | 37.82 |
| 26 | 39.97 | 40.07 | 40.17 | 40.39 | 40.55 | 38.24 | 32.97 | 33.37 | 34.60 | 35.87 | 36.98 | 37.84 |
| 27 | 39.99 | 40.07 | 40.17 | 40.40 | 40.55 | 38.07 | 32.95 | 33.40 | 34.65 | 35.91 | 37.00 | 37.87 |
| 28 | 40.00 | 40.07 | 40.17 | 40.41 | 40.56 | 37.88 | 32.93 | 33.43 | 34.69 | 35.94 | 37.03 | 37.89 |
| 29 | 40.01 | 40.08 | 40.17 | 40.42 | --- | 37.69 | 32.93 | 33.46 | 34.74 | 35.98 | 37.06 | 37.92 |
| 30 | 40.02 | 40.09 | 40.17 | 40.44 | --- | 37.52 | 32.93 | 33.49 | 34.77 | 36.02 | 37.09 | 37.94 |
| 31 | 40.02 | --- | 40.19 | 40.45 | --- | 37.34 | --- | 33.52 | --- | 36.06 | 37.12 | --- |
| MAX | --- | 40.09 | 40.19 | 40.45 | 40.56 | 40.56 | 37.19 | 33.52 | 34.77 | 36.06 | 37.12 | 37.94 |

GROUND-WATER RECORDS

437

COSHOCTON COUNTY

401735081523800. Local number, CS-2.

LOCATION.--Lat 40°17'35", long 81°52'38", Hydrologic Unit 05040003, 1.7 mi (2.7 km) northwest of courthouse in Coshocton.

Owner: City of Coshocton.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled test well, diameter 6 in (0.15 m), depth 40 ft (12.2 m) cased.

DATUM.--Land-surface datum is 740 ft (225.552 m) above mean sea level. Measuring point: Floor of instrument shelter 8.50 ft (2.591 m) above land-surface datum.

PERIOD OF RECORD.--May 1949 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 18.47 ft (5.630 m) Feb. 12, 1977; minimum daily low, 0.43 ft (0.131 m) Feb. 21, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 18.47 ft (5.630 m) Feb. 12; minimum daily low, 7.33 ft (2.234 m) Apr. 9-10.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 16.83 | 16.23 | 16.99 | 16.57 | 18.22 | 12.07 | 12.75 | 14.61 | 17.22 | 17.18 | 15.60 | 18.21 |
| 2 | 16.80 | 16.29 | 17.04 | 16.52 | 18.25 | 12.38 | 12.89 | 14.45 | 17.32 | 16.77 | 15.56 | 18.34 |
| 3 | 16.25 | 16.37 | 17.08 | 16.64 | 18.27 | 12.75 | 12.50 | 14.83 | 17.39 | 15.99 | 15.61 | 18.34 |
| 4 | 16.34 | 16.46 | 17.14 | 16.79 | 18.29 | 13.08 | 10.74 | 15.06 | 17.41 | 15.99 | 15.91 | 17.72 |
| 5 | 16.44 | 16.57 | 16.84 | 16.99 | 18.32 | 13.18 | 9.25 | 15.10 | 17.44 | 15.53 | 16.58 | 17.72 |
| 6 | 16.45 | 16.61 | 17.08 | 16.99 | 18.35 | 13.06 | 8.53 | 14.62 | 17.47 | 15.43 | 17.07 | 17.17 |
| 7 | 16.71 | 15.60 | 17.14 | 17.11 | 18.37 | 12.90 | 8.32 | 14.32 | 17.34 | 15.48 | 17.16 | 17.64 |
| 8 | 16.84 | 16.02 | 17.19 | 17.19 | 18.39 | 13.17 | 7.56 | 14.10 | 17.11 | 15.54 | 17.00 | 17.79 |
| 9 | 16.84 | 16.71 | 17.12 | 17.15 | 18.42 | 13.34 | 7.33 | 14.07 | 16.69 | 15.45 | 16.87 | 17.86 |
| 10 | 16.14 | 17.03 | 17.17 | 16.81 | 18.45 | 13.67 | 7.33 | 14.21 | 16.63 | 15.25 | 16.81 | 17.92 |
| 11 | 16.21 | 17.14 | 16.98 | 17.24 | 18.46 | 14.14 | 7.74 | 14.45 | 16.62 | 15.46 | 16.68 | 17.92 |
| 12 | 16.56 | 17.22 | 16.98 | 17.47 | 18.47 | 14.44 | 8.07 | 14.82 | 16.62 | 15.81 | 16.75 | 17.49 |
| 13 | 16.61 | 16.97 | 16.61 | 17.61 | 18.44 | 14.46 | 8.34 | 14.96 | 16.59 | 16.18 | 16.81 | 17.91 |
| 14 | 16.85 | 16.50 | 16.65 | 17.69 | 18.30 | 13.07 | 8.82 | 15.07 | 16.92 | 16.27 | 16.82 | 17.98 |
| 15 | 16.95 | 16.97 | 16.71 | 17.71 | 17.99 | 12.01 | 9.37 | 15.14 | 17.20 | 16.21 | 16.46 | 17.95 |
| 16 | 16.61 | 17.28 | 16.78 | 17.56 | 17.64 | 11.79 | 10.18 | 15.45 | 17.37 | 16.50 | 16.73 | 17.87 |
| 17 | 16.68 | 17.52 | 16.74 | 17.71 | 17.38 | 11.99 | 11.16 | 15.62 | 17.49 | 16.80 | 16.90 | 17.73 |
| 18 | 16.49 | 17.63 | 16.45 | 17.79 | 17.26 | 12.08 | 11.91 | 15.72 | 17.61 | 16.83 | 17.08 | 17.24 |
| 19 | 16.81 | 17.58 | 16.46 | 17.84 | 17.25 | 11.88 | 12.69 | 15.67 | 17.62 | 16.79 | 17.07 | 15.96 |
| 20 | 16.91 | 17.38 | 16.69 | 17.88 | 17.28 | 11.11 | 13.46 | 15.99 | 17.40 | 17.12 | 17.25 | 15.86 |
| 21 | 16.84 | 17.15 | 17.03 | 17.91 | 17.35 | 10.78 | 13.95 | 16.32 | 17.53 | 17.25 | 17.35 | 15.70 |
| 22 | 17.00 | 16.86 | 17.03 | 17.93 | 17.42 | 10.70 | 14.32 | 16.43 | 17.57 | 17.27 | 17.20 | 15.79 |
| 23 | 16.96 | 17.25 | 16.84 | 17.96 | 17.43 | 10.72 | 14.41 | 16.58 | 17.55 | 17.19 | 17.38 | 15.95 |
| 24 | 16.57 | 17.14 | 16.40 | 17.99 | 17.35 | 10.82 | 14.39 | 16.76 | 17.74 | 16.12 | 17.42 | 15.99 |
| 25 | 16.57 | 17.27 | 16.32 | 18.02 | 16.71 | 11.02 | 14.37 | 16.88 | 17.81 | 15.42 | 17.58 | 15.49 |
| 26 | 16.66 | 17.28 | 16.24 | 18.05 | 15.08 | 11.28 | 14.40 | 16.99 | 17.73 | 15.54 | 17.56 | 15.86 |
| 27 | 16.54 | 17.01 | 16.36 | 18.08 | 13.18 | 11.55 | 14.46 | 17.08 | 17.70 | 15.73 | 17.69 | 16.35 |
| 28 | 16.51 | 16.80 | 16.74 | 18.11 | 12.35 | 11.83 | 14.51 | 17.17 | 17.41 | 15.90 | 17.72 | 16.58 |
| 29 | 16.48 | 16.97 | 16.77 | 18.14 | --- | 12.10 | 14.47 | 17.18 | 17.60 | 16.01 | 17.60 | 16.73 |
| 30 | 16.57 | 17.06 | 16.96 | 18.17 | --- | 12.22 | 14.59 | 17.11 | 17.61 | 16.08 | 17.85 | 16.81 |
| 31 | 16.30 | --- | 16.97 | 18.20 | --- | 12.47 | --- | 17.05 | --- | 15.83 | 18.05 | --- |
| MAX | 17.00 | 17.63 | 17.19 | 18.20 | 18.47 | 14.46 | 14.59 | 17.18 | 17.81 | 17.27 | 18.05 | 18.34 |

GROUND-WATER RECORDS

FAIRFIELD COUNTY

394544082271000. Local number, F-1.

LOCATION.--Lat 39°45'44", long 82°27'10", Hydrologic Unit 05030204, near the west edge of West Rushville.

Owner: State of Ohio.

AQUIFER.--Sandstone of Mississippian Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in (0.15 m), depth 84 ft (25.6 m), cased.

DATUM.--Land-surface datum is 980 ft (298.704 m) above mean sea level. Measuring point: Floor of instrument shelter 8.02 ft (2.444 m) above land-surface datum.

PERIOD OF RECORD.--March 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 19.81 ft (6.038 m) Mar. 1-4, 1964; minimum daily low, 7.27 ft (2.216 m) May 5-6, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 19.10 ft (5.822 m) Feb. 16-20; minimum daily low, 13.85 ft (4.221 m) Apr. 15-18.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 16.07 | 17.21 | 17.44 | 18.07 | 18.94 | 18.66 | 15.03 | 14.45 | 15.99 | 17.20 | 17.77 | 18.11 |
| 2 | 16.13 | 17.23 | 17.47 | 18.09 | 18.95 | 18.57 | 15.02 | 14.51 | 16.03 | 17.24 | 17.80 | 18.17 |
| 3 | 16.19 | 17.24 | 17.49 | 18.10 | 18.97 | 18.47 | 14.96 | 14.58 | 16.09 | 17.27 | 17.81 | 18.22 |
| 4 | 16.24 | 17.24 | 17.52 | 18.11 | 18.97 | 18.35 | 14.92 | 14.62 | 16.14 | 17.29 | 17.83 | 18.23 |
| 5 | 16.29 | 17.25 | 17.55 | 18.13 | 18.97 | 18.22 | 14.72 | 14.67 | 16.19 | 17.31 | 17.84 | 18.24 |
| 6 | 16.35 | 17.25 | 17.58 | 18.14 | 18.98 | 18.14 | 14.45 | 14.72 | 16.21 | 17.33 | 17.87 | 18.24 |
| 7 | 16.40 | 17.26 | 17.59 | 18.16 | 19.00 | 18.05 | 14.32 | 14.78 | 16.25 | 17.35 | 17.88 | 18.24 |
| 8 | 16.45 | 17.26 | 17.62 | 18.17 | 19.02 | 17.98 | 14.20 | 14.83 | 16.31 | 17.37 | 17.90 | 18.24 |
| 9 | 16.47 | 17.27 | 17.65 | 18.18 | 19.04 | 17.87 | 14.09 | 14.88 | 16.34 | 17.39 | 17.91 | 18.24 |
| 10 | 16.51 | 17.26 | 17.69 | 18.20 | 19.06 | 17.75 | 14.03 | 14.93 | 16.38 | 17.39 | 17.93 | 18.24 |
| 11 | 16.55 | 17.26 | 17.72 | 18.21 | 19.07 | 17.61 | 13.94 | 14.97 | 16.43 | 17.43 | 17.95 | 18.24 |
| 12 | 16.59 | 17.26 | 17.74 | 18.24 | 19.08 | 17.51 | 13.88 | 15.02 | 16.46 | 17.44 | 17.95 | 18.24 |
| 13 | 16.62 | 17.27 | 17.77 | 18.27 | 19.09 | 17.39 | 13.87 | 15.06 | 16.52 | 17.45 | 17.96 | 18.24 |
| 14 | 16.66 | 17.26 | 17.79 | 18.28 | 19.09 | 17.24 | 13.86 | 15.09 | 16.56 | 17.47 | 17.96 | 18.24 |
| 15 | 16.69 | 17.26 | 17.82 | 18.29 | 19.09 | 17.14 | 13.85 | 15.13 | 16.59 | 17.49 | 17.96 | 18.25 |
| 16 | 16.73 | 17.27 | 17.83 | 18.31 | 19.10 | 17.00 | 13.85 | 15.17 | 16.63 | 17.50 | 17.96 | 18.25 |
| 17 | 16.77 | 17.28 | 17.85 | 18.40 | 19.10 | 16.86 | 13.85 | 15.21 | 16.68 | 17.52 | 17.96 | 18.25 |
| 18 | 16.81 | 17.28 | 17.87 | 18.45 | 19.10 | 16.69 | 13.85 | 15.26 | 16.72 | 17.54 | 17.96 | 18.25 |
| 19 | 16.85 | 17.28 | 17.90 | 18.52 | 19.10 | 16.51 | 13.86 | 15.31 | 16.75 | 17.55 | 17.96 | 18.25 |
| 20 | 16.88 | 17.28 | 17.91 | 18.57 | 19.10 | 16.40 | 13.88 | 15.36 | 16.79 | 17.57 | 17.96 | 18.25 |
| 21 | 16.91 | 17.29 | 17.92 | 18.60 | 19.09 | 16.12 | 13.90 | 15.41 | 16.83 | 17.58 | 17.97 | 18.25 |
| 22 | 16.95 | 17.30 | --- | 18.64 | 19.09 | 15.92 | 13.90 | 15.48 | 16.88 | 17.61 | 17.97 | 18.25 |
| 23 | 16.98 | 17.32 | --- | 18.67 | 19.07 | 15.70 | 13.90 | 15.54 | 16.90 | 17.61 | 17.98 | 18.24 |
| 24 | 17.01 | 17.32 | --- | 18.72 | 19.05 | 15.57 | 13.90 | 15.59 | 16.96 | 17.63 | 17.98 | 18.23 |
| 25 | 17.03 | 17.34 | --- | 18.78 | 18.99 | 15.46 | 14.09 | 15.63 | 16.99 | 17.64 | 17.98 | 18.22 |
| 26 | 17.06 | 17.35 | --- | 18.86 | 18.94 | 15.39 | 14.14 | 15.68 | 17.03 | 17.66 | 17.99 | 18.20 |
| 27 | 17.09 | 17.36 | --- | 18.87 | 18.89 | 15.32 | 14.21 | 15.72 | 17.07 | 17.69 | 18.00 | 18.19 |
| 28 | 17.13 | 17.38 | --- | 18.89 | 18.68 | 15.25 | 14.25 | 15.76 | 17.11 | 17.70 | 18.01 | 18.17 |
| 29 | 17.15 | 17.39 | 18.05 | 18.91 | --- | 15.17 | 14.32 | 15.82 | 17.15 | 17.72 | 18.01 | 18.16 |
| 30 | 17.17 | 17.42 | 18.05 | 18.91 | --- | 15.05 | 14.38 | 15.88 | 17.17 | 17.73 | 18.02 | 18.16 |
| 31 | 17.19 | --- | 18.06 | 18.94 | --- | 15.05 | --- | 15.94 | --- | 17.75 | 18.04 | --- |
| MAX | 17.19 | 17.42 | --- | 18.94 | 19.10 | 18.66 | 15.03 | 15.94 | 17.17 | 17.75 | 18.04 | 18.25 |

GROUND-WATER RECORDS

439

FRANKLIN COUNTY

395118082573300. Local number, FR-3.

LOCATION.--Lat 39°51'14", long 82°57'32", Hydrologic Unit 05060001, 0.7 mi (1.1 km) southwest of Reese.

Owner: R. Hann

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test water-table well, diameter 12 in (0.3 m), depth drilled 60 ft (18.3 m), present depth 53 ft (16.2 m), cased.

DATUM.--Land-surface datum is 712.94 ft (217.304 m) above mean sea level. Measuring point: Floor of instrument shelter 3.43 ft (1.045 m) above land-surface datum.

PERIOD OF RECORD.--April 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 20.75 ft (6.325 m) July 7, 1966; minimum daily low, 0.0 ft (0.0 m) Jan. 22, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 13.12 ft (3.999 m) Aug. 6-7; minimum daily low, 9.95 ft (3.033 m) Apr. 5.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 12.26 | 11.76 | 12.62 | 12.15 | 12.96 | 10.99 | 11.97 | 11.87 | 12.77 | 12.21 | 13.03 | 12.98 |
| 2 | 12.24 | 11.82 | 12.67 | 12.17 | 12.96 | 11.02 | 11.98 | 11.90 | 12.79 | 12.21 | 13.04 | 13.00 |
| 3 | 12.20 | 11.90 | 12.69 | 12.10 | 12.91 | 11.24 | 10.64 | 11.89 | 12.82 | 12.41 | 13.07 | 12.95 |
| 4 | 12.14 | 11.98 | 12.71 | 12.09 | 12.91 | 11.24 | 10.07 | 11.82 | 12.84 | 12.56 | 13.08 | 12.71 |
| 5 | 12.07 | 12.02 | 12.73 | 12.12 | 12.97 | 11.13 | 9.95 | 11.68 | 12.85 | 12.63 | 13.10 | 12.76 |
| 6 | 12.07 | 12.00 | 12.71 | 12.12 | 12.98 | 11.28 | 10.03 | 11.51 | 12.87 | 12.70 | 13.12 | 12.69 |
| 7 | 12.06 | 12.00 | 12.64 | 12.15 | 12.98 | 11.43 | 10.44 | 11.44 | 12.88 | 12.77 | 13.12 | 12.56 |
| 8 | 12.07 | 12.03 | 12.47 | 12.15 | 12.97 | 11.54 | 10.73 | 11.40 | 12.89 | 12.79 | 12.45 | 12.66 |
| 9 | 12.04 | 11.99 | 12.53 | 12.15 | 12.97 | 11.63 | 10.63 | 11.44 | 12.82 | 12.81 | 12.36 | 12.75 |
| 10 | 12.04 | 12.11 | 12.57 | 12.17 | 12.99 | 11.72 | 10.48 | 11.72 | 12.26 | 12.85 | 12.52 | 12.85 |
| 11 | 12.11 | 12.16 | 12.60 | 12.29 | 12.96 | 11.78 | 10.53 | 11.92 | 12.38 | 12.89 | 12.60 | 12.91 |
| 12 | 12.13 | 12.21 | 12.38 | 12.41 | 12.83 | 11.79 | 10.49 | 12.04 | 12.51 | 12.85 | 12.51 | 12.93 |
| 13 | 12.22 | 12.22 | 12.29 | 12.46 | 12.58 | 11.19 | 10.34 | 12.14 | 12.60 | 12.83 | 12.41 | 12.95 |
| 14 | 12.29 | 12.20 | 12.23 | 12.56 | 12.30 | 10.40 | 10.40 | 12.24 | 12.65 | 12.86 | 12.45 | 12.96 |
| 15 | 12.37 | 12.23 | 12.18 | 12.64 | 12.23 | 10.61 | 10.70 | 12.32 | 12.68 | 12.89 | 12.55 | 12.60 |
| 16 | 12.39 | 12.30 | 12.15 | 12.71 | 12.31 | 10.82 | 10.99 | 12.39 | 12.73 | 12.87 | 12.62 | 12.54 |
| 17 | 12.39 | 12.35 | 12.19 | 12.71 | 12.36 | 10.88 | 11.19 | 12.43 | 12.77 | 12.85 | 12.70 | 12.14 |
| 18 | 12.40 | 12.42 | 12.20 | 12.75 | 12.42 | 10.85 | 11.31 | 12.47 | 12.71 | 12.68 | 12.73 | 12.24 |
| 19 | 12.35 | 12.48 | 12.14 | 12.78 | 12.48 | 10.38 | 11.50 | 12.52 | 12.59 | 12.71 | 12.78 | 12.25 |
| 20 | 12.34 | 12.51 | 12.13 | 12.82 | 12.49 | 10.64 | 11.70 | 12.57 | 12.70 | 12.80 | 12.84 | 12.10 |
| 21 | 12.25 | 12.55 | 12.17 | 12.82 | 12.52 | 10.67 | 11.88 | 12.61 | 12.78 | 12.84 | 12.86 | 12.27 |
| 22 | 12.39 | 12.59 | 12.16 | 12.85 | 12.50 | 10.77 | 11.98 | 12.65 | 12.82 | 12.79 | 12.84 | 12.40 |
| 23 | 12.43 | 12.61 | 12.13 | 12.84 | 12.28 | 10.82 | 11.98 | 12.65 | 12.86 | 12.79 | 12.83 | 12.49 |
| 24 | 12.41 | 12.61 | 12.12 | 12.81 | 11.47 | 10.93 | 11.88 | 12.56 | 12.88 | 12.86 | 12.88 | 12.58 |
| 25 | 12.03 | 12.61 | 12.05 | 12.78 | 10.71 | 11.07 | 11.75 | 12.59 | 12.90 | 12.91 | 12.91 | 12.63 |
| 26 | 12.04 | 12.62 | 12.08 | 12.81 | 10.71 | 11.37 | 11.89 | 12.64 | 12.94 | 12.91 | 12.94 | 12.70 |
| 27 | 12.12 | 12.57 | 12.09 | 12.85 | 10.78 | 11.54 | 11.97 | 12.67 | 12.95 | 12.94 | 12.94 | 12.76 |
| 28 | 12.16 | 12.50 | 12.06 | 12.89 | 10.86 | 11.59 | 12.02 | 12.71 | 12.88 | 12.96 | 12.95 | 12.81 |
| 29 | 12.19 | 12.59 | 12.15 | 12.89 | --- | 11.64 | 11.80 | 12.76 | 12.39 | 12.98 | 12.98 | 12.84 |
| 30 | 12.20 | 12.62 | 12.13 | 12.91 | --- | 11.76 | 11.75 | 12.79 | 12.44 | 12.98 | 12.98 | 12.86 |
| 31 | 12.10 | --- | 12.14 | 12.92 | --- | 11.91 | --- | 12.79 | --- | 13.00 | 12.95 | --- |
| MAX | 12.43 | 12.62 | 12.73 | 12.92 | 12.99 | 11.91 | 12.02 | 12.79 | 12.95 | 13.00 | 13.12 | 13.00 |

GROUND-WATER RECORDS
FRANKLIN COUNTY--Continued

395157083003500. Local number, PR-109.

LOCATION.--Lat 39°51'57", long 83°00'35", Hydrologic Unit 05060001, 6.6 mi (10.5 km) south of the State capital in Columbus.

Owner: City of Columbus.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test water-table well, diameter 6 in (0.15 m), depth 92 ft (28.0 m), cased to 82 ft (25.0 m).

DATUM.--Land-surface datum is 702.24 ft (214.043 m) above mean sea level. Measuring point: Floor of instrument shelter 3.00 ft (0.914 m) above land-surface datum.

PERIOD OF RECORD.--July 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 21.34 ft (6.504 m) Feb. 9-12, 1977; minimum daily low, 14.43 ft (4.398 m) Feb. 22, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 21.34 ft (6.504 m) Feb. 9-12; minimum daily low, 16.64 ft (5.072 m) Apr. 16-18.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 20.12 | 20.49 | 20.75 | 21.02 | 21.29 | 20.68 | 19.23 | 17.03 | 18.09 | 19.04 | 19.79 | 20.26 |
| 2 | 20.14 | 20.49 | 20.78 | 21.03 | 21.29 | 20.64 | 19.17 | 17.06 | 18.15 | 19.08 | 19.80 | 20.27 |
| 3 | 20.16 | 20.50 | 20.78 | 21.03 | 21.29 | 20.59 | 18.97 | 17.08 | 18.19 | 19.10 | 19.83 | 20.21 |
| 4 | 20.17 | 20.52 | 20.79 | 21.04 | 21.31 | 20.51 | 18.02 | 17.09 | 18.21 | 19.13 | 19.85 | 20.15 |
| 5 | 20.21 | 20.53 | 20.80 | 21.05 | 21.33 | 20.46 | 17.65 | 17.12 | 18.23 | 19.15 | 19.87 | 20.18 |
| 6 | 20.24 | 20.54 | 20.79 | 21.05 | 21.33 | 20.42 | 17.48 | 17.15 | 18.29 | 19.18 | 19.89 | 20.19 |
| 7 | 20.25 | 20.56 | 20.80 | 21.08 | 21.33 | 20.37 | 17.33 | 17.18 | 18.32 | 19.22 | 19.91 | 20.20 |
| 8 | 20.25 | 20.56 | 20.81 | 21.08 | 21.33 | 20.34 | 17.18 | 17.20 | 18.34 | 19.25 | 19.92 | 20.21 |
| 9 | 20.27 | 20.56 | 20.82 | 21.09 | 21.34 | 20.30 | 17.07 | 17.23 | 18.40 | 19.28 | 19.93 | 20.23 |
| 10 | 20.28 | 20.58 | 20.83 | 21.10 | 21.34 | 20.26 | 16.94 | 17.27 | 18.43 | 19.30 | 19.95 | 20.26 |
| 11 | 20.29 | 20.59 | 20.83 | 21.11 | 21.34 | 20.23 | 16.85 | 17.31 | 18.45 | 19.32 | 19.96 | 20.27 |
| 12 | 20.30 | 20.60 | 20.84 | 21.12 | 21.34 | 20.19 | 16.79 | 17.33 | 18.49 | 19.35 | 19.95 | 20.27 |
| 13 | 20.32 | 20.61 | 20.85 | 21.11 | 21.31 | 20.06 | 16.72 | 17.37 | 18.53 | 19.37 | 19.97 | 20.28 |
| 14 | 20.32 | 20.61 | 20.85 | 21.12 | 21.29 | 19.99 | 16.66 | 17.41 | 18.56 | 19.40 | 19.96 | 20.30 |
| 15 | 20.36 | 20.63 | 20.85 | 21.13 | 21.29 | 19.93 | 16.65 | 17.45 | 18.59 | 19.43 | 19.96 | 20.30 |
| 16 | 20.37 | 20.64 | 20.87 | 21.16 | 21.30 | 19.88 | 16.64 | 17.48 | 18.63 | 19.44 | 19.97 | 20.29 |
| 17 | 20.39 | 20.64 | 20.89 | 21.16 | 21.29 | 19.84 | 16.64 | 17.51 | 18.66 | 19.47 | 20.00 | 20.24 |
| 18 | 20.40 | 20.65 | 20.89 | 21.17 | 21.30 | 19.75 | 16.64 | 17.55 | 18.68 | 19.49 | 20.02 | 20.26 |
| 19 | 20.40 | 20.66 | 20.89 | 21.17 | 21.30 | 19.73 | 16.66 | 17.58 | 18.71 | 19.51 | 20.04 | 20.26 |
| 20 | 20.41 | 20.67 | 20.91 | 21.18 | 21.30 | 19.66 | 16.69 | 17.62 | 18.74 | 19.53 | 20.06 | 20.27 |
| 21 | 20.42 | 20.68 | 20.92 | 21.20 | 21.31 | 19.64 | 16.72 | 17.67 | 18.78 | 19.54 | 20.07 | 20.28 |
| 22 | 20.45 | 20.69 | 20.92 | 21.22 | 21.30 | 19.55 | 16.74 | 17.71 | 18.81 | 19.56 | 20.09 | 20.29 |
| 23 | 20.45 | 20.69 | 20.94 | 21.21 | 21.22 | 19.53 | 16.76 | 17.74 | 18.84 | 19.58 | 20.11 | 20.30 |
| 24 | 20.43 | 20.70 | 20.94 | 21.21 | 21.05 | 19.48 | 16.77 | 17.78 | 18.87 | 19.60 | 20.13 | 20.31 |
| 25 | 20.44 | 20.70 | 20.94 | 21.22 | 20.93 | 19.44 | 16.80 | 17.81 | 18.90 | 19.64 | 20.15 | 20.32 |
| 26 | 20.45 | 20.71 | 20.96 | 21.23 | 20.86 | 19.40 | 16.85 | 17.85 | 18.94 | 19.66 | 20.16 | 20.34 |
| 27 | 20.46 | 20.72 | 20.96 | 21.23 | 20.76 | 19.36 | 16.89 | 17.88 | 18.95 | 19.68 | 20.18 | 20.36 |
| 28 | 20.47 | 20.73 | 20.97 | 21.26 | 20.74 | 19.29 | 16.94 | 17.93 | 18.96 | 19.70 | 20.20 | 20.37 |
| 29 | 20.48 | 20.75 | 20.99 | 21.26 | --- | 19.27 | 16.95 | 17.98 | 19.00 | 19.72 | 20.21 | 20.37 |
| 30 | 20.48 | 20.75 | 21.00 | 21.26 | --- | 19.25 | 16.99 | 18.03 | 19.02 | 19.74 | 20.22 | 20.38 |
| 31 | 20.48 | --- | 21.01 | 21.27 | --- | 19.24 | --- | 18.04 | --- | 19.76 | 20.24 | --- |
| MAX | 20.48 | 20.75 | 21.01 | 21.27 | 21.34 | 20.68 | 19.23 | 18.04 | 19.02 | 19.76 | 20.24 | 20.38 |

GROUND-WATER RECORDS

441

GALLIA COUNTY

383638082103300. Local number, G-2.

LOCATION.--Lat 38°36'38", long 82°10'33", Hydrologic Unit 05090101, 5.9 mi (9.5 km) east of Crown City.

Owner: State of Ohio.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled test water-table well, diameter 12 in (0.3 m), depth 65 ft, (19.8 m), cased.

DATUM.--Land-surface datum 552 ft (168.250 m) above mean sea level. Measuring point: Floor of instrument shelter

3.00 ft (0.914 m) above land-surface datum.

PERIOD OF RECORD.--June 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum recorded daily low, 33.10 ft (10.089 m) Feb. 10-11, 1977; minimum recorded daily low 20.95 ft (6.386 m) Feb. 21, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum recorded daily low, 33.10 ft (10.089 m) Feb. 10-11; minimum recorded daily low, 26.27 ft (8.007 m) Mar. 7.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | --- | --- | --- | 32.28 | 32.75 | 26.99 | --- | 29.10 | 32.11 | 32.22 | 32.42 | 32.52 |
| 2 | --- | --- | --- | 32.31 | 32.87 | 26.97 | --- | 29.30 | 32.14 | 32.28 | 32.39 | 32.62 |
| 3 | --- | --- | --- | 32.46 | 32.92 | 27.08 | --- | 29.47 | 32.17 | 32.44 | 32.56 | 32.54 |
| 4 | --- | --- | --- | 32.61 | 33.00 | 26.96 | --- | 29.54 | 32.24 | 32.58 | 32.61 | 32.66 |
| 5 | --- | --- | --- | 32.55 | 33.05 | 26.72 | --- | 29.48 | 32.24 | 32.58 | 32.64 | 32.75 |
| 6 | --- | --- | --- | 32.37 | 32.99 | 26.32 | --- | 29.10 | 32.32 | 32.55 | 32.77 | 32.72 |
| 7 | 32.72 | --- | --- | 32.68 | 33.08 | 26.27 | --- | 28.74 | 32.34 | 32.63 | 32.81 | 32.70 |
| 8 | 32.73 | --- | --- | 32.59 | 32.94 | 26.56 | --- | 27.88 | 32.34 | 32.64 | 32.23 | 32.85 |
| 9 | 31.97 | 29.48 | --- | 32.56 | 33.08 | 26.67 | --- | 27.71 | 32.32 | 32.39 | 32.18 | 32.87 |
| 10 | 29.72 | 29.90 | --- | 32.75 | 33.10 | --- | --- | 28.22 | 32.35 | 32.51 | 32.01 | 32.83 |
| 11 | 28.11 | --- | 30.07 | 32.76 | 33.10 | --- | --- | 28.79 | 32.30 | 32.54 | 31.93 | 32.86 |
| 12 | 27.53 | --- | 30.50 | 32.75 | 32.76 | --- | --- | 29.19 | 32.19 | 32.54 | 31.97 | 32.89 |
| 13 | 28.23 | --- | 30.53 | 32.74 | 32.30 | --- | --- | 29.35 | 32.44 | 32.54 | 31.99 | 32.93 |
| 14 | 28.70 | --- | 30.20 | 32.80 | 31.54 | --- | --- | 29.86 | 32.54 | 32.36 | 31.81 | 33.01 |
| 15 | 29.50 | --- | 30.08 | 32.78 | 31.04 | --- | --- | 30.18 | 32.55 | 32.02 | 30.97 | 32.95 |
| 16 | 29.71 | --- | 30.61 | 32.84 | 31.00 | --- | --- | 30.53 | 32.46 | 32.17 | 30.79 | 32.54 |
| 17 | 29.98 | --- | 30.81 | 32.67 | 30.98 | --- | --- | 30.65 | 32.41 | 32.40 | 30.94 | 32.58 |
| 18 | 30.37 | --- | 30.85 | 32.63 | 31.14 | --- | --- | 30.90 | 32.44 | 32.57 | 30.86 | 32.60 |
| 19 | 30.83 | --- | 30.96 | 32.53 | 31.33 | --- | --- | 30.96 | 32.25 | 32.65 | 30.68 | 32.52 |
| 20 | 31.13 | --- | 31.35 | 32.78 | 31.34 | --- | --- | 31.05 | 32.44 | 32.68 | 31.26 | 32.35 |
| 21 | 31.12 | --- | 31.45 | 32.73 | 31.50 | --- | --- | 31.28 | 32.60 | 32.25 | 31.49 | 32.21 |
| 22 | 31.30 | --- | 31.30 | 32.54 | 31.63 | --- | --- | 31.38 | 32.57 | 31.76 | 31.75 | 32.15 |
| 23 | 31.30 | --- | 31.56 | 32.57 | 31.52 | --- | --- | 31.36 | 32.51 | 31.72 | 31.88 | 32.04 |
| 24 | 31.33 | --- | 31.58 | 32.76 | 30.62 | --- | --- | 31.52 | 32.53 | 31.59 | 31.94 | 32.25 |
| 25 | 31.35 | --- | 31.66 | 32.77 | 29.66 | --- | 29.29 | 31.54 | 32.57 | 31.68 | 31.71 | 32.26 |
| 26 | --- | --- | 31.92 | 32.81 | 28.28 | --- | 29.17 | 31.47 | 32.52 | 31.43 | 31.82 | 32.13 |
| 27 | --- | --- | 31.94 | 32.80 | 27.08 | --- | 29.13 | 31.82 | 32.45 | 31.55 | 31.92 | 31.96 |
| 28 | --- | --- | 32.00 | 32.74 | 26.79 | --- | 29.39 | 31.87 | 32.41 | 31.68 | 32.16 | 31.94 |
| 29 | --- | --- | 31.94 | 32.87 | --- | --- | 29.26 | 31.90 | 32.22 | 31.99 | 32.28 | 31.77 |
| 30 | --- | --- | 31.90 | 32.84 | --- | --- | 28.90 | 32.04 | 32.26 | 32.17 | 32.34 | 31.89 |
| 31 | --- | --- | 32.13 | 32.82 | --- | --- | --- | 32.09 | --- | 32.42 | 32.43 | --- |
| MAX | --- | --- | --- | 32.87 | 33.10 | --- | --- | 32.09 | 32.60 | 32.68 | 32.81 | 33.01 |

GROUND-WATER RECORDS

HAMILTON COUNTY

390645084480500. Local number, H-21.

LOCATION.--Lat 39°06'45", long 84°48'05", Hydrologic Unit 05080002, on right bank of Ohio River, 0.7 mi (1.1 km) upstream from Great Miami River.

Owner: Dupont Corporation.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled industrial supply water-table well, diameter 16 in (0.41 m) depth 133 ft (40.54 m), screened below 117 ft (35.7 m).

PERIOD OF RECORD.--November 1964 to October 1974, November 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | DISSOLVED SODIUM (NA) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED CHLORIDE (CL) (MG/L) |
|-----------|----------------------------------|--------------------------|------------------------------|-----------------------------------|-----------------------------|----------------------------|-----------------------------|--------------------------------|--------------------------------|
| NOV 29... | 951 | 7.1 | 15 | 410 | 0 | 336 | 52 | 110 | 26 |
| DATE | TOTAL RESIDUE (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) |
| NOV 29... | 536 | 1.8 | .01 | .01 | .04 | <10 | 470 | 1 | 10 |

GROUND-WATER RECORDS

443

HAMILTON COUNTY--Continued

390653084485700. Local number, H-5.

LOCATION.--Lat 39°06'53", long 84°48'57", Hydrologic Unit 05080002, 3.1 mi (5.0 km) south of Elizabethtown.

Owner: E. I. Dupont de Nemours and Company.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled test water-table well, diameter 8 in (0.20 m), depth 122 ft (37.2 m), cased to 122 ft (37.2 m).

DATUM.--Land-surface datum is 500 ft (152.400 m) above mean sea level. Measuring point: Floor of shelter, 4.00 ft (1.219 m) above land-surface datum.

REMARKS.--Water levels affected by stages in the Ohio and Great Miami Rivers.

PERIOD OF RECORD.--April 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 74.50 ft (22.708 m) Sept. 10-11, 1957; minimum daily low, 24.15 ft (7.361 m) Mar. 16, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 54.01 ft (16.462 m) Oct. 1; minimum daily low, 38.82 ft (11.832 m) Apr. 9.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 54.01 | 52.35 | 52.72 | 52.32 | 52.45 | 44.94 | 49.61 | 52.21 | 53.26 | 52.48 | 53.65 | 53.63 |
| 2 | 53.92 | 52.14 | 52.78 | 52.34 | 52.47 | 45.89 | 49.58 | 52.23 | 53.71 | 52.60 | 53.61 | 53.66 |
| 3 | 53.89 | 52.03 | 52.76 | 52.35 | 52.39 | 46.45 | 49.37 | 52.47 | 53.78 | 52.75 | 53.65 | 53.72 |
| 4 | 53.88 | 52.09 | 52.72 | 52.43 | 52.44 | 45.86 | 48.44 | 52.60 | 53.25 | 52.78 | 53.69 | 53.55 |
| 5 | 53.79 | 52.31 | 52.66 | 52.52 | 52.57 | 45.25 | 46.89 | 52.52 | 52.45 | 52.89 | 53.72 | 53.76 |
| 6 | 53.95 | 52.57 | 52.50 | 52.46 | 52.60 | 44.89 | 44.32 | 52.35 | 52.32 | 52.84 | 53.68 | 53.76 |
| 7 | 53.96 | 52.63 | 52.58 | 52.58 | 52.54 | 45.11 | 41.67 | 52.11 | 52.93 | 52.99 | 53.70 | 53.61 |
| 8 | 53.88 | 52.73 | 52.41 | 52.57 | 52.55 | 45.78 | 39.46 | 51.62 | 53.16 | 53.01 | 53.59 | 53.82 |
| 9 | 53.77 | 52.83 | 51.97 | 52.55 | 52.52 | 46.80 | 38.82 | 50.99 | 53.34 | 52.72 | 53.55 | 53.93 |
| 10 | 53.57 | 52.90 | 51.14 | 52.60 | 52.58 | 47.59 | 40.26 | 50.96 | 53.33 | 52.72 | 53.47 | 53.90 |
| 11 | 52.32 | 52.40 | 50.84 | 52.63 | 52.55 | 48.20 | 42.18 | 51.44 | 53.25 | 52.80 | 53.43 | 53.83 |
| 12 | 49.56 | 52.87 | 51.23 | 52.67 | 52.34 | 48.31 | 44.04 | 51.13 | 51.63 | 52.89 | 53.35 | 53.83 |
| 13 | 48.05 | 52.89 | 51.34 | 52.60 | 52.11 | 47.88 | 45.46 | 51.42 | 52.20 | 52.94 | 53.26 | 53.83 |
| 14 | 49.61 | 52.89 | 51.43 | 52.62 | 51.77 | 47.20 | 47.75 | 52.40 | 52.45 | 52.95 | 53.27 | 53.99 |
| 15 | 50.74 | 52.97 | 51.39 | 52.63 | 51.28 | 45.71 | 49.22 | 52.80 | 51.28 | 52.91 | 52.94 | 53.97 |
| 16 | 51.30 | 53.08 | 51.48 | 52.54 | 50.91 | 44.52 | 49.96 | 53.09 | 51.11 | 52.97 | 52.41 | 53.84 |
| 17 | 51.67 | 53.06 | 51.75 | 52.48 | 50.96 | 44.48 | 50.60 | 53.21 | 50.91 | 52.99 | 52.58 | 53.86 |
| 18 | 51.90 | 53.01 | 51.74 | 52.44 | 51.21 | 45.87 | 51.14 | 53.26 | 50.90 | 53.16 | 52.85 | 53.79 |
| 19 | 52.10 | 52.94 | 51.75 | 52.43 | 51.45 | 46.31 | 51.67 | 53.47 | 50.83 | 53.36 | 52.82 | 53.78 |
| 20 | 52.51 | 52.84 | 51.86 | 52.41 | 51.56 | 46.28 | 51.76 | 53.47 | 50.82 | 53.47 | 52.87 | 53.73 |
| 21 | 52.72 | 52.84 | 52.02 | 52.49 | 51.60 | 45.74 | 52.07 | 53.56 | 50.92 | 53.57 | 53.01 | 53.88 |
| 22 | 52.83 | 52.84 | 51.99 | 52.50 | 51.54 | 46.23 | 52.14 | 53.59 | 50.99 | 53.56 | 53.25 | 53.71 |
| 23 | 52.78 | 52.84 | 52.13 | 52.35 | 51.50 | 47.09 | 52.32 | 53.56 | 51.02 | 53.37 | 53.29 | 53.62 |
| 24 | 52.63 | 52.82 | 52.12 | 52.30 | 50.96 | 47.38 | 52.39 | 53.61 | 50.90 | 53.31 | 53.37 | 53.63 |
| 25 | 52.85 | 52.86 | 52.18 | 52.39 | 50.35 | 47.39 | 52.43 | 53.66 | 51.65 | 53.28 | 53.31 | 52.73 |
| 26 | 52.84 | 52.81 | 52.22 | 52.40 | 49.25 | 47.60 | 52.43 | 53.74 | 50.75 | 53.32 | 53.21 | 52.28 |
| 27 | 52.83 | 52.72 | 52.18 | 52.38 | 47.22 | 47.96 | 52.47 | 53.61 | 50.91 | 53.29 | 53.28 | 52.02 |
| 28 | 52.62 | 52.78 | 52.16 | 52.44 | 45.53 | 48.47 | 52.61 | 53.69 | 52.07 | 53.33 | 53.35 | 51.98 |
| 29 | 52.11 | 52.75 | 52.16 | 52.40 | --- | 49.13 | 52.72 | 53.68 | 52.20 | 53.36 | 53.50 | 51.89 |
| 30 | 52.16 | 52.72 | 52.23 | 52.40 | --- | 49.23 | 52.45 | 53.52 | 52.49 | 53.50 | 53.56 | 51.62 |
| 31 | 52.40 | --- | 52.25 | 52.41 | --- | 49.46 | --- | 52.65 | --- | 53.57 | 53.50 | --- |
| MAX | 54.01 | 53.08 | 52.78 | 52.67 | 52.60 | 49.46 | 52.72 | 53.74 | 53.78 | 53.57 | 53.72 | 53.99 |

GROUND-WATER RECORDS

HAMILTON COUNTY--Continued

391039084291500. Local number, H-11.

LOCATION.--Lat 39°10'39", long 84°29'15", Hydrologic Unit 05090203, 5.6 mi (9.0 km) north of Riverfront Stadium in Cincinnati.

Owner: Procter and Gamble Company.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test artesian well, diameter 6 in (0.15 m), depth 148 ft (45.1 m), cased.

