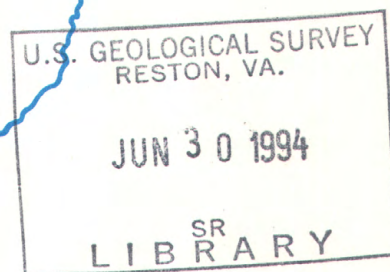
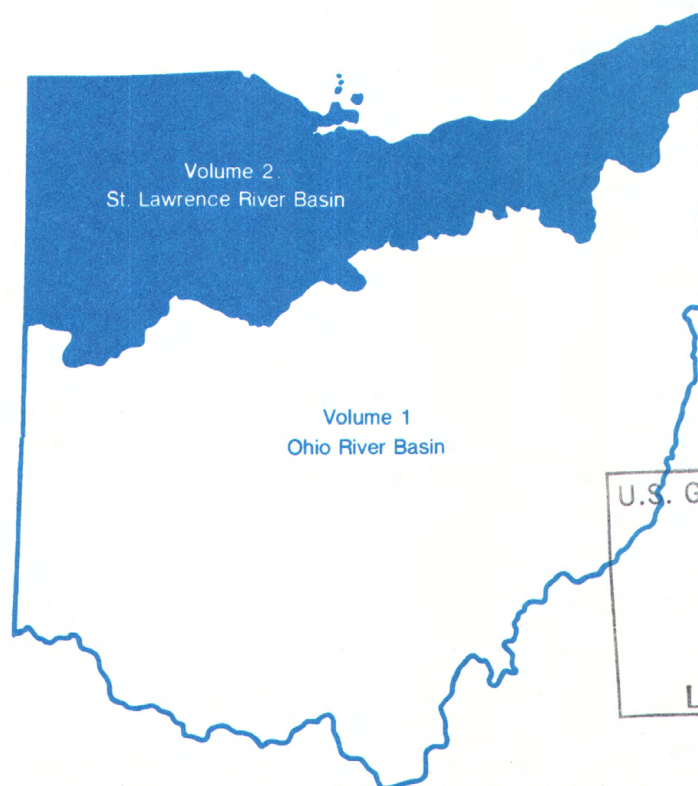


Water Resources Data Ohio Water Year 1993

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



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT OH-93-2
Prepared in cooperation with the State of Ohio
and with other agencies

CALENDAR FOR WATER YEAR 1993

1992

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

1993

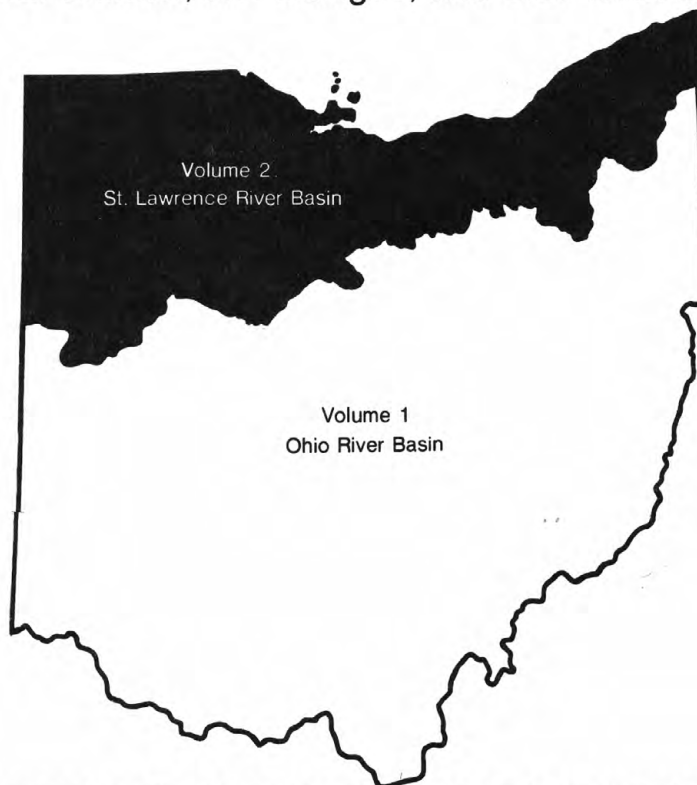
JANUARY							FEBRUARY							MARCH						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
					1	2		1	2	3	4	5	6		1	2	3	4	5	6
3	4	5	6	7	8	9	7	8	9	10	11	12	13	7	8	9	10	11	12	13
10	11	12	13	14	15	16	14	15	16	17	18	19	20	14	15	16	17	18	19	20
17	18	19	20	21	22	23	21	22	23	24	25	26	27	21	22	23	24	25	26	27
24	25	26	27	28	29	30	28							28	29	30	31			
31																				
APRIL							MAY							JUNE						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
				1	2	3							1			1	2	3	4	5
4	5	6	7	8	9	10	2	3	4	5	6	7	8	6	7	8	9	10	11	12
11	12	13	14	15	16	17	9	10	11	12	13	14	15	13	14	15	16	17	18	19
18	19	20	21	22	23	24	16	17	18	19	20	21	22	20	21	22	23	24	25	26
25	26	27	28	29	30		23	24	25	26	27	28	29	27	28	29	30			
							30	31												
JULY							AUGUST							SEPTEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
				1	2	3	1	2	3	4	5	6	7				1	2	3	4
4	5	6	7	8	9	10	8	9	10	11	12	13	14	5	6	7	8	9	10	11
11	12	13	14	15	16	17	15	16	17	18	19	20	21	12	13	14	15	16	17	18
18	19	20	21	22	23	24	22	23	24	25	26	27	28	19	20	21	22	23	24	25
25	26	27	28	29	30	31	29	30	31					26	27	28	29	30		



Water Resources Data Ohio Water Year 1993

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

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



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT OH-93-2
Prepared in cooperation with the State of Ohio
and with other agencies

U.S. DEPARTMENT OF THE INTERIOR

BRUCE BABBITT, Secretary

U.S. GEOLOGICAL SURVEY

Dr. Gordon P. Eaton, Director

For additional information on the water program in Ohio write to
District Chief, Water Resources Division
U.S. Geological Survey
975 West Third Avenue
Columbus OH 43212
1994

PREFACE

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

Volume 1. Ohio River Basin

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

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

A.W. Coen III	K.S. Jackson	C.W. Schalk
W.L. Cunningham	A.L. Jones	A.C. Sedam
K.L. Davidek	M.S. Katzenbach	M.S. Sherwood
J.T. deRoche	G.F. Koltun	D.J. Shifflet
D.H. Dumouchelle	J.A. McClure	B.N. Sroka
C.M. Eberle	K.D. Metzker	D.E. Straub
J.B. Evans	D.N. Myers	R.V. Swisshelm
B.L. Finch	V.E. Nichols	C.H. Thompson
D.S. Francy	C.N. Owens	R.M. Timmons
R.P. Frehs	B.B. Palcsak	C.C. Vince
S.W. Hatch	J.M. Parnell	S.A. Vivian
R.J. Haefner	J.W. Roberts	J.J. Welday
J.A. Hambrook	G.L. Rowe	P.R. Wright
C.W. Hawkins		W.P. Yost

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

REPORT DOCUMENTATION PAGE	1. REPORT NO. USGS/WRD/HD-94/257	2.	3. Recipient's Accession No. 4-04257-I-GS
4. Title and Subtitle Water Resources Data—Ohio, 1993 Volume 2, St. Lawrence river Basin			5. Report Date March 1994
7. Author(s) H.L. Shindel, J. P. Mangus, and L.E. Trimble			6.
9. Performing Organization Name and Address U.S. Geological Survey Water Resources Division 975 West Third Avenue Columbus OH 43212-3192			8. Performing Organization Rept. No. USGS-WDR-OH-93-2
12. Sponsoring Organization Name and Address U.S. Geological Survey Water Resources Division 975 West Third Avenue Columbus OH 43212-3192			10. Project/Task/Work Unit No.
			11. Contract(C) or Grant(G) No. (C) (G)
			13. Type of Report & Period Covered Annual—10/01/92 to 9/30/93
15. Supplementary Notes Prepared in cooperation with the State of Ohio and with other agencies.			14.
16. Abstract (Limit: 200 words) Water-resources data for the 1993 water year for Ohio consist of records of stage, discharge, and water quality of streams; stage and contents of lakes and reservoirs; and water levels and water quality of ground-water wells. This report, in two volumes, contains records for water discharge at 121 gaging stations, 335 wells, and 8 partial-record sites; and water levels at 365 observation wells. Also included are data from miscellaneous sites. Additional water data were collected at various sites not involved in the systematic data-collection program and are published as miscellaneous measurements and analyses. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Ohio.			
17. Document Analysis a. Descriptors *Ohio, *Hydrologic data, *Surface water, *Ground water, *Water quality, Flow rates, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediments, Water temperature, Sampling sites, Water levels, Water analyses, Streamflow, Water wells. b. Identifiers/Open-Ended Terms c. COSATI Field/Group			
18. Availability Statement: No restriction on distribution. This report may be purchased from: National Technical Information Service, Springfield, VA 22161		19. Security Class (This Report) UNCLASSIFIED	21. No. of Pages 428
		20. Security Class (This Page) UNCLASSIFIED	22. Price

	Page
Preface	III
List of gaging stations, in downstream order, for which records are published	VI
List of discontinued surface-water discharge or stage-only stations	VII
List of discontinued surface-water-quality stations	VIII
List of ground-water stations for which records are published	IX
Introduction.....	1
Cooperation.....	1
Summary of Hydrologic Conditions.....	3
Precipitation.....	3
Surface water	9
Streamflow	9
Water quality	9
Ground water	10
Ground-water levels	10
Special networks and program.....	12
Explanation of the records	12
Station identification numbers.....	12
Downstream order system	14
Latitude-longitude system	14
Records of stage and water discharge.....	15
Data collection and computation.....	15
Data presentation.....	16
Identifying estimated daily discharge	19
Accuracy of the records	19
Other records available	19
Records of surface-water quality.....	19
Classification of records	19
Arrangement of records	20
On-site measurement and sample collection	20
Water temperature.....	20
Sediment	21
Laboratory measurements.....	21
Data presentation	21
Remarks codes	22
Records of ground-water levels.....	22
Data collection and computation	22
Data presentation	22
Records of ground-water quality.....	23
Data collection and computation	23
Data presentation.....	23
Access to WATSTORE DATA.....	24
Definition of terms.....	24
Publications on Techniques of Water-Resources Investigations.....	37
Station records, surface water	41
Peak discharges and stages at continuous record surface discharge stations.....	113
Station records, ground water	115
Ground-water records for the Wright Patterson Air Force Base project	134
Ground-water records--Southern Franklin County	150
Effects of highway deicing chemicals on shallow unconsolidated aquifers in Ohio.....	173
Evaluation of bridge-scour data at selected sites in Ohio.....	357
Fecal indicator studies in the Cuyahoga River	359
Surface-water quality of selected reservoirs	362
Base flow discharges on the Great Miami River	369
Ground-water data for the Dayton Area Regional ground-water model.....	372
Ground-water data for the Dayton Area regional ground-water-flow model and environmental tracer study, Dayton, Ohio	376
Index	415
Factors for converting inch-pound units to International System units (SI)	Inside back page

ILLUSTRATIONS

Figure 1. Map of physiographic divisions and location of hydrologic index stations	2
2. Graphs showing runoff during 1992 water year compared with median runoff for period 1951-80 for four representative gaging stations	4
3. Box plots showing discharge and chemical concentration measured in water year 1992 and the distribution of those constituents from measurements during 1980-90 at selected NASQAN sites	5
4. Map of geographic distribution of principal aquifers in Ohio	8
5. Graph showing sample 1-year and 5-year hydrographs of a well completed in an unconfined unconsolidated aquifer	11
6. Graph showing sample 1-year and 5-year hydrographs of a well completed in a confined carbonate-rock aquifer	13
7. Diagram showing system for numbering wells and miscellaneous sites	14
8. Maps showing location of data-collection stations	33

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

(Letter after station name designates type of data: (c) miscellaneous chemical measurements, (C) daily chemical data, (d) discharge, (e) contents and (or) elevation, (HEM) hydrologic bench mark, (M) water-quality monitor, (m) microbiological, (NASQAN) National stream-quality accounting network, (r) radio-chemical, (s) miscellaneous sediment measurements, (S) daily suspended-sediment data, (t) temperature.)

ST. LAWRENCE RIVER BASIN

Station number	STREAMS TRIBUTARY TO LAKE ERIE	Page
04177000	Ottawa River at Toledo University, Toledo (d)	36
04185000	Tiffin River at Stryker (d)	37
04185440	Unnamed tributary to Lost Creek near Farmer (d)	38
04186500	Auglaize River near Fort Jennings (d)	39
04187100	Ottawa River at Lima (d)	40
04189000	Blanchard River near Findlay (d)	41
04191500	Auglaize River near Defiance (d)	42
04192500	Maumee River near Defiance (d)	43
04193500	Maumee River at Waterville (dcCmtSs) ... (NASQAN)	44
04195500	Portage River at Woodville (d)	57
04196800	Tymochtee Creek at Crawford (d)	60
04197100	Honey Creek at Melmore (d)	61
04197170	Rock Creek at Tiffin (d)	62
04198000	Sandusky River near Fremont (dcCmtSs) .. (NASQAN)	63
04199000	Huron River at Milan (d)	76
04199155	Old Woman's Creek at Berlin Road near Huron (d)	77
04199165	Old Woman's Creek at U.S. 6 near Huron (e)	78
04199175	Lake Erie at Ruggles Beach (e)	79
04199287	Vermilion River near Fitchville (d)	80
04200500	Black River at Elyria (d)	81
04201500	Rocky River near Berea (d)	82
04202000	Cuyahoga River at Hiram Rapids (d)	83
04206000	Cuyahoga River at Old Portage (d)	84
04206208	Yellow Creek at Ghent (d)	85
04206210	North Fork at Bath (d)	86
04206211	Park Creek at Bath Center (d)	87
04206212	North Fork at Bath Center (d)	88
04206215	Bath Creek at Bath Center (d)	89
04206220	Yellow Creek at Botzum (d)	90
04207200	Tinkers Creek at Bedford (d)	91
04208000	Cuyahoga River at Independence (dcCmtSs)... (NASQAN)	92
04208504	Cuyahoga River at LTV Steel at Cleveland (d)	105
04209000	Chagrin River at Willoughby (d)	106
04212100	Grand River near Painesville (d)	107
04212200	Grand River at Painesville (cmt)... (NASQAN)	108
04213000	Conneaut Creek at Conneaut (d)	109

DISCONTINUED SURFACE-WATER STATIONS

VII

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

[Letters after station name designate type of data collected: (d) discharge]

ST. LAWRENCE RIVER BASIN

Station name	Station number	Drainage area (mi ²)	Period of record
ST JOSEPH R NR BLAKESLEE (d)	04177500	394	1926-32
ST MARYS R NR WILLSHIRE (d)	04181000	354	1925-32
MAUMEE R AT ANTWERP (d)	04183500	2,129	1939-82
MAUMEE R NR SHERWOOD (d)	04184000	2,275	1903-06
BEAN C AT POWERS (d)	04184500	206	1940-81
TIFFIN R NR BRUNERSBURG (d)	04185500	736	1928-35
MIAMI & ERIE CA AT DELPHOS (d)	04186000	--	1928-33
OTTAWA R AT ALLENTOWN (d)	04187500	160	1923-35
			1943-82
OTTAWA R AT KALIDA (d)	04188000	309	1930-35
EAGLE CR NR FINDLAY (d)	4188500	55.0	1947-57
BLANCHARD R AT GLANDORF (d)	04189500	644	1921-28
			1947-51
BLANCHARD R AT DUPONT (d)	04190000	756	1928-35
ROLLER CR AT OHIO CITY (d)	04190500	5.14	1946-48
TOWN CR NR VAN WERT (d)	04191000	21.2	1945-53
MIAMI & ERIE CA NR DEFIANCE (d)	04192000	--	1924-29
			1952-69
MIAMI & ERIE CA AT WATERVILLE (d)	04193000	--	1921-29
SWAN C AT TOLEDO (d)	04194000	199	1940-48
			1985-91
PORTAGE R NR PEMBERVILLE (d)	04194500	337	1930-35
N B PORTAGE R NR BOWLING GREEN (d)	04195000	45.1	1923-32
LACARPE CR NR OAK HARBOR (d)	04195825	2.95	1987-92
BAYOU DITCH NR OAK HARBOR (d)	04195830	2.82	1987-92
SANDUSKY R NR BUCYRUS (d)	04196000	88.8	1925-35
			1938-51
			1964-81
BROKEN SWORD C AT NEVADA (d)	04196200	83.8	1976-81
SANDUSKY R NR UPPER SANDUSKY (d)	04196500	298	1921-35
			1938-81
SANDUSKY RIVER NR MEXICO (d)	04197000	774	1928-35
			1938-82
WOLF C AT BETTSVILLE (d)	04197300	66.2	1976-81
E B WOLF C NR BETTSVILLE (d)	04197450	82.4	1976-81
HAVENS C AT HAVENS (d)	04197500	4.28	1946-49
VERMILION R NR VERMILION	04199500	262	1950-81
E B BLACK R AT ELYRIA (d)	04200000	217	1922-35
W B BLACK R AB LAKE ST AT ELYRIA (d)	04200430	174	1980-84
CUYAHOGA RIVER NR KENT (d)	04202500	210	1933-35
BREAKNECK C NR KENT (d)	04203000	77.6	1927-35
L CUYAHOGA R AT MOGAORE (d)	04204000	14.3	1945-78
CUYAHOGA R AT MASSILLON RD AKRON (d)	04204500	31.6	1945-74
SPRINGFIELD LAKE OUTLET AT AKRON (d)	04205000	9.72	1945-74
L CUYAHOGA R AT AKRON (d)	04205500	44.4	1920
			1927-34
L CUYAHOGA R BL OHIO CA AT AKRON (d)	04205700	59.2	1973-79
CUYAHOGA R AT IRA (d)	04206250	478	1973-79
OHIO CANAL FEEDER AT BRECKSVILLE (d)	04207000	--	1923-24
OHIO CA AT INDEPENDENCE (d)	04207500	--	1921-23
			1927-35
			1940-41
			1948-81
BIG C AT CLEVELAND (d)	04208502	35.3	1972-86
EUCLID C NR EUCLID (d)	04208690	22.6	1977-80
			1984-85
GRAND R NR NORTH BRISTOL (d)	04209500	85.4	1942-47
PHELPS C NR WINDSOR (d)	04210000	25.6	1942-59
GRAND RIVER NR ROME (d)	04210500	251	1942-47
ROCK C NR ROCK CREEK (d)	04211000	69.2	1948-66
MILL C NR JEFFERSON (d)	04211500	82.0	1942-74
GRAND R NR MADISON (d)	04212000	581	1922-35
			1938-74
ASHTABULA R NR ASHTABULA (d)	04212500	111	1924-35
			1950-80

-- not determined for canals.

VIII

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

The following stations were discontinued as continuous-record surface-water-quality stations prior to the 1993 water year. Daily records of temperature, specific conductance, pH, dissolved oxygen or sediment were collected and published for the record shown for each station.

ST. LAWRENCE RIVER BASIN

Station name	Station number	Drainage area (mi ²)	Type of record	Period of record
MAUMEE R AT ANTWERP	04183500	2,129	Temp.	1939-82
MAUMEE R AT DEFIANCE	04184100	2,316	Temp., S.C., D.O.	1966-70
			pH	1973-78
TIFFIN R AT EVANSPOUT	04185300	541	Temp., S.C., D.O., pH	1968-78
AUGLAIZE R NR FT. JENNINGS	04186500	332	Temp., S.C., D.O., pH	1969-78
OTTAWA R AT ALLENTOWN	04187500	160	Temp., S.C.	1969-82
			D.O., pH.	1977-82
AUGLAIZE R AT CLOVERDALE	04188200	713	Temp., S.C., D.O., pH	1967-78
BLANCHARD R NR FINDLAY	04189000	346	Temp., S.C., D.O., pH	1968-80
AUGLAIZE R NR DEFIANCE	04191500	2,318	Temp., S.C., D.O., pH	1966-76
			Sed.	1936
KEITZ RUN AT WATERVILLE	04192900	1.06	Precip.	1981-86
MAUMEE R NR WATERVILLE	04193490	6,313	Temp., S.C., D.O., pH	1977-91
MIAMI RIVER AT WATERVILLE	04193500	6,329	Temp., S.C., D.O., PH	1963-77
MAUMEE R AT MOUTH AT TOLEDO	04194023	6,608	Temp., S.C., D.O., pH.	1967-75
M B PORTAGE R NR PORTAGE	04194310	217	Temp., S.C.	1969-75
PORTAGE R AT RR BRIDGE AT WOODVILLE	04195600	428	Temp., S.C., D.O., pH.	1968-80
PORTAGE R AT ELMORE	04195800	432	Temp	1950-52
			D.O.	1970-80
			Sed.	1950-53
SANDUSKY R NR UPPER SANDUSKY	04196500	298	Temp., S.C., D.O.,	1969-79
			pH	1977-79
TYMOCHTEE C AT CRAWFORD	04196800	229	Temp., S.C., D.O., pH.	1968-75
SANDUSKY R AT ST JOHNS BRIDGE NR MEXICO	04196990	711	Temp., S.C., D.O.	1969-76
HONEY CR AT MELMORE	04197100	141	Sed.	1988-89
SANDUKY RIVER BELOW FREMONT	04198005	1,264	Temp., S.C., D.O., pH.	1966-80
W B HURON R NR WILLARD	04198018	86.0	Temp., S.C.	1968-75
SANDHILL C NR MONROEVILLE	04198019	1.76	Precip	1981-86
HURON RIVER AT MILAN	04199000	371	Sed.	1970-74
				1988-91
HURON RIVER BL MILAN	04199100	385	Temp., S.C., D.O., pH	1968-78
VERMILION R NR FITCHVILLE	04199287	112	Sed.	1987-89
VERMILION R NR VERMILION	04199500	262	Temp., S.C.,	1969-76
			D.O., pH	1976-80
E B BLACK R AT GRAFTON	04199900	170	Temp., S.C.	1969-75
W B BLACK R NR ELYRIA	04200400	170	Temp., S.C.	1969-75
W B BLACK R AB LAKE ST AT ELYRIA	04200430	174	Sed.	1980-81
BLACK R AT ELYRIA	04200500	396	Temp.	1962-70
			S.C.	1964-70
			Sed.	1980-81
BLACK R BL ELYRIA	04200550	412	Temp., S.C., D.O.	1966-82
			pH	1976-82
CUYAHOGA R AT OLD PORTAGE	04205700	59.2	Temp., S.C., D.O., pH	1970-84
			Sed.	1972-81
CUYAHOGA R AT BATZUM	04206200	443	Temp.	1947-49
TINKERS C AT BEDFORD	04207200	83.9	Sed.	1972-79
CUYAHOGA R AT INDEPENDENCE	04208000		Temp., S.C., D.O.	1965-72
			Temp., S.C., D.O., pH	1972-91
BIG C AT CLEVELAND	04208502	35.3	Sed.	1978
CUYAHOGA R AT DUPONT INTAKE IN CLEVELAND	04208505	794	S.C.	1964-75
CUYAHOGA R AT WEST THIRD STREED BRIDGE	04208506	798	Temp., S.C., D.O., pH	1966-87
CUYAHOGA R AT SUPR ST BRIDGE IN CLEVELAND	04208510	808	Temp., S.C., D.O., pH	1964-66
CHAGRIN R AT WILLOUGHBY	04209000	246	Temp	1950
			Sed.	1969-74
GRAND RIVER AT PAINESVILLE	04212200	701	Temp., S.C., D.O., pH	1966-82
FIELDS BROOK AT ASHTABULA	04212680	3.63	Temp., S.C., D.O., pH	1983-91
ASHTABULA R AT ASHTABULA	04212700	136	Temp., S.C., D.O., pH	1968-79

GROUND-WATER STATIONS FOR WHICH RECORDS ARE PUBLISHED

IX

<u>Well number</u>	<u>Local number</u>	<u>Location</u>	<u>Page</u>
CRAWFORD COUNTY			
404838082563100	CR-1	Bucyrus	150
HANCOCK COUNTY			
405940083275500	HA-3	North of Vanlue	152
HARDIN COUNTY			
404648083412600	HN-2A	Southeast of Dola.....	153
HENRY COUNTY			
412123083574000	HY-2	Southwest of McClure	154
LUCAS COUNTY			
413704083362200	LU-1	Toledo.....	155
MEDINA COUNTY			
410142082005900	MD-1	Lodi.....	156
OTTAWA COUNTY			
413434082494000	O-2	Catawba Island.....	157
PUTNAM COUNTY			
405505084032900	PU-1	Columbus Grove	160
RICHLAND COUNTY			
405753082360800	R-3	Shiloh	161
SANDUSKY COUNTY			
411914083045300	S-3	Freemont.....	162
412703083213600	S-2	Woodville.....	163
SENECA COUNTY			
410802083093900	SE-2	Tiffin.....	164
SUMMIT COUNTY			
410330081282000	SU-6	Akron.....	165
410846081271600	SU-7	Cuyahoga Falls	166
VAN WERT COUNTY			
405215084335400	VW-1	Van Wert.....	167
WILLIAMS COUNTY			
412821084313600	WM-1	Bryan.....	168
412930084320900	WM-3	Bryan.....	169
413108084415300	WM-12	East of Blakeslee	170
WYANDOT COUNTY			
405009083172600	WY-1	Upper Sandusky	171

VOLUME 2: ST. LAWRENCE RIVER BASIN**STATEWIDE PROJECT DATA****INTRODUCTION**

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

This report (in two volumes) includes records on surface water and ground water in the State. Specifically, it contains: (1) Discharge records for 121 streamflow-gaging stations, 6 miscellaneous sites, and 17 crest-stage stations; (2) stage and content records for 5 streams, lakes, and reservoirs; (3) water-quality data for 30 streamflow-gaging stations, 335 wells, 108 synoptic sites, and 8 partial-record sites; and (4) water level data for 365 observation wells. Locations of lake- and streamflow-gaging stations, water-quality stations, and observation wells for which data are presented in this volume are shown in figure 9. The data in this report represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Ohio.

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

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

Publications similar to this report are published annually by the USGS for all States. These official USGS reports are identified by means of a number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report OH-93-2". For archiving and general distribution, the reports for 1971-74 water years are also identified as water-data reports. These water-data reports can be purchased in paper copy or in microfiche from the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161. Beginning with the 1990 water year, all water-data reports will also be available on Compact Disc - Read Only Memory (CD-ROM). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc.

Additional information for ordering specific reports, including current prices, may be obtained by writing the District Chief at the address given on the back of title page or by telephoning (614) 469-5553. A limited number of CD-ROM discs will be available for sale by the Books and Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, Colorado 80225.

COOPERATION

The U.S. Geological Survey and agencies of the State of Ohio have had cooperative agreements for the collection of water-resource data since 1898. The following organizations assisted in collecting data in this report:

Ohio Department of Natural Resources, Frances Buchholzer, Director;
Ohio Department of Natural Resources; Natural Areas and Preserves, Ralph Ramey, Chief;
Ohio Environmental Protection Agency, D. R. Schregardus, Director;
Ohio Department of Transportation, Jerry H. Wray, Director;
Miami Conservancy District, J. L. Rozelle, General Manager and Chief Engineer;
City of Columbus Department of Public Service, J. R. Doult, Administrator;
City of Canton Water Department, J. D. Williams, Superintendent;
Ross County, James Kennard, Administrative Assistant;
Summit County, Jeffrey Lintern, Director, Environmental Services;
Seneca Soil and Water Conservation District, Norman Daniel, Board Chairman;

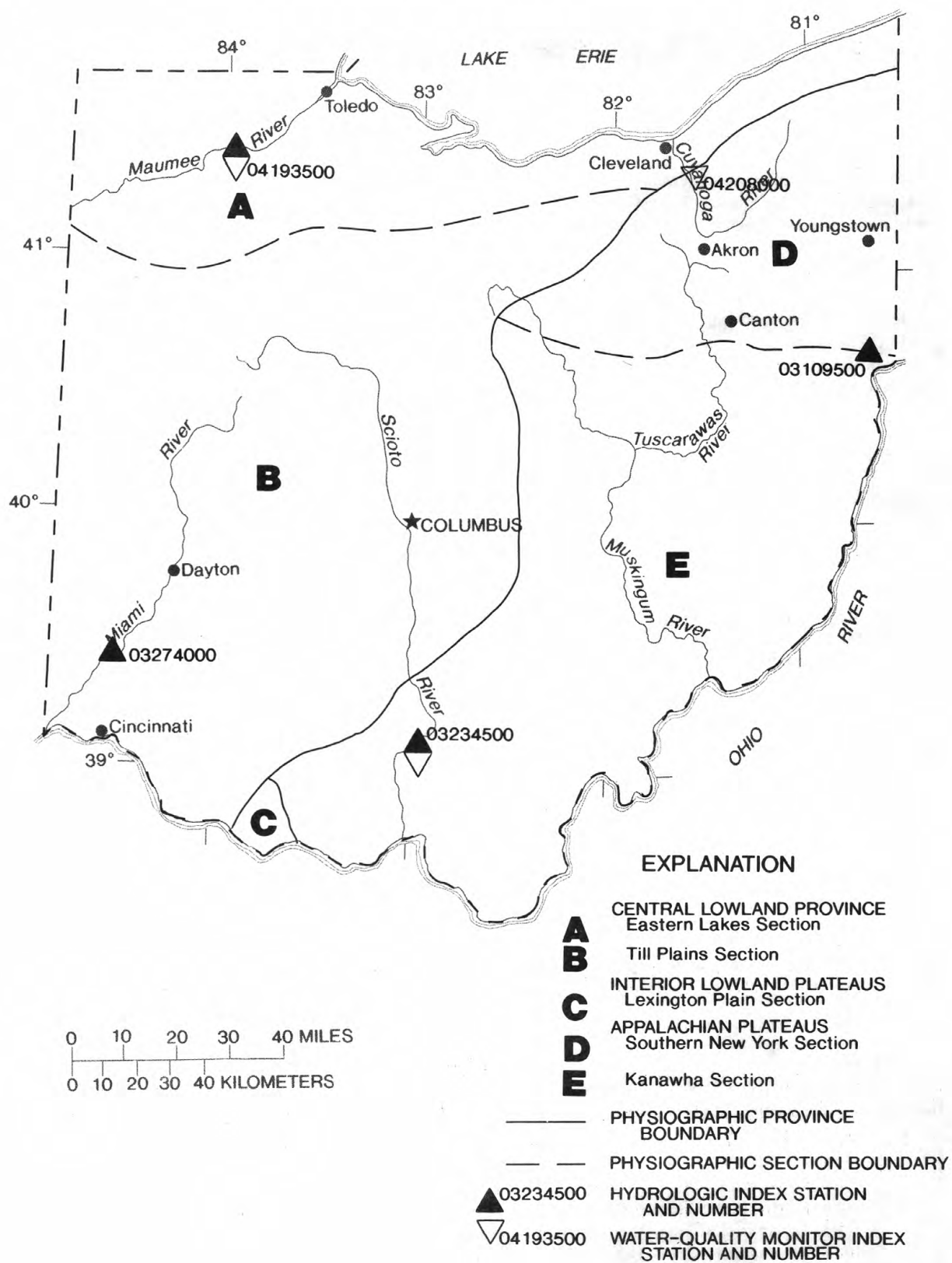


Figure 1.--Physiographic divisions and location of Hydrologic Index Stations.

University of Toledo, R. Gallagher;
Cuyahoga River Community Planning Organization, John Beeker;
Northeast Regional Sewer District, E. J. Deal, Executive Director;
City of Fremont, Warren Curtis, City Engineer;
City of Akron, Linda Sowa, Administrator;
Northeast Regional Sewer District, E. J. Deal, Executive Director;
City of Lima, A. Godsey, City Sanitary Engineer;
Eastgate Development and Transportation Agency, J. Wells, Environment Project Manager;
U.S. Air Force, Air Force Logistics Command, 645 Air Base Wing, Office of Environmental Management, A. F. Sculimbrene, Director; Director of Regional Planning;
Ohio State University, Ohio Agricultural Research and Development Center (OARDC), Professor Warren Dick;
Ohio State University Research Foundation, Sharon Coulter, Associate Director;
Washington County Board of Commissioners, Sandra Matthews, Commissioner.

Funds or services were provided by the U.S. Army Corps of Engineers in collecting data for 72 hydrologic-data stations in this report. The Miami Conservancy District, U.S. Army Corps of Engineers, and Ohio Department of Natural Resources aided in collecting data.

SUMMARY OF HYDROLOGIC CONDITIONS

Ohio is part of three physiographic provinces. Each province has its own distinctive hydrologic characteristics. The topography of the Till Plains section of the Central Lowlands physiographic province (fig. 1) consists of gently rolling ground moraine, bands of terminal moraine, and outwash-filled valleys. Glaciation altered the courses of most streams in this area. The Eastern Lake Plains section (fig. 1) consists of wide expanses of level or nearly level land interrupted only by the sporadic sandy ridges that are the last visible remnants of glacial-lake beaches. Much of the area was swamp prior to development, and marshes are still present along Lake Erie near Toledo. The Lexington Plains section of the Interior Low Plateau province (fig. 1) is characterized by rolling terrain and a few isolated large hills and ridges. The "barbed" drainage pattern formed when small streams were captured as their headwaters cut back into the hills over time. Streams have carved the Kamala section of the Appalachian Plateaus province (fig. 1) into an intricate series of hollows and steep-sided ridges. Only the large streams in the section have any appreciable flood plain. In the southern New York section (fig. 1), successive waves of glaciation have subdued the relief, buried many precocial valleys, and rerouted many streams.

Precipitation

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

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

WATER RESOURCES DATA FOR OHIO, 1993

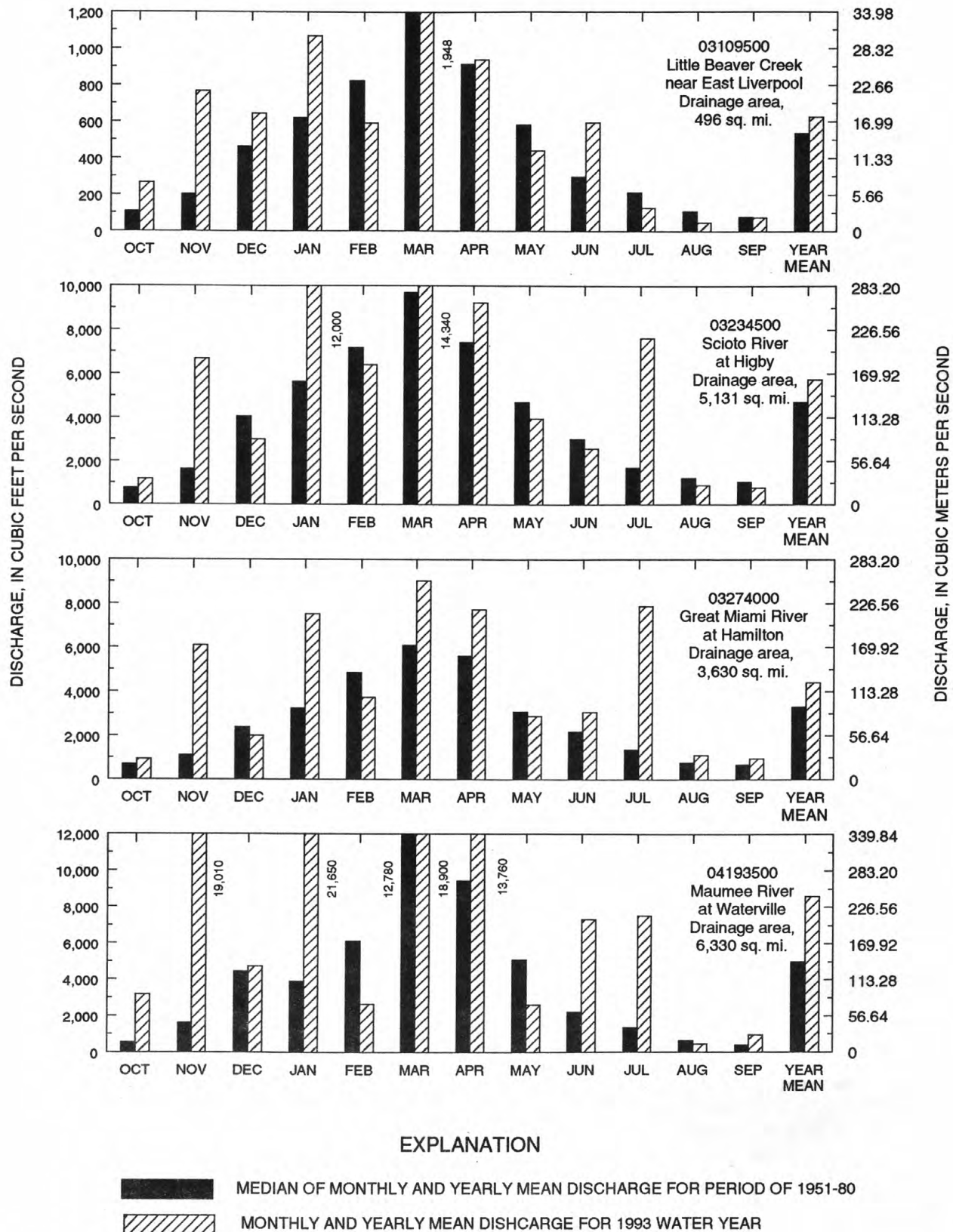


Figure 2.--Runoff during 1993 water-year compared with median runoff for period 1951-80 for four representative gaging stations.

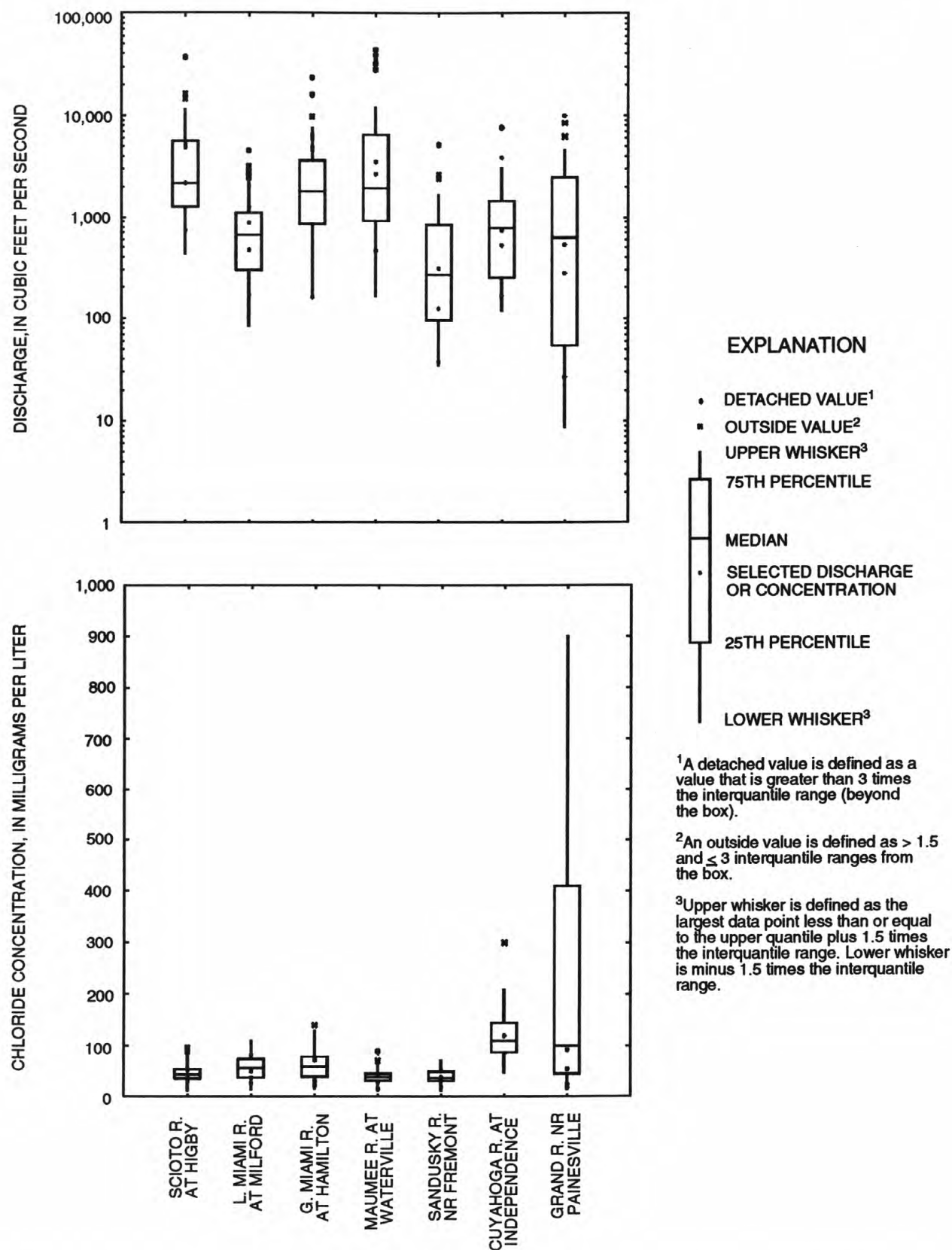


Figure 3.--Discharge and chemical concentrations measured in water year 1993 and the distribution of those constituents from measurements made during water years 1983-1992 at NASQAN stations.

WATER RESOURCES DATA FOR OHIO, 1993

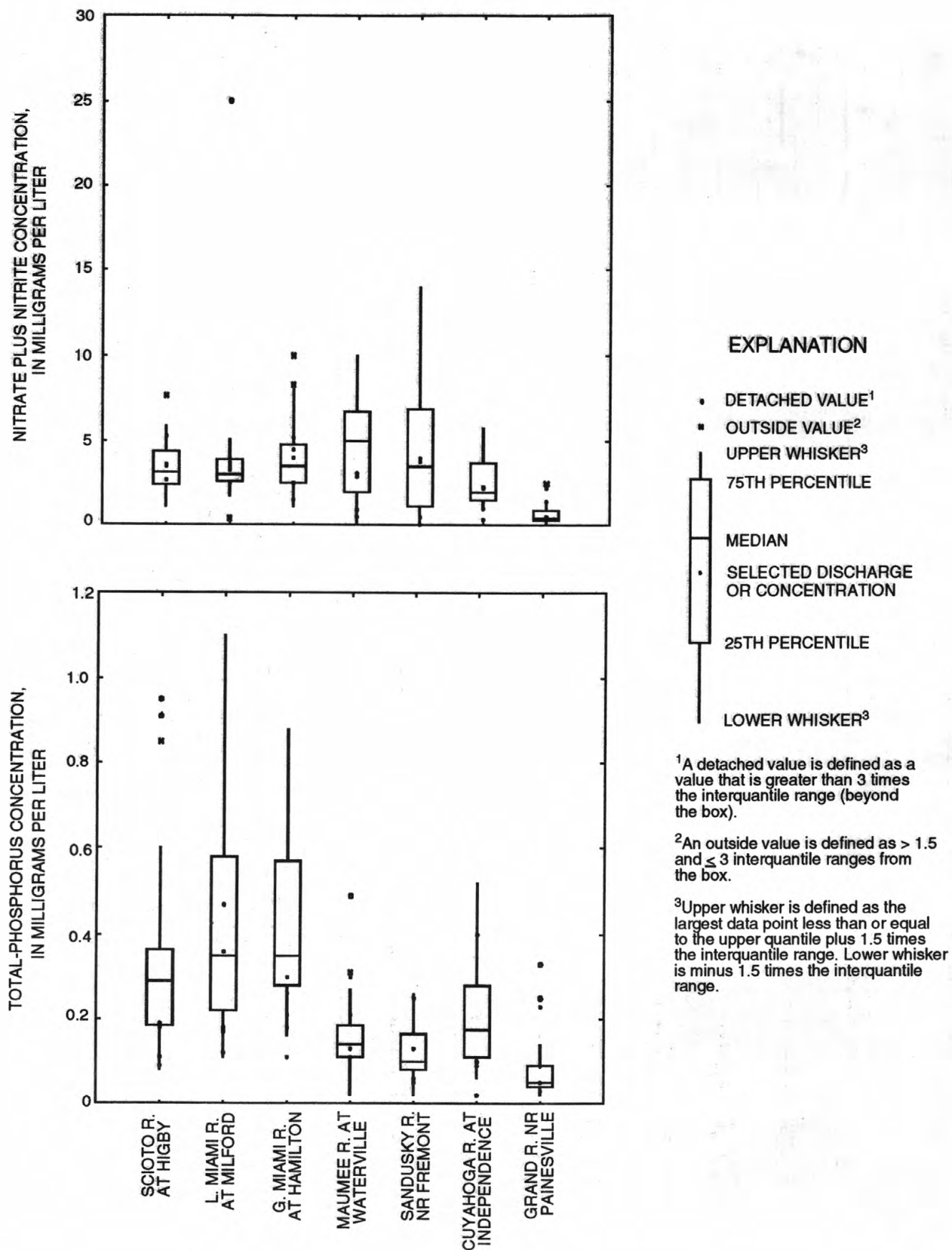


Figure 3.--Discharge and chemical concentrations measured in water year 1993 and the distribution of those constituents from measurements made during water years 1983-1992 at NASQAN stations--Continued.

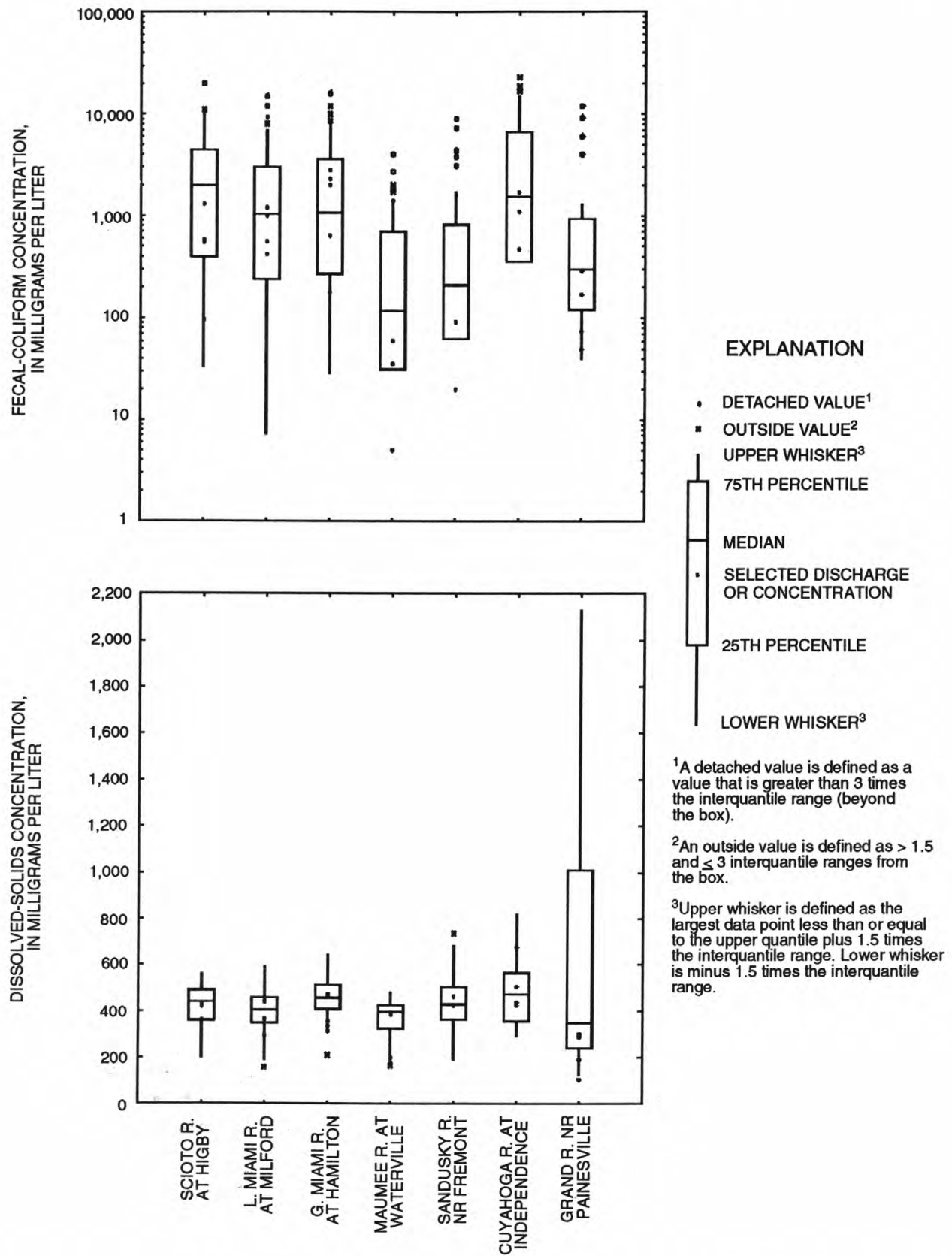


Figure 3.--Discharge and chemical concentrations measured in water year 1993 and the distribution of those constituents from measurements made during water years 1983-1992 at NASQAN stations--Continued.

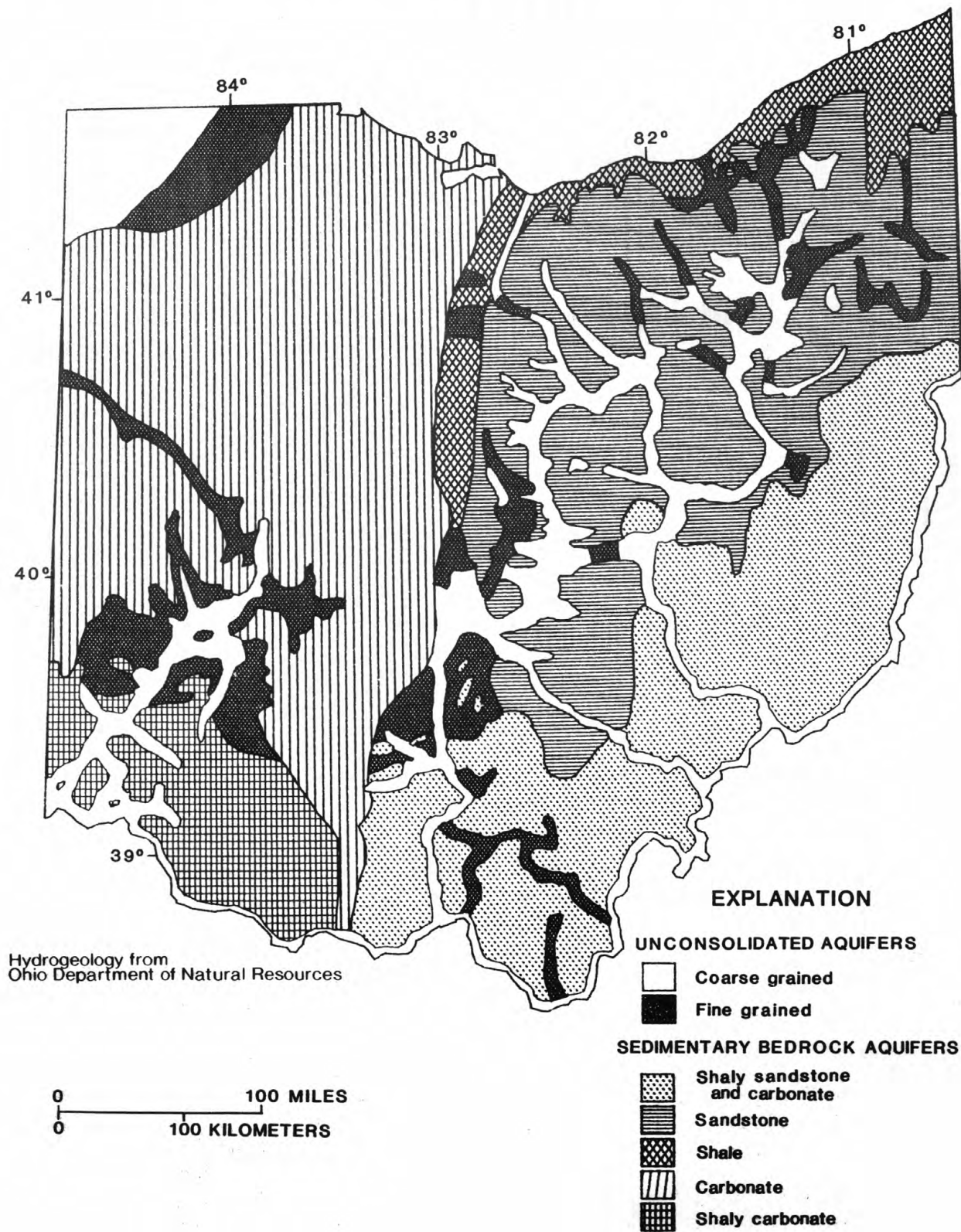


Figure 4.--Geographic distribution of principal aquifers in Ohio.

Surface Water

Streamflow

Streamflow-data-collection stations are distributed irregularly throughout the State, and tend to be concentrated on the main river systems. The stations are used to sample a wide variety of conditions. The drainage areas range from 12 to 7,420 square miles and represent a wide diversity of topography and other physical characteristics. Streamflow ranges from unregulated to highly regulated.

Statewide streamflow, water year 1993

At the beginning of water year 1993, streamflow was in the normal range Statewide except for northern Ohio, where it was excessive. Above average precipitation in November caused excessive flows throughout the State and some minor flooding in northern Ohio.

Streamflow declined into the normal¹ to below-normal range during December in response to below average precipitation. Above-average precipitation in the northern two-thirds of the State and below-average precipitation in the southern one-third prevailed during January through April, and streamflow was generally normal to excessive.

Seasonal declines began in May, and normal streamflow predominated through June.

Above-average precipitation in parts of central and western Ohio during July caused excessive flows in that part of the State, although streamflow remained normal elsewhere.

Streamflow continued to decline during August and September and was in the normal to deficient range.

Water Quality

The U.S. Geological Survey collects long-term water-quality data in Ohio at eight fixed stations (fig.1). Seven National Stream Quality Accounting Network (NASQAN) stations are in major river basins in Ohio, and one Hydrologic Benchmark station is in a small, relatively pristine basin in southern Ohio. Samples are collected quarterly at five stations, bimonthly at two stations, and monthly at the Benchmark station. Because of the fixed schedule, samples are collected at a variety of streamflows (fig.2). Samples are analyzed for major anions and cations, nutrients, trace elements, suspended sediment, selected physical properties, and fecal coliform and fecal streptococci.

Box plots of selected constituents measured from 1983 through 1992 are shown in figure 3. Results of analysis of samples collected in water year 1993 are superimposed on the box plots and are represented by solid circles.

For the Great Miami River at Hamilton, streamflows were above the 75th percentile for four samplings and below the 25th percentile for one sampling. Chloride concentrations at this bimonthly station reflect these extreme streamflows and follow the typical pattern found in most streams in Ohio--the four higher streamflows resulted in low chloride concentrations, whereas the low stream flow resulted in a high chloride concentration. In the lower Grand River Basin, chloride concentrations were lower than the extremely high concentrations found in the previous 10-year period. In this area, salt mining and processing and runoff from abandoned chemical industries may have contributed to high chloride concentrations in the past.

For the Great Miami River at Hamilton, streamflows were above the 75th percentile for four samplings and below the 25th percentile for one sampling. Chloride concentrations at this bimonthly station reflect these extreme streamflows and follow the typical pattern found in most streams in Ohio--the four higher streamflows resulted in low chloride concentrations, whereas the low stream flow resulted in a high chloride concentration. In the lower Grand River Basin, chloride concentrations were lower than the extremely high concentrations found in the previous 10-year period. In this area, salt mining and processing and runoff from abandoned chemical industries may have contributed to high chloride concentrations in the past.

For the Great Miami River at Hamilton, streamflows were above the 75th percentile for four samplings and below the 25th percentile for one sampling. Chloride concentrations at this bimonthly station reflect these extreme streamflows and follow the typical pattern found in most streams in Ohio--the four higher streamflows resulted in low chloride concentrations, whereas the low stream flow resulted in a high chloride concentration. In the lower Grand River Basin, chloride concentrations were lower than the extremely high concentrations found in the previous 10-year period. In this area, salt mining and processing and runoff from abandoned chemical industries may have contributed to high chloride concentrations in the past.

¹For streamflow, "normal" is defined as being between the 25th and 75th percentiles as measured during the base period water years 1951-80.

None of the streams sampled had nitrate concentrations above the maximum contaminant level for finished drinking water--10 milligrams per liter (as N). In Ohio streams, runoff from agriculture is a major source of nitrate.

Agricultural runoff and municipal and industrial point discharges are the major sources of phosphorus in Ohio. Increased phosphorus concentrations may lead to a high rate of production of plant materials in the water and eutrophication of the stream. Distributions of phosphorus concentrations in the Maumee, Sandusky, Cuyahoga, and Grand Rivers were similar to the distributions of concentrations measured during the previous 10-year period. In the Scioto, Little Miami, and Great Miami Rivers, the trend in phosphorus concentrations was downward as compared with concentrations found in previous years.

For most sites, fecal-coliform and dissolved-solids concentrations for water year 1993 were similar to concentrations found in the previous 10-year period. At the Grand River at Painesville, however, dissolved-solids concentrations were less than the median and the extremely high concentrations found in previous years.

Water-quality monitors at two NASQAN stations (Maumee River at Waterville and Cuyahoga River at Independence) were discontinued in 1992. Data from the remaining water-quality monitor at Scioto River at Higby was used to calculate annual mean temperature, dissolved-oxygen concentration, pH, and specific conductance for water year 1992. The 1992 mean values were compared with the annual means from 1982-91 at this site. Mean pH and specific conductance were slightly higher and mean temperature and dissolved oxygen were slightly lower than for the previous 10-year period, probably because of a lower than average discharge for the year.

Ground Water

Ground water serves the needs of 42 percent of Ohio's population. An estimated 740 million gallons of ground water per day is withdrawn for domestic, industrial, and agricultural purposes. Many people in Ohio depend on ground water as the only practical source of supply.

Ohio's unconsolidated aquifers are composed of either coarse- or fine-grained sediments. Both types are composed mainly of materials of glacial origin. The coarse-grained unconsolidated aquifers generally consist of highly permeable sand and gravel. Much of the sand and gravel is alluvium derived from glaciofluvial outwash along the courses of some modern streams; thus, these aquifers sometimes are referred to as "watercourse" aquifers. Coarse-grained unconsolidated aquifers in the northwestern corner of the State (fig. 4) underlie glacial till, are locally confined under artesian pressure, and are highly productive. Extensive kame-terrace deposits of water-bearing gravel and sand are widely used ground water sources in northeastern Ohio. The fine-grained unconsolidated aquifers are similar to the coarse-grained unconsolidated aquifers in form and origin but are less permeable because of higher percentages of mixed fine sand, silt, and clay. Included in the fine-grained unconsolidated aquifers are tills that contain thin or localized stratified lenses of sand and gravel.

Ground-water supply for much of the unglaciated upland area of southeastern Ohio is from bedrock aquifers composed of shaly sandstone and thin limestone. These strata, which range from Mississippian to Permian in age, are dominated by low-yielding shales and shaly sandstones that include numerous coal-bearing strata. In some places, small water supplies are available from fractured coal beds. Several sandstone aquifers in northeastern Ohio are of regional extent and are major ground-water sources for individual and small public supplies. These include the Berea and Black Hand Sandstones of Mississippian age and several sandstone members of the Pottsville and Allegheny Formations of Pennsylvanian age. The Lake Erie coastline of northeastern Ohio is underlain by shale of Devonian and Mississippian age (fig. 4) that yields only small amounts of water to wells. Silurian-age limestone and dolomite and Devonian limestone comprise the carbonate aquifer system (fig. 4) of much of western Ohio. Glacial cover is uneven and consists of valley fill and terminal moraine in some places. The northeastern part of western Ohio contains an area of high-yielding wells that tap a preferentially weathered zone, which developed when carbonate section was periodically exposed as land mass during the Paleozoic Era. The southwestern corner of Ohio near Cincinnati is underlain by shale and a thin limestone aquifer of Ordovician age. Away from the watercourse (coarse unconsolidated) aquifers that traverse the area, the rocks that form the uplands yield only very small amounts of ground water.

Ground-Water Levels

Most ground-water observation wells in Ohio tap unconsolidated sand and gravel aquifers associated with the State's principal streams. Sample 1-year and 5-year hydrographs of a well completed in an unconfined unconsolidated sand-and-gravel aquifer are shown in figure 5. The observation-well network also includes some bedrock wells in areas where consolidated aquifers are heavily used for water supply, such as in the carbonate-rock region of northwestern Ohio. Sample 1-year and 5-year hydrographs of a well completed in a confined carbonate-rock aquifer are shown in figure 6. The yearly low for most wells occurs during the winter months, especially in cold, dry years or near the end of the growing season. Highs for the year usually occur from March through June, which is the peak of the recharge season. The yearly water-level fluctuation due to climatic conditions in water-table and confined-aquifer wells is commonly 3 to 5 feet, but can be as much as 10 feet.

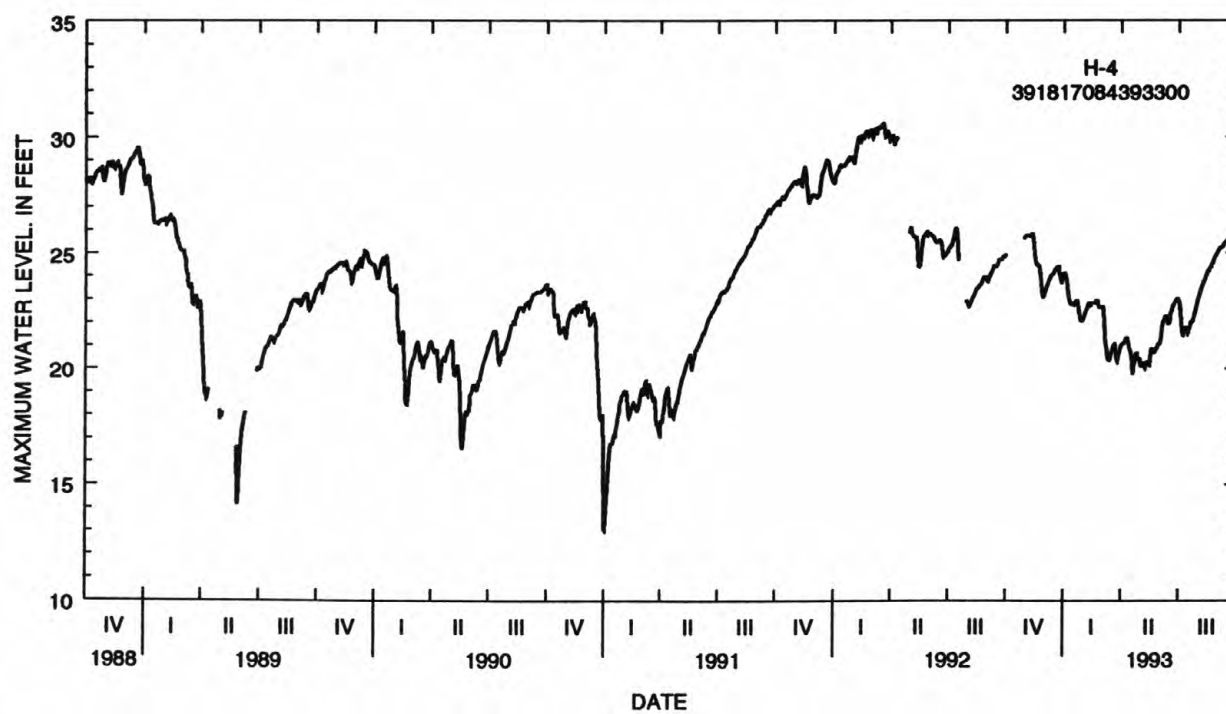
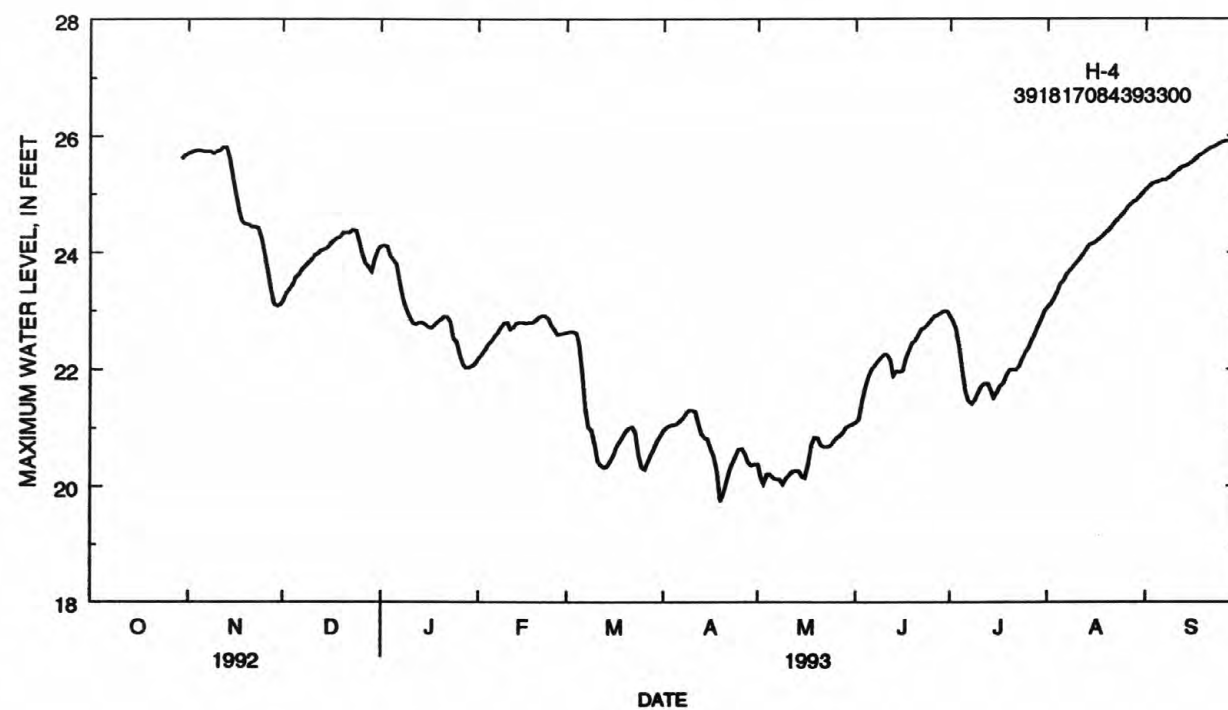


Figure 5.--Sample 1-year and 5-year hydrographs of a well completed in an unconfined unconsolidated aquifer.