DATUM.--Land-surface datum is 539 ft (164.287 m) above mean sea level. Measuring point: Floor of instrument shelter 2.23 ft (0.680 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 129.72 ft (39.539 m) Oct 25, 1948; minimum daily low, 82.69 ft (25.204 m) Apr. 5, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 83.72 ft (25.518 m) Oct. 29; minimum daily low, 82.69 ft (25.204 m) Apr. 5.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 83.57 | 83.43 | 83.44 | 83.28 | 83.19 | 83.29 | 83.11 | 83.13 | 82.87 | 82.92 | 82.85 | 82.92 |
| 2 | 83.58 | 83.48 | 83.47 | 83.38 | 83.27 | 83.39 | 83.09 | 83.13 | 82.87 | 82.99 | 82.88 | 82.92 |
| 3 | 83.60 | 83.48 | 83.50 | 83.38 | 83.27 | 83.39 | 82.99 | 83.12 | 82.95 | 83.03 | 82.89 | 82.93 |
| 4 | 83.62 | 83.42 | 83.46 | 83.32 | 83.05 | 83.15 | 82.99 | 82.98 | 83.00 | 83.05 | 82.90 | 82.93 |
| 5 | 83.62 | 83.45 | 83.51 | 83.26 | 82.98 | 83.10 | 82.69 | 82.90 | 83.01 | 83.05 | 82.93 | 82.85 |
| 6 | 83.56 | 83.47 | 83.51 | 83.24 | 83.18 | 83.20 | 82.94 | 82.87 | 82.85 | 83.02 | 82.94 | 82.81 |
| 7 | 83.58 | 83.48 | 83.13 | 83.08 | 83.34 | 83.29 | 83.09 | 82.91 | 82.76 | 82.92 | 82.94 | 82.80 |
| 8 | 83.60 | 83.52 | 83.18 | 83.13 | 83.39 | 83.33 | 83.25 | 82.94 | 82.77 | 82.90 | 82.93 | 82.81 |
| 9 | 83.58 | 83.52 | 83.32 | 83.15 | 83.39 | 83.34 | 83.34 | 82.97 | 82.81 | 82.94 | 82.89 | 82.81 |
| 10 | 83.55 | 83.19 | 83.36 | 82.76 | 83.33 | 83.33 | 83.35 | 83.00 | 82.91 | 82.96 | 82.87 | 82.81 |
| 11 | 83.62 | 83.31 | 83.39 | 83.13 | 83.33 | 83.34 | 83.37 | 83.03 | 82.93 | 82.97 | 82.88 | 82.87 |
| 12 | 83.64 | 83.45 | 83.36 | 83.31 | 83.31 | 83.32 | 83.38 | 83.05 | 82.91 | 82.96 | 82.90 | 82.89 |
| 13 | 83.63 | 83.55 | 83.32 | 83.36 | 82.92 | 82.99 | 83.37 | 83.05 | 82.93 | 82.96 | 82.90 | 82.85 |
| 14 | 83.49 | 83.56 | 83.35 | 83.22 | 82.97 | 83.07 | 83.19 | 82.99 | 82.96 | 82.99 | 82.89 | 82.75 |
| 15 | 83.47 | 83.49 | 83.30 | 82.99 | 83.11 | 83.09 | 83.16 | 82.95 | 82.98 | 83.00 | 82.91 | 82.81 |
| 16 | 83.49 | 83.47 | 83.12 | 83.12 | 83.21 | 83.16 | 83.19 | 82.98 | 82.99 | 83.01 | 82.91 | 82.86 |
| 17 | 83.58 | 83.47 | 83.06 | 83.19 | 83.24 | 83.19 | 83.19 | 82.99 | 82.97 | 83.01 | 82.85 | 82.90 |
| 18 | 83.66 | 83.23 | 83.17 | 83.19 | 83.24 | 82.75 | 83.19 | 83.00 | 82.93 | 82.99 | 82.86 | 82.90 |
| 19 | 83.66 | 83.20 | 83.19 | 83.16 | 83.15 | 82.80 | 83.15 | 82.99 | 82.90 | 82.97 | 82.88 | 82.84 |
| 20 | 83.59 | 83.22 | 83.10 | 83.15 | 83.17 | 82.95 | 83.15 | 82.99 | 82.90 | 82.96 | 82.89 | 82.80 |
| 21 | 83.46 | 83.22 | 83.17 | 83.15 | 83.20 | 83.04 | 83.17 | 82.98 | 82.93 | 82.95 | 82.89 | 82.87 |
| 22 | 83.54 | 83.32 | 83.23 | 83.26 | 83.17 | 82.97 | 83.18 | 83.00 | 82.97 | 82.95 | 82.77 | 82.91 |
| 23 | 83.59 | 83.42 | 83.23 | 83.29 | 83.04 | 83.11 | 83.15 | 83.02 | 83.00 | 82.97 | 82.77 | 82.92 |
| 24 | 83.58 | 83.43 | 83.28 | 83.23 | 82.94 | 83.23 | 83.05 | 83.03 | 83.00 | 82.97 | 82.78 | 82.92 |
| 25 | 83.43 | 83.43 | 83.28 | 82.92 | 82.90 | 83.29 | 82.97 | 83.02 | 82.99 | 82.85 | 82.84 | 82.83 |
| 26 | 83.46 | 83.27 | 83.13 | 82.91 | 83.00 | 83.31 | 82.96 | 82.94 | 82.94 | 82.84 | 82.86 | 82.80 |
| 27 | 83.61 | 83.18 | 83.05 | 82.77 | 83.08 | 83.31 | 82.97 | 82.89 | 82.94 | 82.90 | 82.88 | 82.78 |
| 28 | 83.71 | 83.26 | 82.77 | 82.83 | 83.21 | 83.04 | 82.97 | 82.85 | 82.92 | 82.91 | 82.91 | 82.85 |
| 29 | 83.72 | 83.34 | 82.88 | 82.95 | --- | 82.83 | 83.07 | 82.83 | 82.90 | 82.91 | 82.92 | 82.88 |
| 30 | 83.67 | 83.43 | 82.97 | 83.05 | --- | 82.88 | 83.11 | 82.88 | 82.92 | 82.90 | 82.92 | 82.90 |
| 31 | 83.26 | --- | 83.14 | 83.12 | --- | 83.03 | --- | 82.89 | --- | 82.89 | 82.92 | --- |
| MAX | 83.72 | 83.56 | 83.51 | 83.38 | 83.39 | 83.39 | 83.38 | 83.13 | 83.01 | 83.05 | 82.94 | 82.93 |

GROUND-WATER RECORDS

445

HAMILTON COUNTY--Continued

391324084272500. Local number, H-9.

LOCATION.--Lat 39°13'24", long 84°27'25", Hydrologic Unit 05090203, 9.1 mi (14.6 km) north of Riverfront Stadium in Cincinnati.

Owner: Diamond National Corporation.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 10 in (0.25 m), depth drilled 168 ft (51.2 m) present depth 163 ft (49.7 m), cased.

DATUM.--Land-surface datum is 555.30 ft (169.255 m), above mean sea level. Measuring point: Floor of instrument shelter, 2.76 ft (0.841 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 136.80 ft (41.697 m) Nov. 9, 1947, Feb. 15, 1948; minimum daily low, 80.15 ft (24.430 m) Sept. 20, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 82.21 ft (25.058 m) Sept. 14; minimum daily low, 80.19 ft (24.442 m) Dec. 28.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 80.33 | 81.41 | 81.44 | 80.80 | 80.95 | 81.57 | 81.58 | 81.45 | 81.30 | 81.70 | 81.98 | 82.09 |
| 2 | 80.33 | 81.31 | 81.63 | 80.85 | 81.21 | 81.70 | 81.06 | 81.60 | 81.50 | 81.83 | 82.10 | 82.11 |
| 3 | 80.39 | 81.11 | 81.55 | 80.68 | 80.84 | 81.40 | 81.36 | 81.61 | 81.80 | 81.82 | 82.08 | 81.96 |
| 4 | 80.42 | 81.24 | 81.63 | 80.78 | 80.47 | 81.20 | 80.78 | 81.43 | 81.78 | 81.40 | 82.20 | 81.71 |
| 5 | 80.36 | 81.31 | 81.68 | 80.82 | 80.94 | 81.30 | 81.30 | 81.41 | 81.60 | 81.58 | 82.20 | 81.57 |
| 6 | 80.44 | 81.29 | 81.32 | 80.73 | 81.10 | 81.10 | 81.80 | 81.51 | 81.50 | 81.61 | 82.08 | 81.75 |
| 7 | 80.49 | 81.37 | 81.26 | 80.78 | 81.34 | 81.30 | 81.68 | 81.33 | 81.60 | 81.60 | 82.00 | 81.80 |
| 8 | 80.42 | 81.50 | 81.71 | 80.66 | 81.12 | 81.40 | 81.62 | 81.16 | 81.50 | 81.70 | 82.14 | 81.81 |
| 9 | 80.29 | 81.11 | 81.88 | 80.53 | 80.97 | 81.34 | 81.51 | 81.04 | 81.80 | 81.74 | 82.08 | 81.71 |
| 10 | 80.44 | 81.21 | 81.54 | 80.91 | 81.09 | 81.40 | 81.20 | 81.00 | 81.90 | 81.79 | 82.08 | 82.00 |
| 11 | 80.51 | 81.45 | 81.18 | 81.11 | 81.17 | 81.40 | 81.54 | 80.98 | 81.74 | 81.84 | 82.14 | 82.10 |
| 12 | 80.45 | 81.66 | 80.89 | 81.00 | 80.87 | 81.10 | 81.68 | 81.00 | 81.54 | 81.80 | 82.18 | 82.10 |
| 13 | 80.22 | 81.71 | 81.33 | 80.89 | 80.57 | 80.80 | 81.35 | 80.80 | 81.74 | 81.98 | 81.94 | 81.84 |
| 14 | 80.24 | 81.47 | 81.17 | 80.38 | 81.07 | 81.20 | 81.20 | 80.64 | 81.80 | 82.00 | 81.98 | 82.21 |
| 15 | 80.25 | 81.22 | 80.81 | 80.48 | 81.30 | 81.10 | 81.40 | 80.74 | 81.88 | 82.00 | 82.20 | 82.20 |
| 16 | 80.44 | 81.50 | 80.68 | 80.80 | 81.40 | 81.58 | 81.38 | 80.80 | 81.74 | 81.84 | 82.10 | 82.18 |
| 17 | 80.55 | 81.34 | 80.90 | 80.80 | 81.11 | 81.50 | 81.19 | 80.78 | 81.50 | 81.80 | 82.10 | 82.10 |
| 18 | 80.63 | 81.25 | 81.10 | 80.80 | 80.84 | 81.20 | 81.21 | 80.70 | 81.44 | 81.88 | 82.14 | 81.58 |
| 19 | 80.68 | 81.09 | 80.71 | 80.80 | 80.80 | 81.40 | 81.36 | 80.70 | 81.54 | 81.94 | 81.96 | 81.60 |
| 20 | 80.82 | 81.12 | 81.02 | 80.80 | 81.00 | 81.40 | 81.47 | 80.90 | 81.60 | 81.94 | 81.90 | 81.91 |
| 21 | 80.90 | 81.07 | 81.19 | 80.90 | 81.04 | 81.40 | 81.44 | 81.10 | 81.78 | 81.94 | 81.87 | 82.10 |
| 22 | 81.25 | 81.31 | 80.89 | 81.10 | 80.61 | 81.50 | 81.41 | 81.20 | 81.54 | 82.10 | 81.92 | 82.08 |
| 23 | 81.23 | 81.18 | 80.84 | 80.90 | 80.62 | 81.50 | 81.16 | 81.50 | 81.68 | 82.00 | 81.90 | 81.89 |
| 24 | 80.88 | 80.90 | 80.82 | 80.50 | 80.49 | 81.70 | 80.78 | 81.54 | 81.58 | 81.80 | 81.89 | 81.68 |
| 25 | 80.84 | 80.64 | 80.38 | 80.70 | 80.78 | 81.58 | 81.04 | 81.40 | 81.50 | 81.84 | 81.92 | 81.64 |
| 26 | 81.27 | 80.40 | 80.40 | 80.60 | 80.98 | 81.58 | 81.17 | 81.10 | 81.44 | 82.10 | 81.98 | 81.69 |
| 27 | 81.51 | 81.05 | 80.41 | 80.70 | 81.17 | 81.30 | 81.28 | 81.00 | 81.12 | 82.14 | 81.91 | 81.80 |
| 28 | 81.42 | 81.13 | 80.19 | 80.85 | 81.33 | 80.90 | 81.58 | 80.90 | 81.33 | 82.00 | 81.96 | 82.05 |
| 29 | 81.31 | 81.45 | 80.47 | 80.84 | --- | 81.20 | 81.66 | 81.20 | 81.57 | 81.91 | 82.06 | 81.95 |
| 30 | 81.07 | 81.48 | 80.52 | 80.90 | --- | 81.20 | 81.56 | 81.30 | 81.57 | 81.80 | 81.96 | 81.81 |
| 31 | 81.26 | --- | 80.70 | 80.84 | --- | 81.68 | --- | 81.14 | --- | 81.75 | 82.01 | --- |
| MAX | 81.51 | 81.71 | 81.88 | 81.11 | 81.40 | 81.70 | 81.80 | 81.61 | 81.90 | 82.14 | 82.20 | 82.21 |

GROUND-WATER RECORDS
HAMILTON COUNTY--Continued

391634084152600. Local number, H-22.

LOCATION.--Lat 39°16'34", long 84°15'26", Hydrologic Unit 05090202, on right bank of Little Miami River 0.5 mi (0.8 km) upstream from McKinney Road bridge at Loveland.

Owner: Loveland Water Works.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled public supply water-table well, diameter 24 in (0.61 m), depth 70 ft (21.3 m) screened below 48 ft (14.6 m).

PERIOD OF RECORD.--June 1967 to Sept. 1974, June to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | SPECIFIC CONDUCTANCE (MICRO-MHOS) | PH (UNITS) | CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L) | DISSOLVED SODIUM (NA) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED CHLORIDE (CL) (MG/L) |
|-----------|-----------------------------------|------------|--|------------------------------|---------------------------|------------------------|----------------------------|-----------------------------|--------------------------------|--------------------------------|
| NOV 04... | 680 | 7.3 | <10 | 14 | 304 | 0 | 249 | 24 | 55 | 30 |
| JUN 14... | 764 | 7.4 | 10 | 22 | 316 | 0 | 260 | 20 | 54 | 45 |

| DATE | TOTAL RESIDUE (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) |
|-----------|----------------------|--------------------------|--------------------------|-----------------------------------|-----------------------------|----------------------------|------------------------|------------------------|-----------------------------|
| NOV 04... | 446 | .48 | .01 | .02 | .09 | <10 | 1800 | 3 | 60 |
| JUN 14... | 465 | .86 | .00 | .00 | .02 | 10 | 120 | 2 | 40 |

GROUND-WATER RECORDS
HAMILTON COUNTY--Continued

447

391748084393800. Local number, H-19.

LOCATION.--Lat 39°17'48", long 84°39'38", Hydrologic Unit 05080002, on left bank of Great Miami River 1.3 mi (2.1 km) southwest of Venice.

Owner: Southwest Ohio Water Company.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Collector-type industrial supply water-table well, diameter 20 ft (6.1 m), depth 144 ft (43.9 m) horizontal intakes at 95-100 ft (29.0-30.5 m).

PERIOD OF RECORD.--1964 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICRO-MHOS) | PH (UNITS) | TEMPERATURE (DEG C) | HARDNESS (CA, MG) (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) |
|-----------|------|-----------------------------------|------------|---------------------|--------------------------|--------------------------------|----------------------------------|---------------------------|------------------------|----------------------------|
| NOV 23... | 1700 | 780 | 7.4 | 14.0 | 350 | 91 | 30 | 347 | 0 | 285 |
| FEB 09... | 1300 | 810 | 7.4 | 15.0 | 360 | 92 | 31 | 352 | 0 | 289 |
| MAY 20... | 1215 | 790 | 7.3 | 17.0 | 370 | 100 | 30 | 348 | 0 | 290 |
| AUG 09... | 0930 | 800 | 7.5 | 16.0 | 360 | 96 | 30 | 340 | 0 | 280 |

| DATE | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | TOTAL FLUORIDE (F) (MG/L) | TOTAL RESIDUE (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | DIS-SOLVED ARSENIC (AS) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) |
|-----------|-----------------------------|---------------------------------|---------------------------------|---------------------------|----------------------|--------------------------|--------------------------|---------------------------|--------------------------------|----------------------------|
| NOV 23... | 22 | 80 | 42 | .3 | 430 | .56 | .02 | -- | -- | -- |
| FEB 09... | 22 | 82 | 44 | .2 | 432 | .64 | .01 | -- | -- | -- |
| MAY 20... | 28 | 78 | 47 | .2 | 507 | .99 | .01 | -- | -- | -- |
| AUG 09... | 14 | 77 | 48 | .2 | 740 | .66 | .01 | 0 | 0 | 10 |

| DATE | DIS-SOLVED CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS-SOLVED COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS-SOLVED LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) | TOTAL ZINC (ZN) (UG/L) | DIS-SOLVED ZINC (ZN) (UG/L) |
|-----------|---------------------------------|--------------------------|-------------------------------|------------------------|------------------------|-----------------------------|-----------------------------|------------------------|-----------------------------|
| NOV 23... | -- | -- | -- | 90 | -- | -- | 340 | -- | -- |
| FEB 09... | -- | -- | -- | 80 | -- | -- | 340 | -- | -- |
| MAY 20... | -- | -- | -- | 80 | -- | -- | 340 | -- | -- |
| AUG 09... | 0 | 5 | 3 | 160 | 0 | 0 | 300 | 40 | 40 |

GROUND-WATER RECORDS

HAMILTON COUNTY--Continued

391817084393300. Local number, H-4.

LOCATION.--Lat 39°18'17", long 84°39'33", Hydrologic Unit 05080002, 0.7 mi (1.1 km) southwest of Ross.

Owner: Southwestern Ohio Water Company.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test water-table well, diameter 6 in (0.15 m), depth 100 ft (30.3 m), cased.

DATUM.--Land-surface datum (revised) is 541.57 ft (165.071 m) above mean sea level. Measuring point: Floor of instrument shelter 3.00 ft (0.914 m) above land-surface datum.

REMARKS.--Land-surface datum formerly reported as 540 ft (164.592 m) above mean sea level.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 32.16 ft (9.802 m) Nov. 20, 1971; minimum daily low, 11.60 ft (3.536 m) June 16, 1958.

EXTREMES FOR CURRENT YEAR.--Maximum recorded daily low, 30.91 ft (9.421 m) Feb. 11; minimum daily low, 24.11 ft (7.349 m) Apr. 18.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 27.87 | 28.41 | 28.71 | 28.57 | 30.57 | --- | 27.55 | 25.17 | 25.68 | 27.22 | 28.20 | 29.25 |
| 2 | 27.87 | 28.53 | 28.82 | 28.54 | 30.59 | --- | 27.55 | 24.95 | 25.79 | 27.27 | 28.21 | 29.33 |
| 3 | 27.65 | 28.61 | 28.91 | 28.56 | 30.64 | --- | 27.35 | 24.99 | 25.89 | 27.27 | 28.27 | 29.35 |
| 4 | 27.49 | 28.67 | 29.01 | 28.83 | 30.68 | --- | 26.92 | 25.04 | 26.04 | 27.22 | 28.35 | 29.35 |
| 5 | 27.67 | 28.72 | 29.01 | 29.06 | 30.66 | --- | 26.34 | 25.07 | 26.10 | 27.25 | 28.43 | 29.24 |
| 6 | 27.77 | 28.75 | 28.93 | 29.19 | 30.57 | --- | 25.89 | 25.07 | 26.14 | 27.27 | 28.47 | 29.16 |
| 7 | 27.86 | 28.68 | 29.07 | 29.30 | 30.69 | --- | 25.56 | 25.07 | 26.17 | 27.37 | 28.47 | 29.23 |
| 8 | 27.96 | 28.48 | 29.18 | 29.40 | 30.78 | --- | 25.30 | 25.07 | 26.27 | 27.43 | 28.33 | 29.31 |
| 9 | 27.96 | 28.62 | 29.22 | 29.44 | 30.83 | --- | 24.87 | 24.88 | 26.42 | 27.50 | 28.35 | 29.40 |
| 10 | 27.81 | 28.69 | 29.29 | 29.42 | 30.88 | 28.66 | 24.49 | 24.88 | 26.49 | 27.50 | 28.40 | 29.50 |
| 11 | 27.59 | 28.74 | 29.31 | 29.51 | 30.91 | 28.66 | 24.19 | 24.88 | 26.50 | 27.39 | 28.45 | 29.50 |
| 12 | 27.74 | 28.80 | 29.15 | 29.59 | 30.77 | 28.66 | 24.26 | 24.89 | 26.33 | 27.42 | 28.50 | 29.53 |
| 13 | 27.91 | 28.87 | 28.97 | 29.60 | 30.59 | 28.55 | 24.33 | 24.90 | 26.18 | 27.52 | 28.54 | 29.60 |
| 14 | 28.02 | 28.85 | 29.15 | 29.60 | 30.52 | 28.28 | 24.40 | 24.87 | 26.27 | 27.60 | 28.54 | 29.65 |
| 15 | 28.12 | 28.75 | 29.26 | 29.83 | 30.22 | 28.17 | 24.48 | 24.85 | 26.41 | 27.63 | 28.47 | 29.68 |
| 16 | 28.19 | 28.88 | 29.34 | 29.85 | --- | 28.17 | 24.49 | 24.92 | 26.51 | 27.66 | 28.54 | 29.72 |
| 17 | 28.22 | 28.97 | 29.40 | 29.87 | --- | 28.17 | 24.34 | 25.01 | 26.61 | 27.61 | 28.58 | 29.77 |
| 18 | 28.20 | 29.04 | 29.43 | 30.00 | --- | 28.22 | 24.11 | 25.08 | 26.70 | 27.54 | 28.59 | 29.79 |
| 19 | 28.27 | 29.10 | 29.29 | 30.06 | --- | 28.22 | 24.24 | 25.15 | 26.80 | 27.63 | 28.64 | 29.72 |
| 20 | 28.29 | 29.13 | 29.37 | 30.12 | --- | 28.07 | 24.41 | 25.21 | 26.84 | 27.67 | 28.66 | 29.72 |
| 21 | 28.33 | 29.02 | 29.49 | 30.16 | --- | 27.79 | 24.51 | 25.30 | 26.85 | 27.72 | 28.66 | 29.72 |
| 22 | 28.37 | 28.79 | 29.56 | 30.16 | --- | 27.69 | 24.51 | 25.36 | 26.89 | 27.76 | 28.66 | 29.74 |
| 23 | 28.41 | 28.96 | 29.52 | 30.05 | --- | 27.73 | 24.31 | 25.47 | 26.96 | 27.82 | 28.68 | 29.76 |
| 24 | 28.41 | 29.08 | 29.46 | 30.12 | --- | 27.77 | 24.25 | 25.54 | 27.02 | 27.83 | 28.77 | 29.84 |
| 25 | 28.29 | 29.12 | 29.26 | 30.19 | --- | 27.82 | 24.54 | 25.58 | 27.08 | 27.83 | 28.86 | 29.87 |
| 26 | 28.34 | 29.01 | 29.10 | 30.29 | --- | 27.83 | 24.74 | 25.65 | 27.15 | 27.92 | 28.96 | 29.81 |
| 27 | 28.41 | 28.67 | 28.97 | 30.37 | --- | 27.75 | 24.88 | 25.70 | 27.18 | 27.99 | 29.07 | 29.85 |
| 28 | 28.47 | 28.46 | 28.85 | 30.46 | --- | 27.48 | 25.03 | 25.78 | 27.18 | 28.06 | 29.13 | 29.89 |
| 29 | 28.51 | 28.33 | 28.73 | 30.49 | --- | 27.46 | 25.15 | 25.78 | 27.20 | 28.17 | 29.20 | 29.93 |
| 30 | 28.57 | 28.54 | 28.67 | 30.44 | --- | 27.51 | 25.20 | 25.51 | 27.21 | 28.23 | 29.21 | 29.98 |
| 31 | 28.57 | --- | 28.60 | 30.48 | --- | 27.53 | --- | 25.55 | --- | 28.25 | 29.21 | --- |
| MAX | 28.57 | 29.13 | 29.56 | 30.49 | --- | --- | 27.55 | 25.78 | 27.21 | 28.25 | 29.21 | 29.98 |

GROUND-WATER RECORDS

449

JEFFERSON COUNTY

401853080361100. Local number JE-10.

LOCATION.--Lat 40°18'53", long 80°36'11", Hydrologic Unit 05030101, on right bank of Ohio River 0.4 mi (0.6 km) upstream from Cross Creek, at Mingo Junction.

Owner: City of Mingo Junction.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Collector type public supply water-table well, diameter 13 ft (4.0 m), depth 74 ft (22.6 m), cased.

PERIOD OF RECORD.--June 1967 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | SPECIFIC CONDUCTANCE (MICRO-MHOS) | PH (UNITS) | CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L) | DISSOLVED SODIUM (NA) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED CHLORIDE (CL) (MG/L) |
|-----------|-----------------------------------|------------|--|------------------------------|---------------------------|------------------------|----------------------------|-----------------------------|--------------------------------|--------------------------------|
| NOV 09... | 674 | 7.0 | <10 | 33 | 114 | 0 | 94 | 18 | 160 | 41 |
| JUN 02... | 631 | 6.9 | 2 | 31 | 90 | 0 | 74 | 18 | 190 | 40 |
| AUG 30... | 660 | 7.0 | 10 | 32 | 114 | 0 | 94 | 18 | 150 | 40 |

| DATE | TOTAL RESIDUE (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) |
|-----------|----------------------|--------------------------|--------------------------|-----------------------------------|-----------------------------|----------------------------|------------------------|------------------------|-----------------------------|
| NOV 09... | 414 | .05 | .01 | 1.0 | .03 | <10 | 280 | 3 | 1700 |
| JUN 02... | 412 | .06 | .00 | 1.0 | .01 | 20 | 290 | 5 | 1400 |
| AUG 30... | 419 | .08 | .00 | 1.2 | .01 | <10 | 210 | 5 | 1600 |

GROUND-WATER RECORDS

LICKING COUNTY

400302082250800. Local number, LI-1.

LOCATION.--Lat 40°03'02", long 82°25'08", Hydrologic Unit 05040006, at Roper Corporation in Newark.

Owner: Roper Corporation.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 8 in (0.20 m), depth 68 ft (20.7 m) cased.

DATUM.--Land-surface datum is 850 ft (259.080 m) above mean sea level. Measuring point: Floor of instrument shelter, 2.95 ft (0.899 m) above land-surface datum.

PERIOD OF RECORD.--August 1951 to September 1977 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 26.24 ft (7.998 m) Mar. 5, 1964; minimum daily low, 21.80 ft (6.645 m) Feb. 10, 16, 1952.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 24.35 ft (7.422 m) Feb. 6; minimum daily low, 23.28 ft (7.096 m) Apr. 13.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 24.07 | 24.11 | 24.11 | 24.23 | 24.32 | 24.07 | 23.67 | 23.42 | 23.61 | 23.81 | 23.71 | 23.72 |
| 2 | 24.07 | 24.05 | 24.18 | 24.25 | 24.33 | 24.06 | 23.60 | 23.41 | 23.66 | 23.82 | 23.72 | 23.72 |
| 3 | 24.09 | 23.98 | 24.15 | 24.15 | 24.19 | 23.98 | 23.73 | 23.44 | 23.70 | 23.80 | 23.71 | 23.73 |
| 4 | 24.10 | 24.02 | 24.15 | 24.18 | 24.22 | 24.00 | 23.49 | 23.35 | 23.66 | 23.78 | 23.75 | 23.71 |
| 5 | 24.08 | 24.01 | 24.17 | 24.21 | 24.34 | 24.02 | 23.64 | 23.39 | 23.61 | 23.75 | 23.74 | 23.73 |
| 6 | 24.13 | 24.00 | 24.06 | 24.18 | 24.35 | 23.98 | 23.63 | 23.41 | 23.68 | 23.72 | 23.73 | 23.76 |
| 7 | 24.12 | 24.01 | 24.11 | 24.25 | 24.33 | 23.96 | 23.52 | 23.41 | 23.67 | 23.73 | 23.73 | 23.75 |
| 8 | 24.07 | 24.03 | 24.19 | 24.23 | 24.27 | 23.96 | 23.53 | 23.40 | 23.66 | 23.74 | 23.71 | 23.76 |
| 9 | 24.12 | 23.94 | 24.20 | 24.23 | 24.23 | 23.92 | 23.45 | 23.39 | 23.74 | 23.77 | 23.72 | 23.75 |
| 10 | 24.14 | 24.01 | 24.13 | 24.30 | 24.28 | 23.93 | 23.34 | 23.38 | 23.74 | 23.76 | 23.71 | 23.81 |
| 11 | 24.14 | 24.04 | 24.17 | 24.32 | 24.24 | 23.94 | 23.37 | 23.39 | 23.66 | 23.72 | 23.71 | 23.82 |
| 12 | 24.11 | 24.08 | 24.14 | 24.27 | 24.21 | 23.86 | 23.35 | 23.39 | 23.67 | 23.73 | 23.70 | 23.79 |
| 13 | 24.09 | 24.06 | 24.23 | 24.24 | 24.24 | 23.92 | 23.28 | 23.33 | 23.68 | 23.75 | 23.65 | 23.73 |
| 14 | 24.10 | 24.00 | 24.13 | 24.16 | 24.26 | 23.95 | 23.30 | 23.39 | 23.70 | 23.73 | 23.68 | 23.84 |
| 15 | 24.15 | 24.03 | 24.07 | 24.20 | 24.27 | 23.87 | 23.32 | 23.42 | 23.70 | 23.68 | 23.73 | 23.82 |
| 16 | 24.17 | 24.08 | 24.10 | 24.28 | 24.22 | 23.93 | 23.33 | 23.44 | 23.67 | 23.67 | 23.61 | 23.76 |
| 17 | 24.16 | 24.02 | 24.19 | 24.24 | 24.18 | 23.86 | 23.31 | 23.42 | 23.66 | 23.67 | 23.63 | 23.73 |
| 18 | 24.17 | 24.05 | 24.22 | 24.21 | 24.14 | 23.94 | 23.30 | 23.42 | 23.70 | 23.66 | 23.64 | 23.67 |
| 19 | 24.08 | 24.05 | 24.11 | 24.23 | 24.14 | 23.92 | 23.33 | 23.44 | 23.71 | 23.65 | 23.60 | 23.65 |
| 20 | 24.10 | 24.04 | 24.13 | 24.26 | 24.14 | 23.88 | 23.35 | 23.46 | 23.73 | 23.67 | 23.61 | 23.68 |
| 21 | 24.12 | 24.06 | 24.22 | 24.26 | 24.17 | 23.82 | 23.37 | 23.48 | 23.77 | 23.67 | 23.57 | 23.69 |
| 22 | 24.20 | 24.12 | 24.18 | 24.31 | 24.15 | 23.87 | 23.36 | 23.50 | 23.76 | 23.71 | 23.62 | 23.66 |
| 23 | 24.17 | 24.12 | 24.25 | 24.25 | 24.15 | 23.79 | 23.32 | 23.53 | 23.74 | 23.69 | 23.61 | 23.62 |
| 24 | 24.06 | 24.07 | 24.23 | 24.16 | 24.12 | 23.76 | 23.32 | 23.52 | 23.72 | 23.63 | 23.68 | 23.59 |
| 25 | 24.10 | 24.05 | 24.10 | 24.20 | 24.14 | 23.72 | 23.35 | 23.50 | 23.75 | 23.69 | 23.69 | 23.62 |
| 26 | 24.15 | 24.05 | 24.18 | 24.23 | 24.14 | 23.71 | 23.39 | 23.51 | 23.77 | 23.72 | 23.65 | 23.62 |
| 27 | 24.16 | 24.13 | 24.18 | 24.23 | 24.14 | 23.62 | 23.40 | 23.53 | 23.76 | 23.69 | 23.68 | 23.65 |
| 28 | 24.13 | 24.10 | 24.15 | 24.34 | 24.07 | 23.59 | 23.52 | 23.53 | 23.75 | 23.65 | 23.70 | 23.66 |
| 29 | 24.09 | 24.16 | 24.24 | 24.28 | --- | 23.66 | 23.50 | 23.60 | 23.80 | 23.64 | 23.68 | --- |
| 30 | 24.03 | 24.14 | 24.20 | 24.30 | --- | 23.66 | 23.46 | 23.62 | 23.79 | 23.67 | 23.68 | --- |
| 31 | 24.12 | --- | 24.23 | 24.26 | --- | 23.74 | --- | 23.55 | --- | 23.67 | 23.71 | --- |
| MAX | 24.20 | 24.16 | 24.25 | 24.34 | 24.35 | 24.07 | 23.73 | 23.62 | 23.80 | 23.82 | 23.75 | 23.84 |

GROUND-WATER RECORDS

451

MADISON COUNTY

395740083255700. Local number, M-3.

LOCATION.--Lat 39°57'40", long 83°25'57", Hydrologic Unit 05060002, 5.2 mi (8.4 km) north of London.

Owner: State of Ohio.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled test artesian well, diameter 12 in (0.3 m), depth 290 ft (88.4 m) cased to 145 ft (44.2 m).

DATUM.--Land-surface datum is 1,020 ft (310.896 m) above mean sea level. Measuring point: Floor of instrument shelter 3.00 ft (0.914 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 9.13 ft (2.783 m) Feb. 7-8, 1977; minimum daily low, 3.93 ft (1.198 m) Feb. 25, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 9.13 ft (2.783 m) Feb. 7-8; minimum daily low, 5.64 ft (1.719 m) Apr. 5.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 | 7.81 | 8.10 | 8.24 | 8.67 | 9.03 | 7.80 | 6.30 | 6.23 | 6.63 | 7.35 | 8.23 | 8.56 |
| 2 | 7.86 | 8.08 | 8.33 | 8.72 | 9.04 | 7.80 | 6.16 | 6.22 | 6.71 | 7.43 | 8.26 | 8.58 |
| 3 | 7.91 | 7.98 | 8.30 | 8.69 | 8.96 | 7.73 | 6.14 | 6.23 | 6.82 | 7.45 | 8.29 | 8.57 |
| 4 | 7.93 | 8.02 | 8.34 | 8.64 | 8.89 | 7.50 | 5.95 | 6.08 | 6.83 | 7.45 | 8.35 | 8.58 |
| 5 | 7.92 | 8.01 | 8.35 | 8.67 | 8.98 | 7.46 | 5.64 | 6.02 | 6.76 | 7.47 | 8.42 | 8.56 |
| 6 | 7.94 | 8.00 | 8.31 | 8.70 | 9.06 | 7.42 | 5.75 | 6.04 | 6.71 | 7.47 | 8.45 | 8.60 |
| 7 | 7.98 | 8.03 | 8.21 | 8.65 | 9.13 | 7.31 | 5.75 | 6.09 | 6.75 | 7.49 | 8.44 | 8.65 |
| 8 | 7.98 | 8.09 | 8.34 | 8.71 | 9.13 | 7.26 | 5.77 | 6.05 | 6.74 | 7.52 | 8.40 | 8.67 |
| 9 | 7.92 | 8.01 | 8.39 | 8.72 | 9.05 | 7.17 | 5.75 | 6.06 | 6.85 | 7.84 | 8.43 | 8.65 |
| 10 | 8.01 | 7.94 | 8.34 | 8.62 | 9.04 | 7.10 | 5.71 | 6.14 | 6.91 | 8.01 | 8.46 | 8.73 |
| 11 | 8.05 | 8.01 | 8.38 | 8.77 | 9.04 | 7.09 | 5.79 | 6.32 | 6.91 | 8.09 | 8.44 | 8.78 |
| 12 | 8.09 | 8.10 | 8.27 | 8.83 | 9.00 | 7.00 | 5.82 | 6.25 | 6.92 | 7.84 | 8.35 | 8.78 |
| 13 | 8.02 | 8.14 | 8.41 | 8.82 | 8.87 | 6.82 | 5.79 | 6.28 | 7.04 | 7.83 | 8.25 | 8.70 |
| 14 | 7.99 | 8.10 | 8.40 | 8.66 | 8.88 | 6.80 | 5.81 | 6.32 | 7.04 | 7.85 | 8.21 | 8.75 |
| 15 | 8.00 | 8.03 | 8.29 | 8.66 | 8.84 | 6.75 | 5.84 | 6.35 | 7.05 | 7.84 | 8.25 | 8.76 |
| 16 | 8.12 | 8.11 | 8.27 | 8.77 | --- | 6.72 | 5.97 | 6.59 | 7.05 | 7.87 | 8.20 | 8.74 |
| 17 | 8.18 | 8.06 | 8.36 | 8.72 | 8.72 | 6.71 | 5.93 | 6.58 | 7.02 | 7.84 | 8.16 | 8.73 |
| 18 | 8.23 | 8.01 | 8.43 | 8.70 | 8.73 | 6.52 | 5.93 | 6.55 | 7.06 | 7.88 | 8.41 | 8.70 |
| 19 | 8.16 | 8.03 | 8.39 | 8.70 | 8.67 | 6.59 | 5.95 | 6.53 | 7.06 | 7.89 | 8.27 | 8.55 |
| 20 | 8.07 | 8.02 | 8.33 | 8.74 | 8.64 | 6.51 | 6.11 | 6.59 | 7.09 | 7.91 | 8.28 | 8.45 |
| 21 | 8.10 | 8.04 | 8.48 | 8.79 | 8.63 | 6.54 | 6.10 | 6.52 | 7.17 | 7.83 | 8.25 | 8.36 |
| 22 | 8.21 | 8.16 | 8.51 | 8.89 | 8.53 | 6.39 | 6.07 | 6.49 | 7.23 | 7.93 | 8.21 | 8.27 |
| 23 | 8.22 | 8.18 | 8.47 | 8.93 | 8.54 | 6.42 | 6.01 | 6.58 | 7.34 | 7.95 | 8.26 | 8.15 |
| 24 | 8.12 | 8.18 | 8.55 | 8.80 | 8.29 | 6.38 | 5.99 | 6.62 | 7.24 | 7.94 | 8.30 | 8.04 |
| 25 | 8.07 | 8.14 | 8.44 | 8.71 | 8.12 | 6.34 | 5.97 | 6.58 | 7.20 | 7.99 | 8.39 | 8.01 |
| 26 | 8.13 | 8.08 | 8.39 | 8.71 | 8.06 | 6.35 | 6.03 | 6.69 | 7.25 | 8.11 | 8.41 | 7.94 |
| 27 | 8.20 | 8.14 | 8.42 | 8.72 | 7.89 | 6.30 | 6.06 | 6.72 | 7.40 | 8.17 | 8.43 | 7.98 |
| 28 | 8.24 | 8.17 | 8.34 | 8.81 | 7.86 | 6.12 | 6.18 | 6.56 | 7.25 | 8.17 | 8.47 | 7.99 |
| 29 | 8.17 | 8.27 | 8.45 | 8.83 | --- | 6.15 | 6.23 | 6.60 | 7.29 | 8.16 | 8.47 | 8.00 |
| 30 | 8.11 | 8.26 | 8.55 | 8.89 | --- | 6.14 | 6.25 | 6.68 | 7.37 | 8.16 | 8.48 | 7.98 |
| 31 | 8.06 | --- | 8.58 | 8.91 | --- | 6.30 | --- | 6.65 | --- | 8.15 | 8.51 | --- |
| MAX | 8.24 | 8.27 | 8.58 | 8.93 | 9.13 | 7.80 | 6.30 | 6.72 | 7.40 | 8.17 | 8.51 | 8.78 |

GROUND-WATER RECORDS

MAHONING COUNTY

410042080453800. Local number, MA-1.

LOCATION.--Lat 41°00'42", long 80°45'38", Hydrologic Unit, 05030103, in County Fairgrounds at south edge of Canfield.

Owner: Canfield Water Department.

AQUIFER.--Sandstone of Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in (0.2 m), depth 170 ft (51.8 m) cased.

DATUM.--Land-surface datum is 1,160 ft (353.568 m) above mean sea level. Measuring point: Floor of instrument shelter at land-surface datum.

PERIOD OF RECORD.--May 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 110.75 ft (33.757 m) Sept. 18, 1946; minimum daily low, 30.35 ft (9.251 m) Apr. 23, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum recorded daily low, 42.52 ft (12.960 m) Aug. 8; minimum daily low, 33.88 ft (10.327 m) Apr. 24.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-----|-------|-------|-------|-------|-------|-------|-------|-----|
| 1 | --- | 35.87 | 35.12 | | --- | 34.88 | 34.58 | 34.03 | 36.36 | 36.02 | 35.41 | |
| 2 | --- | 35.84 | 35.16 | | --- | 35.05 | 34.55 | 39.05 | 36.42 | 36.10 | 35.42 | |
| 3 | --- | 35.78 | 35.19 | | --- | 35.14 | 34.18 | 35.78 | 36.44 | 39.73 | 35.64 | |
| 4 | --- | 35.76 | 35.17 | | --- | 35.10 | 34.19 | 35.07 | 36.43 | 38.01 | 35.70 | |
| 5 | --- | 35.73 | 35.12 | | --- | 35.05 | 34.15 | 34.76 | 36.31 | 37.32 | 36.60 | |
| 6 | --- | 35.71 | 35.05 | | --- | 35.16 | 34.25 | 34.66 | 36.19 | 36.80 | 36.69 | |
| 7 | --- | 35.64 | 34.91 | | --- | 35.20 | 34.25 | 34.60 | 36.22 | 36.34 | 42.52 | |
| 8 | --- | 35.57 | 34.93 | | --- | 35.23 | 34.27 | 34.54 | 36.20 | 36.07 | --- | |
| 9 | --- | 35.52 | 34.94 | | --- | 35.23 | 34.24 | 39.34 | 36.13 | 36.02 | --- | |
| 10 | --- | 35.44 | 34.94 | | --- | 35.25 | 34.18 | 36.03 | 36.18 | 35.94 | --- | |
| 11 | --- | 35.44 | 34.92 | | --- | 35.31 | 34.17 | 35.19 | 36.17 | 35.84 | --- | |
| 12 | --- | 35.45 | 34.84 | | --- | 35.29 | 34.19 | 35.73 | 36.12 | 35.76 | --- | |
| 13 | --- | 35.45 | 34.88 | | --- | 34.84 | 34.19 | 36.39 | 36.14 | 35.78 | --- | |
| 14 | --- | 35.37 | 34.88 | | --- | 34.97 | 34.18 | 37.89 | 36.17 | 35.85 | --- | |
| 15 | --- | 35.28 | 34.89 | | 34.61 | 35.05 | 34.22 | 36.80 | 36.23 | 35.85 | --- | |
| 16 | --- | 35.30 | --- | | 34.60 | 35.24 | 34.22 | 36.44 | 36.26 | 35.85 | --- | |
| 17 | --- | 35.30 | --- | | 34.61 | 35.24 | 34.17 | 36.30 | 36.28 | 35.65 | --- | |
| 18 | --- | 35.49 | --- | | 34.61 | 35.08 | 34.16 | 36.15 | 35.89 | 35.67 | --- | |
| 19 | --- | 35.66 | --- | | 34.59 | 34.80 | 34.15 | 36.01 | 35.97 | 35.68 | --- | |
| 20 | --- | 35.65 | --- | | 34.56 | 34.80 | 34.16 | 35.96 | 36.00 | 35.67 | --- | |
| 21 | --- | 35.53 | --- | | 34.56 | 34.76 | 34.16 | 38.35 | 36.08 | 35.68 | --- | |
| 22 | 36.73 | 35.42 | --- | | 34.54 | 34.73 | 34.17 | 37.47 | 36.11 | 35.57 | --- | |
| 23 | 36.77 | 35.40 | --- | | 34.45 | 34.74 | 34.13 | 36.68 | 36.13 | 35.62 | --- | |
| 24 | 36.76 | 35.34 | --- | | 34.45 | 34.77 | 33.88 | 36.53 | 36.13 | 35.57 | --- | |
| 25 | 36.70 | 35.29 | --- | | 34.38 | 34.78 | 33.95 | 36.43 | 36.12 | 35.49 | --- | |
| 26 | 36.75 | 35.17 | --- | | 34.48 | 34.78 | 33.95 | 36.44 | 36.09 | 35.62 | --- | |
| 27 | 36.66 | 35.11 | --- | | 34.38 | 34.74 | 33.97 | 36.44 | 36.20 | 35.65 | --- | |
| 28 | 36.43 | 35.08 | --- | | 34.63 | 34.64 | 33.98 | 37.00 | 36.15 | 35.69 | --- | |
| 29 | 36.27 | 35.02 | --- | | --- | 34.50 | 34.08 | 36.55 | 36.02 | 35.69 | --- | |
| 30 | 36.15 | 35.09 | --- | | --- | 34.53 | 34.08 | 36.43 | 36.07 | 35.57 | --- | |
| 31 | 35.93 | --- | --- | | --- | 34.58 | --- | 36.37 | --- | 35.49 | --- | |
| MAX | --- | 35.87 | --- | | --- | 35.31 | 34.58 | 39.34 | 36.44 | 39.73 | --- | |

GROUND-WATER RECORDS

453

MARION COUNTY

403413083170500. Local number, MN-4.

LOCATION.--Lat 40°34'13", long 83°17'05", Hydrologic Unit 05060001, 1.9 mi (3.1 km) southeast of New Blcomington.