At the beginning of the 1993 water year, ground-water levels were near normal² statewide except for eastern Ohio, where levels were below average. Water levels generally declined throughout the state, in response to below-average precipitation, during October and early November. Heavy rainfall in the last half of November caused net rises in most aquifers; levels were generally above normal in western Ohio but below normal in eastern Ohio, a condition that prevailed for much of the year.

Ground water levels for December through April were stable or rising in response to average to above-average precipitation throughout the period.

There was a general decline in ground-water levels throughout the state during May through September, with an increased rate of decline late in the water year as a result of below-average precipitation. Below-normal water levels prevailed in much of the State by year's end, and record lows were established at observation wells in eastern and southern Ohio during August and September.

SPECIAL NETWORKS AND PROGRAM

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

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

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

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

EXPLANATION OF THE RECORDS

The records in this report are for the 1993 water year that began October 1, 1992 and ended September 30, 1993. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for surface and ground water, and ground-water-level data. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station, whether onstream or at a well, is assigned a unique identification number. The number is generally assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic locations. The "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for wells and, in Ohio, for surface-water stations where only infrequent measurements are made.

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

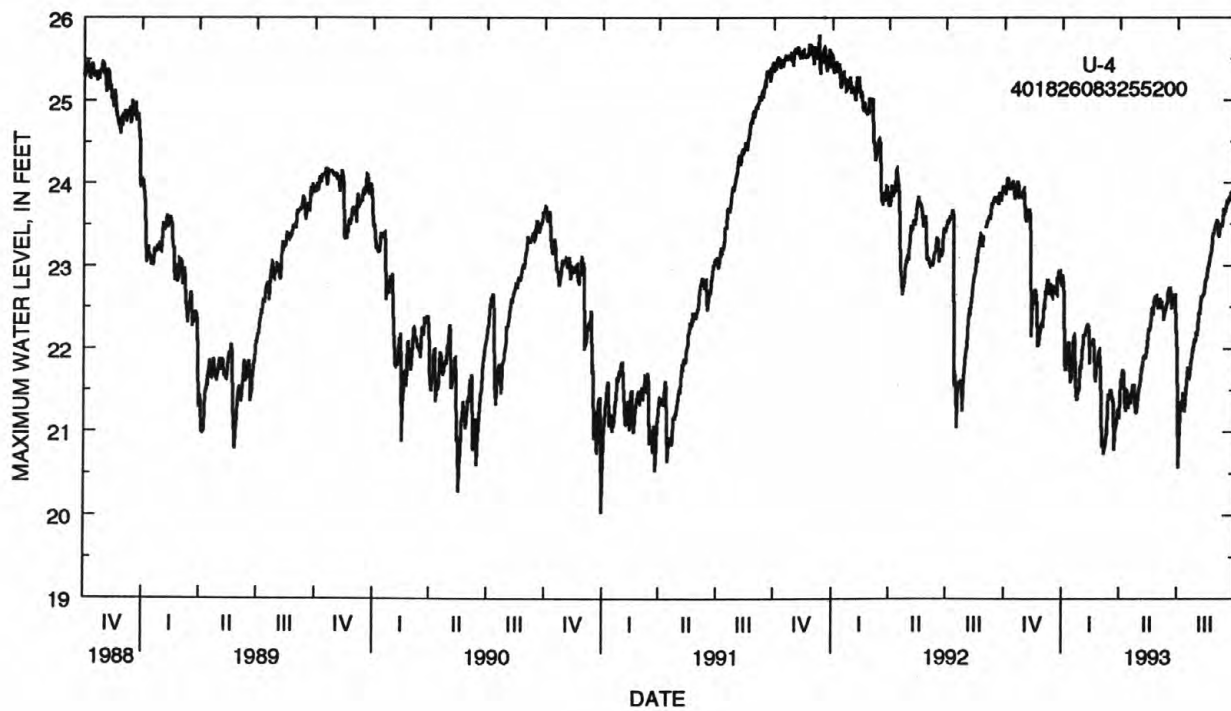
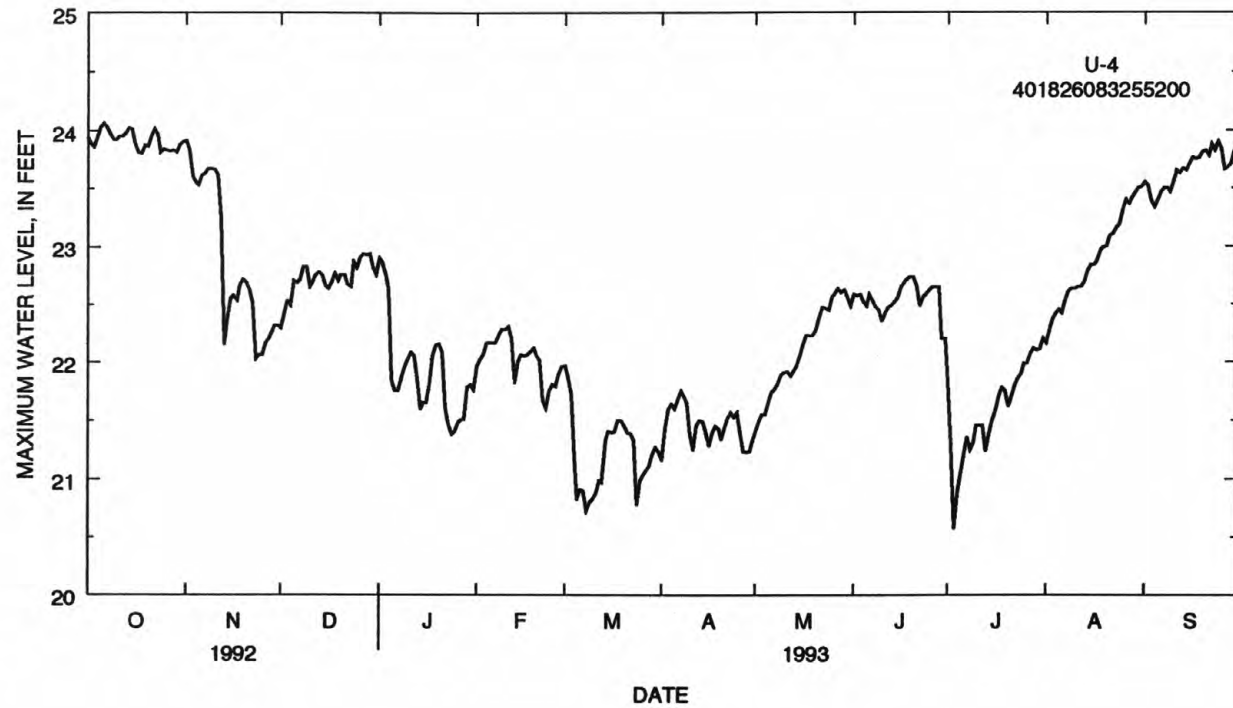


Figure 6.--Sample 1-year and 5-year hydrographs of a well completed in a confined carbonate-rock aquifer.

Downstream Order System

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

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

Latitude-Longitude System

The identification numbers for wells and miscellaneous surface-water sites are assigned according to the grid system of latitude and longitude. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the wells or other sites within a 1-second grid. In the rare instance where the initial determination of latitude and longitude are found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the station description. (See figure 7.)

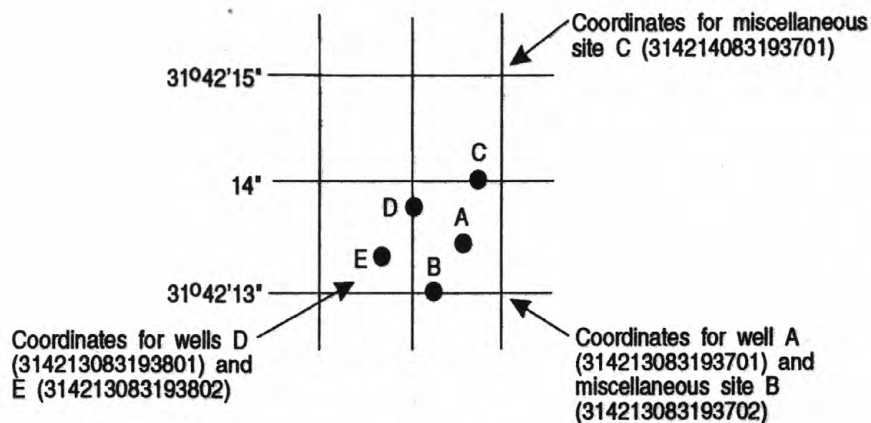


Figure 7.--system for numbering wells and miscellaneous sites (latitude and longitude).

Records of Stage and Water Discharge

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

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of a partial record is indicated by table titles such as "crest-stage partial records," or "low-flow partial records." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report. Location of all complete-record and crest-stage stations for which data are given in this volume are shown in figure 8.

Data Collection and Computation

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

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

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

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

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

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

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

Data Presentation

The records published for each gaging station consist of two parts--the manuscript or station description and the data table for the current water year. The manuscript provides, under various headings, descriptive information, such as station location; period of record; average discharge; historical extremes; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments to follow clarify information presented under the various headings of the station description.

Station manuscript

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

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

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

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

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

GAGE.--The type of gage in current use, the datum of the current gage referred to Mean Sea Level (MSL) (see glossary), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

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

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

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

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

PEAK DISCHARGES ABOVE BASE FOR CURRENT YEAR.--Presented as a separate table. For stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge are presented under

this heading. All peaks greater than the base discharge are listed with the maximum for the year footnoted by an asterisk (*). Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man or at locations where the instantaneous peak discharge does not exceed the mean daily discharge by 10 percent. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330.

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

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

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

Headings for AVERAGE DISCHARGE, AND EXTREMES FOR CURRENT YEAR have been deleted and the information contained in these paragraphs, except for the listing of secondary instantaneous peak discharges in the EXTREMES FOR CURRENT YEAR paragraph, is now presented in the tabular summaries following the discharge table or in the REMARKS paragraph, as appropriate. No changes have been made to the data presentations of lake contents.

Data table of daily mean values

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

Statistics of monthly mean data

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

Summary statistics

A table title "SUMMARY STATISTICS" follows the statistics of monthly mean data tabulation. This table consists of four columns, with the first column containing the line headings of the statistics being reported. The table provides a statistical summary of yearly, daily, and instantaneous flows, not only for the current water year but also for the previous calendar year and for a designated period, as appropriate. The designated period selected, "WATER YEARS ____ - ____," will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript. All of the calculations for the statistical characteristics designated ANNUAL (See line headings below.), except for the "ANNUAL 7-DAY MINIMUM" statistic, are calculated for the designated period using complete water years. The other statistical characteristics may be calculated using partial water years.

The date or water year as appropriate, of the first occurrence of each statistic reporting extreme values of discharge is provided adjacent to the statistic. Repeated occurrences may be noted in the REMARKS paragraph of the manuscript or in the footnotes. Because the designated period may not be the same as the station period of record published in the manuscript, occasionally the dates of occurrence listed for the daily and instantaneous extremes in the designated-period column may not be within the selected water years listed in the heading. When this occurs, it will be noted in the REMARKS paragraph or in footnotes. Selected streamflow duration curve statistics and runoff data are also given. Runoff data may be omitted if there is extensive regulation or diversion of flow in the drainage basin.

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

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

ANNUAL MEAN.--The arithmetic mean of the individual daily mean discharges for the year noted or for the designated period. At some stations the yearly mean discharge is adjusted for reservoir storage or diversion. The adjusted figure were identified by a symbol and corresponding footnotes. At least 5 complete years of record must be available before this statistic is published for the designated period.

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

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

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

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

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

INSTANTANEOUS PEAK FLOW.--The maximum instantaneous stage occurring for the water year or for the designated period. Note that secondary instantaneous peak discharges above a selected base discharge are stored in District computer files for stations meeting certain criteria. Those discharge values may be obtained by writing to the District Office. (See address on back of title page of this report.)

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

ANNUAL RUNOFF (AC-FT).--Indicates the depth, in acre-feet, to which the drainage area would be covered if all the runoff for the year were uniformly distributed on it.

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

ANNUAL RUNOFF (INCHES).--indicates the depth to which the drainage area would be covered if all the runoff for the year were uniformly distributed on it.

10 PERCENT EXCEEDS.--The discharge that is exceeded by 10 percent of the flow for the designated period.

50 PERCENT EXCEEDS.--The discharge that is exceeded by 50 percent of the flow for the designated period.

90 PERCENT EXCEEDS.--The discharge that is exceeded by 90 percent of the flow for the designated period.

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

Identifying Estimated Daily Discharge

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

Accuracy of the Records

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

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

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

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

Other Records Available

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

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

Records of Surface-Water Quality

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

Classification of Records

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

A careful distinction needs to be made between "continuing records" as used in this report and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recording; however, because of cost, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this volume are shown in figure 9.

Arrangement of Records

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

On-site Measurements and Sample Collection

In obtaining water-quality data, a major concern is that the data obtained represent the in situ quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made on site when the samples are taken. To assure that measurements made in the laboratory also represent the in situ water, carefully prescribed procedures need to be followed in collecting the samples, in treating the sample to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations" (TWRI), Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. All of these references are listed on p. 24 of this report. Also, detailed information on collecting, treating, and shipping samples may be obtained from the Geological Survey District office.

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

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

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

Water Temperatures

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

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

Sediment

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

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

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

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

Laboratory Measurements

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

In March 1989 the National Water-Quality Laboratory discovered a bias in the turbidimetric method for sulfate analysis, indicating that values below 75 mg/L have a median positive bias of 2 mg/L above the true value for the period between 1982 and 1989.

Historical and current (1992) dissolved trace-element concentrations are reported herein for water that was collected, processed, and analyzed by using either ultraclean or other than ultraclean techniques. If ultraclean techniques were used, then those concentrations are reported in nanograms per liter. If other than ultraclean techniques were used, then those concentrations are reported in micrograms per liter and could reflect contamination introduced during some phase of the procedure.

Data Presentation

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

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

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

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

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

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

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

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

WATER RESOURCES DATA FOR OHIO, 1993

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

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

Remark Codes

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

PRINTED OUTPUT	REMARK
E	Estimated
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptable range (non-ideal colony count)
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted)
M	Presence of material verified but not quantified
D	Biological organism count equal to or greater than 15 percent (dominant)
&	Biological organism estimated as dominant

Records of Ground-Water Levels

Water-level data from a network of observation wells (as well as project wells) are given in this report. The network well data are intended to provide a sampling and historical record of water-level changes in the Nation's most important aquifers. Locations of the observation wells in this network in Ohio are shown in figure 9. Water-level data for specific projects are reported under those projects.

Data Collection and Computation

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

Tables of water-level data are presented by counties arranged in alphabetical order. The prime identification number for a given well is a 15-digit number that is based on latitude and longitude. The secondary identification number is the local well number, which is provided for local needs. Water-level measurements in this report are given in feet with reference to land-surface datum (LSD). Land-surface datum is a datum plane that is approximately at land surface at each well. If known, the altitude of the land-surface datum above National Geodetic Vertical Datum of 1929 is given in each well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description.

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

Data Presentation

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

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

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

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

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

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

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

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

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

Records of Ground-Water Quality

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

Data Collection and Computation

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

Most methods for collecting and analyzing water samples are described in the TWRI manuals listed on p. 24. The data presented in this report represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. All samples were obtained by trained personnel. The wells sampled were pumped long enough to assure that the water collected came directly from aquifer and had not stood for a long time in the well casing where it would have been exposed to the atmosphere and the material comprising the casings

Data Presentation

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

ACCESS TO WATSTORE DATA

The U.S. Geological Survey is the principal Federal water-data agency and, as such, collects and disseminates about 70 percent of the water data currently being used by numerous State, local, private, and other Federal agencies to develop and manage our water resources. As part of the Geological Survey's program of releasing water data to the public, a large-scale computerized system has been developed for the storage and retrieval of water data collected through its activities. The National Water Data Storage and Retrieval System (WATSTORE) was established in 1972 to provide an effective and efficient means for the processing and maintenance of water data collected through the activities of the U.S. Geological Survey and to facilitate release of the data to the public. A variety of useful products, ranging from data tables to complex statistical analyses such as Log Pearson Type III, can be produced using WATSTORE. The system resides on the central computer facilities of the U.S. Geological Survey at its National Center in Reston, Virginia, and consists of related files and data bases.

- Station Header File - Contains descriptive information on more than 440,000 sites throughout the United States and its territories where the U.S. Geological Survey collects or has collected data.
- Daily Values File - Contains more than 220 million daily values of stream flows, stages, reservoir contents, water temperatures, specific conductances, sediment concentrations, sediment discharges, and ground-water levels.
- Peak Flow File - Contains approximately 500,000 maximum (peak) streamflow and gage-height values at surface-water sites.
- Water Quality File - Contains approximately 2 million analyses of water samples that describe the chemical, physical, biological, and radio-chemical characteristics of both surface and ground water.
- Ground-Water Site Inventory Data Base - Contains inventory data for more than 900,000 wells, springs, and other sources of ground water. The data includes site location, geohydrologic characteristics, well-construction history, and one-time field measurements such as water temperature.

In 1976, the U.S. Geological Survey opened WATSTORE to the public for direct access. The signing of a Memorandum of Agreement with the Survey is required to obtain direct access to WATSTORE. The system can be accessed either synchronously or asynchronously. The requestor will be expected to pay all computer costs he/she incurs. Direct access may be obtained by contacting:

U.S. Geological Survey
National Water Data Exchange
421 USGS National Center
Reston, Virginia 22092

In addition to providing direct access to WATSTORE, data can be provided in various machine-readable formats on magnetic tape or 5-1/4 inch floppy disk; and, as noted in the introduction, on CD-ROM discs. Beginning with the 1990 water year, all water-data reports will also be available on Compact Disc - Read Only Memory (CD-ROM). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each of the Water Resources Division's District offices. (See address on the back of the title page.) A limited number of CD-ROM discs will be available for sale by the Books and Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, Colorado 80225.

DEFINITION OF TERMS

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

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

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

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

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

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

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

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

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

Fecal coliform bacteria are bacteria that are present in the intestine or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory, they are defined as all organisms that produce blue colonies within 24 hours when incubated at 44°C + 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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

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

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

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

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m), and periphyton and benthic organisms in grams per square meter (g/m²).

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

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

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

Bottom material: See Bed material.

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

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

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

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

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

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

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

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

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

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

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

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

Instantaneous discharge is the discharge at a particular instant of time

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

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

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

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

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

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

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

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

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

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

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

Mean Sea Level (MSL) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

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

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

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

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

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

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

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

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

Organism is any living entity.

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

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

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

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

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

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

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

The classification is as follows:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Milligrams of carbon per area or volume per unit time [$\text{mg C}/(\text{m}^2 \text{ or } \text{M}^3/\text{time})$] for periphyton and macrophytes and for phytoplankton are units for expressing primary productivity. They define the amount of carbon dioxide consumed as measured by radioactive carbon (carbon 14). The carbon 14 method is of greater sensitivity than the oxygen light and dark bottle method, and is preferred for use in unenriched waters. Unit time may be the hour or day, depending on the incubation period.

Milligrams of oxygen per area or volume per unit time [$\text{mg O}_2/(\text{m}^2/\text{time})$] for periphyto and macrophytes and $\text{mg O}_2/(\text{m}^3/\text{time})$ for phytoplankton are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Substrate is the physical surface upon which an organism lives.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

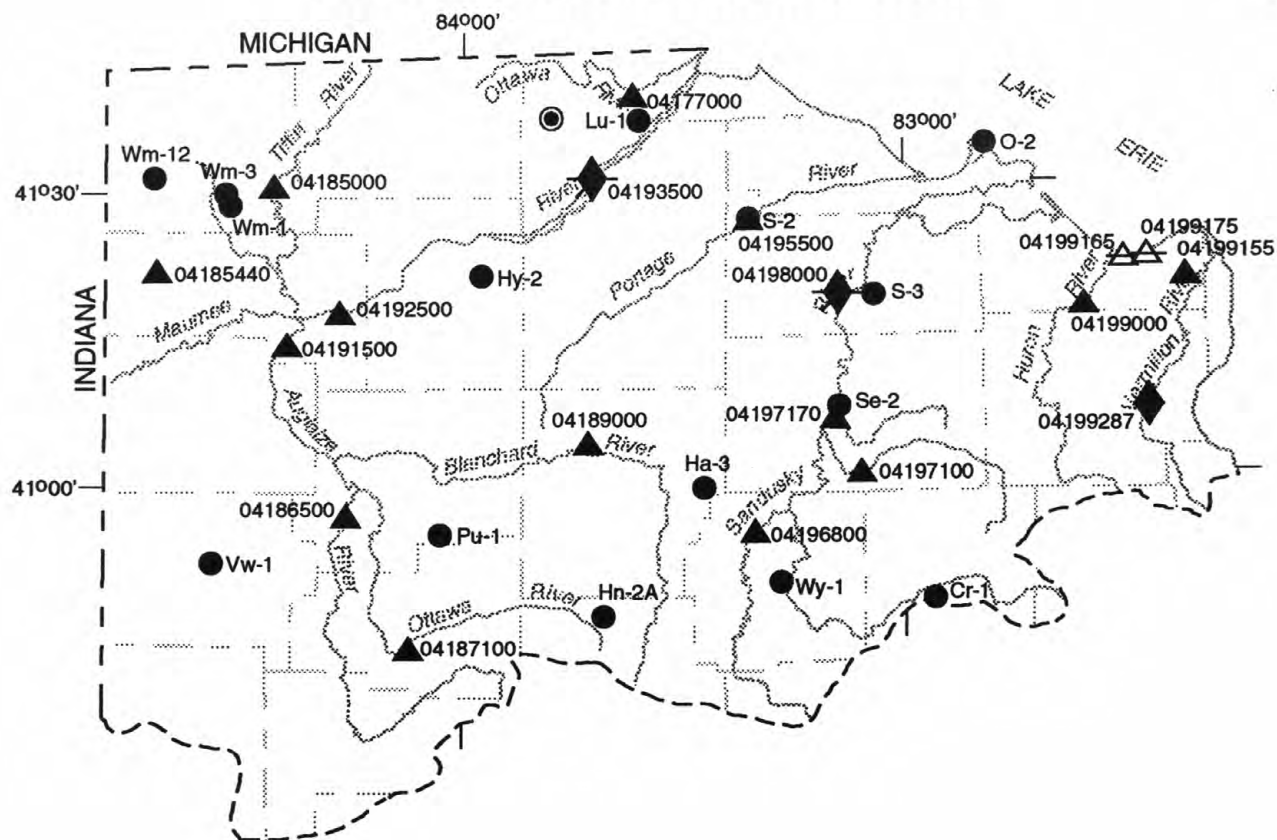
Water year in Geological Survey reports dealing with surface-water supply is the 12-month period, October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1980, is called the "1980 water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

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

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

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

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



EXPLANATION

- SURFACE-WATER GAGING STATIONS**--Eight-digit number is downstream-order number
- ▲ Daily discharge
 - △ Stage
 - ▼ Water quality
 - ◆ Discharge and water quality
 - Chemical measurement
 - ▼ Biological measurement
 - ▼ Sediment measurement
- WELL AND LOCAL NUMBER**--Letter preceding hyphen is county code; number following hyphen is sequence number
- Observation well
 - ⊙ ROAD SALT AND GROUND-WATER PROJECT
 - 1 ground-water quality site
 - 1 water-level site

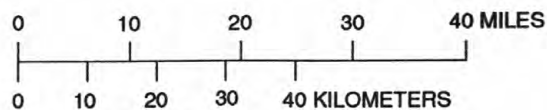
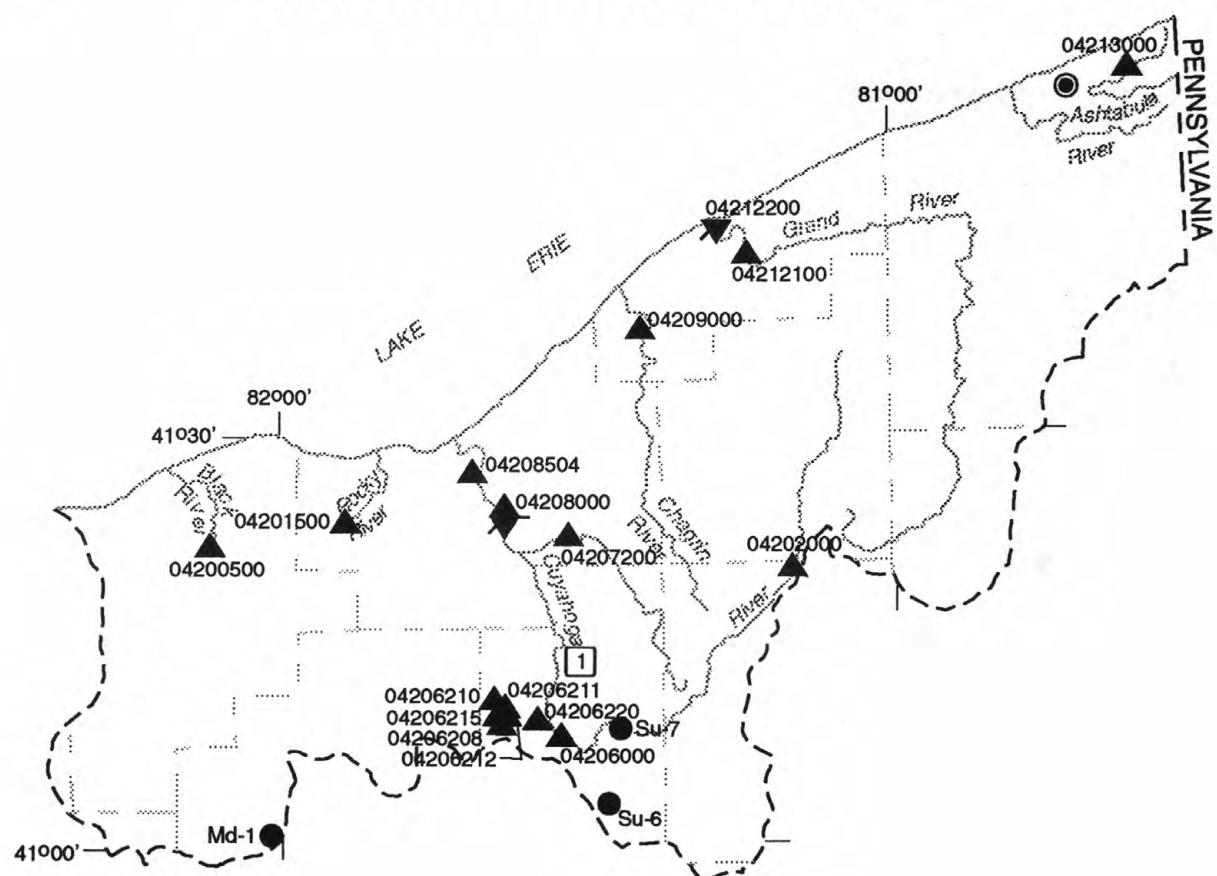


Figure 8a.--Location of data-collection stations.

WATER RESOURCES DATA FOR OHIO, 1993



EXPLANATION

- SURFACE-WATER GAGING STATIONS**--Eight-digit number is downstream-order number
- ▲ Daily discharge
 - ▼ Water quality
 - ◆ Discharge and water quality
 - ✱ Chemical measurement
 - ▼ Sediment measurement
- WELL AND LOCAL NUMBER**--Letter preceding hyphen is county code; number following hyphen is sequence number
- Observation well
 - ◎ ROAD SALT AND GROUND-WATER PROJECT
 - 1 ground-water quality site
 - 1 water-level site
 - 1 CUYAHOGA RIVER PROJECT
 - 8 surface-water quality sites

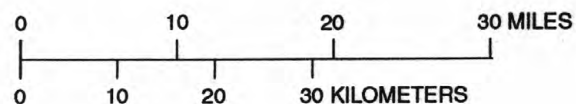
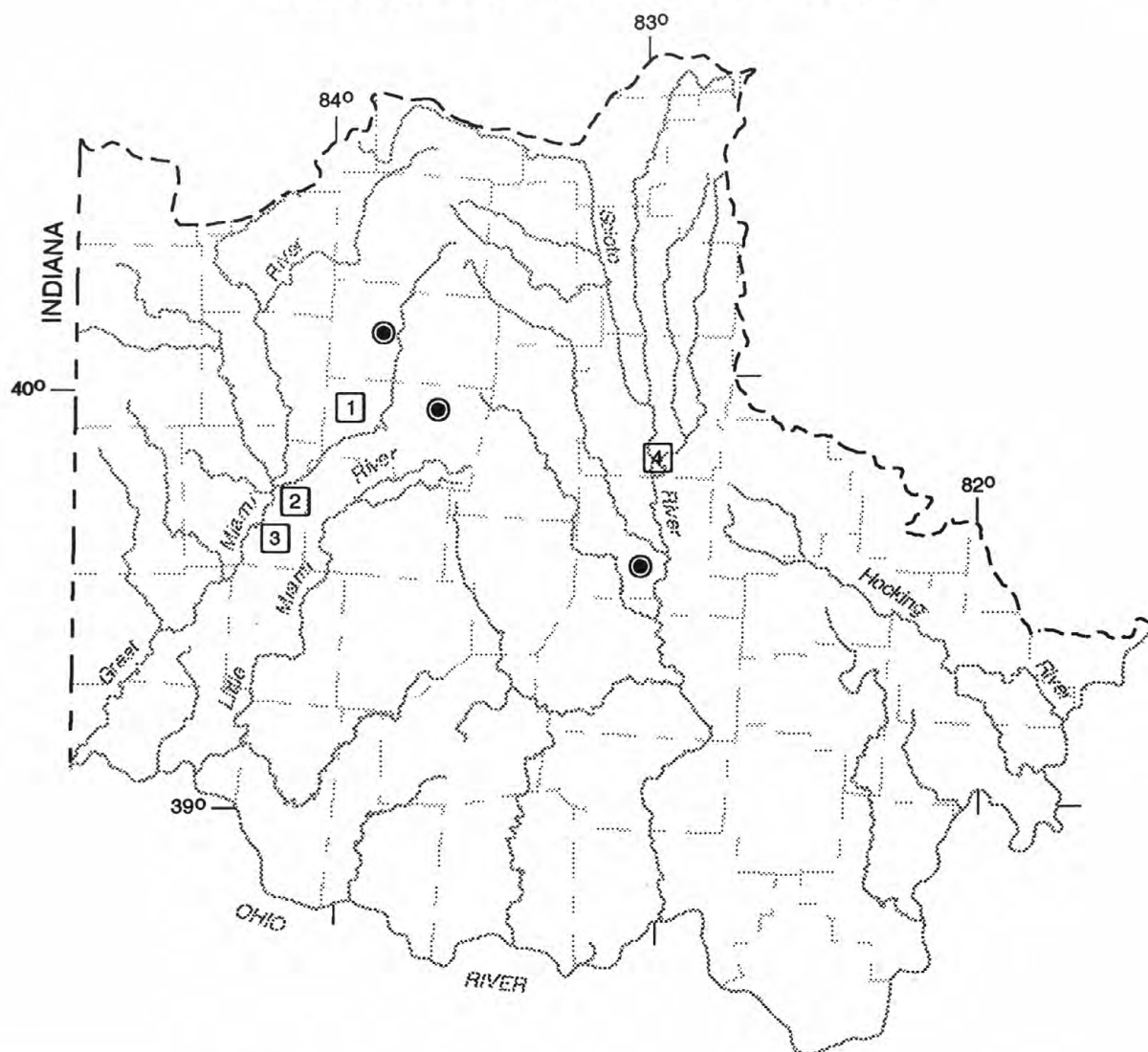


Figure 8b.--Location of data-collection stations.



EXPLANATION

- ROAD SALT AND GROUND WATER
3 ground-water quality sites
3 water-level sites
- 1 WRIGHT-PATTERSON AIR FORCE BASE
34 periodic water-level sites
4 daily water-level sites
- 2 U.S. ENVIRONMENTAL PROTECTION AGENCY-
DAYTON REGIONAL MODEL
152 synoptic ground-water level sites
108 surface-water measurement sites
- 3 DAYTON AREA REGIONAL GROUND-WATER-FLOW
MODEL AND ENVIRONMENTAL TRACER STUDY
39 ground-water quality sites
- 4 COLUMBUS WELL FIELD
44 periodic water-level sites
5 daily water-level sites
4 ground-water quality sites
2 surface-water quality sites

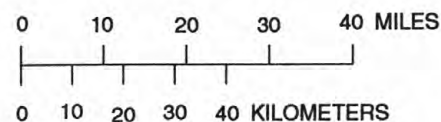


Figure 8c.--Location of data-collection stations for projects, Ohio River basin.

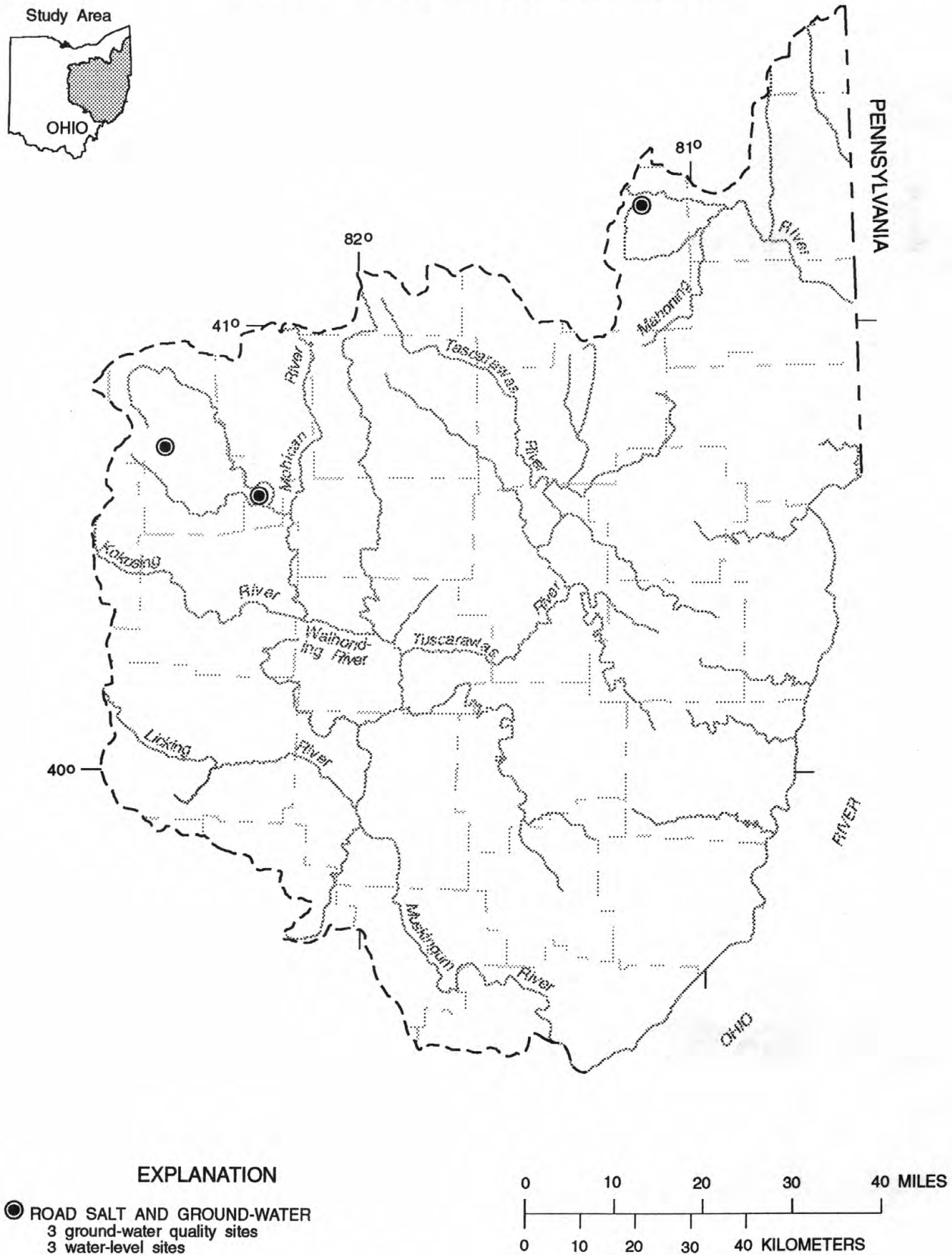


Figure 8d.--Location of data-collections stations for projects, Ohio River basin.

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

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

- 1-D1. *Water temperature--influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J. F. Ficken, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.
- 2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.
- 2-D2. *Application of seismic-refraction techniques to hydrologic studies*, by F. P. Haeni: USGS--TWRI Book 2, Chapter D2. 1988. 86 pages.
- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L.M. McCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.
- 2-E2. *Borehole geophysics applied to ground-water investigations*, by W. S. Keys: USGS--TWRI Book 2, Chapter E2. 1990. 150 pages.
- 2-F1. *Application of drilling, coring, and sampling techniques to test holes and wells*, by Eugene Shuter and W. E. Teasdale: USGS--TWRI Book 2, Chapter F1. 1989. 97 pages.
- 3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages.
- 3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.
- 3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.
- 3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.

- 3-A9. *Measurement of time of travel in streams by dye tracing*, by F. A. Kilpatrick and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1989. 27 pages.
- 3-A10. *Discharge ratings at gaging stations*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 pages.
- 3-A11. *Measurement of discharge by moving-boat method*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.
- 3-A12. *Fluorometric procedures for dye tracing*, by J. F. Wilson, Jr., E. D. Cobb, and F. A. Kilpatrick: USGS--TWRI Book 3, Chapter A12. 1986. 41 pages.
- 3-A13. *Computation of continuous records of streamflow*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A13. 1983. 53 pages.
- 3-A14. *Use of flumes in measuring discharge*, by F. A. Kilpatrick and V. R. Schneider: USGS--TWRI Book 3, Chapter A14. 1983. 46 pages.
- 3-A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS--TWRI Book 3, Chapter A15. 1984. 48 pages.
- 3-A16. *Measurement of discharge using tracers*, by F. A. Kilpatrick and E. D. Cobb: USGS--TWRI Book 3, Chapter A16. 1985. 52 pages.
- 3-A17. *Acoustic velocity meter systems*, by Antonius Laenen: USGS--TWRI Book 3, Chapter A17. 1985. 38 pages.
- 3-A18. *Determination of stream reaeration coefficients by use of tracers*, by F. A. Kilpatrick, R. E. Rathburn, Nobuhiro Yotsukura, G. W. Parker, and L. L. DeLong: USGS--TWRI Book 3, Chapter A18. 1989. 52 pages.
- 3-A19. *Levels of streamflow gaging stations*, by E.J. Kennedy: USGS--TWRI Book 3, Chapter A19. 1990. 27 pages.
- 3-B1. *Aquifer-test design, observation, and data analysis*, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.
- 3-B2. *Introduction to ground-water hydraulics, a programmed text for self-instruction*, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.
- 3-B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J. E. Reed: USGS--TWRI Book 3, Chapter B3. 1980. 106 pages.
- 3-B4. *Regression modeling of ground-water flow*, by R. L. Cooley and R. L. Naff: USGS--TWRI Book 3, Chapter B4. 1990. 232 pages.
- 3-B4. *Supplement 1. Regression modeling of ground-water flow - Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems*, by R. L. Cooley: USGS--TWRI Book 3, Chapter B4. 1993. 8 pages.
- 3-B5. *Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems--An introduction*, by O. L. Franke, T. E. Reilly, and G. D. Bennett: USGS--TWRI Book 3, Chapter B5. 1987. 15 pages.
- 3-B6. *The principle of superposition and its application in ground-water hydraulics*, by T. E. Reilly, O. L. Franke, and G. D. Bennett: USGS--TWRI Book 3, Chapter B6. 1987. 28 pages.
- 3-B7. *Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow*, by E. J. Wexler: USGS--TWRI Book 3, Chapter B7. 1992. 90 pages.
- 3-C1. *Fluvial sediment concepts*, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.
- 3-C2. *Field methods for measurement of fluvial sediment*, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.

- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.
- 4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.
- 4-A2. *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.
- 4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.
- 4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.
- 4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.
- 4-D1. *Computation of rate and volume of stream depletion by wells*, by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.
- 5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M.J. Fishman and L. C. Friedman: USGS--TWRI Book 5, Chapter A1. 1989. 545 pages.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.
- 5-A3. *Methods for the determination of organic substances in water and fluvial sediments*, edited by R. L. Wershaw, M. J. Fishman, R. R. Grabbe, and L. E. Lowe: USGS--TWRI Book 5, Chapter A3. 1987. 80 pages.
- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, by L. J. Britton and P. E. Greenson, editors: USGS--TWRI Book 5, Chapter A4. 1989. 363 pages.
- 5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L.L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.
- 5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments*, by L. C. Friedman and D. E. Erdmann: USGS--TWRI Book 5, Chapter A6. 1982. 181 pages.
- 5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.
- 6-A1. *A modular three-dimensional finite-difference ground-water flow model*, by M. G. McDonald and A. W. Harbaugh: USGS--TWRI Book 6, Chapter A1. 1988. 586 pages.
- 6-A2. *Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model*, by S. A. Leake and D. E. Prudic: USGS--TWRI Book 6, Chapter A2. 1991. 68 pages.
- 6-A3. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual*, by L. J. Torak: USGS--TWRI Book 6, Chapter A3. 1993. 136 pages.
- 6-A4. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions*, by R. L. Cooley: USGS--TWRI Book 6, Chapter A4. 1992. 108 pages.
- 6-A5. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 3: Design philosophy and programming details*, by L. J. Torak: USGS--TWRI Book 6, Chapter A5. 1993. 243 pages.
- 7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.

40 PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS--Continued

- 7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.
- 7-C3. *A model for simulation of flow in singular and interconnected channels*, by R. W. Schaffranek, R. A. Baltzer, and D. E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1981. 110 pages.
- 8-A1. *Methods of measuring water levels in deep wells*, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.
- 8-A2. *Installation and service manual for U.S. Geological Survey manometers*, by J. D. Craig: USGS--TWRI Book 8, Chapter A2. 1983. 57 pages.
- 8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

04177000 OTTAWA RIVER AT TOLEDO UNIVERSITY, TOLEDO, OH

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

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

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

REVISED RECORDS.--WSP 1307: Drainage area.

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

REMARKS.--Estimated daily discharges: Dec. 25-27, Feb. 5 to Mar. 3, Apr. 23 to May 4, 19-30, June 2-4, 9 to July 9. Records are fair, except for periods of estimated record, which are poor. Water-quality data collected at this site 1977.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	50	132	1800	114	28	844	110	29	35	7.7	15
2	25	529	116	1130	79	35	1420	94	26	35	8.3	166
3	24	1170	99	467	71	50	820	84	24	34	8.0	123
4	21	809	78	1060	66	360	440	76	22	33	17	40
5	19	398	71	2190	58	279	339	87	92	30	11	25
6	18	244	56	2000	49	191	272	483	254	27	7.7	62
7	18	144	53	1160	46	224	217	238	262	24	8.4	24
8	18	93	50	512	42	370	179	122	334	22	9.0	17
9	78	65	45	349	39	608	219	78	690	21	7.8	16
10	38	56	50	238	37	764	639	62	720	20	11	17
11	48	94	66	186	35	548	556	48	660	25	15	15
12	39	503	77	189	34	413	324	39	500	28	9.7	14
13	35	1550	114	282	32	339	233	39	230	14	7.5	15
14	166	1590	203	318	31	216	181	30	150	15	7.7	9.5
15	549	788	196	260	30	197	192	28	80	14	7.3	42
16	911	415	206	208	29	210	496	27	70	12	6.8	11
17	661	302	184	177	29	485	572	24	60	11	7.4	6.2
18	313	232	134	120	28	582	290	23	50	10	13	2.7
19	150	175	103	117	27	412	228	21	45	16	12	2.9
20	80	150	146	83	27	405	282	20	54	12	18	7.2
21	58	152	165	285	27	670	299	19	100	10	9.3	7.2
22	43	281	125	966	27	1110	194	18	210	8.8	5.9	7.0
23	32	872	95	876	26	1580	160	18	150	8.6	5.6	9.3
24	29	993	71	609	26	1910	140	18	100	8.2	8.0	7.7
25	30	508	60	592	26	1850	170	19	70	44	7.6	25
26	27	401	50	335	26	1490	270	19	54	22	7.4	39
27	21	318	42	255	25	1050	330	18	54	16	6.8	49
28	19	243	40	197	25	782	300	17	45	11	8.3	27
29	18	189	41	181	---	626	190	16	40	8.3	16	19
30	15	154	249	112	---	462	140	12	37	7.7	15	27
31	14	---	1520	132	---	385	---	42	---	9.1	18	---
TOTAL	3547	13468	4637	17386	1111	18631	10936	1949	5212	591.7	308.2	847.7
MEAN	114	449	150	561	39.7	601	365	62.9	174	19.1	9.94	28.3
MAX	911	1590	1520	2190	114	1910	1420	483	720	44	18	166
MIN	14	50	40	83	25	28	140	12	22	7.7	5.6	2.7
CFSM	.76	2.99	1.00	3.74	.26	4.01	2.43	.42	1.16	.13	.07	.19
IN.	.88	3.34	1.15	4.31	.28	4.62	2.71	.48	1.29	.15	.08	.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1993, BY WATER YEAR (WY)

	MEAN	72.4	115	153	115	158	301	249	137	129	56.8	30.7	45.4
MAX	407	449	380	561	467	729	438	358	437	264	143	406	
(WY)	1987	1993	1978	1993	1990	1978	1977	1945	1989	1992	1980	1981	
MIN	.85	3.04	6.14	4.92	30.4	56.0	20.4	21.4	7.36	8.46	.82	.13	
(WY)	1947	1947	1947	1977	1978	1989	1946	1988	1988	1984	1946	1946	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1945 - 1993

ANNUAL TOTAL	60456.6		78624.6										
ANNUAL MEAN	165		215										
HIGHEST ANNUAL MEAN													
LOWEST ANNUAL MEAN													
HIGHEST DAILY MEAN	1590	Nov 14	2190	Jan 5	3500	Mar 14	1982						
LOWEST DAILY MEAN	9.6	Aug 23	2.7	Sep 18	.00	Aug 24	1945						
ANNUAL SEVEN-DAY MINIMUM	13	Aug 20	6.1	Sep 17	.00	Aug 24	1945						
INSTANTANEOUS PEAK FLOW			2250	Jan 5	a	3950	Mar 14	1982					
INSTANTANEOUS PEAK STAGE			11.91	Jan 5		14.54	Mar 14	1982					
INSTANTANEOUS LOW FLOW			2.7	Sep 18		.00	Sep 19	1945					
ANNUAL RUNOFF (CFSM)	1.10		1.44			.87							
ANNUAL RUNOFF (INCHES)	14.99		19.50			11.79							
10 PERCENT EXCEEDS	449		608			328							
50 PERCENT EXCEEDS	70		58			42							
90 PERCENT EXCEEDS	19		9.9			7.0							

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

STREAMS TRIBUTARY TO LAKE ERIE

04185000 TIFFIN RIVER AT STRYKER, OH

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

DRAINAGE AREA.--410 mi².

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

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

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

REMARKS.--Estimated daily discharges: Dec. 23-29, Feb. 4 to Mar. 3. Records fair, except those for estimated discharges, which are poor. Small diversion 12.5 mi upstream from gage for municipal supply of Archbold. Diversion averaged 2.89 ft³/s is returned as sewage to Brush Creek which flows into Tiffin River about 15 mi downstream from station. Water-quality data collected at this site 1965 to 1977. Sediment data collected 1969 to 1974.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	89	168	437	3640	400	115	2160	340	102	118	32	38
2	81	995	376	3410	339	130	2210	307	96	119	31	47
3	75	1560	339	2780	298	190	2160	282	93	116	29	108
4	69	1790	310	3290	255	753	2010	275	87	107	29	162
5	67	1850	289	4470	225	1020	1720	702	124	97	29	127
6	65	1600	261	4790	200	1060	1350	990	226	86	27	85
7	63	1090	242	4270	185	799	940	897	226	78	27	96
8	61	619	230	3460	175	901	674	540	762	77	28	96
9	112	396	215	2700	165	1340	586	358	1140	75	28	70
10	205	320	213	2120	155	1570	911	295	1330	84	28	54
11	222	330	222	1750	150	1590	1030	259	1390	89	30	46
12	186	898	225	1360	145	1360	935	233	1140	125	32	41
13	159	2280	293	941	140	883	705	208	576	258	31	38
14	241	2800	380	747	140	491	554	185	311	158	33	36
15	450	2900	390	632	135	411	468	170	255	135	31	53
16	835	2510	484	542	130	407	630	157	220	105	29	98
17	1050	2030	579	472	130	940	761	145	188	85	26	105
18	1100	1550	499	401	125	1140	658	141	164	75	26	75
19	918	1020	391	351	125	1100	504	139	147	263	27	59
20	591	639	369	347	120	830	542	135	254	192	32	50
21	419	480	393	425	125	968	693	128	545	118	39	45
22	350	568	338	1020	125	1270	695	121	580	95	34	42
23	303	1520	275	1270	120	1880	544	117	402	74	28	42
24	270	1830	230	1510	120	2600	412	120	252	63	28	39
25	244	2110	180	1530	120	2960	625	127	189	55	29	38
26	221	1990	175	1340	120	3050	993	123	169	53	31	41
27	203	1670	170	920	115	2830	1020	114	178	51	29	49
28	185	1250	170	583	115	2600	741	107	143	45	26	75
29	172	833	180	482	---	2390	479	103	131	41	24	116
30	158	569	578	360	---	2230	384	98	121	37	26	117
31	147	---	3500	370	---	2060	---	103	---	34	31	---
TOTAL	9311	40165	12933	52283	4697	41868	28094	8019	11541	3108	910	2088
MEAN	300	1339	417	1687	168	1351	936	259	385	100	29.4	69.6
MAX	1100	2900	3500	4790	400	3050	2210	990	1390	263	39	162
MIN	61	168	170	347	115	115	384	98	87	34	24	36

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 1993, BY WATER YEAR (WY)

	MEAN	111	230	377	391	538	800	659	378	238	157	63.3	66.8
MAX	887	1339	1785	1687	1569	2563	1990	2112	1422	761	389	460	
(WY)	1987	1993	1928	1993	1976	1982	1950	1943	1989	1943	1980	1981	
MIN	10.2	14.6	18.4	20.2	21.9	135	106	74.4	24.1	13.7	9.76	7.40	
(WY)	1964	1954	1964	1963	1963	1964	1946	1925	1988	1988	1941	1953	

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1922 - 1993	
ANNUAL TOTAL	148622		215017			
ANNUAL MEAN	406		589		333	
HIGHEST ANNUAL MEAN					671	
LOWEST ANNUAL MEAN					59.6	
HIGHEST DAILY MEAN	3500	Dec 31	4790	Jan 6	7640	Mar 15 1982
LOWEST DAILY MEAN	38	Jul 5	24	Aug 29	2.5	Jul 18 1988
ANNUAL SEVEN-DAY MINIMUM	45	Jun 29	28	Aug 24	3.6	Jul 7 1988
INSTANTANEOUS PEAK FLOW			4870	Jan 6 a	7800	Mar 15 1982
INSTANTANEOUS PEAK STAGE			15.70	Jan 6	18.36	Mar 15 1982
INSTANTANEOUS LOW FLOW			24	Aug 29	2.5	Jul 18 1988
10 PERCENT EXCEEDS	996		1690		925	
50 PERCENT EXCEEDS	216		230		122	
90 PERCENT EXCEEDS	76		39		23	

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

04185440 UNNAMED TRIBUTARY TO LOST CREEK NR FARMER, OH

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

DRAINAGE AREA.--4.23 mi².

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

GAGE.--Water-stage recorder. Elevation of gage is 760 ft above sea level from topographic map.

REMARKS.--Estimated discharges: Dec. 10, 12-15, 22-28, Jan. 8-12, 14-18, 24 to Mar. 6, 12-14, 20-22, 25-29, May 17, June 17, July 20 to Aug. 4. Records fair, except estimated discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.31	22	1.5	11	1.2	.45	47	1.3	.71	4.4	.12	.07
2	.26	66	1.4	6.2	1.0	1.1	11	1.1	.70	5.1	.10	.87
3	.22	16	1.7	26	.94	2.5	4.8	1.1	1.1	3.5	.09	1.5
4	.20	7.6	1.3	176	.86	8.0	3.3	1.4	1.4	2.6	.08	.62
5	.18	4.6	1.0	51	.77	5.3	2.8	20	2.2	2.1	.08	.12
6	.17	3.1	.85	12	.70	4.5	2.4	3.6	3.1	1.7	.08	.95
7	.17	2.5	.81	7.7	.64	14	2.2	1.8	6.8	1.6	.10	.70
8	.41	2.1	.73	6.0	.60	37	2.1	1.2	13	2.4	.10	.13
9	27	1.6	.69	4.5	.57	31	9.9	.97	16	1.7	.09	.10
10	3.6	1.5	.67	3.0	.54	16	18	.82	9.0	2.3	.10	.10
11	2.6	11	.81	2.5	.52	7.8	4.2	3.1	4.1	2.0	.10	.09
12	1.4	118	.94	2.1	.50	6.8	3.9	1.8	2.0	3.5	.09	.09
13	.78	34	1.4	4.6	.48	5.0	2.9	.82	1.1	1.8	.09	.08
14	1.4	7.9	2.0	4.4	.47	2.5	2.3	.66	.72	1.8	.08	.08
15	3.1	5.1	2.9	3.0	.46	1.8	3.9	.53	.50	2.0	.08	3.2
16	13	3.5	29	2.2	.45	9.4	23	.66	.46	2.1	.08	.59
17	4.0	2.4	6.7	1.8	.45	33	4.8	.64	.52	1.1	.07	.17
18	1.7	1.9	3.8	1.6	.45	10	2.9	.63	.24	1.5	.07	.11
19	.97	1.6	2.5	1.5	.45	3.6	3.8	.61	.21	1.3	.07	.10
20	1.1	1.5	7.0	1.5	.44	7.0	9.3	.64	.72	1.6	.06	.09
21	4.2	2.1	2.2	18	.44	11	3.3	.89	4.2	1.1	.06	.09
22	1.8	62	1.3	37	.43	24	2.1	1.2	4.0	.78	.06	.09
23	1.1	61	1.0	14	.43	88	1.6	.84	2.6	.62	.06	.09
24	.88	10	.96	11	.44	27	1.4	.70	2.0	.51	.06	.09
25	.68	6.4	.76	5.8	.45	16	45	.60	4.1	.44	.06	.10
26	.56	4.8	.62	3.0	.43	10	8.6	.55	4.5	.43	.06	.11
27	.48	3.0	.56	2.0	.43	7.0	3.6	.63	3.8	.39	.05	.94
28	.42	2.3	.54	4.3	.42	5.0	2.3	.70	3.3	.33	.05	1.6
29	.36	2.0	1.0	2.5	---	4.5	1.8	.78	3.0	.27	.05	.36
30	.34	1.8	87	1.7	---	4.3	1.8	.92	3.1	.20	.05	.25
31	.32	---	89	1.5	---	4.0	---	.74	---	.16	.06	---
TOTAL	73.71	469.3	252.64	429.4	15.96	407.55	236.0	51.93	99.18	51.33	2.35	13.48
MEAN	2.38	15.6	8.15	13.9	.57	13.1	7.87	1.68	3.31	1.66	.076	.45
MAX	27	118	89	176	1.2	88	47	20	16	5.1	.12	3.2
MIN	.17	1.5	.54	1.5	.42	.45	1.4	.53	.21	.16	.05	.07
CFSM	.56	3.70	1.93	3.27	.13	3.11	1.86	.40	.78	.39	.02	.11
IN.	.65	4.13	2.22	3.78	.14	3.58	2.08	.46	.87	.45	.02	.12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1993, BY WATER YEAR (WY)

	1986	1987	1988	1989	1990	1991	1992	1993
MEAN	4.56	6.57	8.63	5.84	7.75	7.67	7.04	3.22
MAX	12.6	15.6	23.9	13.9	21.2	13.9	14.1	10.9
(WY)	1987	1993	1991	1993	1990	1986	1991	1992
MIN	.14	1.53	.11	1.68	.57	3.59	1.92	.26
(WY)	1990	1990	1990	1988	1993	1989	1987	1988

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1986 - 1993
ANNUAL TOTAL	1790.33	2102.83	
ANNUAL MEAN	4.89	5.76	4.78
HIGHEST ANNUAL MEAN			5.87
LOWEST ANNUAL MEAN			3.44
HIGHEST DAILY MEAN	118 Nov 12	176 Jan 4	244 Feb 22 1990
LOWEST DAILY MEAN	.04 Aug 31	.05 Aug 27	.00 Aug 3 1987
ANNUAL SEVEN-DAY MINIMUM	.06 Aug 20	.05 Aug 24	.00 Aug 3 1987
INSTANTANEOUS PEAK FLOW		368 Dec 30	757 Oct 3 1987
INSTANTANEOUS PEAK STAGE		4.68 Dec 30 a	5.74 Oct 3 1987
INSTANTANEOUS LOW FLOW		.05 Aug 27	.00 Jul 27 1991
ANNUAL RUNOFF (CFSM)	1.16	1.36	1.13
ANNUAL RUNOFF (INCHES)	15.74	18.49	15.37
10 PERCENT EXCEEDS	11	11	10
50 PERCENT EXCEEDS	1.4	1.5	.78
90 PERCENT EXCEEDS	.19	.10	.06

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

STREAMS TRIBUTARY TO LAKE ERIE

04186500 AUGLAIZE RIVER NEAR FORT JENNINGS, OH

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

DRAINAGE AREA.--332 mi².

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

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

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

REMARKS.--Estimated daily discharges: Nov. 22 to Dec. 8, 26-29, Feb. 18-20, 24 to Mar. 3. Records good, except those for estimated periods which are poor. Beginning Jan. 4, 1971, water was diverted at a point 24.3 mi upstream from station into Lake Bresler. Storage in Lake Bresler is available for low-flow augmentation and water supply of city of Lima, in Ottawa River basin. Net withdrawal totaled 4,554 mil gal, equivalent to a mean withdrawal of 19.3 ft³/s. No releases have been made for low-flow augmentation. Some diversion from Grand Lake to Auglaize River basin through Miami and Erie Canal into Jennings Creek at a point 9.2 mi upstream from station. Annual figures of runoff are considered to be within 10 percent of natural yield. Sediment data collected at this site 1970 to 1974. Water-quality data collected at this site 1968 to 1978. National Weather Service gage height Handar telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	66	170	275	163	150	555	132	163	667	26	21
2	58	1120	160	244	116	200	969	135	123	1750	22	17
3	56	2120	150	200	98	350	632	122	87	4800	40	23
4	51	1260	140	1230	100	1280	406	112	70	6770	42	34
5	47	556	120	2910	81	3040	308	109	60	2640	30	28
6	46	312	120	3080	74	2080	255	90	64	555	24	30
7	43	207	110	1420	69	1200	199	85	67	308	38	28
8	42	155	100	573	81	1950	156	67	192	226	31	22
9	47	116	92	372	66	2460	167	61	453	138	30	18
10	49	93	93	253	63	1790	1410	58	470	126	36	16
11	50	118	113	193	66	1420	2050	57	237	259	38	16
12	52	1710	132	144	62	1180	870	81	110	1310	41	16
13	53	4240	137	284	162	803	454	114	75	1140	47	17
14	50	4090	139	977	332	538	337	135	64	441	37	17
15	53	1940	145	686	257	515	361	86	57	265	33	18
16	252	672	126	357	187	392	1660	62	63	168	31	20
17	682	398	119	241	143	473	2230	63	55	117	29	17
18	423	277	107	200	120	572	838	65	43	100	29	14
19	222	213	111	185	110	440	472	62	36	779	30	14
20	126	168	144	195	140	341	418	62	34	3310	30	14
21	98	142	193	201	194	385	445	58	59	2470	28	13
22	80	1500	158	1370	317	657	303	54	61	427	28	13
23	74	3500	135	1580	544	1180	222	54	95	233	32	13
24	83	2000	113	1260	270	2070	203	58	70	148	26	12
25	78	1000	81	1500	220	1310	381	59	54	95	23	9.9
26	73	600	74	760	190	638	552	64	92	71	22	19
27	69	450	66	417	160	436	318	61	223	60	21	23
28	65	300	64	287	150	362	234	57	579	50	21	33
29	60	220	62	250	---	299	173	64	1750	43	20	27
30	58	180	118	208	---	257	134	57	1060	37	19	16
31	55	---	232	181	---	228	---	98	---	31	19	---
TOTAL	3256	29723	3824	22033	4535	28996	17712	2442	6566	29534	923	578.9
MEAN	105	991	123	711	162	935	590	78.8	219	953	29.8	19.3
MAX	682	4240	232	3080	544	3040	2230	135	1750	6770	47	34
MIN	42	66	62	144	62	150	134	54	34	31	19	9.9
CFSM	.32	2.98	.37	2.14	.49	2.82	1.78	.24	.66	2.87	.09	.06
IN.	.36	3.33	.43	2.47	.51	3.25	1.98	.27	.74	3.31	.10	.06

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 1993, BY WATER YEAR (WY)

	MEAN	78.1	177	310	432	475	613	509	286	243	174	73.6	90.2
MAX	782	1286	1283	2184	1555	2112	1874	1237	1142	1652	477	1090	
(WY)	1927	1973	1991	1950	1950	1978	1957	1943	1981	1992	1979	1926	
MIN	5.44	13.4	11.9	8.23	23.6	81.3	51.3	28.7	13.6	20.4	8.10	5.78	
(WY)	1989	1957	1977	1977	1964	1981	1971	1934	1988	1965	1991	1991	

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1921 - 1993
ANNUAL TOTAL	163858	150122.9	
ANNUAL MEAN	448	411	288
HIGHEST ANNUAL MEAN			537
LOWEST ANNUAL MEAN			65.3
HIGHEST DAILY MEAN	12000	6770	12000
LOWEST DAILY MEAN	30	9.9	.71
ANNUAL SEVEN-DAY MINIMUM	39	13	1.2
INSTANTANEOUS PEAK FLOW		7880	12800
INSTANTANEOUS PEAK STAGE		16.77	20.30
INSTANTANEOUS LOW FLOW		9.9	.71
ANNUAL RUNOFF (CFSM)	1.35	1.24	.87
ANNUAL RUNOFF (INCHES)	18.36	16.82	11.79
10 PERCENT EXCEEDS	972	1260	690
50 PERCENT EXCEEDS	117	132	74
90 PERCENT EXCEEDS	47	28	18

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

STREAMS TRIBUTARY TO LAKE ERIE

45

04187100 OTTAWA RIVER AT LIMA, OH

LOCATION.--Lat 40°43'29", long 84°07'35", Allen County, Hydrologic Unit 04100007, on right bank, 70 ft downstream of Erie Lackawanna RR bridge, 300 ft upstream of bridge to Lima STP, 0.7 mi downstream from Collett Street at Lima, Ohio.