Owner: State of Ohio.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled test artesian well, diameter 12 in (0.3 m), depth 290 ft (88.4 m), cased to 33 ft (10.1 m).

DATUM.--Land-surface datum is 915.96 ft (279.185 m) above mean sea level. Measuring point: Floor of shelter 3.00 ft (0.914 m) above land-surface datum.

PERIOD OF RECORD.--January 1973 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 18.83 ft (5.739 m) Oct. 4, 1973; minimum daily low, 0.61 ft (0.186 m) Mar. 18, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum recorded daily low, 18.57 ft (5.660 m) Aug. 10; minimum daily low, 5.60 ft (1.707 m) May 9.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|------|------|------|------|------|------|------|------|-------|-------|------|
| 1 | 8.15 | 8.77 | 8.19 | 8.63 | 9.24 | 8.23 | 6.61 | 6.09 | 6.63 | 7.21 | 17.03 | 9.76 |
| 2 | 8.07 | 8.33 | 8.28 | 8.67 | 9.25 | 8.20 | 6.40 | 6.06 | 6.72 | 7.25 | 17.21 | 9.75 |
| 3 | 8.07 | 8.16 | 8.27 | 8.63 | 9.14 | 8.14 | 6.31 | 6.07 | 7.19 | 7.25 | 17.39 | 9.77 |
| 4 | 8.08 | 8.10 | 8.30 | 8.60 | 9.05 | 7.93 | 6.06 | 5.95 | 6.78 | 7.21 | 17.53 | 9.76 |
| 5 | 11.55 | 8.11 | 8.31 | 8.65 | 9.22 | 7.89 | 5.67 | 5.74 | 6.71 | 7.19 | 17.09 | 9.73 |
| 6 | 12.97 | 8.10 | 8.26 | 8.56 | 9.29 | 7.88 | 5.83 | 5.64 | 6.70 | 7.18 | 17.14 | 9.79 |
| 7 | 15.52 | 8.12 | 8.16 | 8.66 | 9.32 | 7.82 | 5.81 | 5.65 | 6.72 | 7.20 | 17.11 | 9.82 |
| 8 | 16.65 | 8.29 | 8.30 | 8.67 | 9.29 | 7.79 | 5.88 | 5.61 | 6.72 | 7.28 | 17.13 | 9.85 |
| 9 | 15.63 | 8.09 | 8.32 | 8.70 | 9.16 | 7.68 | 5.85 | 5.60 | 6.81 | 7.39 | 12.81 | 9.82 |
| 10 | 12.11 | 8.04 | 8.30 | 8.65 | 9.15 | 7.66 | 5.79 | 5.61 | 6.86 | 7.44 | 18.57 | --- |
| 11 | 14.62 | 8.12 | 8.34 | 8.80 | 9.16 | 7.65 | 5.86 | 5.68 | 6.81 | 7.42 | 10.14 | --- |
| 12 | 15.19 | 8.17 | 8.24 | 8.85 | 9.12 | 7.58 | 6.16 | 5.72 | 6.77 | 7.45 | 9.72 | --- |
| 13 | 15.43 | 8.20 | 8.36 | 8.81 | 8.98 | 7.40 | 5.88 | 5.70 | 6.81 | 7.56 | 9.46 | --- |
| 14 | 15.81 | 8.14 | 8.34 | 8.65 | 9.02 | 7.43 | 5.93 | 5.77 | 6.84 | 7.64 | 9.27 | --- |
| 15 | 15.70 | 9.59 | 8.88 | 8.70 | 9.06 | 7.40 | 5.98 | 5.88 | 6.87 | 7.67 | 9.24 | --- |
| 16 | 15.70 | 8.21 | 8.25 | 8.83 | 9.05 | 7.43 | 6.04 | 5.97 | 6.87 | 7.73 | 9.14 | --- |
| 17 | 15.77 | 8.13 | 8.26 | 8.81 | 9.01 | 7.38 | 6.07 | 6.01 | 6.86 | 7.73 | 9.16 | --- |
| 18 | 11.85 | 8.02 | 8.29 | 8.77 | 8.90 | 7.11 | 6.10 | 6.02 | 6.85 | 7.81 | 9.21 | --- |
| 19 | 10.00 | 8.04 | 8.25 | 8.77 | 8.83 | 7.12 | 6.13 | 6.10 | 6.90 | 7.83 | 9.24 | --- |
| 20 | 15.23 | 8.04 | 9.88 | 8.83 | 8.83 | 6.92 | 6.15 | 6.14 | 6.91 | 8.27 | 9.23 | --- |
| 21 | 12.52 | 8.05 | 8.40 | 8.88 | 8.84 | 6.92 | 6.20 | 6.21 | 7.05 | 11.99 | 9.16 | --- |
| 22 | 9.95 | 8.16 | 8.40 | 8.96 | 8.75 | 6.77 | 6.21 | 6.28 | 7.11 | 8.31 | 9.13 | --- |
| 23 | 9.39 | 8.16 | 8.37 | 8.97 | 8.76 | 6.76 | 6.13 | 6.35 | 7.13 | 8.03 | 9.18 | --- |
| 24 | 9.03 | 8.14 | 8.41 | 8.87 | 8.59 | 6.65 | 6.08 | 6.37 | 7.44 | 7.88 | 9.22 | --- |
| 25 | 8.80 | 8.10 | 8.28 | 8.85 | 8.49 | 6.61 | 6.01 | 6.38 | 7.14 | 11.47 | 9.30 | --- |
| 26 | 8.72 | 8.01 | 8.26 | 8.85 | 8.48 | 6.60 | 6.01 | 6.42 | 7.19 | 13.50 | 9.43 | --- |
| 27 | 8.94 | 8.10 | 8.29 | 8.90 | 8.34 | 6.54 | 6.00 | 6.46 | 7.65 | 13.45 | 9.57 | --- |
| 28 | 8.73 | 8.11 | 8.23 | 9.02 | 8.31 | 6.39 | 6.07 | 6.49 | 7.25 | 10.08 | 9.66 | --- |
| 29 | 14.11 | 8.19 | 8.36 | 9.04 | --- | 6.42 | 6.13 | 6.64 | 7.24 | 14.71 | 9.73 | --- |
| 30 | 10.81 | 8.21 | 8.40 | 9.12 | --- | 6.40 | 6.12 | 6.73 | 7.22 | 16.05 | 9.76 | --- |
| 31 | 8.89 | --- | 8.49 | 9.11 | --- | 6.55 | --- | 6.70 | --- | 16.61 | 9.74 | --- |
| MAX | 16.65 | 9.59 | 9.88 | 9.12 | 9.32 | 8.23 | 6.61 | 6.73 | 7.65 | 16.61 | 18.57 | --- |

GROUND-WATER RECORDS

MIAMI COUNTY

395848084085500. Local number, MI-3.

LOCATION.--Lat 39°58'48", long 84°08'55", Hydrologic Unit 05080001, 2.0 mi (3.2 km) northeast of Tipp City.

Owner: Trojan Farms Incorporated.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 5 in (0.13 m), depth 48 ft (14.6 m), cased.

DATUM.--Land-surface datum is 804.78 ft (245.297 m) above mean sea level. Measuring point: Floor of shelter 3.50

ft (1.067 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 15.61 ft (4.758 m) Feb. 4, 1971; minimum daily low, 7.53 ft (2.295 m) Feb. 25, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 12.68 ft (3.865 m) Jan. 26-28; minimum daily low, 9.87 ft (3.008 m) Apr. 5.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 12.26 | 12.41 | 12.54 | 12.64 | 12.66 | 11.34 | 11.28 | 10.79 | 11.00 | 11.18 | 11.91 | 12.36 |
| 2 | 12.27 | 12.41 | 12.55 | 12.64 | 12.66 | 11.35 | 11.25 | 10.82 | 11.04 | 10.99 | 11.93 | 12.37 |
| 3 | 12.28 | 12.42 | 12.55 | 12.64 | 12.65 | 11.36 | 10.31 | 10.83 | 11.07 | 11.03 | 11.96 | 12.39 |
| 4 | 12.29 | 12.43 | 12.56 | 12.65 | 12.65 | 11.34 | 9.95 | 10.83 | 11.10 | 11.07 | 11.99 | 12.40 |
| 5 | 12.29 | 12.44 | 12.56 | 12.65 | 12.65 | 11.26 | 9.87 | 10.35 | 11.11 | 11.11 | 12.01 | 12.41 |
| 6 | 12.30 | 12.44 | 12.55 | 12.65 | 12.65 | 11.24 | 9.91 | 10.26 | 11.15 | 11.15 | 12.04 | 12.41 |
| 7 | 12.30 | 12.45 | 12.56 | 12.66 | 12.65 | 11.25 | 9.94 | 10.20 | 11.18 | 11.18 | 12.05 | 12.42 |
| 8 | 12.30 | 12.45 | 12.56 | 12.66 | 12.65 | 11.26 | 9.99 | 10.16 | 11.20 | 11.23 | 12.06 | 12.43 |
| 9 | 12.32 | 12.45 | 12.56 | 12.66 | 12.64 | 11.28 | 10.03 | 10.17 | 11.24 | 11.26 | 12.07 | 12.45 |
| 10 | 12.32 | 12.46 | 12.56 | 12.66 | 12.64 | 11.30 | 10.07 | 10.19 | 11.27 | 11.30 | 12.09 | 12.46 |
| 11 | 12.33 | 12.46 | 12.56 | 12.66 | 12.63 | 11.32 | 10.13 | 10.23 | 11.29 | 11.33 | 12.11 | 12.47 |
| 12 | 12.33 | 12.46 | 12.56 | 12.66 | 12.48 | 11.32 | 10.17 | 10.26 | 11.32 | 11.37 | 12.12 | 12.47 |
| 13 | 12.34 | 12.46 | 12.56 | 12.65 | 12.28 | 11.28 | 10.21 | 10.29 | 11.35 | 11.40 | 12.13 | 12.48 |
| 14 | 12.35 | 12.47 | 12.56 | 12.66 | 11.88 | 11.24 | 10.26 | 10.34 | 11.37 | 11.43 | 12.12 | 12.46 |
| 15 | 12.36 | 12.47 | 12.56 | 12.66 | 11.88 | 11.24 | 10.32 | 10.39 | 11.39 | 11.46 | 12.13 | 12.45 |
| 16 | 12.37 | 12.48 | 12.58 | 12.67 | 11.88 | 11.25 | 10.36 | 10.43 | 11.42 | 11.49 | 12.14 | 12.44 |
| 17 | 12.37 | 12.48 | 12.60 | 12.67 | 11.88 | 11.25 | 10.40 | 10.47 | 11.44 | 11.52 | 12.17 | 12.41 |
| 18 | 12.38 | 12.48 | 12.60 | 12.67 | 11.90 | 11.24 | 10.44 | 10.51 | 11.46 | 11.55 | 12.18 | 12.42 |
| 19 | 12.38 | 12.49 | 12.60 | 12.67 | 11.91 | 11.24 | 10.49 | 10.55 | 11.48 | 11.58 | 12.20 | 12.43 |
| 20 | 12.39 | 12.49 | 12.61 | 12.67 | 11.87 | 11.22 | 10.53 | 10.58 | 11.51 | 11.61 | 12.21 | 12.44 |
| 21 | 12.39 | 12.50 | 12.61 | 12.67 | 11.86 | 11.22 | 10.57 | 10.62 | 11.54 | 11.63 | 12.21 | 12.45 |
| 22 | 12.40 | 12.51 | 12.61 | 12.67 | 11.86 | 11.22 | 10.59 | 10.66 | 11.56 | 11.65 | 12.24 | 12.46 |
| 23 | 12.40 | 12.51 | 12.62 | 12.67 | 11.58 | 11.22 | 10.62 | 10.70 | 11.58 | 11.67 | 12.25 | 12.46 |
| 24 | 12.39 | 12.51 | 12.62 | 12.67 | 11.38 | 11.22 | 10.65 | 10.73 | 11.60 | 11.70 | 12.26 | 12.47 |
| 25 | 12.39 | 12.53 | 12.62 | 12.67 | 11.29 | 11.22 | 10.68 | 10.76 | 11.63 | 11.73 | 12.27 | 12.48 |
| 26 | 12.40 | 12.53 | 12.63 | 12.68 | 11.30 | 11.22 | 10.71 | 10.80 | 11.64 | 11.77 | 12.29 | 12.49 |
| 27 | 12.41 | 12.53 | 12.63 | 12.68 | 11.30 | 11.22 | 10.74 | 10.83 | 11.66 | 11.79 | 12.30 | 12.51 |
| 28 | 12.41 | 12.53 | 12.63 | 12.68 | 11.30 | 11.22 | 10.76 | 10.86 | 11.67 | 11.81 | 12.32 | 12.51 |
| 29 | 12.41 | 12.54 | 12.64 | 12.67 | --- | 11.24 | 10.76 | 10.91 | 11.70 | 11.83 | 12.33 | 12.51 |
| 30 | 12.41 | 12.54 | 12.64 | 12.67 | --- | 11.25 | 10.76 | 10.94 | 11.71 | 11.85 | 12.33 | 12.52 |
| 31 | 12.41 | --- | 12.64 | 12.66 | --- | 11.28 | --- | 10.97 | --- | 11.88 | 12.35 | --- |
| MAX | 12.41 | 12.54 | 12.64 | 12.68 | 12.66 | 11.36 | 11.28 | 10.97 | 11.71 | 11.88 | 12.35 | 12.52 |

GROUND-WATER RECORDS

455

MIAMI COUNTY--Continued

400208084112900. Local number, MI-44.

LOCATION.--Lat 40°02'08", long 84°11'29", Hydrologic Unit 05080001, on left bank of Great Miami River 0.7 mi (1.1 km) east of city hall in Troy.

Owner: City of Troy.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled public supply water-table well, diameter 26 in (0.66 m), depth 105 ft (32.0 m) screened below 89 ft (27.1 m).

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICRO-MHOS) | PH (UNITS) | TEMPERATURE (DEG C) | HARDNESS (CA,MG) (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) |
|-----------|------|-----------------------------------|------------|---------------------|-------------------------|--------------------------------|----------------------------------|---------------------------|------------------------|
| NOV 23... | 0930 | 680 | 7.2 | 13.0 | 310 | 72 | 32 | 356 | 0 |
| FEB 08... | 1100 | 690 | 7.4 | 13.0 | 310 | 70 | 33 | 354 | 0 |
| MAY 19... | 1145 | 700 | 7.6 | 16.0 | 330 | 78 | 33 | 360 | 0 |
| AUG 08... | 1130 | 750 | 7.4 | 13.0 | 320 | 75 | 32 | 350 | 0 |

| DATE | ALKALINITY AS CAC03 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | TOTAL FLUORIDE (F) (MG/L) | TOTAL RESIDUE (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL ARSENIC (AS) (UG/L) |
|-----------|----------------------------|-----------------------------|---------------------------------|---------------------------------|---------------------------|----------------------|--------------------------|--------------------------|---------------------------|
| NOV 23... | 292 | 36 | 56 | 20 | .9 | 355 | .00 | .00 | -- |
| FEB 08... | 290 | 23 | 55 | 22 | .9 | 318 | .01 | .00 | -- |
| MAY 19... | 300 | 14 | 57 | 23 | .8 | 411 | .01 | .00 | -- |
| AUG 08... | 290 | 22 | 55 | 20 | 1.0 | 394 | .02 | .00 | 0 |

| DATE | DIS-SOLVED ARSENIC (AS) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | DIS-SOLVED CHROMIUM (CR) (UG/L) | TOTAL IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS-SOLVED LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) | TOTAL ZINC (ZN) (UG/L) | DIS-SOLVED ZINC (ZN) (UG/L) |
|-----------|--------------------------------|----------------------------|---------------------------------|------------------------|------------------------|-----------------------------|-----------------------------|------------------------|-----------------------------|
| NOV 23... | -- | -- | -- | 1300 | -- | -- | 30 | -- | -- |
| FEB 08... | -- | -- | -- | 1400 | -- | -- | 40 | -- | -- |
| MAY 19... | -- | -- | -- | 1900 | -- | -- | 60 | -- | -- |
| AUG 08... | 0 | 10 | 0 | 1500 | 0 | 0 | 40 | 30 | 30 |

GROUND-WATER RECORDS

MONTGOMERY COUNTY

393853084170700. Local number, MT-63.

LOCATION.--Lat 39°38'53", long 84°17'07", Hydrologic Unit 05080002, on left bank of Great Miami River 0.4 mi (0.6 km) north of city hall in Miamisburg.

Owner: Miamisburg Box Board Company.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled industrial supply water-table well, diameter 16 in (0.41 m), depth 95 ft (29.0 m) cased below 73 ft (22.3 m).

PERIOD OF RECORD.--September 1972 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | HARDNESS (CA, MG) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) |
|-----------|------|----------------------------------|------------|---------------------|-------------------|--------------------------------|----------------------------------|---------------------------|------------------------|----------------------------|
| NOV 23... | 1230 | 950 | 7.2 | 13.0 | 400 | 100 | 36 | 436 | 0 | 358 |
| FEB 08... | 1400 | 960 | 7.3 | 11.0 | 470 | 110 | 48 | 438 | 0 | 359 |
| MAY 19... | 1500 | 1000 | 7.2 | 19.0 | 430 | 110 | 38 | 436 | 0 | 360 |
| AUG 08... | 1820 | 1000 | 7.4 | 18.0 | 480 | 130 | 38 | 430 | 0 | 350 |

| DATE | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | TOTAL FLUORIDE (F) (MG/L) | TOTAL RESIDUE (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL ARSENIC (AS) (UG/L) | DIS-SOLVED ARSENIC (AS) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) |
|-----------|-----------------------------|---------------------------------|---------------------------------|---------------------------|----------------------|--------------------------|--------------------------|---------------------------|--------------------------------|----------------------------|
| NOV 23... | 44 | 84 | 54 | .5 | 498 | .00 | .01 | -- | -- | -- |
| FEB 08... | 35 | 89 | 55 | .4 | 501 | .00 | .01 | -- | -- | -- |
| MAY 19... | 44 | 86 | 59 | .3 | 468 | .01 | .00 | -- | -- | -- |
| AUG 08... | 27 | 87 | 57 | .3 | 627 | .05 | .00 | 2 | 1 | 10 |

| DATE | DIS-SOLVED CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | DIS-SOLVED COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | DIS-SOLVED LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) | TOTAL ZINC (ZN) (UG/L) | DIS-SOLVED ZINC (ZN) (UG/L) |
|-----------|---------------------------------|--------------------------|-------------------------------|------------------------|------------------------|-----------------------------|-----------------------------|------------------------|-----------------------------|
| NOV 23... | -- | -- | -- | 2400 | -- | -- | 160 | -- | -- |
| FEB 08... | -- | -- | -- | 2900 | -- | -- | 170 | -- | -- |
| MAY 19... | -- | -- | -- | 2800 | -- | -- | 180 | -- | -- |
| AUG 08... | 0 | 3 | 2 | 2900 | 0 | 0 | 150 | 40 | 40 |

GROUND-WATER RECORDS

457

MONTGOMERY COUNTY--Continued

394025084162800. Local number, MT-49.

LOCATION.--Lat 39°40'25", long 84°16'28", Hydrologic Unit 05080002, 1.2 mi (1.9 km) west of city hall in West Carrollton.

Owner: E. F. Stenger.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test water-table well, diameter 6 in (0.15 m), depth 220 ft (67.1 m), cased.

DATUM.--Land-surface datum is 714.61 ft (217.813 m) above mean sea level. Measuring point: Floor of shelter 2.50 ft (0.762 m) above land-surface datum.

REMARKS.--Land-surface datum formerly reported as 715 ft (217.932 m) above mean sea level.

PERIOD OF RECORD.--November 1947 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 36.30 ft (11.064 m) Dec. 8, 1974; minimum daily low, 10.58 ft (3.225 m) Jan. 23, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 33.66 ft (10.260 m) Sept. 8-9; minimum daily low, 29.45 ft (8.976 m) Oct. 3.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 29.64 | 30.60 | 31.35 | 32.40 | 33.28 | 32.67 | 32.32 | 30.87 | 31.09 | 31.87 | 32.67 | 33.48 |
| 2 | 29.49 | 30.63 | 31.41 | 32.41 | 33.29 | 32.65 | 32.14 | 31.02 | 31.12 | 31.74 | 32.75 | 33.51 |
| 3 | 29.45 | 30.67 | 31.42 | 32.44 | 33.31 | 32.54 | 31.96 | 31.07 | 31.22 | 31.69 | 32.80 | 33.39 |
| 4 | 29.69 | 30.74 | 31.47 | 32.47 | 33.35 | 32.51 | 31.49 | 31.04 | 31.11 | 31.66 | 32.85 | 33.39 |
| 5 | 29.76 | 30.77 | 31.50 | 32.51 | 33.39 | 32.48 | 31.32 | 30.96 | 31.10 | 31.85 | 32.89 | 33.40 |
| 6 | 29.86 | 30.64 | 31.50 | 32.51 | 33.42 | 32.36 | 31.24 | 30.86 | 31.26 | 31.84 | 32.77 | 33.59 |
| 7 | 29.89 | 30.66 | 31.56 | 32.56 | 33.43 | 32.36 | 31.11 | 30.65 | 31.34 | 31.90 | 32.78 | 33.63 |
| 8 | 29.89 | 30.74 | 31.63 | 32.58 | 33.43 | 32.29 | 31.11 | 30.48 | 31.37 | 31.95 | 32.89 | 33.66 |
| 9 | 29.74 | 30.80 | 31.64 | 32.59 | 33.43 | 32.40 | 30.94 | 30.55 | 31.45 | 31.84 | 32.95 | 33.66 |
| 10 | 29.74 | 30.77 | 31.69 | 32.65 | 33.46 | 32.43 | 30.84 | 30.54 | 31.48 | 31.84 | 33.00 | 33.52 |
| 11 | 29.99 | 30.81 | 31.71 | 32.67 | 33.47 | 32.49 | 30.95 | 30.56 | 31.33 | 32.01 | 33.05 | 33.46 |
| 12 | 30.05 | 30.85 | 31.75 | 32.70 | 33.45 | 32.34 | 30.95 | 30.58 | 31.32 | 32.05 | 33.06 | 33.61 |
| 13 | 30.11 | 30.86 | 31.79 | 32.71 | 33.41 | 32.27 | 30.93 | 30.56 | 31.49 | 32.11 | 32.91 | 33.63 |
| 14 | 30.12 | 30.86 | 31.80 | 32.75 | 33.40 | 32.34 | 30.95 | 30.42 | 31.56 | 32.15 | 32.86 | 33.64 |
| 15 | 30.20 | 30.92 | 31.83 | 32.80 | 33.38 | 32.31 | 30.94 | 30.41 | 31.59 | 32.20 | 32.98 | 33.63 |
| 16 | 30.07 | 30.96 | 31.87 | 32.84 | 33.33 | 32.31 | 30.82 | 30.60 | 31.63 | 32.08 | 33.02 | 33.61 |
| 17 | 30.07 | 30.94 | 31.93 | 32.86 | 33.30 | 32.34 | 30.79 | 30.65 | 31.67 | 32.09 | 33.06 | 33.43 |
| 18 | 30.28 | 31.00 | 31.95 | 32.89 | 33.29 | 32.31 | 30.94 | 30.71 | 31.51 | 32.26 | 33.03 | 33.35 |
| 19 | 30.31 | 31.04 | 31.96 | 32.92 | 33.28 | 32.23 | 31.00 | 30.74 | 31.49 | 32.31 | 33.11 | 33.41 |
| 20 | 30.39 | 31.06 | 32.02 | 32.97 | 33.28 | 32.14 | 30.97 | 30.76 | 31.65 | 32.38 | 32.99 | 33.38 |
| 21 | 30.37 | 31.10 | 32.06 | 33.00 | 33.29 | 32.20 | 31.02 | 30.63 | 31.71 | 32.43 | 32.97 | 33.40 |
| 22 | 30.44 | 31.15 | 32.07 | 33.03 | 33.32 | 32.29 | 31.03 | 30.62 | 31.73 | 32.45 | 33.12 | 33.37 |
| 23 | 30.28 | 31.20 | 32.13 | 33.04 | 33.32 | 32.28 | 30.87 | 30.81 | 31.76 | 32.34 | 33.17 | 33.39 |
| 24 | 30.22 | 31.19 | 32.12 | 33.06 | 33.18 | 32.28 | 30.81 | 30.87 | 31.77 | 32.33 | 33.23 | 33.25 |
| 25 | 30.48 | 31.20 | 32.15 | 33.09 | 33.03 | 32.26 | 30.96 | 30.89 | 31.64 | 32.52 | 33.25 | 33.21 |
| 26 | 30.55 | 31.22 | 32.18 | 33.11 | 32.91 | 32.12 | 31.03 | 30.91 | 31.63 | 32.60 | 33.27 | 33.39 |
| 27 | 30.62 | 31.26 | 32.18 | 33.13 | 32.79 | 32.07 | 31.05 | 30.96 | 31.78 | 32.65 | 33.17 | 33.47 |
| 28 | 30.59 | 31.26 | 32.23 | 33.16 | 32.74 | 32.20 | 31.06 | 30.82 | 31.79 | 32.69 | 33.18 | 33.51 |
| 29 | 30.64 | 31.32 | 32.27 | 33.16 | --- | 32.29 | 31.09 | 30.86 | 31.72 | 32.71 | 33.34 | 33.57 |
| 30 | 30.47 | 31.34 | 32.31 | 33.19 | --- | 32.28 | 30.94 | 30.88 | 31.80 | 32.55 | 33.35 | 33.59 |
| 31 | 30.45 | --- | 32.36 | 33.22 | --- | 32.32 | --- | 31.04 | --- | 32.49 | 33.41 | --- |
| MAX | 30.64 | 31.34 | 32.36 | 33.22 | 33.47 | 32.67 | 32.32 | 31.07 | 31.80 | 32.71 | 33.41 | 33.66 |

GROUND-WATER RECORDS

MUSKINGUM COUNTY

395753081593500. Local number, MU-10.

LOCATION.--Lat 39°57'53", long 81°59'35", Hydrologic Unit 05040004, on left bank of Muskingum River 0.2 mi (0.3 km) north of waterworks at Zanesville.

Owner: City of Zanesville.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled public supply water-table well, diameter 18 in (0.46 m), depth 65 ft (19.8 m) cased.

PERIOD OF RECORD.--June 1967 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | CHEM- ICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L) | DIS- SOLVED SODIUM (NA) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) |
|--------------|--|-----------------------------------|--|--|---|--|--|--------------------------------------|--|---|
| MAY 19... | 976 | 7.3 | 10 | 48 | 214 | 0 | 180 | 17 | 150 | 110 |
| DATE | TOTAL RESI- DUE (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MAN- GANESE (MN) (UG/L) | |
| MAY 19... | 611 | .43 | .00 | .60 | .01 | 40 | 280 | 3 | 670 | |

GROUND-WATER RECORDS

459

MUSKINGUM COUNTY--Continued

395804081593200. Local number, MU-1A.

LOCATION.--Lat 39°58'04", long 81°59'32", Hydrologic Unit 05040004, 2.2 mi (3.5 km) northeast of the "Y" bridge in Zanesville.

Owner: Zanesville Water Department.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 132 ft (40.2 m), cased.

DATUM.--Land-surface datum is 700 ft (213.360 m) above mean sea level. Measuring point: Floor of instrument shelter 4.48 ft (1.366 m) above land-surface datum.

REMARKS.--Water level affected by nearby municipal wells and by stage of the Muskingum River.

PERIOD OF RECORD.--May 1942 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 37.25 ft (11.354 m) Aug. 1-2, 1954; minimum daily low, 8.50 ft (2.591 m) May 25, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum recorded daily low, 36.22 ft (11.040 m) Feb. 25; minimum daily low, 22.44 ft (6.840 m) Apr. 18.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 27.09 | 27.53 | 28.35 | 29.98 | 33.43 | --- | 28.37 | 22.89 | 25.12 | 25.86 | 25.65 | 27.94 |
| 2 | 26.99 | 27.71 | 28.39 | 29.99 | 33.56 | --- | 28.24 | 23.15 | 25.25 | 25.86 | 25.68 | 27.72 |
| 3 | 27.23 | 27.94 | 28.58 | 30.00 | 33.77 | --- | 28.24 | 23.22 | 25.45 | 25.40 | 25.92 | 27.70 |
| 4 | 27.08 | 28.06 | 28.82 | 30.20 | 33.98 | --- | 27.91 | 23.32 | 25.59 | 25.14 | 26.17 | 27.24 |
| 5 | 27.25 | 28.26 | 28.91 | 30.07 | 34.15 | --- | 27.81 | 23.04 | 25.66 | 25.10 | 26.32 | 27.40 |
| 6 | 27.37 | 28.27 | 28.93 | 30.49 | 34.16 | --- | 27.45 | 23.30 | 25.69 | 25.23 | 26.31 | 27.78 |
| 7 | 27.38 | 28.35 | 29.06 | 30.59 | 34.27 | --- | 27.89 | 23.07 | 25.57 | 25.41 | 26.30 | 27.84 |
| 8 | 27.53 | 28.36 | 29.09 | 30.61 | 34.37 | --- | 27.57 | 23.45 | 25.65 | 25.52 | 26.19 | 28.04 |
| 9 | 27.70 | 28.06 | 29.11 | 30.56 | 34.47 | --- | 26.86 | 23.38 | 25.89 | 25.63 | 26.36 | 28.08 |
| 10 | 27.79 | 28.34 | 29.16 | 30.71 | 34.64 | --- | 26.22 | 23.23 | 25.96 | 25.47 | 26.62 | 28.01 |
| 11 | 27.81 | 28.62 | 29.22 | 30.75 | 34.84 | --- | 25.93 | 23.13 | 26.14 | 25.14 | 26.69 | 27.99 |
| 12 | 27.66 | 28.50 | 29.27 | 30.99 | 35.05 | --- | 25.69 | 23.32 | 26.01 | 25.25 | 26.69 | 28.07 |
| 13 | 27.59 | 28.73 | 29.30 | 31.02 | 35.25 | --- | 25.41 | 23.18 | 25.90 | 25.57 | 26.41 | 28.01 |
| 14 | 27.74 | 28.84 | 29.15 | 31.10 | 35.39 | --- | 24.18 | 23.16 | 26.08 | 25.89 | 26.24 | 27.99 |
| 15 | 27.69 | 28.84 | 29.20 | 31.04 | 35.53 | --- | 22.99 | 22.83 | 26.32 | 25.88 | 26.33 | 27.80 |
| 16 | 27.49 | 28.64 | 29.26 | 31.06 | 35.64 | --- | 22.81 | 23.44 | 26.47 | 25.83 | 26.40 | 28.12 |
| 17 | 27.01 | 28.69 | 29.40 | 31.07 | 35.73 | --- | 22.57 | 23.75 | 26.75 | 25.92 | 26.37 | 28.11 |
| 18 | 27.24 | 28.81 | 29.52 | 31.33 | 35.82 | --- | 22.44 | 23.55 | 26.78 | 25.74 | 26.33 | 27.49 |
| 19 | 27.47 | 28.87 | 29.51 | 31.20 | 35.87 | --- | 22.83 | 23.30 | 26.53 | 26.00 | 26.45 | 27.63 |
| 20 | 27.44 | 28.94 | 29.40 | 31.72 | 35.97 | --- | 22.81 | 23.70 | 26.30 | 26.04 | 26.51 | 27.82 |
| 21 | 27.38 | 28.96 | 29.43 | 31.91 | 36.03 | --- | 22.82 | 23.74 | 26.39 | 26.16 | 26.61 | 27.79 |
| 22 | 27.46 | 28.93 | 29.26 | 32.09 | 36.09 | --- | 23.08 | 23.64 | 26.41 | 26.25 | 26.47 | 27.72 |
| 23 | 27.27 | 28.59 | 29.49 | 32.28 | 36.14 | --- | 23.11 | 23.79 | 26.41 | 26.35 | 26.68 | 27.61 |
| 24 | 27.20 | 28.62 | 29.36 | 32.44 | 36.21 | --- | 22.78 | 24.15 | 25.98 | 26.39 | 26.79 | 27.45 |
| 25 | 27.50 | 28.59 | 29.37 | 32.72 | 36.22 | --- | 22.85 | 24.19 | 26.08 | 25.96 | 26.73 | 26.96 |
| 26 | 27.59 | 28.36 | 28.85 | 32.72 | 36.06 | --- | 23.24 | 24.51 | 25.89 | 26.00 | 26.89 | 27.37 |
| 27 | 27.68 | 28.79 | 28.87 | 32.91 | --- | --- | 23.40 | 24.60 | 25.66 | 25.91 | 26.95 | 27.70 |
| 28 | 27.82 | 28.76 | 29.06 | 33.01 | --- | --- | 23.49 | 24.86 | 25.81 | 25.88 | 26.79 | 27.81 |
| 29 | 27.75 | 27.93 | 29.16 | 33.10 | --- | --- | 23.53 | 24.89 | 26.06 | 25.84 | 27.02 | 27.89 |
| 30 | 27.77 | 28.21 | 29.63 | 33.13 | --- | --- | 23.53 | 24.70 | 26.05 | 25.93 | 27.39 | 27.89 |
| 31 | 27.49 | --- | 29.74 | 33.21 | --- | 28.23 | --- | 24.76 | --- | 25.84 | 27.93 | --- |
| MAX | 27.82 | 28.96 | 29.74 | 33.21 | 36.22 | --- | 28.37 | 24.89 | 26.78 | 26.39 | 27.93 | 28.12 |

GROUND-WATER RECORDS

PICKAWAY COUNTY

393325082571100. Local number, PK-21.

LOCATION.--Lat 39°33'25", long 82°57'11", Hydrologic Unit 05060002, 3.0 mi (4.8 km) south of courthouse in Circleville.

Owner: Pittsburgh Plate Glass Company.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled industrial supply artesian well, diameter 20 in (0.51 m), depth 135 ft (41.1 m), cased below 85 ft (25.9 m).

PERIOD OF RECORD.--June 1967 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | CHEM- ICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L) | DIS- SOLVED SODIUM (NA) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CAC03 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) |
|--------------|--|---------------|--|--|--------------------------------------|-----------------------------------|--|--------------------------------------|--|---|
| OCT 19... | 730 | 7.2 | <10 | 7.8 | 386 | 0 | 317 | 39 | 52 | 14 |
| JUN 28... | 724 | 7.4 | 4 | 8.9 | 406 | 0 | 333 | 26 | 48 | 15 |

| DATE | TOTAL RESI- DUE (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MAN- GANESE (MN) (UG/L) |
|--------------|---------------------------------|-----------------------------------|-----------------------------------|--|---|--|---------------------------------|---------------------------------|---|
| OCT 19... | 367 | .00 | .01 | .19 | .05 | <10 | 2900 | 0 | 40 |
| JUN 28... | 319 | .00 | .00 | .20 | .00 | 20 | 3000 | 5 | 40 |

GROUND-WATER RECORDS

461

PICKAWAY COUNTY--Continued

393327082571600. Local number, PK-7.

LOCATION.--Lat 39°33'27", long 82°57'16", Hydrologic Unit 05060002, 3.1 mi (5.0 km) south of Circleville.

Owner: State of Ohio.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test artesian well, diameter 6 in (0.15 m) depth 172 ft (52.4 m), cased to 164 ft (50.0 m).

DATUM.--Land-surface datum is 705 ft (214.884 m) above mean sea level. Measuring point: Floor of instrument shelter, 3.00 ft (0.914 m) above land-surface datum.

PERIOD OF RECORD.--July 1972 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 54.80 ft (16.703 m) Sept. 15, 1977; minimum daily low, 44.65 ft (13.609 m) Aug. 22, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 54.80 ft (16.703 m) Sept. 15; minimum recorded daily low, 50.01 ft (15.243 m) Oct. 4.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 50.06 | --- | 50.69 | 51.35 | 52.34 | 53.55 | 53.97 | 54.16 | 53.92 | 54.34 | 54.60 | 54.71 |
| 2 | 50.07 | --- | 50.80 | 51.34 | 52.38 | 53.59 | 53.86 | 54.11 | 54.03 | 53.95 | 54.72 | 54.72 |
| 3 | 50.05 | --- | 50.84 | 51.38 | 52.33 | 53.52 | 54.03 | 54.16 | 54.07 | 53.85 | 54.75 | 54.71 |
| 4 | 50.01 | --- | 50.76 | 51.53 | 52.36 | 53.50 | 53.91 | 54.12 | 54.05 | 53.75 | 54.73 | 54.52 |
| 5 | 50.07 | --- | 50.80 | 51.57 | 52.57 | 53.60 | 54.05 | 54.05 | 53.80 | 53.89 | 54.72 | 54.27 |
| 6 | 50.16 | --- | 50.67 | 51.59 | 52.63 | 53.60 | 54.14 | 54.10 | 53.82 | 54.01 | 54.72 | 54.37 |
| 7 | 50.17 | --- | 50.84 | 51.65 | 52.72 | 53.60 | 54.11 | 54.11 | 53.93 | 53.98 | 54.64 | 54.52 |
| 8 | --- | --- | 51.07 | 51.65 | 52.76 | 53.63 | 54.13 | 53.93 | 53.94 | 53.99 | 54.62 | 54.60 |
| 9 | --- | --- | 51.08 | 51.48 | 52.79 | 53.67 | 54.07 | 53.97 | 54.11 | 53.99 | 54.61 | 54.63 |
| 10 | --- | --- | 50.97 | 51.43 | 52.82 | 53.67 | 53.82 | 54.07 | 54.20 | 53.93 | 54.62 | 54.66 |
| 11 | --- | --- | 50.92 | 51.68 | 52.84 | 53.59 | 53.92 | 54.11 | 54.22 | 53.95 | 54.64 | 54.60 |
| 12 | --- | --- | 50.73 | 51.81 | 52.82 | 53.39 | 54.05 | 54.11 | 54.03 | 54.08 | 54.63 | 54.54 |
| 13 | --- | --- | 50.88 | 51.83 | 52.81 | 53.36 | 54.07 | 54.09 | 54.08 | 54.26 | 54.62 | 54.64 |
| 14 | --- | --- | 50.89 | 51.73 | 52.92 | 53.58 | 54.10 | 54.03 | 54.22 | 54.32 | 54.58 | 54.75 |
| 15 | --- | --- | 50.87 | 51.66 | 53.03 | 53.70 | 54.15 | 53.99 | 54.28 | 54.33 | 54.67 | 54.80 |
| 16 | --- | --- | 50.96 | 51.71 | 53.02 | 53.83 | 54.13 | 53.98 | 54.30 | 54.29 | 54.69 | 54.77 |
| 17 | --- | --- | 50.97 | 51.80 | 53.08 | 53.82 | 54.07 | 54.03 | 54.28 | 54.18 | 54.69 | 54.76 |
| 18 | --- | --- | 50.98 | 51.97 | 53.13 | 53.82 | 54.05 | 54.06 | 54.21 | 54.29 | 54.70 | 54.63 |
| 19 | --- | --- | 50.78 | 51.96 | 53.14 | 53.87 | 54.10 | 54.11 | 53.98 | 54.46 | 54.71 | 54.55 |
| 20 | --- | --- | 50.85 | 51.96 | 53.04 | 53.86 | 54.16 | 54.18 | 54.20 | 54.54 | 54.68 | 54.64 |
| 21 | --- | --- | 51.07 | 51.96 | 53.20 | 53.86 | 54.12 | 54.19 | 54.44 | 54.55 | 54.61 | 54.66 |
| 22 | --- | --- | 51.06 | 51.88 | 53.31 | 53.88 | 54.10 | 53.88 | 54.48 | 54.55 | 54.55 | 54.58 |
| 23 | --- | --- | 51.00 | 51.88 | 53.33 | 53.88 | 54.01 | 53.88 | 54.45 | 54.57 | 54.55 | 54.48 |
| 24 | --- | --- | 51.03 | 51.79 | 53.37 | 53.89 | 53.76 | 54.03 | 54.36 | 54.24 | 54.61 | 54.44 |
| 25 | --- | --- | 50.83 | 51.86 | 53.53 | 53.88 | 53.91 | 54.10 | 54.37 | 54.43 | 54.64 | 54.31 |
| 26 | --- | --- | 50.78 | 51.84 | 53.55 | 53.88 | 54.11 | 54.12 | 54.11 | 54.63 | 54.60 | 54.42 |
| 27 | --- | --- | 50.83 | 52.01 | 53.58 | 53.59 | 54.10 | 54.13 | 54.06 | 54.70 | 54.58 | 54.55 |
| 28 | --- | --- | 51.10 | 52.05 | 53.58 | 53.57 | 54.09 | 54.07 | 54.14 | 54.72 | 54.53 | 54.62 |
| 29 | --- | 50.55 | 51.37 | 52.06 | --- | 53.83 | 54.18 | 53.84 | 54.30 | 54.71 | 54.43 | 54.61 |
| 30 | --- | 50.70 | 51.38 | 52.07 | --- | 53.89 | 54.22 | 53.62 | 54.33 | 54.69 | 54.52 | 54.62 |
| 31 | --- | --- | 51.39 | 52.19 | --- | 53.99 | --- | 53.72 | --- | 54.52 | 54.62 | --- |
| MAX | --- | --- | 51.39 | 52.19 | 53.58 | 53.99 | 54.22 | 54.19 | 54.48 | 54.72 | 54.75 | 54.80 |

GROUND-WATER RECORDS

PIKE COUNTY

390359083015100. Local number, PI-2.

LOCATION.--Lat 39°03'59", long 83°01'51", Hydrologic Unit 05060002, 1 mi (1.6 km) west of Piketon.

Owner: Goodyear Atomic Corporation.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled test water-table well, diameter 6 in (0.15 m), depth 60 ft (18.3 m), cased.

DATUM.--Land-surface datum is 550 ft (167.640 m) above mean sea level. Measuring point: Floor of instrument shelter, 3.00 ft (0.914 m) above land-surface datum.