DRAINAGE AREA.--128 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 820.00 ft above sea level.

REMARKS.--Estimated daily discharges: Oct. 2 to Feb. 9, 16-21, 25 to Mar. 2, 11-16. Records fair, except those for periods of estimated record, which are poor. Water diverted upstream of gage for City of Lima and Sohio Chemical Co. Water is returned to stream below gage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	63	56	210	50	33	634	43	28	331	11	6.5
2	19	400	45	130	42	37	485	36	27	888	5.0	7.8
3	19	900	40	140	52	299	170	37	28	2050	6.6	21
4	19	560	42	900	42	1260	94	40	26	877	9.2	8.4
5	19	300	54	1400	35	1140	71	41	29	137	4.1	7.1
6	20	160	44	890	31	624	59	36	26	44	6.3	7.4
7	22	120	39	400	29	598	43	30	34	28	9.5	6.1
8	25	98	38	200	27	1040	39	33	98	29	9.2	4.5
9	45	80	40	160	25	933	175	32	160	30	16	1.6
10	35	76	45	130	25	669	1180	32	101	29	7.4	2.0
11	27	250	52	110	25	500	711	35	38	162	4.4	3.2
12	52	700	60	100	49	200	177	31	36	719	4.3	5.0
13	240	1800	76	330	120	120	89	34	26	308	4.4	7.2
14	420	1600	88	540	89	94	74	21	17	95	5.6	1.7
15	200	800	82	350	54	80	138	20	14	71	9.6	3.7
16	121	250	87	170	41	70	842	19	14	47	7.3	7.7
17	86	170	90	135	36	472	291	18	12	34	4.0	7.3
18	70	130	74	97	33	365	111	18	15	36	4.5	7.7
19	56	120	64	76	32	145	85	19	15	113	9.8	4.7
20	48	100	100	72	31	229	84	19	19	39	8.1	7.6
21	43	88	110	170	35	578	62	19	42	18	2.9	7.0
22	53	170	90	840	178	403	47	17	53	16	2.2	7.1
23	45	1200	70	740	168	886	39	23	21	17	3.9	7.3
24	38	1250	55	650	88	1020	35	24	12	16	8.5	7.8
25	34	800	43	500	74	604	54	31	30	15	8.5	41
26	31	300	34	230	56	227	66	29	37	13	8.0	32
27	28	220	31	115	45	139	46	27	41	9.4	7.5	13
28	26	150	30	125	39	102	33	31	89	4.5	2.4	15
29	26	100	29	84	---	83	27	30	125	7.8	1.7	10
30	25	74	130	90	---	71	37	30	102	7.4	4.0	9.5
31	30	---	440	64	---	68	---	54	---	13	8.2	---
TOTAL	1950	13029	2278	10148	1551	13089	5998	909	1315	6204.1	204.1	277.9
MEAN	62.9	434	73.5	327	55.4	422	200	29.3	43.8	200	6.58	9.26
MAX	420	1800	440	1400	178	1260	1180	54	160	2050	16	41
MIN	19	63	29	64	25	33	27	17	12	4.5	1.7	1.6

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1993, BY WATER YEAR (WY)

MEAN	55.5	108	142	138	150	131	179	93.5	59.6	144	41.2	79.9
MAX	192	434	586	327	425	422	237	208	195	444	134	346
(WY)	1991	1993	1991	1993	1990	1993	1992	1990	1990	1992	1990	1992
MIN	5.58	5.56	5.01	12.2	18.9	42.5	98.3	22.3	7.44	7.85	6.58	6.14
(WY)	1989	1992	1992	1992	1989	1992	1991	1991	1988	1991	1993	1988

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1988 - 1993	
ANNUAL TOTAL	56142.0		56953.1		115	
ANNUAL MEAN	153		156		156	
HIGHEST ANNUAL MEAN					56.5	
LOWEST ANNUAL MEAN					1989	
HIGHEST DAILY MEAN	2670	Sep 6	2050	Jul 3	3860	Dec 30 1990
LOWEST DAILY MEAN	2.0	Feb 12	1.6	Sep 9	.18	Jun 12 1988
ANNUAL SEVEN-DAY MINIMUM	2.3	Feb 8	3.5	Sep 9	1.7	Dec 22 1991
INSTANTANEOUS PEAK FLOW			2140	Jul 3	4590	Dec 30 1990
INSTANTANEOUS PEAK STAGE			14.29	Jul 3	18.63	Dec 30 1990
INSTANTANEOUS LOW FLOW			1.6	Sep 9	.18	Jun 12 1988
10 PERCENT EXCEEDS	424		500		224	
50 PERCENT EXCEEDS	38		43		28	
90 PERCENT EXCEEDS	7.0		7.4		5.0	

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

STREAMS TRIBUTARY TO LAKE ERIE

04189000 BLANCHARD RIVER NEAR FINDLAY, OH

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

DRAINAGE AREA.--346 mi².

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

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

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

REMARKS.--Estimated daily discharges: Dec. 26-29, Feb. 15-20, 24-28, June 11-18. Records good except estimated discharges, which are fair. Water is diverted upstream from station into Findlay Reservoir. Storage in Findlay Reservoir used for water supply of city of Findlay, and is available for low-flow augmentation. All water returns to stream upstream from station. No releases have been made for low-flow augmentation. Sediment data collected at this site 1970-74. Water-quality data collected at this site 1968 to 1980.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	107	165	223	567	213	158	1710	166	116	173	27	24
2	97	1630	208	333	156	204	1490	151	81	360	27	23
3	87	2330	210	356	145	530	805	145	65	967	28	35
4	79	1650	192	2600	146	2190	438	139	60	779	53	26
5	70	649	170	3570	136	2930	349	149	63	368	36	22
6	66	426	146	2740	131	2400	293	130	57	193	29	22
7	63	322	141	1340	110	1500	253	118	94	136	27	22
8	63	256	132	545	120	2620	229	107	531	109	25	22
9	125	215	119	413	109	2460	313	99	2280	83	25	22
10	85	202	134	328	105	1640	2480	95	1980	72	25	23
11	69	554	158	271	101	884	2020	89	400	95	26	22
12	155	2510	176	258	169	872	945	86	270	602	31	21
13	660	4700	208	908	321	721	438	81	200	382	37	21
14	1070	4110	224	1360	311	415	356	73	160	176	28	22
15	537	2250	207	799	200	316	340	68	200	114	24	22
16	308	588	219	433	140	317	803	62	180	83	24	21
17	231	431	227	343	120	957	656	59	130	64	24	21
18	213	351	182	265	110	819	395	56	80	51	23	21
19	205	289	158	194	120	482	312	56	69	51	23	20
20	194	250	257	182	140	540	293	55	80	46	23	21
21	191	254	280	410	172	1040	267	53	283	40	22	22
22	189	554	214	2110	358	999	225	50	270	37	22	22
23	185	2990	171	1840	443	1900	200	52	151	36	22	22
24	174	3090	143	1670	250	2850	190	54	92	31	23	22
25	161	1830	104	1560	210	1980	460	51	78	29	23	27
26	143	721	90	703	170	808	359	47	498	31	23	71
27	129	486	82	403	150	508	257	45	261	31	23	29
28	115	373	76	325	140	411	215	45	144	31	23	28
29	107	299	76	301	---	353	188	99	104	27	23	25
30	99	254	375	235	---	309	184	134	121	26	22	27
31	89	---	1090	224	---	295	---	109	---	27	23	---
TOTAL	6066	34729	6392	27586	4996	34408	17463	2723	9098	5250	814	748
MEAN	196	1158	206	890	178	1110	582	87.8	303	169	26.3	24.9
MAX	1070	4700	1090	3570	443	2930	2480	166	2280	967	53	71
MIN	63	165	76	182	101	158	184	45	57	26	22	20
CFSM	.57	3.35	.60	2.57	.52	3.21	1.68	.25	.88	.49	.08	.07
IN.	.65	3.73	.69	2.97	.54	3.70	1.88	.29	.98	.56	.09	.08

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 1993, BY WATER YEAR (WY)

	MEAN	65.4	162	287	368	421	565	456	264	216	130	56.3	91.9
MAX	623	1435	1482	1800	1402	1814	1588	865	1612	1075	474	944	
(WY)	1927	1973	1991	1930	1959	1978	1957	1969	1981	1992	1979	1926	
MIN	2.43	3.67	4.28	6.54	9.86	60.1	33.3	22.1	18.3	4.27	1.24	1.62	
(WY)	1935	1935	1935	1945	1964	1941	1925	1925	1988	1934	1934	1934	

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR			FOR 1993 WATER YEAR			WATER YEARS 1924 - 1993		
ANNUAL TOTAL	166108			150273					
ANNUAL MEAN	454			412			256		
HIGHEST ANNUAL MEAN							571		
LOWEST ANNUAL MEAN							57.5		
HIGHEST DAILY MEAN	4700			4700			12000		
LOWEST DAILY MEAN	22			20			.40		
ANNUAL SEVEN-DAY MINIMUM	26			21			.56		
INSTANTANEOUS PEAK FLOW				5020			13000		
INSTANTANEOUS PEAK STAGE				11.96			17.43		
INSTANTANEOUS LOW FLOW				20			.40		
ANNUAL RUNOFF (CFSM)	1.31			1.19			.74		
ANNUAL RUNOFF (INCHES)	17.86			16.16			10.07		
10 PERCENT EXCEEDS	1150			1080			619		
50 PERCENT EXCEEDS	174			166			57		
90 PERCENT EXCEEDS	52			24			9.0		

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

47

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

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

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

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

REMARKS.--Estimated daily discharges: Mar. 7-11. Records good, except estimated discharges, which are fair. Flow regulated by dam at powerplant at station; reservoir capacity, 9,800 acre-ft. Plant shut down except for occasional gate operation, Jan. 10, 1963 to Sept. 7, 1985. Some diversion by Miami and Erie Canal from Grand Lake into Jennings Creek, tributary to Auglaize River 70 mi upstream from station. Water-quality data collected at this site 1966 to 1977.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	612	158	1470	7760	1420	1160	5240	997	1040	6130	128	71
2	513	7610	1190	5390	1010	580	11800	980	980	9350	112	75
3	347	14300	1110	3690	709	1290	8550	863	626	17000	106	211
4	480	11600	956	13000	793	4610	6490	720	487	20700	85	84
5	375	7980	878	23500	597	10300	3630	884	456	15000	77	254
6	376	5780	591	25400	580	12200	2180	766	406	5940	174	241
7	363	3200	561	19300	465	10000	1660	809	484	3040	88	81
8	238	1920	653	10600	567	8000	1520	605	2170	1640	151	153
9	568	1030	652	6320	421	10300	1410	472	10600	902	173	96
10	446	1210	548	2550	545	15700	6720	506	15100	531	93	83
11	882	1120	553	1750	469	14200	11700	394	12400	837	137	121
12	615	8100	1140	1570	459	11900	8760	464	8000	4300	97	78
13	299	22600	1050	2000	824	8830	6020	561	4610	7180	167	69
14	709	25200	1280	6420	1210	4700	3440	583	2140	4320	95	71
15	181	19500	1280	5120	1610	3300	2430	403	1150	2660	144	64
16	1940	11900	1380	4370	1260	2580	8570	443	651	1340	91	63
17	6650	7800	1460	2840	1090	4790	11800	335	633	686	131	82
18	5610	4240	1340	1840	911	6820	6840	252	453	495	88	63
19	3900	2280	1300	1240	417	5290	3870	245	385	619	146	64
20	2810	1690	1190	1080	404	4190	2640	385	519	3400	82	64
21	1920	1530	1700	1370	897	4310	2520	192	925	4330	82	64
22	1280	1710	1640	8950	1200	5990	2200	193	1630	2420	85	62
23	955	12200	1390	12300	1940	12100	1510	268	1440	547	87	60
24	953	15800	918	12900	2160	17400	1170	375	958	452	89	57
25	818	11100	562	12700	1780	15300	6610	107	588	263	81	58
26	1270	9020	355	8560	1520	11400	13500	344	1630	399	80	180
27	1010	6640	499	5740	1000	7930	7750	297	1870	138	81	254
28	851	3810	704	3130	1000	4630	4630	175	2020	214	73	318
29	503	2370	734	2420	---	2960	2740	256	8350	177	70	347
30	378	1680	1770	1790	---	2260	1600	314	5330	130	73	610
31	86	---	8700	1140	---	1890	---	428	---	138	73	---
TOTAL	37938	225078	39554	216740	27258	226910	159500	14616	88031	115278	3239	4078
MEAN	1224	7503	1276	6992	973	7320	5317	471	2934	3719	104	136
MAX	6650	25200	8700	25400	2160	17400	13500	997	15100	20700	174	610
MIN	86	158	355	1080	404	580	1170	107	385	130	70	57

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 1993, BY WATER YEAR (WY)

MEAN	501	1043	1832	2524	2992	4185	3441	1907	1374	822	310	437
MAX	3445	7856	8510	13350	10170	13090	11210	10490	6733	5762	1988	5571
(WY)	1955	1973	1967	1950	1976	1982	1957	1943	1947	1992	1979	1992
MIN	23.6	7.28	9.34	48.5	111	382	242	69.8	101	42.0	27.1	28.9
(WY)	1953	1953	1977	1977	1964	1941	1946	1934	1988	1930	1932	1963

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1916 - 1993

ANNUAL TOTAL	1074451		1158220				
ANNUAL MEAN	2936		3173			1765	
HIGHEST ANNUAL MEAN						3337	1973
LOWEST ANNUAL MEAN						342	1931
HIGHEST DAILY MEAN	25200	Nov 14	25400	Jan 6		52300	Mar 14 1982
LOWEST DAILY MEAN	50	Jan 11	57	Sep 24		.50	Oct 13 1952
ANNUAL SEVEN-DAY MINIMUM	161	Jan 7	61	Sep 19		1.1	Oct 12 1952
INSTANTANEOUS PEAK FLOW			26100	Jan 6		52500	Feb 16 1950
INSTANTANEOUS PEAK STAGE			19.01	Jan 6		27.65	Feb 13 1959
INSTANTANEOUS LOW FLOW			57	Sep 24		.50	Oct 13 1952
10 PERCENT EXCEEDS	8020		10300			4910	
50 PERCENT EXCEEDS	1130		1090			436	
90 PERCENT EXCEEDS	316		90			38	

STREAMS TRIBUTARY TO LAKE ERIE

04192500 MAUMEE RIVER NEAR DEFIANCE, OH

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

DRAINAGE AREA.--5,545 mi².

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

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

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

REMARKS.--Estimated discharges Oct. 1, Dec. 25-Jan. 7. Records good. Flow affected by regulation of Auglaize River at hydroelectric plant of the Hydro-Corporation, 7 mi upstream. Operation of hydroelectric plant there was discontinued Jan. 10, 1963 to Sept. 7, 1985. Low flow slightly regulated by powerplant at Ft. Wayne, Indiana. Slight diversion 275 ft upstream into Miami and Erie Canal through a 24 inch conduit which bypasses station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1700	1120	5740	32000	4010	2450	13200	3910	2570	9770	465	202
2	1410	11600	4690	24000	3210	1980	23600	3260	2470	12200	452	232
3	1140	24900	3870	18000	2720	2500	20900	2960	1790	20400	395	583
4	1110	22900	3420	26000	2660	6050	16600	2650	1430	25800	352	904
5	966	17000	3050	41000	2300	13600	11400	3560	1460	21500	329	1410
6	889	12400	2670	53000	2130	17000	8680	5510	1730	12500	461	1490
7	831	9000	2300	43000	1940	16300	7110	5490	2010	9560	349	2090
8	717	6840	2290	34700	1930	22200	5790	4300	7240	8240	367	1880
9	1030	4970	2140	26500	1700	31800	5010	3510	19600	6960	427	1020
10	1440	4120	1960	19000	1750	33200	11600	2830	25900	4940	384	662
11	1790	3770	1910	12900	1590	26800	18000	2420	20300	3400	347	590
12	1710	12800	2450	9280	1600	23600	14400	2390	12800	5380	385	535
13	1300	38900	2750	8500	1830	18900	10400	2740	8660	10700	433	426
14	1490	45100	3070	11700	2310	12700	7640	2250	5430	7730	347	383
15	1370	37800	3070	11000	2780	8570	6240	1760	3960	4970	352	411
16	3060	26900	4250	9050	2550	6320	13400	1650	3270	3110	326	888
17	9150	19600	6080	6850	2420	10900	17500	1540	2870	1950	318	1220
18	10700	14400	6180	5330	2040	14300	12600	1410	2010	1480	289	889
19	8200	10200	5030	3910	1280	11900	8440	1320	1730	1330	351	655
20	6230	7560	4560	3160	1150	9860	7230	1300	1670	4260	284	601
21	4560	5770	4870	4300	2110	9970	7270	1260	2530	7970	243	553
22	3680	5770	4620	15700	2130	12400	6420	976	4550	6870	228	482
23	3000	21800	3840	22700	3120	21700	5130	1090	4940	4800	232	485
24	2590	31800	3000	23200	3290	33800	4220	1250	3300	4120	217	426
25	2210	25600	1900	22600	2910	32300	11200	1120	2310	2950	201	429
26	2450	20400	1600	16600	2470	25900	24700	1250	2850	2100	222	527
27	2160	15200	1450	12100	2100	19500	19600	1170	3560	1290	245	653
28	1900	11500	1400	8550	1990	15000	11900	1140	2930	1020	238	964
29	1440	9010	1800	7290	---	12100	7460	1070	9780	775	225	1680
30	1280	7180	4300	5870	---	10500	5010	1260	9300	603	205	1670
31	925	---	35000	4320	---	9040	---	1520	---	524	214	---
TOTAL	82428	485910	135260	542110	64020	493140	342650	69866	174950	209202	9883	24940
MEAN	2659	16200	4363	17490	2286	15910	11420	2254	5832	6748	319	831
MAX	10700	45100	35000	53000	4010	33800	24700	5510	25900	25800	465	2090
MIN	717	1120	1400	3160	1150	1980	4220	976	1430	524	201	202

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1993, BY WATER YEAR (WY)

	MEAN	1377	2798	4608	6014	6942	9568	8522	5047	3411	2006	908	1090
MAX	8314	16410	18040	30150	22460	33940	23210	27270	20370	10700	4739	11470	
(WY)	1955	1973	1967	1950	1959	1982	1957	1943	1981	1992	1958	1926	
MIN	63.9	110	158	219	363	1455	789	359	214	211	111	88.1	
(WY)	1929	1954	1964	1945	1964	1941	1925	1925	1988	1930	1932	1955	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1925 - 1993

ANNUAL TOTAL	2328194	2634359	4341
ANNUAL MEAN	6361	7217	8286
HIGHEST ANNUAL MEAN			849
LOWEST ANNUAL MEAN			1950
HIGHEST DAILY MEAN	45100	53000	98800
LOWEST DAILY MEAN	377	201	3.0
ANNUAL SEVEN-DAY MINIMUM	589	221	27
INSTANTANEOUS PEAK FLOW		56400	104000
INSTANTANEOUS PEAK STAGE		9.73	15.87
INSTANTANEOUS LOW FLOW		201	2.0
10 PERCENT EXCEEDS	15600	20600	12400
50 PERCENT EXCEEDS	3230	3160	1370
90 PERCENT EXCEEDS	1180	457	218

LOCATION.--Lat 41°30'00", long 83°42'46", Lucas County, Hydrologic Unit 04100009, on downstream side of first pier from left end of bridge on State Highway 64 at Waterville, 3 mi downstream from Tontogany Creek, and 20.7 mi upstream from mouth.
DRAINAGE AREA.--6.330 mi².

PERIOD OF RECORD.--November 1898 to December 1901, August 1921 to December 1935, March 1939 to current year. Miami and Erie Canal flow included at Waterville prior to 1930 when the canal was abandoned.

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

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

REMARKS.--Estimated daily discharges: See table below. Records fair except for estimated daily discharges which are poor. Satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Practically no flow at times prior to June 30, 1929, when entire river flow was being diverted by canal.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2080	1010	e6800	e38000	e4200	e2800	14400	4510	2290	9620	682	346
2	1770	9430	e5400	e28000	e3500	e2300	e30000	4330	3400	12200	801	404
3	1570	29400	e4200	e20900	e3200	e2900	e26000	3400	2550	19400	484	653
4	1130	28500	e3600	e31200	e3000	e8000	e20000	3070	1960	27000	486	1010
5	1370	21500	e3100	e56000	e2700	e16000	14600	3240	1960	25800	357	1340
6	1150	15800	e2800	e65000	e2500	e20000	10600	5410	1920	17000	388	1750
7	1090	11500	e2500	e60000	e2300	e19000	8380	6290	2410	11300	506	1860
8	969	8490	e2300	e42200	e2100	e26000	6950	5200	7950	9780	395	2600
9	1040	6510	e2100	e32000	e2000	e37000	5960	4270	21000	8220	448	1760
10	1570	4820	e2000	e25000	e2040	e39000	11400	3370	34200	6440	496	1130
11	1860	4670	e1900	e18000	e1870	e31000	19600	2990	28400	4500	406	726
12	2310	10800	2100	e13000	e2320	e29000	17900	2750	18100	3600	388	782
13	1770	e45000	3090	e10100	e2280	e23000	13000	2820	11900	10500	496	698
14	1530	e54000	3210	e13600	e2800	e15000	9470	2810	7780	9840	512	603
15	2030	e45000	3330	e12900	e3200	e10000	7390	2250	5400	6560	412	584
16	2810	e33000	3820	e10800	e2900	e8110	13600	1700	4130	4310	434	496
17	8800	23100	5560	e8600	e2600	e12000	21100	1780	3690	2570	331	1200
18	12800	17700	6440	e6200	e2300	e16000	16500	1480	2900	2080	352	1180
19	10300	12700	5700	e4900	e1450	e14000	10900	1590	2270	2000	350	811
20	7730	9280	5000	e3900	e1350	13100	8770	1370	2120	2240	448	684
21	5880	6990	5070	e5400	e2400	13700	8410	1550	3030	7070	312	755
22	4720	6270	5150	e19000	e2500	15700	7920	1250	4610	8000	331	596
23	3740	22400	4450	e26000	e3600	25100	6410	1120	5800	5880	350	572
24	3090	35800	3490	e27000	e3800	e39000	5100	1360	4730	4470	383	495
25	2850	30600	e2400	e26000	e3300	e37000	10500	1430	3180	3700	312	412
26	2570	24400	e1800	e20000	e2900	e30800	29500	1180	3800	2510	312	626
27	2590	18400	e1700	e15000	e2500	e24000	25200	1240	4930	1770	398	586
28	2400	14000	1660	e11000	e2400	18500	16200	1550	3980	1320	363	815
29	2020	10700	2000	e8800	---	14900	10100	1210	6420	1140	349	1130
30	1620	e8600	3630	e7200	---	12600	6800	1410	12000	823	394	1630
31	1360	---	e40000	e5400	---	10500	---	2220	---	662	402	---
TOTAL	98519	570370	146300	671100	74010	586010	412660	80150	218810	232305	13078	28234
MEAN	3178	19010	4719	21650	2643	18900	13760	2585	7294	7494	422	941
MAX	12800	54000	40000	65000								

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1993, BY WATER YEAR (WY)

MEAN	1497	3126	5463	6916	7954	11050	9650	5876	4023	2378	1044	1117
MAX	9041	19010	23830	34010	30000	38210	25890	29540	24030	11200	6185	10320
(WY)	1955	1993	1967	1950	1976	1982	1957	1943	1981	1992	1958	1992
MIN	95.5	196	177	235	424	1759	914	587	231	207	146	127
(WY)	1964	1965	1964	1945	1934	1941	1946	1934	1988	1930	1941	1963

ANNUAL TOTAL	2615730		3131546				
ANNUAL MEAN	7147		8580			4990	
HIGHEST ANNUAL MEAN						9370	1950
LOWEST ANNUAL MEAN						938	1931
HIGHEST DAILY MEAN	54000	Nov 14	65000	Jan 6	113000		Mar 14 1982
LOWEST DAILY MEAN	491	Jul 10	312	Aug 21	17		Jun 30 1988
ANNUAL SEVEN-DAY MINIMUM	676	Jul 5	343	Aug 21	47		Jun 27 1988
INSTANTANEOUS PEAK FLOW			70000 ^e	Jan 6	121000		Mar 14 1982
INSTANTANEOUS PEAK STAGE			13.31	Jan 6	17.18		Mar 14 1982
INSTANTANEOUS LOW FLOW			312	Aug 21	17		Jun 30 1988
ANNUAL RUNOFF (CFSM)	1.13		1.36			.79	
ANNUAL RUNOFF (INCHES)	15.37		18.40			10.71	
10 PERCENT EXCEEDS	18400		25100		13900		
50 PERCENT EXCEEDS	3620		3690		1630		
90 PERCENT EXCEEDS	1360		585		253		

e- estimated

STREAMS TRIBUTARY TO LAKE ERIE

04193500 MAUMEE RIVER AT WATERVILLE, OHIO--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

CHLORIDE: October 1987 to current year.

NITROGEN, NITRITE + NITRATE: October 1987 to current year.

NITROGEN, AMMONIA + ORGANIC: October 1987 to current year.

PHOSPHORUS: October 1987 to current year.

SUSPENDED SEDIMENT DISCHARGE: April 1950 to September 1984. October 1987 to current year.

INSTRUMENTATION.--Refrigerated water-quality pumping sampler since 1987. Sampler located at station 04193490.

REMARKS.--Water-quality samples were collected by pumping sampler three times daily. Sediment samples were collected by a local observer on an approximate once daily basis. Chemical loads were calculated using the mean-interval method (Porterfield, George, 1972, Computation of Fluvial-Sediment Discharge: U.S. Geological Survey, Techniques of Water Resources Investigations, Book 3, Chap. C3, 66 p.). For days with unsteady concentration, discharge, or both, the day was sub-divided into hourly intervals and the daily load was calculated by summation of hourly loads. This required interpolation between measured and estimated concentrations. Concentrations reported as below the limit of detection (for example, <.100) were assumed to have a value of half of the detection limit for the purpose of load calculation.

EXTREMES FOR PERIOD OF DAILY RECORD.--

DISSOLVED CHLORIDE CONCENTRATIONS: Maximum daily mean, 110 mg/L, July 31-Aug. 6, 1988; minimum daily mean, <10 mg/L, July 24-26, 1990, Aug. 26, 1992, on several days during 1993.

DISSOLVED CHLORIDE LOADS: Maximum daily, 3,490 tons, May 27, 1989; minimum daily, 10.5 tons, June 28, 1988.

DISSOLVED NITROGEN, NITRITE + NITRATE CONCENTRATIONS: Maximum daily mean, 24.1 mg/L, May 13, 1990; minimum daily mean, <.100 mg/L, on many days during 1988, 1991, and 1993 water years, and on several days during 1992.

DISSOLVED NITROGEN, NITRITE + NITRATE LOADS: Maximum daily, 1,300 tons, April 5, 1989; minimum daily, .01 ton, many days during 1988 water year.

TOTAL NITROGEN, AMMONIA + ORGANIC CONCENTRATIONS: Maximum daily mean, 6.6 mg/L, Feb. 23, 1990; minimum daily mean, .24 mg/L, Feb. 9, 13, 1993.

TOTAL NITROGEN, AMMONIA + ORGANIC LOADS: Maximum daily, 1,030 tons, Feb. 23, 1990; minimum daily, .25 ton, June 28, 30, July 1, 1988.

TOTAL PHOSPHORUS CONCENTRATIONS: Maximum daily mean, 1.95 mg/L, Feb. 4, 1990; minimum daily mean, .071 mg/L, Feb. 28, 1993.

TOTAL PHOSPHORUS LOADS: Maximum daily, 362 tons, Jan. 1, 1991; minimum daily, .039 ton, Sept. 28, 1991.

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

SEDIMENT LOADS: Maximum daily, 300,000 tons, Feb. 24, 1990; minimum daily, 0.26 ton, Sept. 18, 1955.

EXTREMES FOR CURRENT YEAR.--

DISSOLVED CHLORIDE CONCENTRATIONS: Maximum daily mean, 71 mg/L, Feb. 24; minimum daily mean, <10 mg/L, on several days during the year.

DISSOLVED CHLORIDE LOADS: Maximum daily, 2,210 tons, Nov. 13; minimum daily, 11.4 tons, Aug. 5.

DISSOLVED NITROGEN, NITRITE + NITRATE CONCENTRATIONS: Maximum daily mean, 10.1 mg/L, June 9; minimum daily mean, <.100 mg/L, on many days during the year.

DISSOLVED NITROGEN, NITRITE + NITRATE LOADS: Maximum daily, 830 tons, June 10; minimum daily, .04 ton, on several days during the year.

TOTAL NITROGEN, AMMONIA + ORGANIC CONCENTRATIONS: Maximum daily mean, 3.2 mg/L, June 10; minimum daily mean, .24 mg/L, Feb. 9, 13.

TOTAL NITROGEN, AMMONIA + ORGANIC LOADS: Maximum daily, 387 tons, Jan. 6; minimum daily, .83 ton, Aug. 17, 21.

TOTAL PHOSPHORUS CONCENTRATIONS: Maximum daily mean, .833 mg/L, June 10; minimum daily mean, .071 mg/L, Feb. 28.

TOTAL PHOSPHORUS LOADS: Maximum daily, 134 tons, Jan. 6; minimum daily, .12 ton, Aug. 19, 21.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 729 mg/L, Apr. 17; minimum daily mean, 6 mg/L, Feb. 28.

SEDIMENT LOADS: Maximum daily, 88,600 tons, Jan. 5; minimum daily, 17 tons, Aug. 17.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	ALACHLOR TOT RECV (UG/L)	DATE	TIME	ALACHLOR TOT RECV (UG/L)	DATE	TIME	ALACHLOR TOT RECV (UG/L)
Oct 19	1340	<.1	Jun 11	2000	9.8	Jul 3	2000	.9
Nov 2	1415	<.1	Jun 12	0400	9.0	Jul 4	2000	.7
Nov 16	1435	<.1	Jun 12	1200	10.1	Jul 5	2000	.7
Nov 30	1430	<.1	Jun 13	0400	7.5	Jul 6	1445	.8
Nov 30	1630	<.1	Jun 13	1200	8.7	Jul 7	2000	.6
Feb 1	1355	.1	Jun 13	2000	7.1	Jul 8	2000	.8
Feb 15	1425	.1	Jun 14	1410	6.4	Jul 9	2000	.6
Mar 1	1500	<.1	Jun 14	2000	4.7	Jul 10	2000	.4
Mar 29	1500	<.1	Jun 15	1200	4.3	Jul 11	2000	.6
Apr 12	1500	<.1	Jun 16	2000	4.2	Jul 12	1445	.6
Apr 26	1440	<.1	Jun 17	2000	4.6	Jul 13	2000	.3
May 3	1445	<.1	Jun 18	2000	4.4	Jul 15	2000	.2
May 7	0400	<.1	Jun 19	2000	4.1	Jul 17	2000	.2
May 10	1350	<.1	Jun 20	2000	3.6	Jul 19	1430	.2
May 14	2000	<.1	Jun 21	1410	2.9	Jul 21	2000	.2
May 17	1425	<.1	Jun 22	2000	2.6	Jul 24	2000	.2
May 28	2000	.1	Jun 23	2000	1.4	Jul 26	1430	.2
Jun 1	1330	<.1	Jun 24	2000	1.2	Jul 28	2000	<.1
Jun 5	2000	.2	Jun 25	2000	1.4	Jul 31	2000	.1
Jun 7	1425	.2	Jun 26	2000	1.2	Aug 2	1420	<.1
Jun 9	2000	9.3	Jun 27	2000	1.0	Aug 6	2000	<.1
Jun 10	0400	10.3	Jun 28	1420	1.3	Aug 9	1430	<.1
Jun 10	1200	10.1	Jun 29	2000	1.0	Aug 13	2000	<.1
Jun 10	2000	10.8	Jun 30	2000	1.0	Aug 16	1415	<.1
Jun 11	0400	10.1	Jul 1	2000	.9	Sep 13	1440	<.1
Jun 11	1200	10.1	Jul 2	2000	.9	Sep 27	1430	<.1

STREAMS TRIBUTARY TO LAKE ERIE

51

04193500 MAUMEE RIVER AT WATERVILLE, OHIO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
DEC 09...	1415	3520	625	8.4	6.0	1.5	20	12.8	92	K36	K26
MAR 11...	1600	35000	294	7.9	9.5	2.0	970	13.4	98	1400	80
JUN 03...	1040	2660	647	7.9	19.0	18.0	42	10.2	109	60	K45
AUG 12...	1110	463	329	8.9	27.5	28.5	2.0	13.8	180	K5	K3

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3 (00452)	ALKA- LINITY WAT WH TOT FET FIELD (MG/L AS CACO3 (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
DEC 09...	280	80	20	15	3.5	252	3	214	69	29	0.20
MAR 11...	130	36	8.8	7.7	3.0	103	0	86	25	16	0.10
JUN 03...	280	71	25	28	4.0	215	0	188	86	43	0.50
AUG 12...	150	43	11	11	4.6	85	25	113	35	16	0.20

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)
DEC 09...	7.9	384	3.10	0.140	0.140	0.70	0.110	0.050	0.060	30	39
MAR 11...	5.2	177	2.90	--	0.190	1.0	0.300	0.130	0.120	230	23
JUN 03...	0.09	384	0.930	--	0.030	1.5	0.210	0.020	<0.010	20	45
AUG 12...	3.4	199	0.490	--	0.030	1.0	0.130	0.080	0.030	90	27

DATE	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	SEDI- MENT, SUS- PENDED (MG/L) (80154)
DEC 09...	<3	28	5	17	10	2	<1	<1.0	680	<6	22
MAR 11...	<3	160	<4	7	<10	2	<1	<1.0	230	<6	156
JUN 03...	<3	11	7	1	20	3	<1	<1.0	960	<6	44
AUG 12...	<3	27	<4	3	<10	2	<1	<1.0	420	<6	14

STREAMS TRIBUTARY TO LAKE ERIE

04193500 MAUMEE RIVER AT WATERVILLE, OHIO--Continued

CHLORIDE DISSOLVED (MG/L AS CL), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	2080	17	94.6	1010	32	88.4	e6800	20	373
2	1770	18	85.1	9430	28	668	e5400	20	291
3	1570	19	78.3	29400	21	1620	e4200	22	245
4	1130	19	58.5	28500	19	1430	e3600	22	218
5	1370	20	74.8	21500	20	1140	e3100	25	207
6	1150	21	66.5	15800	21	887	e2800	26	198
7	1090	22	63.2	11500	22	686	e2500	26	175
8	969	23	59.9	8490	23	535	e2300	28	171
9	1040	24	67.8	6510	25	434	e2100	29	162
10	1570	26	109	4820	25	331	e2000	28	153
11	1860	27	136	4670	26	331	e1900	28	146
12	2310	29	184	10800	23	636	2100	29	168
13	1770	33	157	e45000	18	2210	3090	31	255
14	1530	35	144	e54000	14	2030	3210	30	263
15	2030	37	200	e45000	14	1650	3330	30	273
16	2810	36	276	e33000	14	1220	3820	32	329
17	8800	35	839	23100	14	881	5560	35	522
18	12800	39	1350	17700	15	720	6440	38	665
19	10300	30	843	12700	16	534	5700	36	556
20	7730	28	588	9280	17	421	5000	34	455
21	5880	27	434	6990	18	339	5070	31	422
22	4720	27	339	6270	18	305	5150	29	408
23	3740	27	269	22400	16	994	4450	28	337
24	3090	27	224	35800	15	1420	3490	30	280
25	2850	27	209	30600	14	1160	e2400	32	206
26	2570	28	197	24400	15	960	e1800	32	156
27	2590	30	210	18400	15	749	e1700	32	149
28	2400	31	199	14000	16	610	1660	32	143
29	2020	31	171	10700	17	495	2000	32	171
30	1620	32	139	e8600	18	425	3630	27	242
31	1360	33	120	---	---	---	e40000	15	1570
TOTAL	98519	---	7985.7	570370	---	25909.4	146300	---	9909
JANUARY			FEBRUARY			MARCH			
1	e38000	13	1350	e4200	21	239	e2800	63	478
2	e28000	14	1030	e3500	23	217	e2300	68	423
3	e20900	14	816	e3200	25	217	e2900	70	545
4	e31200	13	1110	e3000	28	225	e8000	59	1270
5	e56000	<10	1380	e2700	28	201	e16000	46	1970
6	e65000	<10	877	e2500	27	184	e20000	36	1960
7	e60000	<10	1130	e2300	27	171	e19000	29	1470
8	e42200	11	1220	e2100	28	158	e26000	23	1590
9	e32000	11	945	e2000	30	159	e37000	18	1790
10	e25000	11	771	e2040	30	165	e39000	14	1520
11	e18000	12	603	e1870	31	155	e31000	14	1190
12	e13000	15	522	e2320	31	197	e29000	15	1190
13	e10100	18	488	e2280	33	200	e23000	18	1100
14	e13600	21	783	e2800	34	257	e15000	19	767
15	e12900	19	669	e3200	33	285	e10000	20	553
16	e10800	22	640	e2900	35	274	e8110	23	499
17	e8600	25	572	e2600	37	257	e12000	19	620
18	e6200	25	427	e2300	40	248	e16000	17	717
19	e4900	27	354	e1450	43	170	e14000	19	702
20	e3900	27	288	e1350	46	169	13100	18	638
21	e5400	24	350	e2400	52	336	13700	17	638
22	e19000	21	1050	e2500	60	403	15700	15	617
23	e26000	18	1230	e3600	70	677	25100	13	878
24	e27000	15	1130	e3800	71	729	e39000	12	1280
25	e26000	16	1130	e3300	65	578	e37000	13	1260
26	e20000	17	928	e2900	61	474	e30800	13	1100
27	e15000	18	744	e2500	59	401	e24000	14	902
28	e11000	19	574	e2400	60	391	18500	15	728
29	e8800	19	458	---	---	---	14900	15	619
30	e7200	18	358	---	---	---	12600	16	553
31	e5400	20	291	---	---	---	10500	17	476
TOTAL	671100	---	24218	74010	---	8137	586010	---	30043

e Estimated

04193500 MAUMEE RIVER AT WATERVILLE, OHIO--Continued

CHLORIDE DISSOLVED (MG/L AS CL), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)
APRIL			MAY			JUNE			
1	14400	17	657	4510	15	183	2290	40	245
2	e30000	16	1260	4330	16	191	3400	41	374
3	e26000	14	1000	3400	18	165	2550	42	288
4	e20000	15	783	3070	20	164	1960	43	226
5	14600	15	591	3240	22	191	1960	42	222
6	10600	16	466	5410	23	340	1920	42	219
7	8380	18	400	6290	24	406	2410	44	290
8	6950	19	356	5200	24	341	7950	42	867
9	5960	21	332	4270	25	285	21000	29	1580
10	11400	20	593	3370	25	229	34200	19	1750
11	19600	18	970	2990	24	190	28400	15	1150
12	17900	19	900	2750	23	170	18100	17	805
13	13000	18	644	2820	23	179	11900	17	552
14	9470	16	417	2810	24	181	7780	18	383
15	7390	17	334	2250	25	155	5400	20	289
16	13600	17	624	1700	26	120	4130	21	236
17	21100	15	846	1780	27	128	3690	23	226
18	16500	15	668	1480	27	109	2900	24	184
19	10900	17	493	1590	28	120	2270	24	148
20	8770	18	426	1370	28	105	2120	24	139
21	8410	19	434	1550	30	125	3030	24	200
22	7920	20	433	1250	31	106	4610	26	322
23	6410	21	362	1120	32	97.0	5800	26	413
24	5100	22	309	1360	34	126	4730	27	347
25	10500	17	436	1430	36	137	3180	28	242
26	29500	11	907	1180	36	115	3800	29	295
27	25200	<10	595	1240	36	121	4930	26	349
28	16200	12	515	1550	37	154	3980	22	239
29	10100	13	344	1210	37	121	6420	26	463
30	6800	14	252	1410	37	143	12000	27	881
31	---	---	---	2220	38	228	---	---	---
TOTAL	412660	---	17347	80150	---	5425.0	218810	---	13924
JULY			AUGUST			SEPTEMBER			
1	9620	22	575	682	11	20.4	346	37	34.9
2	12200	18	609	801	12	25.0	404	38	42.0
3	19400	15	792	484	12	15.5	653	40	70.2
4	27000	12	901	486	11	14.9	1010	42	115
5	25800	<10	366	357	12	11.4	1340	45	165
6	17000	<10	423	388	12	12.7	1750	53	248
7	11300	12	360	506	13	17.3	1860	54	270
8	9780	13	339	395	13	14.3	2600	59	412
9	8220	13	287	448	15	17.8	1760	64	305
10	6440	12	211	496	16	20.9	1130	65	198
11	4500	12	142	406	16	17.3	726	64	126
12	3600	12	121	388	16	17.1	782	63	132
13	10500	15	429	496	17	23.3	698	62	117
14	9840	17	457	512	18	25.1	603	61	98.4
15	6560	17	307	412	18	20.3	584	58	91.5
16	4310	16	191	434	19	22.2	496	56	74.4
17	2570	16	109	331	20	17.6	1200	52	167
18	2080	15	85.2	352	20	19.5	1180	47	150
19	2000	15	82.0	350	22	21.0	811	42	92.8
20	2240	16	98.0	448	23	28.2	684	41	76.0
21	7070	19	373	312	24	20.4	755	41	84.4
22	8000	26	550	331	25	22.6	596	40	64.1
23	5880	21	345	350	26	24.8	572	39	60.6
24	4470	<10	102	383	27	28.2	495	39	52.2
25	3700	<10	50.7	312	28	23.9	412	39	42.9
26	2510	10	68.1	312	30	24.9	626	38	64.7
27	1770	11	52.6	398	31	33.0	586	39	60.9
28	1320	10	37.3	363	32	31.3	815	39	86.2
29	1140	10	31.5	349	33	31.4	1130	42	128
30	823	10	23.0	394	35	36.8	1630	46	201
31	662	11	19.1	402	36	39.0	---	---	---
TOTAL	232305	---	8536.5	13078	---	698.1	28234	---	3830.2
YEAR	3131546		155962.9						

e estimated

STREAMS TRIBUTARY TO LAKE ERIE

04193500 MAUMEE RIVER AT WATERVILLE, OHIO--Continued

NITROGEN NITRITE PLUS NITRATE DISSOLVED (MG/L AS N), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN	MEAN	LOAD (TONS/ DAY)	MEAN	MEAN	LOAD (TONS/ DAY)	MEAN	MEAN	LOAD (TONS/ DAY)
	DISCHARGE (CFS)	CONCENTRATION (MG/L)		DISCHARGE (CFS)	CONCENTRATION (MG/L)		DISCHARGE (CFS)	CONCENTRATION (MG/L)	
OCTOBER			NOVEMBER			DECEMBER			
1	2080	2.20	12	1010	3.07	8.4	e6800	2.78	51
2	1770	2.20	11	9430	4.45	120	e5400	2.78	40
3	1570	2.19	9.2	29400	4.03	320	e4200	2.83	32
4	1130	2.15	6.6	28500	3.37	260	e3600	2.88	28
5	1370	2.20	8.1	21500	3.33	190	e3100	2.93	24
6	1150	2.37	7.4	15800	3.41	150	e2800	2.97	22
7	1090	2.33	6.8	11500	3.50	110	e2500	2.98	20
8	969	2.32	6.1	8490	3.59	82	e2300	3.03	19
9	1040	2.32	6.5	6510	3.68	65	e2100	3.11	18
10	1570	2.28	9.7	4820	3.65	47	e2000	3.08	17
11	1860	2.23	11	4670	3.69	47	e1900	2.95	15
12	2310	2.25	14	10800	3.96	120	2100	3.02	17
13	1770	2.10	10	e45000	3.42	420	3090	3.21	27
14	1530	1.98	8.2	e54000	2.68	390	3210	3.34	29
15	2030	2.06	11	e45000	2.48	300	3330	3.40	31
16	2810	2.53	20	e33000	2.51	220	3820	3.45	36
17	8800	3.26	78	23100	2.45	150	5560	3.18	48
18	12800	3.08	110	17700	2.53	120	6440	3.01	52
19	10300	3.40	94	12700	2.68	92	5700	3.04	47
20	7730	3.51	73	9280	2.78	70	5000	3.04	41
21	5880	3.44	55	6990	2.82	53	5070	3.12	43
22	4720	3.43	44	6270	2.95	50	5150	3.30	46
23	3740	3.47	35	22400	3.60	220	4450	3.30	40
24	3090	3.41	28	35800	2.86	280	3490	3.29	31
25	2850	3.25	25	30600	2.55	210	e2400	3.31	21
26	2570	3.16	22	24400	2.59	170	e1800	3.24	16
27	2590	3.16	22	18400	2.60	130	e1700	3.38	16
28	2400	3.07	20	14000	2.63	99	1660	3.28	15
29	2020	3.01	16	10700	2.69	78	2000	3.24	18
30	1620	2.99	13	e8600	2.70	63	3630	3.16	31
31	1360	2.98	11	---	---	---	e40000	3.13	340
TOTAL	98519	---	803.6	570370	---	4634.4	146300	---	1231
JANUARY			FEBRUARY			MARCH			
1	e38000	3.25	330	e4200	3.47	39	e2800	3.29	25
2	e28000	3.02	230	e3500	3.45	33	e2300	3.22	20
3	e20900	3.04	170	e3200	3.34	29	e2900	3.21	25
4	e31200	3.32	280	e3000	3.31	27	e8000	3.09	67
5	e56000	2.77	420	e2700	3.33	24	e16000	3.01	130
6	e65000	2.42	420	e2500	3.36	23	e20000	2.91	160
7	e60000	2.41	390	e2300	3.31	21	e19000	2.80	140
8	e42200	2.53	290	e2100	3.33	19	e26000	2.69	190
9	e32000	2.35	200	e2000	3.36	18	e37000	2.59	260
10	e25000	2.47	170	e2040	3.25	18	e39000	2.50	260
11	e18000	2.64	130	e1870	3.14	16	e31000	2.56	210
12	e13000	2.84	100	e2320	3.09	19	e29000	2.75	220
13	e10100	3.06	83	e2280	3.07	19	e23000	2.96	180
14	e13600	3.23	120	e2800	3.09	23	e15000	3.11	130
15	e12900	3.17	110	e3200	2.96	26	e10000	3.32	90
16	e10800	3.44	100	e2900	2.77	22	e8110	3.36	74
17	e8600	3.75	87	e2600	2.69	19	e12000	2.87	93
18	e6200	3.87	65	e2300	2.82	17	e16000	2.67	120
19	e4900	3.93	52	e1450	2.80	11	e14000	2.60	98
20	e3900	3.96	42	e1350	2.68	9.8	13100	2.55	91
21	e5400	3.77	55	e2400	2.75	18	13700	2.55	95
22	e19000	3.56	180	e2500	2.89	19	15700	2.51	110
23	e26000	3.35	240	e3600	2.85	28	25100	2.78	190
24	e27000	3.20	230	e3800	2.90	30	e39000	3.10	330
25	e26000	3.25	230	e3300	2.92	26	e37000	3.06	310
26	e20000	3.35	180	e2900	3.07	24	e30800	3.04	250
27	e15000	3.44	140	e2500	3.33	22	e24000	3.03	200
28	e11000	3.52	100	e2400	3.44	22	18500	3.01	150
29	e8800	3.53	84	---	---	---	14900	3.00	120
30	e7200	3.30	64	---	---	---	12600	2.92	99
31	e5400	3.35	49	---	---	---	10500	2.77	79
TOTAL	671100	---	5341	74010	---	621.8	586010	---	4516

e Estimated

04193500 MAUMEE RIVER AT WATERVILLE, OHIO--Continued

NITROGEN NITRITE PLUS NITRATE DISSOLVED (MG/L AS N), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)
APRIL			MAY			JUNE			
1	14400	2.91	120	4510	2.62	32	2290	.602	3.8
2	e30000	3.18	260	4330	2.51	29	3400	.870	8.0
3	e26000	3.14	220	3400	2.63	24	2550	.820	5.7
4	e20000	3.07	170	3070	2.63	22	1960	.690	3.7
5	14600	3.00	120	3240	2.64	23	1960	.723	3.8
6	10600	2.97	85	5410	2.28	33	1920	.712	3.7
7	8380	2.95	67	6290	1.86	32	2410	.961	6.4
8	6950	2.84	53	5200	1.80	25	7950	5.14	130
9	5960	2.87	46	4270	1.76	20	21000	10.1	580
10	11400	3.30	100	3370	1.72	16	34200	8.95	830
11	19600	3.28	170	2990	1.67	13	28400	8.12	620
12	17900	3.32	160	2750	1.72	13	18100	8.15	400
13	13000	3.27	110	2820	1.78	14	11900	8.13	260
14	9470	3.22	82	2810	1.58	12	7780	7.77	160
15	7390	3.27	65	2250	1.33	8.1	5400	7.76	110
16	13600	3.31	120	1700	1.17	5.4	4130	7.67	86
17	21100	3.18	180	1780	1.23	5.9	3690	7.24	72
18	16500	3.07	140	1480	1.07	4.2	2900	6.44	51
19	10900	3.11	92	1590	.758	3.3	2270	5.75	35
20	8770	3.13	74	1370	.902	3.3	2120	5.14	29
21	8410	3.22	73	1550	1.27	5.3	3030	4.57	38
22	7920	3.16	68	1250	1.09	3.7	4610	5.41	68
23	6410	3.08	53	1120	.880	2.7	5800	5.35	84
24	5100	3.01	41	1360	.804	3.0	4730	4.45	57
25	10500	3.20	95	1430	.754	2.9	3180	4.54	39
26	29500	3.20	250	1180	.701	2.2	3800	5.34	55
27	25200	2.87	200	1240	.681	2.3	4930	7.03	93
28	16200	2.67	120	1550	.617	2.6	3980	8.03	86
29	10100	2.79	76	1210	.578	1.9	6420	6.62	110
30	6800	2.81	52	1410	.515	2.0	12000	6.51	210
31	---	---	---	2220	.515	3.1	---	---	---
TOTAL	412660	---	3462	80150	---	369.9	218810	---	4238.1
JULY			AUGUST			SEPTEMBER			
1	9620	7.03	180	682	1.48	2.7	346	<.100	.04
2	12200	7.98	260	801	1.42	3.1	404	<.100	.05
3	19400	8.18	430	484	1.30	1.7	653	<.100	.09
4	27000	7.70	560	486	1.21	1.6	1010	<.100	.22
5	25800	6.14	430	357	1.17	1.1	1340	<.100	.25
6	17000	5.89	270	388	1.13	1.2	1750	.240	1.1
7	11300	5.98	180	506	1.07	1.5	1860	.263	1.3
8	9780	5.83	150	395	.988	1.1	2600	.183	1.3
9	8220	5.44	120	448	.796	.96	1760	.137	.66
10	6440	4.61	81	496	.722	.97	1130	<.100	.22
11	4500	3.96	48	406	.649	.71	726	<.100	.09
12	3600	3.67	36	388	.634	.66	782	<.100	.10
13	10500	3.29	93	496	.586	.78	698	<.100	.09
14	9840	3.16	84	512	.534	.74	603	<.100	.15
15	6560	3.06	54	412	.520	.58	584	.150	.24
16	4310	3.22	37	434	.451	.53	496	.163	.22
17	2570	3.28	23	331	.265	.24	1200	.276	.92
18	2080	3.14	18	352	.156	.15	1180	.499	1.6
19	2000	3.10	17	350	<.100	.05	811	.719	1.6
20	2240	3.22	19	448	<.100	.06	684	.865	1.6
21	7070	3.00	57	312	<.100	.04	755	1.06	2.2
22	8000	2.88	62	331	<.100	.04	596	1.07	1.7
23	5880	2.39	38	350	<.100	.04	572	1.03	1.6
24	4470	1.95	24	383	<.100	.05	495	.877	1.2
25	3700	1.93	19	312	<.100	.04	412	.672	.75
26	2510	2.06	14	312	<.100	.04	626	.517	.87
27	1770	2.01	9.6	398	<.100	.05	586	.495	.79
28	1320	1.83	6.6	363	<.100	.05	815	.649	1.4
29	1140	1.68	5.2	349	<.100	.04	1130	.807	2.5
30	823	1.62	3.6	394	<.100	.05	1630	.871	3.8
31	662	1.54	2.8	402	<.100	.05	---	---	---
TOTAL	232305	---	3331.8	13078	---	20.92	28234	---	28.65
YEAR	3131546		28599.17						

e estimated

STREAMS TRIBUTARY TO LAKE ERIE

04193500 MAUMEE RIVER AT WATERVILLE, OHIO--Continued

NITROGEN AMMONIA PLUS ORGANIC TOTAL (MG/L AS N), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	2080	.91	5.12	1010	.86	2.36	e6800	1.1	20.5
2	1770	.90	4.32	9430	1.6	48.7	e5400	1.1	16.2
3	1570	.91	3.84	29400	2.9	227	e4200	1.0	11.6
4	1130	.92	2.81	28500	2.6	203	e3600	.79	7.65
5	1370	.96	3.55	21500	2.4	139	e3100	.66	5.56
6	1150	.97	3.01	15800	2.2	92.1	e2800	.67	5.07
7	1090	.94	2.76	11500	1.9	60.8	e2500	.73	4.94
8	969	.95	2.49	8490	1.8	40.5	e2300	.71	4.44
9	1040	.97	2.71	6510	1.6	28.0	e2100	.67	3.79
10	1570	.95	4.04	4820	1.3	17.1	e2000	.62	3.33
11	1860	.96	4.84	4670	1.2	15.5	e1900	.56	2.89
12	2310	1.0	6.53	10800	1.9	63.9	2100	.53	3.00
13	1770	1.1	5.33	e45000	2.5	300	3090	.48	4.02
14	1530	1.2	4.86	e54000	2.5	364	3210	.61	5.35
15	2030	1.1	5.93	e45000	2.0	243	3330	.78	7.01
16	2810	1.0	7.88	e33000	1.8	158	3820	.72	7.41
17	8800	1.1	27.4	23100	1.6	103	5560	.71	10.6
18	12800	1.2	42.9	17700	1.4	66.1	6440	.78	13.5
19	10300	1.5	42.9	12700	1.3	43.1	5700	.86	13.2
20	7730	1.3	27.0	9280	1.2	29.9	5000	.86	11.6
21	5880	1.2	18.4	6990	1.1	21.1	5070	.82	11.2
22	4720	1.1	14.2	6270	1.3	23.1	5150	.82	11.4
23	3740	1.1	10.8	22400	2.4	146	4450	.79	9.50
24	3090	1.0	8.46	35800	2.7	261	3490	.73	6.93
25	2850	.96	7.41	30600	2.2	185	e2400	.72	4.66
26	2570	.98	6.80	24400	1.9	127	e1800	.74	3.58
27	2590	.97	6.81	18400	2.0	101	e1700	.81	3.72
28	2400	.96	6.22	14000	1.6	62.6	1660	.75	3.35
29	2020	.90	4.90	10700	1.4	40.3	2000	.68	3.66
30	1620	.87	3.79	e8600	1.2	27.9	3630	.73	8.24
31	1360	.85	3.13	---	---	---	e40000	1.7	183
TOTAL	98519	---	301.14	570370	---	3240.06	146300	---	410.90
JANUARY			FEBRUARY			MARCH			
1	e38000	1.6	159	e4200	.79	8.98	e2800	.84	6.39
2	e28000	1.5	111	e3500	.90	8.51	e2300	.80	4.97
3	e20900	1.3	72.7	e3200	.79	6.78	e2900	.88	6.90
4	e31200	1.9	157	e3000	.75	6.05	e8000	1.1	22.7
5	e56000	2.5	384	e2700	.80	5.82	e16000	1.1	48.7
6	e65000	2.2	387	e2500	.77	5.19	e20000	1.2	62.8
7	e60000	1.9	311	e2300	.78	4.87	e19000	1.2	61.9
8	e42200	1.8	210	e2100	.60	3.42	e26000	1.3	88.0
9	e32000	1.6	137	e2000	.24	1.28	e37000	1.3	130
10	e25000	1.4	92.7	e2040	.25	1.36	e39000	1.3	140
11	e18000	1.4	68.8	e1870	.28	1.42	e31000	1.3	106
12	e13000	1.4	47.8	e2320	.25	1.59	e29000	1.2	93.7
13	e10100	1.3	34.8	e2280	.24	1.46	e23000	1.1	70.0
14	e13600	1.2	42.3	e2800	.30	2.26	e15000	1.0	41.2
15	e12900	1.1	37.6	e3200	.66	5.74	e10000	.91	24.6
16	e10800	1.0	30.1	e2900	1.7	13.6	e8110	1.2	26.7
17	e8600	1.0	24.2	e2600	1.7	12.3	e12000	2.3	73.3
18	e6200	.99	16.6	e2300	1.3	8.35	e16000	1.6	67.4
19	e4900	.89	11.8	e1450	1.3	5.26	e14000	1.3	49.9
20	e3900	.83	8.77	e1350	1.3	4.72	13100	1.3	46.8
21	e5400	.99	14.5	e2400	1.2	7.71	13700	1.3	49.0
22	e19000	1.2	62.7	e2500	1.3	8.45	15700	1.3	56.5
23	e26000	1.4	101	e3600	1.2	11.2	25100	1.7	120
24	e27000	1.4	99.7	e3800	.90	9.28	e39000	2.5	263
25	e26000	1.2	87.4	e3300	.74	6.61	e37000	2.2	224
26	e20000	1.1	61.2	e2900	.56	4.39	e30800	1.9	155
27	e15000	1.0	41.9	e2500	.48	3.24	e24000	1.5	99.9
28	e11000	1.1	31.6	e2400	.87	5.63	18500	1.3	63.8
29	e8800	1.0	24.0	---	---	---	14900	1.1	42.8
30	e7200	1.0	19.5	---	---	---	12600	.98	33.4
31	e5400	.84	12.3	---	---	---	10500	.96	27.4
TOTAL	671100	---	2899.97	74010	---	165.47	586010	---	2306.76

e Estimated

STREAMS TRIBUTARY TO LAKE ERIE

04193500 MAUMEE RIVER AT WATERVILLE, OHIO--Continued

PHOSPHORUS TOTAL (MG/L AS P), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	2080	.215	1.21	1010	.163	.45	e6800	.252	4.63
2	1770	.205	.98	9430	.342	10.3	e5400	.225	3.28
3	1570	.195	.82	29400	.712	57.0	e4200	.206	2.33
4	1130	.195	.59	28500	.665	51.4	e3600	.185	1.80
5	1370	.205	.76	21500	.557	32.5	e3100	.173	1.45
6	1150	.215	.67	15800	.466	19.9	e2800	.162	1.22
7	1090	.217	.64	11500	.390	12.2	e2500	.149	1.01
8	969	.209	.55	8490	.326	7.51	e2300	.138	.86
9	1040	.198	.55	6510	.273	4.83	e2100	.129	.73
10	1570	.191	.81	4820	.240	3.12	e2000	.123	.66
11	1860	.179	.90	4670	.218	2.74	e1900	.121	.62
12	2310	.174	1.09	10800	.453	16.3	2100	.120	.68
13	1770	.168	.80	e45000	.694	84.3	3090	.116	.97
14	1530	.157	.65	e54000	.747	109	3210	.109	.95
15	2030	.141	.77	e45000	.606	73.6	3330	.101	.91
16	2810	.141	1.10	e33000	.423	37.7	3820	.106	1.09
17	8800	.216	5.32	23100	.247	15.4	5560	.107	1.61
18	12800	.300	10.4	17700	.312	15.0	6440	.118	2.05
19	10300	.323	9.00	12700	.275	9.47	5700	.134	2.06
20	7730	.294	6.13	9280	.293	7.31	5000	.142	1.91
21	5880	.269	4.28	6990	.288	5.45	5070	.143	1.96
22	4720	.252	3.21	6270	.289	4.90	5150	.146	2.03
23	3740	.249	2.52	22400	.332	19.0	4450	.152	1.83
24	3090	.239	2.00	35800	.143	13.9	3490	.143	1.35
25	2850	.220	1.69	30600	.213	17.1	e2400	.137	.89
26	2570	.203	1.41	24400	.313	20.7	e1800	.132	.64
27	2590	.190	1.33	18400	.386	19.0	e1700	.123	.56
28	2400	.179	1.17	14000	.375	14.2	1660	.113	.51
29	2020	.171	.93	10700	.300	8.72	2000	.109	.59
30	1620	.161	.71	e8600	.266	6.17	3630	.170	2.22
31	1360	.157	.58	---	---	---	e40000	.638	68.9
TOTAL	98519	---	63.57	570370	---	699.17	146300	---	112.30
JANUARY			FEBRUARY			MARCH			
1	e38000	.550	56.4	e4200	.196	2.22	e2800	.072	.55
2	e28000	.445	33.6	e3500	.168	1.59	e2300	.085	.53
3	e20900	.405	22.8	e3200	.149	1.29	e2900	.106	.83
4	e31200	.605	50.9	e3000	.138	1.12	e8000	.159	3.43
5	e56000	.771	117	e2700	.137	1.00	e16000	.202	8.74
6	e65000	.764	134	e2500	.135	.91	e20000	.230	12.4
7	e60000	.673	109	e2300	.124	.77	e19000	.260	13.3
8	e42200	.563	64.2	e2100	.114	.65	e26000	.293	20.6
9	e32000	.502	43.4	e2000	.106	.57	e37000	.332	33.1
10	e25000	.453	30.6	e2040	.099	.54	e39000	.360	37.9
11	e18000	.425	20.7	e1870	.120	.60	e31000	.328	27.5
12	e13000	.342	12.0	e2320	.110	.69	e29000	.301	23.5
13	e10100	.265	7.22	e2280	.104	.64	e23000	.287	17.8
14	e13600	.240	8.83	e2800	.106	.80	e15000	.253	10.2
15	e12900	.193	6.71	e3200	.104	.90	e10000	.215	5.81
16	e10800	.188	5.47	e2900	.096	.76	e8110	.201	4.40
17	e8600	.193	4.48	e2600	.095	.67	e12000	.298	9.65
18	e6200	.185	3.09	e2300	.095	.59	e16000	.295	12.8
19	e4900	.177	2.35	e1450	.092	.36	e14000	.266	10.1
20	e3900	.177	1.86	e1350	.092	.34	13100	.252	8.92
21	e5400	.225	3.28	e2400	.093	.61	13700	.236	8.78
22	e19000	.294	15.1	e2500	.093	.63	15700	.277	11.7
23	e26000	.385	27.0	e3600	.100	.97	25100	.357	25.2
24	e27000	.475	34.6	e3800	.102	1.05	e39000	.553	58.2
25	e26000	.430	30.2	e3300	.100	.89	e37000	.511	51.0
26	e20000	.368	19.9	e2900	.095	.74	e30800	.434	36.1
27	e15000	.316	12.8	e2500	.081	.55	e24000	.368	23.8
28	e11000	.289	8.58	e2400	.071	.46	18500	.312	15.6
29	e8800	.273	6.50	---	---	---	14900	.265	10.7
30	e7200	.294	5.71	---	---	---	12600	.235	7.99
31	e5400	.243	3.54	---	---	---	10500	.216	6.14
TOTAL	671100	---	901.82	74010	---	22.91	586010	---	517.27

e Estimated

59

PHOSPHORUS TOTAL (MG/L AS P), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/DAY)
	APRIL			MAY			JUNE		
1	14400	.224	8.97	4510	.265	3.24	2290	.167	1.03
2	e30000	.344	27.9	4330	.224	2.63	3400	.181	1.66
3	e26000	.501	35.2	3400	.191	1.76	2550	.182	1.25
4	e20000	.430	23.2	3070	.171	1.42	1960	.180	.95
5	14600	.335	13.3	3240	.160	1.40	1960	.182	.97
6	10600	.263	7.59	5410	.154	2.24	1920	.178	.92
7	8380	.213	4.83	6290	.152	2.58	2410	.190	1.24
8	6950	.180	3.38	5200	.152	2.13	7950	.289	6.55
9	5960	.161	2.59	4270	.152	1.75	21000	.538	33.3
10	11400	.253	8.30	3370	.152	1.39	34200	.833	76.9
11	19600	.332	17.6	2990	.160	1.29	28400	.767	59.2
12	17900	.377	18.3	2750	.169	1.26	18100	.600	29.8
13	13000	.346	12.1	2820	.161	1.22	11900	.439	14.2
14	9470	.334	8.55	2810	.154	1.16	7780	.346	7.33
15	7390	.304	6.08	2250	.156	.95	5400	.301	4.40
16	13600	.428	17.4	1700	.157	.72	4130	.268	3.00
17	21100	.671	38.2	1780	.129	.62	3690	.232	2.31
18	16500	.728	32.6	1480	.101	.40	2900	.197	1.55
19	10900	.513	15.4	1590	.095	.41	2270	.205	1.26
20	8770	.357	8.45	1370	.091	.34	2120	.193	1.10
21	8410	.301	6.83	1550	.109	.46	3030	.191	1.59
22	7920	.261	5.60	1250	.127	.43	4610	.235	2.94
23	6410	.221	3.83	1120	.128	.39	5800	.257	4.03
24	5100	.213	2.93	1360	.133	.49	4730	.216	2.77
25	10500	.489	16.3	1430	.117	.45	3180	.200	1.72
26	29500	.683	54.5	1180	.128	.41	3800	.242	2.51
27	25200	.700	48.0	1240	.128	.43	4930	.277	3.69
28	16200	.536	23.7	1550	.135	.56	3980	.262	2.82
29	10100	.394	10.9	1210	.150	.49	6420	.253	4.46
30	6800	.307	5.67	1410	.149	.57	12000	.371	12.1
31	---	---	---	2220	.152	.91	---	---	---
TOTAL	412660	---	488.20	80150	---	34.50	218810	---	287.55
	JULY			AUGUST			SEPTEMBER		
1	9620	.341	8.88	682	.283	.52	346	.203	.19
2	12200	.399	13.2	801	.267	.57	404	.194	.21
3	19400	.535	28.3	484	.239	.31	653	.198	.35
4	27000	.741	54.3	486	.208	.27	1010	.196	.54
5	25800	.646	45.3	357	.190	.18	1340	.203	.73
6	17000	.494	23.0	388	.188	.20	1750	.201	.95
7	11300	.373	11.4	506	.174	.24	1860	.202	1.02
8	9780	.337	8.88	395	.167	.18	2600	.218	1.53
9	8220	.336	7.46	448	.160	.19	1760	.206	.99
10	6440	.317	5.51	496	.162	.22	1130	.203	.62
11	4500	.310	3.78	406	.167	.18	726	.204	.40
12	3600	.300	2.92	388	.158	.17	782	.200	.42
13	10500	.319	9.16	496	.153	.21	698	.191	.36
14	9840	.315	8.38	512	.157	.22	603	.188	.30
15	6560	.289	5.14	412	.164	.18	584	.173	.27
16	4310	.275	3.20	434	.182	.21	496	.185	.25
17	2570	.262	1.82	331	.148	.13	1200	.185	.60
18	2080	.257	1.44	352	.135	.13	1180	.183	.58
19	2000	.263	1.42	350	.130	.12	811	.191	.42
20	2240	.277	1.68	448	.134	.16	684	.204	.38
21	7070	.293	5.61	312	.139	.12	755	.216	.44
22	8000	.267	5.78	331	.143	.13	596	.250	.40
23	5880	.308	4.85	350	.149	.14	572	.249	.38
24	4470	.366	4.42	383	.154	.16	495	.237	.32
25	3700	.361	3.61	312	.159	.13	412	.231	.26
26	2510	.331	2.25	312	.165	.14	626	.230	.39
27	1770	.331	1.58	398	.171	.18	586	.216	.34
28	1320	.322	1.15	363	.177	.17	815	.203	.45
29	1140	.313	.97	349	.183	.17	1130	.199	.60
30	823	.296	.66	394	.190	.20	1630	.187	.82
31	662	.284	.51	402	.196	.21	---	---	---
TOTAL	232305	---	276.56	13078	---	6.34	28234	---	15.51
YEAR e Estimated	3131546		3425.70						