PERIOD OF RECORD.--September 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 27.46 ft (8.370 m) Feb. 15, 1977; minimum daily low, 11.25 ft (3.429 m) Mar. 1, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum recorded daily low, 27.46 ft (8.370 m) Feb. 15; minimum daily low, 23.19 ft (7.068 m) Apr. 16.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-----|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 26.21 | 26.60 | 26.82 | | --- | --- | 24.32 | 24.09 | 25.00 | 26.27 | 26.64 | 26.93 |
| 2 | 26.22 | 26.60 | 26.84 | | --- | --- | 24.32 | 24.14 | 25.07 | 26.28 | 26.65 | 26.95 |
| 3 | 26.25 | 26.60 | 26.86 | | --- | --- | 24.34 | 24.17 | 25.14 | 26.29 | 26.67 | 26.96 |
| 4 | 26.26 | 26.60 | 26.88 | | --- | --- | 24.31 | 24.20 | 25.19 | 26.29 | 26.69 | 26.97 |
| 5 | 26.28 | 26.60 | 26.89 | | --- | --- | 24.25 | 24.23 | 25.24 | 26.29 | 26.71 | 26.98 |
| 6 | 26.30 | 26.59 | 26.90 | | --- | --- | 24.21 | 24.25 | 25.30 | 26.29 | 26.72 | 26.98 |
| 7 | 26.31 | 26.59 | 26.92 | | --- | --- | 24.11 | 24.26 | 25.35 | 26.31 | 26.74 | 26.99 |
| 8 | 26.33 | 26.59 | 26.93 | | --- | --- | 23.95 | 24.26 | 25.41 | 26.31 | 26.75 | 27.03 |
| 9 | 26.34 | 26.59 | 26.94 | | --- | --- | 23.78 | 24.21 | 25.47 | 26.33 | 26.77 | 27.04 |
| 10 | 26.35 | 26.59 | 26.99 | | --- | --- | 23.60 | 24.15 | 25.52 | 26.35 | 26.79 | 27.05 |
| 11 | 26.35 | 26.59 | 26.99 | | --- | --- | 23.48 | 24.08 | 25.57 | 26.36 | 26.81 | 27.06 |
| 12 | 26.35 | 26.60 | 27.01 | | --- | --- | 23.38 | 24.03 | 25.61 | 26.38 | 26.81 | 27.07 |
| 13 | 26.35 | 26.60 | --- | | --- | --- | 23.30 | 23.98 | 25.65 | 26.40 | 26.81 | 27.09 |
| 14 | 26.36 | 26.61 | --- | | --- | --- | 23.23 | 23.95 | 25.70 | 26.41 | 26.81 | 27.10 |
| 15 | 26.37 | 26.62 | --- | | 27.46 | --- | 23.20 | 23.98 | 25.73 | 26.42 | 26.81 | 27.12 |
| 16 | 26.38 | 26.63 | --- | | 27.45 | --- | 23.19 | 24.02 | 25.77 | 26.43 | 26.81 | 27.13 |
| 17 | 26.40 | 26.64 | --- | | 27.40 | 25.33 | 23.21 | 24.07 | 25.79 | 26.43 | 26.81 | 27.14 |
| 18 | 26.41 | 26.64 | --- | | 27.35 | 25.19 | 23.26 | 24.12 | 25.83 | 26.44 | 26.81 | 27.14 |
| 19 | 26.43 | 26.65 | --- | | 27.30 | 25.11 | 23.32 | 24.18 | 25.87 | 26.45 | 26.82 | 27.14 |
| 20 | 26.45 | 26.66 | --- | | 27.24 | 25.00 | 23.38 | 24.23 | 25.90 | 26.47 | 26.82 | 27.13 |
| 21 | 26.47 | 26.68 | --- | | 27.19 | 24.93 | 23.44 | 24.29 | 25.95 | 26.49 | 26.82 | 27.13 |
| 22 | 26.49 | 26.69 | --- | | 27.17 | 24.79 | 23.49 | 24.36 | 25.98 | 26.50 | 26.85 | 27.12 |
| 23 | 26.50 | 26.71 | --- | | 27.16 | 24.72 | 23.56 | 24.42 | 26.01 | 26.51 | 26.86 | 27.11 |
| 24 | 26.51 | 26.71 | --- | | 27.15 | 24.61 | 23.63 | 24.49 | 26.04 | 26.52 | 26.88 | 27.10 |
| 25 | 26.53 | 26.74 | --- | | 27.13 | 24.51 | 23.66 | 24.55 | 26.08 | 26.53 | 26.88 | 27.09 |
| 26 | 26.56 | 26.75 | --- | | --- | 24.44 | 23.75 | 24.62 | 26.11 | 26.55 | 26.87 | 27.09 |
| 27 | 26.57 | 26.76 | --- | | --- | 24.36 | 23.82 | 24.68 | 26.15 | 26.56 | 26.88 | 27.08 |
| 28 | 26.57 | 26.78 | --- | | --- | 24.29 | 23.91 | 24.74 | 26.18 | 26.58 | 26.89 | 27.09 |
| 29 | 26.58 | 26.80 | --- | | --- | 24.26 | 23.98 | 24.82 | 26.21 | 26.59 | 26.90 | 27.09 |
| 30 | 26.58 | 26.81 | --- | | --- | 24.27 | 24.04 | 24.88 | 26.25 | 26.61 | 26.91 | 27.10 |
| 31 | 26.59 | --- | --- | | --- | 24.30 | --- | 24.94 | --- | 26.62 | 26.92 | --- |
| MAX | 26.59 | 26.81 | --- | | --- | --- | 24.34 | 24.94 | 26.25 | 26.62 | 26.92 | 27.14 |

GROUND-WATER RECORDS

463

PORTAGE COUNTY

411101081022000. Local number, PO-3.

LOCATION.--Lat 41°11'01"N, long 81°02'20"W, Hydrologic Unit 05030103, at Ravenna Army Ammunition Plant 10.9 mi (17.5 km) east of Ravenna.

Owner: U.S. Army.

AQUIFER.--Sandstone of Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 12 in (0.30 m), depth 163 ft (49.7 m), cased.

DATUM.--Land-surface datum is 985 ft (300.228 m) above mean sea level. Measuring point: Surface of instrument platform 2.80 ft (0.853 m) above land-surface datum.

REMARKS.--Water level affected by nearby pumping wells.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 41.35 ft (12.603 m) Jan. 28, Feb. 6, 1954; minimum daily low, 19.34 ft (5.895 m) Mar. 31, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum recorded daily low, 26.95 ft (8.214 m) Feb. 16; minimum daily low, 21.01 ft (6.404 m) May 13.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-----|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 22.67 | 23.19 | 25.24 | | --- | 25.92 | 22.76 | 21.52 | 21.40 | 22.20 | 22.80 | 22.98 |
| 2 | 22.67 | 24.21 | 25.07 | | --- | 24.99 | 23.42 | 22.74 | 21.70 | 22.42 | 22.84 | 22.93 |
| 3 | 24.39 | 22.95 | 24.16 | | --- | 25.98 | 22.70 | 21.65 | 21.88 | 23.53 | 24.09 | 22.96 |
| 4 | 23.48 | 24.09 | 25.14 | | --- | 25.41 | 22.82 | 21.40 | 21.87 | 23.83 | 23.16 | 22.93 |
| 5 | 23.52 | 23.14 | 25.35 | | --- | 24.57 | 22.71 | 21.08 | 21.63 | 22.63 | 23.02 | 22.78 |
| 6 | 22.85 | 22.99 | 24.12 | | --- | 24.54 | 22.53 | 21.11 | 21.44 | 22.47 | 22.96 | 24.19 |
| 7 | 24.01 | 24.10 | 24.62 | | --- | 25.64 | 23.35 | 21.22 | 21.49 | 22.37 | 22.86 | 23.09 |
| 8 | 22.99 | 23.10 | 25.10 | | --- | 24.62 | 22.70 | 21.18 | 21.46 | 22.50 | 22.83 | 24.12 |
| 9 | 23.55 | 23.79 | 24.35 | | --- | 25.60 | 23.84 | 21.13 | 21.74 | 22.64 | 22.87 | 23.14 |
| 10 | 23.04 | 23.48 | 25.14 | | --- | 24.31 | 23.62 | 21.15 | 21.84 | 23.88 | 22.78 | 23.09 |
| 11 | 24.25 | 24.11 | 24.23 | | --- | 25.60 | 23.09 | 21.21 | 21.79 | 22.76 | 22.86 | 23.21 |
| 12 | 23.19 | 24.51 | 24.78 | | --- | 25.19 | 22.53 | 21.22 | 21.75 | 22.63 | 22.87 | 24.41 |
| 13 | 22.82 | 23.49 | 24.21 | | --- | 25.26 | 22.29 | 21.01 | 23.07 | 22.77 | 22.79 | 23.05 |
| 14 | 23.78 | 23.30 | 25.07 | | 26.79 | 24.25 | 22.11 | 21.04 | 22.04 | 22.82 | 22.85 | 24.45 |
| 15 | 22.76 | 24.25 | 23.81 | | 26.81 | 24.04 | 22.10 | 21.96 | 22.08 | 22.76 | 24.25 | 23.56 |
| 16 | 23.02 | 24.31 | 24.50 | | 26.95 | 23.88 | 22.04 | 22.63 | 22.00 | 22.77 | 23.05 | 24.39 |
| 17 | 24.22 | 23.37 | --- | | 26.79 | 23.85 | 23.23 | 21.38 | 21.87 | 23.88 | 22.85 | 23.44 |
| 18 | 23.30 | 24.18 | --- | | 25.63 | 23.29 | 21.91 | 21.25 | 21.77 | 22.85 | 22.97 | 23.23 |
| 19 | 24.22 | 22.93 | --- | | 26.40 | 23.52 | 21.88 | 21.29 | 21.77 | 22.77 | 23.94 | 24.09 |
| 20 | 22.95 | 24.06 | --- | | 25.33 | 23.42 | 21.91 | 21.29 | 23.06 | 22.73 | 23.08 | 23.23 |
| 21 | 23.78 | 22.94 | --- | | 26.46 | 23.42 | 21.91 | 21.32 | 22.17 | 22.69 | 22.96 | 23.36 |
| 22 | 23.12 | 24.34 | --- | | 25.54 | 23.07 | 21.81 | 21.33 | 22.21 | 22.86 | 22.82 | 23.39 |
| 23 | 23.19 | 24.45 | --- | | 25.10 | 23.07 | 21.65 | 22.71 | 22.24 | 22.87 | 22.85 | 23.26 |
| 24 | 22.94 | 24.03 | --- | | 25.58 | 23.15 | 21.37 | 21.57 | 22.12 | 23.94 | 23.01 | 23.09 |
| 25 | 23.88 | 24.70 | --- | | 25.87 | 23.10 | 22.49 | 21.46 | 21.93 | 22.76 | 23.12 | 24.32 |
| 26 | 24.14 | 24.73 | --- | | 25.01 | 24.42 | 21.39 | 21.39 | 22.02 | 22.92 | 23.01 | 23.06 |
| 27 | 23.33 | 24.60 | --- | | 25.78 | 24.14 | 21.40 | 21.35 | 23.36 | 22.98 | 23.00 | 23.08 |
| 28 | 24.40 | 23.70 | --- | | 24.89 | 23.15 | 21.52 | 21.21 | 22.10 | 24.19 | 23.06 | 23.21 |
| 29 | 23.24 | 24.79 | --- | | --- | 22.65 | 21.67 | 21.37 | 22.17 | 22.90 | 22.98 | 23.22 |
| 30 | 23.09 | 25.07 | --- | | --- | 22.57 | 21.64 | 21.46 | 22.20 | 22.80 | 22.99 | 23.10 |
| 31 | 23.69 | --- | --- | | --- | 22.70 | --- | 22.77 | --- | 22.73 | 22.98 | --- |
| MAX | 24.40 | 25.07 | --- | | --- | 25.98 | 23.84 | 22.77 | 23.36 | 24.19 | 24.25 | 24.45 |

GROUND-WATER RECORDS

ROSS COUNTY

391922082580000. Local number, RO-3.

LOCATION.--Lat 39°19'22", long 82°58'00", Hydrologic Unit 05060003, 1.1 mi (1.8 km) southeast of courthouse in Chillicothe.

Owner: The Mead Corporation.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 30 in (0.76 m), depth 60 ft (18.3 m), cased.

DATUM.--Land-surface datum is 610 ft (185.928 m) above mean sea level. Measuring point: Floor of instrument shelter 4.71 ft (1.436 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 42.92 ft (13.082 m) Dec. 24, 1949; minimum daily low, 17.20 ft (5.243 m) Mar. 21, 1943.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 31.04 ft (9.461 m) Feb. 13-17; minimum daily low, 28.00 ft (8.534 m) May 15-16.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 28.65 | 29.24 | 29.55 | 29.75 | 30.77 | 30.94 | 29.60 | 28.46 | 28.23 | 28.78 | 28.87 | 29.14 |
| 2 | 28.67 | 29.26 | 29.56 | 29.74 | 30.80 | 30.91 | 29.58 | 28.44 | 28.27 | 28.84 | 28.87 | 29.15 |
| 3 | 28.67 | 29.28 | 29.58 | 29.73 | 30.81 | 30.88 | 29.42 | 28.42 | 28.31 | 28.88 | 28.87 | 29.12 |
| 4 | 28.67 | 29.29 | 29.60 | 29.72 | 30.80 | 30.76 | 29.42 | 28.40 | 28.35 | 28.93 | 28.85 | 29.12 |
| 5 | 28.65 | 29.31 | 29.62 | 29.75 | 30.82 | 30.69 | 29.36 | 28.35 | 28.37 | 28.96 | 28.84 | 29.12 |
| 6 | 28.62 | 29.32 | 29.64 | 29.79 | 30.85 | 30.69 | 29.32 | 28.31 | 28.39 | 29.00 | 28.83 | 29.09 |
| 7 | 28.58 | 29.33 | 29.64 | 29.82 | 30.88 | 30.68 | 29.30 | 28.27 | 28.41 | 29.04 | 28.82 | 29.04 |
| 8 | 28.58 | 29.34 | 29.66 | 29.87 | 30.92 | 30.65 | 29.26 | 28.23 | 28.44 | 29.08 | 28.82 | 29.01 |
| 9 | 28.57 | 29.34 | 29.70 | 29.92 | 30.95 | 30.63 | 29.23 | 28.20 | 28.45 | 29.10 | 28.83 | 28.99 |
| 10 | 28.56 | 29.32 | 29.72 | 29.97 | 30.98 | 30.59 | 29.19 | 28.16 | 28.48 | 29.04 | 28.84 | 28.97 |
| 11 | 28.61 | 29.30 | 29.74 | 30.03 | 31.00 | 30.56 | 29.14 | 28.11 | 28.52 | 29.06 | 28.85 | 28.97 |
| 12 | 28.65 | 29.30 | 29.77 | 30.08 | 31.03 | 30.52 | 29.08 | 28.07 | 28.55 | 29.07 | 28.85 | 28.97 |
| 13 | 28.69 | 29.31 | 29.78 | 30.12 | 31.04 | 30.29 | 29.03 | 28.04 | 28.58 | 29.07 | 28.85 | 28.97 |
| 14 | 28.73 | 29.32 | 29.81 | 30.16 | 31.04 | 30.29 | 28.98 | 28.01 | 28.59 | 29.01 | 28.86 | 29.00 |
| 15 | 28.78 | 29.33 | 29.84 | 30.20 | 31.04 | 30.29 | 28.94 | 28.00 | 28.62 | 28.98 | 28.86 | 29.03 |
| 16 | 28.82 | 29.34 | 29.86 | 30.20 | 31.04 | 30.28 | 28.90 | 28.00 | 28.65 | 28.95 | 28.86 | 29.03 |
| 17 | 28.87 | 29.35 | 29.89 | 30.23 | 31.04 | 30.26 | 28.87 | 28.01 | 28.68 | 28.92 | 28.87 | 29.04 |
| 18 | 28.90 | 29.35 | 29.90 | 30.30 | 31.03 | 30.21 | 28.85 | 28.02 | 28.70 | 28.90 | 28.88 | 29.05 |
| 19 | 28.93 | 29.36 | 29.91 | 30.32 | 31.02 | 30.07 | 28.82 | 28.03 | 28.71 | 28.90 | 28.90 | 29.07 |
| 20 | 28.95 | 29.37 | 29.93 | 30.38 | 31.01 | 30.04 | 28.80 | 28.03 | 28.73 | 28.92 | 28.91 | 29.08 |
| 21 | 28.97 | 29.39 | 29.95 | 30.41 | 31.00 | 30.00 | 28.77 | 28.03 | 28.75 | 28.93 | 28.93 | 29.10 |
| 22 | 29.01 | 29.40 | 29.99 | 30.45 | 31.00 | 29.93 | 28.74 | 28.03 | 28.75 | 28.86 | 28.95 | 29.12 |
| 23 | 29.04 | 29.42 | 30.00 | 30.49 | 30.99 | 29.87 | 28.70 | 28.04 | 28.76 | 28.87 | 28.97 | 29.14 |
| 24 | 29.05 | 29.44 | 30.00 | 30.53 | 30.99 | 29.83 | 28.67 | 28.06 | 28.77 | 28.87 | 28.97 | 29.15 |
| 25 | 29.08 | 29.46 | 30.00 | 30.57 | 30.99 | 29.79 | 28.63 | 28.07 | 28.77 | 28.88 | 29.00 | 29.16 |
| 26 | 29.12 | 29.47 | 29.96 | 30.59 | 30.98 | 29.76 | 28.58 | 28.08 | 28.79 | 28.90 | 29.03 | 29.17 |
| 27 | 29.15 | 29.48 | 29.91 | 30.61 | 30.98 | 29.74 | 28.56 | 28.09 | 28.81 | 28.93 | 29.05 | 29.18 |
| 28 | 29.17 | 29.50 | 29.85 | 30.64 | 30.96 | 29.70 | 28.53 | 28.11 | 28.78 | 28.95 | 29.08 | 29.20 |
| 29 | 29.20 | 29.51 | 29.80 | 30.66 | --- | 29.66 | 28.49 | 28.13 | 28.81 | 28.96 | 29.10 | 29.21 |
| 30 | 29.21 | 29.52 | 29.77 | 30.70 | --- | 29.63 | 28.47 | 28.17 | 28.84 | 28.97 | 29.11 | 29.23 |
| 31 | 29.20 | --- | 29.76 | 30.73 | --- | 29.61 | --- | 28.21 | --- | 28.99 | 29.13 | --- |
| MAX | 29.21 | 29.52 | 30.00 | 30.73 | 31.04 | 30.94 | 29.60 | 28.46 | 28.84 | 29.10 | 29.13 | 29.23 |

GROUND-WATER RECORDS

465

SCIOTO COUNTY

384451082561900. Local number, SC-1.

LOCATION.--Lat 38°44'51", long 82°56'19", Hydrologic Unit 05090103, at the Detroit Steel Corporation plant in New Boston.

Owner: Detroit Steel Corporation.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 26 in (0.66 m), depth 80 ft (24.4 m), cased.

DATUM.--Land-surface datum is 525 ft (160.020 m) above mean sea level. Measuring point: Surface of instrument platform 6.00 ft (1.829 m) below land-surface datum.

REMARKS.--Water level affected by Ohio River stage.

PERIOD OF RECORD.--May 1955 to November 1961; October 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 58.81 ft (17.93 m) Nov. 19, 1957; minimum daily low, 28.45 ft (8.672 m) May 13, 1958.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 50.52 ft (15.398 m) Oct. 1; minimum daily low, 30.84 ft (9.400 m) Apr. 11.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 50.52 | 46.81 | 47.92 | 46.46 | 49.39 | 45.99 | 39.10 | 43.49 | 47.62 | 49.75 | 49.82 | 49.11 |
| 2 | 50.49 | 46.66 | 48.08 | 46.51 | 48.49 | 45.24 | 39.50 | 43.62 | 47.79 | 49.75 | 49.84 | 49.17 |
| 3 | 50.43 | 46.45 | 48.10 | 46.47 | 48.30 | 44.46 | 39.82 | 43.75 | 47.93 | 49.76 | 49.88 | 49.24 |
| 4 | 50.35 | 46.27 | 48.14 | 46.48 | 48.17 | 43.73 | 39.64 | 43.90 | 48.03 | 49.79 | 49.92 | 49.30 |
| 5 | 50.27 | 46.13 | 48.21 | 46.34 | 48.43 | 43.29 | 39.05 | 44.06 | 48.11 | 49.83 | 49.96 | 49.36 |
| 6 | 50.27 | 46.04 | 48.18 | 45.68 | 48.46 | 42.73 | 38.14 | 44.18 | 48.28 | 49.88 | 49.99 | 49.43 |
| 7 | 50.28 | 46.05 | 47.91 | 45.64 | 48.48 | 42.03 | 36.53 | 44.22 | 48.36 | 49.92 | 50.04 | 49.47 |
| 8 | 50.27 | 46.10 | 47.91 | 45.62 | 48.96 | 41.40 | 34.49 | 44.20 | 48.44 | 49.95 | 50.04 | 49.52 |
| 9 | 50.23 | 46.14 | 47.88 | 45.53 | 49.54 | 40.84 | 32.46 | 43.99 | 48.59 | 49.96 | 50.01 | 49.58 |
| 10 | 50.19 | 46.16 | 47.71 | 45.45 | 49.57 | 40.50 | 30.96 | 43.72 | 48.64 | 49.97 | 49.97 | 49.65 |
| 11 | 49.93 | 46.29 | 47.42 | 45.57 | 49.58 | 40.47 | 30.84 | 43.54 | 48.71 | 50.00 | 49.94 | 49.69 |
| 12 | 49.43 | 46.55 | 47.07 | 45.57 | 49.54 | 40.52 | 31.30 | 43.61 | 48.80 | 50.04 | 49.87 | 49.71 |
| 13 | 48.81 | 46.65 | 46.82 | 45.52 | 49.43 | 40.63 | 31.79 | 43.79 | 48.87 | 50.07 | 49.82 | 49.78 |
| 14 | 48.27 | 46.76 | 46.72 | 45.66 | 49.35 | 40.58 | 32.51 | 43.99 | 48.96 | 50.08 | 49.78 | 49.86 |
| 15 | 47.82 | 46.90 | 46.42 | 46.12 | 49.11 | 40.05 | 33.27 | 44.23 | 49.04 | 50.07 | 49.73 | 49.92 |
| 16 | 47.57 | 47.00 | 46.06 | 46.31 | 49.02 | 39.33 | 34.15 | 44.48 | 49.13 | 50.02 | 49.55 | 49.93 |
| 17 | 47.36 | 47.08 | 45.86 | 46.33 | 48.82 | 38.53 | 35.19 | 44.73 | 49.20 | 49.97 | 49.29 | 49.93 |
| 18 | 47.26 | 47.23 | 45.80 | 46.14 | 48.63 | 37.89 | 36.34 | 44.96 | 49.26 | 50.02 | 49.09 | 49.95 |
| 19 | 47.15 | 47.38 | 45.71 | 45.99 | 48.51 | 37.87 | 37.55 | 45.20 | 49.29 | 50.08 | 48.93 | 49.96 |
| 20 | 47.20 | 47.48 | 45.58 | 48.08 | 48.41 | 37.50 | 38.64 | 45.42 | 49.36 | 50.11 | 48.78 | 49.97 |
| 21 | 47.25 | 47.61 | 46.17 | 48.50 | 48.37 | 37.27 | 39.65 | 45.64 | 49.42 | 50.12 | 48.66 | 49.95 |
| 22 | 47.36 | 47.73 | 46.21 | 48.58 | 48.28 | 36.94 | 40.41 | 45.87 | 49.48 | 50.10 | 48.65 | 49.89 |
| 23 | 47.39 | 47.85 | 46.26 | 48.56 | 48.27 | 36.97 | 41.01 | 46.08 | 49.54 | 50.03 | 48.68 | 49.82 |
| 24 | 47.42 | 47.94 | 46.30 | 48.59 | 48.16 | 37.00 | 41.54 | 46.27 | 49.60 | 49.92 | 48.79 | 49.74 |
| 25 | 47.51 | 47.70 | 46.18 | 48.49 | 48.10 | 36.97 | 41.99 | 46.44 | 49.65 | 49.85 | 48.81 | 49.73 |
| 26 | 47.56 | 47.59 | 46.09 | 48.31 | 47.87 | 36.96 | 42.36 | 46.62 | 49.69 | 49.84 | 48.77 | 49.74 |
| 27 | 47.56 | 47.66 | 46.16 | 48.30 | 47.36 | 37.03 | 42.64 | 46.78 | 49.68 | 49.77 | 48.80 | 49.70 |
| 28 | 47.44 | 47.72 | 45.93 | 48.36 | 46.79 | 37.38 | 42.99 | 46.95 | 49.70 | 49.69 | 48.84 | 49.69 |
| 29 | 47.23 | 47.79 | 46.00 | 48.35 | --- | 37.89 | 43.22 | 47.14 | 49.73 | 49.66 | 48.91 | 49.64 |
| 30 | 47.03 | 47.88 | 46.09 | 49.35 | --- | 38.33 | 43.88 | 47.32 | 49.74 | 49.69 | 48.97 | 49.60 |
| 31 | 46.87 | --- | 46.30 | 49.36 | --- | 38.80 | --- | 47.45 | --- | 49.74 | 49.04 | --- |
| MAX | 50.52 | 47.94 | 48.21 | 49.36 | 49.58 | 45.99 | 43.38 | 47.45 | 49.74 | 50.12 | 50.04 | 49.97 |

GROUND-WATER RECORDS

STARK COUNTY

405052081193700. Local number, ST-4.

LOCATION.--Lat 40°50'52", long 81°19'37", Hydrologic Unit 05040001, northeast of Canton on Harmont Avenue.

Owner: Adessi Brothers.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test water-table well, diameter 4 in (0.10 m), depth 73 ft (22.3 m), cased.

DATUM.--Land-surface datum is 1,075 ft (327.660 m) above mean sea level. Measuring point: Top of casing 4.00 ft (1.219 m) above land-surface datum.

REMARKS.--Prior to water year 1976 well depth reported as 190 ft (57.9 m).

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 22.02 ft (6.712 m) Jan. 28-Feb. 25, 1956; minimum daily low, 6.93 ft (2.112 m) Feb. 6, 1952.

EXTREMES FOR CURRENT YEAR.--Maximum recorded daily low, 14.56 ft (4.438 m) Feb. 12; minimum recorded daily low, 11.66 ft (3.554 m) Apr. 27.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-----|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 12.39 | 12.93 | 13.44 | | --- | 13.77 | --- | 11.72 | 12.44 | 13.16 | 13.22 | 13.27 |
| 2 | 12.41 | 12.94 | 13.46 | | --- | 13.67 | --- | 11.73 | 12.47 | 13.17 | 13.23 | 13.29 |
| 3 | 12.42 | 12.95 | 13.47 | | --- | 13.60 | --- | 11.74 | 12.52 | 13.18 | 13.24 | 13.30 |
| 4 | 12.44 | 12.96 | 13.50 | | --- | 13.56 | --- | 11.74 | 12.55 | 13.20 | 13.26 | 13.30 |
| 5 | 12.45 | 12.97 | 13.52 | | --- | 13.54 | --- | 11.75 | 12.58 | 13.20 | 13.28 | 13.29 |
| 6 | 12.47 | 12.98 | 13.54 | | --- | 13.46 | --- | 11.75 | 12.60 | 13.19 | 13.31 | 13.28 |
| 7 | 12.49 | 12.99 | 13.55 | | --- | 13.44 | --- | 11.76 | 12.62 | 13.17 | 13.31 | 13.27 |
| 8 | 12.51 | 13.01 | 13.56 | | --- | 13.42 | --- | 11.77 | 12.64 | 13.17 | 13.29 | 13.27 |
| 9 | 12.53 | 13.03 | 13.57 | | --- | 13.41 | --- | 11.79 | 12.66 | 13.15 | 13.24 | 13.27 |
| 10 | 12.55 | 13.05 | 13.59 | | 14.55 | 13.39 | --- | 11.81 | 12.68 | 13.13 | 13.21 | 13.28 |
| 11 | 12.56 | 13.07 | 13.60 | | 14.55 | 13.39 | --- | 11.83 | 12.69 | 13.10 | 13.17 | 13.29 |
| 12 | 12.58 | 13.08 | 13.61 | | 14.56 | 13.39 | --- | 11.85 | 12.71 | 13.08 | 13.15 | 13.31 |
| 13 | 12.60 | 13.10 | 13.63 | | 14.55 | 13.39 | --- | 11.88 | 12.79 | 13.08 | 13.14 | 13.32 |
| 14 | 12.62 | 13.13 | 13.64 | | 14.55 | 13.38 | --- | 11.92 | 12.82 | 13.08 | 13.13 | 13.33 |
| 15 | 12.65 | 13.14 | --- | | 14.55 | 13.33 | --- | 11.95 | 12.83 | 13.10 | 13.13 | 13.34 |
| 16 | 12.67 | 13.15 | --- | | 14.55 | 13.28 | --- | 11.97 | 12.85 | 13.13 | 13.13 | 13.35 |
| 17 | 12.69 | 13.16 | --- | | 14.55 | 13.25 | --- | 11.99 | 12.88 | 13.14 | 13.14 | 13.35 |
| 18 | 12.71 | 13.18 | --- | | 14.54 | 13.22 | --- | 12.03 | 12.89 | 13.15 | 13.14 | 13.34 |
| 19 | 12.73 | 13.20 | --- | | 14.53 | 13.17 | --- | 12.05 | 12.91 | 13.15 | 13.15 | 13.31 |
| 20 | 12.75 | 13.21 | --- | | 14.52 | 13.08 | --- | 12.08 | 12.93 | 13.16 | 13.16 | 13.29 |
| 21 | 12.77 | 13.24 | --- | | 14.52 | 13.00 | --- | 12.11 | 12.96 | 13.17 | 13.16 | 13.27 |
| 22 | 12.79 | 13.26 | --- | | 14.51 | 12.93 | 11.68 | 12.14 | 12.98 | 13.17 | 13.16 | 13.25 |
| 23 | 12.82 | 13.28 | --- | | 14.51 | 12.85 | 11.69 | 12.17 | 13.00 | 13.17 | 13.17 | 13.24 |
| 24 | 12.84 | 13.30 | --- | | 14.49 | 12.78 | 11.69 | 12.20 | 13.02 | 13.16 | 13.17 | 13.24 |
| 25 | 12.85 | 13.32 | --- | | 14.42 | 12.75 | 11.69 | 12.23 | 13.04 | 13.15 | 13.19 | 13.24 |
| 26 | 12.86 | 13.34 | --- | | 14.26 | 12.74 | 11.67 | 12.25 | 13.06 | 13.15 | 13.20 | 13.23 |
| 27 | 12.88 | 13.35 | --- | | 14.10 | 12.73 | 11.66 | 12.29 | 13.08 | 13.15 | 13.22 | 13.20 |
| 28 | 12.89 | 13.36 | --- | | 13.93 | 12.73 | 11.67 | 12.33 | 13.10 | 13.16 | 13.23 | 13.17 |
| 29 | 12.90 | 13.38 | --- | | --- | --- | 11.69 | 12.35 | 13.13 | 13.18 | 13.24 | 13.16 |
| 30 | 12.92 | 13.40 | --- | | --- | --- | 11.70 | 12.38 | 13.15 | 13.19 | 13.25 | 13.16 |
| 31 | 12.93 | --- | --- | | --- | --- | --- | 12.41 | --- | 13.20 | 13.26 | --- |
| MAX | 12.93 | 13.40 | --- | | --- | 13.77 | --- | 12.41 | 13.15 | 13.20 | 13.31 | 13.35 |

GROUND-WATER RECORDS

467

TUSCARAWAS COUNTY

403207081293800. Local number, TU-3.

LOCATION.--Lat 40°32'07", long 81°29'38", Hydrologic Unit 05040001, in the northwest part of Dover.

Owner: Dover City Water Department.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 62 ft (18.9 m), cased.

DATUM.--Land-surface datum is 880 ft (268.224 m) above mean sea level. Measuring point: Floor of instrument shelter 3.00 ft (0.914 m) above land-surface datum.

PERIOD OF RECORD.--May 1960 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 19.35 ft (5.898 m) Nov. 29-30, Dec. 6-8, 1962; minimum daily low, 3.20 ft (0.975 m) July 15, 1969.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 11.31 ft (3.447 m) Feb. 11; minimum daily low, 6.83 ft (2.082 m) Apr. 10.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|------|-------|-------|-------|-------|------|------|------|------|------|------|------|
| 1 | 9.64 | 9.86 | 10.21 | 10.59 | 11.12 | 8.83 | 8.64 | 8.19 | 9.68 | 9.62 | 8.77 | 9.47 |
| 2 | 9.63 | 9.67 | 10.22 | 10.61 | 11.12 | 8.76 | 8.54 | 8.20 | 9.72 | 9.51 | 8.78 | 9.48 |
| 3 | 9.31 | 9.67 | 10.24 | 10.56 | 11.22 | 8.92 | 8.07 | 8.24 | 9.79 | 9.33 | 8.88 | 9.45 |
| 4 | 9.73 | 9.73 | 10.26 | 10.66 | 11.22 | 9.07 | 7.38 | 8.23 | 9.81 | 9.08 | 8.95 | 9.11 |
| 5 | 9.85 | 9.73 | 10.22 | 10.65 | 11.22 | 9.12 | 7.26 | 8.25 | 9.82 | 8.90 | 9.01 | 9.35 |
| 6 | 9.85 | 9.76 | 10.31 | 10.63 | 11.23 | 8.97 | 7.40 | 8.25 | 9.53 | 8.51 | 8.95 | 9.44 |
| 7 | 9.89 | 9.79 | 10.24 | 10.74 | 11.23 | 9.26 | 7.33 | 8.25 | 9.45 | 8.57 | 8.80 | 9.50 |
| 8 | 9.90 | 9.84 | 10.31 | 10.68 | 11.23 | 9.31 | 7.35 | 8.22 | 9.45 | 8.62 | 8.78 | 9.52 |
| 9 | 9.92 | 9.86 | 10.23 | 10.70 | 11.23 | 9.39 | 7.01 | 8.33 | 9.40 | 8.71 | 8.51 | 9.57 |
| 10 | 9.88 | 10.04 | 10.18 | 10.74 | 11.30 | 9.46 | 6.83 | 8.41 | 9.32 | 8.62 | 8.71 | 9.59 |
| 11 | 9.94 | 10.07 | 10.20 | 10.75 | 11.31 | 9.49 | 6.87 | 8.48 | 9.30 | 8.72 | 8.73 | 9.22 |
| 12 | 9.88 | 10.11 | 10.20 | 10.77 | 11.29 | 9.47 | 7.15 | 8.56 | 9.21 | 8.74 | 8.77 | 9.52 |
| 13 | 9.89 | 9.99 | 10.39 | 10.76 | 11.25 | 9.40 | 7.30 | 8.56 | 9.17 | 8.86 | 8.76 | 9.62 |
| 14 | 9.95 | 9.83 | 10.26 | 10.83 | 11.21 | 8.98 | 7.46 | 8.64 | 9.47 | 8.93 | 8.85 | 9.21 |
| 15 | 9.79 | 9.94 | 10.28 | 11.02 | 11.13 | 8.66 | 7.51 | 8.72 | 9.54 | 9.01 | 8.92 | 9.37 |
| 16 | 9.94 | 10.14 | 10.31 | 11.06 | 10.99 | 8.75 | 7.60 | 8.76 | 9.62 | 9.07 | 8.96 | 9.28 |
| 17 | 9.93 | 10.12 | 10.35 | 11.07 | 10.83 | 8.86 | 7.65 | 8.86 | 9.64 | 9.10 | 8.96 | 9.22 |
| 18 | 9.97 | 9.99 | 10.38 | 11.08 | 10.84 | 8.83 | 7.73 | 8.96 | 9.42 | 9.23 | 9.01 | 8.87 |
| 19 | 9.93 | 10.10 | 10.31 | 11.07 | 10.84 | 8.64 | 7.76 | 9.04 | 9.23 | 9.34 | 9.02 | 9.09 |
| 20 | 9.80 | 10.14 | 10.42 | 11.10 | 10.87 | 8.17 | 7.90 | 9.07 | 9.43 | 9.51 | 9.03 | 9.01 |
| 21 | 9.99 | 10.00 | 10.43 | 11.14 | 10.90 | 8.20 | 7.98 | 9.13 | 9.47 | 9.59 | 8.93 | 8.99 |
| 22 | 9.99 | 10.08 | 10.41 | 11.17 | 10.92 | 8.35 | 8.02 | 9.21 | 9.51 | 8.59 | 9.11 | 9.03 |
| 23 | 9.77 | 10.26 | 10.42 | 11.12 | 10.93 | 8.35 | 8.03 | 9.30 | 9.56 | 8.50 | 9.12 | 9.04 |
| 24 | 9.90 | 10.12 | 10.41 | 11.16 | 10.58 | 8.39 | 7.94 | 9.31 | 9.55 | 8.36 | 9.20 | 9.00 |
| 25 | 9.89 | 10.05 | 10.33 | 10.92 | 10.36 | 8.44 | 8.02 | 9.29 | 9.42 | 8.45 | 9.20 | 9.07 |
| 26 | 9.98 | 10.11 | 10.47 | 11.12 | 9.46 | 8.49 | 8.04 | 9.38 | 9.09 | 8.53 | 9.21 | 9.08 |
| 27 | 9.78 | 10.13 | 10.53 | 11.12 | 9.10 | 8.49 | 8.07 | 9.48 | 9.49 | 8.63 | 9.24 | 9.08 |
| 28 | 9.96 | 10.09 | 10.59 | 11.12 | 8.83 | 8.52 | 8.16 | 9.49 | 9.53 | 8.68 | 9.10 | 9.17 |
| 29 | 9.77 | 10.18 | 10.63 | 11.12 | --- | 8.58 | 8.11 | 9.65 | 9.62 | 8.76 | 9.33 | 9.15 |
| 30 | 9.85 | 10.20 | 10.55 | 11.12 | --- | 8.55 | 8.15 | 9.71 | 9.67 | 8.70 | 9.39 | 9.23 |
| 31 | 9.91 | --- | 10.55 | 11.11 | --- | 8.63 | --- | 9.68 | --- | 8.65 | 9.43 | --- |
| MAX | 9.99 | 10.26 | 10.63 | 11.17 | 11.31 | 9.49 | 8.64 | 9.71 | 9.82 | 9.62 | 9.43 | 9.62 |

GROUND-WATER RECORDS

TUSCARAWAS COUNTY--Continued

403210081293100. Local number, TU-10.

LOCATION.--Lat 40°32'10", long 81°29'31", Hydrologic Unit 05040001, 1.8 mi (2.9 km) northwest of fairgrounds in Dover.

Owner: City of Dover.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled public supply water-table well, diameter 20 in (0.51 m), depth 103 ft (31.4 m), screened below 85 ft (25.9 m).

PERIOD OF RECORD.--June 1967 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | CHEM- ICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L) | DIS- SOLVED SODIUM (NA) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) |
|--------------|--|---------------|--|--|--------------------------------------|-----------------------------------|--|--------------------------------------|--|---|
| NOV 04... | 560 | 7.5 | <10 | 3.6 | 202 | 0 | 166 | 10 | 93 | 6.8 |
| APR 05... | 559 | 7.3 | 5 | 4.1 | 206 | 0 | 170 | 17 | 110 | 6.9 |

| DATE | TOTAL RESI- DUE (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITRO- GEN (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MAN- GANESE (MN) (UG/L) |
|--------------|---------------------------------|-----------------------------------|-----------------------------------|--|---|--|---------------------------------|---------------------------------|---|
| NOV 04... | 356 | .33 | .01 | .04 | .03 | <10 | 230 | 0 | 300 |
| APR 05... | 369 | .30 | .00 | .04 | .00 | 10 | 300 | 3 | 500 |

GROUND-WATER RECORDS

469

UNION COUNTY

401826083255200. Local number, U-4.

LOCATION.--Lat 40°18'26", long 83°25'52", Hydrologic Unit 05060001, 2.6 mi (4.2 km) southeast of Raymond.

Owner: State of Ohio.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled test artesian well, diameter 12 in (0.3 m), depth 350 ft (106.7 m), cased to 37 ft (11.3 m).

DATUM.--Land-surface datum is 1,040 ft (316.992 m) above mean sea level. Measuring point: Floor of instrument shelter 3.00 ft (0.914 m) above land-surface datum.

PERIOD OF RECORD.--January 1973 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 24.34 ft (7.419 m) Sept. 11, 1977; minimum daily low, 19.32 ft (5.889 m) Feb. 24, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 24.34 ft (7.419 m) Sept. 11; minimum daily low, 21.44 ft (6.535 m) Apr. 3.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 23.46 | 23.51 | 23.71 | --- | 24.21 | 23.33 | 22.62 | 22.52 | 22.84 | 23.05 | 23.53 | 24.12 |
| 2 | 23.49 | 23.47 | 23.82 | --- | 24.19 | 23.35 | 22.46 | 22.54 | 22.95 | 23.15 | 23.58 | 24.13 |
| 3 | 23.58 | 23.40 | 23.79 | 23.90 | 24.03 | 23.29 | 21.44 | 22.56 | 23.04 | 23.15 | 23.60 | 24.14 |
| 4 | 23.60 | 23.45 | 23.83 | 23.93 | 23.96 | 23.07 | 21.45 | 22.38 | 23.07 | 23.15 | 23.63 | 24.12 |
| 5 | 23.54 | 23.48 | 23.84 | 23.92 | 24.17 | 22.96 | 21.57 | 21.92 | 23.02 | 23.16 | 23.67 | 24.12 |
| 6 | 23.58 | 23.47 | 23.74 | --- | 24.22 | 22.98 | 21.84 | 21.97 | 22.97 | 23.15 | 23.69 | 24.18 |
| 7 | 23.59 | 23.53 | 23.70 | --- | 24.24 | 23.05 | 21.84 | 22.07 | 23.01 | 23.18 | 23.66 | 24.21 |
| 8 | 23.59 | 23.53 | 23.83 | --- | 24.21 | 23.05 | 22.03 | 22.08 | 22.99 | 23.17 | 23.70 | 24.21 |
| 9 | 23.48 | 23.45 | 23.85 | --- | 24.09 | 23.06 | 22.06 | 22.16 | 22.63 | 23.25 | 23.69 | 24.20 |
| 10 | 23.56 | 23.47 | 23.81 | --- | 24.12 | 23.09 | 22.04 | 22.19 | 22.62 | 23.26 | 23.70 | 24.29 |
| 11 | 23.57 | 23.56 | 23.85 | --- | 24.09 | 23.18 | 22.18 | 22.29 | 22.61 | 23.23 | 23.75 | 24.34 |
| 12 | 23.61 | 23.64 | 23.74 | --- | 24.00 | 23.05 | 22.23 | 22.31 | 22.62 | 23.24 | 23.74 | 24.31 |
| 13 | 23.48 | 23.66 | 23.88 | --- | 23.69 | 22.69 | 22.20 | 22.28 | 22.69 | 23.33 | 23.74 | 24.20 |
| 14 | 23.53 | 23.58 | 23.83 | --- | 23.75 | 22.75 | 22.29 | 22.34 | 22.74 | 23.37 | 23.76 | 24.32 |
| 15 | 23.52 | 23.55 | 23.76 | --- | 23.78 | 22.76 | 22.34 | 22.49 | 22.77 | 23.41 | 23.80 | 24.26 |
| 16 | 23.62 | 23.64 | 23.71 | --- | 23.76 | 22.88 | 22.40 | 22.51 | 22.75 | 23.40 | 23.77 | 24.23 |
| 17 | 23.66 | 23.59 | 23.82 | --- | 23.73 | 22.89 | 22.42 | 22.50 | 22.73 | 23.35 | 23.78 | 24.20 |
| 18 | 23.72 | 23.51 | 23.84 | 23.95 | 23.66 | 22.56 | 22.45 | 22.51 | 22.71 | 23.33 | 23.82 | 24.15 |
| 19 | 23.60 | 23.57 | 23.77 | 23.95 | 23.71 | 22.52 | 22.49 | 22.58 | 22.77 | 23.28 | 23.81 | 24.10 |
| 20 | 23.56 | 23.56 | 23.77 | 24.02 | 23.70 | 22.58 | 22.54 | 22.58 | 22.85 | 23.35 | 23.84 | 24.27 |
| 21 | 23.56 | 23.59 | 23.93 | 24.05 | 23.74 | 22.59 | 22.57 | 22.65 | 22.93 | 23.32 | 23.80 | 24.30 |
| 22 | 23.66 | 23.71 | 23.89 | 24.14 | 23.63 | 22.45 | 22.59 | 22.67 | 22.94 | 23.34 | 23.84 | 24.26 |
| 23 | 23.66 | 23.71 | 23.90 | 24.12 | 23.59 | 22.43 | 22.49 | 22.75 | 22.96 | 23.38 | 23.86 | 24.21 |
| 24 | 23.55 | 23.67 | --- | 23.97 | 23.16 | 22.52 | 22.46 | 22.74 | 22.92 | 23.31 | 23.94 | 24.18 |
| 25 | 23.43 | 23.65 | --- | 23.91 | 23.11 | 22.59 | 22.41 | 22.71 | 22.90 | 23.36 | 24.00 | 24.23 |
| 26 | 23.53 | 23.55 | --- | 23.90 | 23.17 | 22.62 | 22.46 | 22.73 | 22.94 | 23.46 | 23.99 | 24.23 |
| 27 | 23.59 | 23.65 | --- | 23.93 | 23.17 | 22.56 | 22.46 | 22.73 | 22.99 | 23.51 | 24.03 | 24.27 |
| 28 | 23.66 | 23.65 | --- | 24.02 | 23.20 | 22.39 | 22.55 | 22.72 | 22.96 | 23.48 | 24.06 | 24.33 |
| 29 | 23.54 | 23.74 | --- | 24.03 | --- | 22.42 | 22.58 | 22.82 | 23.01 | 23.46 | 24.06 | 24.28 |
| 30 | 23.50 | 23.75 | --- | 24.09 | --- | 22.42 | 22.59 | 22.89 | 23.01 | 23.48 | 24.08 | 24.26 |
| 31 | 23.49 | --- | --- | 24.06 | --- | 22.62 | --- | 22.86 | --- | 23.45 | 24.07 | --- |
| MAX | 23.72 | 23.75 | --- | --- | 24.24 | 23.35 | 22.62 | 22.89 | 23.07 | 23.51 | 24.08 | 24.34 |

GROUND-WATER RECORDS

WARREN COUNTY

392511084182500. Local number, W-14.

LOCATION.--Lat 39°25'11", long 84°18'31", Hydrologic Unit 05090202, 3.3 mi (5.3 km) east of Monroe.