STREAMS TRIBUTARY TO LAKE ERIE

04193500 MAUMEE RIVER AT WATERVILLE, OHIO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	2080	55	306	1010	33	90	e6800	64	1180
2	1770	52	251	9430	74	2740	e5400	49	710
3	1570	48	202	29400	430	34600	e4200	31	351
4	1130	51	156	28500	395	30700	e3600	28	268
5	1370	47	174	21500	220	12900	e3100	25	212
6	1150	43	133	15800	145	6230	e2800	23	176
7	1090	41	119	11500	100	3150	e2500	20	138
8	969	41	108	8490	64	1490	e2300	17	109
9	1040	40	113	6510	39	684	e2100	15	83
10	1570	39	164	4820	33	432	e2000	14	74
11	1860	38	191	4670	37	464	e1900	12	63
12	2310	35	218	10800	49	1740	2100	12	67
13	1770	28	135	e45000	395	48000	3090	10	86
14	1530	25	104	e54000	429	62500	3210	8	73
15	2030	23	124	e45000	221	26900	3330	9	79
16	2810	28	231	e33000	185	16500	3820	21	215
17	8800	88	2260	23100	126	7960	5560	16	244
18	12800	141	4900	17700	128	6120	6440	36	625
19	10300	90	2530	12700	102	3530	5700	31	479
20	7730	83	1740	9280	62	1580	5000	25	342
21	5880	74	1180	6990	56	1050	5070	23	310
22	4720	61	779	6270	63	1090	5150	25	341
23	3740	59	592	22400	217	14900	4450	20	236
24	3090	58	486	35800	582	56400	3490	17	164
25	2850	55	422	30600	404	33700	e2400	21	133
26	2570	48	331	24400	269	17900	e1800	19	93
27	2590	38	267	18400	201	10000	e1700	20	91
28	2400	38	246	14000	156	5910	1660	15	68
29	2020	28	153	10700	131	3820	2000	13	71
30	1620	27	118	e8600	80	1860	3630	16	211
31	1360	30	110	---	---	---	e40000	369	39900
TOTAL	98519	---	18843	570370	---	414940	146300	---	47192
JANUARY			FEBRUARY			MARCH			
1	e38000	294	30200	e4200	43	492	e2800	9	69
2	e28000	243	18300	e3500	27	251	e2300	12	75
3	e20900	258	14600	e3200	19	168	e2900	13	103
4	e31200	496	41800	e3000	14	117	e8000	142	3060
5	e56000	586	88600	e2700	14	101	e16000	160	6890
6	e65000	435	76300	e2500	14	96	e20000	197	10600
7	e60000	259	42000	e2300	15	95	e19000	180	9250
8	e42200	192	21800	e2100	13	73	e26000	207	14500
9	e32000	179	15500	e2000	13	68	e37000	312	31100
10	e25000	175	11800	e2040	12	65	e39000	265	27900
11	e18000	118	5710	e1870	16	83	e31000	153	12800
12	e13000	89	3130	e2320	17	110	e29000	122	9570
13	e10100	73	1990	e2280	12	73	e23000	97	6000
14	e13600	68	2520	e2800	10	76	e15000	88	3580
15	e12900	50	1750	e3200	12	104	e10000	76	2060
16	e10800	60	1750	e2900	19	145	e8110	62	1350
17	e8600	64	1490	e2600	11	76	e12000	63	2060
18	e6200	36	600	e2300	8	52	e16000	141	6080
19	e4900	23	308	e1450	8	30	e14000	166	6260
20	e3900	24	257	e1350	13	49	13100	121	4280
21	e5400	19	283	e2400	28	183	13700	124	4590
22	e19000	90	4600	e2500	19	128	15700	153	6480
23	e26000	195	13700	e3600	17	168	25100	188	13400
24	e27000	189	13800	e3800	15	152	e39000	359	37800
25	e26000	158	11100	e3300	12	105	e37000	320	32000
26	e20000	128	6930	e2900	9	73	e30800	254	21100
27	e15000	98	3950	e2500	7	44	e24000	180	11700
28	e11000	86	2550	e2400	6	40	18500	125	6270
29	e8800	67	1600	---	---	---	14900	95	3870
30	e7200	54	1060	---	---	---	12600	67	2290
31	e5400	52	763	---	---	---	10500	59	1680
TOTAL	671100	---	440741	74010	---	3217	586010	---	298767

e Estimated

STREAMS TRIBUTARY TO LAKE ERIE

61

04193500 MAUMEE RIVER AT WATERVILLE, OHIO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	14400	69	2800	4510	124	1530	2290	62	390
2	e30000	206	16700	4330	94	1110	3400	69	637
3	e26000	208	14600	3400	76	695	2550	71	488
4	e20000	160	8660	3070	63	518	1960	76	401
5	14600	123	4870	3240	56	492	1960	76	402
6	10600	95	2730	5410	51	746	1920	76	392
7	8380	73	1650	6290	48	818	2410	102	667
8	6950	56	1060	5200	57	799	7950	127	2780
9	5960	45	721	4270	59	675	21000	230	14100
10	11400	122	4260	3370	59	535	34200	681	63100
11	19600	319	17100	2990	53	430	28400	582	45500
12	17900	295	14400	2750	48	354	18100	536	26100
13	13000	199	7020	2820	47	360	11900	347	11400
14	9470	134	3450	2810	57	434	7780	219	4650
15	7390	90	1810	2250	62	376	5400	163	2400
16	13600	312	13800	1700	50	228	4130	123	1370
17	21100	729	41600	1780	38	182	3690	97	972
18	16500	577	25900	1480	26	102	2900	76	601
19	10900	338	10200	1590	37	159	2270	69	424
20	8770	199	4730	1370	46	171	2120	72	414
21	8410	149	3390	1550	50	210	3030	87	739
22	7920	107	2300	1250	48	160	4610	109	1350
23	6410	73	1270	1120	48	144	5800	105	1640
24	5100	67	924	1360	50	185	4730	88	1130
25	10500	116	4520	1430	38	147	3180	70	607
26	29500	660	53000	1180	41	130	3800	110	1140
27	25200	603	41400	1240	38	128	4930	114	1520
28	16200	424	18800	1550	33	139	3980	112	1210
29	10100	275	7640	1210	28	93	6420	129	2440
30	6800	176	3270	1410	39	150	12000	255	8320
31	---	---	---	2220	49	291	---	---	---
TOTAL	412660	---	334575	80150	---	12491	218810	---	197284
JULY			AUGUST			SEPTEMBER			
1	9620	249	6490	682	71	131	346	46	43
2	12200	318	10500	801	76	164	404	45	49
3	19400	387	20400	484	57	76	653	60	107
4	27000	580	42500	486	43	56	1010	62	169
5	25800	515	36200	357	35	34	1340	55	198
6	17000	305	14400	388	27	28	1750	47	220
7	11300	192	5880	506	24	33	1860	43	216
8	9780	144	3820	395	22	24	2600	48	340
9	8220	113	2510	448	21	25	1760	43	206
10	6440	108	1870	496	20	26	1130	42	128
11	4500	102	1250	406	20	22	726	35	69
12	3600	99	966	388	18	18	782	46	99
13	10500	114	3280	496	20	27	698	55	104
14	9840	113	3000	512	21	28	603	56	92
15	6560	104	1860	412	20	23	584	56	88
16	4310	97	1130	434	17	20	496	54	73
17	2570	90	626	331	20	17	1200	58	190
18	2080	90	506	352	25	23	1180	51	164
19	2000	96	518	350	26	25	811	50	110
20	2240	102	617	448	30	36	684	55	101
21	7070	100	1900	312	32	27	755	55	113
22	8000	90	1950	331	33	29	596	52	84
23	5880	121	1900	350	36	34	572	54	84
24	4470	151	1830	383	42	44	495	49	66
25	3700	117	1180	312	38	33	412	46	51
26	2510	97	659	312	35	30	626	49	84
27	1770	96	457	398	38	40	586	52	82
28	1320	98	350	363	36	35	815	54	119
29	1140	78	239	349	34	32	1130	57	175
30	823	67	149	394	38	40	1630	52	228
31	662	62	111	402	44	48	---	---	---
TOTAL	232305	---	169048	13078	---	1228	28234	---	3852
YEAR	3131546		1942178						

e Estimated

STREAMS TRIBUTARY TO LAKE ERIE

04195500 PORTAGE RIVER AT WOODVILLE, OH

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

DRAINAGE AREA.--428 mi².

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

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

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

REMARKS.--Estimated daily discharges: Dec. 26-29, Jan. 29-Feb. 12, 16-21, 24, Mar. 1. Records good, except estimated discharges, which are poor. Flow supplemented by water imported from Maumee River basin for municipal supply for city of Bowling Green 16 mi upstream. The importation of this water began Sept. 1, 1951. Sediment data collected at this site 1950 to 1956. Water-quality data collected at this site 800 ft downstream 1968 to 1980. National Weather Service gage height telemeter at station.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	88	83	198	4970	150	170	1810	263	67	82	7.9	10
2	78	1720	175	1660	130	190	3210	207	67	74	7.2	17
3	68	3390	154	812	120	354	1460	179	55	74	9.1	35
4	62	1950	138	3700	115	1680	686	166	48	149	10	45
5	53	886	130	7120	100	2260	481	160	48	115	13	42
6	46	533	91	6300	96	1640	385	163	55	73	12	43
7	44	351	96	2230	90	1170	313	143	83	61	10	60
8	43	262	95	1070	88	2530	266	131	758	76	9.4	48
9	48	210	74	679	84	4320	277	121	2740	76	9.5	27
10	84	190	70	421	82	4370	2320	111	5240	70	8.5	17
11	102	234	110	315	80	2480	2470	104	3870	56	8.5	14
12	100	2120	167	327	78	1600	908	107	934	51	8.2	12
13	87	5070	264	631	346	1290	550	109	442	47	9.3	10
14	77	5220	292	1610	409	738	402	103	282	39	8.7	10
15	168	1650	240	976	289	588	341	91	265	32	10	10
16	863	748	209	601	210	522	757	78	225	24	8.8	11
17	1640	476	194	435	150	2520	1040	64	147	19	8.5	13
18	784	356	153	307	110	3200	525	58	112	17	7.4	12
19	427	254	122	211	150	1340	366	54	99	19	6.7	9.9
20	286	199	156	258	130	1320	366	55	124	34	7.2	8.9
21	235	182	323	332	120	2460	410	53	138	18	7.4	9.3
22	206	287	231	2900	247	2360	375	51	136	14	6.9	9.2
23	172	3090	167	2820	450	3350	295	50	101	12	7.4	9.3
24	156	3710	121	2090	330	5650	238	49	73	10	7.3	9.9
25	150	1630	78	2260	270	4530	1050	56	59	9.8	7.0	15
26	132	1010	70	936	230	2150	2970	55	115	13	6.5	25
27	117	622	64	542	220	1290	1280	46	282	38	6.1	42
28	104	408	60	389	190	899	615	39	289	22	7.3	40
29	87	305	58	260	---	682	407	38	196	12	8.0	30
30	79	234	357	210	---	533	324	37	116	9.4	8.1	23
31	73	---	4910	170	---	443	---	45	---	9.0	7.8	---
TOTAL	6659	37380	9567	47542	5064	58629	26897	2986	17166	1355.2	259.7	667.5
MEAN	215	1246	309	1534	181	1891	897	96.3	572	43.7	8.38	22.2
MAX	1640	5220	4910	7120	450	5650	3210	263	5240	149	13	60
MIN	43	83	58	170	78	170	238	37	48	9.0	6.1	8.9
CFSM	.50	2.91	.72	3.58	.42	4.42	2.09	.23	1.34	.10	.02	.05
IN.	.58	3.25	.83	4.13	.44	5.10	2.34	.26	1.49	.12	.02	.06
(+)	5.3	4.9	4.4	4.5	5.1	5.0	5.3	5.0	5.0	5.3	6.4	5.8
MEAN #	210	1241	305	1530	176	1886	892	91.3	567	38.4	1.98	16.4
CFSM #	.49	2.90	.71	3.57	.41	4.41	2.08	.21	1.32	.09	.00	.04
IN #	.57	3.24	.82	4.12	.43	5.08	2.33	.25	1.48	.10	.01	.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1993, BY WATER YEAR (WY)

	MEAN	88.9	209	362	456	513	767	635	395	276	158	60.1	92.1
MAX	722	1595	1722	2129	1793	2542	1965	1685	1875	821	635	1088	
(WY)	1951	1973	1991	1952	1976	1982	1957	1943	1981	1958	1979	1981	
MIN	2.96	3.61	4.37	2.24	2.00	118	41.7	25.4	9.29	2.81	3.09	3.67	
(WY)	1935	1935	1935	1945	1934	1941	1946	1934	1988	1930	1933	1944	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1928 - 1993

ANNUAL TOTAL	199953	214172.4	
ANNUAL MEAN	546	587 (#582)	#332
HIGHEST ANNUAL MEAN			628
LOWEST ANNUAL MEAN			81.4
HIGHEST DAILY MEAN	5220	Nov 14	7120 Jan 5
LOWEST DAILY MEAN	28	Jul 9	6.1 Aug 27
ANNUAL SEVEN-DAY MINIMUM	35	Aug 21	6.9 Aug 22
INSTANTANEOUS PEAK FLOW			7630 Jan 5 a
INSTANTANEOUS PEAK STAGE			11.84 Jan 5
INSTANTANEOUS LOW FLOW			6.1 Aug 27
ANNUAL RUNOFF (CFSM)	1.28	1.37	.78
ANNUAL RUNOFF (INCHES)	17.38	18.61 (#18.47)	#10.53
10 PERCENT EXCEEDS	1440	2010	847
50 PERCENT EXCEEDS	209	143	68
90 PERCENT EXCEEDS	62	10	7.7

(+) Diversion in cubic ft per second, from Maumee R basin for municipal supply; furnished by city of Bowling Green.

Adjusted for diversion.

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

04196800 TYMOCHTEE CREEK AT CRAWFORD, OH

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

DRAINAGE AREA.--229 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 785.86 ft above sea level.

REMARKS.--Estimated daily discharges: Dec. 24-28, Jan. 29 to Feb. 10. Records fair. Beginning Mar. 9, 1972 water is diverted at a point 29.4 mi upstream from station into Killdeer Reservoir. Storage is available for low-flow augmentation. During the year, withdrawals totaled 247 mil gal, equivalent to a mean annual withdrawal of 1.05 ft³/s. There were no releases. Water-quality data collected at this site 1968 to 1977. Sediment data collected 1970 to 1974.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	49	127	223	74	149	417	129	23	16	2.3	.50
2	9.0	795	108	197	64	82	753	101	15	51	1.5	.51
3	8.9	1150	99	170	58	235	617	80	12	458	1.7	.84
4	9.6	1120	89	1040	54	1130	307	70	14	610	3.1	.65
5	7.5	624	74	1980	50	2210	198	67	15	348	2.1	.64
6	5.8	325	66	2690	47	3150	153	70	12	141	1.8	.43
7	5.7	214	60	2310	45	2200	129	75	14	77	1.3	.32
8	5.0	162	51	971	43	1650	111	59	194	48	.89	.57
9	6.3	125	47	443	41	1700	129	53	499	28	.64	.99
10	5.6	106	47	303	40	1670	1110	47	212	19	.74	1.1
11	21	193	59	209	40	1020	1820	41	150	18	.70	.85
12	30	1430	83	160	51	835	1710	35	95	82	.61	.74
13	24	2960	126	502	125	735	475	33	55	80	.77	.72
14	21	3760	135	1050	285	414	266	32	57	79	.69	.74
15	21	2840	120	1100	210	232	199	27	187	45	.45	.82
16	261	1270	115	450	148	214	341	23	98	23	.33	.85
17	397	478	109	246	113	333	524	22	75	15	.35	.74
18	214	320	95	174	158	480	318	18	40	10	.44	.63
19	123	232	76	139	141	345	190	16	25	8.7	.40	.57
20	78	175	114	154	81	259	147	16	19	7.0	.39	.51
21	64	157	159	168	73	444	190	16	38	5.1	.98	.50
22	63	392	160	870	207	578	246	14	50	5.8	.98	.50
23	53	1390	108	1150	540	906	186	13	40	7.5	.99	.50
24	46	1650	80	1190	605	1420	141	13	60	5.0	1.1	.42
25	39	1550	64	1190	421	1850	159	13	34	3.7	.98	.49
26	35	756	58	1130	227	1070	594	11	29	2.7	.59	1.1
27	31	447	52	432	237	434	1120	11	19	2.3	.55	1.1
28	26	287	47	245	189	282	762	12	13	2.4	.47	.98
29	23	209	45	170	---	210	271	56	12	2.2	.42	1.5
30	22	159	53	120	---	171	175	19	9.4	3.9	.33	2.1
31	22	---	176	90	---	153	---	23	---	3.3	.38	---
TOTAL	1687.4	25325	2802	21266	4367	26561	13758	1215	2115.4	2207.6	28.97	22.91
MEAN	54.4	844	90.4	686	156	857	459	39.2	70.5	71.2	.93	.76
MAX	397	3760	176	2690	605	3150	1820	129	499	610	3.1	2.1
MIN	5.0	49	45	90	40	82	111	11	9.4	2.2	.33	.32

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1993, BY WATER YEAR (WY)

	MEAN	35.6	153	238	213	309	421	321	201	126	117	31.9	36.9
MAX	278	844	1104	777	823	1392	946	645	780	741	201	370	
(WY)	1987	1993	1991	1974	1975	1978	1972	1969	1981	1992	1992	1981	
MIN	.084	.86	1.78	1.65	37.2	35.1	32.8	11.7	1.78	1.04	.48	.27	
(WY)	1965	1992	1992	1977	1972	1983	1971	1988	1988	1965	1965	1964	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1964 - 1993

ANNUAL TOTAL	85703.07	101356.28	184
ANNUAL MEAN	234	278	330
HIGHEST ANNUAL MEAN			72.2
LOWEST ANNUAL MEAN			1973
HIGHEST DAILY MEAN	3760	Nov 14	6280
LOWEST DAILY MEAN	.40	Jan 17	.00
ANNUAL SEVEN-DAY MINIMUM	.66	Jan 14	.44
INSTANTANEOUS PEAK FLOW			3980
INSTANTANEOUS PEAK STAGE			7.95
INSTANTANEOUS LOW FLOW			.32
10 PERCENT EXCEEDS	757	932	494
50 PERCENT EXCEEDS	57	70	33
90 PERCENT EXCEEDS	7.4	.76	1.3

STREAMS TRIBUTARY TO LAKE ERIE

04197100 HONEY CREEK AT MELMORE, OH

LOCATION.--Lat 41°01'20", long 83°06'35", Seneca County, Hydrologic Unit 04100011, at bridge on State Highways 67 and 100 at Melmore, 1.5 mi upstream from Buckeye Creek.
DRAINAGE AREA.--149 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 818 ft above sea level from topographic map.

REMARKS.--Estimated daily discharges: Nov. 24-27, Dec. 6, 24-Jan. 7, 20, 30, Feb. 2, 7-11, 19-Mar. 1, Aug. 16-17.

Records good except those for estimated daily discharges which are poor. Water-quality data collected at this site 1976 to 1977, 1988 to 1989.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	50	93	900	78	50	585	86	15	9.9	1.6	1.1
2	22	629	84	440	64	66	692	70	14	11	1.7	1.1
3	20	847	94	240	55	236	334	62	13	58	1.9	1.5
4	18	579	98	740	46	774	190	54	12	31	3.2	1.6
5	16	370	88	2300	42	1000	137	71	13	19	2.4	1.4
6	15	234	76	1400	38	802	114	93	12	14	2.2	1.1
7	14	173	64	800	35	541	96	67	13	10	2.9	1.1
8	13	126	57	433	33	1120	84	48	60	8.5	2.4	1.1
9	15	100	48	276	30	1250	117	41	318	6.4	2.0	1.1
10	15	85	50	184	28	782	1200	37	343	5.1	1.9	1.1
11	16	223	59	148	27	428	1150	31	167	5.6	1.9	1.1
12	16	1470	79	109	36	294	446	28	83	12	1.6	1.0
13	15	3050	100	545	77	234	226	26	51	14	1.4	1.0
14	21	2020	113	909	98	139	153	23	46	12	1.3	1.0
15	51	1030	111	590	78	132	121	21	35	8.9	1.2	1.0
16	282	545	126	281	68	119	301	20	27	6.5	1.1	1.0
17	405	338	110	182	58	496	346	17	23	5.0	1.1	.99
18	238	235	87	129	52	607	196	16	19	4.1	1.1	.95
19	120	171	73	91	80	437	135	16	16	3.7	1.1	.97
20	86	132	148	70	66	459	137	15	15	3.3	1.1	.94
21	73	115	156	104	48	945	357	14	56	2.6	1.1	.88
22	64	361	107	514	80	907	194	14	120	2.4	1.1	.86
23	55	1240	85	549	120	1300	129	13	61	2.3	1.1	.87
24	48	820	70	653	200	1960	101	13	34	2.1	1.1	.90
25	44	540	60	778	130	1230	95	13	24	2.1	1.1	.92
26	40	370	54	422	74	608	228	12	23	2.0	1.1	1.1
27	37	240	49	207	39	365	319	13	20	1.8	1.1	1.1
28	34	161	46	143	56	257	176	12	17	1.7	1.1	1.1
29	30	127	170	119	---	203	122	15	13	1.6	1.1	1.0
30	27	107	520	96	---	166	100	11	10	1.7	1.1	1.1
31	24	---	1700	78	---	141	---	16	---	1.7	1.1	---
TOTAL	1899	16488	4775	14430	1836	18048	8581	988	1673	270.0	47.2	31.98
MEAN	61.3	550	154	465	65.6	582	286	31.9	55.8	8.71	1.52	1.07
MAX	405	3050	1700	2300	200	1960	1200	93	343	58	3.2	1.6
MIN	13	50	46	70	27	50	84	11	10	1.6	1.1	.86
CFSM	.41	3.69	1.03	3.12	.44	3.91	1.92	.21	.37	.06	.01	.01
IN.	.47	4.12	1.19	3.60	.46	4.51	2.14	.25	.42	.07	.01	.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1993, BY WATER YEAR (WY)

	MEAN	37.9	126	176	127	230	291	241	105	107	77.9	32.4	42.9
MAX	186	550	518	465	528	765	540	314	740	373	125	242	
(WY)	1991	1993	1978	1993	1990	1978	1979	1983	1981	1992	1990	1981	
MIN	.71	2.60	1.98	1.31	65.6	40.4	77.5	8.69	1.05	.46	1.52	1.06	
(WY)	1989	1992	1977	1977	1978	1981	1991	1988	1988	1988	1993	1978	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1977 - 1993

ANNUAL TOTAL	66367.0	69067.18	132
ANNUAL MEAN	181	189	189
HIGHEST ANNUAL MEAN			48.1
LOWEST ANNUAL MEAN			1993
HIGHEST DAILY MEAN	3050	Nov 13	4000
LOWEST DAILY MEAN	2.8	Jan 1	.07
ANNUAL SEVEN-DAY MINIMUM	3.6	Jan 1	.09
INSTANTANEOUS PEAK FLOW			4440
INSTANTANEOUS PEAK STAGE			11.00
INSTANTANEOUS LOW FLOW			.07
ANNUAL RUNOFF (CFSM)	1.22	1.27	.89
ANNUAL RUNOFF (INCHES)	16.57	17.24	12.05
10 PERCENT EXCEEDS	499	561	356
50 PERCENT EXCEEDS	65	56	31
90 PERCENT EXCEEDS	13	1.1	2.0

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

04197170 ROCK CREEK AT TIFFIN, OH

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

DRAINAGE AREA.--34.6 mi².

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

GAGE.--Water-stage recorder. Elevation of gage is 740 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 25-28, Jan. 19-20, Feb. 24-Mar. 1. Records fair except those for estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	12	13	112	11	4.0	316	11	4.2	4.4	1.7	1.0
2	5.2	300	13	33	9.6	9.4	129	9.5	3.9	5.7	1.9	1.3
3	5.1	302	16	38	8.3	109	46	9.1	3.9	15	2.2	2.0
4	4.7	68	15	610	8.0	328	29	9.2	3.9	8.0	2.7	1.5
5	4.7	49	13	663	7.9	201	21	11	4.0	5.0	2.0	1.4
6	4.7	27	11	121	7.8	76	18	9.8	3.9	4.1	1.8	1.3
7	4.6	17	10	46	7.3	117	16	9.1	6.2	3.9	1.8	1.3
8	4.6	13	9.4	31	7.3	396	15	7.6	29	3.5	1.8	1.2
9	6.2	11	8.9	22	6.9	224	27	7.1	482	3.1	1.7	1.2
10	6.1	10	11	16	7.0	113	557	6.8	197	3.0	1.8	1.3
11	6.2	95	17	15	7.1	55	90	6.6	33	3.6	1.9	1.2
12	6.2	869	30	15	12	53	44	6.4	14	18	1.8	1.3
13	5.9	1050	34	268	35	44	29	6.2	8.8	13	1.7	1.1
14	7.6	153	23	185	19	33	22	6.0	9.7	7.2	1.6	1.0
15	13	46	19	47	13	39	20	5.8	9.0	4.3	1.6	1.2
16	87	29	22	28	11	16	100	5.5	6.3	3.4	1.5	1.3
17	91	22	19	20	11	278	48	5.1	5.4	2.8	1.5	1.4
18	22	17	13	14	20	144	23	4.8	4.7	2.6	1.5	1.2
19	12	14	11	12	10	62	18	4.8	4.3	2.6	1.4	1.1
20	9.1	13	43	10	7.7	137	21	4.6	5.5	2.5	1.5	1.1
21	8.9	16	32	25	8.8	270	38	4.5	131	2.3	1.6	1.2
22	8.6	194	15	190	35	142	30	4.2	66	2.2	1.4	1.3
23	8.1	698	12	96	41	445	17	4.4	18	2.1	1.3	1.4
24	8.3	110	10	192	21	397	14	4.5	8.8	2.1	1.3	1.4
25	7.8	78	8.0	129	10	143	15	4.5	7.4	2.2	1.3	2.3
26	7.5	53	7.0	37	4.5	76	19	4.3	12	2.1	1.2	2.7
27	7.1	30	6.6	21	11	53	14	3.8	7.8	2.0	1.1	1.7
28	6.8	20	6.2	17	6.8	40	11	3.7	5.8	1.9	1.0	1.5
29	7.0	16	8.4	16	---	35	11	4.2	5.0	1.9	.98	1.6
30	6.6	14	50	14	---	30	11	3.7	4.5	1.7	1.0	1.9
31	6.5	---	511	12	---	28	---	4.9	---	1.7	.98	---
TOTAL	394.7	4346	1017.5	3055	365.0	4097.4	1769	192.7	1105.0	137.9	48.56	42.4
MEAN	12.7	145	32.8	98.5	13.0	132	59.0	6.22	36.8	4.45	1.57	1.41
MAX	91	1050	511	663	41	445	557	11	482	18	2.7	2.7
MIN	4.6	10	6.2	10	4.5	4.0	11	3.7	3.9	1.7	.98	1.0
CFSM	.37	4.19	.95	2.85	.38	3.82	1.70	.18	1.06	.13	.05	.04
IN.	.42	4.67	1.09	3.28	.39	4.41	1.90	.21	1.19	.15	.05	.05

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1993, BY WATER YEAR (WY)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
MEAN	14.3	43.9	45.6	31.4	61.9	51.4	48.8	23.8	13.8	17.5
MAX	50.3	145	172	98.5	122	138	88.3	82.3	36.8	82.0
(WY)	1991	1993	1991	1993	1990	1984	1984	1989	1993	1992
MIN	1.28	2.24	2.09	10.2	13.0	13.6	17.9	2.29	1.12	.55
(WY)	1989	1992	1992	1992	1993	1989	1988	1988	1988	1991

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1984 - 1993

ANNUAL TOTAL	16919.6	16571.16	
ANNUAL MEAN	46.2	45.4	31.1
HIGHEST ANNUAL MEAN			48.2
LOWEST ANNUAL MEAN			11.6
HIGHEST DAILY MEAN	1050	Nov 13	1440
LOWEST DAILY MEAN	1.9	Jan 1	.32
ANNUAL SEVEN-DAY MINIMUM	2.1	Jul 3	.38
INSTANTANEOUS PEAK FLOW			1700
INSTANTANEOUS PEAK STAGE			7.86
INSTANTANEOUS LOW FLOW			.98
ANNUAL RUNOFF (CFSM)	1.34	1.31	.90
ANNUAL RUNOFF (INCHES)	18.19	17.82	12.20
10 PERCENT EXCEEDS	92	112	62
50 PERCENT EXCEEDS	9.5	9.4	6.9
90 PERCENT EXCEEDS	3.3	1.5	1.5

STREAMS TRIBUTARY TO LAKE ERIE

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

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

DRAINAGE AREA.--1,251 mi².

WATER-DISCHARGE RECORDS

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

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

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

REMARKS.--Estimated daily discharges: Dec. 26-29, and Feb. 18-28. Records good except for and periods of estimated daily discharge which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	264	245	900	3770	767	689	2960	956	222	155	46	28
2	241	2350	794	2320	659	673	4890	781	218	159	46	28
3	221	6950	740	1510	569	1240	3460	659	192	367	50	36
4	202	4940	744	7120	514	4970	2170	583	167	1200	71	44
5	180	3470	689	13500	486	9060	1470	559	161	1060	86	38
6	164	2080	619	12200	448	8110	1140	686	151	702	77	35
7	154	1410	561	9870	410	7890	952	700	152	412	67	37
8	146	1110	517	7840	397	9930	838	555	357	280	58	36
9	170	880	468	3640	396	9730	819	458	5030	212	57	33
10	163	734	465	1870	379	7960	6030	403	6550	155	55	32
11	174	915	535	1400	363	5330	7850	370	2700	133	52	32
12	175	6030	668	1120	401	3520	5960	352	1430	170	49	33
13	172	16900	872	2560	713	2930	3690	327	772	327	45	32
14	213	15600	987	5910	875	2180	1880	325	496	501	45	31
15	366	12600	937	5400	977	1440	1380	328	458	351	45	30
16	1010	10500	887	3440	846	1250	1670	324	563	256	45	30
17	2830	5280	850	1870	700	3180	2560	320	403	176	44	29
18	1960	2070	758	1290	820	4120	2420	314	322	122	41	28
19	1350	1490	661	1020	1000	3300	1530	308	257	101	39	28
20	833	1170	695	747	760	2750	1210	307	206	89	37	28
21	621	1010	1020	853	550	4630	1380	300	343	78	34	28
22	526	1470	1010	3650	860	5160	1520	294	1010	69	33	28
23	465	9010	872	5090	1800	6720	1380	289	603	61	32	28
24	422	8050	672	5310	2200	11300	1050	289	343	58	32	28
25	383	5520	497	6610	1500	9360	1140	271	288	59	30	29
26	354	3980	450	4920	1150	6730	1930	258	522	64	27	48
27	323	2520	410	2970	1030	3660	3890	239	498	62	27	66
28	300	1740	390	1660	920	2200	3620	221	288	55	27	61
29	278	1320	380	1230	---	1680	2000	214	221	49	26	69
30	257	1060	670	976	---	1390	1240	215	194	46	25	79
31	239	---	4960	872	---	1190	---	256	---	45	26	---
TOTAL	15156	132404	25678	122538	22490	144272	74029	12461	25117	7574	1374	1112
MEAN	489	4413	828	3953	803	4654	2468	402	837	244	44.3	37.1
MAX	2830	16900	4960	13500	2200	11300	7850	956	6550	1200	86	79
MIN	146	245	380	747	363	673	819	214	151	45	25	28
CFSM	.39	3.53	.66	3.16	.64	3.72	1.97	.32	.67	.20	.04	.03
IN.	.45	3.94	.76	3.64	.67	4.29	2.20	.37	.75	.23	.04	.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 1993, BY WATER YEAR (WY)

	MEAN	233	595	1093	1551	1935	2349	1801	1024	766	453	206	267
MAX	2521	4413	5495	7659	7504	8261	5524	3654	6091	3479	1660	3713	
(WY)	1927	1993	1991	1930	1984	1978	1957	1969	1981	1992	1958	1981	
MIN	9.94	25.4	32.6	53.5	60.3	319	144	100	43.4	30.9	22.4	13.5	
(WY)	1964	1954	1964	1961	1964	1941	1946	1941	1988	1934	1952	1953	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1924 - 1993

ANNUAL TOTAL	564027	584205	
ANNUAL MEAN	1541	1601	1018
HIGHEST ANNUAL MEAN			2167
LOWEST ANNUAL MEAN			275
HIGHEST DAILY MEAN	16900	Nov 13	36000
LOWEST DAILY MEAN	68	Jan 1	5.0
ANNUAL SEVEN-DAY MINIMUM	81	Jan 1	6.3
INSTANTANEOUS PEAK FLOW			18200
INSTANTANEOUS PEAK STAGE			8.65
INSTANTANEOUS LOW FLOW			25
ANNUAL RUNOFF (CFSM)	1.23	1.28	.81
ANNUAL RUNOFF (INCHES)	16.77	17.37	11.05
10 PERCENT EXCEEDS	4630	5050	2720
50 PERCENT EXCEEDS	601	563	270
90 PERCENT EXCEEDS	204	39	38

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

04198000 SANDUSKY RIVER NEAR FREMONT, OH--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

CHLORIDE: February 1988 to current year.

NITROGEN, NITRITE + NITRATE: February 1988 to current year.

NITROGEN, AMMONIA + ORGANIC: February 1988 to current year.

PHOSPHORUS: February 1988 to current year.

SUSPENDED SEDIMENT DISCHARGE: Water years 1951-1956, 1978 to current year.

INSTRUMENTATION.--Refrigerated water-quality pumping sampler since February 1988.

REMARKS.--Water-quality samples were collected by pumping samples three times a day. Sediment samples were collected by a local observer on an approximate once daily basis. Chemical loads were calculated using the mean-interval method (Porterfield, George, 1972, Computation of Fluvial-Sediment Discharge: U.S. Geological Survey, Techniques of Water Resources Investigations, Book 3, Chap. C3, 66 p.). For days with unsteady concentration, discharge, or both, the day was sub-divided into half-hour intervals and the daily load was calculated by summing the loads for these half-hour intervals. This required interpolation between measured and estimated concentrations. Concentrations reported as below the limit of detection (for example, <.100) were assumed to have a value of half of the detection limit for the purpose of load calculation.

EXTREMES FOR PERIOD OF DAILY RECORD.--

DISSOLVED CHLORIDE CONCENTRATIONS: Maximum daily mean, 120 mg/L, Oct. 8-10, 1991; minimum daily mean, <10 mg/L, Dec. 30, 31, 1990, Jan. 1-3, 1991, on several days during 1992.

DISSOLVED CHLORIDE LOADS: Maximum daily, 1,280 tons, Jan. 1, 2, 1990; minimum daily, 1.11 tons, July 9, 15-18, 1988.

DISSOLVED NITROGEN, NITRITE + NITRATE CONCENTRATIONS: Maximum daily mean, 17.5 mg/L, June 23, 1992; minimum daily mean, <.100 mg/L, on many days during 1988, 1989, 1990, 1991, and 1993 water years, Oct. 6, 22-24, 1991.

DISSOLVED NITROGEN, NITRITE + NITRATE LOADS: Maximum daily, 330 tons, July 15, 1990; minimum daily, .00 ton, on many days during 1988, 1989, 1991, and 1993 water years.

TOTAL NITROGEN, AMMONIA + ORGANIC CONCENTRATIONS: Maximum daily mean, 7.6 mg/L, June 1, 1991; minimum daily mean, <.20 mg/L, Feb. 20, 1993.

TOTAL NITROGEN, AMMONIA + ORGANIC LOADS: Maximum daily, 184 tons, May 27, 1989; minimum daily, .011 ton, Oct. 10-11, 1988.

TOTAL PHOSPHORUS CONCENTRATIONS: Maximum daily mean, 2.19 mg/L, June 1, 1991; minimum daily mean, <.010 mg/L, May 17-22, 1988, on several days during 1992.

TOTAL PHOSPHORUS LOADS: Maximum daily 66.0 tons, Dec. 31, 1990; minimum daily, .001 ton, Oct. 9-12, 1988, on several days during 1992.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,420 mg/L, June 9, 1981; minimum daily mean, 1 mg/L, on many days during 1951-56, 1980, 1981, 1988, 1992.

SEDIMENT LOADS: Maximum daily, 124,000 tons, June 14, 1981; minimum daily, less than 0.05 ton, on several days during 1952, 1954, 1989.

EXTREMES FOR CURRENT YEAR.--

DISSOLVED CHLORIDE CONCENTRATIONS: Maximum daily mean, 100 mg/L, Sep. 23; minimum daily mean, 11 mg/L, Apr. 11, 12.

DISSOLVED CHLORIDE LOADS: Maximum daily, 570 tons, Nov. 13; minimum daily, 3.79 tons, Aug. 30.

DISSOLVED NITROGEN, NITRITE + NITRATE CONCENTRATIONS: Maximum daily mean, 13.5 mg/L, July 8; minimum daily mean, <.100 mg/L, on many days during the year.

DISSOLVED NITROGEN, NITRITE + NITRATE LOADS: Maximum daily, 200 tons, June 10; minimum daily, .00 ton, on many days during the year.

TOTAL NITROGEN, AMMONIA + ORGANIC CONCENTRATIONS: Maximum daily mean, 6.1 mg/L, June 9; minimum daily mean, <.20 mg/L, Feb. 20.

TOTAL NITROGEN, AMMONIA + ORGANIC LOADS: Maximum daily, 106 tons, Nov. 13; minimum daily, .025 ton, Sep. 23, 24.

TOTAL PHOSPHORUS CONCENTRATIONS: Maximum daily mean, 1.36 mg/L, June 9; minimum daily mean, .032 mg/L, Feb. 10, 11.

TOTAL PHOSPHORUS LOADS: Maximum daily, 31.5 tons, Jan. 5; minimum daily, .004 ton, Sep. 22.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 813 mg/L, June 9; minimum daily mean, 4 mg/L, Feb. 9.

SEDIMENT LOADS: Maximum daily, 19,900 tons, Nov. 13; minimum daily, .69 ton, Sep. 18.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	ALACHLOR TOT RECV (UG/L)	DATE	TIME	ALACHLOR TOT RECV (UG/L)	DATE	TIME	ALACHLOR TOT RECV (UG/L)
Oct 19	1530	<.1	Jun 11	0400	12.1	Jul 3	2000	.3
Nov 2	1605	<.1	Jun 11	1200	10.5	Jul 4	2000	.3
Nov 16	1645	<.1	Jun 11	2000	9.6	Jul 5	2000	.6
Feb 15	1610	<.1	Jun 12	2000	4.0	Jul 6	1545	.5
Mar 1	1615	<.1	Jun 13	0400	5.1	Jul 7	2000	.5
Mar 15	1400	<.1	Jun 13	1200	4.9	Jul 8	2000	.3
Mar 29	1600	<.1	Jun 13	2000	3.6	Jul 9	2000	.3
Apr 12	1420	<.1	Jun 14	0400	3.8	Jul 10	2000	.3
Apr 26	1550	<.1	Jun 14	1530	4.2	Jul 11	2000	<.1
May 3	1550	<.1	Jun 15	0400	2.4	Jul 12	1600	.3
May 7	2000	<.1	Jun 15	2000	2.2	Jul 13	2000	.1
May 10	1530	<.1	Jun 16	2000	1.6	Jul 15	2000	<.1
May 14	2000	<.1	Jun 17	2000	1.2	Jul 17	2000	<.1
May 17	1530	<.1	Jun 19	2000	.8	Jul 19	1530	<.1
May 21	2000	<.1	Jun 20	2000	1.1	Jul 21	2000	<.1
May 24	1515	<.1	Jun 21	1500	1.1	Jul 24	2000	<.1
May 28	2000	<.1	Jun 22	2000	3.7	Jul 26	1530	<.1
Jun 1	1430	<.1	Jun 23	2000	1.4	Jul 28	2000	<.1
Jun 5	2000	<.1	Jun 24	2000	2.2	Jul 31	2000	<.1
Jun 7	1550	.7	Jun 25	2000	1.2	Aug 2	1520	<.1
Jun 9	0400	18.3	Jun 26	2000	1.5	Aug 6	2000	<.1
Jun 9	1200	19.6	Jun 27	2000	.9	Aug 9	1545	<.1
Jun 9	2000	22.0	Jun 28	1520	.9	Aug 13	2000	<.1
Jun 10	0400	19.9	Jun 29	2000	.6	Aug 16	1530	<.1
Jun 10	1200	17.4	Jul 1	2000	.4	Aug 30	1520	<.1
Jun 10	2000	14.7	Jul 2	2000	.5	Sep 13	1550	<.1
						Sep 27	1545	<.1

STREAMS TRIBUTARY TO LAKE ERIE

04198000 SANDUSKY RIVER NEAR FREMONT, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
DEC 09...	1110	12	733	8.4	2.5	1.5	4.7	14.0	100	92	k 42
MAR 11...	1145	5290	346	7.6	8.0	2.0	87	12.5	91	1600	340
JUN 02...	1230	312	689	7.5	20.5	18.0	21	12.0	129	K20	95
AUG 25...	1100	38	804	7.6	30.0	28.0	13	8.5	110	92	53

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA-LINITY WAT WH TOT FET (MG/L AS CACO3) (00410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
DEC 09...	350	94	27	15	2.7	268	2	224	120	32	0.20
MAR 11...	150	42	12	7.3	2.9	111	0	90	42	19	0.10
JUN 02...	390	97	34	22	3.5	242	0	210	160	39	0.50
AUG 25...	360	77	40	30	5.0	182	0	151	200	52	0.60

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)
DEC 09...	8.5	464	3.80	0.090	0.090	0.40	0.050	0.030	0.030	<10	44
MAR 11...	6.3	221	4.00	--	0.110	1.1	0.250	0.070	0.060	180	26
JUN 02...	0.42	425	0.480	--	0.030	1.1	0.130	0.010	<0.010	20	60
AUG 25...	0.74	521	<0.050	--	0.020	0.50	0.060	0.030	0.010	20	67

DATE	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
DEC 09...	<3	<3	6	25	10	1	<1	<1.0	1900	<6	16
MAR 11...	<3	140	<4	7	<10	2	<1	<1.0	430	<6	107
JUN 02...	<3	14	11	5	10	2	<1	<1.0	3400	<6	62
AUG 25...	<3	16	10	12	20	<1	<1	<1.0	4300	<6	16

k Results based on colony count outside the acceptable range

04198000 SANDUSKY RIVER NEAR FREMONT, OH--Continued

CHLORIDE DISSOLVED (MG/L AS CL), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	264	29	20.6	245	41	27.4	900	28	67.4
2	241	30	19.4	2350	35	201	794	29	61.6
3	221	31	18.5	6950	24	444	740	30	59.2
4	202	32	17.5	4940	26	338	744	30	61.0
5	180	33	16.1	3470	28	259	689	31	57.6
6	164	34	15.1	2080	28	156	619	31	51.4
7	154	35	14.7	1410	29	109	561	31	46.8
8	146	37	14.4	1110	30	89.8	517	32	44.7
9	170	38	17.4	880	31	74.8	468	33	41.2
10	163	39	17.3	734	32	63.9	465	36	45.2
11	174	41	19.0	915	33	81.6	535	40	57.3
12	175	42	19.8	6030	26	364	668	38	67.7
13	172	39	18.3	16900	13	570	872	35	81.1
14	213	38	22.1	15600	12	504	987	33	86.7
15	366	39	38.8	12600	12	420	937	31	79.3
16	1010	33	88.0	10500	12	342	887	31	75.1
17	2830	24	182	5280	14	191	850	31	70.1
18	1960	25	131	2070	16	91.6	758	31	63.6
19	1350	28	102	1490	19	76.2	661	32	57.1
20	833	31	70.5	1170	21	67.4	695	32	60.8
21	621	32	53.2	1010	23	63.3	1020	32	87.6
22	526	31	43.8	1470	23	90.2	1010	31	84.0
23	465	31	39.4	9010	12	293	872	31	72.4
24	422	33	37.8	8050	15	313	672	31	56.1
25	383	35	35.9	5520	17	252	497	31	42.0
26	354	36	34.0	3980	18	195	450	32	38.4
27	323	36	31.1	2520	21	139	410	32	35.4
28	300	36	29.2	1740	23	108	390	32	34.0
29	278	37	28.0	1320	25	88.0	380	33	33.5
30	257	38	26.7	1060	26	74.9	670	31	53.0
31	239	39	25.4	---	---	---	4960	20	256
TOTAL	15156	---	1247.0	132404	---	6087.1	25678	---	2027.3
JANUARY			FEBRUARY			MARCH			
1	3770	19	193	767	24	49.7	689	36	67.5
2	2320	22	136	659	26	46.0	673	46	84.1
3	1510	25	100	569	29	44.7	1240	43	141
4	7120	17	296	514	29	40.7	4970	29	375
5	13500	13	456	486	29	38.0	9060	18	450
6	12200	13	430	448	30	35.8	8110	17	362
7	9870	15	393	410	30	33.5	7890	16	349
8	7840	17	350	397	32	33.8	9930	14	373
9	3640	19	182	396	32	34.4	9730	13	350
10	1870	21	106	379	33	33.5	7960	15	323
11	1400	24	89.6	363	34	33.0	5330	18	253
12	1120	27	80.1	401	48	52.6	3520	21	195
13	2560	22	141	713	49	92.9	2930	24	187
14	5910	16	254	875	41	97.0	2180	24	140
15	5400	18	264	977	37	98.7	1440	26	100
16	3440	20	188	846	39	88.3	1250	29	97.0
17	1870	22	113	700	38	71.7	3180	23	189
18	1290	25	85.8	820	40	88.0	4120	19	213
19	1020	27	74.1	1000	43	116	3300	23	205
20	747	30	60.1	760	44	89.5	2750	24	178
21	853	31	70.0	550	78	115	4630	18	219
22	3650	21	197	860	58	135	5160	18	253
23	5090	17	235	1800	41	199	6720	16	275
24	5310	18	258	2200	38	228	11300	12	376
25	6610	14	258	1500	36	146	9360	13	320
26	4920	15	204	1150	35	109	6730	14	246
27	2970	17	133	1030	35	97.1	3660	16	152
28	1660	18	79.6	920	35	86.8	2200	18	106
29	1230	19	63.9	---	---	---	1680	21	93.1
30	976	21	54.5	---	---	---	1390	22	83.5
31	872	22	52.5	---	---	---	1190	23	75.3
TOTAL	122538	---	5597.2	22490	---	2333.7	144272	---	6830.5

STREAMS TRIBUTARY TO LAKE ERIE

04198000 SANDUSKY RIVER NEAR FREMONT, OH--Continued

CHLORIDE DISSOLVED (MG/L AS CL), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)
APRIL			MAY			JUNE			
1	2960	21	157	956	20	50.3	222	38	22.6
2	4890	16	208	781	22	45.8	218	37	21.6
3	3460	18	165	659	24	42.3	192	37	19.1
4	2170	19	113	583	26	40.6	167	37	16.6
5	1470	21	81.4	559	27	40.3	161	38	16.6
6	1140	22	67.4	686	27	50.4	151	39	16.1
7	952	23	60.4	700	28	52.2	152	39	16.1
8	838	24	53.7	555	28	42.4	357	40	38.3
9	819	28	61.1	458	29	36.1	5030	20	244
10	6030	16	236	403	28	30.5	6550	19	327
11	7850	11	227	370	28	28.1	2700	25	178
12	5960	11	183	352	29	27.2	1430	27	102
13	3690	12	114	327	29	26.1	772	28	58.1
14	1880	15	73.4	325	34	29.8	496	29	39.4
15	1380	18	67.6	328	36	32.2	458	30	37.5
16	1670	21	94.9	324	37	32.2	563	31	46.6
17	2560	20	137	320	37	31.7	403	32	34.8
18	2420	18	116	314	37	31.7	322	33	28.6
19	1530	19	76.8	308	38	31.9	257	34	23.4
20	1210	21	69.0	307	37	30.6	206	34	19.1
21	1380	22	83.9	300	36	28.9	343	34	31.3
22	1520	21	85.7	294	38	30.5	1010	25	67.8
23	1380	23	85.7	289	40	31.6	603	28	45.4
24	1050	25	71.9	289	41	31.7	343	30	27.7
25	1140	25	75.2	271	42	30.4	288	32	25.3
26	1930	20	103	258	42	29.5	522	30	40.4
27	3890	19	193	239	40	25.8	498	24	32.1
28	3620	12	119	221	38	22.7	288	27	20.9
29	2000	13	71.0	214	38	22.0	221	30	17.9
30	1240	17	56.2	215	39	22.5	194	32	16.5
31	---	---	---	256	39	27.0	---	---	---
TOTAL	74029	---	3306.3	12461	---	1035.0	25117	---	1630.8
JULY			AUGUST			SEPTEMBER			
1	155	34	14.1	46	38	4.64	28	57	4.28
2	159	35	14.9	46	38	4.71	28	56	4.29
3	367	35	34.7	50	40	5.35	36	53	5.11
4	1200	31	98.9	71	41	7.99	44	61	7.15
5	1060	29	82.3	86	47	10.8	38	73	7.49
6	702	27	52.0	77	50	10.3	35	79	7.44
7	412	27	30.3	67	50	9.06	37	79	8.01
8	280	30	22.3	58	52	8.26	36	78	7.50
9	212	31	17.5	57	52	8.06	33	77	6.96
10	155	31	13.0	55	52	7.85	32	80	6.81
11	133	33	11.9	52	54	7.59	32	84	7.32
12	170	33	15.3	49	55	7.26	33	82	7.22
13	327	33	28.9	45	54	6.52	32	80	6.92
14	501	29	38.9	45	54	6.59	31	73	6.00
15	351	33	31.0	45	55	6.74	30	65	5.23
16	256	36	24.7	45	56	6.73	30	61	4.92
17	176	37	17.5	44	56	6.64	29	62	4.85
18	122	37	12.0	41	55	6.12	28	67	5.10
19	101	36	9.75	39	54	5.67	28	76	5.83
20	89	38	9.20	37	53	5.30	28	86	6.49
21	78	38	7.91	34	53	4.86	28	91	6.92
22	69	39	7.24	33	54	4.82	28	95	7.22
23	61	36	6.00	32	56	4.89	28	100	7.85
24	58	37	5.79	32	55	4.70	28	99	7.53
25	59	40	6.45	30	54	4.40	29	87	6.78
26	64	42	7.16	27	53	3.82	48	88	11.5
27	62	42	7.03	27	53	3.84	66	94	16.7
28	55	41	6.04	27	54	3.90	61	89	14.5
29	49	39	5.14	26	56	3.98	69	75	13.9
30	46	39	4.80	25	56	3.79	79	65	13.9
31	45	38	4.60	26	56	4.02	---	---	---
TOTAL	7574	---	647.31	1374	---	189.20	1112	---	231.72
YEAR	584205		31163.13						

04198000 SANDUSKY RIVER NEAR FREMONT, OH--Continued

NITROGEN NITRITE PLUS NITRATE DISSOLVED (MG/L AS N), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	264	3.05	2.2	245	3.36	2.3	900	4.04	9.8
2	241	2.91	1.9	2350	4.92	25	794	4.07	8.7
3	221	2.78	1.7	6950	3.69	69	740	4.01	8.0
4	202	2.66	1.5	4940	4.16	55	744	3.97	8.0
5	180	2.53	1.2	3470	4.44	42	689	3.89	7.2
6	164	2.42	1.1	2080	4.39	25	619	3.87	6.5
7	154	2.31	.96	1410	4.32	16	561	3.88	5.9
8	146	2.20	.87	1110	4.25	13	517	3.91	5.5
9	170	2.10	.96	880	4.21	10	468	3.98	5.0
10	163	2.01	.89	734	4.10	8.1	465	3.96	5.0
11	174	1.91	.90	915	4.09	10	535	3.97	5.7
12	175	1.83	.86	6030	3.57	53	668	3.81	6.9
13	172	1.79	.83	16900	2.02	92	872	3.60	8.5
14	213	1.76	1.0	15600	2.06	86	987	3.47	9.3
15	366	2.81	2.8	12600	2.31	78	937	3.49	8.8
16	1010	4.36	12	10500	2.43	69	887	3.58	8.6
17	2830	3.36	26	5280	2.94	41	850	3.53	8.1
18	1960	3.92	21	2070	3.25	18	758	3.61	7.4
19	1350	4.07	15	1490	3.46	14	661	3.74	6.7
20	833	3.94	8.8	1170	3.57	11	695	3.77	7.1
21	621	4.15	6.9	1010	3.60	9.9	1020	3.65	10
22	526	4.10	5.8	1470	3.68	14	1010	3.60	9.8
23	465	3.97	5.0	9010	1.99	46	872	3.58	8.4
24	422	3.83	4.4	8050	2.18	47	672	3.57	6.5
25	383	3.69	3.8	5520	2.60	39	497	3.64	4.9
26	354	3.57	3.4	3980	2.87	31	450	3.71	4.5
27	323	3.42	3.0	2520	3.24	22	410	3.78	4.2
28	300	3.24	2.6	1740	3.54	17	390	3.85	4.1
29	278	3.12	2.3	1320	3.74	13	380	3.93	4.0
30	257	3.03	2.1	1060	3.90	11	670	3.90	6.9
31	239	2.83	1.8	---	---	---	4960	3.35	45
TOTAL	15156	---	143.57	132404	---	987.3	25678	---	255.0
JANUARY			FEBRUARY			MARCH			
1	3770	3.40	34	767	3.75	7.8	689	4.15	7.7
2	2320	3.65	23	659	3.88	6.9	673	4.16	7.6
3	1510	3.87	16	569	3.95	6.1	1240	4.05	13
4	7120	2.83	52	514	3.90	5.4	4970	3.33	44
5	13500	2.43	89	486	3.88	5.1	9060	3.34	82
6	12200	2.60	85	448	3.85	4.7	8110	3.61	79
7	9870	2.90	77	410	3.85	4.3	7890	3.61	77
8	7840	3.17	67	397	3.89	4.2	9930	3.36	90
9	3640	3.36	33	396	3.78	4.0	9730	3.30	87
10	1870	3.56	18	379	3.78	3.9	7960	3.60	77
11	1400	3.78	14	363	3.78	3.7	5330	3.83	55
12	1120	4.00	12	401	3.90	4.2	3520	3.86	37
13	2560	3.70	25	713	3.93	7.6	2930	3.97	31
14	5910	3.30	53	875	3.66	8.6	2180	3.96	23
15	5400	3.59	52	977	3.32	8.7	1440	4.13	16
16	3440	3.78	35	846	3.28	7.5	1250	4.40	15
17	1870	3.89	20	700	3.48	6.6	3180	3.72	31
18	1290	4.00	14	820	3.74	8.3	4120	3.25	36
19	1020	4.12	11	1000	4.00	11	3300	3.64	32
20	747	4.24	8.5	760	3.90	8.0	2750	3.93	29
21	853	4.21	9.6	550	4.42	6.6	4630	3.43	43
22	3650	3.44	33	860	4.27	9.9	5160	3.63	51
23	5090	3.28	45	1800	3.58	17	6720	3.49	62
24	5310	3.49	50	2200	3.74	22	11300	3.11	95
25	6610	2.95	53	1500	4.08	17	9360	3.30	83
26	4920	3.04	40	1150	4.26	13	6730	3.26	59
27	2970	3.14	25	1030	4.34	12	3660	3.49	34
28	1660	3.26	15	920	4.30	11	2200	3.61	21
29	1230	3.37	11	---	---	---	1680	3.73	17
30	976	3.49	9.2	---	---	---	1390	3.73	14
31	872	3.62	8.5	---	---	---	1190	3.62	12
TOTAL	122538	---	1037.8	22490	---	235.1	144272	---	1360.3

STREAMS TRIBUTARY TO LAKE ERIE

04198000 SANDUSKY RIVER NEAR FREMONT, OH--Continued

NITROGEN NITRITE PLUS NITRATE DISSOLVED (MG/L AS N), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)
APRIL			MAY			JUNE			
1	2960	3.54	28	956	3.15	8.1	222	.534	.32
2	4890	3.16	42	781	3.04	6.4	218	.437	.26
3	3460	3.24	30	659	2.97	5.3	192	.408	.21
4	2170	3.40	20	583	2.82	4.4	167	.244	.11
5	1470	3.57	14	559	2.55	3.9	161	.305	.13
6	1140	3.66	11	686	2.29	4.2	151	.379	.15
7	952	3.69	9.5	700	1.89	3.6	152	1.95	.91
8	838	3.52	8.0	555	1.91	2.9	357	4.50	4.5
9	819	3.50	7.7	458	1.96	2.4	5030	9.02	120
10	6030	2.96	45	403	2.20	2.4	6550	11.4	200
11	7850	2.77	59	370	2.05	2.1	2700	12.8	94
12	5960	3.04	49	352	1.63	1.5	1430	12.2	47
13	3690	3.11	31	327	1.34	1.2	772	10.8	23
14	1880	3.35	17	325	1.12	.98	496	9.70	13
15	1380	3.47	13	328	1.06	.94	458	8.99	11
16	1670	3.36	15	324	1.00	.88	563	8.84	13
17	2560	2.86	20	320	.970	.84	403	8.09	8.8
18	2420	2.67	17	314	.931	.79	322	7.15	6.2
19	1530	2.82	12	308	.864	.72	257	6.66	4.6
20	1210	2.99	9.8	307	.832	.69	206	6.28	3.5
21	1380	3.03	11	300	.845	.68	343	5.91	5.5
22	1520	2.83	12	294	.818	.65	1010	7.92	22
23	1380	2.84	11	289	.782	.61	603	8.34	14
24	1050	2.92	8.3	289	.825	.64	343	7.93	7.4
25	1140	3.18	9.9	271	.808	.59	288	7.09	5.5
26	1930	3.27	17	258	.779	.54	522	8.12	12
27	3890	3.06	32	239	.731	.47	498	10.7	14
28	3620	2.99	29	221	.678	.41	288	9.96	7.8
29	2000	3.04	16	214	.583	.34	221	8.03	4.8
30	1240	3.16	11	215	.575	.33	194	6.44	3.4
31	---	---	---	256	.618	.43	---	---	---
TOTAL	74029	---	615.2	12461	---	59.93	25117	---	647.09
JULY			AUGUST			SEPTEMBER			
1	155	5.11	2.1	46	.461	.06	28	<.100	.01
2	159	4.18	1.8	46	.313	.04	28	<.100	.00
3	367	4.22	4.4	50	.162	.02	36	<.100	.01
4	1200	3.87	12	71	.113	.02	44	.120	.01
5	1060	5.61	16	86	<.100	.01	38	<.100	.01
6	702	9.87	18	77	<.100	.01	35	<.100	.00
7	412	12.7	14	67	<.100	.01	37	<.100	.01
8	280	13.5	10	58	<.100	.01	36	.103	.01
9	212	12.9	7.4	57	<.100	.01	33	<.100	.01
10	155	12.0	5.0	55	<.100	.01	32	<.100	.01
11	133	11.1	4.0	52	<.100	.01	32	<.100	.01
12	170	10.3	4.7	49	<.100	.01	33	<.100	.01
13	327	8.10	7.0	45	<.100	.01	32	<.100	.01
14	501	5.96	8.1	45	<.100	.01	31	<.100	.00
15	351	3.92	3.8	45	<.100	.01	30	<.100	.00
16	256	2.14	1.5	45	<.100	.01	30	<.100	.00
17	176	.987	.48	44	<.100	.01	29	<.100	.00
18	122	.928	.30	41	<.100	.01	28	<.100	.00
19	101	1.48	.40	39	<.100	.01	28	<.100	.00
20	89	2.05	.49	37	<.100	.01	28	<.100	.00
21	78	2.31	.49	34	<.100	.00	28	<.100	.00
22	69	2.36	.44	33	<.100	.00	28	<.100	.00
23	61	2.01	.33	32	<.100	.00	28	<.100	.00
24	58	1.62	.25	32	<.100	.00	28	<.100	.00
25	59	1.46	.23	30	<.100	.00	29	<.100	.00
26	64	1.26	.22	27	<.100	.00	48	<.100	.01
27	62	1.09	.18	27	<.100	.00	66	<.100	.01
28	55	.903	.13	27	<.100	.00	61	.102	.02
29	49	.766	.10	26	<.100	.00	69	.279	.05
30	46	.705	.09	25	<.100	.00	79	.426	.09
31	45	.590	.07	26	<.100	.01	---	---	---
TOTAL	7574	---	124.00	1374	---	0.31	1112	---	0.29
YEAR	584205		5465.89						