Owner: State of Ohio.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test water-table well, diameter 6 in (0.15 m), depth drilled 81 ft (24.7 m), present depth 73 ft (22.3 m), cased to 75 ft (22.9 m).

DATUM.--Land-surface datum is 660 ft (201.168 m) above mean sea level. Measuring point: Floor of instrument shelter 3.00 ft (0.914 m), above land-surface datum.

PERIOD OF RECORD.--July 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 16.48 ft (5.023 m) Sept. 29, 1977; minimum daily low, 6.43 ft (1.960 m) Feb. 19-20, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 16.48 ft (5.023 m) Sept. 29; minimum daily low, 11.31 ft (3.447 m) Apr. 10.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 12.86 | 12.86 | --- | 13.57 | 14.08 | 12.35 | 11.70 | 12.31 | 14.39 | 14.14 | 15.54 | 15.98 |
| 2 | 12.85 | 12.83 | --- | 13.58 | 14.08 | 12.35 | 11.64 | 12.35 | 14.43 | 14.13 | 15.54 | 16.01 |
| 3 | 12.90 | 12.84 | --- | 13.53 | 13.98 | 12.12 | 11.61 | 12.39 | 14.50 | 13.98 | 15.62 | 16.02 |
| 4 | 12.93 | 12.85 | --- | 13.55 | 14.01 | 11.81 | 11.38 | 12.38 | 14.55 | 14.08 | 15.67 | 16.01 |
| 5 | 12.89 | 12.84 | --- | 13.60 | 14.13 | 11.51 | 11.32 | 12.38 | 14.57 | 14.30 | 15.71 | 16.02 |
| 6 | 12.90 | --- | --- | 13.59 | 14.13 | 11.48 | 11.38 | 12.40 | 14.58 | 14.37 | 15.74 | 16.08 |
| 7 | 12.96 | --- | --- | 13.62 | 14.11 | 11.58 | 11.33 | 12.48 | 14.58 | 14.51 | 15.75 | 16.07 |
| 8 | 12.94 | --- | --- | 13.62 | 14.09 | 11.57 | 11.37 | 12.49 | 14.59 | 14.58 | 15.72 | 16.15 |
| 9 | 12.93 | --- | --- | 13.59 | 14.09 | 11.66 | 11.34 | 12.53 | 14.61 | 14.64 | 15.72 | 16.15 |
| 10 | 12.93 | --- | --- | 13.68 | 14.13 | 11.68 | 11.31 | 12.60 | 14.59 | 14.62 | 15.76 | 16.22 |
| 11 | 13.00 | --- | --- | 13.66 | 14.15 | 11.71 | 11.48 | 12.78 | 14.53 | 14.61 | 15.76 | 16.22 |
| 12 | 12.99 | --- | --- | 13.73 | 14.12 | 11.67 | 11.50 | 12.81 | 14.55 | 14.68 | 15.76 | 16.20 |
| 13 | 12.98 | --- | --- | 13.72 | 14.02 | 11.34 | 11.64 | 12.88 | 14.61 | 14.78 | 15.72 | 16.17 |
| 14 | 12.98 | --- | --- | 13.72 | 14.00 | 11.42 | 11.77 | 13.03 | 14.64 | 14.88 | 15.68 | 16.27 |
| 15 | 13.01 | --- | --- | 13.74 | 14.00 | 11.51 | 11.82 | 13.13 | 14.65 | 14.94 | 15.68 | 16.26 |
| 16 | 13.02 | --- | --- | 13.73 | 13.92 | 11.61 | 11.97 | 13.23 | 14.67 | 14.94 | 15.68 | 16.25 |
| 17 | 12.99 | --- | --- | 13.74 | 13.87 | 11.46 | 12.01 | 13.33 | 14.77 | 14.99 | 15.77 | 16.26 |
| 18 | 13.02 | --- | --- | 13.79 | 13.81 | 11.46 | 12.10 | 13.45 | 14.79 | 15.09 | 15.80 | 16.23 |
| 19 | 13.00 | --- | --- | 13.81 | 13.80 | 11.42 | 12.13 | 13.55 | 14.79 | 15.14 | 15.81 | 16.27 |
| 20 | 13.02 | --- | --- | 13.87 | 13.79 | 11.42 | 12.20 | 13.72 | 14.81 | 15.18 | 15.80 | 16.29 |
| 21 | 13.02 | --- | --- | 13.90 | 13.76 | 11.37 | 12.24 | 13.81 | 14.89 | 15.19 | 15.71 | 16.31 |
| 22 | 13.05 | --- | --- | 13.91 | 13.75 | 11.46 | 12.24 | 13.83 | 14.87 | 15.27 | 15.77 | 16.31 |
| 23 | 13.04 | --- | 13.50 | 13.89 | 13.73 | 11.48 | 12.25 | 13.88 | 14.86 | 15.29 | 15.79 | 16.32 |
| 24 | 12.95 | --- | 13.42 | 13.80 | 13.23 | 11.51 | 12.19 | 13.92 | 14.87 | 15.30 | 15.83 | 16.32 |
| 25 | 12.94 | --- | 13.33 | 13.88 | 12.56 | 11.52 | 12.25 | 13.94 | 14.87 | 15.37 | 15.84 | 16.33 |
| 26 | 13.01 | --- | 13.28 | 13.84 | 12.29 | 11.53 | 12.29 | 14.05 | 14.72 | 15.40 | 15.85 | 16.38 |
| 27 | 13.00 | --- | 13.24 | 13.88 | 12.33 | 11.48 | 12.31 | 14.11 | 14.16 | 15.41 | 15.86 | 16.44 |
| 28 | 12.97 | --- | 13.38 | 13.95 | 12.33 | 11.33 | 12.38 | 14.23 | 14.09 | 15.46 | 15.86 | 16.47 |
| 29 | 12.92 | --- | 13.51 | 13.98 | --- | 11.49 | 12.36 | 14.23 | 14.12 | 15.47 | 15.87 | 16.48 |
| 30 | 12.87 | --- | 13.53 | 13.99 | --- | 11.59 | 12.32 | 14.28 | 14.08 | 15.48 | 15.91 | 16.45 |
| 31 | 12.87 | --- | 13.51 | 14.02 | --- | 11.73 | --- | 14.34 | --- | 15.48 | 15.93 | --- |
| MAX | 13.05 | --- | --- | 14.02 | 14.15 | 12.35 | 12.38 | 14.34 | 14.89 | 15.48 | 15.93 | 16.48 |

GROUND-WATER RECORDS

471

WASHINGTON COUNTY

392458081271100. Local number, WA-1.

LOCATION.--Lat 39°24'58", long 81°27'11", Hydrologic Unit 05040004, at Third and Putnam Streets, Marietta.

Owner: Marietta Osteopathic Clinic.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 42 ft (12.8 m), cased.

DATUM.--Land-surface datum is 610 ft (185.9 m) above mean sea level. Measuring point: Floor of instrument shelter 4.80 ft (1.463 m) above land-surface datum.

PERIOD OF RECORD.--May 1942 to June 1974, May 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 30.70 ft (9.357 m) Sept. 9, 1962; minimum daily low, 18.83 ft (5.739 m) Mar. 25, 1945.

EXTREMES FOR CURRENT YEAR.--Maximum recorded daily low, 27.46 ft (8.370 m) Sept. 14; minimum recorded daily low, 26.24 ft (7.998 m) Nov. 3.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-----|-----|-----|-------|-------|-------|-------|-------|
| 1 | 27.36 | 26.42 | 26.91 | 27.16 | | | | --- | --- | 27.17 | 27.17 | 27.32 |
| 2 | 27.33 | 26.32 | 26.96 | 27.16 | | | | --- | --- | 27.15 | 27.18 | 27.36 |
| 3 | 27.32 | 26.24 | 26.96 | 27.19 | | | | --- | --- | 27.19 | 27.23 | 27.29 |
| 4 | 27.33 | 26.32 | 27.01 | 27.22 | | | | --- | --- | 27.25 | 27.24 | 27.34 |
| 5 | 27.33 | 26.36 | 27.03 | 27.23 | | | | --- | --- | 27.19 | 27.26 | 27.38 |
| 6 | 27.32 | 26.38 | 27.02 | 27.22 | | | | --- | --- | 27.16 | 27.28 | 27.37 |
| 7 | 27.33 | 26.44 | 27.00 | --- | | | | --- | --- | 27.16 | 27.29 | 27.38 |
| 8 | 27.32 | 26.47 | 26.88 | --- | | | | --- | --- | 27.15 | 27.26 | 27.42 |
| 9 | 27.25 | 26.43 | 26.76 | --- | | | | --- | --- | 27.18 | 27.20 | 27.42 |
| 10 | 27.11 | 26.46 | 26.72 | --- | | | | --- | --- | 27.19 | 27.16 | 27.38 |
| 11 | 26.77 | 26.50 | 26.75 | --- | | | | --- | --- | 27.21 | 27.13 | 27.40 |
| 12 | 26.61 | 26.57 | 26.75 | --- | | | | --- | --- | 27.25 | 27.15 | 27.40 |
| 13 | 26.66 | 26.60 | 26.79 | --- | | | | --- | --- | 27.26 | 27.12 | 27.42 |
| 14 | 26.64 | 26.60 | 26.77 | --- | | | | --- | --- | 27.19 | 27.08 | 27.46 |
| 15 | 26.69 | 26.65 | 26.77 | --- | | | | --- | --- | 27.12 | 27.03 | 27.44 |
| 16 | 26.69 | 26.69 | 26.78 | --- | | | | --- | --- | 27.15 | 26.97 | 27.35 |
| 17 | 26.70 | 26.69 | 26.80 | --- | | | | --- | --- | 27.21 | 26.95 | 27.35 |
| 18 | 26.74 | 26.73 | 26.82 | --- | | | | --- | --- | 27.25 | 26.91 | 27.33 |
| 19 | 26.75 | 26.75 | 26.83 | --- | | | | --- | --- | 27.23 | 26.89 | 27.30 |
| 20 | 26.80 | 26.77 | 26.89 | --- | | | | --- | --- | 27.21 | 26.98 | 27.28 |
| 21 | 26.80 | 26.82 | 26.96 | --- | | | | --- | --- | 27.18 | 27.00 | 27.24 |
| 22 | 26.84 | 26.83 | 26.94 | --- | | | | --- | --- | 27.11 | 27.08 | 27.15 |
| 23 | 26.83 | 26.85 | 27.01 | --- | | | | --- | 26.99 | 27.03 | 27.13 | 27.11 |
| 24 | 26.80 | 26.84 | 27.00 | --- | | | | --- | 27.03 | 26.98 | 27.09 | 27.11 |
| 25 | 26.78 | 26.85 | 27.02 | --- | | | | --- | 27.04 | 26.99 | 27.09 | 27.10 |
| 26 | 26.75 | 26.84 | 27.05 | --- | | | | 26.29 | 27.02 | 26.95 | 27.15 | 27.08 |
| 27 | 26.65 | 26.88 | 27.05 | --- | | | | 26.35 | 27.07 | 26.94 | 27.20 | 27.03 |
| 28 | 26.55 | 26.88 | 27.07 | --- | | | | 26.36 | 27.07 | 26.98 | 27.21 | 27.01 |
| 29 | 26.53 | 26.91 | 27.11 | --- | | | | 26.37 | 27.12 | 27.05 | 27.24 | 26.96 |
| 30 | 26.50 | 26.91 | 27.13 | --- | | | | 26.37 | 27.18 | 27.09 | 27.27 | 26.96 |
| 31 | 26.49 | --- | 27.16 | --- | | | | --- | --- | 27.14 | 27.29 | --- |
| MAX | 27.36 | 26.91 | 27.16 | --- | | | | --- | --- | 27.26 | 27.29 | 27.46 |

GROUND-WATER RECORDS

WASHINGTON COUNTY--Continued

392556081281500. Local number WA-10.

LOCATION.--Lat 39°25'56", long 81°28'15", Hydrologic Unit 05040004, on left bank of Muskingum River 0.2 mi (0.3 km) north of fairgrounds in Marietta.

Owner: City of Marietta.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled public supply water-table well, diameter 17 in (0.43 m), depth 56 ft (17.1 m), screened below 34 ft (10.4 m).

PERIOD OF RECORD.--June 1973 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | SPECIFIC CONDUCTANCE (MICRO-MHOS) | PH (UNITS) | CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L) | DIS-SOLVED SODIUM (NA) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) |
|-----------|-----------------------------------|--------------------------|--|-----------------------------------|-----------------------------|----------------------------|----------------------------|-----------------------------|---------------------------------|---------------------------------|
| MAY 19... | 720 | 7.3 | 9 | 38 | 174 | 0 | 140 | 14 | 110 | 65 |
| DATE | TOTAL RESIDUE (MG/L) | TOTAL NITRATE (N) (MG/L) | TOTAL NITRITE (N) (MG/L) | TOTAL AMMONIA NITROGEN (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) | |
| MAY 19... | 436 | .05 | .01 | .03 | .00 | 30 | 1300 | 2 | 680 | |

The following table contains water level measurements and chemical analyses from observation wells located in five small watersheds associated with different coal seams. The data will be used to document ground-water flow and water quality during pre- and post- mining conditions.

COSHOCKTON COUNTY

400944081444700. Local number, C06 W10-3.

LOCATION.--Lat 40°09'44", long 81°44'47", Hydrologic Unit 05040005, near Plainfield.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 62 ft (18.9 m), cased to 19 ft (5.8 m), open end.

DATUM.--Land-surface datum is 820.47 ft (250.079 m) (revised) above mean sea level. Measuring point: Top of casing, 2.0 ft (0.61 m) (revised) above land-surface datum.

PERIOD OF RECORD.--July to September 1977 (revised).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 16.47 ft (5.020 m) below land-surface datum, Aug. 17, 1977 (revised); lowest, 17.54 ft (5.346 m) below land-surface datum, Sept. 15, 1977 (revised).

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-------|-------|-------|
| 5 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 16.83 | 16.95 | 16.96 |
| 10 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 16.77 | 16.83 | 17.18 |
| 15 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 16.81 | 17.54 |
| 20 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 16.56 | 17.26 |
| 25 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 16.86 | 17.23 |
| EOM | --- | --- | --- | --- | --- | --- | --- | --- | 17.17 | --- | 16.90 | 17.22 |
| MAX | --- | --- | --- | --- | --- | --- | --- | --- | --- | 17.22 | 16.96 | 17.54 |

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA, MG) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|-----------|------|----------------------------------|------------|---------------------|-------------------------------|-------------------------|-------------------|-------------------------------|--------------------------------|---------------------------|-------------------------------|----------------|
| OCT 15... | 1030 | 295 | 7.1 | 12.5 | 1 | .0 | 120 | 16 | 25 | 15 | 3.3 | 5 |
| MAR 16... | 1000 | 250 | 7.0 | 12.5 | 0 | .2 | 120 | 13 | 25 | 15 | 5.2 | 8 |
| JUN 17... | 0945 | 245 | 7.1 | 13.0 | 13 | .0 | 120 | 3 | 26 | 13 | 3.8 | 6 |
| SEP 15... | 0945 | 250 | 7.0 | 13.0 | 10 | .0 | 120 | 6 | 27 | 13 | 4.1 | 7 |

| DATE | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | TOTAL NITRATE PLUS NITRATE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
|-----------|-------------------------|---------------------------------|---------------------------|------------------------|----------------------------|-----------------------------|---------------------------------|---------------------------------|--------------------------------|---------------------------------------|-----------------------------|-------------------------------|
| OCT 15... | .1 | .4 | 132 | 0 | 108 | 17 | 18 | 1.2 | .3 | .07 | .02 | .06 |
| MAR 16... | .2 | .7 | 136 | 0 | 112 | 22 | 20 | 1.3 | .2 | .02 | .00 | .00 |
| JUN 17... | .2 | .7 | 141 | 0 | 116 | 18 | 17 | 1.8 | .2 | .08 | .01 | .03 |
| SEP 15... | .2 | .8 | 140 | 0 | 115 | 22 | 17 | 1.1 | .2 | .10 | .01 | .03 |

| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) |
|-----------|----------------------------|----------------------------|---------------------------|--------------------------|---------------------------|----------------------------|--------------------------|------------------------|-----------------------------|------------------------|-----------------------------|
| OCT 15... | 50 | 0 | 0 | 100 | 2 | <10 | 0 | 2100 | 50 | 3 | 140 |
| MAR 16... | 30 | 0 | 0 | 100 | 0 | 10 | 2 | 5200 | 60 | 4 | 80 |
| JUN 17... | 40 | 0 | 1 | 0 | 0 | <10 | 5 | 18000 | 40 | 10 | 150 |
| SEP 15... | 2900 | 0 | 0 | 100 | 0 | <10 | 5 | 14000 | 20 | 13 | 60 |

| DATE | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) |
|-----------|---------------------------------|----------------------------------|---------------------------|--------------------------|----------------------------|--------------------------|-----------------------------|------------------------|---------------------------------|---------------------|----------------|
| OCT 15... | 120 | 20 | <.5 | 2 | 0 | 0 | 50 | 20 | .1 | .00 | 0 |
| MAR 16... | 70 | 10 | .0 | 6 | 0 | 0 | 80 | 50 | 8.1 | .00 | 7 |
| JUN 17... | 130 | 20 | .0 | 6 | 0 | 0 | 80 | 40 | 6.3 | .00 | 6 |
| SEP 15... | 50 | 10 | .5 | 6 | 0 | 0 | 60 | 60 | 11 | .00 | 2 |

GROUND-WATER RECORDS IN STRIP MINES

COSHOCOTON COUNTY--Continued

400951081450200. Local number, CO6 W1-1.

LOCATION.--Lat 40°09'51", long 81°45'02", Hydrologic Unit 05040005, near Plainfield.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Observation water well, diameter 6 in (0.15 m), depth 132 ft (40.2 m), cased to 22 ft (6.7 m), open end.

DATUM.--Land surface datum is 1051.46 ft (320.485 m) above mean sea level. Measuring point: Top of casing, 2.2 ft (0.67 m) above land-surface datum.

REMARKS.--Well destroyed by strip-mining operation.

PERIOD OF RECORD.--June to October 1976 (discontinued) (revised).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 83.36 ft (25.408 m) below land-surface datum, Aug. 8, 1976 (revised); lowest, 90.24 ft (27.505 m) below land-surface datum, Oct. 13, 1976 (revised).

REVISIONS.--Revised water-level data for the water year 1976, superceding those published in the report for 1976, are given herein.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-------|-------|-------|
| 5 | --- | --- | --- | --- | --- | --- | --- | --- | 84.12 | 83.91 | 83.60 | 85.07 |
| 10 | --- | --- | --- | --- | --- | --- | --- | --- | 84.17 | 83.94 | 83.42 | --- |
| 15 | --- | --- | --- | --- | --- | --- | --- | --- | 84.05 | 84.02 | 83.72 | 85.00 |
| 20 | --- | --- | --- | --- | --- | --- | --- | --- | 84.08 | 83.62 | 83.85 | --- |
| 25 | --- | --- | --- | --- | --- | --- | --- | --- | 84.25 | 83.93 | 84.17 | --- |
| EOM | --- | --- | --- | --- | --- | --- | --- | --- | 84.32 | 83.45 | 84.45 | 87.04 |
| MAX | --- | --- | --- | --- | --- | --- | --- | --- | 84.32 | 84.31 | 84.45 | 87.04 |

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 5 | 88.01 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 10 | 89.79 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 15 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 20 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 25 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| EOM | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| MAX | 90.24 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA+MG) (MG/L) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|-----------|---------------------------------|----------------------------------|---------------------------|--------------------------|-------------------------------|-----------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------------|-------------------------------|-------------------------------|
| OCT 13... | 1445 | 345 | 7.2 | 12.0 | 1 | .0 | 140 | 10 | 31 | 14 | 7.3 | 10 |
| DATE | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
| OCT 13... | .3 | 1.6 | 152 | 0 | 125 | 15 | 27 | 2.0 | .2 | .07 | .07 | .21 |
| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) | |
| OCT 13... | 200 | 0 | 3 | 300 | 10 | <10 | 0 | 3100 | 20 | 4 | 210 | |
| DATE | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) | |
| OCT 13... | 150 | 60 | <.5 | 5 | 0 | 0 | 180 | 90 | 1.5 | .00 | 6 | |

475

400951081450201. Local number. C06 W2-2.

LOCATION.--Lat 40°09'51", long 81°45'02", Hydrologic Unit 05040005, near Plainfield.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 246 ft (75.0 m) cased to 140 ft (42.7 m), open end.

DATUM.--Land-surface datum is 1051.59 ft (320.525 m) above mean sea level. Measuring point: Top of casing, 2.4 ft (0.73 m) above land-surface datum.

REMARKS.--Well destroyed by strip-mining operation.

PERIOD OF RECORD.--June to October 1976 (discontinued) (revised).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 185.16 ft (56.437 m) below land-surface datum, July 12, 1976 (revised); lowest, 186.33 ft (56.793 m) below land-surface datum, Oct. 11, 1976 (revised).

REVISIONS.--Revised water-level data for the water year 1976, superseding those published in the report for 1976, are given herein.

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|--------|--------|--------|
| 5 | --- | --- | --- | --- | --- | --- | --- | --- | 185.53 | 185.67 | 185.41 | 185.53 |
| 10 | --- | --- | --- | --- | --- | --- | --- | --- | 185.84 | 185.36 | 185.56 | 185.48 |
| 15 | --- | --- | --- | --- | --- | --- | --- | --- | 185.86 | 185.24 | 185.47 | 185.68 |
| 20 | --- | --- | --- | --- | --- | --- | --- | --- | 185.78 | 185.48 | 185.60 | 185.54 |
| 25 | --- | --- | --- | --- | --- | --- | --- | --- | 185.84 | 185.45 | 185.51 | 185.80 |
| EOM | --- | --- | --- | --- | --- | --- | --- | --- | 185.95 | 185.31 | 185.61 | 185.78 |
| MAX | --- | --- | --- | --- | --- | --- | --- | --- | 185.95 | 185.88 | 185.68 | 185.92 |

[illegible]

GROUND-WATER RECORDS IN STRIP MINES

COSHOCTON COUNTY--Continued

400952081445700. Local number, CO6 W4-2.

LOCATION.--Lat 40°09'52", long 81°44'57", Hydrologic Unit 05040005, near Plainfield.

AQUIFER.--Shales and sands of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 100 ft (30.48 m), cased to 20.3 ft (6.2 m), open end. After Oct. 22, 1976, slotted casing to bottom of well.

DATUM.--Land-surface datum is 914.28 ft (278.672 m) above mean sea level. Measuring point: Top of casing, 0.67 ft (0.20 m) above land-surface datum. Prior to Oct. 22, 1976, top of casing 1.4 ft (0.43 m) above land surface datum.

REMARKS.--Well redrilled Oct. 22, 1976. Well destroyed by strip-mining operation.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA+MG) (MG/L) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) (MG/L) | DIS-SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|-----------|---------------------------------|----------------------------------|---------------------------|--------------------------|-------------------------------|-----------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------------|-------------------------------|-------------------------------|
| OCT 14... | 1230 | 500 | 7.2 | 11.0 | 1 | .0 | 140 | 0 | 31 | 14 | 21 | 25 |
| DATE | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
| OCT 14... | .8 | 2.2 | 188 | 0 | 154 | 19 | 27 | 6.0 | .3 | .04 | .10 | .31 |
| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) | |
| OCT 14... | 1200 | 0 | 2 | 300 | 1 | <10 | 0 | 27000 | 700 | 5 | 840 | |
| DATE | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) | |
| OCT 14... | 130 | 710 | <.5 | 8 | 0 | 0 | 440 | 50 | 4.1 | .00 | 0 | |

GROUND-WATER RECORDS IN STRIP MINES

477

COSHOCTON COUNTY--Continued

400952081445900. Local number, C06 W3-1.

LOCATION.--Lat 40°09'52", long 81°44'59", Hydrologic Unit 05040005, near Plainfield.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 29 ft (8.8 m), cased to 20 ft (6.1 m), open end.

DATUM.--Land-surface datum is 945.54 ft (288.201 m) above mean sea level. Measuring point: Top of casing 1.45 ft (0.442 m) above land-surface datum.

REMARKS.--Well destroyed by strip-mining operation.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | COLOR (PLAT- INUM- COBALT UNITS) | HYDRO- GEN SULFIDE (MG/L) | HARD- NESS (CA,MG) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | DIS- SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|--------------|---|--|--------------------------------------|-----------------------------------|--|--|--|---|--|--|--|---|
| OCT 14... | 1330 | 400 | 7.0 | 12.0 | 5 | .0 | 95 | 0 | 20 | 11 | 5.5 | 11 |
| DATE | SODIUM AD- SORP- TION RATIO | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINIT- AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL PHOS- PHORUS (PO4) (MG/L) |
| OCT 14... | .2 | 1.5 | 119 | 0 | 98 | 19 | 15 | 1.0 | .7 | .07 | .11 | .34 |
| DATE | TOTAL ALUM- INUM (AL) (UG/L) | TOTAL ANTI- MONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CAD- MIUM (CD) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MAN- GANESE (MN) (UG/L) | |
| OCT 14... | 660 | 0 | 5 | 400 | 5 | <10 | 10 | 8300 | 160 | 14 | 1400 | |
| DATE | SUS- PENDE MAN- GANESE (MN) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELE- NIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRON- TIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) | |
| OCT 14... | 730 | 670 | <.5 | 19 | 6 | 0 | 90 | 60 | 7.0 | .00 | 0 | |

GROUND-WATER RECCRDS IN STRIP MINES

COSHOCKTON COUNTY--Continued

400954081445100. Local number, C06 W9-2.

LOCATION.--Lat 40°09'54", long 81°44'51", Hydrologic Unit 05040005, near Plainfield.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 60 ft (18.3 m), cased to 18.8 ft (5.7 m), open end.

DATUM.--Land-surface datum is 877.82 ft (267.560 m) above mean sea level. Measuring point: Top of casing, 2.2 ft (0.67 m) above land-surface datum.

REMARKS.--Well destroyed by strip-mining operation.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA+MG) (MG/L) | NON-CARBONATE HARDNESS (MG/L) | DISSOLVED CALCIUM (CA) (MG/L) | DISSOLVED MAGNESIUM (MG/L) | DISSOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|-----------|---------------------------------|----------------------------------|---------------------------|--------------------------|-------------------------------|-----------------------------|--------------------------------|--------------------------------|---------------------------------|---------------------------------------|------------------------------|-------------------------------|
| OCT 14... | 1730 | 905 | 7.2 | 11.0 | 1 | .2 | 330 | 48 | 90 | 26 | 42 | 21 |
| DATE | SODIUM ADSORPTION RATIO | DISSOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED CHLORIDE (CL) (MG/L) | DISSOLVED FLUORIDE (F) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
| OCT 14... | 1.0 | 4.2 | 346 | 0 | 284 | 35 | 140 | 3.9 | .3 | .03 | .03 | .09 |
| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DISSOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) | |
| OCT 14... | 20 | 0 | 0 | 200 | 5 | <10 | 10 | 1900 | 1400 | 2 | 340 | |
| DATE | SUSPENDED MANGANESE (MN) (UG/L) | DISSOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) | |
| OCT 14... | 0 | 340 | <.5 | 1 | 0 | 0 | 920 | 20 | 3.0 | .00 | 0 | |

GROUND-WATER RECORDS IN STRIP MINES

479

COSHOCKTON COUNTY--Continued

400955081444600. Local number, Spring at C06.

LOCATION.--Lat 40°09'55", long 81°44'46", Hydrologic Unit 05040004, near Plainfield.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA, MG) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|-----------|------------------------------|----------------------------------|---------------------------|--------------------------|-------------------------------|-----------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------------|-------------------------------|-------------------------------|
| | | | | | | | | | | | | |
| OCT 14... | 1530 | 400 | 8.2 | 15.0 | 1 | .3 | 170 | 33 | 53 | 8.6 | 3.4 | 4 |
| DATE | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | TOTAL NITRATE PLUS NITRITE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
| OCT 14... | .1 | 1.1 | 164 | 0 | 135 | 1.7 | 37 | 2.4 | .1 | .12 | .03 | .09 |
| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) | |
| OCT 14... | 70 | 0 | 0 | 200 | 1 | <10 | 0 | 760 | 30 | 1 | 110 | |
| DATE | SUSPENDED SOLIDS (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) | |
| OCT 14... | 60 | 50 | <.5 | 2 | 0 | 0 | 80 | 30 | 3.6 | .00 | 0 | |

GROUND-WATER RECORDS IN STRIP MINES

COSHOCTON COUNTY--Continued

400958081444901. Local number, C06 W7-2.

LOCATION.--Lat 40°09'58", long 81°44'49", Hydrologic Unit 05040005, near Plainfield.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Observation water well, diameter 6 in (0.15 m), depth 140 ft (42.7 m), cased to 50 ft (15.2 m), open end.

DATUM.--Land-surface datum is 952.42 ft (290.298 m) (revised) above mean sea level. Measuring point: Top of casing, 1.50 ft (0.46 m) above land-surface datum.

REMARKS.--Well destroyed by strip-mining operation.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA, MG) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|-----------|---------------------------------|----------------------------------|---------------------------|--------------------------|-------------------------------|-----------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------------|-------------------------------|-------------------------------|
| OCT 15... | 0930 | 620 | 7.6 | 11.0 | 1 | .0 | 14 | 0 | 3.2 | 1.4 | 120 | 94 |
| DATE | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
| OCT 15... | 14 | 3.4 | 321 | 0 | 263 | 13 | 2.9 | 3.9 | .9 | .35 | .05 | .15 |
| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) | |
| OCT 15... | 230 | 0 | 0 | 200 | 17 | <10 | 0 | 1200 | 40 | 2 | 40 | |
| DATE | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) | |
| OCT 15... | 20 | 20 | <.5 | 2 | 0 | 0 | 100 | 20 | 2.6 | .00 | 4 | |

GROUND-WATER RECORDS IN STRIP MINES

481

COSHOCTON COUNTY--Continued

402156081481300. Local number, A06 W10-3.

LOCATION.--Lat 40°21'56", long 81°48'13", Hydrologic Unit 05040003, near Coshocton.

AQUIFER.--Shale-coal shales of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 66 ft (20.1 m), cased to 20 ft (6.1 m), open end.

DATUM.--Land-surface datum is 1011.87 ft (308.418 m) above mean sea level. Measuring point: Top of casing, 2.58 ft (0.786 m) above land-surface datum.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICRO-MHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLAT-INUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA+MG) (MG/L) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|-----------|------|-----------------------------------|------------|---------------------|--------------------------------|-------------------------|-------------------------|-------------------------------|--------------------------------|---------------------------|-------------------------------|----------------|
| DEC 14... | 1100 | 1900 | 7.7 | 9.0 | 3 | .0 | 410 | 61 | 94 | 42 | 300 | 61 |
| MAR 15... | 1600 | 1900 | 7.5 | 12.0 | 10 | .3 | 580 | 260 | 130 | 62 | 250 | 47 |
| JUN 15... | 1645 | 1850 | 7.6 | 14.5 | 8 | .0 | 460 | 130 | 110 | 45 | 290 | 57 |
| SEP 13... | 1315 | 1800 | 7.5 | 14.5 | 20 | .0 | 530 | 190 | 130 | 50 | 210 | 45 |

| DATE | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
|-----------|-------------------------|---------------------------------|---------------------------|------------------------|----------------------------|-----------------------------|---------------------------------|---------------------------------|--------------------------------|---------------------------------------|-----------------------------|-------------------------------|
| DEC 14... | 6.5 | 13 | 420 | 0 | 344 | 13 | 770 | 3.9 | .3 | .01 | .02 | .06 |
| MAR 15... | 4.5 | 18 | 396 | 0 | 325 | 20 | 760 | 4.4 | .2 | .00 | .01 | .03 |
| JUN 15... | 5.9 | 14 | 406 | 0 | 333 | 16 | 720 | 67 | .3 | .00 | .02 | .06 |
| SEP 13... | 4.0 | 16 | 420 | 0 | 344 | 21 | 700 | 4.7 | .3 | .00 | .02 | .06 |

| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) |
|-----------|----------------------------|----------------------------|---------------------------|--------------------------|---------------------------|----------------------------|--------------------------|------------------------|-----------------------------|------------------------|-----------------------------|
| DEC 14... | 70 | 1 | 0 | 100 | 0 | <10 | 10 | 5100 | 4400 | 12 | 120 |
| MAR 15... | 120 | 0 | 1 | 100 | 1 | 20 | 12 | 15000 | 3000 | 8 | 130 |
| JUN 15... | 20 | 0 | 2 | 0 | 0 | <10 | 3 | 8600 | 1700 | 0 | 130 |
| SEP 13... | 0 | 0 | 0 | 100 | 0 | 10 | 9 | 6800 | 2300 | 18 | 120 |

| DATE | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) |
|-----------|---------------------------------|----------------------------------|---------------------------|--------------------------|----------------------------|--------------------------|-----------------------------|------------------------|---------------------------------|---------------------|----------------|
| DEC 14... | 20 | 100 | <.5 | 1 | 0 | 0 | 2400 | 30 | 2.4 | .00 | 0 |
| MAR 15... | 20 | 110 | .0 | 6 | 0 | 0 | 3200 | 110 | 12 | .00 | 110 |
| JUN 15... | 10 | 120 | .2 | 4 | 0 | 0 | 2900 | 50 | 7.6 | .00 | 3 |
| SEP 13... | 10 | 110 | .5 | 6 | 0 | 0 | 3600 | 60 | 9.1 | .00 | 3 |

GROUND-WATER RECORDS IN STRIP MINES

COSHOCTON COUNTY--Continued

402201081481200. Local number, ARS Watershed 172 Spring.
 LOCATION.--Lat 40°22'01", long 81°48'12", Hydrologic Unit 05040003, near Coshocton.
 AQUIFER.--Sand, shales and coals of Pennsylvanian Age.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA,MG) (MG/L) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) (MG/L) | DIS-SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|-----------|---------------------------------|----------------------------------|---------------------------|--------------------------|-------------------------------|-----------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------------|-------------------------------|-------------------------------|
| DEC 13... | 1400 | 560 | 7.3 | 7.0 | 2 | .0 | 210 | 29 | 59 | 16 | 42 | 30 |
| MAR 15... | 1445 | 370 | 7.0 | 10.0 | 2 | .3 | 130 | 6 | 36 | 10 | 25 | 29 |
| JUN 15... | 1445 | 670 | 7.4 | 10.5 | 3 | .0 | 240 | 9 | 69 | 17 | 50 | 31 |
| SEP 14... | 0900 | 640 | 7.4 | 13.0 | 0 | .0 | 240 | 0 | 68 | 16 | 50 | 31 |
| DATE | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | TOTAL NITRATE PLUS NITRITE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
| DEC 13... | 1.3 | 2.5 | 224 | 0 | 184 | 18 | 80 | 12 | .4 | .22 | .02 | .06 |
| MAR 15... | 1.0 | 2.3 | 152 | 0 | 125 | 24 | 58 | 7.3 | .2 | .42 | .01 | .03 |
| JUN 15... | 1.4 | 2.9 | 284 | 0 | 233 | 18 | 84 | 23 | .3 | .20 | .05 | .15 |
| SEP 14... | 1.4 | 3.0 | 292 | 0 | 239 | 19 | 84 | 18 | .3 | .19 | .02 | .06 |
| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) | |
| DEC 13... | 30 | 1 | 0 | 100 | 0 | <10 | 0 | 320 | 20 | 0 | 20 | |
| MAR 15... | 130 | 0 | 0 | 100 | 0 | 10 | 1 | 40 | 0 | 3 | 10 | |
| JUN 15... | 30 | 0 | 2 | 0 | 0 | <10 | 2 | 20 | 10 | 0 | 100 | |
| SEP 14... | 80 | 0 | 0 | 100 | 0 | <10 | 6 | 740 | 50 | 9 | 130 | |
| DATE | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) | |
| DEC 13... | 20 | 0 | <.5 | 2 | 0 | 0 | 310 | 0 | 4.8 | .00 | 0 | |
| MAR 15... | 0 | 10 | .0 | 4 | 0 | 0 | 240 | 20 | 2.9 | .00 | 9 | |
| JUN 15... | 90 | 10 | .0 | 4 | 0 | 0 | 400 | 40 | 3.8 | .00 | 0 | |
| SEP 14... | 130 | 0 | .5 | 5 | 0 | 0 | 350 | 40 | 11 | .00 | 0 | |

GROUND-WATER RECORDS IN STRIP MINES

483

COSHOCTON COUNTY--Continued

402208081481001. Local number, A06 W6-2.

LOCATION.--Lat 40°22'08", long 81°48'10", Hydrologic Unit 05040003, near Coshocton.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 98 ft (29.9 m), cased to 18.7 ft (5.7 m), open end.

DATUM.--Land-surface datum is 1136.32 ft (346.350 m) above mean sea level. Measuring point: Top of casing, 2.3 ft (0.70 m) above land-surface datum.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICRO-MHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLAT-INUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA, MG) (MG/L) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) (MG/L) | DIS-SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|-----------|------|-----------------------------------|------------|---------------------|--------------------------------|-------------------------|--------------------------|-------------------------------|--------------------------------|----------------------------------|-------------------------------|----------------|
| DEC 14... | 1245 | 430 | 7.2 | 10.0 | 10 | .0 | 160 | 12 | 36 | 17 | 21 | 22 |
| MAR 18... | 1045 | 373 | 6.3 | 9.0 | 0 | .2 | 140 | 19 | 33 | 15 | 19 | 22 |
| JUN 16... | 0845 | 365 | 6.3 | 12.0 | 3 | .0 | 130 | 4 | 30 | 13 | 15 | 20 |
| SEP 14... | 1115 | 410 | 6.4 | 12.0 | 7 | .0 | 150 | 16 | 35 | 15 | 20 | 22 |

| DATE | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | TOTAL NITRATE PLUS NITRITE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
|-----------|-------------------------|---------------------------------|---------------------------|------------------------|----------------------------|-----------------------------|---------------------------------|---------------------------------|--------------------------------|---------------------------------------|-----------------------------|-------------------------------|
| DEC 14... | .7 | 4.3 | 180 | 0 | 148 | 18 | 75 | 2.5 | .2 | .01 | .25 | .77 |
| MAR 18... | .7 | 4.5 | 152 | 0 | 125 | 122 | 66 | 2.4 | .2 | .00 | .07 | .21 |
| JUN 16... | .6 | 4.0 | 152 | 0 | 125 | 122 | 62 | 2.3 | .2 | .01 | .21 | .64 |
| SEP 14... | .7 | 4.2 | 162 | 0 | 133 | 103 | 73 | 1.9 | .2 | .00 | .12 | .37 |

| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) |
|-----------|----------------------------|----------------------------|---------------------------|--------------------------|---------------------------|----------------------------|--------------------------|------------------------|-----------------------------|------------------------|-----------------------------|
| DEC 14... | 590 | 0 | 1 | 100 | 0 | <10 | 0 | 12000 | 7000 | 13 | 280 |
| MAR 18... | 110 | 0 | 0 | 0 | 0 | 10 | 7 | 11000 | 9000 | 8 | 350 |
| JUN 16... | 80 | 0 | 1 | 0 | 0 | 10 | 5 | 16000 | 10000 | 3 | 360 |
| SEP 14... | 320 | 0 | 3 | 0 | 0 | <10 | 12 | 16000 | 4300 | 14 | 320 |

| DATE | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) |
|-----------|---------------------------------|----------------------------------|---------------------------|--------------------------|----------------------------|--------------------------|-----------------------------|------------------------|---------------------------------|---------------------|----------------|
| DEC 14... | 70 | 210 | 3.7 | 8 | 0 | 0 | 400 | 40 | .7 | .00 | 0 |
| MAR 18... | 30 | 320 | .0 | 8 | 0 | 0 | 360 | 140 | 7.9 | .00 | 13 |
| JUN 16... | 40 | 320 | .0 | 8 | 0 | 0 | 320 | 60 | 5.4 | .00 | 0 |
| SEP 14... | 30 | 290 | .5 | 8 | 0 | 0 | 350 | 80 | 9.2 | .00 | 2 |

GROUND-WATER RECORDS IN STRIP MINES

COSHOCTON COUNTY--Continued

402208081481200. Local number, A06 W157.

LOCATION.--Lat 40°22'08", long 81°48'12", Hydrologic Unit 05040003, near Coshocton.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Hand-dug well, diameter 3 ft (0.9 m), depth 13.9 ft (4.2 m).