04198000 SANDUSKY RIVER NEAR FREMONT, OH--Continued

NITROGEN AMMONIA PLUS ORGANIC TOTAL (MG/L AS N), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	264	.77	.55	245	.55	.37	900	.64	1.56
2	241	.76	.49	2350	1.5	10.9	794	.56	1.21
3	221	.74	.44	6950	2.1	40.1	740	.54	1.07
4	202	.73	.40	4940	1.8	23.7	744	.44	.88
5	180	.72	.35	3470	1.4	13.1	689	.47	.87
6	164	.70	.31	2080	1.2	6.57	619	.48	.81
7	154	.69	.29	1410	1.0	3.89	561	.47	.71
8	146	.67	.27	1110	.89	2.67	517	.49	.69
9	170	.66	.30	880	.81	1.92	468	.45	.58
10	163	.65	.29	734	.66	1.32	465	.47	.60
11	174	.64	.30	915	.62	1.58	535	.46	.66
12	175	.62	.30	6030	1.3	26.7	668	.40	.71
13	172	.64	.30	16900	2.3	106	872	.41	.96
14	213	.74	.43	15600	2.0	85.6	987	.51	1.36
15	366	.96	.96	12600	1.9	64.3	937	.59	1.48
16	1010	1.2	3.58	10500	1.8	50.0	887	.56	1.34
17	2830	1.6	12.0	5280	1.6	22.9	850	.56	1.28
18	1960	1.5	7.78	2070	1.2	6.92	758	.49	1.01
19	1350	1.3	4.80	1490	.95	3.83	661	.44	.79
20	833	1.0	2.33	1170	.76	2.41	695	.48	.91
21	621	.88	1.47	1010	.72	1.96	1020	.57	1.56
22	526	.80	1.13	1470	.89	3.98	1010	.62	1.68
23	465	.71	.89	9010	3.0	74.9	872	.68	1.61
24	422	.60	.68	8050	2.6	58.0	672	.61	1.10
25	383	.65	.67	5520	2.0	29.7	497	.59	.79
26	354	.70	.67	3980	1.6	16.8	450	.57	.69
27	323	.72	.63	2520	1.3	8.62	410	.55	.60
28	300	.65	.53	1740	1.1	5.19	390	.53	.55
29	278	.56	.42	1320	.86	3.08	380	.51	.52
30	257	.54	.37	1060	.73	2.10	670	.61	1.27
31	239	.52	.33	---	---	---	4960	1.5	21.1
TOTAL	15156	---	44.26	132404	---	679.11	25678	---	50.95
JANUARY			FEBRUARY			MARCH			
1	3770	1.4	14.5	767	.72	1.49	689	.64	1.18
2	2320	1.2	7.37	659	.63	1.13	673	.52	.95
3	1510	1.0	4.14	569	.48	.73	1240	.74	2.59
4	7120	1.9	39.3	514	.37	.51	4970	1.5	20.6
5	13500	2.8	103	486	.32	.42	9060	2.0	49.9
6	12200	2.7	87.8	448	.38	.46	8110	2.0	44.2
7	9870	2.4	64.8	410	.40	.45	7890	1.7	37.2
8	7840	2.1	45.3	397	.39	.42	9930	1.4	37.3
9	3640	1.7	17.4	396	.36	.38	9730	1.2	32.9
10	1870	1.4	7.20	379	.34	.35	7960	1.2	26.0
11	1400	1.2	4.42	363	.27	.26	5330	1.1	15.8
12	1120	.95	2.88	401	.33	.37	3520	.89	8.53
13	2560	1.3	9.60	713	.51	.998	2930	.79	6.26
14	5910	1.9	30.2	875	.57	1.35	2180	.81	4.80
15	5400	1.8	26.0	977	.51	1.36	1440	.67	2.61
16	3440	1.6	14.6	846	.52	1.18	1250	.55	1.85
17	1870	1.3	6.81	700	.52	.98	3180	1.0	9.47
18	1290	1.1	4.02	820	.41	.91	4120	1.3	14.6
19	1020	.98	2.71	1000	.34	.91	3300	1.2	10.4
20	747	.84	1.70	760	<.20	.37	2750	1.2	8.66
21	853	.81	1.90	550	.26	.39	4630	1.8	23.0
22	3650	1.3	13.7	860	.44	1.02	5160	1.5	21.3
23	5090	1.6	21.6	1800	.47	2.31	6720	1.8	34.2
24	5310	1.6	22.9	2200	.71	4.23	11300	2.1	64.3
25	6610	1.7	29.7	1500	.80	3.24	9360	1.6	40.8
26	4920	1.5	19.6	1150	.88	2.72	6730	1.9	34.1
27	2970	1.3	10.6	1030	.76	2.12	3660	1.3	13.4
28	1660	1.2	5.20	920	.77	1.91	2200	.86	5.16
29	1230	1.0	3.43	---	---	---	1680	.77	3.51
30	976	.91	2.40	---	---	---	1390	.79	2.96
31	872	.81	1.90	---	---	---	1190	.69	2.22
TOTAL	122538	---	626.68	22490	---	32.968	144272	---	580.75

STREAMS TRIBUTARY TO LAKE ERIE

04198000 SANDUSKY RIVER NEAR FREMONT, OH--Continued

NITROGEN AMMONIA PLUS ORGANIC TOTAL (MG/L AS N), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN	LOAD (TONS/ DAY)
		CONCENTRATION (MG/L)			CONCENTRATION (MG/L)			CONCENTRATION (MG/L)	
APRIL									
1	2960	1.3	11.9	956	1.0	2.64	222	.90	.54
2	4890	1.6	21.9	781	.85	1.79	218	1.1	.65
3	3460	1.4	13.3	659	.79	1.40	192	1.2	.63
4	2170	1.1	6.41	583	.92	1.45	167	1.2	.55
5	1470	1.0	4.10	559	1.0	1.52	161	1.2	.53
6	1140	.99	3.04	686	1.1	2.04	151	1.3	.52
7	952	.90	2.31	700	1.1	2.02	152	1.4	.60
8	838	.65	1.48	555	1.0	1.55	357	2.3	2.34
9	819	.77	1.72	458	1.0	1.24	5030	6.1	77.1
10	6030	2.3	39.8	403	.92	.998	6550	3.3	59.0
11	7850	2.6	54.7	370	1.0	1.01	2700	2.6	19.2
12	5960	2.1	34.6	352	1.1	1.09	1430	1.8	6.93
13	3690	2.6	24.3	327	1.2	1.07	772	1.4	2.94
14	1880	1.9	9.95	325	1.3	1.11	496	1.4	1.83
15	1380	.89	3.33	328	1.2	1.09	458	1.2	1.55
16	1670	.83	3.82	324	1.2	1.01	563	1.5	2.30
17	2560	1.1	7.70	320	1.1	.97	403	1.1	1.17
18	2420	1.3	8.65	314	1.1	.91	322	1.1	.94
19	1530	1.3	5.21	308	1.1	.88	257	1.1	.79
20	1210	.96	3.15	307	1.0	.83	206	1.0	.58
21	1380	.77	2.88	300	.94	.76	343	1.2	1.25
22	1520	.95	3.90	294	.91	.73	1010	2.5	6.86
23	1380	.97	3.62	289	.87	.68	603	1.7	2.79
24	1050	.77	2.22	289	.79	.62	343	1.3	1.23
25	1140	1.0	3.42	271	.65	.48	288	1.2	.97
26	1930	1.5	7.79	258	.69	.48	522	1.7	2.64
27	3890	1.9	20.0	239	.78	.50	498	2.1	2.95
28	3620	2.2	21.6	221	1.1	.66	288	1.7	1.30
29	2000	1.8	9.62	214	.86	.49	221	1.8	1.09
30	1240	1.4	4.87	215	.76	.44	194	1.8	.97
31	---	---	---	256	.88	.61	---	---	---
TOTAL	74029	---	341.29	12461	---	33.068	25117	---	202.74
JULY									
1	155	1.8	.76	46	.82	.10	28	.46	.034
2	159	1.8	.76	46	.93	.12	28	.37	.029
3	367	1.7	1.70	50	1.2	.16	36	.33	.031
4	1200	1.7	5.41	71	.97	.19	44	.34	.040
5	1060	1.7	4.83	86	.98	.23	38	.39	.040
6	702	1.4	2.70	77	.88	.18	35	.50	.048
7	412	1.5	1.64	67	.83	.15	37	.54	.054
8	280	1.6	1.19	58	.92	.14	36	.59	.056
9	212	1.4	.83	57	.94	.15	33	.63	.056
10	155	1.2	.52	55	.81	.12	32	.65	.055
11	133	1.2	.42	52	.83	.12	32	.57	.050
12	170	1.2	.54	49	.78	.10	33	.58	.051
13	327	1.6	1.50	45	.78	.094	32	.62	.054
14	501	1.8	2.51	45	.73	.089	31	.59	.049
15	351	1.4	1.34	45	.74	.090	30	.56	.045
16	256	1.2	.86	45	.76	.092	30	.51	.041
17	176	1.2	.58	44	.69	.082	29	.48	.038
18	122	1.3	.43	41	.60	.067	28	.47	.036
19	101	1.2	.32	39	.53	.056	28	.50	.038
20	89	.94	.23	37	.55	.055	28	.51	.039
21	78	.89	.19	34	.53	.049	28	.41	.031
22	69	1.0	.19	33	.63	.056	28	.37	.028
23	61	1.1	.18	32	.86	.076	28	.33	.025
24	58	1.5	.23	32	.75	.065	28	.33	.025
25	59	1.2	.19	30	.71	.058	29	.36	.028
26	64	1.1	.19	27	.71	.051	48	.51	.069
27	62	1.2	.20	27	.66	.047	66	.55	.098
28	55	1.0	.15	27	.57	.041	61	.51	.083
29	49	.94	.12	26	.49	.035	69	.41	.077
30	46	.86	.11	25	.47	.032	79	.42	.089
31	45	.84	.10	26	.52	.037	---	---	---
TOTAL	7574	---	30.92	1374	---	2.932	1112	---	1.437
YEAR	584205		2627.109						

04198000 SANDUSKY RIVER NEAR FREMONT, OH--Continued

PHOSPHORUS TOTAL (MG/L AS P), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	264	.111	.079	245	.079	.056	900	.116	.28
2	241	.104	.068	2350	.323	2.31	794	.103	.22
3	221	.097	.058	6950	.509	9.57	740	.094	.19
4	202	.090	.049	4940	.417	5.62	744	.085	.17
5	180	.084	.041	3470	.325	3.07	689	.078	.15
6	164	.079	.035	2080	.253	1.44	619	.078	.13
7	154	.073	.031	1410	.196	.75	561	.077	.12
8	146	.069	.027	1110	.154	.46	517	.077	.11
9	170	.064	.029	880	.121	.29	468	.072	.091
10	163	.060	.026	734	.103	.20	465	.069	.086
11	174	.056	.026	915	.109	.28	535	.071	.10
12	175	.052	.025	6030	.363	7.50	668	.073	.13
13	172	.048	.023	16900	.651	29.8	872	.079	.19
14	213	.052	.031	15600	.521	21.9	987	.083	.22
15	366	.109	.11	12600	.562	19.0	937	.077	.20
16	1010	.219	.65	10500	.469	13.4	887	.076	.18
17	2830	.341	2.61	5280	.400	5.84	850	.069	.16
18	1960	.321	1.70	2070	.309	1.75	758	.063	.13
19	1350	.237	.88	1490	.239	.97	661	.059	.11
20	833	.172	.39	1170	.191	.61	695	.055	.10
21	621	.146	.25	1010	.163	.45	1020	.077	.21
22	526	.127	.18	1470	.197	.93	1010	.100	.27
23	465	.115	.14	9010	.435	9.99	872	.116	.27
24	422	.104	.12	8050	.131	2.80	672	.106	.19
25	383	.090	.093	5520	.221	3.27	497	.097	.13
26	354	.085	.081	3980	.206	2.23	450	.089	.11
27	323	.078	.068	2520	.206	1.40	410	.081	.090
28	300	.064	.052	1740	.188	.89	390	.074	.078
29	278	.057	.043	1320	.158	.57	380	.068	.069
30	257	.054	.037	1060	.134	.38	670	.086	.19
31	239	.048	.031	---	---	---	4960	.356	4.99
TOTAL	15156	---	7.983	132404	---	147.726	25678	---	9.664
JANUARY			FEBRUARY			MARCH			
1	3770	.310	3.22	767	.121	.25	689	.051	.095
2	2320	.214	1.36	659	.095	.17	673	.046	.084
3	1510	.155	.64	569	.070	.11	1240	.083	.30
4	7120	.529	11.8	514	.055	.077	4970	.253	3.74
5	13500	.862	31.5	486	.050	.065	9060	.455	11.2
6	12200	.798	26.3	448	.044	.054	8110	.403	8.83
7	9870	.699	18.7	410	.042	.046	7890	.360	7.68
8	7840	.548	11.8	397	.040	.043	9930	.328	8.78
9	3640	.373	3.78	396	.033	.036	9730	.295	7.76
10	1870	.254	1.29	379	.032	.033	7960	.270	5.82
11	1400	.173	.66	363	.032	.031	5330	.233	3.38
12	1120	.118	.36	401	.046	.051	3520	.195	1.86
13	2560	.220	1.78	713	.082	.16	2930	.168	1.33
14	5910	.467	7.48	875	.082	.19	2180	.163	.96
15	5400	.420	6.13	977	.072	.19	1440	.128	.50
16	3440	.331	3.12	846	.065	.15	1250	.104	.35
17	1870	.248	1.27	700	.062	.12	3180	.232	2.26
18	1290	.186	.65	820	.055	.12	4120	.310	3.50
19	1020	.139	.39	1000	.047	.13	3300	.228	2.05
20	747	.104	.21	760	.040	.082	2750	.191	1.42
21	853	.100	.24	550	.057	.084	4630	.264	3.34
22	3650	.304	3.23	860	.072	.17	5160	.269	3.74
23	5090	.354	4.87	1800	.067	.33	6720	.389	7.63
24	5310	.398	5.88	2200	.088	.52	11300	.625	19.1
25	6610	.632	11.3	1500	.101	.41	9360	.523	13.3
26	4920	.502	6.71	1150	.089	.28	6730	.377	7.01
27	2970	.396	3.22	1030	.077	.21	3660	.229	2.30
28	1660	.312	1.41	920	.064	.16	2200	.189	1.13
29	1230	.246	.82	---	---	---	1680	.168	.76
30	976	.194	.51	---	---	---	1390	.149	.56
31	872	.153	.36	---	---	---	1190	.133	.43
TOTAL	122538	---	170.99	22490	---	4.272	144272	---	131.199

STREAMS TRIBUTARY TO LAKE ERIE

04198000 SANDUSKY RIVER NEAR FREMONT, OH--Continued

PHOSPHORUS TOTAL (MG/L AS P), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)
	APRIL			MAY			JUNE		
1	2960	.322	3.10	956	.208	.54	222	.111	.067
2	4890	.446	5.94	781	.160	.34	218	.120	.070
3	3460	.384	3.62	659	.126	.22	192	.116	.060
4	2170	.297	1.76	583	.112	.18	167	.114	.051
5	1470	.223	.89	559	.108	.16	161	.118	.051
6	1140	.161	.50	686	.116	.21	151	.113	.046
7	952	.126	.32	700	.111	.21	152	.169	.073
8	838	.101	.23	555	.101	.15	357	.411	.43
9	819	.100	.22	458	.089	.11	5030	1.36	17.6
10	6030	.477	8.86	403	.082	.089	6550	.679	12.4
11	7850	.570	12.1	370	.078	.078	2700	.484	3.60
12	5960	.473	7.67	352	.077	.073	1430	.330	1.30
13	3690	.399	4.03	327	.074	.065	772	.253	.53
14	1880	.285	1.47	325	.080	.070	496	.213	.29
15	1380	.196	.74	328	.087	.077	458	.198	.25
16	1670	.172	.79	324	.077	.067	563	.194	.29
17	2560	.243	1.69	320	.073	.063	403	.174	.19
18	2420	.292	1.90	314	.063	.053	322	.161	.14
19	1530	.296	1.23	308	.065	.054	257	.151	.11
20	1210	.261	.86	307	.061	.051	206	.151	.084
21	1380	.208	.77	300	.058	.047	343	.234	.26
22	1520	.228	.93	294	.056	.045	1010	.604	1.66
23	1380	.217	.81	289	.056	.044	603	.381	.64
24	1050	.161	.46	289	.063	.049	343	.256	.24
25	1140	.260	.87	271	.066	.048	288	.237	.18
26	1930	.366	1.84	258	.069	.048	522	.360	.55
27	3890	.425	4.57	239	.079	.051	498	.514	.71
28	3620	.528	5.22	221	.178	.11	288	.317	.25
29	2000	.435	2.38	214	.125	.072	221	.242	.14
30	1240	.299	1.01	215	.084	.049	194	.218	.11
31	---	---	---	256	.109	.075	---	---	---
TOTAL	74029	---	76.78	12461	---	3.498	25117	---	42.372
JULY			AUGUST			SEPTEMBER			
1	155	.201	.084	46	.103	.013	28	.093	.007
2	159	.191	.082	46	.110	.014	28	.087	.007
3	367	.265	.30	50	.109	.015	36	.091	.009
4	1200	.341	1.10	71	.107	.021	44	.103	.012
5	1060	.321	.92	86	.118	.027	38	.092	.010
6	702	.300	.57	77	.118	.024	35	.086	.008
7	412	.272	.30	67	.116	.021	37	.090	.009
8	280	.242	.18	58	.120	.019	36	.077	.007
9	212	.214	.12	57	.127	.020	33	.087	.008
10	155	.189	.079	55	.115	.017	32	.092	.008
11	133	.184	.066	52	.122	.017	32	.087	.008
12	170	.178	.081	49	.120	.016	33	.086	.008
13	327	.220	.20	45	.116	.014	32	.089	.008
14	501	.244	.33	45	.114	.014	31	.087	.007
15	351	.207	.20	45	.109	.013	30	.086	.007
16	256	.179	.12	45	.111	.013	30	.084	.007
17	176	.151	.072	44	.102	.012	29	.085	.007
18	122	.129	.042	41	.096	.011	28	.081	.006
19	101	.118	.032	39	.090	.009	28	.077	.006
20	89	.110	.027	37	.082	.008	28	.077	.006
21	78	.106	.022	34	.078	.007	28	.064	.005
22	69	.103	.019	33	.126	.011	28	.059	.004
23	61	.112	.018	32	.248	.022	28	.077	.006
24	58	.100	.016	32	.134	.012	28	.068	.005
25	59	.088	.014	30	.102	.008	29	.061	.005
26	64	.104	.018	27	.098	.007	48	.082	.011
27	62	.103	.017	27	.100	.007	66	.091	.016
28	55	.098	.015	27	.101	.007	61	.071	.012
29	49	.099	.013	26	.093	.007	69	.060	.011
30	46	.097	.012	25	.086	.006	79	.057	.012
31	45	.100	.012	26	.093	.007	---	---	---
TOTAL	7574	---	5.081	1374	---	0.419	1112	---	0.242
YEAR	584205		600.226						

STREAMS TRIBUTARY TO LAKE ERIE

77

04198000 SANDUSKY RIVER NEAR FREMONT, OH--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	264	23	16	245	5	3.8	900	19	47
2	241	19	12	2350	102	1050	794	14	30
3	221	16	9.3	6950	267	5000	740	11	22
4	202	14	7.5	4940	175	2370	744	9	19
5	180	17	8.0	3470	114	1090	689	9	16
6	164	22	9.9	2080	68	391	619	8	13
7	154	17	7.0	1410	39	149	561	7	11
8	146	11	4.5	1110	27	81	517	7	9.1
9	170	13	5.9	880	20	48	468	6	7.7
10	163	11	4.9	734	15	30	465	6	7.8
11	174	9	4.0	915	20	57	535	9	13
12	175	8	3.8	6030	195	4450	668	10	19
13	172	11	5.3	16900	436	19900	872	11	25
14	213	18	11	15600	370	15600	987	10	28
15	366	49	49	12600	290	9840	937	12	29
16	1010	115	354	10500	222	6360	887	12	28
17	2830	227	1760	5280	163	2410	850	11	25
18	1960	118	632	2070	103	590	758	9	19
19	1350	65	244	1490	64	257	661	8	15
20	833	37	85	1170	50	157	695	13	26
21	621	29	49	1010	43	117	1020	31	85
22	526	24	34	1470	82	410	1010	28	76
23	465	21	27	9010	464	12100	872	27	64
24	422	19	22	8050	310	6960	672	22	40
25	383	17	18	5520	178	2670	497	19	25
26	354	15	14	3980	150	1630	450	17	21
27	323	11	10	2520	100	691	410	15	17
28	300	9	7.5	1740	63	299	390	14	14
29	278	8	5.7	1320	40	143	380	12	12
30	257	6	4.3	1060	27	79	670	32	91
31	239	5	3.3	---	---	---	4960	240	3260
TOTAL	15156	---	3427.9	132404	---	94932.8	25678	---	4114.6
JANUARY			FEBRUARY			MARCH			
1	3770	134	1420	767	19	39	689	14	27
2	2320	68	435	659	13	24	673	13	24
3	1510	40	165	569	9	14	1240	28	102
4	7120	387	8910	514	7	10	4970	189	3030
5	13500	475	17200	486	7	9.1	9060	296	7240
6	12200	349	11600	448	6	7.8	8110	229	5010
7	9870	268	7160	410	6	6.3	7890	179	3820
8	7840	195	4180	397	5	5.5	9930	243	6520
9	3640	131	1330	396	4	4.6	9730	168	4430
10	1870	86	441	379	5	5.2	7960	133	2880
11	1400	57	218	363	21	20	5330	107	1560
12	1120	38	114	401	26	28	3520	85	815
13	2560	82	684	713	41	81	2930	67	534
14	5910	123	1960	875	29	68	2180	53	314
15	5400	87	1270	977	17	45	1440	42	163
16	3440	62	582	846	14	32	1250	35	120
17	1870	44	224	700	13	24	3180	141	1430
18	1290	31	110	820	12	26	4120	215	2430
19	1020	22	62	1000	11	29	3300	132	1190
20	747	16	32	760	10	20	2750	110	819
21	853	19	48	550	10	15	4630	153	1930
22	3650	136	1550	860	17	39	5160	146	2030
23	5090	158	2170	1800	29	143	6720	264	5430
24	5310	158	2350	2200	45	269	11300	455	13900
25	6610	299	5360	1500	39	156	9360	318	8100
26	4920	240	3220	1150	30	92	6730	220	4050
27	2970	180	1470	1030	23	63	3660	151	1520
28	1660	114	521	920	17	43	2200	99	596
29	1230	66	222	---	---	---	1680	64	292
30	976	41	109	---	---	---	1390	52	197
31	872	26	62	---	---	---	1190	46	148
TOTAL	122538	---	75179	22490	---	1318.5	144272	---	80651

STREAMS TRIBUTARY TO LAKE ERIE

04198000 SANDUSKY RIVER NEAR FREMONT, OH--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	2960	214	2220	956	91	236	222	150	90
2	4890	367	4910	781	64	136	218	145	85
3	3460	235	2230	659	52	93	192	135	70
4	2170	144	858	583	47	74	167	119	54
5	1470	91	364	559	45	68	161	101	44
6	1140	61	190	686	49	92	151	85	35
7	952	46	118	700	47	89	152	79	33
8	838	36	81	555	41	62	357	224	229
9	819	39	87	458	37	46	5030	813	13200
10	6030	319	6470	403	45	48	6550	760	14000
11	7850	412	8810	370	46	46	2700	368	2790
12	5960	294	4780	352	49	46	1430	213	838
13	3690	203	2070	327	59	52	772	141	298
14	1880	127	655	325	63	55	496	113	152
15	1380	80	301	328	63	56	458	104	128
16	1670	76	357	324	56	49	563	104	157
17	2560	125	875	320	66	57	403	122	132
18	2420	172	1130	314	82	69	322	126	110
19	1530	154	639	308	79	66	257	108	75
20	1210	121	397	307	73	61	206	105	58
21	1380	89	330	300	85	69	343	344	431
22	1520	83	341	294	101	80	1010	338	947
23	1380	87	323	289	112	88	603	146	234
24	1050	66	190	289	56	44	343	120	113
25	1140	93	314	271	69	50	288	103	81
26	1930	115	614	258	97	67	522	237	409
27	3890	394	4260	239	105	68	498	311	433
28	3620	406	4040	221	109	65	288	171	135
29	2000	238	1320	214	113	65	221	128	76
30	1240	145	492	215	118	69	194	113	60
31	---	---	---	256	122	84	---	---	---
TOTAL	74029	---	49766	12461	---	2250	25117	---	35497
JULY			AUGUST			SEPTEMBER			
1	155	102	43	46	29	3.6	28	16	1.2
2	159	91	39	46	28	3.5	28	17	1.3
3	367	142	172	50	27	3.6	36	21	2.0
4	1200	244	790	71	28	5.4	44	19	2.2
5	1060	192	551	86	33	7.6	38	14	1.4
6	702	160	305	77	30	6.2	35	9	.86
7	412	140	156	67	26	4.6	37	11	1.1
8	280	118	90	58	31	4.9	36	10	.94
9	212	97	56	57	32	5.0	33	8	.75
10	155	74	31	55	32	4.8	32	9	.74
11	133	62	22	52	32	4.5	32	10	.90
12	170	68	32	49	31	4.1	33	12	1.1
13	327	116	106	45	31	3.8	32	12	1.1
14	501	129	176	45	32	3.9	31	12	.99
15	351	106	101	45	33	4.1	30	12	.96
16	256	106	73	45	32	3.8	30	10	.79
17	176	77	37	44	26	3.1	29	9	.70
18	122	62	20	41	22	2.5	28	9	.69
19	101	55	15	39	20	2.1	28	9	.71
20	89	48	12	37	17	1.7	28	10	.74
21	78	40	8.4	34	16	1.5	28	10	.76
22	69	46	8.7	33	16	1.4	28	10	.76
23	61	60	9.8	32	17	1.5	28	11	.87
24	58	41	6.4	32	17	1.5	28	14	1.1
25	59	31	5.0	30	17	1.4	29	17	1.3
26	64	30	5.1	27	17	1.2	48	20	2.6
27	62	29	4.8	27	15	1.1	66	18	3.3
28	55	27	4.1	27	15	1.1	61	15	2.5
29	49	26	3.5	26	16	1.1	69	12	2.3
30	46	26	3.2	25	19	1.3	79	10	2.2
31	45	30	3.6	26	23	1.6	---	---	---
TOTAL	7574	---	2889.6	1374	---	97.5	1112	---	38.86
YEAR	584205		350162.76						

04199000 HURON RIVER AT MILAN, OH

LOCATION.--Lat 41°18'04", long 82°36'36, in SW 1/4 sec. 4, T.5 N., R.22 W., Erie County, Hydrologic Unit 04100012, on right bank on upstream side of bridge on U.S. Highway 250, 0.2 mi northwest of Milan and 2.0 mi downstream from confluence of East and West Branches.

DRAINAGE AREA.--371 mi².

PERIOD OF RECORD.--March 1950 to September 1980, October 1987 to current year.

REVISED RECORDS.--WSP 1912: Drainage area. WRD OH-89-2: 1988.

GAGE.--Water-stage recorder. Datum of gage is 573.26 ft above sea level. July 29, 1953 to Oct. 5, 1979, water-stage recorder at site of former highway bridge 500 ft downstream at same datum. July 29, 1953, nonrecording gage at site of former highway 450 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Dec. 26-29, Jan. 5, 19-21, Feb. 3-11, 16-28, Mar. 1, 2, 14-16, 23. Records fair except for periods of estimated daily discharges which are poor. Water-quality data collected at this site 1969 to 1974, 1978 to 1980, 1988 to 1991. Sediment data collected 1970 to 1974, 1988 to 1991.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	83	219	1850	185	190	3450	191	62	27	11	9.0
2	68	866	206	800	136	220	2080	162	59	28	13	9.7
3	63	1180	246	592	120	729	896	150	53	26	12	13
4	57	756	277	4540	110	3010	588	152	52	22	17	13
5	50	190	217	6400	100	3190	468	172	59	22	14	12
6	48	80	167	2700	94	1460	383	169	56	23	12	12
7	46	69	147	1020	90	1390	334	137	75	23	12	12
8	46	151	125	689	88	4210	309	121	406	22	12	12
9	48	180	107	520	84	2880	340	110	3830	18	11	11
10	46	198	126	389	82	1550	4710	104	1610	17	12	11
11	51	699	213	331	80	851	1690	99	511	22	12	11
12	52	4940	377	301	127	731	844	96	256	32	11	10
13	50	7840	414	2890	322	594	503	92	151	24	11	11
14	61	2480	401	3040	302	1300	365	85	103	22	10	9.7
15	203	1100	348	1000	225	900	310	79	86	20	10	12
16	429	706	380	603	180	630	1060	74	68	18	11	12
17	588	502	344	461	160	1790	797	71	53	17	11	11
18	271	406	223	329	170	1710	409	69	44	16	10	11
19	135	332	178	270	290	904	314	74	39	16	9.6	11
20	77	284	457	240	260	1170	545	69	35	39	9.7	12
21	130	279	482	220	220	2860	1630	69	52	21	9.9	11
22	111	1340	268	1370	450	1840	764	65	234	15	10	12
23	106	4080	207	1100	580	3710	437	63	108	13	9.8	12
24	99	1350	162	1770	380	4120	334	68	52	12	9.8	12
25	95	1000	133	1920	320	2130	325	69	35	12	9.3	14
26	92	784	118	634	310	1210	904	66	36	12	8.5	30
27	87	521	105	430	240	842	586	58	31	12	9.6	19
28	81	379	98	337	210	648	357	53	28	12	9.6	20
29	77	308	92	301	---	580	274	50	44	11	8.4	19
30	73	260	684	249	---	510	232	47	45	11	8.3	24
31	75	---	5490	230	---	474	---	62	---	11	8.2	---
TOTAL	3489	33343	13011	37526	5915	48333	26238	2946	8273	596	332.7	398.4
MEAN	113	1111	420	1211	211	1559	875	95.0	276	19.2	10.7	13.3
MAX	588	7840	5490	6400	580	4210	4710	191	3830	39	17	30
MIN	46	69	92	220	80	190	232	47	28	11	8.2	9.0
CFSM	.30	3.00	1.13	3.26	.57	4.20	2.36	.26	.74	.05	.03	.04
IN.	.35	3.34	1.30	3.76	.59	4.85	2.63	.30	.83	.06	.03	.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1993, BY WATER YEAR (WY)

	MEAN	56.4	175	351	454	540	710	551	303	205	186	84.5	77.6
MAX	402	1259	1909	1302	1422	1697	1536	929	980	1821	514	573	
(WY)	1991	1973	1991	1952	1959	1978	1957	1967	1981	1969	1958	1972	
MIN	7.86	14.0	9.23	26.8	24.0	117	86.0	46.5	14.9	11.8	10.7	5.76	
(WY)	1964	1964	1964	1977	1964	1981	1971	1962	1988	1963	1993	1955	

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1951 - 1993	
ANNUAL TOTAL	162569		180401.1			
ANNUAL MEAN	444		494		307	
HIGHEST ANNUAL MEAN					528	
LOWEST ANNUAL MEAN					145	
HIGHEST DAILY MEAN	7840	Nov 13	7840	Nov 13	31400	Jul 5 1969
LOWEST DAILY MEAN	19	Jan 2	8.2	Aug 31	3.0	Sep 10 1955
ANNUAL SEVEN-DAY MINIMUM	25	Jan 7	8.8	Aug 26	3.4	Sep 16 1955
INSTANTANEOUS PEAK FLOW			10500	Nov 13	46900	Jul 5 1969
INSTANTANEOUS PEAK STAGE			20.20	Nov 13	31.10	Jul 5 1969
INSTANTANEOUS LOW FLOW			8.2	Aug 31	2.2	Sep 10 1955
ANNUAL RUNOFF (CFSM)	1.20		1.33		.83	
ANNUAL RUNOFF (INCHES)	16.30		18.09		11.23	
10 PERCENT EXCEEDS	1020		1340		695	
50 PERCENT EXCEEDS	180		126		84	
90 PERCENT EXCEEDS	53		11		15	

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

STREAMS TRIBUTARY TO LAKE ERIE

04199155 OLD WOMAN'S CREEK AT BERLIN ROAD NR HURON, OH

LOCATION.--Lat 41°20'54", long 82°22'50", Erie County, Hydrologic Unit 04100012, on left downstream side of Berlin Road Bridge, 3.8 mi southeast of Huron.

DRAINAGE AREA.--22.1 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 570 ft above sea level, Erie county benchmark.

REMARKS.--Estimated daily discharges: Jan. 18-21, Feb. 4-11, 16-21, 24 to Mar. 2, 11-16. Records fair except for periods of estimated record which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	2.1	13	98	10	10	326	9.9	2.4	.84	.00	.00
2	1.8	64	13	42	15	9.0	95	8.4	1.7	.98	.00	.00
3	1.6	92	15	33	7.3	93	44	7.9	1.6	.91	.00	.00
4	1.8	35	13	364	6.9	237	29	7.8	1.5	.74	.02	.00
5	2.2	36	12	477	6.8	137	22	7.8	1.9	.55	.00	.00
6	2.2	30	9.2	81	6.6	72	19	7.0	1.9	.36	.00	.00
7	2.3	16	9.0	44	6.4	80	16	6.0	1.8	.71	.00	.00
8	2.4	11	8.0	33	6.2	302	14	5.3	15	.66	.00	.00
9	3.6	8.9	7.4	24	6.0	154	15	4.8	123	.59	.00	.00
10	3.9	7.8	11	19	5.8	81	341	4.4	51	.28	.00	.00
11	3.4	34	30	18	5.6	37	62	4.1	15	.13	.00	.00
12	3.4	436	42	18	11	30	39	3.9	7.5	1.5	.00	.00
13	3.5	444	30	348	28	23	25	3.4	5.2	.86	.00	.00
14	5.5	61	24	136	17	19	19	3.2	4.1	.55	.00	.00
15	6.0	34	19	48	14	15	17	2.8	4.1	.37	.00	.00
16	6.7	24	18	31	10	14	102	2.5	3.0	.11	.00	.00
17	6.2	21	14	24	8.6	124	44	2.5	2.4	.05	.00	.00
18	3.6	18	11	14	7.2	73	25	2.3	2.0	.03	.00	.00
19	3.3	15	10	11	6.5	43	19	2.8	1.7	.01	.00	.00
20	3.1	14	43	10	6.0	67	58	2.8	1.6	.01	.00	.00
21	3.1	15	24	14	8.0	152	230	2.4	2.9	.00	.00	.00
22	2.8	94	16	71	54	85	54	2.3	3.6	.00	.00	.00
23	2.6	320	14	48	38	294	28	1.9	2.1	.00	.00	.00
24	2.6	56	11	119	20	206	19	2.3	1.5	.00	.00	.00
25	2.5	48	15	82	15	102	20	2.4	1.2	.00	.00	.00
26	2.4	37	7.4	28	13	56	29	2.1	1.4	.00	.00	.03
27	2.4	25	5.8	21	12	39	18	1.8	1.1	.00	.00	.10
28	2.2	20	6.4	17	11	31	14	1.6	3.3	.00	.00	.04
29	2.3	17	7.1	18	---	34	12	1.7	1.6	.00	.00	.02
30	2.1	15	46	17	---	30	11	1.5	.91	.00	.00	.55
31	2.0	---	672	12	---	25	---	2.4	---	.00	.00	---
TOTAL	95.4	2050.8	1176.3	2320	361.9	2674.0	1766	122.0	268.01	10.24	0.02	0.74
MEAN	3.08	68.4	37.9	74.8	12.9	86.3	58.9	3.94	8.93	.33	.001	.025
MAX	6.7	444	672	477	54	302	341	9.9	123	1.5	.02	.55
MIN	1.6	2.1	5.8	10	5.6	9.0	11	1.5	.91	.00	.00	.00
CFSM	.14	3.09	1.72	3.39	.58	3.90	2.66	.18	.40	.01	.00	.00
IN.	.16	3.45	1.98	3.91	.61	4.50	2.97	.21	.45	.02	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1993, BY WATER YEAR (WY)

	1988	1989	1990	1991	1992	1993
MEAN	3.81	16.0	27.0	28.9	36.5	31.4
MAX	14.8	68.4	98.2	74.8	78.6	86.3
(WY)	1991	1993	1991	1993	1990	1993
MIN	.16	.31	.70	8.03	10.3	12.4
(WY)	1989	1992	1992	1988	1989	1990

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1988 - 1993

ANNUAL TOTAL	9151.23	10845.41	18.4
ANNUAL MEAN	25.0	29.7	29.7
HIGHEST ANNUAL MEAN			8.77
LOWEST ANNUAL MEAN			1993
HIGHEST DAILY MEAN	672	672	677
LOWEST DAILY MEAN	.44	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.62	.00	.00
INSTANTANEOUS PEAK FLOW		1130	1130
INSTANTANEOUS PEAK STAGE		11.66	11.66
INSTANTANEOUS LOW FLOW		.00	.00
ANNUAL RUNOFF (CFSM)	1.13	1.34	.83
ANNUAL RUNOFF (INCHES)	15.40	18.26	11.31
10 PERCENT EXCEEDS	59	69	39
50 PERCENT EXCEEDS	8.0	6.6	4.5
90 PERCENT EXCEEDS	1.5	.00	.00

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

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

DRAINAGE AREA.--26.5 mi².

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

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum recorded gage height, 22.20 ft Feb. 5, 1988 due to ice jam;

minimum recorded gage height, 9.95 ft Dec. 16, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum recorded gage height, 16.41 ft Nov. 3; minimum recorded gage height, 11.39 ft Nov. 13.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.16	15.02	12.98	13.06	14.06	12.95	14.39	14.18	14.10	14.49	13.81	13.46
2	14.19	15.53	13.04	13.18	13.65	13.19	13.83	14.35	14.11	14.24	13.80	13.46
3	14.23	14.08	13.10	13.07	13.16	13.65	13.84	14.14	14.06	14.03	13.79	13.46
4	14.29	12.51	13.11	13.12	13.48	14.83	13.98	14.12	14.04	13.99	13.79	13.46
5	14.23	12.81	12.84	13.44	13.30	13.84	14.15	14.03	14.12	13.99	13.78	13.46
6	14.23	12.86	12.70	13.29	14.07	13.25	14.07	14.04	14.15	13.99	13.77	13.46
7	14.24	13.12	12.78	13.43	13.48	13.29	13.97	14.15	14.20	14.01	13.77	13.46
8	14.25	12.98	13.12	13.92	13.62	13.35	14.04	14.12	14.43	13.93	13.76	13.46
9	14.29	12.74	13.17	14.80	13.56	13.41	14.09	14.03	14.60	13.92	13.75	13.46
10	14.28	12.61	13.24	14.44	13.47	13.74	14.09	14.02	13.82	13.92	13.74	13.46
11	14.29	12.76	13.81	14.02	14.42	13.40	14.15	13.95	13.93	13.92	13.74	13.44
12	14.32	13.20	13.67	14.16	14.13	13.60	14.00	14.04	14.07	13.93	13.73	13.42
13	14.34	12.22	13.48	14.10	13.51	14.18	14.00	14.37	14.03	13.94	13.73	13.42
14	14.37	12.62	13.39	13.65	13.31	13.38	14.17	13.96	13.87	13.92	13.73	13.42
15	14.43	12.94	13.22	13.39	13.20	13.22	14.16	13.80	13.83	14.05	13.64	13.37
16	14.51	12.83	13.03	13.47	13.79	12.82	14.07	14.02	14.17	14.02	13.50	13.37
17	14.57	13.13	13.04	13.35	13.12	13.83	13.84	13.86	13.95	13.99	13.46	13.37
18	14.65	13.34	13.14	13.58	12.72	13.69	13.99	14.01	13.94	13.99	13.46	13.37
19	14.69	13.44	13.01	13.56	12.78	13.64	13.97	14.07	14.02	13.98	13.46	13.37
20	14.73	13.35	12.92	13.64	12.75	13.54	13.99	13.95	14.00	13.96	13.46	13.37
21	14.76	13.02	13.11	13.71	12.69	13.51	14.52	13.87	13.95	13.95	13.46	13.36
22	14.78	13.77	12.88	13.29	12.34	13.72	14.20	13.90	14.04	13.94	13.46	13.34
23	14.82	13.30	12.88	13.57	12.74	14.00	13.95	13.85	14.31	13.92	13.46	13.34
24	14.85	13.57	12.98	13.45	12.92	13.83	14.00	13.61	14.19	13.90	13.46	13.34
25	14.88	13.45	12.18	13.55	12.91	13.71	13.98	13.63	14.05	13.88	13.46	13.34
26	14.91	12.89	12.77	13.49	12.92	13.73	14.47	13.87	13.92	13.88	13.46	13.34
27	14.92	13.14	12.91	13.52	12.98	13.78	14.22	13.98	13.98	13.88	13.46	13.34
28	14.93	13.23	12.91	13.51	12.89	13.78	14.09	13.87	13.99	13.86	13.46	13.34
29	14.94	12.86	12.93	13.42	---	13.74	14.14	14.10	14.26	13.84	13.46	13.34
30	14.96	12.75	13.08	12.50	---	13.79	14.05	13.98	14.23	13.82	13.46	13.34
31	14.98	---	13.48	12.68	---	14.30	---	14.09	---	13.82	13.46	---
MEAN	14.55	13.20	13.06	13.53	13.28	13.64	14.08	14.00	14.08	13.96	13.60	13.40
MAX	14.98	15.53	13.81	14.80	14.42	14.83	14.52	14.37	14.60	14.49	13.81	13.46
MIN	14.16	12.22	12.18	12.50	12.34	12.82	13.83	13.61	13.82	13.82	13.46	13.34

CAL YR 1992 MEAN 13.70 MAX 16.15 MIN 11.77

WTR YR 1993 MEAN 13.70 MAX 15.53 MIN 12.18

STREAMS TRIBUTARY TO LAKE ERIE

04199175 LAKE ERIE AT RUGGLES BEACH, OH

LOCATION.--Lat 41°22'59", long 82°28'22", Erie County, Hydrologic Unit 04100012, on left bank, at mouth of Cranberry Creek, at Ruggles Beach, 4.5 mi east of Huron.

PERIOD OF RECORD.--Oct. 29, 1986 to current year.

GAGE.--Water-stage recorder. Datum of gage is 560.00 ft above sea level. Gage height of orifice is 10.98 ft. minimum water surface can be lower.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum recorded gage height, 17.98 ft Jan. 19, 1987; minimum recorded gage height, 10.98 ft several days in 1990, 1991, 1992 and 1993.

EXTREMES FOR CURRENT YEAR.--Maximum recorded gage height, 15.60 ft Mar. 4, minimum recorded gage height, 10.98 ft Nov. 13.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.56	13.66	13.43	13.45	14.34	13.43	14.43	14.51	14.04	14.52	---	13.79
2	13.25	13.38	13.40	13.67	13.96	13.58	14.05	14.61	14.14	14.38	---	13.68
3	13.38	13.01	13.43	13.55	13.61	14.04	14.16	14.44	14.11	14.28	---	13.54
4	14.00	12.94	13.46	13.53	13.89	15.11	14.30	14.47	14.19	14.33	---	13.63
5	13.69	13.18	13.13	13.74	13.75	14.12	14.46	14.27	14.12	14.28	---	13.63
6	13.56	13.19	13.08	13.79	14.43	13.65	14.39	14.34	14.13	14.19	---	13.79
7	13.54	13.48	13.16	13.91	13.91	13.67	14.33	14.51	14.20	14.29	---	13.76
8	13.41	13.37	13.51	14.19	14.03	13.59	14.39	14.49	14.12	14.25	---	13.69
9	12.89	13.17	13.59	14.71	13.99	13.78	14.29	14.42	14.07	14.26	---	13.35
10	13.13	13.08	13.56	14.50	13.90	14.10	14.30	14.42	14.18	14.27	---	13.25
11	13.10	13.03	13.91	14.26	14.86	13.81	14.51	14.34	14.27	14.21	---	13.52
12	12.86	13.28	13.70	14.35	14.44	13.99	14.36	14.38	14.42	14.23	13.96	13.28
13	13.02	12.25	13.69	13.56	13.76	14.36	14.40	14.40	14.41	14.35	13.91	13.33
14	13.36	12.86	13.61	14.13	13.74	13.18	14.54	14.34	14.26	14.34	13.88	13.27
15	13.27	13.30	13.56	13.88	13.66	13.15	14.39	14.18	14.22	14.33	13.89	13.53
16	12.68	13.25	13.34	13.95	14.18	12.75	14.32	14.33	14.41	14.27	13.83	13.77
17	13.28	13.51	13.37	13.78	13.54	13.90	14.16	14.22	14.31	14.33	13.92	13.55
18	13.28	13.70	13.53	14.06	13.17	14.07	14.33	14.34	14.27	14.27	13.95	13.48
19	13.37	13.74	13.39	14.05	13.49	14.02	14.37	14.23	14.34	14.16	13.91	13.53
20	13.03	13.76	13.17	14.11	13.80	13.83	14.33	14.26	14.28	14.15	13.81	---
21	13.21	13.41	13.47	14.17	14.13	13.78	14.46	14.22	14.21	14.23	14.05	---
22	13.35	13.80	13.22	13.76	13.37	14.08	14.42	14.25	14.32	14.13	13.87	---
23	13.02	13.52	13.15	14.05	13.61	14.28	14.33	14.12	14.44	14.16	13.83	13.32
24	13.23	13.72	13.21	13.84	13.52	14.15	14.34	13.91	14.38	---	13.67	13.40
25	13.33	13.79	12.13	13.99	13.84	14.07	14.38	14.00	14.26	---	13.79	13.45
26	13.00	13.47	13.07	13.95	14.00	13.92	14.47	14.14	14.24	---	13.82	13.12
27	13.30	13.36	13.33	13.96	13.75	13.80	14.47	14.30	14.21	---	13.71	12.97
28	13.21	13.70	13.40	13.96	13.65	13.99	14.48	14.12	14.31	---	13.70	12.69
29	13.18	13.36	13.38	13.68	---	13.91	14.47	14.17	14.42	---	13.90	13.32
30	13.38	13.06	13.41	12.93	---	13.99	14.41	14.29	14.52	---	13.76	13.44
31	13.47	---	13.46	13.05	---	14.58	---	14.02	---	---	13.70	---
MEAN	13.27	13.34	13.36	13.89	13.87	13.89	14.37	14.29	14.26	---	---	---
MAX	14.00	13.80	13.91	14.71	14.86	15.11	14.54	14.61	14.52	---	---	---
MIN	12.68	12.25	12.13	12.93	13.17	12.75	14.05	13.91	14.04	---	---	---

CAL YR 1992 MEAN 13.25 MAX 14.17 MIN 11.59

04199287 VERMILION RIVER NEAR FITCHVILLE, OH

LOCATION.--Lat 41°07'52", long 82°28'13, Huron County, Hydrologic Unit 04100012, on left bank upstream side of Prospect Road Bridge, 2.6 mi north of Fitchville.

DRAINAGE AREA.--112 mi².

PERIOD OF RECORD.--May 1987 to September 1989 and October 1990 to current year (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 903 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 25-29, Jan. 18-21, 28 to Feb. 12, 16-21, 24 to Mar. 4, 13-16. Records fair, except for periods of estimated daily discharge, which are poor. Sediment data collected at this site 1987 to 1989.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,900 ft³/s July 2, 1987, gage height, 14.80 ft; (from flood mark), from drainage area adjustment of slope-area estimate of flow at Fitchville.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	29	71	388	37	55	835	77	34	7.9	.27	.00
2	14	299	66	155	33	60	638	65	33	7.4	.85	.00
3	13	630	80	129	27	100	223	57	33	7.2	.61	.00
4	12	196	85	1120	22	500	140	53	32	6.8	1.1	.00
5	11	151	77	2260	19	1170	107	52	32	5.8	.68	.00
6	10	205	62	841	17	535	91	48	32	4.8	.45	.00
7	10	153	59	271	15	408	80	43	34	4.8	.40	.00
8	11	116	51	175	16	1270	72	38	230	4.6	.33	.00
9	14	91	46	129	17	865	77	35	1030	3.7	.29	.00
10	16	73	47	96	20	443	818	33	526	3.2	.25	.00
11	19	161	79	85	25	249	316	31	147	3.0	.21	.00
12	21	1220	108	80	32	187	176	30	84	3.8	.17	.00
13	22	2490	110	1030	81	130	122	27	63	3.3	.11	.00
14	41	1030	116	989	80	110	94	25	52	3.4	.08	.00
15	94	299	112	272	64	96	84	24	49	3.8	.07	.00
16	420	154	222	156	50	88	282	22	44	2.9	.07	.00
17	629	115	167	115	44	599	177	21	38	2.4	.06	.00
18	160	102	99	70	37	550	105	20	35	1.8	.05	.00
19	99	83	81	64	32	247	86	20	32	1.5	.03	.00
20	71	72	248	56	30	283	103	21	31	1.4	.01	.00
21	59	92	186	80	45	732	410	27	50	1.1	.00	.00
22	49	396	97	508	166	520	216	30	40	.83	.00	.00
23	41	1460	80	325	239	1060	117	30	29	.61	.00	.00
24	38	459	68	710	120	1600	89	31	19	.60	.00	.00
25	36	315	50	690	90	729	227	32	15	.53	.00	.00
26	31	226	40	187	75	371	1080	33	12	.45	.00	.37
27	28	143	35	122	64	234	342	33	19	.44	.00	1.7
28	25	107	33	80	50	167	170	33	14	.47	.00	.39
29	25	92	32	70	---	158	116	32	11	.44	.00	.24
30	26	80	91	56	---	134	93	32	9.2	.28	.00	.36
31	25	---	900	45	---	115	---	34	---	.27	.00	---
TOTAL	2085	11039	3598	11354	1547	13765	7486	1089	2809.2	89.52	6.09	3.06
MEAN	67.3	368	116	366	55.2	444	250	35.1	93.6	2.89	.20	.10
MAX	629	2490	900	2260	239	1600	1080	77	1030	7.9	1.1	1.7
MIN	10	29	32	45	15	55	72	20	9.2	.27	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1993, BY WATER YEAR (WY)

	MEAN	43.4	96.9	173	147	153	197	166	90.5	78.5	65.3	19.6	20.2
MAX	129	368	616	366	315	444	250	345	225	308	71.6	84.4	
(WY)	1991	1993	1991	1993	1988	1993	1993	1989	1989	1992	1992	1992	
MIN	1.74	2.82	4.12	38.7	55.2	117	94.9	10.9	1.20	.84	.20	.10	
(WY)	1992	1992	1992	1988	1993	1989	1988	1988	1988	1991	1993	1993	

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1988 - 1993	
ANNUAL TOTAL	46176.6		54870.87			
ANNUAL MEAN	126		150		104	
HIGHEST ANNUAL MEAN					150	
LOWEST ANNUAL MEAN					60.9	
HIGHEST DAILY MEAN	2490	Nov 13	2490	Nov 13	3940	May 26 1989
LOWEST DAILY MEAN	1.7	Jan 2	.00	Aug 21	.00	Jul 8 1988
ANNUAL SEVEN-DAY MINIMUM	2.1	Jan 1	.00	Aug 21	.00	Aug 21 1993
INSTANTANEOUS PEAK FLOW			2740	Nov 13	6290	May 26 1989
INSTANTANEOUS PEAK STAGE			10.91	Nov 13	14.03	May 26 1989
INSTANTANEOUS LOW FLOW			.00	Aug 20	.00	Aug 2 1991
10 PERCENT EXCEEDS	272		414		230	
50 PERCENT EXCEEDS	45		45		30	
90 PERCENT EXCEEDS	9.1		.01		.92	

STREAMS TRIBUTARY TO LAKE ERIE

04200500 BLACK RIVER AT ELYRIA, OH

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

DRAINAGE AREA.--396 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 620.83 ft above sea level.

REMARKS.--Estimated daily discharges: Oct. 1, 19-21, Nov. 5 to Dec. 14, 24-29, Jan. 6-10, Feb. 4 to Mar. 4, 11 to Apr. 8, July 17 to Aug. 11, Sep. 26-30. Records fair except for discharges greater than 1,000 ft³/s and for periods of estimated record, which are poor. Some regulation at low flow for industrial use. Water-quality data collected at this site 1969 to 1974. Sediment data collected 1970 to 1974.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	65	180	4500	162	180	2900	189	29	30	11	3.8
2	40	737	160	1210	122	180	2000	150	25	27	19	22
3	34	2330	200	534	94	600	900	124	18	23	30	46
4	28	1450	170	3090	80	2000	540	109	18	24	14	24
5	26	500	140	5990	74	3790	420	103	20	28	25	18
6	26	200	120	4500	64	2600	330	132	21	36	9.2	22
7	24	95	110	2000	62	1610	270	108	41	40	15	17
8	23	430	100	500	58	3320	230	80	201	26	20	15
9	26	550	90	400	56	3030	179	63	2880	19	15	13
10	21	800	120	330	54	1470	1470	53	3280	15	10	11
11	21	1900	200	250	52	540	1380	46	811	16	6.5	8.7
12	19	4500	330	234	100	380	549	41	301	25	6.3	7.1
13	18	7000	430	1450	250	300	355	41	174	38	6.1	6.4
14	29	2000	350	4660	200	230	257	37	118	24	5.8	5.9
15	38	1000	313	2160	170	300	209	31	87	18	5.2	16
16	289	700	251	611	130	650	413	26	69	14	5.8	8.1
17	903	450	237	425	120	2300	593	25	56	13	5.7	8.7
18	1400	330	220	279	110	1600	352	23	47	11	5.1	7.3
19	500	260	166	184	110	1100	244	29	42	9.2	5.9	5.9
20	220	230	296	201	110	860	283	23	39	8.2	4.9	4.7
21	160	220	513	195	130	3000	1470	22	46	7.6	4.6	7.0
22	138	1000	328	337	400	2000	1150	19	88	7.0	4.9	5.4
23	117	5200	208	651	700	3500	461	19	145	6.4	4.2	6.1
24	96	1300	130	1360	550	5000	269	21	75	6.0	4.0	9.5
25	79	760	100	2860	450	1200	277	18	49	5.8	4.0	31
26	72	580	80	1270	350	850	2280	17	40	5.6	4.2	181
27	65	450	70	444	250	660	2340	16	80	5.2	4.2	85
28	60	330	62	333	200	540	598	17	69	5.4	4.3	65
29	56	260	60	272	---	430	340	19	47	8.0	3.9	50
30	49	210	659	182	---	380	241	17	35	20	3.2	58
31	45	---	7440	177	---	360	---	37	---	40	3.5	---
TOTAL	4682	35837	13833	41589	5208	44960	23300	1655	8951	561.4	270.5	768.6
MEAN	151	1195	446	1342	186	1450	777	53.4	298	18.1	8.73	25.6
MAX	1400	7000	7440	5990	700	5000	2900	189	3280	40	30	181
MIN	18	65	60	177	52	180	179	16	18	5.2	3.2	3.8
CFSM	.38	3.02	1.13	3.39	.47	3.66	1.96	.13	.75	.05	.02	.06
IN.	.44	3.37	1.30	3.91	.49	4.22	2.19	.16	.84	.05	.03	.07

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1993, BY WATER YEAR (WY)

	MEAN	59.1	222	399	467	617	815	615	360	202	147	70.1	71.2
MAX	431	1238	1885	1825	1505	1866	1728	1122	1245	1472	529	701	
(WY)	1991	1986	1991	1952	1959	1978	1957	1969	1947	1969	1958	1972	
MIN	2.34	5.78	5.82	8.48	16.6	135	22.0	50.0	10.6	7.42	4.72	2.84	
(WY)	1945	1945	1945	1945	1964	1953	1946	1963	1988	1991	1952	1946	

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1945 - 1993	
ANNUAL TOTAL	162365		181615.5			
ANNUAL MEAN	444		498		336	
HIGHEST ANNUAL MEAN					534	
LOWEST ANNUAL MEAN					130	
HIGHEST DAILY MEAN	7440	Dec 31	7440	Dec 31	24900	Jan 22 1959
LOWEST DAILY MEAN	12	Jan 11	3.2	Aug 30	.60	Oct 5 1944
ANNUAL SEVEN-DAY MINIMUM	13	Jan 6	3.9	Aug 26	1.4	Oct 1 1944
INSTANTANEOUS PEAK FLOW			8120	Dec 31 a	51700	Jul 6 1969
INSTANTANEOUS PEAK STAGE			13.29	Dec 31	26.40	Jul 6 1969
INSTANTANEOUS LOW FLOW			3.0	Aug 30	.00	Oct 10 1956
ANNUAL RUNOFF (CFSM)	1.12		1.26		.85	
ANNUAL RUNOFF (INCHES)	15.25		17.06		11.51	
10 PERCENT EXCEEDS	1010		1460		821	
50 PERCENT EXCEEDS	140		110		73	
90 PERCENT EXCEEDS	29		7.1		10	

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

04201500 ROCKY RIVER NEAR BERE, OH

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

DRAINAGE AREA.--267 mi².

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

REVISED RECORDS.--WSP 1437: 1924, 1925(M), 1926, 1927(M), 1928-29, 1930-35(M), 1945. WSP 1912: Drainage area.

WRD-OH-2-1983: 1978-1982(M).

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

REMARKS.--Estimated daily discharges: Oct. 16 to Dec. 15, 26-29, Jan. 28 to Feb. 21, Mar. 11-16. Records good except those for periods of estimated record which are poor. Some regulation at low flow by small reservoirs on East Branch. Some interbasin transfer of water from Lake Erie for municipal water supply by Cleveland Metro Water District. Water-quality data collected at this site 1964 to 1977.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	58	210	2090	150	227	2070	238	111	47	41	26
2	37	650	190	568	135	362	1410	189	77	46	108	131
3	34	1500	250	470	125	1280	669	167	56	45	58	393
4	32	400	300	3190	110	3520	474	162	54	71	88	172
5	29	90	190	6400	100	3680	354	297	100	146	46	69
6	27	70	150	1380	94	1150	289	388	83	124	36	67
7	26	62	120	534	84	1170	246	229	94	85	72	52
8	26	210	105	392	80	2310	226	144	722	53	46	34
9	43	120	90	314	76	1420	238	119	2850	43	32	30
10	35	200	120	241	74	796	1840	104	1190	36	28	28
11	54	1000	180	237	72	500	794	101	316	39	34	28
12	62	3000	320	274	120	350	439	102	178	118	33	26
13	48	8800	460	4360	370	250	319	90	122	124	55	27
14	136	2500	340	2400	260	180	244	79	93	66	53	25
15	188	950	240	711	200	210	217	73	78	48	37	61
16	540	580	323	461	180	300	803	69	69	36	32	48
17	800	420	282	360	170	2220	517	64	59	32	29	34
18	1600	330	191	274	160	1370	327	62	52	31	25	30
19	450	280	156	208	150	659	264	67	55	29	22	30
20	270	250	551	207	150	909	426	66	91	29	21	28
21	180	230	411	235	170	1660	1610	62	140	27	20	27
22	140	1000	218	934	1050	1250	639	57	359	24	18	26
23	120	4500	183	695	772	2470	351	55	145	24	18	31
24	100	1700	156	1770	445	3120	268	61	82	24	18	52
25	90	1000	123	1660	349	1290	670	68	60	22	19	63
26	80	600	110	507	310	756	4140	59	139	22	17	532
27	75	420	100	380	272	516	864	52	107	22	17	189
28	70	330	94	290	236	404	438	48	123	24	17	127
29	65	270	84	240	---	376	314	49	61	74	17	162
30	62	240	1600	210	---	331	275	57	51	143	19	314
31	60	---	10900	170	---	299	---	151	---	60	19	---
TOTAL	5514	31760	18747	32162	6464	35335	21735	3529	7717	1714	1095	2862
MEAN	178	1059	605	1037	231	1140	724	114	257	55.3	35.3	95.4
MAX	1600	8800	10900	6400	1050	3680	4140	388	2850	146	108	532
MIN	26	58	84	170	72	180	217	48	51	22	17	25
CFSM	.67	3.97	2.26	3.89	.86	4.27	2.71	.43	.96	.21	.13	.36
IN.	.77	4.42	2.61	4.48	.90	4.92	3.03	.49	1.08	.24	.15	.40

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 1993, BY WATER YEAR (WY)

	MEAN	88.5	212	345	392	478	606	493	292	168	117	72.4	98.1
MAX	935	1080	1534	1398	1245	1253	1374	845	911	887	553	820	
(WY)	1927	1986	1991	1930	1959	1984	1961	1984	1947	1992	1935	1924	
MIN	1.25	9.14	8.15	32.4	17.0	141	40.9	17.6	10.1	4.25	.90	.94	
(WY)	1934	1964	1964	1945	1934	1969	1946	1934	1933	1954	1933	1933	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1924 - 1993

ANNUAL TOTAL	159616		168634									
ANNUAL MEAN	436		462							279		
HIGHEST ANNUAL MEAN										462		1993
LOWEST ANNUAL MEAN										79.5		1934
HIGHEST DAILY MEAN	10900	Dec 31	10900	Dec 31						14300	Jan 22	1959
LOWEST DAILY MEAN	26	Oct 7	17	Aug 26						.20	Sep 2	1932
ANNUAL SEVEN-DAY MINIMUM	30	Oct 2	18	Aug 23						.27	Aug 21	1933
INSTANTANEOUS PEAK FLOW			12900	Dec 31	a					21400	Jan 22	1959
INSTANTANEOUS PEAK STAGE			8.31	Dec 31						18.60	Jun 29	1924
INSTANTANEOUS LOW FLOW			12	Aug 28						.20	Sep 2	1932
ANNUAL RUNOFF (CFSM)	1.63		1.73							1.05		
ANNUAL RUNOFF (INCHES)	22.24		23.50							14.21		
10 PERCENT EXCEEDS	999		1180							652		
50 PERCENT EXCEEDS	171		150							80		
90 PERCENT EXCEEDS	48		29							10		

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

STREAMS TRIBUTARY TO LAKE ERIE

04202000 CUYAHOGA RIVER AT HIRAM RAPIDS, OH

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

DRAINAGE AREA.--151 mi².

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

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

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

REMARKS.--Estimated daily discharges: Feb. 20-22, 27 to Mar. 2, 15-16, May 5 to Sept. 16. Records good except for estimated daily discharges, which are fair. Flow regulated by East Branch Reservoir, usable capacity, 4,140 acre-ft, 14.6 mi upstream since 1939 and by LaDue Reservoir, usable capacity, 18,110 acre-ft, 9.8 mi upstream since 1961. Water-quality data collected at this site 1965 to 1977.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3670 ft³/s Jan. 23, 1959, gage height 8.11 ft; minimum daily, 6.6 ft³/s Sept. 10, 1933.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	107	82	425	1290	353	190	800	350	199	45	150	95
2	102	113	387	1330	313	180	741	274	205	45	133	98
3	99	183	363	996	308	294	698	217	181	47	114	101
4	95	213	343	904	303	334	624	187	140	47	103	124
5	91	240	335	1180	300	428	537	169	95	50	100	120
6	89	246	326	1340	307	490	434	164	81	54	96	113
7	88	238	321	1370	307	525	351	153	78	50	89	109
8	90	228	316	1100	309	611	288	140	124	50	86	101
9	102	214	312	801	304	672	240	129	338	47	84	98
10	110	198	309	591	303	653	226	116	472	45	82	96
11	113	191	310	477	305	556	239	105	532	44	82	95
12	115	279	280	414	312	483	250	95	454	42	82	98
13	124	569	256	512	324	364	243	90	334	39	77	101
14	151	825	246	621	331	257	229	83	248	36	75	98
15	187	888	242	711	329	210	211	83	169	35	75	98
16	224	760	278	690	327	190	212	83	122	35	73	96
17	257	626	339	594	321	324	219	81	84	32	50	92
18	282	547	392	491	311	424	216	81	67	35	36	79
19	294	510	409	452	335	466	202	72	56	35	28	63
20	271	485	408	369	280	450	195	61	52	49	24	55
21	246	461	389	334	260	462	249	58	74	81	22	51
22	227	472	377	400	290	473	303	55	75	103	20	40
23	198	604	358	476	317	556	345	53	69	114	90	32
24	155	730	323	583	324	858	330	59	59	135	101	30
25	133	863	294	646	354	1230	310	70	58	150	101	33
26	115	806	244	684	309	1530	495	63	60	156	98	68
27	99	693	250	678	260	1610	652	83	56	161	95	99
28	91	594	198	586	210	1510	691	116	58	161	95	98
29	87	521	199	502	---	1300	571	142	54	167	92	108
30	85	469	289	420	---	1110	449	175	49	172	95	122
31	83	---	812	382	---	922	---	187	---	167	95	---
TOTAL	4510	13848	10330	21924	8606	19662	11550	3794	4643	2429	2543	2611
MEAN	145	462	333	707	307	634	385	122	155	78.4	82.0	87.0
MAX	294	888	812	1370	354	1610	800	350	532	172	150	124
MIN	83	82	198	334	210	180	195	53	49	32	20	30
CFSM	.96	3.06	2.21	4.68	2.04	4.20	2.55	.81	1.02	.52	.54	.58
IN.	1.11	3.41	2.54	5.40	2.12	4.84	2.85	.93	1.14	.60	.63	.64

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1993, BY WATER YEAR (WY)

	MEAN	110	205	282	268	359	456	354	203	131	103	88.9	109
MAX	315	616	816	707	883	835	649	569	542	325	307	374	374
(WY)	1991	1986	1978	1993	1976	1963	1961	1984	1989	1969	1992	1975	1975
MIN	39.0	33.5	45.2	43.5	56.6	174	134	59.8	35.2	48.4	37.1	36.6	36.6
(WY)	1984	1992	1961	1961	1963	1989	1986	1987	1991	1991	1961	1967	1967

SUMMARY STATISTICS FOR 1992 CALENDAR YEAR FOR 1993 WATER YEAR WATER YEARS 1961 - 1993

	ANNUAL TOTAL	84971	106450	221	301	1969
ANNUAL MEAN	232	292	131	131	1962	1962
HIGHEST ANNUAL MEAN						
LOWEST ANNUAL MEAN						
HIGHEST DAILY MEAN	1050	Aug 31	1610	Mar 27	3250	Feb 18 1976
LOWEST DAILY MEAN	20	Jun 17	20	Aug 22	12	Sep 19 1967
ANNUAL SEVEN-DAY MINIMUM	22	Jun 30	35	Jul 13	13	Sep 16 1967
INSTANTANEOUS PEAK FLOW			1630	Mar 27	3320	Feb 18 1976
INSTANTANEOUS PEAK STAGE			5.09	Mar 27	7.67	Feb 18 1976
INSTANTANEOUS LOW FLOW			20	Aug 22	12	Sep 19 1967
ANNUAL RUNOFF (CFSM)	1.54		1.93		1.47	
ANNUAL RUNOFF (INCHES)	20.93		26.22		19.92	
10 PERCENT EXCEEDS	479		648		516	
50 PERCENT EXCEEDS	187		211		127	
90 PERCENT EXCEEDS	48		55		43	

87

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

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

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

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

REMARKS.--Estimated daily discharges: Feb. 18-21, 26-28. Records good, except those for estimates record which are fair. Natural flow of stream affected by diversions, storage reservoirs and power plants. At Lake Rockwell, 17.7 mi upstream from gage, an average of 74 ft³/s was diverted for municipal supply of city of Akron. Sewage from city enters river 2.9 mi downstream from station. Some diversion from the Tuscarawas River basin drainage into this basin at Portage Lakes (see REMARKS for station 03117000 in volume 1 of this report). Sediment data collected at this site 1972-1981. Satellite telemeter at gage.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	379	217	781	2630	695	492	1610	899	180	194	107	85
2	412	406	686	2030	726	665	1550	727	150	195	104	333
3	1040	708	661	2040	1110	943	1520	643	130	185	119	505
4	625	584	600	2320	714	1420	1470	616	141	217	144	204
5	386	586	577	3290	656	1550	1300	629	167	207	118	137
6	155	597	558	2780	328	1470	606	583	153	227	149	137
7	133	580	516	2280	286	1450	675	396	265	261	146	116
8	128	565	496	2090	434	1750	580	403	1250	213	147	107
9	143	515	494	1710	1000	1890	308	379	2210	185	144	103
10	138	222	538	1340	378	1670	436	344	1820	155	142	102
11	168	246	551	1100	342	1480	357	323	1360	175	144	89
12	149	1000	553	1000	404	1020	376	320	1260	187	146	88
13	137	1700	540	1860	429	1360	535	241	1150	166	147	88
14	402	1380	527	1960	408	1070	531	227	953	160	140	84
15	535	1260	517	1560	388	371	647	223	684	481	138	109
16	768	1330	527	1490	458	365	740	212	456	140	139	93
17	685	1320	587	1340	702	873	554	199	711	116	111	86
18	320	1160	606	1100	620	887	530	200	619	112	103	85
19	228	1030	626	844	500	826	533	197	392	104	108	83
20	227	585	799	739	430	941	634	201	299	94	119	83
21	249	623	770	773	390	1100	923	206	812	88	96	84
22	211	844	677	905	857	1100	798	201	624	84	94	469
23	287	1210	633	931	763	1390	747	190	428	82	92	829
24	336	1440	586	1140	632	2060	751	194	391	87	92	325
25	311	1380	499	1350	294	1980	1240	194	344	94	77	229
26	278	983	434	1180	260	1990	1730	181	315	92	71	234
27	250	1200	419	1100	220	2120	1420	114	214	91	70	123
28	239	1100	369	1100	200	2220	1350	205	203	99	72	125
29	249	995	394	1020	---	2100	1330	237	210	116	70	131
30	221	890	804	826	---	1890	1140	120	196	143	100	234
31	206	---	2670	776	---	1660	---	211	---	119	96	---
TOTAL	9995	26656	19995	46604	14624	42103	26921	10015	18087	4869	3545	5500
MEAN	322	889	645	1503	522	1358	897	323	603	157	114	183
MAX	1040	1700	2670	3290	1110	2220	1730	899	2210	481	149	829
MIN	128	217	369	739	200	365	308	114	130	82	70	83

MEAN	213	320	468	565	667	878	733	466	308	231	178	210
MAX	1205	1307	1516	1807	1592	1416	1520	1225	1371	676	772	1150
(WY)	1927	1986	1928	1952	1976	1927	1940	1984	1989	1976	1992	1926
MIN	50.8	56.5	48.3	83.3	86.1	282	166	77.0	72.4	50.4	56.9	47.1
(WY)	1934	1964	1964	1961	1963	1931	1935	1934	1988	1954	1962	1964

ANNUAL TOTAL	189361		228914			
ANNUAL MEAN	517		627		435	
HIGHEST ANNUAL MEAN					669	1927
LOWEST ANNUAL MEAN					181	1934
HIGHEST DAILY MEAN	2670	Dec 31	3290	Jan 5	6040	Jan 22 1959
LOWEST DAILY MEAN	52	Jul 2	70	Aug 27	24	Sep 24 1964
ANNUAL SEVEN-DAY MINIMUM	65	Jun 26	78	Aug 23	40	Oct 30 1944
INSTANTANEOUS PEAK FLOW			3910	Jan 4	6500	Jan 21 1959
INSTANTANEOUS PEAK STAGE			9.64	Jan 4	13.29	Sep 14 1979
INSTANTANEOUS LOW FLOW			70	Aug 27	26	Sep 2 1945
10 PERCENT EXCEEDS	1120		1460		1020	
50 PERCENT EXCEEDS	412		434		263	
90 PERCENT EXCEEDS	83		106		76	

STREAMS TRIBUTARY TO LAKE ERIE

04206208 YELLOW CREEK AT GHENT, OH

LOCATION.--Lat 41°09'29", long 81°38'32", Summit County, Hydrologic Unit 04110002, on left downstream bank at driveway bridge of Creekside Farm at 3680 Granger Road, 150 ft south of Granger Road, 0.25 mi west of Cleveland-Massillon Road, 2.9 mi northwest of Akron corporate boundary.

DRAINAGE AREA.--12.7 mi².

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

GAGE.--Water-stage recorder. Elevation of gage is 908 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 16-18, Dec. 25-29, Jan. 19-20, 23, 30, Feb. 2, 4-9, 18, 21, 24-25, 27-28. Records good, except those for periods of estimated daily discharges, which are fair.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	8.6	13	45	14	12	40	18	11	4.9	2.7	1.5
2	7.7	24	13	24	12	15	31	17	9.0	5.0	2.7	6.8
3	8.0	31	15	23	12	29	24	16	8.5	4.9	2.5	15
4	7.7	17	14	68	11	86	19	17	8.8	4.7	3.7	6.5
5	7.5	14	14	145	11	65	18	20	8.9	4.6	3.1	3.8
6	7.4	16	12	52	10	37	18	19	8.3	4.9	2.7	3.3
7	7.3	14	12	35	9.7	38	17	16	9.7	6.3	2.6	3.1
8	7.1	13	12	26	10	65	16	14	34	4.5	2.6	2.7
9	7.0	12	11	23	10	42	16	13	74	3.7	2.6	2.5
10	7.4	11	12	18	11	30	37	12	28	3.5	2.4	2.6
11	10	17	15	18	12	25	23	12	15	4.9	2.5	2.3
12	10	82	17	19	17	21	19	12	11	5.8	2.2	2.4
13	9.3	81	17	108	18	18	17	11	8.7	4.3	2.3	2.3
14	13	29	16	54	14	20	15	9.9	8.0	3.7	2.1	2.1
15	15	20	16	30	13	27	15	9.4	7.8	3.6	1.8	2.8
16	20	18	17	24	13	18	30	8.6	7.2	3.2	1.9	3.4
17	16	19	15	22	13	59	23	9.0	6.6	3.1	2.0	2.8
18	12	17	13	18	11	38	18	8.8	6.7	3.0	1.7	2.6
19	12	15	12	16	11	28	17	8.5	7.3	3.0	1.9	2.6
20	11	13	21	14	11	30	22	8.5	7.1	2.8	1.6	2.6
21	10	17	16	19	12	47	47	8.5	13	2.6	1.6	2.7
22	9.1	51	14	31	22	42	24	8.4	12	2.4	1.4	2.6
23	8.1	66	13	24	18	89	18	8.1	7.5	2.5	1.6	3.0
24	7.9	30	12	53	15	83	17	9.1	6.0	2.4	1.6	3.4
25	8.2	36	11	36	15	47	74	8.7	5.5	2.4	1.6	4.1
26	7.8	23	8.5	22	15	34	121	8.4	8.3	2.3	1.4	14
27	7.7	18	7.7	19	12	27	42	8.7	6.3	1.8	1.5	5.5
28	7.7	17	8.5	18	11	25	28	9.6	5.4	2.2	1.4	5.0
29	7.6	15	12	18	---	23	23	14	5.3	2.8	1.3	5.1
30	7.6	14	53	15	---	21	21	9.0	4.9	3.4	1.2	8.8
31	7.4	---	155	15	---	20	---	12	---	3.0	1.1	---
TOTAL	292.5	758.6	597.7	1052	363.7	1161	850	364.2	359.8	112.2	63.3	127.9
MEAN	9.44	25.3	19.3	33.9	13.0	37.5	28.3	11.7	12.0	3.62	2.04	4.26
MAX	20	82	155	145	22	89	121	20	74	6.3	3.7	15
MIN	7.0	8.6	7.7	14	9.7	12	15	8.1	4.9	1.8	1.1	1.5
CFSM	.74	1.99	1.52	2.67	1.02	2.95	2.23	.93	.94	.28	.16	.34
IN.	.86	2.22	1.75	3.08	1.07	3.40	2.49	1.07	1.05	.33	.19	.37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1993, BY WATER YEAR (WY)

	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
MEAN	6.37	15.0	13.0	20.9	12.4	27.2	25.0	10.8	10.1	14.0	8.53	12.1
MAX	9.44	25.3	19.3	33.9	13.0	37.5	28.3	11.7	12.0	24.3	15.0	20.0
(WY)	1993	1993	1993	1993	1993	1993	1993	1993	1993	1992	1992	1992
MIN	3.31	4.63	6.68	7.89	11.8	16.9	21.6	9.93	8.16	3.62	2.04	4.26
(WY)	1992	1992	1992	1992	1992	1992	1992	1992	1992	1993	1993	1993

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1992 - 1993

ANNUAL TOTAL	5776.7	6102.9	14.6
ANNUAL MEAN	15.8	16.7	16.7
HIGHEST ANNUAL MEAN			12.5
LOWEST ANNUAL MEAN			155
HIGHEST DAILY MEAN	155	Dec 31	155
LOWEST DAILY MEAN	2.3	Jul 8	1.1
ANNUAL SEVEN-DAY MINIMUM	2.9	Jul 3	1.3
INSTANTANEOUS PEAK FLOW			231
INSTANTANEOUS PEAK STAGE			12.88
INSTANTANEOUS LOW FLOW			.02
ANNUAL RUNOFF (CFSM)	1.24	1.32	1.15
ANNUAL RUNOFF (INCHES)	16.92	17.88	15.63
10 PERCENT EXCEEDS	28	34	28
50 PERCENT EXCEEDS	12	12	9.7
90 PERCENT EXCEEDS	5.1	2.6	2.8

04206210 NORTH FORK AT BATH, OH

LOCATION.--Lat 41°11'20", long 81°39'12", Summit County, Hydrologic Unit 04110002, on right upstream bank at triple barrel culvert under Ira Road, 0.9 mi west of Cleveland-Massillon Road, 4.7 mi northwest of Akron corporate boundary.

DRAINAGE AREA.--2.81 mi².

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

GAGE.--Water-stage recorder. Elevation of gage is 996 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Feb. 17-21. Records good, except for period of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.40	1.8	1.0	15	3.7	5.9	15	4.1	.81	.51	.42	.48
2	.39	13	1.0	9.6	2.7	8.1	9.7	3.3	.60	.54	.37	2.6
3	.40	7.3	1.4	15	2.4	16	7.8	2.7	.56	.49	.29	5.4
4	.43	2.4	1.1	34	2.4	38	6.3	2.8	.59	3.4	.55	1.1
5	.53	2.4	1.1	36	2.4	17	4.9	6.5	1.2	3.3	.43	.43
6	.53	4.4	1.1	11	2.1	11	4.0	5.5	.86	2.1	.35	.35
7	.56	2.7	.80	8.5	2.0	14	3.2	3.1	5.6	1.6	.32	.32
8	.61	1.5	.69	7.6	1.7	22	2.4	2.2	26	1.0	.29	.27
9	.87	1.0	.63	6.4	1.6	13	3.0	1.6	32	.72	.26	.23
10	.94	.86	.79	5.6	1.9	8.7	13	1.4	8.7	.52	.26	.24
11	1.5	9.4	1.8	5.9	1.9	6.8	6.5	1.1	4.1	.98	.32	.17
12	1.4	53	2.7	7.2	6.8	5.7	5.0	1.1	1.6	1.3	.30	.16
13	1.1	16	3.7	75	7.5	4.9	3.5	.93	1.0	.67	.32	.14
14	4.4	6.2	3.6	12	4.1	8.3	2.5	.93	.75	.50	.25	.12
15	3.5	3.6	4.1	8.7	3.1	8.0	2.4	.84	.66	.42	.25	.25
16	7.3	2.6	7.7	7.1	3.2	7.1	12	.79	.53	.33	.17	.26
17	3.1	2.0	2.8	6.3	3.4	29	6.8	.77	.49	.30	.17	.20
18	1.1	1.4	1.6	4.1	3.5	13	4.5	.75	.73	.28	.15	.20
19	1.3	1.1	1.2	3.4	3.4	7.6	3.9	.79	1.6	.30	.15	.19
20	.84	.95	8.0	3.1	3.3	10	6.4	.79	.81	.30	.15	.16
21	.92	4.2	1.9	7.4	4.4	15	13	.70	7.9	.28	.13	.19
22	.70	22	1.5	12	12	15	6.0	.67	4.7	.27	.13	.20
23	.64	17	1.4	8.1	8.3	38	4.0	.57	1.5	.28	.13	.28
24	.69	7.5	.97	34	6.4	26	4.6	.67	.87	.25	.14	.32
25	.63	9.3	.79	11	6.0	16	39	.65	.67	.26	.15	.66
26	.60	4.3	.59	7.4	6.8	10	23	.57	1.5	.29	.14	7.2
27	.63	2.5	.50	6.4	6.5	7.4	9.5	.52	.66	.29	.12	.79
28	.60	2.1	.58	5.8	6.1	6.3	7.0	.54	.59	.32	.13	.59
29	.65	1.9	1.8	5.7	---	5.7	5.7	.78	.71	.40	.12	.55
30	.69	1.3	63	4.3	---	4.6	5.6	.61	.53	.92	.17	2.5
31	.69	---	59	4.3	---	4.7	---	1.1	---	.63	.73	---
TOTAL	38.64	205.71	178.84	387.9	119.6	402.8	240.2	49.37	108.82	23.75	7.86	26.55
MEAN	1.25	6.86	5.77	12.5	4.27	13.0	8.01	1.59	3.63	.77	.25	.88
MAX	7.3	53	63	75	12	38	39	6.5	32	3.4	.73	7.2
MIN	.39	.86	.50	3.1	1.6	4.6	2.4	.52	.49	.25	.12	.12
CFSM	.44	2.44	2.05	4.45	1.52	4.62	2.85	.57	1.29	.27	.09	.31
IN.	.51	2.72	2.37	5.14	1.58	5.33	3.18	.65	1.44	.31	.10	.35

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1993, BY WATER YEAR (WY)

	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
MEAN	.95	3.96	3.50	7.41	3.94	8.53	6.17	1.30	2.00	5.00	2.04	2.18
MAX	1.25	6.86	5.77	12.5	4.27	13.0	8.01	1.59	3.63	9.23	3.84	3.47
(WY)	1993	1993	1993	1993	1993	1993	1993	1993	1993	1992	1992	1992
MIN	.65	1.07	1.24	2.31	3.63	4.07	4.33	1.01	.38	.77	.25	.88
(WY)	1992	1992	1992	1992	1992	1992	1992	1992	1992	1993	1993	1993

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1992 - 1993
ANNUAL TOTAL	1408.26	1790.04	
ANNUAL MEAN	3.85	4.90	3.92
HIGHEST ANNUAL MEAN			4.90
LOWEST ANNUAL MEAN			2.94
HIGHEST DAILY MEAN	85 Jul 30	75 Jan 13	85 Jul 30 1992
LOWEST DAILY MEAN	.01 Jul 4	.12 Aug 27	.01 Jul 4 1992
ANNUAL SEVEN-DAY MINIMUM	.01 Jul 3	.13 Aug 23	.01 Jul 3 1992
INSTANTANEOUS PEAK FLOW		438 Dec 30 a	635 Jul 30 1992
INSTANTANEOUS PEAK STAGE		14.02 Dec 30	15.21 Jul 30 1992
INSTANTANEOUS LOW FLOW		.07 Aug 28	.01 Jul 4 1992
ANNUAL RUNOFF (CFSM)	1.37	1.75	1.40
ANNUAL RUNOFF (INCHES)	18.64	23.70	18.96
10 PERCENT EXCEEDS	9.3	12	9.6
50 PERCENT EXCEEDS	1.2	1.6	1.1
90 PERCENT EXCEEDS	.30	.27	.27

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

STREAMS TRIBUTARY TO LAKE ERIE

04206211 PARK CREEK AT BATH CENTER, OH

LOCATION.--Lat 41°10'44", long 81°38'09", Summit County, Hydrologic Unit 04110002, on upstream left bank at culvert under the entrance of the Bath Community Center, 200 ft east of Cleveland-Massillon Road, 0.7 mi north of Bath Road, 3.7 mi northwest of Akron corporate boundary.

DRAINAGE AREA.--0.826 mi².

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

GAGE.--Water-stage recorder. Elevation of gage is 980 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 6, 24-27, Jan. 18-21, 26, 29 to Feb. 9, 18-21, 23-28, Mar. 13-16, 18-19. Records fair, except those for periods of estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.17	.34	3.3	3.0	2.1	.12	4.1	.54	.17	.11	.00	.00
2	.17	2.6	3.3	.99	1.9	.40	3.0	.52	.17	.12	.00	.04
3	.16	1.3	3.7	2.6	1.2	.61	2.9	.52	.17	.10	.00	.06
4	.14	.26	3.2	11	.72	9.2	.76	.52	.17	.31	.00	.00
5	.11	.27	3.1	8.9	.28	4.2	.16	.55	.17	.20	.00	.00
6	.11	.29	2.3	3.2	.17	4.1	.07	.52	.17	.42	.00	.00
7	.11	.25	2.1	1.7	.06	5.1	.04	.50	1.2	.35	.00	.00
8	.10	.20	2.0	.79	.01	5.4	.03	.46	6.2	.13	.00	.00
9	.11	.16	1.8	.32	.01	3.9	.24	.41	3.8	.07	.00	.00
10	.11	.18	2.7	.27	.01	3.7	4.3	.39	.72	.04	.00	.00
11	.15	2.2	4.2	.46	.01	3.3	2.0	.37	.36	.16	.00	.00
12	.14	17	4.3	3.1	.01	2.9	.70	.39	.19	.24	.00	.00
13	.11	8.8	4.5	12	.01	2.1	.22	.36	.19	.06	.00	.00
14	.77	4.6	4.2	4.2	.03	2.1	.18	.32	.18	.04	.00	.00
15	1.6	2.1	4.3	4.0	.07	2.1	.14	.32	.18	.02	.00	.00
16	1.8	1.3	5.2	3.7	1.1	3.3	3.3	.26	.16	.01	.00	.00
17	.32	1.1	3.5	3.3	1.3	5.8	2.7	.21	.15	.00	.00	.00
18	.22	.86	2.8	2.7	.17	.11	1.0	.19	.67	.00	.00	.00
19	.23	.60	2.8	2.1	.05	.02	.82	.19	.43	.00	.00	.00
20	.19	.55	5.9	1.9	.02	1.7	2.9	.19	.23	.00	.00	.00
21	.20	2.0	2.8	2.7	.02	2.6	4.4	.19	1.3	.00	.00	.00
22	.16	10	2.5	3.6	1.2	2.1	3.2	.18	.53	.00	.00	.00
23	.15	9.6	2.1	3.1	.80	10	2.2	.16	.24	.00	.00	.00
24	.18	7.6	1.6	6.2	.25	6.8	2.1	.17	.18	.00	.00	.00
25	.16	7.4	1.1	3.9	.17	4.1	17	.17	.17	.00	.00	.05
26	.14	5.5	.51	3.3	.19	3.3	2.4	.17	.32	.00	.00	.69
27	.13	4.6	.46	3.1	.15	2.6	.60	.17	.17	.00	.00	.00
28	.12	4.4	.62	3.1	.10	1.2	.58	.17	.14	.00	.00	.00
29	.13	3.9	1.5	3.0	---	.52	.56	.17	.18	.00	.00	.00
30	.12	3.7	26	2.7	---	.24	.54	.17	.13	.05	.00	.05
31	.11	---	14	2.1	---	1.2	---	.18	---	.00	.00	---
TOTAL	8.42	103.66	122.39	107.03	12.11	94.82	63.14	9.63	19.04	2.43	0.00	0.89
MEAN	.27	3.46	3.95	3.45	.43	3.06	2.10	.31	.63	.078	.000	.030
MAX	1.8	17	26	12	2.1	10	17	.55	6.2	.42	.00	.69
MIN	.10	.16	.46	.27	.01	.02	.03	.16	.13	.00	.00	.00
CFSM	.33	4.21	4.81	4.21	.53	3.73	2.57	.38	.77	.10	.00	.04
IN.	.38	4.70	5.55	4.86	.55	4.30	2.86	.44	.86	.11	.00	.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1993, BY WATER YEAR (WY)

	MEAN	.17	1.75	2.08	2.33	.88	2.22	1.71	.33	.38	1.46	.40	.56
MAX	.27	3.46	3.95	3.45	1.30	3.06	2.10	.36	.63	2.84	.79	1.09	
(WY)	1993	1993	1993	1993	1992	1993	1993	1992	1993	1993	1992	1992	
MIN	.071	.052	.21	1.20	.43	1.38	1.32	.31	.12	.078	.000	.030	
(WY)	1992	1992	1992	1992	1993	1992	1992	1993	1992	1993	1993	1993	

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR		FOR 1993 WATER YEAR		WATER YEARS 1992 - 1993	
ANNUAL TOTAL	551.67		543.56			
ANNUAL MEAN	1.51		1.49		1.19	
HIGHEST ANNUAL MEAN					1.49	
LOWEST ANNUAL MEAN					.89	
HIGHEST DAILY MEAN	26	Dec 30	26	Dec 30	26	Dec 30 1992
LOWEST DAILY MEAN	.01	Jun 16	.00	Jul 17	.00	Jul 17 1993
ANNUAL SEVEN-DAY MINIMUM	.01	Jun 28	.00	Jul 17	.00	Jul 17 1993
INSTANTANEOUS PEAK FLOW			162	Dec 30	162	Dec 30 1992
INSTANTANEOUS PEAK STAGE			15.18	Dec 30	15.18	Dec 30 1992
INSTANTANEOUS LOW FLOW			.00	Aug 21	.00	Aug 21 1993
ANNUAL RUNOFF (CFSM)	1.84		1.82		1.45	
ANNUAL RUNOFF (INCHES)	25.03		24.66		19.74	
10 PERCENT EXCEEDS	3.8		4.1		3.3	
50 PERCENT EXCEEDS	.73		.24		.26	
90 PERCENT EXCEEDS	.06		.00		.01	

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

STREAMS TRIBUTARY TO LAKE ERIE

91

04206212 NORTH FORK AT BATH CENTER, OH

LOCATION.--Lat 41°10'08", long 81°38'04", Summit County, Hydrologic Unit 04110002, on left upstream side of bridge on Bath Road, 750 ft east of Cleveland-Massillon Road at Bath Center, 3.1 mi northwest of Akron corporate boundary.
DRAINAGE AREA.--5.58 mi².
PERIOD OF RECORD.--October 1, 1991 to current year.
GAGE.--Water-stage recorder. Elevation of gage is 936 ft above sea level, from topographic map.
REMARKS.--Estimated daily discharges: Feb. 17, 19, 23-24, Mar. 9 to June 2. Records good, except those for periods of estimated daily discharges and discharges of less than 5 ft³/s, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	7.9	5.0	20	3.7	4.6	28	8.2	1.5	.55	.29	.71
2	1.0	23	5.1	11	2.9	8.9	20	6.2	1.2	.56	.08	6.7
3	1.0	15	6.5	22	2.7	23	16	5.4	1.4	.55	.10	16
4	1.0	6.9	5.3	63	2.7	67	12	6.1	1.7	5.9	.68	3.3
5	1.0	7.7	5.2	94	2.6	27	9.6	12	3.6	5.2	.45	.64
6	1.0	9.2	4.5	17	2.3	11	7.2	10	2.9	5.7	.27	.39
7	1.2	7.4	4.1	11	2.0	13	5.7	5.8	13	4.4	.10	.20
8	1.6	5.6	4.0	9.3	1.9	19	4.8	4.0	56	1.5	.10	.16
9	3.3	4.3	4.0	7.2	1.7	16	6.2	3.1	71	1.3	.10	.10
10	3.5	4.2	4.8	6.2	2.0	14	25	2.6	16	1.1	.10	.28
11	4.4	17	7.9	6.1	2.1	12	13	2.1	7.8	3.1	.10	.37
12	3.8	102	9.2	7.7	7.5	11	10	2.1	4.1	4.1	.10	.27
13	3.6	35	9.7	86	8.4	10	6.2	1.8	3.1	1.3	.11	.21
14	7.2	13	9.4	21	4.3	16	5.2	1.8	2.2	1.6	.10	.46
15	7.4	9.1	9.3	12	3.6	15	4.9	1.6	1.5	.66	.18	.57
16	12	7.1	13	8.6	3.4	14	23	1.5	1.0	.71	.25	.62
17	6.4	6.6	7.6	7.2	3.5	56	13	1.5	.94	.25	.25	.53
18	4.1	4.9	5.8	5.1	3.6	25	8.7	1.5	3.0	.25	.48	.55
19	4.7	4.1	5.3	3.7	3.6	15	7.8	1.5	5.9	.50	.49	.55
20	3.9	4.0	17	3.4	3.4	21	13	1.5	2.4	.43	.37	.46
21	5.1	9.3	7.1	7.7	4.1	29	25	1.4	19	.25	.25	.40
22	6.2	48	6.1	16	15	36	11	1.3	8.8	.25	.25	.55
23	5.5	35	5.2	9.6	8.0	72	8.1	1.1	3.7	.25	.10	.90
24	6.4	16	4.3	34	4.6	52	8.8	1.3	2.1	.25	.18	1.3
25	6.2	19	3.7	14	4.7	28	70	1.2	1.4	.25	.18	3.4
26	5.9	11	3.0	8.1	4.4	19	34	1.1	4.9	.22	.20	17
27	6.0	8.0	2.5	6.9	4.0	14	19	1.0	.83	.08	.25	2.7
28	5.9	7.4	3.2	6.5	3.9	12	14	1.1	1.0	.13	.24	2.2
29	6.0	6.7	5.5	6.4	---	11	11	1.5	1.7	.13	.29	2.3
30	6.6	5.4	109	4.5	---	9.0	10	1.2	.68	2.8	.24	7.4
31	6.8	---	122	4.3	---	11	---	2.0	---	.68	1.6	---
TOTAL	139.7	459.8	414.3	539.5	116.6	691.5	450.2	94.5	244.35	44.95	8.48	71.22
MEAN	4.51	15.3	13.4	17.4	4.16	22.3	15.0	3.05	8.14	1.45	.27	2.37
MAX	12	102	122	94	15	72	70	12	71	5.9	1.6	17
MIN	1.0	4.0	2.5	3.4	1.7	4.6	4.8	1.0	.68	.08	.08	.10
CFSM	.81	2.75	2.40	3.12	.75	4.00	2.69	.55	1.46	.26	.05	.43
IN.	.93	3.07	2.76	3.60	.78	4.61	3.00	.63	1.63	.30	.06	.47

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1993, BY WATER YEAR (WY)

	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
MEAN	4.53	9.31	7.67	10.6	5.74	16.2	13.1	3.44	4.86	9.16	3.61	4.79
MAX	4.56	15.3	13.4	17.4	7.26	22.3	15.0	3.83	8.14	16.9	6.94	7.21
(WY)	1992	1993	1993	1993	1992	1993	1993	1992	1993	1992	1992	1992
MIN	4.51	3.30	1.97	3.76	4.16	10.1	11.2	3.05	1.57	1.45	.27	2.37
(WY)	1993	1992	1992	1992	1993	1992	1992	1993	1992	1993	1993	1993

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1992 - 1993
ANNUAL TOTAL	3110.27	3275.10	
ANNUAL MEAN	8.50	8.97	7.76
HIGHEST ANNUAL MEAN			8.97
LOWEST ANNUAL MEAN			6.55
HIGHEST DAILY MEAN	138 Jul 30	122 Dec 31	138 Jul 30 1992
LOWEST DAILY MEAN	.07 Jul 3	.08 Jul 27	.07 Jul 3 1992
ANNUAL SEVEN-DAY MINIMUM	.11 Jul 1	.10 Aug 7	.10 Aug 7 1993
INSTANTANEOUS PEAK FLOW		675 Dec 30 a	885 Jul 30 1992
INSTANTANEOUS PEAK STAGE		12.64 Dec 30	12.93 Jul 30 1992
INSTANTANEOUS LOW FLOW		.02 Jul 27	.02 Jul 27 1993
ANNUAL RUNOFF (CFSM)	1.52	1.61	1.39
ANNUAL RUNOFF (INCHES)	20.74	21.83	18.90
10 PERCENT EXCEEDS	17	19	17
50 PERCENT EXCEEDS	4.6	4.5	3.9
90 PERCENT EXCEEDS	.97	.25	.51

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

STREAMS TRIBUTARY TO LAKE ERIE

04206215 BATH CREEK AT BATH CENTER, OH

LOCATION.--Lat 41°10'09", long 81°38'56", Summit County, Hydrologic Unit 04110002, on upstream left bank at bridge on Bath Road, 0.6 mi west of Cleveland-Massillon Road, 0.2 mi downstream from Steriner Pond, and 3.6 mi northwest of Akron corporate boundary.

DRAINAGE AREA.--3.52 mi².

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

GAGE.--Water-stage recorder. Elevation of gage is 961 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 24, Jan. 18-21, 26, 30-31, Feb. 14-21, Mar. 10-19. Records fair, except those for periods of estimated daily discharges and discharges of less than 2 ft³/s, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.97	1.6	2.5	18	2.8	2.2	13	3.6	1.4	.64	.52	.55
2	.82	8.6	2.5	9.1	2.3	2.0	8.3	3.1	.99	.74	.50	.85
3	.82	11	3.2	10	2.2	2.1	6.3	2.8	1.0	.64	.51	2.7
4	.75	4.0	2.8	36	2.2	3.5	4.9	2.8	1.2	.96	.69	.87
5	.70	4.0	2.7	61	2.1	7.6	4.1	4.2	1.3	1.2	.55	.41
6	.70	5.1	2.4	14	2.1	5.8	3.6	4.3	1.1	1.3	.50	.28
7	.67	4.3	2.7	8.2	1.9	6.9	3.0	2.9	1.8	2.0	.50	.32
8	.64	3.4	2.2	6.3	1.8	16	2.8	2.3	18	.85	.53	.25
9	.70	2.6	2.0	4.7	1.7	7.3	2.9	2.1	41	.85	.47	.89
10	.73	2.4	2.4	4.1	1.9	2.0	13	1.8	9.6	.62	.42	.41
11	1.1	8.5	3.7	4.0	1.8	4.9	5.8	1.6	4.2	.87	.54	.18
12	.85	53	5.1	5.0	3.8	4.3	4.9	1.5	2.7	1.2	.49	.05
13	.69	31	5.4	51	4.6	4.0	3.8	1.3	2.1	.64	.60	.01
14	1.9	8.4	4.9	15	3.0	3.7	3.2	1.3	1.7	.57	.54	.00
15	2.5	5.1	4.4	7.6	2.5	3.7	3.0	1.2	1.5	.55	.59	.20
16	4.8	3.9	5.8	5.5	2.6	3.5	12	.95	1.3	.46	.61	.33
17	3.1	3.4	4.1	4.6	2.7	14	7.0	.82	1.2	.42	.56	.32
18	1.9	2.8	3.1	3.4	2.4	4.0	4.8	.82	1.3	.41	.56	.33
19	2.0	2.4	2.7	2.7	2.1	1.8	4.0	.99	3.2	.45	.46	.34
20	1.6	2.2	8.9	2.6	2.1	10	5.7	.82	1.5	.45	.40	.34
21	1.6	4.3	4.0	4.0	2.3	17	16	.82	6.4	.41	.41	.37
22	1.3	24	3.2	8.4	3.5	15	6.1	.82	4.4	.41	.34	.37
23	1.2	25	3.1	5.9	2.5	41	4.2	.80	1.8	.40	.35	.48
24	1.3	9.0	2.4	23	2.4	29	4.1	1.2	1.2	.40	.39	.53
25	1.2	12	2.2	10	2.4	16	39	1.1	.80	.40	.37	.71
26	1.2	6.1	1.9	4.8	2.3	9.7	45	.79	1.7	.46	.30	3.5
27	.90	4.4	1.8	4.6	2.2	6.6	11	.81	.90	.59	.13	.70
28	1.2	3.8	1.9	4.3	2.2	5.6	6.7	1.0	.67	.50	.04	.66
29	1.2	3.4	2.7	4.2	---	4.8	5.0	1.6	.80	.60	.03	.64
30	1.2	2.9	40	2.6	---	4.1	4.6	1.1	.66	1.1	.04	1.8
31	1.2	---	105	2.9	---	4.0	---	1.5	---	.57	.11	---
TOTAL	41.44	262.6	241.7	347.5	68.4	262.1	257.8	52.74	117.42	21.66	13.05	19.39
MEAN	1.34	8.75	7.80	11.2	2.44	8.45	8.59	1.70	3.91	.70	.42	.65
MAX	4.8	53	105	61	4.6	41	45	4.3	41	2.0	.69	3.5
MIN	.64	1.6	1.8	2.6	1.7	1.8	2.8	.79	.66	.40	.03	.00
CFSM	.38	2.49	2.21	3.18	.69	2.40	2.44	.48	1.11	.20	.12	.18
IN.	.44	2.78	2.55	3.67	.72	2.77	2.72	.56	1.24	.23	.14	.20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1993, BY WATER YEAR (WY)

	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
MEAN	.87	4.60	4.26	6.50	3.71	7.41	8.06	1.76	2.36	4.97	1.88	2.22
MAX	1.34	8.75	7.80	11.2	4.93	8.45	8.59	1.83	3.91	9.25	3.33	3.80
(WY)	1993	1993	1993	1993	1992	1993	1993	1992	1993	1992	1992	1992
MIN	.41	.45	.72	1.80	2.44	6.37	7.53	1.70	.81	.70	.42	.65
(WY)	1992	1992	1992	1992	1993	1992	1992	1993	1992	1993	1993	1993

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1992 - 1993
ANNUAL TOTAL	1752.64	1705.80	
ANNUAL MEAN	4.79	4.67	4.05
HIGHEST ANNUAL MEAN			4.67
LOWEST ANNUAL MEAN			3.43
HIGHEST DAILY MEAN	105 Dec 31	105 Dec 31	105 Dec 31 1992
LOWEST DAILY MEAN	.26 Jun 29	.00 Sep 14	.00 Sep 14 1993
ANNUAL SEVEN-DAY MINIMUM	.31 Jul 3	.15 Aug 25	.15 Aug 25 1993
INSTANTANEOUS PEAK FLOW		204 Dec 31	204 Dec 31 1992
INSTANTANEOUS PEAK STAGE		14.49 Dec 31	14.49 Dec 31 1992
INSTANTANEOUS LOW FLOW		.00 Aug 26	.00 Aug 26 1993
ANNUAL RUNOFF (CFSM)	1.36	1.33	1.15
ANNUAL RUNOFF (INCHES)	18.52	18.03	15.64
10 PERCENT EXCEEDS	10	9.3	8.8
50 PERCENT EXCEEDS	2.3	2.2	1.6
90 PERCENT EXCEEDS	.55	.42	.37

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

STREAMS TRIBUTARY TO LAKE ERIE

93

04206220 YELLOW CREEK AT BOTZUM, OH

LOCATION.--Lat 41°09'47", long 81°35'03", Summit County, Hydrologic Unit 04110002, on right downstream bank near Bath Road truss bridge over Yellow Creek, 0.5 mi upstream from confluence with Cuyahoga River, 0.7 mi west of Akron sewage treatment plant.

DRAINAGE AREA.--30.7 mi².

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

GAGE.--Water-stage recorder. Elevation of gage is 743 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 6, 24-29, Jan. 16-21, Feb. 2-11, 16-20, 22 to Mar. 2, 13-16, 18-20. Records good, except those for periods of estimated daily discharges, which are fair.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	18	28	137	28	27	125	41	20	11	7.7	7.0
2	16	79	30	72	25	35	83	34	17	11	7.1	25
3	16	86	37	83	23	95	63	32	16	11	6.5	50
4	15	37	33	297	22	320	49	31	16	14	11	17
5	13	35	32	462	22	205	42	42	18	16	8.7	9.1
6	13	40	28	136	21	108	40	43	16	15	7.5	8.3
7	14	34	28	84	21	110	36	30	28	20	7.1	7.5
8	13	28	26	63	20	214	32	27	145	13	6.8	6.2
9	15	25	26	49	20	129	32	25	280	10	6.4	6.2
10	13	24	30	42	20	83	111	24	77	9.3	6.2	5.9
11	17	57	42	42	20	65	58	23	34	13	6.3	4.9
12	15	389	50	55	36	52	46	22	23	18	6.1	4.9
13	13	244	50	410	44	39	39	20	19	12	6.0	4.7
14	28	81	46	143	29	37	34	20	17	9.8	5.3	4.1
15	39	52	43	75	26	38	33	19	16	9.6	5.3	6.9
16	59	41	52	56	22	42	90	18	14	8.2	5.3	6.5
17	38	37	39	47	20	205	62	18	13	7.9	5.2	5.8
18	24	37	31	33	19	72	46	18	13	7.7	4.7	5.3
19	24	30	29	28	19	43	38	18	22	7.7	5.0	5.3
20	21	27	78	28	33	63	52	18	17	7.7	4.8	5.2
21	20	45	41	35	40	142	151	17	45	6.9	4.6	5.3
22	18	194	34	84	104	125	64	17	32	7.1	4.4	5.2
23	17	219	32	59	69	304	47	16	18	6.8	4.5	6.5
24	17	90	29	179	47	272	40	18	14	6.6	4.5	7.4
25	17	113	25	102	38	145	289	17	13	6.5	4.4	11
26	16	64	24	54	42	98	379	16	28	5.9	4.1	49
27	14	47	23	45	31	70	116	15	14	5.5	4.2	14
28	15	42	23	40	28	61	72	21	12	5.6	4.1	14
29	14	38	25	41	---	55	55	28	12	8.0	4.0	13
30	14	33	295	35	---	49	50	18	11	13	4.0	27
31	14	---	598	29	---	46	---	26	---	8.9	4.3	---
TOTAL	599	2286	1907	3045	889	3349	2374	732	1020	312.7	176.1	348.2
MEAN	19.3	76.2	61.5	98.2	31.7	108	79.1	23.6	34.0	10.1	5.68	11.6
MAX	59	389	598	462	104	320	379	43	280	20	11	50
MIN	13	18	23	28	19	27	32	15	11	5.5	4.0	4.1
CFSM	.63	2.48	2.00	3.20	1.03	3.52	2.58	.77	1.11	.33	.19	.38
IN.	.73	2.77	2.31	3.69	1.08	4.06	2.88	.89	1.24	.38	.21	.42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1993, BY WATER YEAR (WY)

	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993
MEAN	13.4	42.7	36.8	58.0	31.7	75.9	65.0	22.0	24.8	42.4	23.4	30.0
MAX	19.3	76.2	61.5	98.2	31.7	108	79.1	23.6	34.0	74.8	41.1	48.3
(WY)	1993	1993	1993	1993	1993	1993	1993	1993	1993	1992	1992	1992
MIN	7.53	9.23	12.1	17.8	31.6	43.8	50.9	20.5	15.7	10.1	5.68	11.6
(WY)	1992	1992	1992	1992	1992	1992	1992	1992	1992	1993	1993	1993

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1992 - 1993

ANNUAL TOTAL	15291.9	17038.0	
ANNUAL MEAN	41.8	46.7	38.9
HIGHEST ANNUAL MEAN			46.7
LOWEST ANNUAL MEAN			31.1
HIGHEST DAILY MEAN	598	598	598
LOWEST DAILY MEAN	6.4	4.0	4.0
ANNUAL SEVEN-DAY MINIMUM	7.2	4.2	4.2
INSTANTANEOUS PEAK FLOW		1340	1470
INSTANTANEOUS PEAK STAGE		15.25	15.60
INSTANTANEOUS LOW FLOW		3.4	3.4
ANNUAL RUNOFF (CFSM)	1.36	1.52	1.27
ANNUAL RUNOFF (INCHES)	18.53	20.65	17.21
10 PERCENT EXCEEDS	78	100	79
50 PERCENT EXCEEDS	25	26	20
90 PERCENT EXCEEDS	10	6.2	6.7

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

STREAMS TRIBUTARY TO LAKE ERIE

04207200 TINKERS CREEK AT BEDFORD, OH

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

DRAINAGE AREA.--83.9 mi².

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

REVISED RECORDS.--WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 876.18 ft above sea level.

REMARKS.--Estimated daily discharges: Oct. 1 to Dec. 9, 26-29, Jan. 31 to Feb. 8, 16-21, 24 to Mar. 1, 13-16. Records good except for estimated daily discharges, which are poor. Water-quality data collected at this site 1965 to 1977. Sediment data collected at this site 1974 to 1979.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	70	100	1310	70	42	299	83	53	29	29	33
2	54	200	94	561	64	157	230	69	36	32	96	191
3	140	360	110	357	60	335	167	64	32	28	31	207
4	170	140	100	906	56	1040	137	62	34	317	101	99
5	100	110	90	1480	54	945	111	95	65	71	40	38
6	54	150	78	902	52	738	96	69	44	55	29	54
7	34	110	70	401	50	494	85	58	121	45	26	35
8	32	84	66	213	48	778	77	50	797	32	23	28
9	38	70	66	150	46	645	79	45	1320	28	23	26
10	32	60	77	119	47	359	328	46	1020	25	25	27
11	48	180	131	117	50	232	167	44	559	25	29	24
12	42	600	162	160	110	187	106	50	141	46	26	22
13	31	900	156	1170	128	130	86	41	68	32	26	23
14	180	450	146	830	86	100	75	39	53	29	22	24
15	240	220	139	409	73	82	70	37	45	27	21	45
16	300	180	168	184	70	70	246	34	38	25	27	31
17	170	190	146	138	64	647	125	34	35	22	24	27
18	100	150	104	111	60	437	96	34	35	20	24	23
19	74	120	85	101	56	279	88	35	42	23	26	20
20	56	100	236	106	54	259	140	34	61	24	29	22
21	66	120	159	177	52	422	477	33	110	23	23	24
22	54	360	107	324	249	457	227	31	97	22	19	23
23	48	700	95	226	171	881	118	30	51	22	21	32
24	74	340	83	562	110	960	101	39	37	21	22	32
25	70	370	76	450	70	777	593	45	32	20	25	78
26	60	250	70	228	58	467	1060	33	100	20	23	313
27	50	190	66	148	50	264	800	30	58	22	22	69
28	45	170	62	133	45	193	262	30	52	73	21	83
29	41	140	58	138	---	159	136	30	43	108	19	71
30	37	110	1050	95	---	134	101	27	33	108	22	168
31	35	---	1990	85	---	115	---	82	---	46	42	---
TOTAL	2533	7194	6140	12291	2103	12785	6683	1433	5212	1420	936	1892
MEAN	81.7	240	198	396	75.1	412	223	46.2	174	45.8	30.2	63.1
MAX	300	900	1990	1480	249	1040	1060	95	1320	317	101	313
MIN	31	60	58	85	45	42	70	27	32	20	19	20
CFSM	.01	.03	.02	.05	.01	.05	.03	.01	.02	.01	.00	.01
IN.	.01	.03	.03	.06	.01	.06	.03	.01	.02	.01	.00	.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1993, BY WATER YEAR (WY)

	MEAN	68.6	134	179	145	204	254	185	122	84.0	80.5	60.5	75.1
MAX	261	402	506	396	463	457	314	339	257	329	255	289	
(WY)	1991	1986	1991	1993	1976	1963	1964	1989	1975	1969	1992	1990	
MIN	8.55	13.4	16.9	33.1	39.0	81.2	54.1	33.4	16.5	13.1	11.3	8.73	
(WY)	1964	1965	1964	1977	1963	1990	1971	1965	1964	1967	1963	1964	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1963 - 1993

ANNUAL TOTAL	65981		60622									
ANNUAL MEAN	180		166									
HIGHEST ANNUAL MEAN										134		
LOWEST ANNUAL MEAN										185		1975
HIGHEST DAILY MEAN	1990	Dec 31	1990	Dec 31	2920					81.7		1964
LOWEST DAILY MEAN	22	Jun 14	19	Aug 22	5.8							Dec 30 1990
ANNUAL SEVEN-DAY MINIMUM	23	Jun 28	21	Jul 21	6.5							Aug 10 1964
INSTANTANEOUS PEAK FLOW			3440	Dec 31	a					7220		Jul 20 1969
INSTANTANEOUS PEAK STAGE			7.62	Dec 31						10.10		Jul 20 1969
INSTANTANEOUS LOW FLOW			19	Aug 22						5.2		Aug 19 1963
ANNUAL RUNOFF (CFSM)	.022		.020							.016		
ANNUAL RUNOFF (INCHES)	.30		.27							.22		
10 PERCENT EXCEEDS	409		428							321		
50 PERCENT EXCEEDS	100		71							61		
90 PERCENT EXCEEDS	35		25							19		

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

95

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

DRAINAGE AREA.--707 mi².

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

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

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

REMARKS.--Estimated daily discharges: Feb. 18-21, 26-28. Records good except for periods of estimated daily discharge, which are fair. Natural flow of stream affected by diversion, storage reservoirs and power plants. Some diversion from the Tuscarawas River basin drainage into this basin at Portage Lakes (see REMARKS for station 03117000). Water diverted into Ohio Canal at Brecksville, 6 mi upstream from station, bypasses station. These records do not include flow in canal except above about 15,000 ft³/s. when channels merge. Satellite telemeter at gage.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	542	390	1130	5390	1140	767	2800	1340	433	337	226	223
2	537	1170	1010	3270	986	1150	2380	1110	377	351	417	431
3	956	1850	1030	2740	1410	2050	2150	980	339	333	239	1340
4	984	1180	945	4980	1130	4650	2000	932	347	769	375	652
5	614	998	902	7610	944	4790	1910	1040	386	726	269	305
6	407	1140	857	4930	755	3200	1250	1000	356	394	236	277
7	310	1000	801	3340	573	2870	1020	766	381	495	250	277
8	294	887	767	2740	576	4100	945	694	2950	377	237	212
9	316	804	743	2340	1110	3640	699	658	5800	326	232	199
10	289	611	813	1820	850	2750	1690	620	3800	291	238	202
11	361	884	1050	1580	623	2400	1030	585	2350	292	250	183
12	341	4180	1230	1470	827	1730	827	577	1580	405	241	166
13	298	5740	1140	5320	1000	1870	838	526	1380	327	242	164
14	627	2840	1080	4040	808	1660	847	466	1150	291	231	166
15	871	2020	1020	2690	743	1010	898	458	949	428	221	201
16	1490	1800	1140	2120	728	897	1700	440	619	392	230	237
17	1190	1850	1060	1880	949	3180	1140	420	741	229	225	179
18	753	1590	967	1630	860	2280	958	414	769	211	195	167
19	693	1400	928	1260	800	1690	885	421	678	213	192	159
20	526	1000	1630	1100	740	1850	1060	413	531	209	208	155
21	539	1150	1370	1240	700	2570	2390	421	956	195	193	164
22	470	2470	1120	2000	1860	2520	1530	421	1220	186	169	289
23	446	4130	997	1750	1430	4000	1200	398	688	182	167	670
24	541	2450	899	2960	1210	5020	1120	410	552	178	176	642
25	523	2660	785	2700	793	3880	2220	378	527	182	183	408
26	486	1720	689	1960	640	3240	6050	341	685	181	155	1210
27	449	1690	657	1680	580	2950	3050	293	451	186	151	393
28	420	1550	629	1670	520	2810	2090	250	415	225	150	360
29	406	1410	691	1620	---	2600	1810	514	385	431	144	366
30	390	1280	2810	1330	---	2360	1600	297	352	509	151	734
31	359	---	8940	1230	---	2110	---	446	---	296	212	---
TOTAL	17428	53844	39830	82390	25285	82594	50087	18029	32147	10147	6805	11131
MEAN	562	1795	1285	2658	903	2664	1670	582	1072	327	220	371
MAX	1490	5740	8940	7610	1860	5020	6050	1340	5800	769	417	1340
MIN	289	390	629	1100	520	767	699	250	339	178	144	155

MEAN	364	626	935	1105	1313	1680	1448	930	610	454	345	364
MAX	1747	2713	2889	3585	3217	3008	3175	2396	2450	1543	1363	1866
(WY)	1955	1986	1978	1952	1959	1963	1957	1984	1989	1992	1992	1979
MIN	65.8	74.9	115	191	194	584	243	120	111	82.9	62.3	61.0
(WY)	1934	1931	1964	1945	1934	1931	1946	1934	1934	1954	1933	1933

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR			FOR 1993 WATER YEAR			WATER YEARS 1922 - 1993	
ANNUAL TOTAL	386622			429717				
ANNUAL MEAN	1056			1177			849	
HIGHEST ANNUAL MEAN							1393	1975
LOWEST ANNUAL MEAN							278	1934
HIGHEST DAILY MEAN	8940	Dec 31		8940	Dec 31		16700	Jan 22 1959
LOWEST DAILY MEAN	191	Jun 14		144	Aug 29		21	Aug 28 1933
ANNUAL SEVEN-DAY MINIMUM	216	Jun 8		159	Aug 24		37	Aug 26 1933
INSTANTANEOUS PEAK FLOW				10800	Dec 31		16700	Jan 22 1959
INSTANTANEOUS PEAK STAGE				18.88	Dec 31		22.41	Jan 22 1959
INSTANTANEOUS LOW FLOW				144	Aug 29		21	Aug 28 1933
10 PERCENT EXCEEDS	2170			2740			2010	
50 PERCENT EXCEEDS	814			785			473	
90 PERCENT EXCEEDS	273			213			126	

STREAMS TRIBUTARY TO LAKE ERIE

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARDS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOC CI, KF AGAR (COLS. PER 100 ML) (31673)
DEC 08...	1415	745	766	7.7	1.5	3.0	4.4	9.9	74	1700	410
MAR 17...	1315	3890	1300	7.8	-0.5	1.5	65	14.0	102	>6000	10000
JUN 25...	1045	530	676	7.4	32.0	24.5	16	8.0	98	1100	110
SEP 14...	1115	168	918	8.3	27.0	21.5	2.0	8.2	94	470	80

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA-LINITY WAT WH TOT FET FIELD (MG/L AS CACO3) (00410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
DEC 08...	200	57	13	72	3.9	151	0	124	73	120	0.20
MAR 17...	170	50	10	180	3.1	104	0	87	56	300	0.20
JUN 25...	200	59	12	55	4.5	110	0	90	68	85	0.30
SEP 14...	250	73	17	82	6.0	176	0	145	100	120	0.50

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)
DEC 08...	7.6	436	2.20	0.160	0.160	0.70	0.090	0.020	0.040	<10	34
MAR 17...	5.2	676	1.00	--	0.330	1.5	0.400	0.040	0.030	30	33
JUN 25...	8.3	426	2.30	--	0.070	0.70	0.100	0.060	0.050	50	39
SEP 14...	5.5	505	0.340	--	0.030	0.30	0.020	0.020	0.020	10	42

DATE	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
DEC 08...	<3	44	6	80	<10	2	<1	<1.0	160	<6	15
MAR 17...	<3	28	6	65	<10	1	<1	<1.0	180	<6	409
JUN 25...	<3	67	7	17	<10	2	<1	<1.0	160	<6	46
SEP 14...	<3	44	11	28	<10	3	<1	<1.0	200	<6	9

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

CHLORIDE: October 1987 to current year.

NITROGEN, NITRITE + NITRATE: October 1987 to current year.

NITROGEN, AMMONIA + ORGANIC: October 1987 to current year.

PHOSPHORUS: October 1987 to current year.

SUSPENDED SEDIMENT DISCHARGE: Water years 1950-74, December 1976 to September 1984, October 1987 to current year.

INSTRUMENTATION.--Alcohol-actuated thermograph October 1956 to June 1965, water-quality monitor from July 1965 to September 1991 and a refrigerated water-quality pumping sampler since October 1987.

REMARKS.--Sediment samples were collected by a local observer on an approximate once daily basis. Chemical loads were calculated using the mean-interval method (Porterfield, George, 1972, Computation of Fluvial-Sediment Discharge: U.S. Geological Survey, Techniques of Water Resources Investigations, Book 3, Chap. C3, 66 p.). For days with unsteady concentration, discharge, or both, the day was sub-divided into half-hour intervals and the daily load was calculated by summing the loads for these half-hour intervals. This required interpolation between measured and estimated concentrations. Concentrations reported as below the limit of detection (for example, <.20) were assumed to have a value of half of the detection limit for the purpose of load calculation.

EXTREMES FOR PERIOD OF DAILY RECORD.--

DISSOLVED CHLORIDE CONCENTRATIONS: Maximum daily mean, 400 mg/L, Dec. 23, 1991, Jan. 24, 1992; minimum daily mean, 21 mg/L, Aug. 25, 1989.

DISSOLVED CHLORIDE LOADS: Maximum daily, 2,290 tons, Feb. 19, 1991; minimum daily, 10.2 tons, Aug. 27, 1989.

DISSOLVED NITROGEN, NITRITE + NITRATE CONCENTRATIONS: Maximum daily mean, 9.81 mg/L, July 11, 1988; minimum daily mean, .169 mg/L, July 30, 1992.

DISSOLVED NITROGEN, NITRITE + NITRATE LOADS: Maximum daily, 30 tons, June 9, 1993; minimum daily, .21 ton, Aug. 27, 1989.

TOTAL NITROGEN, AMMONIA + ORGANIC CONCENTRATIONS: Maximum daily mean, 4.7 mg/L, Sept. 7, 1990; minimum daily mean, <.20 mg/L, Feb. 23, 24, 1989, May 2, 3, 1990, June 29, 30, 1992.

TOTAL NITROGEN, AMMONIA + ORGANIC LOADS: Maximum daily 130 tons, Sept. 7, 1990; minimum daily, .060 ton, June 29, 1992.

TOTAL PHOSPHORUS CONCENTRATIONS: Maximum daily mean 2.27 mg/L, July 11, 1988; minimum daily mean .026 mg/L, Aug. 27, 1989.

TOTAL PHOSPHORUS LOADS: Maximum daily 54.4 tons, Sept. 7, 1990; minimum daily, .012 ton, Aug. 27, 1989.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,400 mg/L, Dec. 31, 1992; minimum daily mean, 1 mg/L, Feb. 12, 13, 1989.

SEDIMENT LOADS: Maximum daily, 82,900 tons, Dec. 31, 1992; minimum daily, 1.2 tons, Feb. 13, 1989.

EXTREMES FOR CURRENT YEAR.--

DISSOLVED CHLORIDE CONCENTRATIONS: Maximum daily mean, 330 mg/L, Feb. 27; minimum daily mean, 26 mg/L, Dec. 26.

DISSOLVED CHLORIDE LOADS: Maximum daily, 2,250 tons, Mar. 17; minimum daily, 47.3 tons, Aug. 29.

DISSOLVED NITROGEN, NITRITE + NITRATE CONCENTRATIONS: Maximum daily mean, 5.91 mg/L, Sept. 22; minimum daily mean, .392 mg/L, Jan. 5.

DISSOLVED NITROGEN, NITRITE + NITRATE LOADS: Maximum daily, 30 tons, June 9; minimum daily, 1.6 ton, May 30.

TOTAL NITROGEN, AMMONIA + ORGANIC CONCENTRATIONS: Maximum daily mean, 4.2 mg/L, June 10; minimum daily mean, .28 mg/L, Nov. 30, Sep. 15.

TOTAL NITROGEN, AMMONIA + ORGANIC LOADS: Maximum daily, 60.6 tons, Dec. 31; minimum daily, .14 ton, Sep. 14.

TOTAL PHOSPHORUS CONCENTRATIONS: Maximum daily mean, 1.45 mg/L, June 10; minimum daily mean, .057 mg/L, Apr. 14.

TOTAL PHOSPHORUS LOADS: Maximum daily, 20.0 tons, Dec. 31; minimum daily, .037 ton, July 24, 25.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,400 mg/L, Dec. 31; minimum daily mean, 5 mg/L, Oct. 27, 28.

SEDIMENT LOADS: Maximum daily, 82,900 tons, Dec. 31; minimum daily, 2.7 tons, Sep. 20.