DATUM.--Land-surface datum is 1115.45 ft (339.989 m) (revised) above mean sea level.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA, MG) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|-----------|------|----------------------------------|------------|---------------------|-------------------------------|-------------------------|-------------------|-------------------------------|--------------------------------|---------------------------|-------------------------------|----------------|
| DEC 13... | 1530 | 480 | 6.7 | 5.0 | 10 | .0 | 230 | 160 | 46 | 27 | 12 | 10 |
| MAR 18... | 0930 | 450 | 6.5 | 7.0 | 5 | .2 | 200 | 150 | 44 | 23 | 13 | 12 |
| JUN 16... | 0945 | 378 | 6.4 | 11.0 | 3 | .0 | 160 | 110 | 35 | 18 | 9.3 | 11 |
| SEP 14... | 1015 | 495 | 6.5 | 13.5 | 7 | .2 | 210 | 71 | 47 | 23 | 13 | 12 |

| DATE | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
|-----------|-------------------------|---------------------------------|---------------------------|------------------------|----------------------------|-----------------------------|---------------------------------|---------------------------------|--------------------------------|---------------------------------------|-----------------------------|-------------------------------|
| DEC 13... | .3 | 2.7 | 80 | 0 | 66 | 26 | 170 | 3.5 | .3 | .31 | .03 | .09 |
| MAR 18... | .4 | 2.8 | 70 | 0 | 57 | 35 | 160 | 3.4 | .3 | .28 | .01 | .03 |
| JUN 16... | .3 | 2.9 | 59 | 0 | 48 | 38 | 130 | 3.4 | .2 | .13 | .02 | .06 |
| SEP 14... | .4 | 2.9 | 172 | 0 | 141 | 87 | 110 | 3.1 | .3 | .00 | .23 | .71 |

| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) |
|-----------|----------------------------|----------------------------|---------------------------|--------------------------|---------------------------|----------------------------|--------------------------|------------------------|-----------------------------|------------------------|-----------------------------|
| DEC 13... | 150 | 1 | 0 | 0 | 0 | <10 | 50 | 910 | 60 | 9 | 30 |
| MAR 18... | 100 | 0 | 0 | 0 | 0 | 10 | 3 | 190 | 10 | 5 | 10 |
| JUN 16... | 20 | 0 | 2 | 0 | 0 | <10 | 4 | 400 | 170 | 42 | 190 |
| SEP 14... | 100 | 0 | 3 | 100 | 0 | <10 | 12 | 8500 | 7200 | 42 | 1100 |

| DATE | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) |
|-----------|---------------------------------|----------------------------------|---------------------------|--------------------------|----------------------------|--------------------------|-----------------------------|------------------------|---------------------------------|---------------------|----------------|
| DEC 13... | 10 | 20 | <.5 | 2 | 0 | 0 | 180 | 50 | 3.7 | .00 | 24 |
| MAR 18... | 0 | 10 | .0 | 3 | 0 | 0 | 210 | 40 | 2.1 | .00 | 5 |
| JUN 16... | 10 | 180 | .0 | 7 | 0 | 0 | 160 | 60 | 4.2 | .00 | 0 |
| SEP 14... | 0 | 1100 | .5 | 7 | 0 | 0 | 150 | 80 | 8.7 | .00 | 13 |

GROUND-WATER RECORDS IN STRIP MINES

485

COSHOCTON COUNTY--Continued

402208081481300. Local number, A06 W11-2.

LOCATION.--Lat 40°22'08", long 81°48'13", Hydrologic Unit 05040003, near Coshocton.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 56 ft (17.1 m), cased to 18.4 ft (5.6 m), open end.

DATUM.--Land-surface datum is 1092.35 ft (332.948 m) above mean sea level. Measuring point: Top of casing, 1.6 ft (0.49 m) above land-surface datum.

WATER QUALITY DATA. WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA, MG) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) (MG/L) | DIS-SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|-----------|------|----------------------------------|------------|---------------------|-------------------------------|-------------------------|-------------------|-------------------------------|--------------------------------|----------------------------------|-------------------------------|----------------|
| DEC 14... | 0930 | 730 | 7.4 | 9.0 | 5 | .0 | 340 | 60 | 100 | 22 | 29 | 15 |
| MAR 17... | 1545 | 760 | 7.0 | 10.0 | 10 | .3 | 310 | 35 | 92 | 19 | 46 | 24 |
| JUN 15... | 1730 | 725 | 7.2 | 13.0 | 3 | .0 | 330 | 49 | 100 | 19 | 26 | 15 |
| SEP 13... | 1445 | 705 | 7.1 | 15.5 | 5 | .0 | 350 | 74 | 110 | 19 | 23 | 12 |

| DATE | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
|-----------|-------------------------|---------------------------------|---------------------------|------------------------|----------------------------|-----------------------------|---------------------------------|---------------------------------|--------------------------------|---------------------------------------|-----------------------------|-------------------------------|
| DEC 14... | .7 | 3.2 | 342 | 0 | 281 | 22 | 140 | 2.5 | .3 | .01 | .05 | .15 |
| MAR 17... | 1.1 | 3.6 | 333 | 0 | 273 | 53 | 130 | 2.3 | .3 | .00 | .01 | .03 |
| JUN 15... | .6 | 3.3 | 340 | 0 | 279 | 34 | 120 | 2.3 | .2 | .00 | .01 | .03 |
| SEP 13... | .5 | 3.5 | 340 | 0 | 279 | 43 | 120 | 2.1 | .2 | .00 | .01 | .03 |

| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) |
|-----------|----------------------------|----------------------------|---------------------------|--------------------------|---------------------------|----------------------------|--------------------------|------------------------|-----------------------------|------------------------|-----------------------------|
| DEC 14... | 1200 | 1 | 1 | 0 | 0 | <10 | 40 | 5300 | 630 | 10 | 570 |
| MAR 17... | 100 | 0 | 0 | 0 | 0 | 20 | 16 | 5600 | 900 | 4 | 390 |
| JUN 15... | 130 | 0 | 1 | 0 | 0 | 10 | 3 | 8800 | 1800 | 0 | 480 |
| SEP 13... | 210 | 0 | 0 | 100 | 0 | <10 | 7 | 4000 | 650 | 19 | 510 |

| DATE | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) |
|-----------|---------------------------------|----------------------------------|---------------------------|--------------------------|----------------------------|--------------------------|-----------------------------|------------------------|---------------------------------|---------------------|----------------|
| DEC 14... | 110 | 460 | <.5 | 5 | 0 | 0 | 330 | 60 | 13 | .00 | 2 |
| MAR 17... | 10 | 380 | .0 | 3 | 0 | 0 | 420 | 50 | 4.9 | .00 | 3 |
| JUN 15... | 60 | 420 | .0 | 5 | 0 | 0 | 390 | 40 | 5.2 | .00 | 0 |
| SEP 13... | 30 | 480 | .5 | 7 | 0 | 0 | 320 | 40 | 8.5 | .00 | 0 |

GROUND-WATER RECORDS IN STRIP MINES

COSHOCTON COUNTY--Continued

402210081480700. Local number, A06 W3-1.

LOCATION.--Lat 40°22'10", long 81°48'07", Hydrologic Unit 05040003, near Coshocton.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in (0.15 m), depth 75 ft (22.9 m), cased to 18.5 ft (5.6 m), open end.

DATUM.--Land-surface datum is 1206.26 ft (367.688 m) above mean sea level. Measuring point: Top of casing, 1.5 ft (0.46 m) above land-surface datum.

PERIOD OF RECORD.--November 1976 to June 1977 (discontinued) (revised).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 56.66 ft (17.27 m) below land-surface datum, May 18, 1977 (revised); lowest, 63.09 ft (19.23 m) below land-surface datum, Dec. 15, 1976 (revised).

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-----|-------|-------|-----|-----|-----|-----|-------|-------|-----|-----|-----|
| 5 | --- | --- | 62.70 | --- | --- | --- | --- | --- | 57.95 | --- | --- | --- |
| 10 | --- | --- | 62.84 | --- | --- | --- | --- | 57.89 | 58.36 | --- | --- | --- |
| 15 | --- | --- | 63.09 | --- | --- | --- | --- | 57.52 | 58.87 | --- | --- | --- |
| 20 | --- | --- | --- | --- | --- | --- | --- | 56.69 | --- | --- | --- | --- |
| 25 | --- | 62.22 | --- | --- | --- | --- | --- | 57.52 | --- | --- | --- | --- |
| EOM | --- | 62.53 | --- | --- | --- | --- | --- | 57.64 | --- | --- | --- | --- |
| MAX | --- | 62.53 | 63.09 | --- | --- | --- | --- | 58.05 | 58.87 | --- | --- | --- |

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA+MG) (MG/L) | NON-CARBONATE HARDNESS (MG/L) | DISSOLVED CALCIUM (CA) (MG/L) | DISSOLVED MAGNESIUM (MG) (MG/L) | DISSOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|-----------|------|----------------------------------|------------|---------------------|-------------------------------|-------------------------|-------------------------|-------------------------------|-------------------------------|---------------------------------|------------------------------|----------------|
| DEC 15... | 1030 | 400 | 7.7 | 10.0 | 7 | .0 | 200 | 38 | 50 | 18 | 7.0 | 7 |
| MAR 15... | 1215 | 405 | 7.2 | 13.0 | 5 | .0 | 210 | 45 | 54 | 18 | 8.8 | 8 |
| JUN 16... | 1700 | 410 | 7.2 | 14.0 | 3 | .0 | 200 | 38 | 54 | 17 | 7.5 | 7 |
| SEP 14... | 1615 | 420 | 7.2 | 12.5 | 0 | .0 | 200 | 35 | 53 | 17 | 8.1 | 8 |

| DATE | SODIUM ADSORPTION RATIO | DISSOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DISSOLVED SULFATE (SO4) (MG/L) | DISSOLVED CHLORIDE (CL) (MG/L) | DISSOLVED FLUORIDE (F) (MG/L) | TOTAL NITRATE PLUS NITRITE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
|-----------|-------------------------|--------------------------------|---------------------------|------------------------|----------------------------|-----------------------------|--------------------------------|--------------------------------|-------------------------------|---------------------------------------|-----------------------------|-------------------------------|
| DEC 15... | .2 | 1.7 | 196 | 0 | 161 | 6.3 | 51 | 3.9 | .2 | .06 | .09 | .28 |
| MAR 15... | .3 | 2.0 | 200 | 0 | 164 | 20 | 53 | 4.3 | .2 | .06 | .12 | .37 |
| JUN 16... | .2 | 1.9 | 204 | 0 | 167 | 21 | 51 | 3.3 | .2 | .01 | .03 | .09 |
| SEP 14... | .2 | 2.0 | 204 | 0 | 167 | 21 | 53 | 3.4 | .2 | .02 | .02 | .06 |

| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DISSOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) |
|-----------|----------------------------|----------------------------|---------------------------|--------------------------|---------------------------|----------------------------|--------------------------|------------------------|----------------------------|------------------------|-----------------------------|
| DEC 15... | 730 | 1 | 6 | 100 | 0 | <10 | 0 | 7800 | 30 | 9 | 2400 |
| MAR 15... | 800 | 0 | 5 | 0 | 1 | 20 | 12 | 5800 | 10 | 8 | 1200 |
| JUN 16... | 600 | 0 | 1 | 0 | 0 | <10 | 5 | 20 | 20 | 0 | 530 |
| SEP 14... | 430 | 0 | 0 | 0 | 0 | <10 | 7 | 2400 | 90 | 11 | 400 |

| DATE | SUSPENDED MANGANESE (MN) (UG/L) | DISSOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) |
|-----------|---------------------------------|---------------------------------|---------------------------|--------------------------|----------------------------|--------------------------|-----------------------------|------------------------|---------------------------------|---------------------|----------------|
| DEC 15... | 2100 | 260 | 1.1 | 11 | 0 | 0 | 160 | 30 | 4.2 | .00 | 8 |
| MAR 15... | 960 | 240 | .0 | 16 | 0 | 0 | 230 | 100 | 9.5 | .00 | 14 |
| JUN 16... | 300 | 230 | .0 | 6 | 0 | 0 | 190 | 40 | 5.4 | .00 | 0 |
| SEP 14... | 170 | 230 | .5 | 10 | 0 | 0 | 150 | 40 | 8.7 | .00 | 10 |

COSHOCCTN COUNTY--Continued

402210081480701. Local number, A06 W4-2.

LOCATION.--Lat 40°22'10", long 81°48'07", Hydrologic Unit 05040003, near Coshocton.

AQUIFER.--Shales and sands of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 170 ft (51.8 m) cased to 78.9 ft (24.0 m), open end. After Oct. 18, 1976, 4 in (0.10 m) slotted casing to bottom of well.

DATUM.--Land-surface datum is 1206.07 ft (367.610 m) above mean sea level. Measuring point: Top of casing, 2.1 ft (0.64 m) above land-surface datum.

REMARKS.--Well redrilled Oct. 18, 1976 after cave-in.

PERIOD OF RECORD.--November 1976 to June 1977 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 91.93 ft (28.020 m) below land-surface datum, May 9, 1977; lowest, 93.22 ft (28.413 m) below land-surface datum, Dec. 13-14, 1976.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-----|-------|-------|-----|-----|-------|-------|-------|-------|-----|-----|-----|
| 5 | --- | --- | 93.19 | --- | --- | --- | 92.43 | 91.99 | 92.02 | --- | --- | --- |
| 10 | --- | --- | 93.21 | --- | --- | --- | 92.43 | 92.04 | 91.99 | --- | --- | --- |
| 15 | --- | --- | --- | --- | --- | --- | 92.41 | 91.99 | 91.97 | --- | --- | --- |
| 20 | --- | --- | --- | --- | --- | 92.75 | 92.21 | 91.99 | 92.24 | --- | --- | --- |
| 25 | --- | 92.95 | --- | --- | --- | 92.66 | 92.13 | 91.99 | 92.26 | --- | --- | --- |
| EOM | --- | 92.97 | --- | --- | --- | 92.59 | 92.12 | 92.00 | --- | --- | --- | --- |
| MAX | --- | 92.97 | 93.22 | --- | --- | 92.75 | 92.59 | 92.11 | 92.27 | --- | --- | --- |

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | COLOR (PLAT- INUM- COBALT UNITS) | HYDRO- GEN SULFIDE (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | DIS- SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|--------------|------|--|---------------|-----------------------------|--|------------------------------------|------------------------------------|---|--|---|--|-------------------|
| DEC 15... | 0930 | 900 | 7.5 | 9.0 | 8 | .0 | 210 | 20 | 45 | 23 | 120 | 55 |
| MAR 15... | 1115 | 940 | 7.2 | 12.5 | 5 | .3 | 270 | 90 | 62 | 29 | 85 | 40 |
| JUN 16... | 1600 | 860 | 7.2 | 12.5 | 3 | .4 | 230 | 34 | 52 | 24 | 110 | 50 |
| SEP 14... | 1545 | 1100 | 7.4 | 13.5 | 7 | .7 | 250 | 54 | 56 | 27 | 120 | 50 |

| DATE | SODIUM AD- SORP- TION RATIO | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL PHOS- PHORUS (PO4) (MG/L) |
|--------------|---|--|--------------------------------------|-----------------------------------|--|--------------------------------------|--|---|--|--|---|---|
| DEC 15... | 3.6 | 6.7 | 228 | 0 | 187 | 12 | 300 | 1.7 | .5 | .01 | .01 | .03 |
| MAR 15... | 2.2 | 7.0 | 225 | 0 | 185 | 23 | 300 | 1.9 | .3 | .00 | .02 | .06 |
| JUN 16... | 3.2 | 6.8 | 237 | 0 | 194 | 24 | 290 | 3.0 | .3 | .00 | .02 | .06 |
| SEP 14... | 3.3 | 7.8 | 240 | 0 | 197 | 15 | 320 | 3.0 | .3 | .00 | .01 | .03 |

| DATE | TOTAL ALUM- INUM (AL) (UG/L) | TOTAL ANTI- MONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CAD- MIUM (CD) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MAN- GANESE (MN) (UG/L) |
|--------------|--|--|------------------------------------|-----------------------------------|---|--|-----------------------------------|---------------------------------|--|---------------------------------|---|
| DEC 15... | 30 | 1 | 0 | 100 | 0 | <10 | 10 | 13000 | 11000 | 3 | 160 |
| MAR 15... | 50 | 0 | 0 | 100 | 1 | 10 | 5 | 24000 | 20000 | 4 | 160 |
| JUN 16... | 20 | 0 | 1 | 0 | 0 | 10 | 5 | 23000 | 16000 | 2 | 170 |
| SEP 14... | 0 | 0 | 2 | 100 | 0 | <10 | 7 | 23000 | 14000 | 3 | 190 |

| DATE | SUS- PENDED MAN- GANESE (MN) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELE- NIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRON- TIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) |
|--------------|--|--|------------------------------------|-----------------------------------|--|-----------------------------------|---|---------------------------------|---|---------------------------|-------------------|
| DEC 15... | 30 | 130 | <.5 | 2 | 0 | 0 | 860 | 50 | 1.6 | .00 | 140 |
| MAR 15... | 0 | 170 | .0 | 2 | 0 | 0 | 1100 | 60 | 13 | .00 | 35 |
| JUN 16... | 20 | 150 | .0 | 4 | 0 | 0 | 990 | 40 | 6.0 | .00 | 0 |
| SEP 14... | 0 | 190 | .5 | 5 | 0 | 0 | 1000 | 50 | 9.5 | .00 | 25 |

GROUND-WATER RECORDS IN STRIP MINES

COSHOCCTON COUNTY--Continued

402210081481600. Local number, A06 W7-1.

LOCATION.--Lat 40°22'10", long 81°48'16", Hydrologic Unit 05040003, near Coshocton.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 12 ft (3.6 m), cased to 9.7 ft (3.0 m), open end.

DATUM.--Land-surface datum is 1138.28 ft (346.948 m) above mean sea level. Measuring point: Top of casing, 2.3 ft (0.70 m) above land-surface datum.

PERIOD OF RECORD.--June to September 1977 (revised).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.92 ft (2.414 m) below land-surface datum, July 7, 1977 (revised); lowest, 9.57 ft (2.917 m) below land-surface datum, Sept. 30, 1977 (revised).

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| 5 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 8.51 | 9.03 | 9.08 |
| 10 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 8.68 | 9.00 | 9.18 |
| 15 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 8.83 | 9.04 | 9.17 |
| 20 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 8.91 | 8.98 | 8.65 |
| 25 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 8.83 | 9.05 | 8.65 |
| EOM | --- | --- | --- | --- | --- | --- | --- | --- | 8.97 | 9.03 | 9.14 | 9.57 |
| MAX | --- | --- | --- | --- | --- | --- | --- | --- | --- | 9.03 | 9.14 | 9.57 |

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA+MG) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|-----------|---------------------------------|----------------------------------|---------------------------|--------------------------|-------------------------------|-----------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------------|-------------------------------|-------------------------------|
| MAR 17... | 1330 | 308 | 6.8 | 7.5 | 5 | .3 | 87 | 0 | 22 | 7.7 | 6.0 | 13 |
| DATE | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | TOTAL NITRATE PLUS NITRITE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
| MAR 17... | .3 | 3.5 | 106 | 0 | 87 | 27 | 60 | 4.0 | .1 | .94 | .02 | .06 |
| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) | |
| MAR 17... | 40 | 0 | 4 | 100 | 0 | 10 | 5 | 42000 | 36000 | 4 | 850 | |
| DATE | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) | |
| MAR 17... | 0 | 850 | .0 | 19 | 0 | 0 | 100 | 40 | 9.8 | .00 | 8 | |

COSHOCTON COUNTY--Continued

402210081481601. Local number, A06 W8-2.

LOCATION.--Lat 40°22'10", long 81°48'16", Hydrologic Unit 05040003, near Coshocton.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 101 ft (30.8 m), cased to 18.6 ft (5.7 m), open end.

DATUM.--Land-surface datum is 1138.64 ft (347.057 m) above mean sea level. Measuring point: Top of casing, 1.4 ft (0.43 m) above land-surface datum.

PERIOD OF RECORD.--June to September 1977 (revised).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 30.74 ft (9.370 m) below land-surface datum, June 30, 1977 (revised); lowest, 32.75 ft (9.982 m) below land-surface datum, Sept. 7, 1977 (revised).

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-------|-------|-------|
| 5 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 30.85 | 31.71 | 32.58 |
| 10 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 31.02 | 31.75 | 32.29 |
| 15 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 31.14 | 31.91 | --- |
| 20 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 31.31 | 32.03 | 31.87 |
| 25 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 31.42 | 32.17 | 31.90 |
| EOH | --- | --- | --- | --- | --- | --- | --- | --- | 30.74 | 31.58 | 32.38 | 31.98 |
| MAX | --- | --- | --- | --- | --- | --- | --- | --- | --- | 31.58 | 32.38 | 32.75 |

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA, MG) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|-----------|------|----------------------------------|------------|---------------------|-------------------------------|-------------------------|-------------------|-------------------------------|--------------------------------|---------------------------|-------------------------------|----------------|
| DEC 14... | 1415 | 430 | 6.7 | 10.0 | 2 | .0 | 83 | 17 | 42 | 17 | 5.4 | 6 |
| MAR 17... | 1245 | 390 | 5.7 | 11.0 | 5 | .2 | 170 | 120 | 39 | 17 | 7.1 | 8 |
| JUN 15... | 1300 | 540 | 5.8 | 11.5 | 8 | .2 | 210 | 140 | 51 | 21 | 5.7 | 5 |
| SEP 14... | 1345 | 480 | 5.9 | 13.0 | 5 | .2 | 180 | 150 | 44 | 18 | 6.7 | 7 |

| DATE | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | TOTAL NITRATE PLUS NITRITE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
|-----------|-------------------------|---------------------------------|---------------------------|------------------------|----------------------------|-----------------------------|---------------------------------|---------------------------------|--------------------------------|---------------------------------------|-----------------------------|-------------------------------|
| DEC 14... | .2 | 3.4 | 80 | 0 | 66 | 26 | 150 | 1.7 | .2 | .01 | .19 | .58 |
| MAR 17... | .2 | 4.0 | 56 | 0 | 46 | 179 | 130 | 1.9 | .2 | .00 | .12 | .37 |
| JUN 15... | .2 | 4.0 | 87 | 0 | 71 | 221 | 200 | 1.8 | .4 | .00 | .14 | .43 |
| SEP 14... | .2 | 3.8 | 38 | 0 | 31 | 77 | 160 | 1.4 | .2 | .00 | .18 | .55 |

| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) |
|-----------|----------------------------|----------------------------|---------------------------|--------------------------|---------------------------|----------------------------|--------------------------|------------------------|-----------------------------|------------------------|-----------------------------|
| DEC 14... | 470 | 1 | 58 | 100 | 0 | <10 | 0 | 26000 | 16000 | 11 | 720 |
| MAR 17... | 100 | 0 | 14 | 100 | 1 | 10 | 6 | 15000 | 1500 | 10 | 490 |
| JUN 15... | 20 | 0 | 300 | 0 | 0 | <10 | 3 | 26000 | 26000 | 2 | 1400 |
| SEP 14... | 20 | 0 | 35 | 100 | 0 | 10 | 5 | 25000 | 21000 | 5 | 900 |

| DATE | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) |
|-----------|---------------------------------|----------------------------------|---------------------------|--------------------------|----------------------------|--------------------------|-----------------------------|------------------------|---------------------------------|---------------------|----------------|
| DEC 14... | 110 | 610 | 2.9 | 150 | 0 | 0 | 200 | 70 | 2.4 | .00 | 0 |
| MAR 17... | 10 | 480 | .0 | 170 | 0 | 0 | 240 | 280 | 9.8 | .00 | 6 |
| JUN 15... | 0 | 1400 | .0 | 180 | 0 | 0 | 240 | 350 | 11 | .00 | 4 |
| SEP 14... | 0 | 900 | .5 | 190 | 0 | 0 | 180 | 150 | 13 | .00 | 2 |

GROUND-WATER RECORDS IN STRIP MINES

COSHOCTON COUNTY--Continued

402210081481602. Local number, A06 W9-3.

LOCATION.--Lat 40°22'10", long 81°48'16", Hydrologic Unit 05040003, near Coshocton.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 183 ft (55.8 m), cased to 114.5 ft (34.9 m), open end. After Oct. 18, 1976, 4 in (0.10 m) slotted casing to bottom of well.

DATUM.--Land-surface datum is 1138.35 ft (346.969 m) above mean sea level. Measuring point: Top of casing, 1.5 ft (0.46 m) above land-surface datum.

REMARKS.--Well redrilled October 18, 1976 after cave-in.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA, MG) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|-----------|------|----------------------------------|------------|---------------------|-------------------------------|-------------------------|-------------------|-------------------------------|--------------------------------|---------------------------|-------------------------------|----------------|
| DEC 14... | 1330 | 1480 | 9.2 | 10.5 | 10 | .0 | 6 | 0 | 1.1 | .8 | 400 | 99 |
| MAR 17... | 1430 | 1700 | 9.2 | 11.5 | 5 | .2 | 3 | 0 | 1.1 | .1 | 400 | 99 |
| JUN 15... | 1415 | 1650 | 9.3 | 12.5 | 8 | .3 | 5 | 0 | 1.2 | .5 | 440 | 99 |
| SEP 14... | 1315 | 1170 | 9.3 | 13.5 | 4 | .3 | 6 | 0 | 1.4 | .5 | 420 | 99 |

| DATE | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | TOTAL NITRATE PLUS NITRITE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
|-----------|-------------------------|---------------------------------|---------------------------|------------------------|----------------------------|-----------------------------|---------------------------------|---------------------------------|--------------------------------|---------------------------------------|-----------------------------|-------------------------------|
| DEC 14... | 71 | 2.4 | 692 | 136 | 794 | 1.0 | 51 | 46 | 4.5 | .01 | .05 | .15 |
| MAR 17... | 98 | 2.8 | 728 | 131 | 815 | 1.0 | 41 | 42 | 5.0 | .00 | .02 | .06 |
| JUN 15... | 85 | 2.6 | 782 | 141 | 876 | .9 | 17 | 38 | 4.3 | .00 | .03 | .09 |
| SEP 14... | 78 | 2.6 | 808 | 161 | 931 | .9 | 4.8 | 34 | 2.0 | .00 | .03 | .09 |

| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) |
|-----------|----------------------------|----------------------------|---------------------------|--------------------------|---------------------------|----------------------------|--------------------------|------------------------|-----------------------------|------------------------|-----------------------------|
| DEC 14... | 470 | 1 | 1 | 100 | 0 | <10 | 0 | 11000 | 100 | 12 | 60 |
| MAR 17... | 250 | 0 | 1 | 0 | 0 | 10 | 6 | 4400 | 30 | 7 | 20 |
| JUN 15... | 50 | 0 | 1 | 0 | 0 | <10 | 4 | 4200 | 20 | 3 | 20 |
| SEP 14... | 20 | 0 | 0 | 0 | 0 | <10 | 8 | 3900 | 10 | 12 | 30 |

| DATE | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) |
|-----------|---------------------------------|----------------------------------|---------------------------|--------------------------|----------------------------|--------------------------|-----------------------------|------------------------|---------------------------------|---------------------|----------------|
| DEC 14... | 50 | 10 | 2.1 | 7 | 0 | 0 | 50 | 160 | 6.6 | .00 | 44 |
| MAR 17... | 10 | 10 | .0 | 7 | 0 | 0 | 90 | 4 | 3.2 | .00 | 13 |
| JUN 15... | 10 | 10 | .0 | 8 | 0 | 0 | 70 | 40 | 5.7 | .00 | 0 |
| SEP 14... | 20 | 10 | .5 | 5 | 0 | 0 | 60 | 30 | 11 | .00 | 62 |

GROUND-WATER RECORDS IN STRIP MINES

491

COSHOCTON COUNTY--Continued

402213081481700. Local number, A06 W1-1.

LOCATION.--Lat 40°22'13", long 81°48'17", Hydrologic Unit 05040003, near Coshocton.

AQUIFER.--Shales of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 90 ft (27.4 m) cased to 18.8 ft (5.7 m), open end.

DATUM.--Land-surface datum is 1207.84 ft (368.150 m) above mean sea level. Measuring point: Top of casing, 1.2 ft (0.37 m) above land-surface datum.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA, MG) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|-----------|---------------------------------|----------------------------------|---------------------------|--------------------------|-------------------------------|-----------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------------|-------------------------------|-------------------------------|
| MAR 17... | 1030 | 450 | 7.0 | 11.5 | 10 | .0 | 220 | 57 | 56 | 19 | 10 | 9 |
| JUN 16... | 1415 | 460 | 7.6 | 15.0 | 5 | .0 | 230 | 34 | 61 | 19 | 8.1 | 7 |
| DATE | SODIUM ADSORPTION RATIO | DIS-SOLVED PHOSPHATE (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
| MAR 17... | .3 | 2.6 | 196 | 0 | 161 | 31 | 53 | 4.5 | .2 | 4.5 | .07 | .21 |
| JUN 16... | .2 | 2.0 | 240 | 0 | 197 | 9.6 | 46 | 3.5 | .2 | 1.2 | .04 | .12 |
| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) | |
| MAR 17... | 1900 | 0 | 1 | 100 | 0 | 20 | 16 | 3800 | 20 | 8 | 140 | |
| JUN 16... | 1100 | 0 | 1 | 0 | 0 | 10 | 6 | 20 | 10 | 0 | 130 | |
| DATE | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) | |
| MAR 17... | 120 | 20 | .0 | 13 | 1 | 0 | 200 | 90 | 7.6 | .00 | 2 | |
| JUN 16... | 110 | 20 | .0 | 8 | 0 | 0 | 170 | 90 | 5.1 | .00 | 1 | |

GROUND-WATER RECORDS IN STRIP MINES

COSHOCTON COUNTY--Continued

402213081481701. Local number, A06 W2-2.

LOCATION.--Lat 40°22'13", long 81°48'17", Hydrologic Unit 05040003, near Coshocton.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 169 ft (51.5 m), cased to 98.8 ft (30.1 m), open end.

DATUM.--Land-surface datum is 1207.29 ft (367.982 m) above mean sea level. Measuring point: Top of casing, 2.2 ft (0.67 m) above land-surface datum.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA, MG) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|-----------|---------------------------------|----------------------------------|---------------------------|--------------------------|-------------------------------|-----------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------------|-------------------------------|-------------------------------|
| MAR 17... | 0930 | 1800 | 7.2 | 12.0 | 5 | .0 | 310 | 0 | 75 | 29 | 300 | 67 |
| SEP 13... | 1545 | 1430 | 7.1 | 14.5 | 4 | 2.0 | 360 | 0 | 88 | 35 | 210 | 55 |
| DATE | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | TOTAL NITRATE PLUS NITRATE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
| MAR 17... | 7.5 | 12 | 448 | 0 | 367 | 45 | 520 | 5.4 | .4 | 21 | .21 | .64 |
| SEP 13... | 4.8 | 12 | 650 | 0 | 533 | 83 | 360 | 6.3 | .4 | .00 | .53 | 1.6 |
| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) | |
| MAR 17... | 1900 | 1 | 5 | 500 | 2 | 20 | 49 | 25000 | 30 | 62 | 370 | |
| SEP 13... | 420 | 0 | 3 | 100 | 0 | <10 | 8 | 2600 | 330 | 10 | 350 | |
| DATE | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) | |
| MAR 17... | 340 | 30 | .0 | 40 | 8 | 0 | 2000 | 140 | 10 | .00 | 13 | |
| SEP 13... | 0 | 350 | .5 | 11 | 0 | 0 | 2200 | 40 | 8.5 | .00 | 88 | |

GROUND-WATER RECORDS IN STRIP MINES

493

JEFFERSON COUNTY

401002080521800. Local number, J11 W4-1.

LOCATION.--Lat 40°10'02", long 80°52'18", Hydrologic Unit 05030101, near Harrisville.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 60 ft (18.3 m), cased to 18.80 ft (5.73 m), open end.

DATUM.--Land-surface datum is 1251.37 ft (381.418 m) above mean sea level. Measuring point: Top of casing, 1.2 ft (0.37 m) above land-surface datum.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA, MG) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) | PERCENT SODIUM |
|-----------|------|----------------------------------|------------|---------------------|-------------------------------|-------------------------|-------------------|-------------------------------|-------------------------|---------------------------|------------------------|----------------|
| DEC 01... | 1400 | 530 | 7.1 | 4.0 | 5 | .0 | 260 | 83 | 77 | 17 | 10 | 8 |
| MAR 08... | 1430 | 525 | 6.8 | 12.0 | 0 | .0 | 270 | 110 | 81 | 16 | 12 | 9 |
| SEP 20... | 1330 | 560 | 7.0 | 14.0 | 0 | .2 | 270 | 90 | 80 | 16 | 10 | 8 |

| DATE | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
|-----------|-------------------------|---------------------------------|---------------------------|------------------------|----------------------------|-----------------------------|---------------------------------|---------------------------------|--------------------------------|---------------------------------------|-----------------------------|-------------------------------|
| DEC 01... | .3 | 1.5 | 219 | 0 | 180 | 28 | 89 | 18 | .1 | -- | .02 | .06 |
| MAR 08... | .3 | 1.6 | 192 | 0 | 157 | 49 | 78 | 33 | .1 | 1.4 | .01 | .03 |
| SEP 20... | .3 | 1.7 | 214 | 0 | 176 | 34 | 84 | 17 | .1 | .01 | .01 | .03 |

| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) |
|-----------|----------------------------|----------------------------|---------------------------|--------------------------|---------------------------|----------------------------|--------------------------|------------------------|-----------------------------|------------------------|-----------------------------|
| DEC 01... | 140 | 1 | 1 | 0 | 1 | <10 | 10 | 250 | 60 | 13 | 20 |
| MAR 08... | 110 | 1 | 1 | 100 | 1 | 10 | 11 | 280 | 10 | 7 | 30 |
| SEP 20... | 190 | 0 | -- | 0 | 0 | <10 | 7 | 1100 | 80 | 13 | 100 |

| DATE | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) |
|-----------|---------------------------------|----------------------------------|---------------------------|--------------------------|----------------------------|--------------------------|-----------------------------|------------------------|---------------------------------|---------------------|----------------|
| DEC 01... | 10 | 10 | <.5 | 5 | 0 | 0 | 370 | 30 | 4.6 | .00 | 20 |
| MAR 08... | 20 | 10 | .0 | 3 | 0 | 0 | 300 | 60 | 8.1 | .00 | 20 |
| SEP 20... | 30 | 70 | .0 | 10 | 0 | 0 | 360 | 50 | 7.6 | .00 | 0 |

GROUND-WATER RECORDS IN STRIP MINES

JEFFERSON COUNTY--Continued

401004080521900. Local number, J11 W6-1.

LOCATION.--Lat 40°10'04", long 80°52'19", Hydrologic Unit 05030101, near Harrisville.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 46 ft (14.0 m), cased to 17.8 ft (5.4 m), open end.

DATUM.--Land-surface datum is 1237.36 ft (377.147 m) above mean sea level. Measuring point: Top of casing, 3.2 ft (0.98 m) above land-surface datum.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA, MG) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|-----------|------|----------------------------------|------------|---------------------|-------------------------------|-------------------------|-------------------|-------------------------------|--------------------------------|---------------------------|-------------------------------|----------------|
| DEC 02... | 0915 | 555 | 7.2 | 5.5 | 5 | .0 | 250 | 150 | 81 | 12 | 8.7 | 7 |
| MAR 09... | 0945 | 595 | 6.9 | 11.0 | 0 | .3 | 290 | 210 | 90 | 16 | 8.5 | 6 |
| JUN 14... | 0940 | 435 | 7.2 | 11.5 | 0 | .0 | 190 | 120 | 59 | 11 | 6.6 | 7 |
| SEP 20... | 1045 | 450 | 7.3 | 13.0 | 0 | .0 | 200 | 96 | 65 | 9.3 | 7.8 | 8 |

| DATE | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
|-----------|-------------------------|---------------------------------|---------------------------|------------------------|----------------------------|-----------------------------|---------------------------------|---------------------------------|--------------------------------|---------------------------------------|-----------------------------|-------------------------------|
| DEC 02... | .2 | 2.1 | 123 | 0 | 101 | 12 | 100 | 55 | .1 | -- | .02 | .06 |
| MAR 09... | .2 | 2.2 | 102 | 0 | 84 | 21 | 190 | 21 | .1 | .11 | .00 | .00 |
| JUN 14... | .2 | 1.6 | 84 | 0 | 69 | 8.5 | 120 | 9.5 | .2 | .11 | .02 | .06 |
| SEP 20... | .2 | 1.6 | 128 | 0 | 105 | 10 | 85 | 15 | .1 | .01 | .01 | .03 |

| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) |
|-----------|----------------------------|----------------------------|---------------------------|--------------------------|---------------------------|----------------------------|--------------------------|------------------------|-----------------------------|------------------------|-----------------------------|
| DEC 02... | 180 | 0 | 2 | 100 | 1 | <10 | 20 | 800 | 40 | 23 | 310 |
| MAR 09... | 60 | 0 | 2 | 100 | 0 | 10 | 3 | 260 | 30 | 2 | 720 |
| JUN 14... | 110 | 0 | 3 | 10 | 0 | <10 | 24 | 580 | 10 | 10 | 410 |
| SEP 20... | 10 | 0 | -- | 0 | 0 | <10 | 18 | 11000 | 10 | 40 | 460 |

| DATE | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) |
|-----------|---------------------------------|----------------------------------|---------------------------|--------------------------|----------------------------|--------------------------|-----------------------------|------------------------|---------------------------------|---------------------|----------------|
| DEC 02... | 120 | 190 | <.5 | 10 | 0 | 0 | 330 | 30 | 4.2 | 2.0 | 42 |
| MAR 09... | 0 | 720 | .0 | 16 | 0 | 0 | 360 | 30 | 7.3 | .00 | 8 |
| JUN 14... | 380 | 30 | .0 | 30 | 0 | 0 | 290 | 70 | 6.1 | .00 | -- |
| SEP 20... | 450 | 10 | .0 | 18 | 0 | 0 | 230 | 90 | 8.1 | .00 | 0 |

GROUND-WATER RECORDS IN STRIP MINES

495

JEFFERSON COUNTY--Continued

401004080521901. Local number, J11 W7-2.

LOCATION.--Lat 40°10'04", long 80°52'19", Hydrologic Unit 05030101, near Harrisville.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 192 ft (58.5 m), cased to 53.8 ft (16.4 m), open end.

DATUM.--Land-surface datum is 1237.25 ft (377.114 m) above mean sea level. Measuring point: Top of casing, 3.0 ft (0.91 m) above land-surface datum.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA+MG) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|-----------|------|----------------------------------|------------|---------------------|-------------------------------|-------------------------|------------------|-------------------------------|--------------------------------|---------------------------|-------------------------------|----------------|
| DEC 01... | 1530 | 595 | 7.6 | 9.5 | 4 | .2 | 150 | 0 | 36 | 14 | 84 | 55 |
| MAR 09... | 0845 | 575 | 7.5 | 10.5 | 0 | .2 | 190 | 0 | 47 | 18 | 60 | 40 |
| JUN 14... | 1015 | 790 | 7.8 | 12.5 | 3 | .0 | 61 | 0 | 15 | 5.8 | 170 | 85 |
| SEP 20... | 1130 | 810 | 7.8 | 13.5 | 5 | .0 | 65 | 0 | 16 | 6.0 | 170 | 85 |

| DATE | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
|-----------|-------------------------|---------------------------------|---------------------------|------------------------|----------------------------|-----------------------------|---------------------------------|---------------------------------|--------------------------------|---------------------------------------|-----------------------------|-------------------------------|
| DEC 01... | 3.0 | 1.8 | 360 | 0 | 295 | 14 | 31 | 9.9 | .8 | -- | .03 | .09 |
| MAR 09... | 1.9 | 2.2 | 342 | 0 | 281 | 17 | 35 | 11 | .5 | .01 | .01 | .03 |
| JUN 14... | 9.4 | 1.4 | 471 | 0 | 386 | 12 | 22 | 22 | 1.7 | .09 | .09 | .28 |
| SEP 20... | 9.2 | 1.5 | 470 | 0 | 385 | 12 | 24 | 29 | 2.0 | .02 | .08 | .25 |

| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) |
|-----------|----------------------------|----------------------------|---------------------------|--------------------------|---------------------------|----------------------------|--------------------------|------------------------|-----------------------------|------------------------|-----------------------------|
| DEC 01... | 40 | 1 | 0 | 100 | 2 | <10 | 0 | 580 | 80 | 3 | 20 |
| MAR 09... | 30 | 0 | 0 | 100 | 0 | 10 | 8 | 290 | 30 | 2 | 20 |
| JUN 14... | 400 | 0 | 1 | 0 | 0 | <10 | 4 | 2200 | 60 | 19 | 40 |
| SEP 20... | 80 | 0 | -- | 0 | 0 | <10 | 16 | 550 | 0 | 17 | 120 |

| DATE | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) |
|-----------|---------------------------------|----------------------------------|---------------------------|--------------------------|----------------------------|--------------------------|-----------------------------|------------------------|---------------------------------|---------------------|----------------|
| DEC 01... | 10 | 10 | <.5 | 1 | 0 | 0 | 1400 | 90 | 5.6 | .00 | 27 |
| MAR 09... | 0 | 20 | .0 | 1 | 0 | 0 | 1500 | 30 | 6.1 | .00 | 20 |
| JUN 14... | 20 | 20 | .2 | 6 | 0 | 0 | 720 | 40 | 7.1 | .00 | 68 |
| SEP 20... | 110 | 10 | .0 | 13 | 0 | 0 | 300 | 50 | 8.5 | .00 | 0 |

GROUND-WATER RECORDS IN STRIP MINES

JEFFERSON COUNTY--Continued

401007080522400. Local number J11 W8-2.

LOCATION.--Lat 40°10'07", long 80°52'24", Hydrologic Unit 05030101, near Harrisville.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 105 ft (32.0 m), cased to 20.43 ft (6.23 m), open end.

DATUM.--Land-surface datum is 1156.67 ft (352.553 m) above mean sea level. Measuring point: Top of casing, 0.57 ft (0.174 m) above land-surface datum.

PERIOD OF RECORD.--July to September 1977 (revised).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 35.17 ft (10.720 m) below land-surface datum, July 12, 1977 (revised); lowest, 35.92 ft (10.948 m) below land-surface datum, July 21, 1977 (revised).