STREAMS TRIBUTARY TO LAKE ERIE

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

CHLORIDE DISSOLVED (MG/L AS CL), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	542	76	111	390	92	96.0	1130	57	173
2	537	78	114	1170	72	226	1010	66	179
3	956	66	163	1850	56	280	1030	79	219
4	984	58	151	1180	65	207	945	120	305
5	614	64	106	998	67	181	902	130	309
6	407	68	75.0	1140	66	203	857	150	337
7	310	74	61.5	1000	70	189	801	150	316
8	294	79	62.7	887	68	163	767	120	250
9	316	85	72.5	804	69	150	743	100	207
10	289	91	71.1	611	70	116	813	120	270
11	361	98	95.8	884	69	163	1050	260	758
12	341	110	97.0	4180	50	487	1230	290	970
13	298	110	91.2	5740	35	526	1140	180	554
14	627	99	156	2840	39	300	1080	130	381
15	871	79	185	2020	44	238	1020	110	293
16	1490	65	256	1800	53	255	1140	98	303
17	1190	60	193	1850	61	305	1060	88	252
18	753	63	128	1590	56	241	967	81	210
19	693	72	133	1400	49	186	928	77	192
20	526	78	110	1000	56	151	1630	80	354
21	539	88	128	1150	66	205	1370	81	300
22	470	100	129	2470	59	344	1120	95	286
23	446	110	128	4130	35	393	997	100	272
24	541	97	142	2450	40	263	899	95	232
25	523	92	130	2660	41	296	785	44	93.8
26	486	88	115	1720	45	209	689	26	48.3
27	449	87	105	1690	45	205	657	49	86.9
28	420	90	102	1550	43	182	629	94	160
29	406	91	99.9	1410	50	192	691	97	181
30	390	90	95.1	1280	51	175	2810	110	786
31	359	93	90.4	---	---	---	8940	41	984
TOTAL	17428	---	3697.2	53844	---	7127.0	39830	---	10262.0
JANUARY			FEBRUARY			MARCH			
1	5390	38	556	1140	83	254	767	260	531
2	3270	43	376	986	84	224	1150	270	831
3	2740	48	357	1410	68	255	2050	220	1180
4	4980	48	647	1130	62	187	4650	150	1780
5	7610	37	755	944	70	179	4790	160	2000
6	4930	39	516	755	77	157	3200	160	1410
7	3340	42	380	573	91	141	2870	130	1010
8	2740	46	339	576	100	158	4100	110	1260
9	2340	50	313	1110	87	256	3640	100	991
10	1820	55	270	850	74	170	2750	100	768
11	1580	110	481	623	82	139	2400	150	984
12	1470	150	577	827	130	292	1730	190	897
13	5320	110	1470	1000	180	481	1870	150	740
14	4040	72	789	808	220	468	1660	120	549
15	2690	68	497	743	210	417	1010	170	456
16	2120	64	367	728	180	362	897	220	547
17	1880	60	306	949	250	648	3180	260	2250
18	1630	61	267	860	310	729	2280	210	1330
19	1260	62	210	800	230	498	1690	150	709
20	1100	65	194	740	160	312	1850	140	702
21	1240	77	261	700	140	267	2570	130	915
22	2000	92	493	1860	270	1370	2520	120	785
23	1750	91	434	1430	310	1220	4000	96	1000
24	2960	79	618	1210	290	952	5020	80	1090
25	2700	81	589	793	290	627	3880	74	772
26	1960	78	415	640	280	483	3240	69	607
27	1680	76	345	580	330	523	2950	64	506
28	1670	77	349	520	320	445	2810	59	444
29	1620	79	344	---	---	---	2600	57	396
30	1330	80	288	---	---	---	2360	55	352
31	1230	81	270	---	---	---	2110	57	327
TOTAL	82390	---	14073	25285	---	12214	82594	---	28119

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

CHLORIDE DISSOLVED (MG/L AS CL), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)
APRIL			MAY			JUNE			
1	2800	74	565	1340	64	231	433	100	121
2	2380	68	435	1110	70	209	377	110	109
3	2150	68	396	980	73	193	339	110	105
4	2000	66	355	932	77	193	347	110	108
5	1910	63	324	1040	78	219	386	110	119
6	1250	72	241	1000	77	209	356	110	106
7	1020	81	223	766	76	157	381	100	102
8	945	83	212	694	81	152	2950	68	515
9	699	92	174	658	85	150	5800	43	671
10	1690	100	474	620	86	144	3800	42	435
11	1030	95	262	585	89	140	2350	45	284
12	827	100	230	577	90	140	1580	47	199
13	838	100	231	526	91	129	1380	50	187
14	847	99	227	466	96	121	1150	52	160
15	898	93	224	458	100	125	949	57	145
16	1700	82	373	440	100	120	619	65	107
17	1140	84	258	420	100	118	741	66	132
18	958	88	229	414	100	114	769	61	127
19	885	90	214	421	100	115	678	64	117
20	1060	88	251	413	100	115	531	74	106
21	2390	72	458	421	100	116	956	80	204
22	1530	75	308	421	100	116	1220	73	243
23	1200	78	252	398	100	109	688	73	136
24	1120	80	242	410	100	111	552	75	112
25	2220	75	421	378	100	107	527	86	122
26	6050	47	755	341	100	93.9	685	86	159
27	3050	57	469	293	100	80.0	451	78	94.7
28	2090	62	347	250	100	70.2	415	78	87.5
29	1810	60	295	514	85	114	385	80	83.3
30	1600	60	260	297	92	73.5	352	82	78.3
31	---	---	---	446	100	123	---	---	---
TOTAL	50087	---	9705	18029	---	4207.6	32147	---	5274.8
JULY			AUGUST			SEPTEMBER			
1	337	85	77.0	226	120	71.8	223	120	75.1
2	351	87	82.3	417	98	108	431	120	113
3	333	89	80.1	239	100	64.2	1340	71	252
4	769	86	164	375	110	111	652	84	146
5	726	78	149	269	110	76.9	305	95	78.0
6	394	91	96.3	236	100	66.5	277	98	73.3
7	495	99	132	250	110	71.6	277	100	75.6
8	377	97	98.5	237	110	70.1	212	100	59.0
9	326	98	86.5	232	110	69.6	199	110	58.0
10	291	100	78.4	238	110	69.1	202	120	63.2
11	292	100	79.4	250	100	70.1	183	120	58.2
12	405	100	113	241	100	65.2	166	120	51.9
13	327	97	85.5	242	100	65.6	164	120	51.2
14	291	100	78.8	231	100	62.7	166	110	50.8
15	428	110	122	221	100	61.2	201	110	61.6
16	392	97	104	230	110	65.4	237	120	75.6
17	229	95	58.5	225	110	64.6	179	110	54.8
18	211	100	59.3	195	110	55.7	167	110	48.3
19	213	110	62.5	192	110	56.2	159	110	48.8
20	209	110	61.4	208	110	62.6	155	120	50.6
21	195	110	58.1	193	110	58.9	164	120	53.9
22	186	110	56.0	169	120	56.5	289	130	101
23	182	110	55.5	167	130	57.3	670	120	213
24	178	110	54.9	176	120	58.1	642	65	111
25	182	120	58.4	183	120	60.3	408	73	80.0
26	181	120	60.1	155	120	51.6	1210	65	206
27	186	120	62.2	151	120	50.1	393	83	86.4
28	225	130	75.6	150	120	49.2	360	100	97.9
29	431	110	132	144	120	47.3	366	110	104
30	509	99	135	151	120	49.8	734	100	207
31	296	110	86.4	212	120	70.1	---	---	---
TOTAL	10147	---	2702.7	6805	---	2017.3	11131	---	2805.2
YEAR	429717		102204.8						

STREAMS TRIBUTARY TO LAKE ERIE

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

NITROGEN NITRITE PLUS NITRATE DISSOLVED (MG/L AS N), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	542	2.20	3.2	390	3.21	3.3	1130	1.51	4.6
2	537	2.20	3.2	1170	2.34	7.2	1010	1.54	4.2
3	956	1.67	4.0	1850	1.30	6.5	1030	1.59	4.4
4	984	1.31	3.4	1180	1.52	4.8	945	1.67	4.3
5	614	1.54	2.6	998	1.64	4.4	902	1.81	4.4
6	407	1.77	1.9	1140	1.32	4.1	857	1.89	4.4
7	310	2.02	1.7	1000	1.49	4.0	801	1.92	4.2
8	294	2.31	1.8	887	1.62	3.9	767	2.17	4.5
9	316	2.64	2.2	804	1.71	3.7	743	2.18	4.4
10	289	3.01	2.3	611	1.82	3.0	813	1.85	4.1
11	361	3.44	3.4	884	1.69	3.9	1050	1.72	4.9
12	341	3.94	3.6	4180	.931	8.8	1230	1.60	5.3
13	298	4.50	3.6	5740	.629	9.2	1140	1.60	4.9
14	627	3.71	5.6	2840	.746	5.7	1080	1.71	5.0
15	871	2.33	5.4	2020	.886	4.8	1020	1.68	4.6
16	1490	1.72	6.8	1800	.939	4.6	1140	1.52	4.7
17	1190	1.48	4.8	1850	1.02	5.1	1060	1.48	4.2
18	753	1.64	3.3	1590	1.07	4.6	967	1.51	3.9
19	693	2.03	3.8	1400	1.11	4.2	928	1.59	4.0
20	526	2.19	3.1	1000	1.31	3.5	1630	1.32	5.8
21	539	2.24	3.3	1150	1.41	4.4	1370	1.62	6.0
22	470	2.31	2.9	2470	1.13	6.0	1120	1.86	5.6
23	446	2.54	3.1	4130	.574	6.4	997	2.09	5.6
24	541	2.71	4.0	2450	.680	4.5	899	2.43	5.9
25	523	3.08	4.3	2660	.730	5.3	785	2.80	5.9
26	486	2.99	3.9	1720	.819	3.8	689	1.58	3.0
27	449	2.89	3.5	1690	.890	4.1	657	1.48	2.6
28	420	2.88	3.3	1550	1.02	4.3	629	2.53	4.3
29	406	2.85	3.1	1410	1.24	4.7	691	2.50	4.7
30	390	3.02	3.2	1280	1.40	4.8	2810	1.74	10
31	359	3.27	3.2	---	---	---	8940	.668	16
TOTAL	17428	---	107.5	53844	---	147.6	39830	---	160.4
JANUARY			FEBRUARY			MARCH			
1	5390	.757	11	1140	1.89	5.8	767	2.05	4.3
2	3270	.879	7.7	986	2.03	5.4	1150	1.83	5.6
3	2740	.941	7.0	1410	1.67	6.3	2050	1.35	7.2
4	4980	.730	9.7	1130	1.47	4.5	4650	.901	11
5	7610	.392	8.1	944	1.53	3.9	4790	.931	12
6	4930	.428	5.7	755	1.66	3.4	3200	.947	8.2
7	3340	.501	4.5	573	2.09	3.2	2870	.958	7.4
8	2740	.588	4.3	576	2.39	3.7	4100	.959	11
9	2340	.689	4.3	1110	2.08	6.1	3640	.884	8.7
10	1820	.809	4.0	850	1.75	4.0	2750	.864	6.4
11	1580	.970	4.1	623	1.99	3.3	2400	.936	6.0
12	1470	1.18	4.7	827	2.20	4.9	1730	1.02	4.7
13	5320	.661	9.0	1000	1.82	4.9	1870	1.02	5.1
14	4040	.638	6.9	808	1.91	4.2	1660	1.10	4.9
15	2690	.769	5.6	743	2.11	4.2	1010	1.37	3.7
16	2120	.923	5.3	728	2.20	4.3	897	1.53	3.7
17	1880	1.09	5.5	949	1.89	4.8	3180	1.01	8.4
18	1630	1.22	5.4	860	1.67	3.9	2280	1.11	6.8
19	1260	1.31	4.5	800	1.56	3.4	1690	1.19	5.4
20	1100	1.60	4.8	740	1.58	3.2	1850	1.09	5.4
21	1240	1.84	5.9	700	1.53	2.9	2570	.970	6.7
22	2000	.924	5.0	1860	1.40	7.0	2520	.956	6.5
23	1750	1.21	5.7	1430	1.43	5.5	4000	.852	8.9
24	2960	1.23	9.0	1210	1.39	4.5	5020	.785	11
25	2700	1.01	7.3	793	1.38	3.0	3880	.801	8.4
26	1960	1.07	5.7	640	1.45	2.5	3240	.833	7.3
27	1680	1.30	5.9	580	1.63	2.6	2950	.892	7.1
28	1670	1.43	6.4	520	1.71	2.4	2810	.811	6.2
29	1620	1.53	6.7	---	---	---	2600	.837	5.9
30	1330	1.64	5.9	---	---	---	2360	.845	5.4
31	1230	1.76	5.8	---	---	---	2110	.869	5.0
TOTAL	82390	---	191.4	25285	---	117.8	82594	---	214.3

STREAMS TRIBUTARY TO LAKE ERIE

101

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

NITROGEN NITRITE PLUS NITRATE DISSOLVED (MG/L AS N), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)
APRIL			MAY			JUNE			
1	2800	.896	6.8	1340	.779	2.8	433	2.64	3.1
2	2380	.808	5.2	1110	.909	2.7	377	3.04	3.1
3	2150	.815	4.7	980	1.10	2.9	339	3.23	3.0
4	2000	.830	4.5	932	1.21	3.0	347	3.51	3.3
5	1910	.840	4.3	1040	1.28	3.6	386	3.39	3.5
6	1250	.906	3.1	1000	1.28	3.5	356	3.06	2.9
7	1020	1.00	2.8	766	1.38	2.8	381	3.10	3.2
8	945	1.13	2.9	694	1.43	2.7	2950	2.17	16
9	699	1.22	2.3	658	1.36	2.4	5800	1.89	30
10	1690	.996	4.5	620	1.38	2.3	3800	2.08	21
11	1030	1.02	2.8	585	1.55	2.4	2350	3.02	19
12	827	1.37	3.0	577	1.68	2.6	1580	3.63	15
13	838	1.54	3.5	526	1.62	2.3	1380	1.64	6.2
14	847	1.57	3.6	466	1.72	2.2	1150	1.32	4.1
15	898	1.37	3.3	458	1.99	2.5	949	1.57	4.0
16	1700	1.21	5.6	440	1.71	2.0	619	1.89	3.1
17	1140	1.16	3.6	420	1.88	2.1	741	1.90	3.8
18	958	1.18	3.1	414	2.22	2.5	769	1.72	3.6
19	885	1.24	3.0	421	2.37	2.7	678	1.89	3.5
20	1060	1.08	3.1	413	2.27	2.5	531	2.06	3.0
21	2390	.825	5.3	421	2.31	2.6	956	2.51	6.2
22	1530	.858	3.5	421	2.45	2.8	1220	1.67	5.5
23	1200	.927	3.0	398	2.47	2.7	688	1.92	3.5
24	1120	.957	2.9	410	2.68	3.0	552	2.22	3.3
25	2220	.946	5.3	378	3.16	3.2	527	2.09	3.0
26	6050	.579	9.3	341	3.22	3.0	685	2.30	4.3
27	3050	.727	5.9	293	2.85	2.3	451	1.90	2.3
28	2090	.764	4.3	250	2.95	2.0	415	1.91	2.1
29	1810	.544	2.7	514	2.12	2.7	385	2.08	2.2
30	1600	.641	2.7	297	2.03	1.6	352	2.27	2.2
31	---	---	---	446	2.50	3.1	---	---	---
TOTAL	50087	---	120.6	18029	---	81.5	32147	---	189.0
JULY			AUGUST			SEPTEMBER			
1	337	2.48	2.3	226	3.47	2.1	223	4.03	2.4
2	351	2.70	2.6	417	2.94	3.3	431	3.85	4.1
3	333	2.94	2.6	239	3.27	2.1	1340	2.34	8.8
4	769	3.04	5.9	375	3.12	3.1	652	2.20	3.8
5	726	2.02	4.0	269	3.32	2.4	305	2.22	1.8
6	394	2.50	2.7	236	3.73	2.4	277	2.93	2.2
7	495	3.01	4.0	250	3.89	2.6	277	3.63	2.7
8	377	2.76	2.8	237	4.30	2.7	212	4.19	2.4
9	326	2.71	2.4	232	4.37	2.7	199	4.83	2.6
10	291	2.81	2.2	238	4.33	2.8	202	5.03	2.7
11	292	2.89	2.3	250	4.52	3.1	183	4.73	2.3
12	405	3.05	3.3	241	4.23	2.8	166	4.79	2.1
13	327	2.68	2.4	242	4.21	2.8	164	5.18	2.3
14	291	2.94	2.3	231	3.99	2.5	166	5.05	2.3
15	428	3.50	4.0	221	3.82	2.3	201	5.15	2.8
16	392	2.78	3.0	230	3.91	2.4	237	4.99	3.2
17	229	3.24	2.0	225	4.05	2.5	179	4.49	2.2
18	211	3.59	2.0	195	4.36	2.3	167	4.52	2.0
19	213	3.48	2.0	192	4.44	2.3	159	5.30	2.3
20	209	3.34	1.9	208	4.49	2.5	155	5.49	2.3
21	195	3.58	1.9	193	4.23	2.2	164	5.63	2.5
22	186	3.57	1.8	169	4.11	1.9	289	5.91	4.7
23	182	3.71	1.8	167	4.61	2.1	670	5.42	9.5
24	178	3.87	1.9	176	4.77	2.3	642	2.74	5.1
25	182	3.90	1.9	183	4.80	2.4	408	2.90	3.2
26	181	3.97	1.9	155	4.74	2.0	1210	2.22	7.3
27	186	4.26	2.1	151	4.61	1.9	393	1.96	2.0
28	225	4.39	2.5	150	4.61	1.9	360	2.68	2.6
29	431	2.43	2.7	144	4.78	1.9	366	2.80	2.8
30	509	2.20	3.0	151	4.61	1.9	734	3.17	6.3
31	296	2.83	2.2	212	4.58	2.6	---	---	---
TOTAL	10147	---	80.4	6805	---	74.8	11131	---	103.3
YEAR	429717		1588.6						

STREAMS TRIBUTARY TO LAKE ERIE

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

NITROGEN AMMONIA PLUS ORGANIC TOTAL (MG/L AS N), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	542	.45	.66	390	.59	.65	1130	.31	.94
2	537	.45	.65	1170	1.0	3.21	1010	.48	1.29
3	956	.77	2.13	1850	1.3	6.94	1030	.61	1.68
4	984	.80	2.17	1180	.76	2.44	945	.64	1.64
5	614	.66	1.09	998	.66	1.78	902	.60	1.45
6	407	.54	.60	1140	.63	1.94	857	.50	1.16
7	310	.49	.41	1000	.59	1.59	801	.57	1.24
8	294	.48	.38	887	.58	1.39	767	.90	1.86
9	316	.46	.39	804	.57	1.23	743	1.3	2.56
10	289	.45	.35	611	.60	.99	813	1.4	3.06
11	361	.43	.42	884	.68	1.68	1050	1.3	3.71
12	341	.42	.39	4180	1.5	21.0	1230	.97	3.21
13	298	.41	.33	5740	1.5	25.8	1140	.60	1.87
14	627	.74	1.45	2840	.87	6.75	1080	.58	1.67
15	871	.80	1.91	2020	.66	3.63	1020	.54	1.51
16	1490	1.2	4.80	1800	.48	2.31	1140	.60	1.84
17	1190	.87	2.87	1850	.53	2.65	1060	.68	1.93
18	753	.71	1.44	1590	.60	2.55	967	.86	2.24
19	693	.76	1.45	1400	.58	2.21	928	.83	2.08
20	526	.62	.88	1000	.57	1.54	1630	1.0	4.59
21	539	.61	.88	1150	.64	2.03	1370	.76	2.83
22	470	.62	.79	2470	1.2	11.1	1120	.73	2.21
23	446	.68	.82	4130	1.7	19.4	997	.70	1.88
24	541	.74	1.08	2450	1.0	6.85	899	.72	1.75
25	523	.81	1.15	2660	.68	4.92	785	.73	1.54
26	486	.65	.86	1720	.57	2.66	689	.70	1.31
27	449	.71	.86	1690	.52	2.37	657	.66	1.18
28	420	.65	.74	1550	.50	2.11	629	.57	.97
29	406	.56	.62	1410	.51	1.94	691	.59	1.11
30	390	.60	.63	1280	.28	.96	2810	1.5	14.8
31	359	.55	.54	---	---	---	8940	2.5	60.6
TOTAL	17428	---	33.74	53844	---	146.62	39830	---	131.71
JANUARY			FEBRUARY			MARCH			
1	5390	1.7	25.1	1140	.63	1.93	767	.78	1.63
2	3270	1.1	10.1	986	.62	1.65	1150	.89	2.79
3	2740	.83	6.18	1410	.59	2.25	2050	1.2	6.86
4	4980	1.3	17.2	1130	.52	1.58	4650	1.7	22.5
5	7610	1.6	32.9	944	.57	1.45	4790	1.3	18.4
6	4930	1.2	16.5	755	.55	1.13	3200	.88	7.60
7	3340	.90	8.21	573	.57	.88	2870	.87	6.71
8	2740	.79	5.85	576	.55	.85	4100	.81	8.98
9	2340	.77	4.87	1110	.84	2.57	3640	.71	7.03
10	1820	.76	3.73	850	.60	1.43	2750	.64	4.75
11	1580	.84	3.57	623	.58	.98	2400	.69	4.45
12	1470	.75	3.00	827	.63	1.41	1730	.67	3.13
13	5320	1.4	19.7	1000	.63	1.70	1870	.57	2.88
14	4040	.92	10.1	808	.62	1.35	1660	.62	2.76
15	2690	.79	5.77	743	.76	1.53	1010	.74	1.96
16	2120	.69	3.95	728	.74	1.46	897	.95	2.34
17	1880	.63	3.19	949	.84	2.17	3180	1.4	12.4
18	1630	.52	2.30	860	.84	1.95	2280	.75	4.67
19	1260	.61	2.08	800	.60	1.31	1690	.54	2.50
20	1100	.59	1.76	740	.57	1.14	1850	.54	2.75
21	1240	.57	1.97	700	.56	1.06	2570	.66	4.57
22	2000	.76	4.15	1860	1.1	5.57	2520	.58	3.96
23	1750	.63	2.97	1430	.77	2.99	4000	.97	12.1
24	2960	1.4	13.1	1210	.67	2.19	5020	.79	11.0
25	2700	.92	6.92	793	.97	2.04	3880	.61	6.47
26	1960	.63	3.37	640	.91	1.57	3240	.65	5.67
27	1680	.66	2.98	580	.76	1.19	2950	.58	4.66
28	1670	.66	2.99	520	.66	.93	2810	.51	3.86
29	1620	.65	2.85	---	---	---	2600	.56	3.92
30	1330	.64	2.32	---	---	---	2360	.59	3.78
31	1230	.64	2.11	---	---	---	2110	.60	3.40
TOTAL	82390	---	231.79	25285	---	48.26	82594	---	190.48

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

NITROGEN AMMONIA PLUS ORGANIC TOTAL (MG/L AS N), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)
APRIL			MAY			JUNE			
1	2800	.92	7.17	1340	.58	2.09	433	1.0	1.21
2	2380	.69	4.41	1110	.58	1.74	377	.86	.87
3	2150	.57	3.30	980	.62	1.64	339	.86	.78
4	2000	.53	2.88	932	.72	1.82	347	.97	.91
5	1910	.52	2.66	1040	.77	2.18	386	1.0	1.04
6	1250	.57	1.92	1000	.70	1.90	356	.92	.89
7	1020	.54	1.51	766	.73	1.51	381	.84	.95
8	945	.57	1.45	694	.78	1.47	2950	2.8	23.5
9	699	.66	1.23	658	.78	1.38	5800	2.1	31.7
10	1690	1.1	5.21	620	.71	1.19	3800	4.2	41.3
11	1030	.71	2.02	585	.77	1.21	2350	2.8	19.4
12	827	.55	1.22	577	.82	1.28	1580	.88	3.75
13	838	.64	1.46	526	.86	1.22	1380	.80	2.99
14	847	.68	1.56	466	.87	1.09	1150	.91	2.83
15	898	.66	1.61	458	.82	1.01	949	.96	2.45
16	1700	1.4	6.93	440	.90	1.07	619	.83	1.41
17	1140	.76	2.36	420	.86	.98	741	.86	1.73
18	958	.64	1.65	414	.86	.96	769	.99	2.06
19	885	.61	1.46	421	.81	.93	678	1.3	2.45
20	1060	.69	1.98	413	.77	.85	531	.80	1.14
21	2390	1.6	10.7	421	.70	.80	956	1.0	3.16
22	1530	.69	2.88	421	.76	.86	1220	1.3	4.72
23	1200	.58	1.86	398	.91	.97	688	.82	1.54
24	1120	.59	1.80	410	.79	.87	552	.74	1.11
25	2220	1.4	12.2	378	.75	.77	527	.79	1.12
26	6050	2.3	36.6	341	.72	.67	685	1.1	2.06
27	3050	1.6	13.7	293	.70	.55	451	.84	1.03
28	2090	.88	4.99	250	.78	.52	415	.88	1.00
29	1810	.69	3.35	514	1.9	2.94	385	.69	.72
30	1600	.63	2.72	297	.96	.79	352	.71	.68
31	---	---	---	446	1.0	1.28	---	---	---
TOTAL	50087	---	144.79	18029	---	38.54	32147	---	160.50
JULY			AUGUST			SEPTEMBER			
1	337	.71	.65	226	.74	.45	223	.71	.43
2	351	.70	.66	417	1.5	1.96	431	.97	1.80
3	333	.79	.71	239	1.1	.69	1340	2.7	9.48
4	769	1.9	7.55	375	1.0	1.08	652	1.3	2.52
5	726	1.4	3.19	269	.83	.60	305	.57	.48
6	394	.54	.58	236	.80	.51	277	.50	.39
7	495	.69	.94	250	.89	.60	277	.64	.50
8	377	.36	.37	237	.77	.49	212	.45	.26
9	326	.36	.31	232	.63	.40	199	.44	.23
10	291	.44	.35	238	.72	.46	202	.43	.23
11	292	.50	.39	250	.66	.45	183	.38	.19
12	405	.45	.49	241	.63	.41	166	.41	.18
13	327	.59	.52	242	.63	.41	164	.36	.16
14	291	.65	.51	231	.64	.40	166	.32	.14
15	428	.71	.89	221	.65	.39	201	.28	.15
16	392	.62	.71	230	.68	.42	237	.33	.21
17	229	.66	.40	225	.67	.41	179	.40	.19
18	211	.74	.42	195	.75	.40	167	.40	.18
19	213	.78	.45	192	.70	.36	159	.37	.16
20	209	.69	.39	208	.64	.36	155	.42	.18
21	195	.66	.35	193	.60	.31	164	.41	.18
22	186	.67	.34	169	.55	.25	289	.48	.41
23	182	.69	.34	167	.48	.22	670	.64	1.20
24	178	.69	.33	176	.54	.26	642	.86	1.63
25	182	.68	.34	183	.59	.29	408	.75	.88
26	181	.75	.37	155	.70	.29	1210	1.5	5.31
27	186	.83	.42	151	.75	.31	393	.72	.79
28	225	.92	.62	150	.73	.29	360	.62	.61
29	431	1.7	2.15	144	.70	.27	366	.65	.65
30	509	1.4	1.99	151	.62	.25	734	1.5	3.19
31	296	.90	.72	212	.62	.36	---	---	---
TOTAL	10147	---	28.45	6805	---	14.35	11131	---	32.91
YEAR	429717		1202.14						

STREAMS TRIBUTARY TO LAKE ERIE

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

PHOSPHORUS TOTAL (MG/L AS P), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	LOAD (TONS/ DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	542	.080	.12	390	.142	.16	1130	.121	.37
2	537	.080	.12	1170	.262	.86	1010	.147	.40
3	956	.301	.88	1850	.363	1.90	1030	.124	.34
4	984	.299	.82	1180	.178	.57	945	.111	.28
5	614	.186	.31	998	.146	.39	902	.104	.25
6	407	.118	.13	1140	.131	.41	857	.098	.23
7	310	.100	.084	1000	.112	.30	801	.096	.21
8	294	.100	.079	887	.103	.25	767	.105	.22
9	316	.100	.085	804	.109	.24	743	.096	.19
10	289	.100	.078	611	.120	.20	813	.099	.22
11	361	.100	.098	884	.166	.43	1050	.126	.36
12	341	.100	.092	4180	.478	6.53	1230	.109	.36
13	298	.100	.081	5740	.564	9.31	1140	.085	.26
14	627	.228	.47	2840	.225	1.76	1080	.072	.21
15	871	.227	.55	2020	.164	.90	1020	.074	.21
16	1490	.305	1.25	1800	.138	.67	1140	.081	.25
17	1190	.189	.63	1850	.138	.69	1060	.078	.22
18	753	.135	.28	1590	.129	.56	967	.070	.18
19	693	.131	.24	1400	.125	.47	928	.068	.17
20	526	.136	.19	1000	.135	.36	1630	.192	.88
21	539	.125	.18	1150	.160	.51	1370	.121	.45
22	470	.110	.14	2470	.315	3.05	1120	.087	.27
23	446	.106	.13	4130	.507	5.88	997	.087	.24
24	541	.117	.17	2450	.263	1.76	899	.082	.20
25	523	.133	.19	2660	.167	1.20	785	.073	.15
26	486	.148	.19	1720	.141	.66	689	.066	.12
27	449	.166	.20	1690	.118	.54	657	.076	.13
28	420	.158	.18	1550	.110	.46	629	.098	.17
29	406	.122	.13	1410	.110	.42	691	.114	.22
30	390	.109	.12	1280	.107	.37	2810	.419	4.50
31	359	.118	.11	---	---	---	8940	.821	20.0
TOTAL	17428	---	8.327	53844	---	41.81	39830	---	32.26
JANUARY			FEBRUARY			MARCH			
1	5390	.498	7.44	1140	.072	.22	767	.178	.37
2	3270	.296	2.66	986	.071	.19	1150	.201	.63
3	2740	.194	1.45	1410	.160	.62	2050	.379	2.16
4	4980	.373	5.08	1130	.113	.35	4650	.524	7.36
5	7610	.566	11.7	944	.101	.26	4790	.407	5.54
6	4930	.443	5.97	755	.103	.21	3200	.251	2.17
7	3340	.325	2.96	573	.120	.19	2870	.233	1.80
8	2740	.239	1.77	576	.121	.19	4100	.224	2.48
9	2340	.175	1.11	1110	.172	.52	3640	.187	1.85
10	1820	.129	.64	850	.121	.29	2750	.146	1.09
11	1580	.114	.49	623	.116	.19	2400	.171	1.10
12	1470	.108	.43	827	.130	.29	1730	.178	.83
13	5320	.386	5.72	1000	.131	.36	1870	.138	.70
14	4040	.252	2.79	808	.098	.21	1660	.145	.65
15	2690	.185	1.36	743	.084	.17	1010	.134	.37
16	2120	.138	.79	728	.098	.19	897	.131	.32
17	1880	.102	.52	949	.122	.31	3180	.252	2.23
18	1630	.087	.38	860	.124	.29	2280	.218	1.34
19	1260	.087	.30	800	.126	.27	1690	.128	.59
20	1100	.088	.26	740	.110	.22	1850	.093	.48
21	1240	.097	.34	700	.091	.17	2570	.146	1.02
22	2000	.148	.81	1860	.289	1.48	2520	.112	.77
23	1750	.101	.48	1430	.139	.55	4000	.299	3.94
24	2960	.461	4.78	1210	.115	.37	5020	.338	4.70
25	2700	.212	1.61	793	.289	.60	3880	.212	2.23
26	1960	.117	.62	640	.213	.37	3240	.162	1.42
27	1680	.085	.39	580	.102	.16	2950	.133	1.06
28	1670	.079	.36	520	.112	.16	2810	.134	1.02
29	1620	.077	.34	---	---	---	2600	.119	.83
30	1330	.076	.27	---	---	---	2360	.115	.74
31	1230	.074	.25	---	---	---	2110	.120	.68
TOTAL	82390	---	64.07	25285	---	9.40	82594	---	52.47

STREAMS TRIBUTARY TO LAKE ERIE

105

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

PHOSPHORUS TOTAL (MG/L AS P), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	LOAD (TONS/ DAY)
APRIL			MAY			JUNE			
1	2800	.235	1.85	1340	.129	.47	433	.194	.23
2	2380	.143	.92	1110	.121	.36	377	.178	.18
3	2150	.108	.63	980	.116	.31	339	.160	.15
4	2000	.096	.52	932	.127	.32	347	.140	.13
5	1910	.090	.46	1040	.136	.38	386	.166	.18
6	1250	.081	.28	1000	.134	.36	356	.138	.13
7	1020	.071	.19	766	.134	.28	381	.161	.20
8	945	.068	.17	694	.128	.24	2950	1.34	10.7
9	699	.062	.12	658	.110	.20	5800	.575	9.03
10	1690	.223	1.08	620	.110	.18	3800	1.45	15.2
11	1030	.118	.34	585	.128	.20	2350	.509	3.46
12	827	.060	.14	577	.129	.20	1580	.236	1.01
13	838	.060	.14	526	.106	.15	1380	.216	.81
14	847	.057	.13	466	.096	.12	1150	.199	.62
15	898	.080	.20	458	.086	.11	949	.195	.50
16	1700	.295	1.47	440	.100	.12	619	.146	.25
17	1140	.104	.32	420	.103	.12	741	.137	.27
18	958	.082	.21	414	.121	.14	769	.145	.30
19	885	.079	.19	421	.111	.13	678	.289	.52
20	1060	.109	.31	413	.088	.098	531	.168	.24
21	2390	.448	3.18	421	.077	.088	956	.351	1.06
22	1530	.162	.68	421	.078	.089	1220	.383	1.42
23	1200	.109	.35	398	.134	.14	688	.177	.33
24	1120	.105	.32	410	.149	.16	552	.167	.25
25	2220	.372	3.74	378	.176	.18	527	.169	.24
26	6050	.580	10.2	341	.148	.14	685	.232	.44
27	3050	.266	2.22	293	.122	.097	451	.175	.22
28	2090	.182	1.03	250	.136	.091	415	.208	.24
29	1810	.155	.76	514	.221	.34	385	.150	.16
30	1600	.140	.61	297	.114	.093	352	.121	.12
31	---	---	---	446	.165	.21	---	---	---
TOTAL	50087	---	32.76	18029	---	6.116	32147	---	48.59
JULY			AUGUST			SEPTEMBER			
1	337	.097	.088	226	.116	.071	223	.237	.15
2	351	.091	.086	417	.303	.40	431	.289	.62
3	333	.081	.073	239	.234	.15	1340	.714	2.90
4	769	.593	3.06	375	.188	.19	652	.331	.62
5	726	.837	2.12	269	.126	.092	305	.191	.16
6	394	.244	.26	236	.107	.068	277	.202	.16
7	495	.219	.29	250	.111	.075	277	.268	.20
8	377	.162	.17	237	.109	.070	212	.241	.14
9	326	.133	.12	232	.114	.071	199	.220	.12
10	291	.112	.089	238	.152	.098	202	.155	.085
11	292	.094	.075	250	.172	.12	183	.128	.063
12	405	.115	.13	241	.134	.087	166	.126	.056
13	327	.125	.11	242	.116	.076	164	.107	.047
14	291	.104	.082	231	.111	.069	166	.113	.051
15	428	.121	.17	221	.116	.069	201	.162	.093
16	392	.138	.16	230	.168	.10	237	.225	.15
17	229	.084	.052	225	.250	.15	179	.164	.080
18	211	.077	.044	195	.272	.14	167	.142	.064
19	213	.082	.047	192	.189	.098	159	.131	.056
20	209	.101	.056	208	.138	.077	155	.120	.050
21	195	.146	.077	193	.122	.064	164	.147	.065
22	186	.102	.051	169	.115	.053	289	.193	.18
23	182	.087	.043	167	.110	.050	670	.244	.45
24	178	.077	.037	176	.152	.072	642	.240	.46
25	182	.075	.037	183	.196	.096	408	.235	.28
26	181	.077	.038	155	.167	.070	1210	.477	1.69
27	186	.105	.052	151	.140	.057	393	.198	.22
28	225	.197	.13	150	.128	.052	360	.176	.17
29	431	.305	.40	144	.121	.047	366	.158	.16
30	509	.246	.35	151	.131	.054	734	.243	.50
31	296	.144	.12	212	.180	.10	---	---	---
TOTAL	10147	---	8.617	6805	---	2.986	11131	---	10.040
YEAR	429717		317.446						

STREAMS TRIBUTARY TO LAKE ERIE

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	542	122	178	390	8	11	1130	32	97
2	537	55	79	1170	76	258	1010	30	82
3	956	146	419	1850	218	1160	1030	40	110
4	984	113	297	1180	64	210	945	27	68
5	614	253	415	998	44	123	902	24	59
6	407	315	346	1140	50	155	857	21	48
7	310	256	216	1000	22	60	801	20	44
8	294	37	30	887	17	40	767	21	44
9	316	66	56	804	13	29	743	27	54
10	289	17	14	611	9	16	813	19	42
11	361	224	230	884	110	342	1050	28	79
12	341	28	27	4180	905	12900	1230	32	105
13	298	8	6.7	5740	1220	20600	1140	29	91
14	627	142	330	2840	455	3600	1080	21	62
15	871	145	356	2020	187	1040	1020	20	55
16	1490	213	870	1800	106	516	1140	27	82
17	1190	79	273	1850	95	473	1060	25	71
18	753	29	61	1590	92	395	967	29	75
19	693	20	38	1400	69	262	928	37	92
20	526	12	17	1000	66	178	1630	143	659
21	539	10	15	1150	102	342	1370	67	251
22	470	8	11	2470	269	3160	1120	27	82
23	446	8	10	4130	446	5340	997	17	46
24	541	15	22	2450	251	1670	899	21	50
25	523	7	10	2660	275	2000	785	17	35
26	486	7	8.8	1720	151	711	689	13	24
27	449	5	6.3	1690	136	621	657	15	27
28	420	5	5.9	1550	63	264	629	12	20
29	406	8	8.9	1410	48	185	691	13	25
30	390	6	6.7	1280	42	144	2810	703	10400
31	359	6	5.6	---	---	---	8940	3400	82900
TOTAL	17428	---	4368.9	53844	---	56805	39830	---	95879
JANUARY			FEBRUARY			MARCH			
1	5390	1950	29600	1140	37	114	767	29	62
2	3270	600	5490	986	35	93	1150	63	209
3	2740	290	2160	1410	72	275	2050	207	1220
4	4980	441	6040	1130	43	136	4650	1070	17900
5	7610	502	10400	944	31	79	4790	1080	15100
6	4930	387	5210	755	34	70	3200	331	2900
7	3340	302	2740	573	23	35	2870	230	1830
8	2740	252	1870	576	15	24	4100	433	4810
9	2340	185	1180	1110	85	271	3640	288	2860
10	1820	152	752	850	36	92	2750	189	1410
11	1580	126	539	623	14	24	2400	149	965
12	1470	109	445	827	21	51	1730	147	683
13	5320	660	10100	1000	48	131	1870	124	628
14	4040	459	5140	808	22	49	1660	98	438
15	2690	251	1860	743	15	29	1010	80	219
16	2120	146	839	728	20	39	897	87	220
17	1880	100	509	949	30	78	3180	499	4570
18	1630	90	396	860	33	76	2280	198	1260
19	1260	79	268	800	32	69	1690	100	461
20	1100	69	205	740	25	51	1850	123	637
21	1240	92	343	700	42	80	2570	192	1340
22	2000	207	1140	1860	186	949	2520	156	1080
23	1750	85	406	1430	105	410	4000	542	7530
24	2960	589	6280	1210	51	168	5020	491	6940
25	2700	353	2700	793	27	59	3880	253	2670
26	1960	281	1500	640	22	38	3240	192	1680
27	1680	82	374	580	18	29	2950	204	1620
28	1670	59	266	520	19	27	2810	201	1530
29	1620	57	249	---	---	---	2600	186	1300
30	1330	45	163	---	---	---	2360	150	956
31	1230	37	124	---	---	---	2110	140	798
TOTAL	82390	---	99288	25285	---	3546	82594	---	85826

STREAMS TRIBUTARY TO LAKE ERIE

107

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	2800	272	2120	1340	77	280	433	70	91
2	2380	150	975	1110	52	155	377	24	24
3	2150	110	641	980	43	115	339	25	23
4	2000	87	468	932	39	98	347	28	27
5	1910	95	492	1040	60	172	386	56	62
6	1250	66	227	1000	47	127	356	30	30
7	1020	43	118	766	33	68	381	30	41
8	945	30	77	694	26	48	2950	1010	9060
9	699	34	63	658	21	38	5800	1140	17600
10	1690	243	1230	620	24	40	3800	438	4630
11	1030	62	182	585	22	35	2350	273	1760
12	827	24	54	577	23	35	1580	195	834
13	838	18	41	526	24	34	1380	149	557
14	847	18	41	466	19	24	1150	111	348
15	898	19	45	458	14	17	949	89	229
16	1700	357	1830	440	14	17	619	67	113
17	1140	62	199	420	14	16	741	69	139
18	958	25	66	414	14	16	769	64	134
19	885	22	52	421	13	15	678	276	497
20	1060	32	94	413	14	16	531	191	273
21	2390	471	3360	421	15	17	956	198	636
22	1530	108	469	421	15	17	1220	250	906
23	1200	38	124	398	14	15	688	88	167
24	1120	37	116	410	16	18	552	60	89
25	2220	200	2160	378	28	28	527	56	79
26	6050	750	13000	341	28	26	685	106	204
27	3050	307	2590	293	25	20	451	59	73
28	2090	175	995	250	22	15	415	47	53
29	1810	129	631	514	51	85	385	31	33
30	1600	101	438	297	20	16	352	25	24
31	---	---	---	446	105	144	---	---	---
TOTAL	50087	---	32898	18029	---	1767	32147	---	38736
JULY			AUGUST			SEPTEMBER			
1	337	22	20	226	32	19	223	21	13
2	351	21	20	417	488	776	431	106	441
3	333	19	17	239	99	67	1340	641	2580
4	769	298	1670	375	119	126	652	255	499
5	726	733	1750	269	38	29	305	59	51
6	394	177	191	236	24	15	277	100	83
7	495	107	143	250	24	16	277	93	78
8	377	69	71	237	18	11	212	24	14
9	326	41	37	232	15	9.5	199	22	12
10	291	29	23	238	13	8.3	202	20	11
11	292	23	18	250	16	11	183	14	6.9
12	405	24	26	241	14	8.9	166	9	4.2
13	327	23	20	242	20	13	164	10	4.5
14	291	20	16	231	17	10	166	10	4.5
15	428	17	19	221	16	9.6	201	12	6.8
16	392	15	16	230	16	10	237	14	9.4
17	229	14	8.6	225	19	11	179	9	4.4
18	211	12	6.7	195	16	8.6	167	8	3.7
19	213	8	4.9	192	15	7.8	159	8	3.4
20	209	8	4.7	208	15	8.4	155	7	2.7
21	195	16	8.2	193	15	7.8	164	7	3.0
22	186	15	7.4	169	15	6.8	289	19	21
23	182	11	5.5	167	12	5.5	670	70	138
24	178	11	5.1	176	12	5.9	642	71	154
25	182	10	4.8	183	12	5.7	408	28	40
26	181	9	4.5	155	14	5.8	1210	324	1220
27	186	11	5.3	151	13	5.2	393	66	76
28	225	24	26	150	13	5.1	360	30	29
29	431	414	551	144	11	4.4	366	31	30
30	509	358	556	151	12	5.1	734	125	265
31	296	58	49	212	19	11	---	---	---
TOTAL	10147	---	5304.7	6805	---	1243.4	11131	---	5808.5
YEAR	429717		431470.5						

STREAMS TRIBUTARY TO LAKE ERIE

04208504 CUYAHOGA RIVER AT LTV STEEL AT CLEVELAND, OH

LOCATION.--Lat 41°27'54", long 82°22'50", Cuyahoga County, Hydrologic Unit 04110002, on left bank, at LTV Steel Company footbridge, 1.2 mi downstream from Big Creek, 5.5 mi upstream from mouth at Cleveland.

DRAINAGE AREA.--788 mi².

PERIOD OF RECORD.--October 1, 1991 to September 30, 1992.

GAGE.--Water-stage and acoustic velocity meter recorder. Elevation of gage is 583.57 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 12-17, Jan. 10 to Aug 31, Sept. 13-22. Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft³/s Dec. 31, 1992; minimum daily discharge, 310 ft³/s Aug. 29, 1993.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,000 ft³/s Dec. 31; minimum daily discharge, 310 ft³/s Aug. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	798	816	1460	6250	1530	1180	3220	1700	750	600	440	501
2	795	2090	1360	3680	1360	1660	2740	1480	650	620	740	1440
3	1190	2600	1420	2870	1900	2710	2540	1350	610	590	430	2210
4	1350	1650	1280	5550	1530	5420	2410	1300	610	1260	690	1220
5	872	1520	1250	8810	1320	5180	2300	1450	680	1130	500	585
6	657	1640	1140	4990	1110	3550	1600	1400	630	660	440	708
7	528	1530	1110	3220	870	3240	1370	1120	670	840	480	578
8	493	1320	1060	2470	900	4330	1300	1040	4120	630	450	470
9	600	1170	1030	2170	1610	3800	1010	1000	6510	560	450	439
10	514	980	1160	2050	1230	3030	2290	950	4290	530	460	389
11	658	1600	1640	1940	960	2750	1400	920	2870	530	480	337
12	614	5810	1710	1850	1260	2050	1200	910	1920	720	470	340
13	533	5590	1510	5870	1430	2250	1240	840	1700	580	470	340
14	1330	3310	1440	4260	1180	2040	1210	760	1480	540	450	350
15	1400	2370	1350	3040	1120	1330	1300	760	1290	760	430	410
16	2190	2140	1440	2540	1100	1250	2300	740	910	680	450	470
17	1690	2180	1330	2200	1380	3880	1540	710	1100	430	440	360
18	1180	2080	1260	1970	1250	2660	1360	710	1140	410	390	350
19	1170	1820	1210	1610	1190	2130	1280	720	1020	410	390	330
20	845	1390	2160	1470	1110	2370	1470	710	840	410	420	320
21	844	1580	1660	1660	1050	2990	3040	720	1440	390	390	340
22	754	3290	1410	2530	2530	2910	1950	720	1710	380	350	491
23	689	5440	1260	2200	1880	4450	1620	690	1020	370	350	990
24	804	3040	1230	3560	1660	5260	1540	710	880	360	360	1000
25	840	3250	1020	3150	1150	4070	2750	660	840	370	380	1040
26	750	2220	771	2340	940	3530	6510	600	1050	370	330	2380
27	683	2070	797	2090	880	3220	3350	530	730	380	320	798
28	655	1940	781	2060	810	3080	2510	460	700	450	320	836
29	648	1780	849	2010	---	2910	2210	900	660	800	310	806
30	640	1620	3090	1720	---	2710	1920	530	610	880	320	1620
31	614	---	11200	1630	---	2480	---	790	---	540	440	---
TOTAL	27328	69836	51388	93760	36240	94420	62480	27880	43430	18180	13340	22448
MEAN	882	2328	1658	3025	1294	3046	2083	899	1448	586	430	748
MAX	2190	5810	11200	8810	2530	5420	6510	1700	6510	1260	740	2380
MIN	493	816	771	1470	810	1180	1010	460	610	360	310	320

CAL YR 1992 TOTAL 536513 MEAN 1466 MAX 11200 MIN 360
WTR YR 1993 TOTAL 560730 MEAN 1536 MAX 11200 MIN 310

109

LOCATION.--Lat 41°37'51", long 81°24'13", in T.9 N., R.10 W., Lake County, Hydrologic Unit 04110003, on left bank, 150 ft downstream from city waterworks dam, 800 ft downstream from East Branch, 1.0 mi southeast of Willoughby, and 5.0 mi upstream from mouth.

DRAINAGE AREA.--246 mi².

PERIOD OF RECORD:--July 1925 to November 1935, October 1939 to 1984, March 25, 1988 to current year. [July 1925 to September 1932 monthly run-off in inches, adjusted for diversion, published in WSP 1307; previously published run-off was unadjusted and should not be used].

REVISED RECORDS.--WSP 1084: 1929(M), 1931(M). WSP 1307: 1926-28(M), 1930(M), 1932-35(M), 1942(M). WSP 1912: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 594.57 ft above sea level. Prior to Dec. 20, 1939, nonrecording gage at site 150 ft upstream at datum 7 ft higher.

REMARKS.--Estimated daily discharges: Dec. 25-29, Jan. 31 to Feb. 11, 17-21, 24 to Mar. 1, 12-16, July 14-27, Aug. 14-31. Records good except for periods of estimated record, which are fair. Water diverted 200 ft upstream from station for municipal supply of city of Willoughby until 1988 when water treatment plant was relocated downstream of gaging station. Water-quality data collected at this site 1965 to 1977. Sediment data collected at this site 1969 to 1981.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	114	206	1600	220	130	868	267	172	64	66	56
2	59	572	195	862	210	350	703	228	105	63	144	103
3	57	992	212	768	200	557	519	220	91	65	119	563
4	56	415	195	2870	190	2160	481	198	88	76	305	206
5	54	381	208	4880	180	2340	386	276	493	223	132	112
6	53	529	198	1230	180	969	325	291	187	130	70	86
7	52	445	197	706	170	738	280	204	431	179	73	102
8	52	350	179	549	170	1950	248	177	1760	85	61	71
9	53	296	174	469	160	1400	235	163	2950	63	53	56
10	54	269	191	408	160	765	693	175	1430	56	51	191
11	65	849	276	394	160	578	495	162	497	56	57	132
12	165	3600	371	392	284	400	386	151	277	100	57	67
13	99	3510	339	3110	532	290	291	132	173	60	51	56
14	289	817	328	1510	340	250	247	123	128	50	44	55
15	364	472	320	713	270	230	234	118	106	45	39	71
16	689	361	983	528	233	220	700	114	85	42	49	69
17	443	477	637	452	220	1750	410	109	75	39	44	56
18	240	583	350	382	200	1030	320	113	74	37	41	55
19	351	388	269	290	190	613	269	110	76	44	41	54
20	317	293	831	297	180	624	416	106	126	46	46	53
21	277	366	418	411	170	1060	1310	98	235	44	40	53
22	212	1510	279	1430	710	997	620	95	173	42	35	51
23	164	2530	241	745	463	2310	386	92	98	42	37	55
24	152	691	216	1420	340	3360	299	114	74	39	38	65
25	146	639	200	1130	240	2220	737	137	69	37	43	66
26	137	430	190	556	190	1930	2340	117	214	37	41	764
27	132	314	180	477	150	1370	715	98	108	43	39	245
28	117	277	170	398	140	916	446	89	98	61	37	429
29	113	261	160	405	---	772	346	82	88	229	35	394
30	111	234	2030	295	---	559	311	77	72	206	37	564
31	106	---	6690	250	---	462	---	166	---	110	46	---
TOTAL	5240	22965	17433	29927	6852	33300	16016	4602	10553	2413	1971	4900
MEAN	169	765	562	965	245	1074	534	148	352	77.8	63.6	163
MAX	689	3600	6690	4880	710	3360	2340	291	2950	229	305	764
MIN	52	114	160	250	140	130	234	77	69	37	35	51
CFSM	.69	3.11	2.29	3.92	.99	4.37	2.17	.60	1.43	.32	.26	.66
IN.	.79	3.47	2.64	4.53	1.04	5.04	2.42	.70	1.60	.36	.30	.77

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1993, BY WATER YEAR (WY)

MEAN	155	299	419	465	547	693	543	359	210	130	117	125
MAX	976	850	1284	1312	1242	1234	1409	1088	781	698	602	641
(WY)	1927	1984	1991	1952	1982	1963	1957	1989	1947	1969	1992	1926
MIN	21.9	44.3	60.4	115	48.1	179	120	53.4	23.1	20.3	16.8	17.6
(WY)	1954	1965	1964	1977	1934	1990	1946	1934	1934	1934	1930	1933

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1925 - 1993

ANNUAL TOTAL	153640		156172			
ANNUAL MEAN	420		428		338	
HIGHEST ANNUAL MEAN					465	1975
LOWEST ANNUAL MEAN					148	1934
HIGHEST DAILY MEAN	6690	Dec 31	6690	Dec 31	12300	Mar 22 1948
LOWEST DAILY MEAN	48	Jun 16	35	Aug 22	3.0	Jul 25 1934
ANNUAL SEVEN-DAY MINIMUM	51	Jun 11	39	Aug 22	7.0	Aug 25 1933
INSTANTANEOUS PEAK FLOW			9480	Dec 31 a	28000	Mar 22 1948
INSTANTANEOUS PEAK STAGE			11.13	Dec 31	17.95	Mar 22 1948
INSTANTANEOUS LOW FLOW			35	Aug 22	3.0	Jul 25 1934
ANNUAL RUNOFF (CFSM)	1.71		1.74		1.37	
ANNUAL RUNOFF (INCHES)	23.23		23.62		18.67	
10 PERCENT EXCEEDS	866		937		764	
50 PERCENT EXCEEDS	216		206		147	
90 PERCENT EXCEEDS	72		52		35	

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

STREAMS TRIBUTARY TO LAKE ERIE

04212100 GRAND RIVER NEAR PAINESVILLE, OH

LOCATION.--Lat 41°43'08", long 81°13'41", Lake County, Hydrologic Unit 04110004, on downstream left abutment of bridge on State Highway 84 (Walnut Avenue), 0.9 mi downstream from Big Creek in Painesville.
DRAINAGE AREA.--685 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 596.37 ft above sea level. Previously published, in error, as 620.37 ft above sea level.

REMARKS.--Estimated daily discharges: Dec. 27-29, Jan. 31 to Feb. 5, 15-21, 24 to Mar. 3, 10-16, Apr. 11 to May 19, Sept. 29-30. Records fair except periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	137	216	742	7040	550	340	2250	290	68	79	49	11
2	122	517	608	4540	450	300	3170	250	57	65	53	17
3	104	1570	567	3890	390	280	2390	220	56	59	74	74
4	88	1900	543	6880	350	2020	1940	200	66	57	268	57
5	73	1670	537	10400	310	3600	1590	180	438	57	144	181
6	63	1990	541	7770	458	3670	1180	290	333	99	96	185
7	57	2150	535	4920	306	3300	889	220	236	218	84	157
8	52	1800	539	3730	308	4780	674	180	1240	101	68	83
9	51	1370	538	2690	288	5890	570	160	2950	96	59	53
10	51	1030	536	1610	256	4000	772	150	4230	78	50	46
11	73	1560	638	975	247	2000	1200	140	3340	59	44	55
12	411	4580	932	709	272	1300	1100	130	2410	59	36	31
13	425	8010	1300	3270	471	960	900	120	2000	45	30	28
14	587	5720	1570	5980	421	700	700	110	1380	36	25	28
15	1290	3460	1640	4180	380	550	540	100	572	30	21	33
16	2230	2650	2630	3060	350	500	840	96	274	25	19	33
17	2340	2410	3040	2570	310	2510	1000	90	180	21	19	25
18	1620	2190	2320	1800	290	3490	780	82	139	19	18	21
19	1510	1600	1740	1030	270	3190	580	76	111	18	17	18
20	1690	1180	2340	611	250	2660	700	74	160	19	24	17
21	1610	959	2110	610	230	2670	1800	64	514	18	49	29
22	1340	1710	1530	2360	2930	3110	2300	58	693	17	30	50
23	925	5480	1140	4100	4960	5400	1300	52	489	15	30	43
24	669	4080	845	4020	3000	9080	920	57	290	14	25	54
25	552	2840	626	4600	1100	10600	800	58	195	14	22	40
26	439	2610	496	3200	620	10900	4300	50	228	13	18	298
27	359	2030	420	2260	500	9450	3600	46	139	13	16	235
28	302	1660	370	1700	400	7480	1600	47	114	21	14	384
29	271	1340	330	1240	---	5750	700	45	105	51	12	360
30	244	980	2520	743	---	3700	390	41	92	94	11	540
31	226	---	8270	640	---	2150	---	61	---	63	9.3	---
TOTAL	19911	71262	42493	103128	20667	116330	41475	3737	23099	1573	1434.3	3186
MEAN	642	2375	1371	3327	738	3753	1382	121	770	50.7	46.3	106
MAX	2340	8010	8270	10400	4960	10900	4300	290	4230	218	268	540
MIN	51	216	330	610	230	280	390	41	56	13	9.3	11
CFSM	.94	3.47	2.00	4.86	1.08	5.48	2.02	.18	1.12	.07	.07	.16
IN.	1.08	3.87	2.31	5.60	1.12	6.32	2.25	.20	1.25	.09	.08	.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1993, BY WATER YEAR (WY)

	MEAN	531	1246	1652	1343	1888	2068	1430	789	643	308	291	474
MAX	1880	4026	3816	3327	4044	3753	2598	3214	2851	1106	1106	1854	
(WY)	1991	1986	1978	1993	1981	1993	1987	1989	1986	1987	1980	1990	
MIN	42.1	67.1	363	109	322	577	450	106	39.8	30.5	17.0	18.6	
(WY)	1992	1979	1992	1977	1987	1990	1975	1987	1988	1991	1991	1991	

SUMMARY STATISTICS

FOR 1992 CALENDAR YEAR

FOR 1993 WATER YEAR

WATER YEARS 1975 - 1993

ANNUAL TOTAL	362793		448295.3		1050	
ANNUAL MEAN	991		1228		1375	1986
HIGHEST ANNUAL MEAN					668	1992
LOWEST ANNUAL MEAN					15300	Nov 6 1985
HIGHEST DAILY MEAN	8270	Dec 31	10900	Mar 26	5.1	Aug 4 1991
LOWEST DAILY MEAN	21	Jun 17	9.3	Aug 31	5.3	Aug 2 1991
ANNUAL SEVEN-DAY MINIMUM	29	Jul 2	13	Aug 27		Jun 11 1986
INSTANTANEOUS PEAK FLOW			12400	Mar 25	a	Dec 25 1979
INSTANTANEOUS PEAK STAGE			10.24	Mar 25		Aug 4 1991
INSTANTANEOUS LOW FLOW			9.3	Aug 31		
ANNUAL RUNOFF (CFSM)	1.45		1.79		5.1	
ANNUAL RUNOFF (INCHES)	19.70		24.35		1.53	
10 PERCENT EXCEEDS	2360		3530		20.83	
50 PERCENT EXCEEDS	584		421		2820	
90 PERCENT EXCEEDS	83		29		41	

STREAMS TRIBUTARY TO LAKE ERIE

111

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

LOCATION.--Lat 41°44'09", long 81°15'59", in T.11 N., R.8 W., Lake County, Hydrologic Unit 04110004, at bridge on State Highway 535 in Painesville, 2.2 mi upstream from mouth, and 8.0 mi downstream from Kellogg Creek.

DRAINAGE.--701 mi².

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

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
DEC 08...	1100	535	520	7.9	0.5	1.0	6.4	13.0	92	170	63
MAR 25...	1135	9990	161	7.1	11.5	2.0	83	13.0	94	290	440
JUN 24...	1310	278	235	7.5	31.0	25.5	2.5	8.6	106	75	K44
SEP 13...	1430	27	516	8.4	31.5	22.5	2.0	9.6	112	50	K24

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3 (00452)	ALKA- LITY WAT WH TOT FET FIELD (MG/L AS CACO3 (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
DEC 08...	160	49	7.9	38	2.7	91	0	77	37	92	0.10
MAR 25...	52	15	3.6	9.8	2.0	36	0	29	16	18	0.10
JUN 24...	88	25	6.1	14	3.5	68	0	56	26	25	0.20
SEP 13...	160	45	12	35	4.1	135	2	113	57	55	0.20

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DIS- SOLVED (MG/L) (70300)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)
DEC 08...	6.5	301	0.520	0.080	0.090	0.40	0.050	0.010	0.010	20	28
MAR 25...	4.1	105	0.430	--	0.100	0.70	0.090	0.020	<0.010	100	13
JUN 24...	5.1	192	1.40	--	0.040	0.60	0.030	0.040	0.020	130	22
SEP 13...	1.7	289	2.20	--	0.040	0.60	0.230	0.180	0.160	20	33

DATE	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	SEDI- MENT, SUS- PENDED (MG/L) (80154)
DEC 08...	<3	270	5	51	<10	2	<1	<1.0	150	<6	8
MAR 25...	<3	200	<4	40	<10	<1	<1	<1.0	45	<6	265
JUN 24...	<3	310	<4	22	<10	1	<1	<1.0	83	<6	18
SEP 13...	<3	28	4	22	<10	1	<1	<1.0	160	<6	8

STREAMS TRIBUTARY TO LAKE ERIE

04213000 CONNEAUT CREEK AT CONNEAUT, OH

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

DRAINAGE AREA.--175 mi².