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-------|-----|
| 5 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.54 | --- |
| 10 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.54 | --- |
| 15 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.52 | 35.54 | --- |
| 20 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.87 | --- | --- |
| 25 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.25 | --- | --- |
| EOM | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.49 | --- | --- |
| MAX | --- | --- | --- | --- | --- | --- | --- | --- | --- | 35.92 | 35.68 | --- |

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA+MG) (MG/L) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) (MG/L) | DIS-SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|-----------|------|----------------------------------|------------|---------------------|-------------------------------|-------------------------|-------------------------|-------------------------------|--------------------------------|----------------------------------|-------------------------------|----------------|
| DEC 02... | 1030 | 570 | 7.6 | 9.5 | 5 | .0 | 200 | 0 | 46 | 20 | 58 | 39 |
| MAR 09... | 1045 | 590 | 7.5 | 11.5 | 0 | .2 | 150 | 0 | 34 | 15 | 85 | 55 |
| JUN 14... | 0830 | 580 | 7.4 | 12.0 | 0 | .0 | 250 | 0 | 61 | 23 | 33 | 22 |
| SEP 20... | 0915 | 605 | 7.3 | 13.0 | 0 | .0 | 250 | 0 | 61 | 24 | 33 | 22 |

| DATE | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | TOTAL NITRATE PLUS NITRITE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
|-----------|-------------------------|---------------------------------|---------------------------|------------------------|----------------------------|-----------------------------|---------------------------------|---------------------------------|--------------------------------|---------------------------------------|-----------------------------|-------------------------------|
| DEC 02... | 1.8 | 2.2 | 334 | 0 | 274 | 13 | 47 | 12 | .2 | -- | .02 | .06 |
| MAR 09... | 3.1 | 2.2 | 322 | 0 | 264 | 16 | 50 | 11 | .2 | .52 | .01 | .03 |
| JUN 14... | .9 | 1.9 | 310 | 0 | 254 | 20 | 47 | 10 | .2 | .29 | .00 | .00 |
| SEP 20... | .9 | 2.0 | 322 | 0 | 264 | 26 | 47 | 14 | .1 | -- | -- | -- |

| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) |
|-----------|----------------------------|----------------------------|---------------------------|--------------------------|---------------------------|----------------------------|--------------------------|------------------------|-----------------------------|------------------------|-----------------------------|
| DEC 02... | 280 | 0 | 2 | 400 | 1 | <10 | 10 | 12000 | 30 | 11 | 810 |
| MAR 09... | 170 | 0 | 1 | 400 | 0 | 10 | 3 | 1900 | 10 | 3 | 200 |
| JUN 14... | 700 | 0 | 15 | 500 | 0 | 10 | 7 | 3600 | 0 | 12 | 300 |
| SEP 20... | 1100 | 0 | -- | 200 | 0 | <10 | 14 | 10000 | 0 | 14 | 1700 |

| DATE | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) |
|-----------|---------------------------------|----------------------------------|---------------------------|--------------------------|----------------------------|--------------------------|-----------------------------|------------------------|---------------------------------|---------------------|----------------|
| DEC 02... | 810 | 0 | <.5 | 4 | 0 | 0 | 1600 | 30 | 4.5 | .00 | 0 |
| MAR 09... | 190 | 10 | .0 | 3 | 0 | 0 | 1100 | 40 | 7.2 | .00 | 6 |
| JUN 14... | 300 | 0 | .0 | 4 | 0 | 0 | 1200 | 30 | 5.4 | .00 | 1 |
| SEP 20... | 1700 | 0 | .0 | 18 | 0 | 0 | 1100 | 90 | 6.2 | .00 | 0 |

GROUND-WATER RECORDS IN STRIP MINES

497

JEFFERSON COUNTY--Continued

401010080521800. Local number, J11 W3-1.

LOCATION.--Lat 40°10'10", long 80°52'18", Hydrologic Unit 05030101, near Harrisville.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter .6 in (0.15 m), depth 38 ft (11.6 m), cased to 18.6 ft (5.7 m), open end.

DATUM.--Land-surface datum is 1235.20 ft (376.489 m) above mean sea level. Measuring point: Top of casing, 2.38 ft (0.725 m) above land-surface datum.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | COLOR (PLAT- INUM- COBALT UNITS) | HYDRO- GEN SULFIDE (MG/L) | HARD- NESS (CA,MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | DIS- SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|--------------|---|--|--------------------------------------|-----------------------------------|--|--|--|---|--|---|--|---|
| DEC 02... | 1130 | 405 | 6.7 | 3.0 | 5 | .0 | 170 | 110 | 48 | 13 | 9.1 | 10 |
| MAR 09... | 1300 | 415 | 5.9 | 12.5 | 0 | .3 | 180 | 160 | 49 | 14 | 8.0 | 9 |
| DATE | SODIUM AD- SORP- TION RATIO | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL PHOS- PHORUS (PO4) (MG/L) |
| DEC 02... | .3 | 1.5 | 82 | 0 | 67 | 26 | 110 | 14 | .1 | -- | .03 | .09 |
| MAR 09... | .3 | 1.8 | 28 | 0 | 23 | 56 | 140 | 14 | .1 | .13 | .01 | .03 |
| DATE | TOTAL ALUM- INUM (AL) (UG/L) | TOTAL ANTI- MONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CAD- MIUM (CD) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MAN- GANESE (MN) (UG/L) | |
| DEC 02... | 90 | 1 | 1 | 100 | 1 | <10 | 0 | 770 | 120 | 11 | 80 | |
| MAR 09... | 150 | 0 | 1 | 100 | 0 | 10 | 4 | 660 | 170 | 100 | 250 | |
| DATE | SUS- PENDE MAN- GANESE (MN) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELE- NIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRON- TIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) | |
| DEC 02... | 20 | 60 | <.5 | 7 | 0 | 0 | 200 | 70 | 3.8 | 1.0 | 25 | |
| MAR 09... | 0 | 250 | .0 | 10 | 0 | 0 | 220 | 40 | 9.2 | .00 | 15 | |

JEFFERSON COUNTY--Continued

401011080521600. Local number, J11 W1-1.

LOCATION.--Lat 40°10'11"N, long 80°52'16"W, Hydrologic Unit 05030101, near Harrisville.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 61.5 ft (18.7 m), cased to 18.5 ft (5.7 m), open end.

DATUM.--Land-surface datum is 1259.5 ft (383.900 m) above mean sea level. Measuring point: Top of casing, 2.5 ft (0.76 m) above land-surface datum.

PERIOD OF RECORD.--September 1976 to current year (revised).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 44.53 ft (13.573 m) below land-surface datum, Feb. 28, 1977 (revised); lowest, 55.54 ft (16.929 m) below land-surface datum, Oct. 23-24, 1976 (revised).

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-----|-------|-------|-------|-------|-------|-------|
| 5 | 55.38 | 54.22 | --- | 54.31 | 55.06 | --- | --- | --- | --- | 49.98 | 51.51 | 53.81 |
| 10 | 55.44 | 54.22 | 53.59 | 54.38 | 55.35 | --- | --- | --- | --- | 48.84 | 52.22 | 54.02 |
| 15 | 55.31 | 54.44 | 53.03 | 54.59 | 51.72 | --- | 46.93 | --- | 51.53 | 51.00 | 52.72 | 54.27 |
| 20 | 55.48 | 54.65 | 53.23 | 54.61 | 52.33 | --- | --- | --- | 49.54 | 51.63 | 52.90 | 54.29 |
| 25 | 55.52 | 54.90 | 53.71 | 54.71 | 45.72 | --- | --- | --- | 50.03 | 49.90 | 53.30 | 53.55 |
| EOM | 55.29 | 55.10 | 54.00 | 54.96 | 44.53 | --- | --- | --- | 50.02 | 49.84 | 53.64 | 53.63 |
| MAX | 55.54 | 55.15 | 55.12 | 54.96 | 55.38 | --- | 47.03 | 48.16 | 51.53 | 51.77 | 53.64 | 54.30 |

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICRO-MHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA, MG) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) (MG/L) | DIS-SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|-----------|------|-----------------------------------|------------|---------------------|-------------------------------|-------------------------|-------------------|-------------------------------|--------------------------------|----------------------------------|-------------------------------|----------------|
| DEC 02... | 1345 | 720 | 7.3 | 8.0 | 2 | .0 | 400 | 64 | 110 | 31 | 5.7 | 3 |
| MAR 09... | 1430 | 725 | 7.3 | 12.5 | 0 | .2 | 400 | 69 | 110 | 30 | 6.3 | 3 |
| JUN 14... | 1330 | 730 | 7.3 | 13.0 | 3 | .0 | 390 | 55 | 110 | 29 | 5.6 | 3 |
| SEP 20... | 1445 | 740 | 7.3 | 14.0 | 0 | .0 | 430 | 81 | 120 | 31 | 6.0 | 3 |

| DATE | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | TOTAL NITRATE PLUS NITRATE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
|-----------|-------------------------|---------------------------------|---------------------------|------------------------|----------------------------|-----------------------------|---------------------------------|---------------------------------|--------------------------------|---------------------------------------|-----------------------------|-------------------------------|
| DEC 02... | .1 | 1.8 | 413 | 0 | 339 | 33 | 28 | 11 | .1 | -- | .04 | .12 |
| MAR 09... | .1 | 1.7 | 401 | 0 | 329 | 32 | 29 | 12 | .1 | 11 | .04 | .12 |
| JUN 14... | .1 | 1.6 | 413 | 0 | 339 | 33 | 24 | 11 | .1 | 10 | .20 | .61 |
| SEP 20... | .1 | 1.7 | 422 | 0 | 346 | 34 | 28 | 10 | .2 | 9.9 | .01 | .03 |

| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) |
|-----------|----------------------------|----------------------------|---------------------------|--------------------------|---------------------------|----------------------------|--------------------------|------------------------|-----------------------------|------------------------|-----------------------------|
| DEC 02... | 970 | 1 | 0 | 200 | 6 | <10 | 10 | 3000 | 40 | 21 | 80 |
| MAR 09... | 1100 | 0 | 1 | 300 | 2 | 10 | 11 | 3000 | 30 | 38 | 130 |
| JUN 14... | 1200 | 0 | 1 | 200 | 0 | 10 | 50 | 30 | 10 | 54 | 150 |
| SEP 20... | 560 | 0 | 0 | 0 | 0 | <10 | 21 | 1500 | 0 | 18 | 40 |

| DATE | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) |
|-----------|---------------------------------|----------------------------------|---------------------------|--------------------------|----------------------------|--------------------------|-----------------------------|------------------------|---------------------------------|---------------------|----------------|
| DEC 02... | 80 | 0 | <.5 | 12 | 3 | 0 | 380 | 70 | 2.9 | 1.0 | 1 |
| MAR 09... | 120 | 10 | .0 | 6 | 2 | 0 | 370 | 30 | 7.5 | .00 | 17 |
| JUN 14... | 140 | 10 | .0 | 12 | 3 | 3 | 420 | 80 | 5.4 | .00 | 0 |
| SEP 20... | 30 | 10 | .0 | 10 | 1 | 0 | 370 | 60 | 7.8 | .00 | 0 |

JEFFERSON COUNTY--Continued

401011080521601. Local number, J11 W2-2.

LOCATION.--Lat 40°10'11", long 80°52'16", Hydrologic Unit 05030101, near Harrisville.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 211 ft (64.3 m), cased to 65 ft (19.8 m), open end.

DATUM.--Land-surface datum is 1259.41 ft (383.868 m) above mean sea level. Measuring point: Top of casing, 2.0 ft (0.61 m) above land-surface datum.

PERIOD OF RECORD.--September 1976 to current year (revised).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 78.04 ft (23.787 m) below land-surface datum, Apr. 4, 1977 (revised); lowest, 87.77 ft (26.752 m) below land-surface datum, Sept. 29-30, 1977 (revised).

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 5 | 85.05 | --- | 85.93 | 85.39 | --- | 82.66 | --- | 83.90 | 84.47 | 84.87 | 84.95 | 85.57 |
| 10 | 85.07 | --- | 85.73 | 85.54 | --- | 82.64 | --- | 83.22 | 84.55 | 84.83 | 85.12 | 85.63 |
| 15 | 85.07 | 84.56 | 85.14 | 85.67 | --- | 81.64 | 82.71 | 83.39 | 84.64 | 85.47 | 85.25 | 85.69 |
| 20 | --- | 84.66 | 84.93 | 84.89 | 84.80 | 80.18 | 83.14 | 83.72 | 84.71 | 85.48 | 85.26 | 85.71 |
| 25 | --- | 84.80 | 85.00 | 84.96 | 84.27 | 81.56 | 83.53 | 84.02 | 84.77 | 85.10 | 85.35 | 87.74 |
| EOM | --- | 84.89 | 85.19 | --- | 83.27 | 82.47 | 83.79 | 84.27 | 84.84 | 84.81 | 85.46 | 87.77 |
| MAX | 85.14 | 84.89 | 85.94 | 85.75 | 85.03 | 83.09 | 83.79 | 84.27 | 84.84 | 85.49 | 85.46 | 87.77 |

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | SPE- CIFIC CON- DUCT- ANCE | | | COLOR (PLAT- INUM- COBALT | HYDRO- GEN SULFIDE | HARD- NESS (CA+MG) | NON- CAR- BONATE HARD- NESS | DIS- SOLVED CAL- CIUM (CA) | DIS- SOLVED MAG- NE- SIUM (MG) | DIS- SOLVED SODIUM (NA) | PERCENT SODIUM |
|--------------|--|--|--------------------------------------|-----------------------------------|--|--|--|---|--|--|---|---|
| DATE | TIME | (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | (UNITS) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | (MG/L) | |
| DEC 02... | 1445 | 760 | 7.2 | 9.0 | 2 | .0 | 360 | 29 | 93 | 32 | 29 | 15 |
| MAR 09... | 1500 | 750 | 7.2 | 12.0 | 0 | .2 | 380 | 55 | 99 | 33 | 27 | 13 |
| JUN 14... | 1430 | 817 | 7.2 | 12.0 | 3 | .0 | 310 | 0 | 78 | 28 | 65 | 31 |
| SEP 20... | 1530 | 805 | 7.1 | 13.0 | 0 | .0 | 390 | 43 | 100 | 33 | 33 | 16 |
| DATE | SODIUM AD- SORP- TION RATIO | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL PHOS- PHORUS (PO4) (MG/L) |
| DEC 02... | .7 | 2.4 | 409 | 0 | 335 | 41 | 85 | 25 | .2 | -- | .12 | .37 |
| MAR 09... | .6 | 2.4 | 400 | 0 | 328 | 40 | 77 | 25 | .2 | .19 | .01 | .03 |
| JUN 14... | 1.6 | 2.5 | 422 | 0 | 346 | 43 | 78 | 23 | .2 | .37 | .02 | .06 |
| SEP 20... | .7 | 2.4 | 418 | 0 | 343 | 53 | 77 | 24 | .2 | .25 | .01 | .03 |
| DATE | TOTAL ALUM- INUM (AL) (UG/L) | TOTAL ANTI- MONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CAD- MIUM (CD) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MAN- GANESE (MN) (UG/L) | |
| DEC 02... | 320 | 1 | 3 | 100 | 0 | <10 | 20 | 210000 | 40 | 15 | 430 | |
| MAR 09... | 90 | 0 | 1 | 100 | 0 | 10 | 19 | 9000 | 10 | 10 | 260 | |
| JUN 14... | 400 | 0 | 4 | 200 | 0 | 10 | 6 | 20 | 10 | 8 | 120 | |
| SEP 20... | 40 | 0 | -- | 0 | 0 | <10 | 16 | 6000 | 10 | 13 | 120 | |
| DATE | SUS- PENDED MAN- GANESE (MN) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELE- NIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRON- TIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) | |
| DEC 02... | 430 | 0 | <.5 | 4 | 0 | 0 | 1600 | 140 | 2.9 | .00 | 31 | |
| MAR 09... | 240 | 20 | .0 | 7 | 0 | 0 | 1300 | 50 | 7.6 | .00 | 12 | |
| JUN 14... | 110 | 10 | .0 | 5 | 0 | 0 | 1800 | 40 | 5.1 | .00 | 0 | |
| SEP 20... | 110 | 10 | .0 | 7 | 0 | 0 | 1500 | 60 | 7.9 | .00 | 0 | |

GROUND-WATER RECORDS IN STRIP MINES

JEFFERSON COUNTY--Continued

401119080480700. Local number, J08 W5-1.

LOCATION.--Lat 40°11'19", long 80°48'07", Hydrologic Unit 05030101, near Mt. Pleasant.

AQUIFER.--Limestones and shales of Upper Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 125 ft (38.1 m) cased to 19.7 ft (6.0 m), open end.

DATUM.--Land-surface datum is 1101.19 ft (335.643 m) above mean sea level. Measuring point: Top of casing, 1.3 ft (0.40 m) above land-surface datum.

PERIOD OF RECORD.--June to September 1977.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 58.96 ft (17.971 m) below land-surface datum, July 24-Aug. 2, 1977; lowest, 59.11 ft (18.017 m) below land-surface datum, September 19, 1977.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-------|-------|-------|
| 5 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 58.99 | 58.98 | 59.06 |
| 10 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 58.99 | 58.99 | 59.08 |
| 15 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 59.00 | 59.00 | 59.09 |
| 20 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 59.01 | 59.01 | 59.10 |
| 25 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 58.96 | 59.03 | 59.10 |
| EQM | --- | --- | --- | --- | --- | --- | --- | --- | 58.98 | 58.96 | 59.05 | 59.10 |
| MAX | --- | --- | --- | --- | --- | --- | --- | --- | 58.98 | 59.01 | 59.05 | 59.11 |

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA, MG) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|-----------|------|----------------------------------|------------|---------------------|-------------------------------|-------------------------|-------------------|-------------------------------|--------------------------------|---------------------------|-------------------------------|----------------|
| MAR 10... | 0930 | 860 | 7.4 | 11.5 | 0 | .2 | 500 | 260 | 130 | 42 | 10 | 4 |
| JUN 13... | 1445 | 952 | 7.6 | 12.5 | 0 | .0 | 550 | 310 | 140 | 48 | 9.0 | 3 |
| SEP 19... | 1515 | 840 | 7.6 | 13.5 | 0 | .0 | 490 | 240 | 120 | 46 | 9.3 | 4 |

| DATE | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | TOTAL NITRATE PLUS NITRITE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
|-----------|-------------------------|---------------------------------|---------------------------|------------------------|----------------------------|-----------------------------|---------------------------------|---------------------------------|--------------------------------|---------------------------------------|-----------------------------|-------------------------------|
| MAR 10... | .2 | 2.7 | 289 | 0 | 237 | 18 | 270 | 2.9 | .2 | .28 | .03 | .09 |
| JUN 13... | .2 | 2.8 | 292 | 0 | 239 | 12 | 300 | 3.9 | .2 | .26 | .06 | .18 |
| SEP 19... | .2 | 2.7 | 300 | 0 | 246 | 12 | 250 | 3.4 | .1 | .14 | .11 | .34 |

| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) |
|-----------|----------------------------|----------------------------|---------------------------|--------------------------|---------------------------|----------------------------|--------------------------|------------------------|-----------------------------|------------------------|-----------------------------|
| MAR 10... | 650 | 0 | 1 | 200 | 0 | 10 | 3 | 1300 | 10 | 4 | 40 |
| JUN 13... | 1400 | 0 | 3 | 200 | 0 | 20 | 6 | 2500 | 10 | 9 | 80 |
| SEP 19... | 1500 | 0 | 0 | 0 | 0 | <10 | 5 | 1700 | 20 | 29 | 50 |

| DATE | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) |
|-----------|---------------------------------|----------------------------------|---------------------------|--------------------------|----------------------------|--------------------------|-----------------------------|------------------------|---------------------------------|---------------------|----------------|
| MAR 10... | 40 | 0 | .0 | 3 | 1 | 0 | 1700 | 50 | 7.3 | .00 | 12 |
| JUN 13... | 70 | 10 | .0 | 3 | 2 | 0 | 2300 | 70 | 6.3 | .00 | 0 |
| SEP 19... | 50 | 0 | .0 | 4 | 0 | 0 | 2300 | 40 | 8.1 | .00 | 0 |

GROUND-WATER RECORDS IN STRIP MINES

501

JEFFERSON COUNTY--Continued

401119080480701. Local number, J08 W2-2.

LOCATION.--Lat 40°11'19", long 80°48'07", Hydrologic Unit 05030101, near Mt. Pleasant.

AQUIFER.--Shales and limestones of Upper Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 220 ft (67.1 m) cased to 138.6 ft (42.2 m), open end.

DATUM.--Land-surface datum is 1100.67 ft (335.484 m) above mean sea level. Measuring point: Top of casing 2.2 ft (0.67 m) above land-surface datum.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| | | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH | TEMPER- ATURE (DEG C) | COLOR (PLAT- INUM- COBALT UNITS) | HYDRO- GEN SULFIDE (MG/L) | HARD- NESS (CA+MG) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | DIS- SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM | |
|--------------|------|--|--|--------------------------------------|--|--|--|---|---|--|--|---|---|
| DATE | TIME | | (UNITS) | | | | | | | | | | |
| MAR 10... | 1030 | 2350 | 7.5 | 15.0 | 0 | .4 | 79 | 0 | 22 | 5.9 | 560 | 93 | |
| JUN 13... | 1645 | 2300 | 8.1 | 14.0 | 0 | .0 | 29 | 0 | 7.3 | 2.5 | 540 | 97 | |
| SEP 19... | 1615 | 2400 | 8.0 | 15.5 | 0 | .0 | 38 | 0 | 10 | 3.1 | 600 | 97 | |
| | | SODIUM AD- SORP- TION RATIO | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL PHOS- PHORUS (PO4) (MG/L) |
| DATE | | | | | | | | | | | | | |
| MAR 10... | 27 | 5.3 | 980 | 0 | 804 | 50 | 170 | 230 | 3.9 | .26 | .10 | .31 | |
| JUN 13... | 44 | 3.3 | 1030 | 0 | 845 | 13 | 74 | 240 | 4.8 | .35 | .01 | .03 | |
| SEP 19... | 43 | 3.5 | 1020 | 0 | 837 | 16 | 65 | 320 | 4.6 | .38 | .03 | .09 | |
| | | TOTAL ALUM- INIUM (AL) (UG/L) | TOTAL ANTI- MONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CAD- MIUM (CD) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MAN- GANESE (MN) (UG/L) | |
| DATE | | | | | | | | | | | | | |
| MAR 10... | 1000 | 0 | 3 | 200 | 0 | 10 | 18 | 3000 | 40 | 76 | 50 | | |
| JUN 13... | 1300 | 0 | 2 | 200 | 0 | 20 | 17 | 8800 | 10 | 60 | 100 | | |
| SEP 19... | 790 | 0 | -- | 100 | 2 | <10 | 17 | 1600 | 10 | 60 | 40 | | |
| | | SUS- PEN- DED MAN- GANESE (MN) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELE- NIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRON- TIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) | |
| DATE | | | | | | | | | | | | | |
| MAR 10... | 30 | 20 | .0 | 8 | 0 | 0 | 700 | 30 | 5.9 | .00 | -- | | |
| JUN 13... | 100 | 0 | .0 | 19 | 0 | 0 | 630 | 60 | 4.8 | .00 | 0 | | |
| SEP 19... | 30 | 10 | .0 | 7 | 0 | 0 | 480 | 40 | 8.5 | .00 | 43 | | |

GROUND-WATER RECORDS IN STEEP MINES

JEFFERSON COUNTY--Continued

401112080480900. Local number, JO8 W4-3.

LOCATION.--Lat 40°11'12", long 80°48'09", Hydrologic Unit 05030101, near Mt. Pleasant.

AQUIFER.--Shales of Upper Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 360 ft (109.7 m) cased to 232.0 ft (70.7 m), open end.

DATUM.--Land-surface datum is 1101.46 ft (335.725 m) above mean sea level. Measuring point: Top of casing, 1.9 ft (0.58 m) above land-surface datum.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | COLOR (PLAT- INUM- COBALT UNITS) | HYDRO- GEN SULFIDE (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) (MG/L) | DIS- SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|--------------|---|--|--------------------------------------|-----------------------------------|--|--|--|---|--|---|--|---|
| JUN 13... | 1300 | 15100 | 7.5 | 13.0 | 0 | .0 | 300 | 0 | 64 | 35 | 3800 | 96 |
| SEP 19... | 1730 | 15000 | 7.6 | 15.5 | 20 | .3 | 280 | 0 | 58 | 33 | 3800 | 97 |
| DATE | SODIUM AD- SORP- TION RATIO | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CAC03 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL PHOS- PHORUS (PO4) (MG/L) |
| JUN 13... | 95 | 13 | 718 | 0 | 589 | 36 | 33 | 5600 | .3 | .01 | .05 | .15 |
| SEP 19... | 99 | 13 | 764 | 0 | 627 | 31 | 13 | 5600 | .3 | .00 | .10 | .31 |
| DATE | TOTAL ALUM- INUM (AL) (UG/L) | TOTAL ANTI- MONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CAD- MIUM (CD) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MAN- GANESE (MN) (UG/L) | |
| JUN 13... | 240 | 0 | 2 | 4000 | 0 | 20 | 20 | 7400 | 50 | 260 | 90 | |
| SEP 19... | 220 | 0 | -- | 6000 | 3 | <20 | 21 | 7500 | 120 | 30 | 130 | |
| DATE | SUS- PENDE MAN- GANESE (MN) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELE- NIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRON- TIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) | |
| JUN 13... | 50 | 40 | .2 | 4 | 0 | 0 | 9200 | 160 | 5.2 | .01 | 0 | |
| SEP 19... | 70 | 60 | .0 | 8 | 0 | 0 | 10000 | 220 | 8.4 | .00 | 0 | |

GROUND-WATER RECORDS IN STRIP MINES

503

MUSKINGUM COUNTY

394841081463200. Local number, M09 W10-3.

LOCATION.--Lat 39°48'41", long 81°46'32", Hydrologic Unit 05040004, near Chandlersville.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 190 ft (57.9 m), cased to 41 ft (12.5 m), open end. After Sept. 29, 1976, slotted casing to bottom of well (revised).

DATUM.--Land-surface datum is 941.51 ft (286.972 m) above mean sea level. Measuring point: Top of casing, 0.98 ft (0.30 m) above land-surface datum. Prior to September 29, 1976, top of casing 2.8 ft (0.84 m) above land-surface datum.

REMARKS.--Well redrilled September 29, 1976 because well collapsed.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA+MG) (MG/L) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) (MG/L) | DIS-SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|-----------|------|----------------------------------|------------|---------------------|-------------------------------|-------------------------|-------------------------|-------------------------------|--------------------------------|----------------------------------|-------------------------------|----------------|
| NOV 18... | 0930 | 1750 | 8.8 | 11.5 | 160 | .0 | 12 | 0 | 3.2 | .9 | 560 | 99 |
| MAR 16... | 1330 | 705 | 8.7 | 12.0 | 15 | .2 | 100 | 0 | 15 | 16 | 130 | 73 |
| JUN 23... | 1130 | 1350 | 9.0 | 14.0 | 250 | .0 | 2 | 0 | .3 | .4 | 320 | 100 |
| SEP 15... | 1245 | 1130 | 8.9 | 13.5 | 180 | .0 | 4 | 0 | 1.0 | .3 | 320 | 99 |

| DATE | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
|-----------|-------------------------|---------------------------------|---------------------------|------------------------|----------------------------|-----------------------------|---------------------------------|---------------------------------|--------------------------------|---------------------------------------|-----------------------------|-------------------------------|
| NOV 18... | 71 | 1.5 | 444 | 41 | 432 | 1.3 | 36 | 530 | 3.6 | .48 | .11 | .34 |
| MAR 16... | 5.6 | 2.3 | 324 | 16 | 292 | 1.1 | 41 | 30 | 1.0 | .23 | .12 | .37 |
| JUN 23... | 90 | .9 | 459 | 41 | 445 | .9 | 42 | 160 | 4.9 | .00 | .11 | .34 |
| SEP 15... | 72 | 1.0 | 474 | 37 | 450 | 1.1 | 38 | 140 | 4.2 | .00 | .10 | .31 |

| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) |
|-----------|----------------------------|----------------------------|---------------------------|--------------------------|---------------------------|----------------------------|--------------------------|------------------------|-----------------------------|------------------------|-----------------------------|
| NOV 18... | 3400 | 0 | 11 | 100 | 11 | 10 | 10 | 7100 | 40 | 27 | 50 |
| MAR 16... | 2500 | 0 | 6 | 200 | 0 | 20 | 12 | 17000 | 10 | 13 | 130 |
| JUN 23... | 40 | 0 | 3 | 100 | 0 | 20 | 10 | 14000 | 340 | 11 | 40 |
| SEP 15... | 710 | 0 | 1 | 0 | 0 | 10 | 9 | 7800 | 420 | 10 | 30 |

| DATE | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) |
|-----------|---------------------------------|----------------------------------|---------------------------|--------------------------|----------------------------|--------------------------|-----------------------------|------------------------|---------------------------------|---------------------|----------------|
| NOV 18... | 40 | 10 | <.5 | 13 | 0 | 0 | 190 | 30 | 5.6 | .01 | 5 |
| MAR 16... | 110 | 20 | .0 | 20 | 0 | 0 | 580 | 40 | 8.7 | .00 | 3 |
| JUN 23... | 30 | 10 | .0 | 7 | 0 | 0 | 90 | 30 | 5.8 | .00 | 10 |
| SEP 15... | 30 | 0 | .5 | 10 | 0 | 0 | 70 | 40 | -- | .00 | 10 |

GROUND-WATER RECORDS IN STRIP MINES

MUSKINGUM COUNTY--Continued

394845081462400. Local number, M09 Dug well.

LOCATION.--Lat 39°48'45", long 81°46'24", Hydrologic Unit 05040004, near Chandlersville.

AQUIFER.--Shales and limestones of Upper Pennsylvanian Age.

WELL CHARACTERISTICS.--Hand dug well, diameter 4 ft (1.2 m), depth 18.9 ft (5.8 m).

DATUM.--Land-surface datum is 1001.97 ft (305.400 m) above mean sea level. Measuring point: Top of casing at land-surface datum.

REMARKS.--Well destroyed by strip-mining operation.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA, MG) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|-----------|---------------------------------|----------------------------------|---------------------------|--------------------------|-------------------------------|-----------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------------|-------------------------------|-------------------------------|
| NOV 18... | 1445 | 560 | 7.8 | 12.5 | 2 | .2 | 290 | 46 | 82 | 20 | 12 | 8 |
| DATE | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | TOTAL NITRATE PLUS NITRITE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
| NOV 18... | .3 | .9 | 294 | 0 | 241 | 7.5 | 50 | 2.2 | .2 | .15 | .03 | .09 |
| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) | |
| NOV 18... | 60 | 0 | 3 | 100 | 2 | <10 | 10 | 120 | 10 | 21 | 20 | |
| DATE | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) | |
| NOV 18... | 0 | 20 | <.5 | 2 | 0 | 0 | 410 | 50 | 3.7 | .00 | 2 | |

MUSKINGUM COUNTY--Continued

394845081462600. Local number. MO9 W5-2.

LOCATION.--Lat 39°48'45", long 81°46'26", Hydrologic Unit 05040004, near Chandlersville.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 49 ft (14.9 m), cased to 17.3 ft (5.3 m), open end.

DATUM.--Land-surface datum is 973.03 ft (296.580 m) above mean sea level. Measuring point: Top of casing, 3.7 ft (1.13 m) above land-surface datum.

PERIOD OF RECORD.--June to September 1977 (revised).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 15.08 ft (4.60 m) below land-surface datum, Sept. 20, 1977 (revised); lowest, 16.35 ft (4.98 m) below land-surface datum, July 10, 1977 (revised).

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-------|-----|-------|
| 5 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 16.16 | --- | --- |
| 10 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 16.35 | --- | --- |
| 15 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 16.12 | --- | --- |
| 20 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 15.85 | --- | 15.08 |
| 25 | --- | --- | --- | --- | --- | --- | --- | --- | --- | 15.75 | --- | 15.14 |
| EOM | --- | --- | --- | --- | --- | --- | --- | --- | 16.10 | 15.56 | --- | 15.27 |
| MAX | --- | --- | --- | --- | --- | --- | --- | --- | 16.10 | 16.35 | --- | 15.30 |

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA, MG) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG/L) | DIS-SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|-----------|------|----------------------------------|------------|---------------------|-------------------------------|-------------------------|-------------------|-------------------------------|--------------------------------|-----------------------------|-------------------------------|----------------|
| NOV 18... | 1330 | 900 | 8.1 | 12.5 | 5 | .0 | 20 | 0 | 5.7 | 1.4 | 230 | 96 |
| MAR 16... | 1530 | 860 | 8.1 | 12.5 | 5 | .2 | 21 | 0 | 5.7 | 1.6 | 210 | 95 |
| JUN 23... | 1345 | 880 | 8.1 | 14.5 | 40 | .0 | 14 | 0 | 2.3 | 2.0 | 220 | 97 |
| SEP 15... | 1400 | 890 | 8.0 | 14.5 | 35 | .2 | 24 | 0 | 6.2 | 2.0 | 230 | 95 |

| DATE | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | TOTAL NITRATE PLUS NITRATE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
|-----------|-------------------------|---------------------------------|---------------------------|------------------------|----------------------------|-----------------------------|---------------------------------|---------------------------------|--------------------------------|---------------------------------------|-----------------------------|-------------------------------|
| NOV 18... | 22 | 1.4 | 568 | 0 | 466 | 7.2 | 36 | 8.3 | 2.1 | .04 | .04 | .12 |
| MAR 16... | 20 | 1.5 | 498 | 0 | 408 | 6.3 | 45 | 7.6 | 1.9 | .20 | .03 | .09 |
| JUN 23... | 26 | 1.4 | 549 | 0 | 450 | 7.0 | 39 | 4.4 | 1.8 | .04 | .02 | .06 |
| SEP 15... | 21 | 1.5 | 568 | 0 | 466 | 9.1 | 39 | 4.2 | 1.9 | .00 | .01 | .03 |

| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) |
|-----------|----------------------------|----------------------------|---------------------------|--------------------------|---------------------------|----------------------------|--------------------------|------------------------|-----------------------------|------------------------|-----------------------------|
| NOV 18... | -- | -- | -- | -- | -- | -- | -- | 830 | 20 | -- | 20 |
| MAR 16... | 830 | 0 | 2 | 200 | 0 | 10 | 7 | 3500 | 20 | 8 | 40 |
| JUN 23... | 40 | 0 | 3 | 300 | 0 | 10 | 8 | 10000 | 10 | 42 | 40 |
| SEP 15... | 100 | 0 | 0 | 100 | 0 | <10 | 8 | 6200 | 10 | 18 | 40 |

| DATE | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) |
|-----------|---------------------------------|----------------------------------|---------------------------|--------------------------|----------------------------|--------------------------|-----------------------------|------------------------|---------------------------------|---------------------|----------------|
| NOV 18... | 10 | 10 | -- | -- | -- | -- | -- | -- | .8 | -- | 68 |
| MAR 16... | 30 | 10 | .0 | 7 | 0 | 0 | 340 | 50 | 2.4 | .00 | 3 |
| JUN 23... | 30 | 10 | .0 | 6 | 0 | 0 | 350 | 30 | 7.8 | .00 | 14 |
| SEP 15... | 30 | 10 | .5 | 8 | 0 | 0 | 310 | 50 | 12 | .00 | 0 |

GROUND-WATER RECORDS IN STRIP MINES

MUSKINGUM COUNTY--Continued

394852081462000. Local number, M09 W8-1.

LOCATION.--Lat 39°48'52", long 81°46'20", Hydrologic Unit 05040004, near Chandlersville.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 55 ft (16.8 m), cased to 21 ft (6.4 m), open end.

DATUM.--Land-surface datum is 1053.59 ft (321.134 m) above mean sea level. Measuring point: Top of casing, 1.7 ft (0.54 m) above land-surface datum.

REMARKS.--Well destroyed by strip-mining operations.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA, MG) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) | DIS-SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM | |
|-----------|------|----------------------------------|----------------------------------|---------------------------|-------------------------------|----------------------------|-----------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------------|-----------------------------|-------------------------------|
| NOV 18... | 1550 | 840 | 7.5 | 10.5 | 2 | .0 | 320 | 0 | 73 | 33 | 24 | 14 | |
| DATE | | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
| NOV 18... | | .6 | 1.9 | 400 | 0 | 328 | 20 | 49 | 4.2 | .3 | .12 | .06 | .18 |
| DATE | | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) | |
| NOV 18... | | 110 | 0 | 2 | 100 | 1 | <10 | 10 | 310 | 10 | 17 | 110 | |
| DATE | | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) | |
| NOV 18... | | 30 | 80 | <.5 | 1 | 0 | 0 | 1600 | 40 | 3.0 | .00 | 120 | |

GROUND-WATER RECCRDS IN STRIP MINES

507

MUSKINGUM COUNTY--Continued

394852081462001. Local number, M09 W9-2.

LOCATION.--Lat 39°48'52", long 81°46'20", Hydrologic Unit 05040004, near Chandlersville.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 140 ft (42.7 m), cased to 59.5 ft (18.1 m), open end.

DATUM.--Land-surface datum is 1053.69 ft (321.165 m) above mean sea level. Measuring point: Top of casing, 1.5 ft (0.46 m) above land-surface datum.

REMARKS.--Well destroyed by strip-mining operations.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | COLOR (PLAT- INUM- COBALT UNITS) | HYDRO- GEN SULFIDE (MG/L) | HARD- NESS (CA, MG) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | DIS- SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|--------------|-------|--|--|------------------------------------|--|--|--|---|--|--|--|---|
| NOV 18... | 1530 | 3000 | 7.9 | 12.0 | 1 | .0 | 59 | 0 | 15 | 5.3 | 670 | 96 |
| DATE | RATIO | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL PHOS- PHORUS (PO4) (MG/L) |
| NOV 18... | 38 | 3.3 | 608 | 0 | 499 | 12 | 12 | 680 | 2.9 | .36 | .07 | .21 |
| DATE | | TOTAL ALUM- INUM (AL) (UG/L) | TOTAL ANTI- MONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CAD- MIUM (CD) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MAN- GANESE (MN) (UG/L) |
| NOV 18... | 380 | 0 | 2 | 500 | 1 | <10 | 10 | 1300 | 30 | 12 | 30 | |
| DATE | | SUS- PENDE MAN- GANESE (MN) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELE- NIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRON- TIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) |
| NOV 18... | 20 | 10 | <.5 | 2 | 0 | 0 | 970 | 30 | 3.2 | .01 | 16 | |

GROUND-WATER RECORDS IN STRIP MINES

MUSKINGUM COUNTY--Continued

394853081462800. Local number, M09 W11-2.

LOCATION.--Lat 39°48'53", long 81°46'28", Hydrologic Unit 05040004, near Chandlersville.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 100 ft (30.5 m), cased to 20.3 ft (6.2 m), open end.

DATUM.--Land-surface datum is 1020.65 ft (311.094 m) above mean sea level. Measuring point: Top of casing, 2.7 ft (0.82 m) above land-surface datum.

REMARKS.--Well destroyed by strip-mining operations.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | COLOR (PLAT- INUM- COBALT UNITS) | HYDRO- GEN SULFIDE (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | DIS- SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|--------------|---|--|--------------------------------------|-----------------------------------|--|--|--|---|--|--|--|---|
| NOV 17... | 1245 | 620 | 7.3 | 12.5 | 2 | .0 | 140 | 0 | 35 | 12 | 100 | 61 |
| MAR 16... | 1700 | 605 | 7.3 | 12.5 | 10 | .3 | 220 | 0 | 60 | 18 | 64 | 38 |
| DATE | SODIUM AD- SORP- TION RATIO | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL PHOS- PHORUS (PO4) (MG/L) |
| NOV 17... | 3.7 | 1.9 | 432 | 0 | 354 | 35 | 18 | 1.9 | .3 | .00 | .03 | .09 |
| MAR 16... | 1.9 | 1.3 | 409 | 0 | 335 | 33 | 33 | 2.7 | .3 | .00 | .95 | 2.9 |
| DATE | TOTAL ALUM- INUM (AL) (UG/L) | TOTAL ANTI- MONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CAD- MIUM (CD) (UG/L) | TOTAL CHRO- MIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MAN- GANESE (MN) (UG/L) | |
| NOV 17... | -- | -- | -- | -- | -- | -- | -- | 5400 | 470 | -- | 100 | |
| MAR 16... | 20 | 1 | 59 | 600 | 0 | 30 | 69 | 78000 | 130 | 34 | 1300 | |
| DATE | SUS- PEN- DED MAN- GANESE (MN) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELE- NIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRON- TIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) | |
| NOV 17... | 0 | 100 | -- | -- | -- | -- | -- | -- | 3.4 | -- | 0 | |
| MAR 16... | 1000 | 280 | .0 | 130 | 1 | 0 | 840 | 230 | 13 | .00 | 2 | |

GROUND-WATER RECORDS IN STRIP MINES

509

MUSKINGUM COUNTY--Continued

394855081461600. Local number, M09 W6-1.

LOCATION.--Lat 39°48'55", long 81°46'16", Hydrologic Unit 05040004, near Chandlersville.

AQUIFER.--Sand, shales and coals of Upper Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 130 ft (39.6 m), cased to 20.5 ft (6.2 m), open end.

DATUM.--Land-surface datum is 1123.07 ft (342.312 m) above mean sea level. Measuring point: Top of casing, 1.5 ft (0.46 m) above land-surface datum.

REMARKS.--Well destroyed by strip-mining operations.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICROMHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA, MG) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) (MG/L) | DIS-SOLVED SODIUM (NA) (MG/L) | PERCENT SODIUM |
|-----------|---------------------------------|----------------------------------|---------------------------|--------------------------|-------------------------------|-----------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------------|-------------------------------|-------------------------------|
| NOV 18... | 1115 | 800 | 7.4 | 12.0 | 3 | 5.8 | 400 | 27 | 80 | 48 | 22 | 11 |
| DATE | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) |
| NOV 18... | .5 | 2.7 | 452 | 0 | 371 | 29 | 120 | 5.6 | .3 | .33 | .13 | .40 |
| DATE | TOTAL ALUMINUM (AL) (UG/L) | TOTAL ANTIMONY (SB) (UG/L) | TOTAL ARSENIC (AS) (UG/L) | TOTAL BARIUM (BA) (UG/L) | TOTAL CADMIUM (CD) (UG/L) | TOTAL CHROMIUM (CR) (UG/L) | TOTAL COPPER (CU) (UG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL LEAD (PB) (UG/L) | TOTAL MANGANESE (MN) (UG/L) | |
| NOV 18... | 500 | 0 | 6 | 400 | 20 | <10 | 20 | 1200 | 60 | 33 | 130 | |
| DATE | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL MERCURY (HG) (UG/L) | TOTAL NICKEL (NI) (UG/L) | TOTAL SELENIUM (SE) (UG/L) | TOTAL SILVER (AG) (UG/L) | TOTAL STRONTIUM (SR) (UG/L) | TOTAL ZINC (ZN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | CYANIDE (CN) (MG/L) | PHENOLS (UG/L) | |
| NOV 18... | 110 | 20 | <.5 | 5 | 0 | 0 | 2600 | 70 | 1.4 | .00 | 3 | |

GROUND-WATER RECORDS IN STRIP MINES

MUSKINGUM COUNTY--Continued

394855081462700. Local number, MO9 W3-1.

LOCATION.--Lat 39°48'55", long 81°46'27", Hydrologic Unit 05040004, near Chandlersville.

AQUIFER.--Shales of Upper Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 31 ft (9.5 m), cased to 11.5 ft (3.5 m), open end.

DATUM.--Land-surface datum is 1039.93 ft (333.430 m) above mean sea level. Measuring point: Top of casing, 2.5 ft (0.76 m) above land-surface datum.

REMARKS.--Well destroyed by strip-mining operation.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICRO-MHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA+MG) (MG/L) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) (MG/L) | DIS-SOLVED SODIUM (NA) (MG/L) |
|-----------|---------------------------------------|-----------------------------------|---------------------------------|---------------------------|-------------------------------|-----------------------------|---------------------------------|----------------------------------|---------------------------------|----------------------------------|-------------------------------|
| NOV 17... | 1340 | 460 | 7.6 | 13.5 | 2 | .0 | 230 | 12 | 62 | 19 | 5.2 |
| DATE | PERCENT SODIUM | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | |
| NOV 17... | 5 | .1 | .6 | 270 | 0 | 221 | 11 | 35 | 1.6 | .3 | |
| DATE | TOTAL NITRATE PLUS NITRITE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL MANGANESE (MN) (UG/L) | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | PHENOLS (UG/L) | |
| NOV 17... | .09 | .07 | .21 | 7100 | 0 | 150 | 140 | 10 | 1.7 | 100 | |

GROUND-WATER RECORDS IN STRIP MINES

511

MUSKINGUM COUNTY--Continued

394859081462801. Local number, MO9 W1-1.

LOCATION.--Lat 39°48'59", long 81°46'28", Hydrologic Unit 05040004, near Chandlersville.

AQUIFER.--Shales of Upper Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 90 ft (27.4 m), cased to 19.2 ft (5.8 m), open end.

DATUM.--Land-surface datum is 1097.83 ft (334.619 m) above mean sea level. Measuring point: Top of casing, 1.8 ft (0.55 m).

REMARKS.--Well destroyed by strip-mining operation.

PERIOD OF RECORD.--June to December 1976 (discontinued) (revised).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 62.47 ft (19.041 m) below land-surface datum, July 14, 1976 (revised); lowest, 87.05 ft (26.533 m) below land-surface datum, Dec. 7, 1976 (revised).

REVISIONS.--Revised water-level data for the water year 1976, superceding those published in the report for 1976, are given herein.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-------|-----|-------|
| 5 | --- | --- | --- | --- | --- | --- | --- | --- | 68.17 | 63.54 | --- | --- |
| 10 | --- | --- | --- | --- | --- | --- | --- | --- | 67.59 | 62.86 | --- | 76.90 |
| 15 | --- | --- | --- | --- | --- | --- | --- | --- | 66.84 | 62.84 | --- | 77.19 |
| 20 | --- | --- | --- | --- | --- | --- | --- | --- | 66.09 | 63.41 | --- | 77.31 |
| 25 | --- | --- | --- | --- | --- | --- | --- | --- | 65.26 | 64.20 | --- | 77.36 |
| EOM | --- | --- | --- | --- | --- | --- | --- | --- | 64.43 | --- | --- | 77.44 |
| MAX | --- | --- | --- | --- | --- | --- | --- | --- | 68.25 | 64.35 | --- | 77.47 |

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 5 | 77.51 | --- | 86.85 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 10 | 77.64 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 15 | 77.70 | 82.70 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 20 | 77.69 | 83.96 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 25 | 77.75 | 85.28 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| EOM | 77.33 | 86.32 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| MAX | 77.83 | 86.32 | 87.05 | --- | --- | --- | --- | --- | --- | --- | --- | --- |

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) | PH (UNITS) | TEMPER- ATURE (DEG C) | COLOR (PLAT- INUM- COBALT UNITS) | HYDRO- GEN SULFIDE (MG/L) | HARD- NESS (CA+MG) (MG/L) | NON- CAR- BONATE HARD- NESS (MG/L) | DIS- SOLVED CAL- CIUM (CA) (MG/L) | DIS- SOLVED MAG- NE- SIUM (MG) | DIS- SOLVED SODIUM (NA) (MG/L) |
|--------------|--|--|--|--------------------------------------|--|---|--|--|---|--|--|
| NOV 19... | 0930 | 540 | 7.7 | 13.0 | 2 | .0 | 350 | 11 | 62 | 48 | 5.3 |
| DATE | PERCENT SODIUM | SODIUM AD- SORP- TION RATIO | DIS- SOLVED PO- TAS- SIUM (K) (MG/L) | BICAR- BONATE (HCO3) (MG/L) | CAR- BONATE (CO3) (MG/L) | ALKA- LINITY AS CACO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS- SOLVED SULFATE (SO4) (MG/L) | DIS- SOLVED CHLO- RIDE (CL) (MG/L) | DIS- SOLVED FLUO- RIDE (F) (MG/L) | |
| NOV 19... | 3 | .1 | 1.8 | 416 | 0 | 341 | 13 | 30 | 3.7 | .2 | |
| DATE | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL PHOS- PHORUS (P) (MG/L) | TOTAL PHOS- PHORUS (PO4) (MG/L) | TOTAL IRON (FE) (UG/L) | DIS- SOLVED IRON (FE) (UG/L) | TOTAL MAN- GANESE (MN) (UG/L) | SUS- PENDED MAN- GANESE (MN) (UG/L) | DIS- SOLVED MAN- GANESE (MN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | PHENOLS (UG/L) | |
| NOV 19... | .16 | .03 | .09 | 1600 | 10 | 20 | 20 | 0 | .8 | 13 | |

GROUND-WATER RECORDS IN STRIP MINES

MUSKINGUM COUNTY--Continued

394859081462800. Local number, M09 W2-2.

LOCATION.--Lat 39°48'59", long 81°46'28", Hydrologic Unit 05040004, near Chandlersville.

AQUIFER.--Shales of Upper Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in (0.15 m), depth 181 ft (55.2 m), cased to 95.2 ft (29.0 m), open end.

DATUM.--Land-surface datum is 1097.89 ft (334.637 m) above mean sea level. Measuring point: Top of casing, 1.8 ft (0.55 m) above land-surface datum.

REMARKS.--Well destroyed by strip-mining operation.

PERIOD OF RECORD.--June to December 1976 (discontinued) (revised).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 92.27 ft (28.124 m) below land-surface datum, June 19, 1976 (revised); lowest, 103.78 ft (31.632 m) below land-surface datum, Dec. 18, 1976 (revised).

REVISIONS.--Revised water-level data for the water year 1976, superceding those published in the report for 1976, are given herein.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-------|-------|-------|
| 5 | --- | --- | --- | --- | --- | --- | --- | --- | 94.12 | 93.90 | 92.80 | 94.80 |
| 10 | --- | --- | --- | --- | --- | --- | --- | --- | 93.86 | 93.88 | 93.38 | 94.88 |
| 15 | --- | --- | --- | --- | --- | --- | --- | --- | 93.81 | 93.52 | 94.32 | 95.04 |
| 20 | --- | --- | --- | --- | --- | --- | --- | --- | 92.43 | 93.34 | 94.74 | 95.07 |
| 25 | --- | --- | --- | --- | --- | --- | --- | --- | 93.48 | 93.50 | 94.77 | 95.75 |
| EOM | --- | --- | --- | --- | --- | --- | --- | --- | 93.71 | 94.47 | 94.70 | 94.97 |
| MAX | --- | --- | --- | --- | --- | --- | --- | --- | 94.22 | 94.92 | 95.04 | 96.57 |

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|-----|-------|-------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 5 | 95.19 | --- | 96.47 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 10 | 95.46 | --- | 100.52 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 15 | 96.00 | 97.04 | 100.84 | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 20 | 95.88 | 96.50 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 25 | 95.88 | 95.80 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| EOM | 95.07 | 96.18 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| MAX | 97.20 | 99.12 | 103.78 | --- | --- | --- | --- | --- | --- | --- | --- | --- |

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

| DATE | TIME | SPECIFIC CONDUCTANCE (MICRO-MHOS) | PH (UNITS) | TEMPERATURE (DEG C) | COLOR (PLATINUM-COBALT UNITS) | HYDROGEN SULFIDE (MG/L) | HARDNESS (CA,MG) (MG/L) | NON-CARBONATE HARDNESS (MG/L) | DIS-SOLVED CALCIUM (CA) (MG/L) | DIS-SOLVED MAGNESIUM (MG) (MG/L) | DIS-SOLVED SODIUM (NA) (MG/L) |
|-----------|---------------------------------------|-----------------------------------|---------------------------------|---------------------------|-------------------------------|-----------------------------|---------------------------------|----------------------------------|---------------------------------|----------------------------------|-------------------------------|
| NOV 19... | 1100 | 700 | 7.8 | 12.5 | 2 | .0 | 350 | 0 | 76 | 39 | 25 |
| DATE | PERCENT SODIUM | SODIUM ADSORPTION RATIO | DIS-SOLVED POTASSIUM (K) (MG/L) | BICARBONATE (HCO3) (MG/L) | CARBONATE (CO3) (MG/L) | ALKALINITY AS CaCO3 (MG/L) | CARBON DIOXIDE (CO2) (MG/L) | DIS-SOLVED SULFATE (SO4) (MG/L) | DIS-SOLVED CHLORIDE (CL) (MG/L) | DIS-SOLVED FLUORIDE (F) (MG/L) | |
| NOV 19... | 13 | .6 | 1.5 | 448 | 0 | 367 | 11 | 53 | 2.4 | .3 | |
| DATE | TOTAL NITRITE PLUS NITRATE (N) (MG/L) | TOTAL PHOSPHORUS (P) (MG/L) | TOTAL PHOSPHORUS (PO4) (MG/L) | TOTAL IRON (FE) (UG/L) | DIS-SOLVED IRON (FE) (UG/L) | TOTAL MANGANESE (MN) (UG/L) | SUSPENDED MANGANESE (MN) (UG/L) | DIS-SOLVED MANGANESE (MN) (UG/L) | TOTAL ORGANIC CARBON (C) (MG/L) | PHENOLS (UG/L) | |
| NOV 19... | .00 | .03 | .09 | 770 | 160 | 50 | 10 | 40 | .5 | 25 | |

CHEMICAL CHARACTERISTICS AND BIOLOGICAL INDICES OF SELECTED LAKES

513

The following table lists the lakes at which chemical and physical characteristics and biological indices were obtained during water year 1977. These lakes were sampled to evaluate current conditions and existing or potential problems, determine chemical and physical characteristics of inflow from major tributaries, and provide basic information for determining the necessity for more intensive studies where problems exist. The results of these studies may be obtained by writing to the District Chief, WRD, 975 West Third Avenue, Columbus, Ohio, 43212. The complete study will be available in a separate report to be published in the near future.

| | | |
|-----------------|-----------------------------|------------------|
| 395702083443800 | Clarence J. Brown Reservoir | Clark County |
| 405815081071400 | Deer Creek Reservoir | Stark County |
| 395939082050500 | Dillon Lake | Muskingum County |
| 402931083514700 | Indian Lake | Logan County |
| 401144083584700 | Kiser Lake | Champaign County |
| 402942082313100 | Knox Lake | Knox County |
| 410032081323000 | Long Lake | Summit County |
| 410921081045800 | Michael J. Kirwan Reservoir | Portage County |
| 405544081313700 | Nimisila Reservoir | Summit County |
| 401116081125500 | Piedmont Lake | Harrison County |
| 391258084045900 | Stonelick Lake | Clermont County |
| 405747081321700 | Turkeyfoot Lake | Summit County |

INDEX

| | Page | | Page |
|--|---------|--|---------|
| Accuracy of field data and computed results..... | 9 | Chemical characteristics and biological indices | |
| Acre-foot, definition of..... | 2 | of selected lakes..... | 513 |
| Adamsville, Raccoon Creek at..... | 212-217 | Chemical oxygen demand, definition of..... | 3 |
| Africa, Alum Creek at..... | 236-237 | Chester, Shade River near..... | 192-193 |
| Alliance, Mahoning River at..... | 16-17 | Chillicothe, Scioto River at..... | 258-263 |
| Alum Creek, at Africa..... | 236-237 | Chippewa Creek, at Easton..... | 78-79 |
| at Columbus..... | 238-239 | at Seville..... | 390 |
| near Kilbourne..... | 234-235 | at Sterling..... | 391 |
| Alum Creek Lake, contents of..... | 289,290 | Chlorophyll, definition of..... | 3 |
| Analyses of samples collected at | | Circleville, Scioto River at..... | 250-251 |
| miscellaneous sites..... | 418 | Clarence J. Brown Reservoir, contents of..... | 356 |
| Anderson Fork near New Burlington..... | 316-317 | Claridon, Olentangy River at..... | 224-225 |
| Apple Creek at Wooster..... | 403 | Clear Creek (Beaver River basin) at Dilworth.... | 414 |
| Aquifer, definition of..... | 2 | Clear Creek (Hocking River basin) near | |
| Armstrongs Mills, Captina Creek at..... | 72-73 | Rockbridge..... | 176-177 |
| Artesian, definition of..... | 2 | Clear Fork below Pleasant Hill Dam, near | |
| Ash mass, definition of..... | 3 | Perrysville..... | 120-121 |
| Athens, Hocking River below..... | 184-190 | Clendening Lake, contents of..... | 170-173 |
| Atwood Lake, contents of..... | 169,172 | Clinton, Tuscarawas River at..... | 76-77 |
| | | Collection and computation of data..... | 7-9 |
| Bacteria, definition of..... | 2 | Collection and examination of data..... | 10 |
| Bainbridge, Paint Creek below Paint Creek | | Collection of the data..... | 11 |
| Dam near..... | 272-273 | Collins Creek at Collinsville..... | 417 |
| Paint Creek Lake near..... | 289,290 | Columbus, Alum Creek at..... | 238-239 |
| Barnes Run near Summerfield..... | 414 | Griggs Reservoir near..... | 288,290 |
| Barretts Mills, Rocky Fork near..... | 274-275 | Scioto River at..... | 230-231 |
| Batavia, East Fork Little Miami River near..... | 328-329 | Conotton Creek, at Jewett..... | 414 |
| Beach City, Beach City Lake near..... | 169,172 | at Leesville..... | 397 |
| Sugar Creek below Beach City Dam near..... | 98-99 | at New Cumberland..... | 397 |
| Beach City Lake, contents of..... | 169,172 | Contents, definition of..... | 3 |
| Beaver Creek (Great Miami River basin), | | Control, definition of..... | 3 |
| at Brighton..... | 417 | Control structure, definition of..... | 3 |
| Beaver River basin, hydrologic-data stations | | Cooperation..... | 1-2 |
| records in..... | 16-55 | Cortland, Mosquito Creek Lake at..... | 54-55 |
| reservoirs in..... | 54-55 | Mosquito Creek near..... | 40-41 |
| Bed material, definition of..... | 3 | Coshocton, Muskingum River near..... | 134-135 |
| Bellepoint, Mill Creek near..... | 220-221 | Crab Creek at Youngstown..... | 414 |
| Berlin Center, Berlin Lake near..... | 54-55 | Crooked Creek near Stillwater..... | 399 |
| Mahoning River near..... | 18-19 | Cubic feet per second per square mile, | |
| Berlin Lake, contents of..... | 54-55 | definition of..... | 3 |
| Big Darby Creek, at Darbydale..... | 415 | Cubic foot per second, definition of..... | 3 |
| at Darbyville..... | 248-249 | | |
| Big Four Hollow Creek near Lake Hope..... | 200-204 | Darbyville, Big Darby Creek at..... | 248-249 |
| Big Threemile Creek near Aberdeen..... | 411 | Dayton, Great Miami River at..... | 364 |
| Big Walnut Creek, above Sunbury..... | 408 | Mad River near..... | 358-363 |
| at Central College..... | 232-233 | De Graff, Bokengehalas Creek near..... | 340 |
| at Rees..... | 240-241 | Deer Creek, at Mount Sterling..... | 252-253 |
| Biochemical oxygen demand, definition of..... | 3 | at Williamsport..... | 256-257 |
| Biomass, definition..... | 3 | near Pancoastburg..... | 254-255 |
| Black Fork, at Loudonville..... | 118-119 | Deer Creek Lake, contents of..... | 289,290 |
| below Charles Mill Dam, near Mifflin..... | 114-115 | Definition of terms..... | 2-6 |
| Blake Run near Reily..... | 417 | Delaware, Olentangy River near..... | 226-227 |
| Bloomfield, Little Muskingum River at..... | 74-75 | Delaware Lake near..... | 288,290 |
| Bokengehalas Creek near De Graff..... | 340 | Delaware Lake, contents of..... | 288,290 |
| Bolivar, Bolivar Reservoir at..... | 169,172 | Delaware Run near Delaware..... | 415 |
| Bolivar Reservoir, contents of..... | 169,172 | Dillon Falls, Dillon Lake near..... | 172,173 |
| Bottom material (see Bed material)..... | 3 | Licking River near..... | 158-159 |
| Bourneville, Paint Creek near..... | 276-277 | Dillon Lake, contents of..... | 172,173 |
| Bradford, Greenville Creek near..... | 346 | Dillonvale, Short Creek near..... | 70-71 |
| Bridge Creek near Greenville..... | 417 | Discharge, definition of..... | 3 |
| Bullskin Creek near Felicity..... | 413 | Discharge measurements at miscellaneous sites... 418 | |
| Burr Oak; Burr Oak Reservoir at..... | 180 | Dissolved, definition of..... | 3 |
| Burr Oak Reservoir, contents of..... | 180 | Dover, Dover Lake near..... | 169,172 |
| | | Dover, Tuscarawas River near..... | 96-97 |
| Caesar Creek near Xenia..... | 314-315 | Dover Lake, contents of..... | 169,172 |
| Cambridge, Wills Creek at..... | 138-139 | Downstream order and station number..... | 6 |
| Salt Fork below Salt Fork Dam near..... | 140-141 | Drainage area, definition of..... | 3 |
| Salt Fork Reservoir near..... | 171,173 | Drainage basin, definition of..... | 4 |
| Camden, Sevenmile Creek at..... | 374 | Dresden, Muskingum River at..... | 146-147 |
| Campaign Creek near Gallipolis..... | 406 | Dry Run at Columbus..... | 415 |
| Canton, Middle Branch Nimishillen Creek at..... | 90-91 | Dublin, O'Shaughnessy Reservoir near..... | 288,290 |
| Captina Creek at Armstrong Mills..... | 72-73 | Scioto River near..... | 220-223 |
| Carthage, Mill Creek at..... | 338-339 | Duck Creek, East Fork at Lower Salem..... | 388 |
| Cells/volume, definition of..... | 3 | Dundee Creek at Dundee..... | 414 |
| Centerfield, Rattlesnake Creek at..... | 268-271 | | |
| Central College, Big Walnut Creek at..... | 232-233 | Eagle City, Mad River at St. Paris Pike at..... | 354-355 |
| Hoover Reservoir at..... | 288,290 | Eagle Creek at Phalanx Station..... | 32-33 |
| Cfs-day, definition of..... | 3 | East Liverpool, Little Beaver Creek near..... | 64-67 |
| Charles Mill Lake, contents of..... | 170,173 | Easton, Chippewa Creek at..... | 78-79 |

| | Page | | Page |
|--|---------|--|---------|
| Englewood, Stillwater River at..... | 348 | Kokosing River, at Mount Vernon..... | 126-127 |
| Enterprise, Hocking River at..... | 178-179 | North Branch, near Fredericktown..... | 124-125 |
| Etna Creek at Etna..... | 415 | North Branch Lake, contents of..... | 171,173 |
| Explanation, of ground-water level records..... | 11 | | |
| of stage and water-discharge records..... | 7-10 | Lake Fork below Mohicanville Dam near | |
| of water-quality records..... | 10-11 | Mohicanville..... | 122-123 |
| Factors for converting English units to | | Lake Hope, Big Four Hollow Creek near..... | 200-204 |
| International System (SI) units..Inside back cover | | Sandy Run above Big Four Hollow Creek near.... | 194-198 |
| Fecal-coliform bacteria, definition of..... | 2 | Sandy Run near..... | 206-211 |
| Fecal-streptococcal bacteria, definition of..... | 2-3 | Lakes, chemical characteristics and biological | |
| Fishinger and Kenny Road Creek at Upper | | indices of selected..... | 513 |
| Arlington..... | 415 | Lakes and reservoirs: | |
| Frazeysburg, Wakatomika Creek near..... | 144-145 | Alum Creek Lake..... | 289,290 |
| Fredericktown, North Branch Kokosing River Lake | | Atwood Lake..... | 169,172 |
| near..... | 171,173 | Beach City Lake..... | 169,172 |
| North Branch Kokosing River near..... | 124-125 | Berlin Lake..... | 54,55 |
| | | Bolivar Reservoir..... | 169,172 |
| Gage height, definition of..... | 4 | Burr Oak Reservoir..... | 180 |
| Gaging station, definition of..... | 4 | Charles Mill Lake..... | 170,173 |
| Georgetown, Whiteoak Creek near..... | 302-303 | Clarence J. Brown Reservoir..... | 356 |
| Germantown, Twin Creek near..... | 373 | Clendenen Lake..... | 170,173 |
| Glouster, Sunday Creek at..... | 182-183 | Deer Creek Lake..... | 289,290 |
| Great Miami River, at Dayton..... | 364 | Delaware Lake..... | 288,290 |
| at Hamilton..... | 375 | Dillon Lake..... | 172,173 |
| at Miamisburg..... | 366 | Dover Lake..... | 169,172 |
| at New Baltimore..... | 376-383 | Griggs Reservoir..... | 288,290 |
| at Sidney..... | 341 | Hoover Reservoir..... | 288,290 |
| at Taylorsville..... | 345 | Leesville Lake..... | 169,172 |
| at Troy..... | 344 | Meander Creek Reservoir..... | 54,55 |
| near Miamisburg..... | 376-371 | Michael J. Kirwan Reservoir..... | 54,55 |
| Great Miami River basin, hydrologic-data | | Milton Reservoir..... | 54,55 |
| station records in..... | 340-383 | Mohawk Reservoir..... | 171,173 |
| reservoir record in..... | 356 | Mohicanville Reservoir..... | 171,173 |
| Greenfield, Paint Creek near..... | 264-266 | Mosquito Creek Lake..... | 54,55 |
| Greenhills, West Fork Mill Creek Lake near..... | 334 | North Branch Kokosing River Lake..... | 171,173 |
| Greenville Creek near Bradford..... | 346 | O'Shaughnessy Reservoir..... | 288,290 |
| Griggs Reservoir, contents of..... | 288,290 | Paint Creek Lake..... | 289,290 |
| Ground-water records..... | 426-472 | Piedmont Lake..... | 170,172 |
| Ground-water records in strip-mines..... | 473-512 | Pleasant Hill Lake..... | 170,173 |
| | | Salt Fork Reservoir..... | 171,173 |
| Hamilton, Great Miami River at..... | 375 | Senecaville Lake..... | 171,173 |
| Hammondsville, Yellow Creek near..... | 68-69 | Tappan Lake..... | 170,173 |
| Hardness, definition of..... | 4 | West Fork Mill Creek Lake..... | 334 |
| Harwood Creek near Fayetteville..... | 416 | Wills Creek Lake..... | 172,173 |
| Hayden Run at Haydenville..... | 415 | Lancaster, Hunters Run at..... | 174-175 |
| Hebron, South Fork Licking River near..... | 148-149 | Leavittsburg, Mahoning River at..... | 39 |
| Higby, Scioto River at..... | 278-285 | Leavittsburg, Mahoning River above Duck Creek at | 34-38 |
| Higgins Run near Higginsport..... | 416 | Leesville, Leesville Lake near..... | 169,172 |
| Hinkley Creek at Charlestown..... | 385,414 | McGuire Creek near..... | 94-95 |
| Hocking River, at Enterprise..... | 178-179 | Leesville Lake, Contents of..... | 169,172 |
| below Athens..... | 184-190 | Licking River, below Dillon Dam near Dillon | |
| Hocking River basin, hydrologic-data | | Falls..... | 158-159 |
| station records in..... | 174-190 | near Newark..... | 152-157 |
| reservoir in..... | 180 | North Fork, at Utica..... | 150-151 |
| Hog Run tributary at Laura..... | 417 | above Newark..... | 404 |
| Home Creek near New Philadelphia..... | 102-103 | South Fork, near Hebron..... | 148-149 |
| Hominy Creek at Circleville..... | 415 | Linworth Run near Linworth..... | 415 |
| Hoover Reservoir, contents of..... | 288,290 | Lisbon Creek at Lisbon..... | 414 |
| Hugle Run near Malvern..... | 393 | List of hydrologic-data stations in downstream | |
| Hunters Run at Lancaster..... | 174-175 | order, for which records are published.... | VI-VIII |
| Hydrologic bench-mark station, explanation of... | 7 | Little Beaver Creek, Middle Fork, near Rodgers.. | 385 |
| Hydrologic conditions..... | 2 | near East Liverpool..... | 64-67 |
| Hydrologic-data stations, in downstream order, | | North Fork, near Negley..... | 386 |
| for which records are published..... | VI-VIII | West Fork, at West Point..... | 386 |
| Hydrologic unit, definition of..... | 4 | Little Beaver Creek basin, hydrologic data | |
| | | station records in..... | 55-67 |
| Ice Creek at Ironton..... | 407 | Little Blackjack Branch near South Bloomingville | 416 |
| Indian Creek (Scioto River basin) at | | Little Miami River, at Milford..... | 318-325 |
| Massieville..... | 416 | at Plainville..... | 417 |
| Indian Creek (Indian Creek basin) near Point | | East Fork, at Perintown..... | 330-331 |
| Pleasant..... | 413 | near Batavia..... | 328-329 |
| Indian Guyan Creek near Bradrick..... | 406 | near Marathon..... | 326-327 |
| Ingomar, Twin Creek near..... | 372 | near Oldtown..... | 304-305 |
| Instantaneous discharge, definition of..... | 3 | near Selma..... | 416 |
| Introduction..... | 1 | near Spring Valley..... | 308-313 |
| Island Creek near Toronto..... | 387 | North Fork, near Pitchin..... | 416 |
| | | Little Miami River basin, hydrologic-data | |
| Jefferson Creek near Jewett..... | 414 | records in..... | 304-331 |
| Jennings Ditch tributary near Wooster..... | 415 | Little Muskingum River, at Bloomfield..... | 74-75 |
| Jonathan Creek at East Fultonham..... | 404 | near Rinard Mills..... | 387 |
| | | Little Salt Creek, South Branch at Jackson..... | 416 |
| Kale Creek near Pricetown..... | 22-23 | Little Sandy Creek near Robertsville..... | 395 |
| Kilbourne, Alum Creek near..... | 234-235 | Little Stillwater Creek, below Tappan Dam, | |
| Killbuck, Killbuck Creek at..... | 130-131 | at Tappan..... | 110-111 |
| Killbuck Creek, at Burbank..... | 402 | near Dennison..... | 400 |
| at Killbuck..... | 130-131 | Lockington, Loramie Creek at..... | 343 |
| at Wooster..... | 403 | Loramie Creek, at Lockington..... | 343 |
| Kinsman, Pymatuning Creek at..... | 52-53 | near Newport..... | 342 |
| | | Loudonville, Black Fork at..... | 118-119 |

| | Page | | Page |
|---|---------|--|---------|
| Lowellville, Mahoning River at..... | 44 | Newport, Loramie Creek near..... | 342 |
| Mahoning River at OH-PA stateline below..... | 46-50 | Newton Falls, West Branch Mahoning River near... | 30-31 |
| Mad River, at St. Paris Pike at Eagle City..... | 354-355 | Nimishillen Creek, at North Industry..... | 92-93 |
| at Zanesfield..... | 350-351 | East Branch, near Canton..... | 395 |
| near Dayton..... | 358-363 | Middle Branch, at Canton..... | 90-91 |
| near Springfield..... | 357 | West Branch, at Canton..... | 396 |
| near Urbana..... | 352 | Nimisila Creek near Canal Fulton..... | 391 |
| Mahoning River, above Duck Creek at Leavittsburg | 34-38 | North Branch Kokosing River Lake near | |
| at Alliance..... | 16-17 | Fredericktown..... | 171,173 |
| at Leavittsburg..... | 39 | North Industry, Nimishillen Creek at..... | 92-93 |
| at Lowellville..... | 44 | Numbering system for wells and miscellaneous | |
| at OH-PA stateline below Lowellville..... | 46-50 | sites..... | 6 |
| at Pricetown..... | 20-21 | O'Shaughnessy Reservoir, contents of..... | 288,290 |
| at Youngstown..... | 42-43 | Ohio Brush Creek, near Peebles..... | 410 |
| below Berlin Dam, near Berlin Center..... | 18-19 | near West Union..... | 300-301 |
| West Branch, below Michael J. Kirwan Dam, | | West Fork, at Lawshe..... | 411 |
| at Wayland..... | 28-29 | Oldtown, Little Miami River near..... | 304-305 |
| near Newton Falls..... | 30-31 | Olentany River, at Claridon..... | 224-225 |
| near Ravenna..... | 24-26 | near Delaware..... | 226-227 |
| Mansfield, Touby Run at..... | 116-117 | near Worthington..... | 228-229 |
| Marathon, East Fork Little Miami River near..... | 326-327 | Organism, definition of..... | 4 |
| Massies Creek at Wilberforce..... | 306-307 | count/area, definition of..... | 4 |
| Massillon, Tuscarawas River at..... | 80-81 | count/volume, definition of..... | 4 |
| McConnellsville, Muskingum River at..... | 160-168 | Other data available..... | 9-10 |
| McGaw, Upper Twin Creek at..... | 292-299 | Otter Fork near Centerburg..... | 415 |
| McGuire Creek below Leesville Dam, near | | Paint Creek, below Paint Creek Dam, near | |
| Leesville..... | 94-95 | Bainbridge..... | 272-273 |
| Mean concentration, definition of..... | 5 | East Fork, near Sedalia..... | 416 |
| Mean discharge, definition of..... | 3 | near Bourneville..... | 276-277 |
| Meander Creek Reservoir, contents of..... | 54-55 | near Greenfield..... | 264-266 |
| Methylene blue active substance, definition of.. | 4 | North Fork, near Frankfort..... | 408 |
| Miamisburg, Great Miami River at..... | 366 | Paint Creek Lake, contents of..... | 289,290 |
| Great Miami River near..... | 367-371 | Pancoatburg, Deer Creek near..... | 254-255 |
| Michael J. Kirwan Reservoir, contents of..... | 54-55 | Deer Creek Lake near..... | 289,290 |
| Micrograms per gram, definition of..... | 4 | Partial-record station, definition of..... | 4 |
| Micrograms per kilogram, definition of..... | 4 | Particle-size, definition of..... | 4 |
| Micrograms per liter, definition of..... | 4 | Particle-size classification, definition of..... | 4-5 |
| Mifflin, Black Fork near..... | 114-115 | Patterson Run near Owensville..... | 417 |
| Charles Mill Lake near..... | 170,173 | Percent composition, definition of..... | 5 |
| Milford, Little Miami River at..... | 318-325 | Perintown, East Fork Little Miami River at..... | 330-331 |
| Mill Creek basin, hydrologic-data station | | Periphyton, definition of..... | 5 |
| records in..... | 332-339 | Perrysville, Clear Fork near..... | 120-121 |
| reservoir record in..... | 334 | Pleasant Hill Lake near..... | 170,173 |
| Mill Creek (Beaver River basin), at Youngstown... | 414 | Pesticides, definition of..... | 5 |
| near Berlin Center..... | 414 | Pesticides program, explanation of..... | 7 |
| Mill Creek (Mill Creek basin), at Carthage..... | 338-339 | Phalanx Station, Eagle Creek at..... | 32-33 |
| at Reading..... | 332-333 | Phytoplankton, definition of..... | 5 |
| West Fork at Woodlawn..... | 336-337 | Picocurie, definition of..... | 5 |
| West Fork Lake near Greenhills..... | 334 | Piedmont, Piedmont Lake at..... | 170,172 |
| Mill Creek (Muskingum River basin) near | | Stillwater Creek at..... | 104-105 |
| Coshocton..... | 132-133 | Piedmont Lake, contents of..... | 170,172 |
| Mill Creek (Scioto River basin) near Bellepoint. | 220-221 | Pine Creek near Wheelersburg..... | 407 |
| Millers Ditch at Tipp City..... | 417 | Pipe Run at Malvern..... | 394 |
| Milligrams per liter, definition of..... | 4 | Plankton, definition of..... | 5 |
| Milton Reservoir, contents of..... | 54-55 | Pleasant Hill, Stillwater River at..... | 347 |
| Mineral Ridge, Meander Creek Reservoir at..... | 54-55 | Pleasant Hill Lake, contents of..... | 170,173 |
| Miscellaneous sites, discharge measurements at.. | 418 | Poplar Creek near Vandalia..... | 417 |
| Mohawk Reservoir, contents of..... | 171,173 | Preface..... | III |
| Mohicanville, Lake Fork near..... | 122-123 | Pricetown, Kale Creek near..... | 22-23 |
| Mohicanville Reservoir near..... | 171,173 | Mahoning River at..... | 20-21 |
| Mohicanville Reservoir, contents of..... | 171,173 | Milton Lake at..... | 54-55 |
| Mosquito Creek, below Mosquito Dam near Cortland | 40-41 | Prospect, Scioto River near..... | 218-219 |
| Mosquito Creek Lake, contents of..... | 54-55 | Publications on techniques of water-resources | |
| Mount Sterling, Deer Creek at..... | 252-253 | investigations..... | 12 |
| Mount Vernon, Kokosing River at..... | 126-127 | Pymatuning Creek at Kinsman..... | 52-53 |
| Moxahala Creek at Roseville..... | 415 | Raccoon Creek at Adamsville..... | 212-217 |
| Muddy Fork near Rowsburg..... | 402 | Raccoon Creek basin, hydrologic-data station | |
| Muskingum River, at Dresden..... | 146-147 | records in..... | 194-217 |
| at McConnellsville..... | 160-168 | Rattlesnake Creek at Centerfield..... | 268-271 |
| near Coshocton..... | 134-135 | Ravenna, West Branch Mahoning River near..... | 24-26 |
| Muskingum River basin, discharge measurements | | Ray Run near Moscow..... | 416 |
| at miscellaneous sites in..... | 418 | Reading, Mill Creek at..... | 332-333 |
| hydrologic-data station records in..... | 76-173 | Records of discharge collected by agencies | |
| reservoirs in..... | 169-173 | other than the Geological Survey..... | 10-11 |
| National stream-quality accounting network, | | Rees, Big Walnut Creek at..... | 240-241 |
| explanation of..... | 7 | Reservoirs (see Lakes and reservoirs) in | |
| Navarre, Tuscarawas River at..... | 82-86 | Beaver River basin..... | 54-55 |
| Negley, Stateline Creek near..... | 56-62 | in Hocking River basin..... | 180 |
| Nellie, Mohawk Reservoir near..... | 171,173 | in Great Miami River basin..... | 356 |
| Walhonding River at..... | 128-129 | in Mill Creek basin..... | 334 |
| New Baltimore, Great Miami River at..... | 376-383 | in Muskingum River basin..... | 169-173 |
| New Burlington, Anderson Fork near..... | 316-317 | in Scioto River basin..... | 288-290 |
| New Cumberland, Atwood Lake near..... | 169,172 | Rockbridge, Clear Creek near..... | 176-177 |
| New Philadelphia, Home Creek near..... | 102-103 | Rocky Fork near Barretts Mills..... | 274-275 |
| Newark, Licking River near..... | 152-157 | Rose Run near Portsmouth..... | 416 |
| Newcomerstown, Tuscarawas River at..... | 112-113 | Runoff in inches, definition of..... | 5 |
| Newman Creek near Massillon..... | 392 | | |

| | Page | | Page |
|---|---------|---|---------|
| Salt Creek, above damsite near Londonderry..... | 416 | Time-weighted average, definition of..... | 6 |
| at Laurelville..... | 409 | Tippecanoe, Clendening Lake at..... | 170,173 |
| at Tarlton..... | 416 | Stillwater Creek at..... | 106-107 |
| Salt Fork below Salt Fork Dam near Cambridge.... | 140-141 | Tons per day, definition of..... | 6 |
| Salt Fork Reservoir, contents of..... | 171,173 | Total coliform bacteria, definition of..... | 2 |
| Sandy Creek, at Malvern..... | 394 | Total load, definition of..... | 6 |
| at Minerva..... | 393 | Total organism count, definition of..... | 4 |
| at Waynesburg..... | 88-89 | Total sediment discharge, definition of..... | 5 |
| Sandy Run, above Big Four Hollow Creek, near | | Touby Run at Mansfield..... | 116-117 |
| Lake Hope..... | 194-198 | Trotwood, Wolf Creek at..... | 365 |
| near Lake Hope..... | 206-211 | Troy, Great Miami River at..... | 344 |
| Scioto Big Run at Briggsdale..... | 415 | Tupper Creek at Devola..... | 415 |
| Scioto Brush Creek, at Otway..... | 409 | Turkey Run (Ohio Brush Creek basin), West | |
| South Fork, at Wamsley..... | 410 | Branch, near Winchester..... | 416 |
| Scioto River, at Chillicothe..... | 258-263 | Turkey Run (Scioto River basin) at Upper | |
| at Circleville..... | 250-251 | Arlington..... | 415 |
| at Columbus..... | 230-231 | Tuscarawas River, at Barberton..... | 389 |
| at Higby..... | 278-285 | at Clinton..... | 76-77 |
| below O'Shaughnessy Dam, near Dublin..... | 222-223 | at Coshocton..... | 401 |
| below Shadeville..... | 242-246 | at Massillon..... | 80-81 |
| near Prospect..... | 218-219 | at Navarre..... | 82-86 |
| Scioto River basin, hydrologic-data station | | at Newcomerstown..... | 112-113 |
| records in..... | 218-290 | at Tuscarawas..... | 400 |
| reservoir records in..... | 288-290 | at Uniontown..... | 388 |
| Sediment..... | 10-11 | at Zoar..... | 396 |
| Sediment, definition of..... | 5 | below Dover Dam, near Dover..... | 96-97 |
| Seneca Fork below Senecaville Dam, near | | near East Liberty..... | 389 |
| Senecaville..... | 136-137 | Twin Creek, near Germantown..... | 373 |
| Senecaville, Seneca Fork near..... | 136-137 | near Ingomar..... | 372 |
| Senecaville Lake near..... | 171,173 | | |
| Senecaville Lake, contents of..... | 171,173 | Uhrichsville, Stillwater Creek at..... | 108-109 |
| Sevenmile Creek at Camden..... | 374 | Upper Twin Creek at McGaw..... | 292-299 |
| Shade River near Chester..... | 192-193 | Urbana, Mad River near..... | 352 |
| Shadeville, Scioto River below..... | 242-246 | Utica, North Fork Licking River at..... | 150-151 |
| Shawnee Creek at Xenia..... | 417 | | |
| Short Creek near Dillonvale..... | 70-71 | Wakatomika Creek near Frazeyburg..... | 144-145 |
| Sidney, Great Miami River at..... | 341 | Walhonding River below Mohawk Dam, at Nellie... | 128-129 |
| Solute, definition of..... | 5 | Walnut Creek at Cortland..... | 414 |
| Special networks and programs..... | 7 | Water analysis..... | 10 |
| Specific conductance, definition of..... | 5 | Water-quality, assessment of Rattlesnake Creek | |
| Spring Valley, Little Miami River near..... | 308-313 | in the Scioto River basin..... | 419-425 |
| Springfield, C.J. Brown Reservoir near..... | 356 | Water temperature..... | 10 |
| Mad River near..... | 357 | Wayland, Michael J. Kirwan Reservoir at..... | 54-55 |
| Stage-discharge relation, definition of..... | 6 | West Branch Mahoning River at..... | 28-29 |
| Staline Creek near Negley..... | 56-62 | Wayne Creek at Waynesville..... | 417 |
| Still Fork near Minerva..... | 393 | Waynesburg, Sandy Creek at..... | 88-89 |
| Stillwater Creek, at Piedmont..... | 104-105 | West Fork Mill Creek Lake, contents of..... | 334 |
| at Tippecanoe..... | 106-107 | West Union, Ohio Brush Creek near..... | 300-301 |
| at Uhrichsville..... | 108-109 | Whetstone Creek tributary near Olivesburg..... | 414 |
| Stillwater River, at Englewood..... | 348 | White Eyes Creek near Fresno..... | 401 |
| at Pleasant Hill..... | 347 | Whiteoak Creek near Georgetown..... | 302-303 |
| Straight Creek near Higginsport..... | 412 | Wilberforce, Massies Creek at..... | 306-307 |
| Strasburg, Sugar Creek at..... | 100-101 | Williamsport, Deer Creek at..... | 256-257 |
| Streamflow, definition of..... | 6 | Wills Creek, at Cambridge..... | 138-139 |
| Sugar Creek, at Dover..... | 399 | below Wills Creek Dam, at Wills Creek..... | 142-143 |
| at Strasburg..... | 100-101 | Wills Creek Lake near..... | 172,173 |
| below Beach City Dam, near Beach City..... | 98-99 | Wills Creek Lake, contents of..... | 172,173 |
| near Orrville..... | 398 | Wolf Creek (Great Miami River basin) at | |
| near West Lebanon..... | 398 | Trotwood..... | 365 |
| Sunday Creek at Gloucester..... | 182-183 | Wolf Creek (Muskingum River basin) near | |
| Suspended, definition of..... | 6 | Barberton..... | 390 |
| Suspended sediment, definition of..... | 5 | South Branch, near Waterford..... | 405 |
| Suspended sediment concentration, definition of.. | 5 | West Branch, near Waterford..... | 405 |
| Suspended sediment discharge, definition of..... | 5 | Woodlawn, West Fork Mill Creek at..... | 336-337 |
| Suspended sediment load, definition of..... | 5 | Worthington, Alum Creek Lake near..... | 289,290 |
| | | Olentangy River near..... | 228-229 |
| Tappan, Little Stillwater Creek at..... | 110-111 | WRD, definition of..... | 6 |
| Tappan Lake at..... | 170,173 | WSP, definition of..... | 6 |
| Tappan Lake, contents of..... | 170,173 | | |
| Tar Hollow Creek, at Tar Hollow State Park..... | 286-287 | Xenia, Caesar Creek near..... | 314-315 |
| West Branch, at Tar Hollow State Park..... | 416 | | |
| Tar Hollow State Park, Tar Hollow Creek at..... | 286-287 | Yellow Creek near Hammondsville..... | 68-69 |
| Taylorville, Great Miami River at..... | 345 | Youngstown, Mahoning River at..... | 42-43 |
| Terms, definition of..... | 2-6 | | |
| Timber Run near Zanesville..... | 415 | Zanesfield, Mad River at..... | 350-351 |

FACTORS FOR CONVERTING U.S. CUSTOMARY UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the U.S. customary units published herein to the International System of Units (SI). Subsequent reports will contain both the U.S. customary and SI unit equivalents in the station manuscript descriptions until such time that all data will be published in SI units.

| Multiply U.S. customary units | By | To obtain SI units |
|--|------------------------|--|
| <i>Length</i> | | |
| inches (in) | 2.54×10^1 | millimeters (mm) |
| | 2.54×10^{-2} | meters (m) |
| feet (ft) | 3.048×10^{-1} | meters (m) |
| miles (mi) | 1.609×10^0 | kilometers (km) |
| <i>Area</i> | | |
| acres | 4.047×10^3 | square meters (m ²) |
| | 4.047×10^{-1} | square hectometers (hm ²) |
| | 4.047×10^{-3} | square kilometers (km ²) |
| square miles (mi ²) | 2.590×10^0 | square kilometers (km ²) |
| <i>Volume</i> | | |
| gallons (gal) | 3.785×10^0 | liters (L) |
| | 3.785×10^0 | cubic decimeters (dm ³) |
| | 3.785×10^{-3} | cubic meters (m ³) |
| million gallons | 3.785×10^3 | cubic meters (m ³) |
| | 3.785×10^{-3} | cubic hectometers (hm ³) |
| cubic feet (ft ³) | 2.832×10^1 | cubic decimeters (dm ³) |
| | 2.832×10^{-2} | cubic meters (m ³) |
| cfs-days | 2.447×10^3 | cubic meters (m ³) |
| | 2.447×10^{-3} | cubic hectometers (hm ³) |
| acre-feet (acre-ft) | 1.233×10^3 | cubic meters (m ³) |
| | 1.233×10^{-3} | cubic hectometers (hm ³) |
| | 1.233×10^{-6} | cubic kilometers (km ³) |
| <i>Flow</i> | | |
| cubic feet per second (ft ³ /s) | 2.832×10^1 | liters per second (L/s) |
| | 2.832×10^1 | cubic decimeters per second (dm ³ /s) |
| | 2.832×10^{-2} | cubic meters per second (m ³ /s) |
| gallons per minute (gal/min) | 6.309×10^{-2} | liters per second (L/s) |
| | 6.309×10^{-2} | cubic decimeters per second (dm ³ /s) |
| | 6.309×10^{-5} | cubic meters per second (m ³ /s) |
| million gallons per day | 4.381×10^1 | cubic decimeters per second (dm ³ /s) |
| | 4.381×10^{-2} | cubic meters per second (m ³ /s) |
| <i>Mass</i> | | |
| tons (short) | 9.072×10^{-1} | megagrams (Mg) or metric tons |

U.S. DEPARTMENT OF THE INTERIOR
Geological Survey
975 West Third Avenue
Columbus OH 43212

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE \$300
SPECIAL 4TH CLASS
BOOK RATE

POSTAGE AND F
U.S. DEPARTMENT OF
INT 413

USGS LIBRARY - RESTON



3 1818 00453533 0

U.S.MAIL