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

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

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

REMARKS.--Estimated daily discharges: Dec. 26-29, Jan. 31 to Feb. 12, 15-21, 25 to Mar. 3, 10-18, May 14-31, June 16-20, 26 to July 6, 11 to Sept. 3, 7-22. Records good except for estimated records and discharges below 45 cfs which are poor. Water-quality data collected at this site 1965 to 1977. Sediment data collected 1970 to 1974.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	100	197	3010	88	76	841	146	56	14	7.6	4.5
2	50	136	172	622	76	68	1590	122	70	13	6.4	13
3	46	490	166	366	70	60	719	105	46	12	7.6	32
4	44	557	167	1400	68	249	420	94	45	11	11	138
5	44	307	162	3110	64	453	306	89	50	10	18	79
6	44	486	163	2560	62	668	234	95	74	25	32	43
7	44	907	164	589	60	545	198	93	84	71	29	32
8	44	621	164	369	58	719	172	79	85	92	24	25
9	47	356	160	280	56	1320	155	69	348	72	21	21
10	286	249	160	219	55	600	165	62	701	42	19	17
11	164	470	174	180	54	350	226	54	355	30	16	15
12	131	1770	224	179	52	230	213	49	144	24	13	13
13	373	2480	248	674	86	170	169	47	81	20	11	11
14	215	1810	273	2350	127	140	146	43	58	17	9.0	10
15	862	579	268	834	100	120	132	40	46	14	8.0	9.4
16	1260	411	471	393	78	110	150	38	32	12	7.0	8.5
17	1050	449	1300	272	64	100	190	36	26	10	6.4	7.6
18	537	803	557	211	58	1500	167	35	20	9.0	6.0	6.8
19	446	580	347	159	54	918	142	34	17	8.0	8.0	6.4
20	561	327	563	112	52	623	161	33	30	8.6	11	10
21	530	248	837	155	48	457	525	31	68	8.0	13	16
22	546	495	333	755	431	571	646	30	85	7.6	11	30
23	313	1610	229	1210	746	1030	297	29	75	6.8	9.0	52
24	213	1120	204	884	818	2350	192	28	47	6.4	7.8	41
25	189	758	135	1420	230	3330	197	40	40	6.0	7.0	40
26	183	769	110	586	160	3040	1030	36	30	5.6	6.4	62
27	151	397	92	364	110	2800	931	30	26	5.2	5.8	150
28	124	283	80	258	88	2160	317	27	22	9.0	5.2	141
29	108	291	74	210	---	1910	204	25	19	13	4.5	297
30	101	240	994	128	---	1100	168	23	17	16	4.2	318
31	106	---	3220	110	---	594	---	21	---	11	4.0	---
TOTAL	8868	20099	12408	23969	4013	28361	11003	1683	2797	609.2	348.9	1649.2
MEAN	286	670	400	773	143	915	367	54.3	93.2	19.7	11.3	55.0
MAX	1260	2480	3220	3110	818	3330	1590	146	701	92	32	318
MIN	44	100	74	110	48	60	132	21	17	5.2	4.0	4.5
CFSM	1.63	3.83	2.29	4.42	.82	5.23	2.10	.31	.53	.11	.06	.31
IN.	1.89	4.27	2.64	5.10	.85	6.03	2.34	.36	.59	.13	.07	.35

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 1993, BY WATER YEAR (WY)

	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
MEAN	139	311	424	412	463	541	384	230	125	78.2	65.9	106
MAX	804	1373	1049	929	1115	987	839	670	1013	415	493	709
(WY)	1927	1986	1928	1990	1981	1972	1957	1953	1986	1969	1980	1990
MIN	4.95	17.1	35.1	81.0	39.6	235	69.9	20.2	5.46	2.79	3.19	3.56
(WY)	1924	1954	1961	1977	1934	1969	1935	1934	1934	1934	1923	1932

SUMMARY STATISTICS	FOR 1992 CALENDAR YEAR	FOR 1993 WATER YEAR	WATER YEARS 1922 - 1993
ANNUAL TOTAL	119884.2	115808.3	
ANNUAL MEAN	328	317	273
HIGHEST ANNUAL MEAN			401
LOWEST ANNUAL MEAN			140
HIGHEST DAILY MEAN	3290	3330	11000
LOWEST DAILY MEAN	6.4	4.0	.30
ANNUAL SEVEN-DAY MINIMUM	8.5	4.9	.64
INSTANTANEOUS PEAK FLOW		4130	17000
INSTANTANEOUS PEAK STAGE		7.40	12.94
INSTANTANEOUS LOW FLOW		4.0	.20
ANNUAL RUNOFF (CFSM)	1.87	1.81	1.56
ANNUAL RUNOFF (INCHES)	25.48	24.62	21.18
10 PERCENT EXCEEDS	804	835	680
50 PERCENT EXCEEDS	164	108	95
90 PERCENT EXCEEDS	38	10	10

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

PEAK DISCHARGES AND STAGES AT CONTINUOUS-RECORD SURFACE DISCHARGE STATIONS 113

For continuous-record surface-water-discharge stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge are presented in this table. The peaks greater than the base discharge, excluding the highest one are referred to as secondary peaks. The peaks are listed in chronological order. Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030 and 1:30 p.m. is 1330. The maximum peak discharge and gage height for the water year are flagged with an asterisk (*)

Peak discharges equal to or greater than base discharges, water year October 1992 to September 1993

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
STREAMS TRIBUTARY TO LAKE ERIE							
04177000 OTTAWA RIVER AT TOLEDO UNIVERSITY, TOLEDO, OH (Base discharge: 1,150 ft³/s)							
Nov. 3	1730	1,260	9.43	Jan. 5	0530	*2,250	*11.91
Nov. 13	1930	1,690	10.69	Jan. 22	2200	1,190	9.20
Nov. 24	0230	1,190	9.20	Mar. 24	2000	1,970	11.35
Jan. 1	0230	1,830	11.07	Apr. 2	1000	1,500	10.16
04185000 TIFFIN RIVER AT STRYKER, OH (Base discharge: 1,850 ft³/s)							
Nov. 5	0700	1,890	11.97	Dec. 31	1800	3,860	14.61
Nov. 15	0400	2,980	13.55	Jan. 6	1100	*4,870	*15.70
Nov. 25	1500	2,140	12.39	Mar. 26	0200	3,110	13.70
04185440 UNNAMED TRIBUTARY TO LOST CREEK NR FARMER, OH (Base discharge: 120 ft³/s)							
Nov. 1	2230	122	3.25	Jan. 4	1445	232	4.10
Nov. 12	2030	208	3.82	Mar. 23	0945	177	3.80
Nov. 22	2345	221	4.04	Apr. 25	1130	165	3.73
Dec. 30	2300	*368	4.68				
04186500 AUGLAIZE RIVER NEAR FORT JENNINGS, OH (Base discharge: 2,700 ft³/s)							
Nov. 13	2030	4,620	13.90	Mar. 5	1130	3,490	12.39
Nov. 23	--	3,800	unknown	July 4	0330	*7,880	*16.77
Jan. 6	0230	3,320	12.12	July 20	2230	4,100	13.26
04187100 OTTAWA RIVER AT LIMA, OH (Base discharge: 1,300 ft³/s)							
Mar. 4	1530	1,500	13.30	July 3	0430	*2,140	*14.29
Apr. 10	0500	1,330	13.06				
04189000 BLANCHARD RIVER NEAR FINDLAY, OH (Base discharge: 2,800 ft³/s)							
Nov. 13	1030	*5,020	*11.96	Mar. 24	0430	3,030	8.90
Nov. 23	2200	3,460	9.73	Apr. 10	1600	2,830	8.51
Jan. 5	1200	3,660	10.08	June 9	2330	3,130	9.10
Mar. 5	0300	3,180	9.19				
4192500 MAUMEE RIVER NEAR DEFIANCE, OH (Base discharge: 23,000 ft³/s)							
Nov. 3	1700	26,000	6.24	Mar. 9	2200	34,300	7.12
Nov. 14	1000	45,800	8.34	Mar. 24	2100	35,300	7.21
Nov. 24	0800	32,700	6.95	Apr. 2	1400	24,300	6.04
Dec. 31	--	36,000	unknown	Apr. 26	1200	25,800	6.22
Jan. 6	0900	*56,400	*9.73	June 10	0500	26,900	6.34
Jan. 24	2200	25,000	6.12	July 4	1600	26,400	6.28
04195500 PORTAGE RIVER AT WOODVILLE, OH (Base discharge: 3,500 ft³/s)							
Nov. 3	1000	3,550	8.38	Mar. 9	2230	4,750	9.54
Nov. 14	0400	6,190	10.76	Mar. 18	0200	3,930	8.76
Nov. 24	0330	4,310	9.13	Mar. 24	1930	6,110	10.69
Jan. 1	0200	5,930	10.55	Apr. 2	0430	3,550	8.38
Jan. 5	1730	*7,630	*11.84	Jun. 10	2200	6,160	10.73
Jan. 22	2030	3,600	8.43				
04196800 TYMOCHTEE CREEK AT CRAWFORD, OH (Base discharge: 1,800 ft³/s)							
Nov. 14	1500	*3,980	*7.95	Mar. 25	1100	1,950	6.10
Jan. 6	2100	2,890	7.04	Apr. 11	2300	2,280	6.45
Mar. 6	1630	3,220	7.33				
04197100 HONEY CREEK AT MELMORE, OH (Base discharge: 1,500 ft³/s)							
Nov. 13	1000	*3,310	*9.81	Jan. 5	unknown	2,620	8.85
Nov. 23	0130	1,760	7.51	Mar. 24	1300	2,020	7.96a
Dec. 31	unknown	1,900	unknown				
04198000 SANDUSKY RIVER NEAR FREMONT, OH (Base discharge: 10,000 ft³/s)							
Nov. 13	1930	*18,200	*8.65	Mar. 8	1900	10,500	6.24
Nov. 23	1700	11,200	6.48	Mar. 24	0930	11,800	6.66
Jan. 5	1930	14,400	7.45				
04199000 HURON RIVER AT MILAN, OH (Base discharge: 4,700 ft³/s)							
Nov. 13	0830	*10,500	*20.20	Mar. 8	0900	4,760	14.52
Nov. 23	0400	5,620	15.50	Mar. 23	unknown	6,100	unknown
Dec. 31	0530	6,660	16.60	Apr. 1	1630	4,900	14.68
Jan. 5	unknown	7,200	unknown	Apr. 10	1130	6,160	16.08
Jan. 13	2200	5,380	15.23	Jun. 9	1400	4,910	14.69

a From highwater mark

114 PEAK DISCHARGES AND STAGES AT CONTINUOUS-RECORD SURFACE DISCHARGE STATIONS

Peak discharges equal to or greater than base discharges, water year October 1992 to September 1993 (Continued)

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
04199155 OLD WOMAN'S CREEK AT BERLIN ROAD NR HURON, OH (Base discharge: 400 ft³/s)							
Nov. 12	2230	992	10.94	Mar. 8	0700	472	7.67
Nov. 23	0230	696	9.22	Mar. 23	1930	691	9.19
Dec. 31	0745	*1,130	*11.66	Apr. 1	1730	651	8.93
Jan. 5	0730	809	9.91	Apr. 10	1045	659	8.98
Jan. 13	1830	639	8.85	Apr. 21	0500	454	7.53
04200500 BLACK RIVER AT ELYRIA, OH (Base discharge: 3,200 ft³/s)							
Nov. 13	--	7,500	unknown	Mar. 5	0700	3,910	9.11
Nov. 23	--	5,500	unknown	Mar. 9	0300	3,770	8.94
Dec. 31	0930	*8,120	*13.29	Mar. 24	--	5,400	unknown
Jan. 5	0900	6,180	11.57	June 10	0130	4,630	9.96
Jan. 14	0100	4,820	10.17				
04201500 ROCKY RIVER NEAR BEREA, OH (Base discharge: 4,000 ft³/s)							
Nov. 13	--	10,000	unknown	Mar. 4	2330	6,080	5.56
Nov. 23	--	5,000	unknown	Mar. 23	2200	4,880	5.03
Dec. 31	1400	*12,900	*8.31	Apr. 26	0900	5,380	5.26
Jan. 5	0900	7,680	6.21	June 9	1000	4,040	4.62
Jan. 13	1500	6,030	5.54				
04206208 YELLOW CREEK AT GHENT, OH (Base discharge: 120 ft³/s)							
Nov. 13	0050	143	12.41	Jan. 13	1340	148	12.44
Nov. 22	2005	124	12.30	Mar. 4	1710	135	12.36
Dec. 31	0555	200	12.72	Mar. 23	1715	146	12.43
Jan. 5	0530	211	12.78	Apr. 25	2315	*231	*12.88
04206208 NORTH FORK AT BATH, OH (Base discharge: 80.0 ft³/s)							
Nov. 12	1635	144	12.17	Jan. 24	1010	140	12.14
Nov. 22	1655	85	11.65	Apr. 25	1830	155	12.26
Dec. 30	2240	*438	*14.02	June 8	2035	94	11.73
Jan. 13	0835	290	13.13	June 9	1045	118	11.95
04206208 PARK CREEK AT BATH CENTER, OH (Base discharge: 30 ft³/s)							
Nov. 12	1450	41	12.29	Jan. 13	0825	35	12.13
Nov. 22	1620	48	12.53	Apr. 25	1745	69	12.79
Dec. 30	2105	*162	*15.18	June 8	1935	39	11.56
Jan. 4	2215	65	12.97	June 9	0930	32	11.47
04206208 NORTH FORK AT BATH CENTER, OH (Base discharge: 140 ft³/s)							
Nov. 12	1615	220	11.56	Jan. 13	1055	143	11.24
Nov. 22	1705	190	11.44	Apr. 25	1845	299	11.82
Dec. 30	2335	*675	*12.64	June 8	2030	215	11.54
Jan. 5	0040	242	11.64	June 9	1045	239	11.63
04206208 BATH CREEK AT BATH CENTER, OH (Base discharge: 60.0 ft³/s)							
Nov. 12	2035	96	13.51	Jan. 13	1235	80	13.33
Nov. 22	2005	63	13.11	Mar. 23	1655	79	13.31
Dec. 31	0205	*204	*14.49	Apr. 25	2140	136	13.89
Jan. 5	0220	120	13.75	June 9	1340	65	13.14
04206208 YELLOW CREEK AT BOTZUM, OH (Base discharge: 555 ft³/s)							
Nov. 12	1720	700	13.64	Jan. 13	1045	628	13.47
Nov. 22	1755	558	13.29	Mar. 4	1450	577	13.34
Dec. 30	2330	*1,340	*15.25	Mar. 23	1640	558	13.29
Jan. 5	0005	958	14.28	Apr. 25	2050	969	14.31
04207200 TINKERS CREEK AT BEDFORD, OH (Base discharge: 1,500 ft³/s)							
Dec. 31	0230	*3,440	*7.62	Mar. 23	1630	1,530	6.08
Jan. 5	0100	2,580	6.98	Apr. 25	2130	1,930	6.46
Jan. 13	1030	1,900	6.43	June 8	2330	1,670	6.22
Mar. 4	1430	2,070	6.58	July 4	1900	2,350	6.80
04209000 CHAGRIN RIVER AT WILLOUGHBY, OH (Base discharge: 4,000 ft³/s)							
Nov. 12	2400	7,210	9.46	Jan. 13	1400	5,480	8.03
Nov. 22	2000	4,680	7.32	Mar. 4	2000	4,920	7.52
Dec. 31	0500	*9,480	*11.13	Mar. 23	2130	4,350	7.05
Jan. 5	0330	8000	10.07				
04212100 GRAND RIVER NEAR PAINESVILLE, OH (Base discharge: 6,500 ft³/s)							
Nov. 13	0100	9,810	8.98	Jan. 5	0430	12,300	10.21
Nov. 23	0530	6,610	7.17	Mar. 25	2230	*12,400	*10.24
Dec. 31	0630	9,210	8.68				
04213000 CONNEAUT CREEK AT CONNEAUT, OH (Base discharge: 2,900 ft³/s)							
Jan. 1	0400	*4,130	6.86	Mar. 18	1600	ice jam	*7.40
Jan. 5	0500	3,740	6.53	Mar. 25	2200	3,600	6.41

GROUND-WATER RECORDS

115

CRAWFORD COUNTY

404838082563100. Local number, CR-1.

LOCATION.--Lat 40°48'38", long 82°56'31", Hydrologic Unit 04100011, Timken Roller Bearing Co., U.S. 30 in Bucyrus.

Owner: Timken Roller Bearing Co.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test water-table well, diameter 6 in., depth 54 ft, cased.

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

DATUM.--Elevation of land-surface datum is 1039.13 ft above sea level.

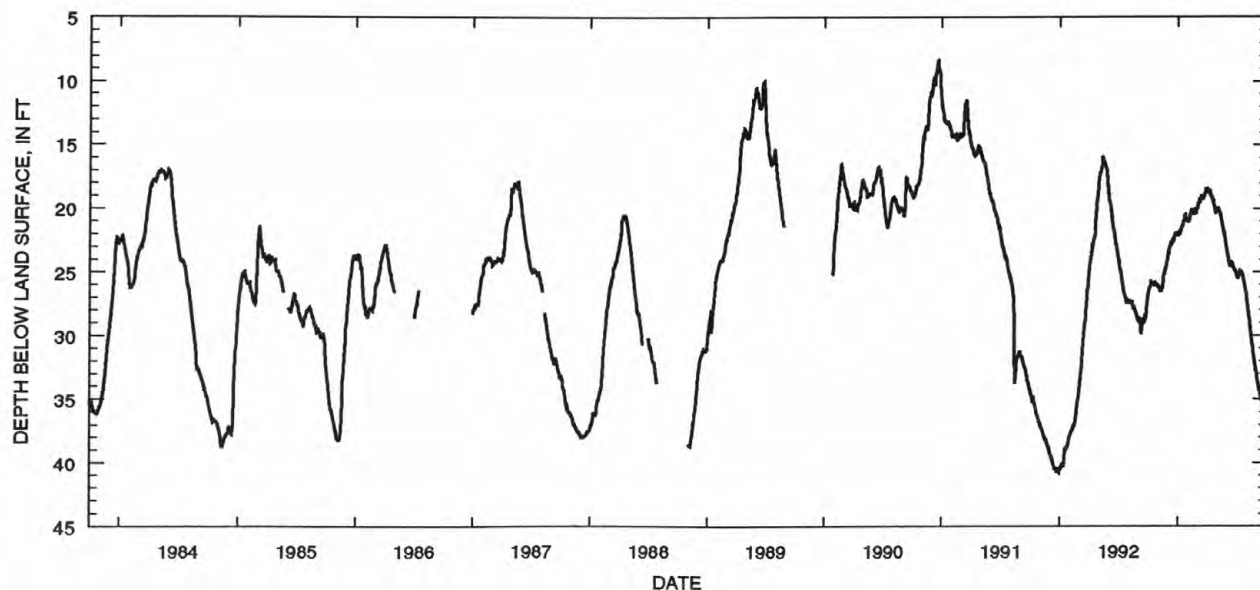
Measuring point: Floor of instrument shelter 3.50 ft above land-surface datum.

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 37.64 ft below land-surface datum, Dec. 11, 1962;
minimum daily low, 16.04 ft below land-surface datum, Apr. 29, 1993.DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.81	19.34	18.06	18.81	17.60	17.76	16.27	16.23	17.69	18.44	19.20	20.76
2	18.74	19.14	18.16	18.78	17.65	17.68	16.50	16.26	17.63	18.40	19.57	20.77
3	18.77	19.15	18.32	18.59	17.62	17.66	16.57	16.30	17.65	18.40	19.77	20.63
4	18.96	19.09	18.22	18.46	17.74	17.49	16.61	16.31	17.65	18.54	19.73	20.53
5	19.71	19.08	18.43	17.93	17.66	17.13	16.52	16.44	17.80	18.50	19.62	20.50
6	19.42	19.16	18.39	17.76	17.69	17.13	16.61	16.49	17.84	18.54	19.50	20.51
7	19.22	19.17	18.39	17.66	17.66	17.08	16.65	16.52	17.81	18.57	19.56	20.52
8	19.11	19.20	18.48	17.76	17.79	16.90	16.59	16.56	17.72	18.59	19.64	20.51
9	19.08	19.19	18.48	17.83	17.79	16.94	16.53	16.63	17.73	18.63	19.61	20.41
10	19.08	19.14	18.26	17.87	17.83	16.82	16.38	16.65	17.79	18.70	19.56	20.55
11	19.11	19.07	18.42	17.91	17.85	16.94	16.18	16.67	17.86	18.65	19.55	20.59
12	19.11	18.83	18.56	17.84	17.66	16.94	16.28	16.63	17.89	18.60	19.69	20.87
13	19.20	18.28	18.59	17.57	17.73	16.83	16.29	16.72	17.90	18.64	19.65	20.70
14	19.18	18.13	18.55	17.50	17.89	17.05	16.24	16.74	17.91	18.68	19.68	20.61
15	19.21	18.25	18.60	17.41	17.96	17.12	16.14	16.87	18.00	18.72	19.68	20.69
16	19.21	18.25	18.59	17.35	17.93	16.99	16.13	16.95	18.06	18.77	19.66	20.69
17	19.21	18.22	18.62	17.57	17.95	17.06	16.29	16.98	18.07	18.76	19.74	21.06
18	19.13	18.33	18.70	17.71	17.96	17.06	16.27	16.96	18.09	18.78	20.28	20.88
19	19.21	18.37	18.52	17.79	17.96	16.94	16.21	17.02	18.10	18.79	20.01	20.80
20	19.17	18.33	18.68	17.74	17.88	16.78	16.27	17.09	18.11	19.06	19.91	21.01
21	19.28	18.25	18.66	17.53	17.78	16.74	16.39	17.19	18.13	18.97	19.94	20.95
22	19.32	18.23	18.60	17.49	17.66	16.68	16.37	17.25	18.19	18.98	19.94	20.92
23	19.22	18.09	18.85	17.50	17.75	16.50	16.44	17.23	18.25	18.97	19.91	20.87
24	19.13	18.11	18.89	17.39	17.86	16.25	16.42	17.28	18.26	18.99	20.37	20.88
25	19.16	18.04	18.70	17.41	17.87	16.26	16.41	17.41	18.27	19.00	20.68	20.78
26	19.13	18.04	18.85	17.31	17.80	16.26	16.20	17.50	18.29	19.04	20.41	20.75
27	19.19	18.07	18.82	17.24	17.85	16.22	16.14	17.50	18.27	19.10	20.66	20.75
28	19.18	18.05	18.81	17.26	17.86	16.25	16.05	17.54	18.35	19.09	20.42	20.80
29	19.26	18.09	18.80	17.51	---	16.34	16.04	17.59	18.40	19.28	20.33	20.84
30	19.30	18.06	18.67	17.44	---	16.40	16.15	17.53	18.42	19.24	20.39	20.87
31	19.34	---	18.69	17.24	---	16.33	---	17.52	---	19.25	20.64	---
MAX	19.71	19.34	18.89	18.81	17.96	17.76	16.65	17.59	18.42	19.28	20.68	21.06

CAL YR 1992 LOW 22.06
WTR YR 1993 LOW 21.06

GROUND-WATER RECORDS

HANCOCK COUNTY

405940083275500. Local number, HA-3.

LOCATION.--Lat 40°59'40", long 83°27'55", Hydrologic Unit 0410008, 2 miles south of Vanlue.

Owner: City of Findlay.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled artesian well, diameter 10 in., diameter 6 in. below 55 ft., depth 240 ft, cased to 55 ft.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 815 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 1.40 ft above land-surface datum.

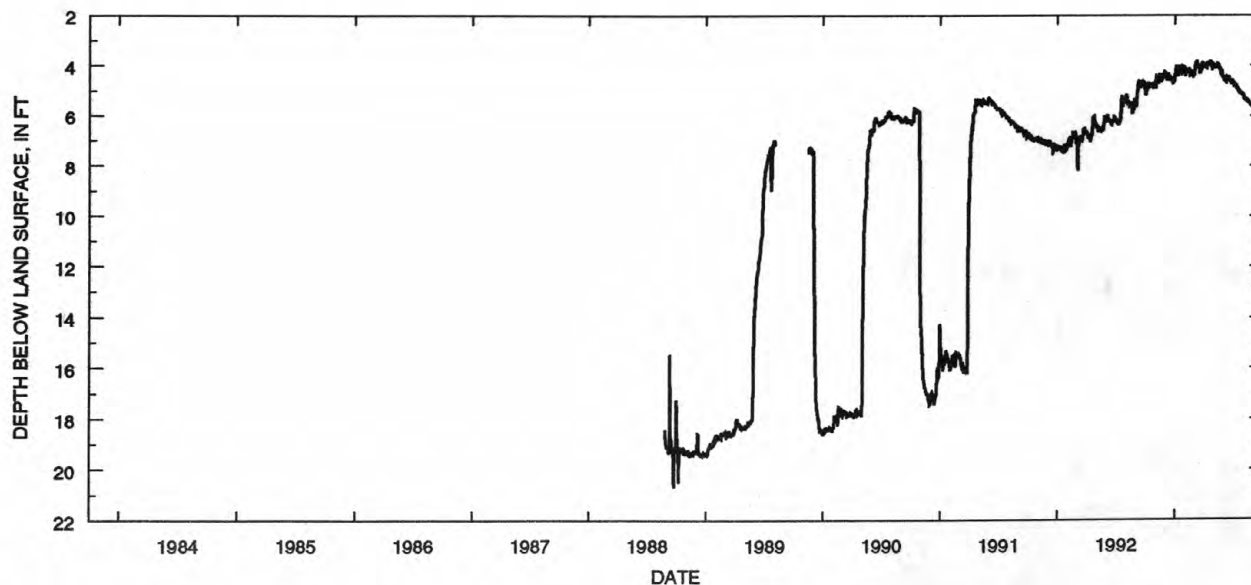
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--May 1947 to October 1972 and August 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 20.67 ft below land-surface datum, Sept. 22, 1988; minimum daily low, 3.82 ft below land-surface datum, Mar. 7, 1993.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.13	4.89	4.33	4.43	4.42	4.28	3.90	4.07	4.56	4.77	5.26	5.70
2	5.18	4.70	4.40	4.39	4.30	4.23	3.98	4.02	4.52	4.76	5.34	5.68
3	5.08	4.49	4.49	4.27	4.20	4.18	4.01	4.04	4.54	4.76	5.36	5.70
4	4.90	4.51	4.36	4.01	4.30	4.02	4.02	4.02	4.54	4.77	5.37	5.72
5	4.93	4.55	4.53	4.15	4.20	3.95	3.99	4.09	4.63	4.78	5.37	5.74
6	4.88	4.65	4.46	4.17	4.23	3.84	4.06	4.06	4.65	4.81	5.33	5.77
7	4.82	4.68	4.46	4.23	4.20	3.82	4.08	4.05	4.60	4.83	5.40	5.78
8	4.77	4.71	4.52	4.37	4.28	3.94	4.01	4.02	4.46	4.86	5.43	5.76
9	4.72	4.72	4.50	4.43	4.28	4.00	3.99	4.01	4.46	4.89	5.42	5.72
10	4.72	4.71	4.33	4.43	4.24	3.95	3.90	4.00	4.51	4.95	5.40	5.84
11	4.77	4.66	4.56	4.34	4.28	4.06	3.87	3.99	4.48	4.91	5.41	5.86
12	4.81	4.53	4.61	4.28	4.12	4.11	3.97	3.96	4.48	4.93	5.40	5.80
13	4.87	4.34	4.61	4.10	4.19	4.04	3.97	3.99	4.48	4.97	5.43	5.86
14	4.84	4.47	4.57	4.11	4.29	4.04	3.94	3.99	4.48	4.99	5.46	5.83
15	4.85	4.62	4.47	4.04	4.40	4.09	3.88	4.07	4.56	5.03	5.46	5.91
16	4.81	4.63	4.50	4.01	4.37	4.08	3.95	4.12	4.60	5.03	5.45	5.91
17	4.80	4.67	4.56	4.18	4.37	4.28	4.02	4.12	4.61	5.05	5.50	5.88
18	4.72	4.61	4.61	4.29	4.36	4.29	4.01	4.11	4.61	5.06	5.51	5.88
19	4.78	4.63	4.47	4.33	4.35	4.21	3.81	4.14	4.62	5.10	5.51	5.90
20	4.72	4.58	4.61	4.28	4.29	4.07	3.98	4.17	4.63	5.12	5.54	5.89
21	4.83	4.55	4.60	4.10	4.21	4.16	4.02	4.23	4.63	5.10	5.57	5.93
22	4.86	4.53	4.56	3.98	4.29	4.16	3.93	4.30	4.69	5.11	5.56	5.94
23	4.77	4.36	4.58	4.03	4.37	4.02	3.99	4.27	4.72	5.11	5.54	5.95
24	4.71	4.37	4.69	4.28	4.42	3.91	3.97	4.30	4.72	5.12	5.59	5.97
25	4.72	4.38	4.58	4.30	4.42	3.94	4.06	4.39	4.71	5.13	5.63	5.91
26	4.73	4.48	4.67	4.30	4.35	3.96	4.11	4.47	4.66	5.14	5.63	5.95
27	4.78	4.49	4.64	4.04	4.38	3.95	4.10	4.43	4.65	5.17	5.60	5.98
28	4.78	4.30	4.62	4.04	4.37	3.96	3.97	4.45	4.70	5.18	5.63	6.03
29	4.84	4.30	4.62	4.23	---	4.04	3.98	4.52	4.74	5.22	5.64	6.04
30	4.86	4.29	4.53	4.15	---	4.08	4.02	4.46	4.74	5.29	5.63	6.05
31	4.89	---	4.34	4.17	---	4.01	---	4.48	---	5.31	5.68	---
MAX	5.18	4.89	4.69	4.43	4.42	4.29	4.11	4.52	4.74	5.31	5.68	6.05

CAL YR 1992 LOW 8.19
WTR YR 1993 LOW 6.05

GROUND-WATER RECORDS

117

HARDIN COUNTY

404648083412600. Local number, HN-2A.

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

Owner: Kevin Eikenbary.

AQUIFER.--Limestone of Silurian Age.

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

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 945 ft above sea level, from topographic map.

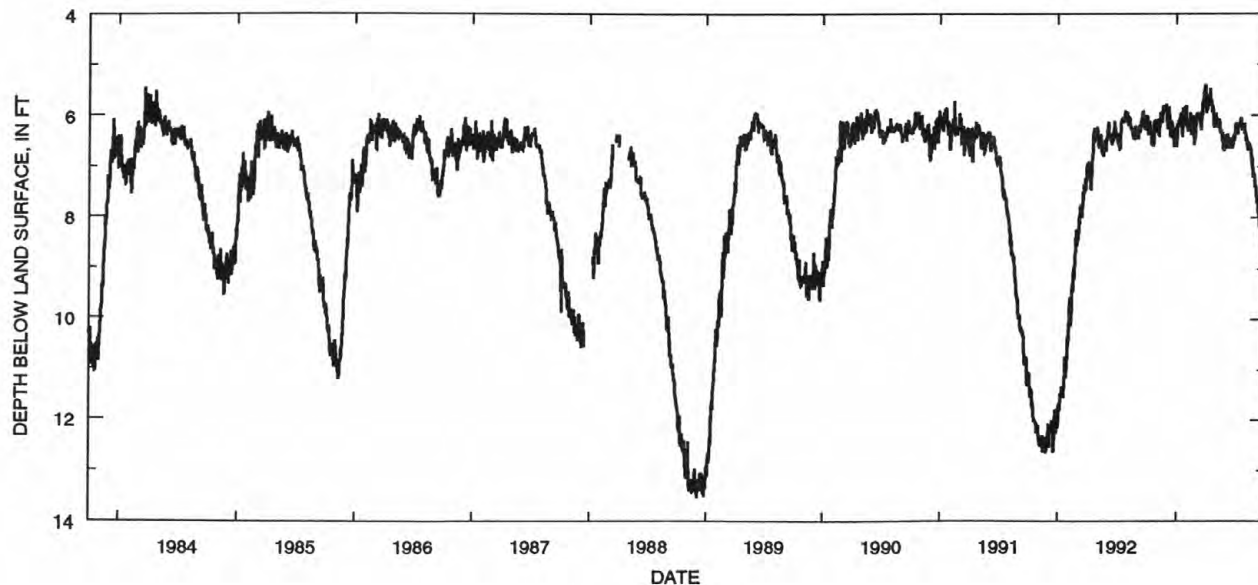
Measuring point: Floor of instrument shelter 2.88 ft above land-surface datum.

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 15.86 ft below land-surface datum, Jan. 20, 21, 1965;
minimum daily low, 5.40 ft below land-surface datum, Apr. 1, 1993.DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.19	6.30	5.78	6.60	6.17	6.28	5.40	6.08	6.50	6.40	6.30	7.39
2	6.07	6.09	5.94	6.60	6.23	6.07	5.76	6.03	6.48	6.29	6.32	7.38
3	6.01	6.07	6.12	6.32	6.13	6.05	5.90	6.05	6.42	6.20	6.39	7.37
4	6.19	6.10	5.99	6.15	6.30	5.96	5.94	5.96	6.40	6.19	6.45	7.42
5	6.35	6.12	6.25	6.22	6.19	6.02	5.87	6.13	6.58	6.17	6.49	7.50
6	6.36	6.31	6.23	6.22	6.11	6.04	5.85	6.19	6.63	6.15	6.44	7.67
7	6.33	6.35	6.12	6.10	6.09	6.04	5.87	6.19	6.61	6.18	6.53	7.72
8	6.19	6.37	6.24	6.09	6.22	5.94	5.75	6.22	6.41	6.21	6.64	7.72
9	6.12	6.37	6.24	6.17	6.23	6.04	5.60	6.23	6.36	6.26	6.67	7.62
10	6.12	6.29	5.83	6.17	6.16	5.99	5.63	6.23	6.49	6.36	6.60	7.80
11	6.20	6.15	6.10	6.21	6.20	---	5.63	6.23	6.57	6.29	6.57	7.90
12	6.20	6.04	6.33	6.08	5.95	---	5.76	6.11	6.62	6.16	6.53	7.85
13	6.34	5.93	6.40	5.97	6.00	5.95	5.79	6.07	6.56	6.21	6.56	7.92
14	6.33	6.01	6.37	6.05	6.30	6.07	5.71	6.07	6.49	6.17	6.62	7.91
15	6.38	6.13	6.17	6.03	6.37	6.15	5.47	6.17	6.58	6.22	6.63	8.15
16	6.51	6.13	6.10	5.93	6.29	5.95	5.55	6.30	6.62	6.16	6.57	8.18
17	6.57	5.95	6.26	6.05	6.33	6.22	5.80	6.31	6.62	6.15	6.65	8.18
18	6.50	6.06	6.37	6.30	6.33	6.28	5.80	6.31	6.62	6.12	6.70	8.18
19	6.52	6.12	6.14	6.41	6.33	6.20	5.69	6.27	6.61	6.05	6.71	8.24
20	6.45	6.09	6.39	6.38	6.12	5.92	5.70	6.31	6.55	6.14	6.73	8.24
21	6.52	5.85	6.38	6.03	6.01	5.98	5.87	6.40	6.45	6.19	6.85	8.33
22	6.58	5.81	6.27	5.89	6.05	5.97	5.87	6.48	6.46	6.24	6.89	8.38
23	6.48	5.80	6.32	5.90	6.32	5.78	5.85	6.45	6.58	6.25	6.87	8.42
24	6.13	5.87	6.59	6.00	6.51	5.70	5.82	6.34	6.59	6.24	6.93	8.50
25	6.17	5.85	6.32	6.08	6.55	5.74	5.94	6.59	6.59	6.23	7.10	8.45
26	6.09	5.87	6.57	6.08	6.40	5.70	6.16	6.65	6.53	6.16	7.15	8.33
27	6.15	5.90	6.57	5.84	6.43	5.60	6.23	6.65	6.42	6.21	7.14	8.38
28	6.15	5.90	6.49	5.82	6.41	5.49	6.13	6.59	6.38	6.21	7.15	8.60
29	6.26	5.91	6.48	6.15	---	5.52	6.05	6.69	6.46	6.20	7.16	8.75
30	6.29	5.90	6.23	6.15	---	5.58	6.02	6.65	6.45	6.30	7.25	8.88
31	6.30	---	6.41	5.81	---	5.45	---	6.39	---	6.35	7.33	---
MAX	6.58	6.37	6.59	6.60	6.55	6.28	6.23	6.69	6.63	6.40	7.33	8.88

CAL YR 1992 LOW 12.12
WTR YR 1993 LOW 8.88

GROUND-WATER RECORDS

HENRY COUNTY

412123083574000. Local number, HY-2.

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

Owner: State of Ohio.

AQUIFER.--Limestone of Silurian Age.

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

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

DATUM.--Elevation of land-surface datum is 680 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 3.00 ft above land-surface datum.

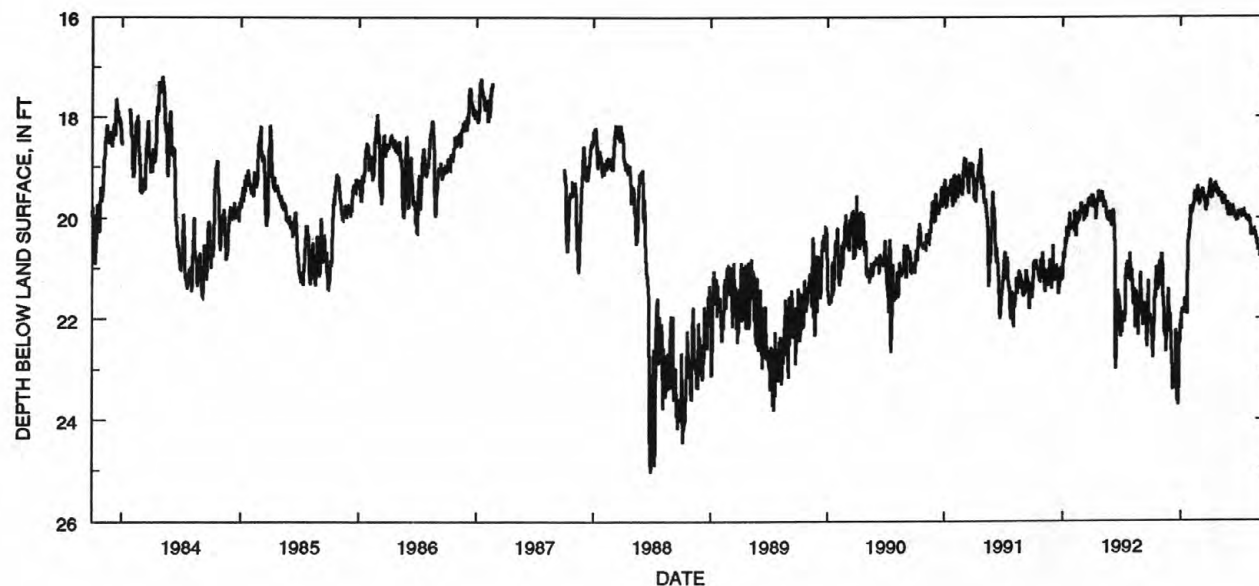
PERIOD OF RECORD.--June 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 25.04 ft below land-surface datum, June 28, 1988;
minimum daily low, 14.55 ft below land-surface datum, Mar. 22, 1978.DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.01	21.27	22.30	22.18	19.95	19.62	19.25	19.56	19.84	19.93	20.02	20.77
2	22.12	20.72	22.48	22.19	19.93	19.50	19.41	19.56	19.85	19.86	20.11	20.74
3	22.35	20.72	22.77	21.96	19.86	19.51	19.57	19.54	19.84	19.85	20.20	20.58
4	22.06	20.74	22.75	21.80	19.90	19.46	19.60	19.50	19.85	19.90	20.32	20.58
5	22.47	21.07	23.07	21.83	19.88	19.47	19.55	19.53	19.88	19.92	20.35	20.59
6	22.76	21.49	23.40	21.82	19.77	19.49	19.55	19.64	19.97	19.91	20.28	20.58
7	22.60	21.65	23.37	21.81	19.76	19.49	19.57	19.65	19.91	19.96	20.25	20.58
8	22.28	21.89	23.38	21.81	19.74	19.42	19.47	19.68	19.76	19.95	20.33	20.56
9	22.02	22.21	23.30	21.85	19.75	19.53	19.35	19.72	19.75	19.93	20.33	20.46
10	22.03	22.22	23.18	21.88	19.69	19.49	19.37	19.74	19.85	19.93	20.27	20.53
11	21.67	22.30	23.09	21.87	19.71	19.58	19.38	19.70	19.93	19.88	20.29	20.63
12	21.46	22.32	23.25	21.78	19.57	19.63	19.50	19.56	19.96	19.86	20.25	20.60
13	21.58	21.93	23.28	21.59	19.47	19.55	19.51	19.58	19.94	19.94	20.23	20.63
14	21.58	22.26	23.17	21.72	19.63	19.62	19.47	19.58	19.91	19.93	20.29	20.56
15	21.36	22.42	22.99	21.66	19.67	19.70	19.37	19.59	19.91	19.99	20.32	20.67
16	21.03	22.64	22.21	21.61	19.61	19.61	19.30	19.68	20.00	19.97	20.27	20.69
17	20.96	22.17	23.38	21.66	19.63	19.80	19.46	19.74	20.00	19.96	20.30	20.66
18	21.06	22.12	23.36	21.85	19.65	19.86	19.46	19.71	20.00	19.96	20.40	20.63
19	21.03	22.26	23.55	21.91	19.65	19.83	19.40	19.69	19.97	19.94	20.38	20.64
20	21.22	22.24	23.63	21.90	19.52	19.67	19.37	19.72	20.05	20.01	20.35	20.64
21	21.43	22.08	23.60	21.36	19.46	19.72	19.50	19.76	19.92	20.02	20.47	20.58
22	21.40	21.67	23.46	20.76	19.37	19.74	19.51	19.85	19.96	20.03	20.47	20.64
23	21.15	21.41	23.55	20.56	19.52	19.64	19.53	19.78	20.03	20.02	20.46	20.64
24	21.01	21.65	23.70	20.33	19.67	19.56	19.45	19.68	20.03	20.02	20.49	20.70
25	21.05	21.90	23.06	20.38	19.69	19.60	19.42	19.84	19.97	20.02	20.59	20.61
26	21.04	22.06	22.28	20.37	19.65	19.60	19.57	19.91	19.94	20.00	20.64	20.54
27	20.90	21.97	22.48	20.09	19.71	19.53	19.59	19.90	19.89	20.07	20.58	20.54
28	20.85	21.89	22.44	20.01	19.70	19.44	19.54	19.85	19.86	20.02	20.59	20.61
29	20.97	22.13	22.40	20.10	---	19.41	19.53	19.96	19.93	19.99	20.62	20.69
30	21.23	22.23	22.17	20.04	---	19.42	19.49	19.91	19.91	20.04	20.64	20.73
31	21.34	---	22.03	19.76	---	19.35	---	19.73	---	20.09	20.72	---
MAX	22.76	22.64	23.70	22.19	19.95	19.86	19.60	19.96	20.05	20.09	20.72	20.77

CAL YR 1992 LOW 23.70

WTR YR 1993 LOW 23.70



GROUND-WATER RECORDS

119

LUCAS COUNTY

413704083362200. Local number, LU-1.

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

Owner: State of Ohio.

AQUIFER.--Limestone of Silurian Age.

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

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 624 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 2.98 ft above land-surface datum (Revised from 1978 and 1979).

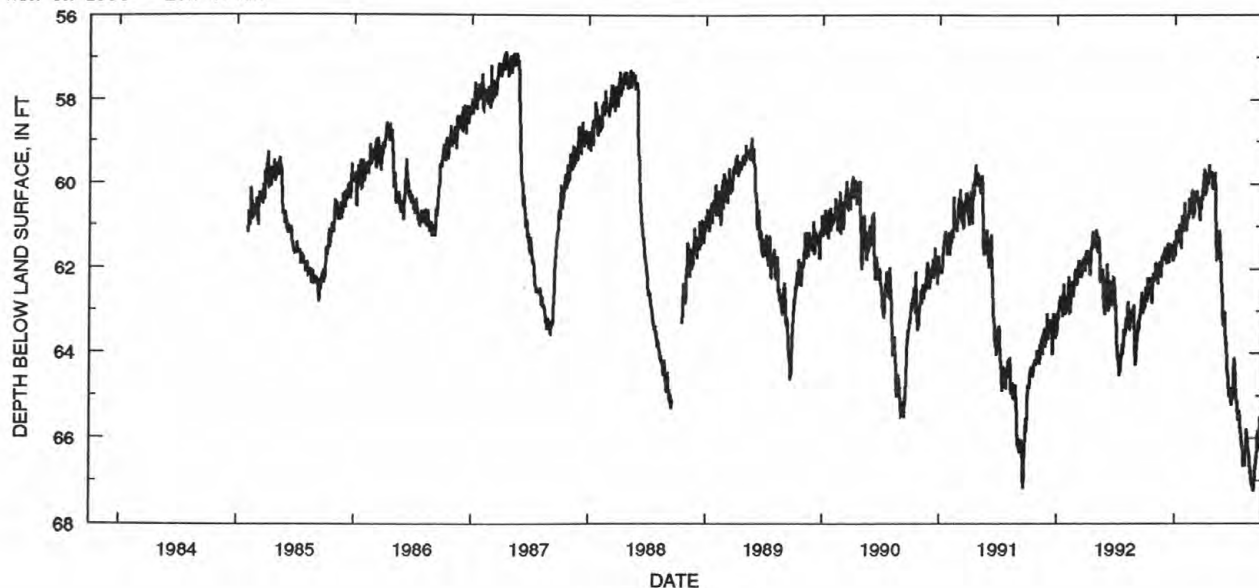
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water. Prior to Aug. 23, 1978, measuring point was 3.10 ft above land-surface datum. Reported in 1979 as 3.00 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 117.25 ft below land-surface datum, Sept. 18, 1957; minimum daily low, 56.87 ft below land-surface datum, Apr. 16, 1987.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62.78	62.23	61.49	61.66	61.01	60.48	59.65	60.04	63.36	64.51	66.55	67.24
2	62.56	61.84	61.50	61.65	61.03	60.23	60.02	59.94	63.29	64.12	66.57	67.19
3	62.43	61.91	61.79	61.30	60.92	60.27	60.22	59.82	63.04	64.10	66.58	66.95
4	62.59	61.94	61.66	61.08	61.10	60.19	60.27	59.73	63.05	64.28	66.60	66.95
5	62.74	61.97	61.88	61.26	60.95	60.17	60.18	60.28	63.46	64.36	66.64	66.75
6	62.78	62.24	61.83	61.25	60.89	60.23	60.11	60.71	63.70	64.53	66.46	66.71
7	62.66	62.28	61.69	61.19	60.80	60.22	60.14	61.06	63.79	64.67	66.23	66.70
8	62.46	62.35	61.84	61.25	60.81	60.16	59.98	61.35	63.72	64.98	66.14	66.52
9	62.23	62.29	61.85	61.36	60.82	60.34	59.74	61.63	63.81	65.02	65.97	66.38
10	62.23	62.24	61.39	61.37	60.75	60.28	59.78	61.76	64.19	65.17	65.78	66.41
11	62.22	62.08	61.48	61.36	60.81	60.39	59.80	61.74	64.39	65.10	65.92	66.45
12	62.22	61.90	61.73	61.21	60.47	60.47	59.98	61.45	64.45	65.17	65.91	66.17
13	62.25	61.87	61.84	60.94	60.32	60.35	60.00	61.63	64.51	65.32	66.07	66.02
14	62.28	61.98	61.79	61.12	60.59	60.45	59.90	61.61	64.53	65.44	66.17	65.83
15	62.26	62.17	61.55	61.05	60.71	60.58	59.63	61.27	64.69	65.57	66.23	66.21
16	62.47	62.17	61.40	60.97	60.60	60.30	59.54	61.31	64.91	65.46	66.20	66.22
17	62.58	61.98	61.52	61.06	60.64	60.75	59.87	61.23	64.97	65.34	66.40	66.02
18	62.51	62.14	61.69	61.39	60.66	60.85	59.85	61.09	65.04	65.36	66.47	65.84
19	62.62	62.19	61.40	61.51	60.66	60.77	59.68	61.24	65.00	65.37	66.48	65.78
20	62.54	62.11	61.66	61.47	60.42	60.43	59.71	61.54	64.90	65.55	66.58	65.63
21	62.69	61.75	61.67	61.05	60.27	60.52	59.86	61.61	64.80	65.67	66.76	65.49
22	62.81	61.73	61.46	60.83	60.14	60.58	59.86	61.79	64.92	65.79	66.82	65.59
23	62.63	61.70	61.47	60.86	60.44	60.37	59.79	61.87	65.11	65.80	66.75	65.93
24	62.24	61.78	61.80	60.92	60.74	60.28	59.71	62.10	65.21	65.95	66.86	66.09
25	62.25	61.73	61.43	61.12	60.80	60.36	59.84	62.55	65.12	66.04	67.04	66.01
26	62.09	61.71	61.77	61.10	60.68	60.34	60.07	62.55	65.08	66.06	67.08	65.61
27	62.13	61.78	61.75	60.81	60.72	60.23	60.13	62.63	64.98	66.19	67.02	65.55
28	62.07	61.74	61.68	60.69	60.69	60.03	59.99	63.04	65.00	66.20	67.08	65.87
29	62.13	61.73	61.65	61.08	---	59.99	59.86	63.32	64.99	66.32	67.16	66.16
30	62.19	61.62	61.33	60.98	---	60.00	59.88	63.28	64.82	66.51	67.10	66.22
31	62.24	---	61.36	60.43	---	59.87	---	63.14	---	66.66	67.03	---
MAX	62.81	62.35	61.88	61.66	61.10	60.85	60.27	63.32	65.21	66.66	67.16	67.24

CAL YR 1992 LOW 64.51
WTR YR 1993 LOW 67.24

GROUND-WATER RECORDS

MEDINA COUNTY

410142082005900. Local number, MD-1.

LOCATION.--Lat 41°01'42", long 82°00'59", Hydrologic Unit 04110001. Waterworks plant at Lodi.

Owner: Lodi Water Dept.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 65 ft, cased.

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

DATUM.--Elevation of land-surface datum is 910 ft above sea level, from topographic map.

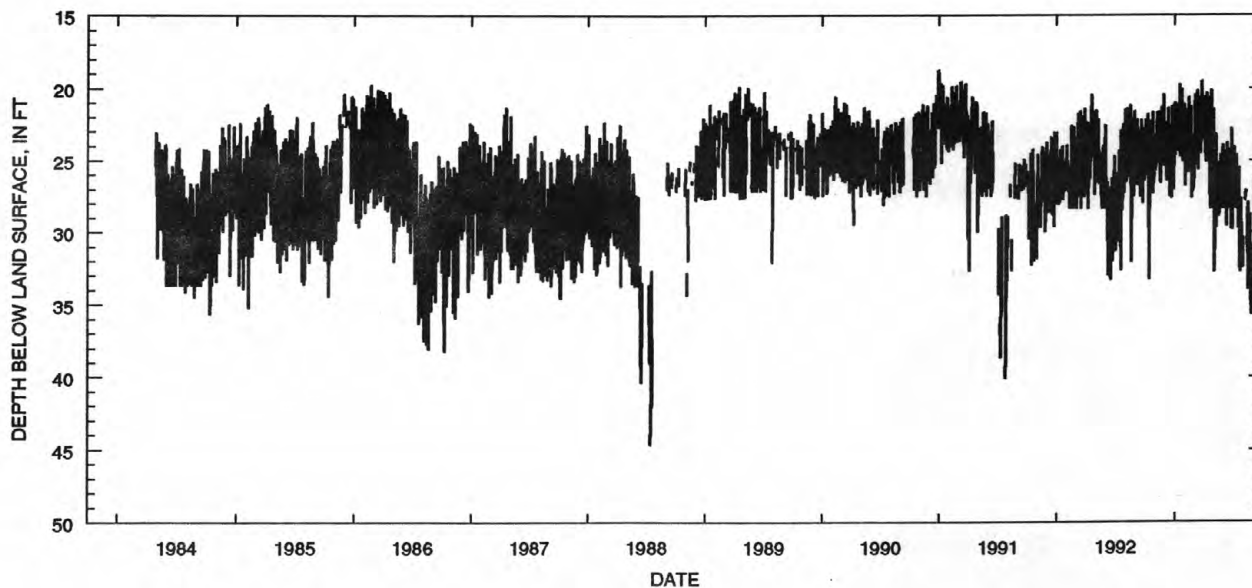
Measuring point: Floor of instrument shelter 1.90 ft above land-surface datum.

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 45.21 ft below land-surface datum, July 8, 1988;
minimum daily low, 7.60 ft below land-surface datum, July 6, 1969.DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.37	23.23	24.03	21.06	22.84	25.46	22.80	22.83	28.35	28.12	26.46	---
2	24.72	25.65	24.07	21.95	26.74	26.26	23.28	21.43	27.16	28.32	---	---
3	22.92	25.50	23.96	20.98	23.78	23.99	20.59	28.20	28.12	26.19	28.84	---
4	22.17	23.62	25.08	24.59	25.21	22.49	22.63	32.70	27.88	24.07	---	28.02
5	24.44	25.37	22.36	22.43	23.43	21.40	24.45	29.72	25.31	25.99	---	26.48
6	24.88	24.32	24.89	24.25	23.70	20.47	24.30	28.97	24.37	28.32	27.80	26.36
7	25.76	22.76	26.38	23.60	23.92	25.27	22.68	25.89	28.35	27.34	27.42	---
8	25.73	21.69	25.32	23.66	21.47	24.23	25.11	24.96	27.49	28.15	27.06	---
9	25.98	25.13	25.67	22.53	25.78	24.70	22.56	23.18	26.87	28.32	---	---
10	22.73	24.41	24.18	21.21	24.29	23.25	20.94	29.66	29.56	28.32	---	---
11	21.79	24.07	24.92	24.31	23.67	24.61	20.34	27.65	26.27	24.58	---	27.00
12	26.07	23.74	21.78	23.62	25.82	20.87	25.05	25.76	25.98	28.32	30.32	26.08
13	33.23	21.62	21.34	22.53	24.37	20.16	24.78	27.96	23.74	28.32	31.48	---
14	27.59	23.18	25.82	23.89	22.24	25.61	23.57	26.68	28.35	28.37	28.64	27.96
15	28.36	22.07	25.65	22.43	20.62	24.64	22.72	25.53	26.94	---	27.88	---
16	26.38	26.45	24.20	22.27	25.33	23.45	22.22	25.14	27.39	---	33.98	---
17	23.02	24.84	27.46	19.73	23.09	22.46	20.87	28.87	27.21	29.71	31.60	---
18	22.24	24.09	24.05	24.67	24.27	23.12	20.63	25.79	28.35	25.51	32.22	26.98
19	24.70	26.54	24.09	23.25	24.06	20.63	24.88	27.60	25.48	29.76	31.16	26.42
20	25.42	24.52	22.59	23.68	23.25	20.75	26.39	28.71	24.23	30.30	30.06	---
21	25.46	23.12	25.77	23.46	21.25	23.77	28.36	26.69	28.35	32.52	30.66	---
22	26.32	21.32	27.57	21.42	25.66	24.52	26.55	25.81	27.44	30.66	28.76	---
23	24.90	23.87	26.60	21.70	27.59	24.44	28.36	24.59	26.77	32.72	32.74	---
24	22.86	24.28	24.07	20.04	25.10	23.10	21.61	28.35	29.71	30.16	34.76	---
25	21.66	24.71	21.20	22.94	24.32	22.55	20.16	27.95	27.21	27.62	33.52	26.42
26	27.27	21.90	22.81	25.04	24.00	21.36	24.67	27.95	22.82	31.02	35.68	25.22
27	25.70	22.20	23.48	21.89	27.10	19.50	23.69	28.35	27.98	30.94	35.08	---
28	23.96	20.46	27.03	23.98	26.63	22.71	23.68	27.51	28.32	31.12	31.16	28.88
29	26.58	20.97	26.05	23.62	---	22.85	27.17	25.76	29.79	32.42	---	---
30	25.56	25.36	24.27	21.80	---	22.08	23.54	24.31	26.81	30.32	---	---
31	25.17	---	25.42	21.10	---	22.95	---	23.94	---	---	---	---
MAX	33.23	26.54	27.57	25.04	27.59	26.26	28.36	32.70	29.79	32.72	35.68	28.88

CAL YR 1992 LOW 33.29
WTR YR 1993 LOW 35.68

GROUND-WATER RECORDS

121

OTTAWA COUNTY

413434082494000. Local number, O-2.

LOCATION.--Lat 41°34'34", long 82°49'40", Hydrologic Unit 04100010. Catawba Island near Port Clinton.

Owner: William Williams.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled water table well, diameter 6 in., depth 62 ft, cased to 26 ft.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 591 ft above sea level, from topographic map.

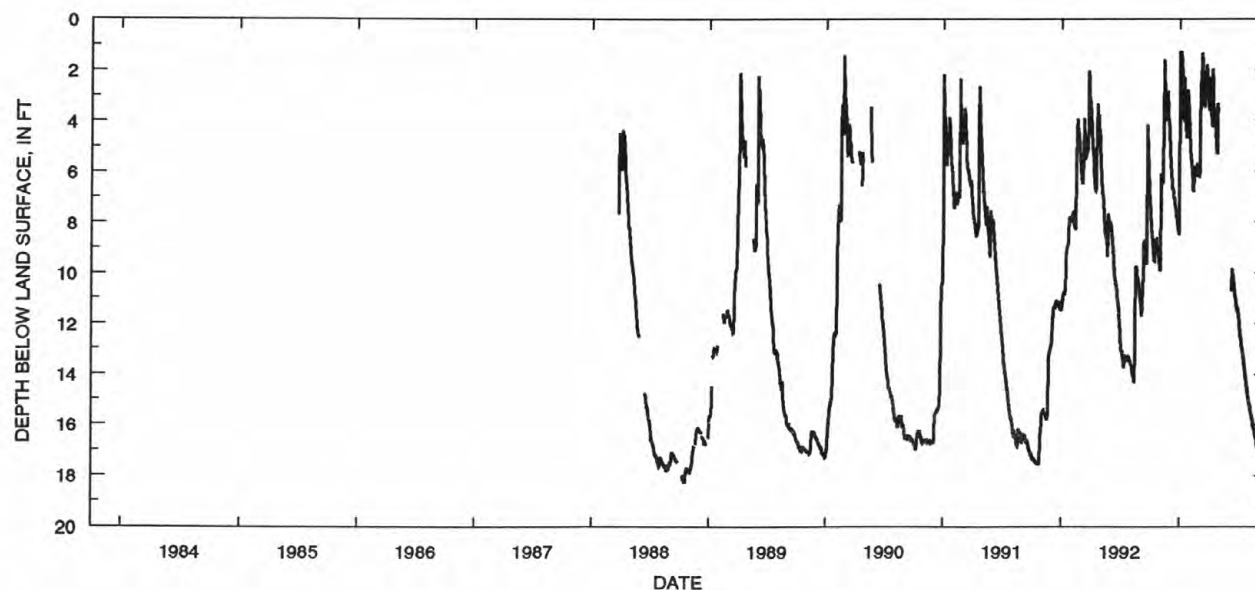
Measuring point: Floor of instrument shelter 1.60 ft above land-surface datum.

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 18.27 ft below land-surface datum, Sept. 17, 1989;
minimum daily low, 1.29 ft below land-surface datum, Dec. 31, 1992.DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.29	9.94	4.91	1.93	5.04	6.21	2.91	---	---	11.78	15.16	16.99
2	7.48	9.62	5.28	2.41	5.18	6.24	2.27	---	---	11.87	15.15	16.92
3	7.77	6.96	5.62	2.61	5.41	5.92	2.80	---	---	12.17	15.24	16.91
4	8.06	6.10	5.72	2.07	5.65	4.68	3.15	---	---	12.29	15.22	17.04
5	8.29	6.16	6.11	1.30	5.76	2.48	3.40	---	---	12.50	15.28	17.16
6	8.45	6.42	6.13	1.72	5.98	2.70	3.75	---	---	12.53	15.44	17.17
7	8.61	6.51	6.40	2.23	6.06	2.67	3.94	---	---	12.59	15.54	16.93
8	8.69	6.41	6.67	2.74	6.38	1.42	4.11	---	10.72	12.66	15.66	16.85
9	8.88	5.55	6.74	3.15	6.48	1.35	4.24	---	10.65	12.82	15.64	16.84
10	9.05	5.10	6.66	3.60	6.71	1.71	1.99	---	9.84	13.01	15.75	16.80
11	9.23	5.01	6.82	3.92	6.80	1.93	2.57	---	9.93	12.98	15.74	16.84
12	9.34	4.24	6.98	4.04	6.76	2.18	3.09	---	10.11	13.05	15.76	16.98
13	9.52	1.63	7.07	3.49	6.10	2.45	3.34	---	10.17	13.16	15.83	17.03
14	9.54	2.21	7.09	2.30	5.82	3.13	3.58	---	10.21	13.25	16.04	16.93
15	9.29	2.81	7.06	2.83	5.87	3.34	3.68	---	10.35	13.34	16.10	16.92
16	8.97	3.10	7.25	3.13	5.80	3.47	3.68	---	10.47	13.46	16.08	16.93
17	8.72	3.61	7.42	3.82	5.88	3.02	4.02	---	10.62	13.60	16.17	17.00
18	8.67	3.99	7.56	4.26	6.01	2.73	4.20	---	10.80	13.70	16.21	17.02
19	8.73	---	7.53	4.56	6.05	3.00	4.37	---	10.93	13.71	16.26	17.07
20	8.70	---	7.74	4.69	6.18	3.02	4.59	---	10.99	13.98	16.30	17.01
21	8.89	---	7.75	4.67	6.17	2.53	4.76	---	11.02	14.09	16.45	17.10
22	8.97	---	7.80	3.11	5.87	2.46	4.85	---	11.15	14.10	16.51	17.10
23	9.03	2.81	7.90	2.79	5.69	2.37	5.14	---	11.26	14.16	16.52	17.10
24	9.10	3.14	8.06	2.84	5.84	1.79	5.27	---	11.35	14.33	16.54	17.11
25	9.16	3.34	8.07	3.11	5.89	2.15	5.31	---	11.44	14.49	16.60	17.13
26	9.24	3.78	8.31	3.18	5.98	2.55	3.32	---	11.40	14.53	16.75	17.10
27	9.36	4.06	8.34	3.64	6.13	2.82	3.68	---	11.41	14.70	16.73	17.05
28	9.44	4.31	8.47	3.89	6.27	3.08	---	---	11.48	14.64	16.88	17.05
29	9.61	4.55	8.48	4.24	---	3.35	---	---	11.58	14.66	16.95	17.05
30	9.75	4.73	8.49	4.24	---	3.59	---	---	11.68	15.08	16.95	17.02
31	9.89	---	1.29	4.46	---	3.62	---	---	---	15.02	16.92	---
MAX	9.89	9.94	8.49	4.69	6.80	6.24	5.31	---	11.68	15.08	16.95	17.17

CAL YR 1992 LOW 14.33
WTR YR 1993 LOW 17.17

GROUND-WATER RECORDS

PUTNAM COUNTY

405505084032900. Local number, PU-1.

LOCATION.--Lat 40°55'05", long 84°03'29", Hydrologic Unit 04100007, Center and Broadway Streets, Columbus Grove.

Owner: Columbus Grove Water Department.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 110 ft, cased.

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

DATUM.--Elevation of land-surface datum is 770 ft above sea level, from topographic map.

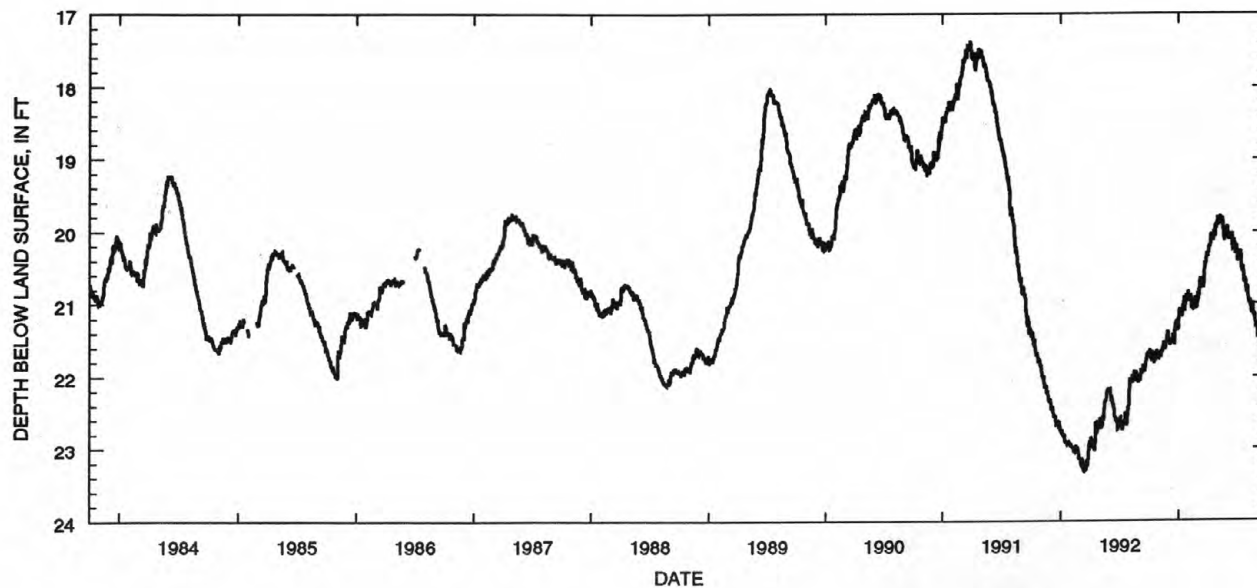
Measuring point: Floor of instrument shelter 3.00 ft above land-surface datum.

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 24.30 ft below land-surface datum, Aug. 24, 1962;
minimum daily low, 8.80 ft below land-surface datum, Dec. 30, 1990.DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.20	12.57	10.75	12.28	11.15	11.24	11.67	11.19	12.07	10.89	13.95	14.57
2	12.65	11.38	11.90	11.36	11.05	11.67	10.58	10.87	13.15	11.92	13.59	14.01
3	11.44	13.52	11.25	10.98	12.05	11.45	12.26	12.56	12.09	11.07	13.04	14.95
4	11.02	11.89	11.05	11.88	11.30	11.12	11.22	11.33	11.67	10.61	14.46	14.93
5	12.32	11.54	12.01	10.66	11.05	10.91	10.75	11.40	12.93	12.55	13.28	13.80
6	11.46	12.59	11.10	10.75	12.09	11.22	12.18	12.70	11.94	11.06	12.71	15.22
7	11.38	10.79	10.93	11.69	11.13	10.64	11.01	11.71	11.66	11.00	13.97	14.58
8	12.45	12.18	12.39	10.61	11.10	10.78	11.01	11.60	12.88	12.54	13.64	14.05
9	11.31	11.18	11.54	10.70	12.39	10.62	12.10	12.97	12.46	11.65	12.91	15.56
10	11.36	10.97	11.47	12.03	12.37	11.61	11.15	12.16	11.06	11.28	13.95	14.34
11	12.58	12.18	13.10	11.40	11.23	10.66	10.52	12.00	12.23	12.22	13.78	14.43
12	11.76	10.47	12.14	10.92	11.90	10.70	12.08	14.05	11.11	11.18	13.14	15.36
13	11.52	10.39	11.86	12.17	11.23	11.71	11.37	12.54	10.88	11.13	14.01	14.89
14	12.85	11.38	12.75	11.53	10.95	10.78	10.92	11.97	12.38	12.19	13.51	14.61
15	11.51	11.29	11.85	10.85	12.32	10.81	11.80	13.04	11.49	12.19	13.02	15.72
16	11.42	10.49	11.41	12.36	12.14	12.10	10.57	12.07	11.23	11.28	14.83	15.00
17	12.41	11.76	12.46	11.88	11.31	10.66	10.76	11.88	12.88	12.20	13.79	14.59
18	11.48	10.81	11.27	11.06	11.26	11.12	11.74	13.73	11.76	11.29	13.85	15.40
19	11.48	10.79	11.25	12.10	11.38	12.11	10.88	12.23	11.54	11.26	14.94	14.82
20	12.59	11.77	12.32	11.33	11.92	11.02	10.78	11.80	12.53	13.24	13.82	14.63
21	11.78	11.15	11.66	10.97	11.22	10.71	11.86	12.89	12.00	12.09	13.87	15.68
22	11.54	10.70	11.17	11.68	11.65	12.05	11.33	12.73	11.41	11.73	15.03	14.74
23	12.45	11.75	12.26	10.97	11.60	11.75	11.06	11.85	13.22	12.70	14.08	14.47
24	11.37	11.18	11.91	10.60	11.80	10.65	12.08	14.29	11.94	12.59	13.86	15.57
25	11.15	11.60	11.12	11.85	11.50	11.78	10.95	15.07	11.49	11.72	15.47	14.80
26	12.25	11.47	12.44	11.09	11.73	10.93	10.90	17.54	12.48	13.37	14.85	14.39
27	11.59	10.85	12.27	10.81	11.55	10.77	12.18	17.87	11.04	12.76	14.65	15.55
28	11.32	10.63	11.42	11.96	11.42	11.95	11.19	17.94	10.96	12.35	16.00	15.35
29	12.48	11.79	12.53	11.04	---	11.83	11.00	15.14	12.19	13.77	14.71	14.76
30	12.47	11.64	11.41	10.96	---	10.67	12.01	12.71	12.06	12.67	14.69	15.86
31	11.49	---	11.13	11.87	---	11.67	---	13.62	---	12.57	15.82	---
MAX	12.85	13.52	13.10	12.36	12.39	12.11	12.26	17.94	13.22	13.77	16.00	15.86
CAL YR 1992	LOW 15.41											
WTR YR 1993	LOW 17.94											



GROUND-WATER RECORDS

123

RICHLAND COUNTY

405753082360800. Local number, R-3.

LOCATION.--Lat 40°57'53", long 82°36'08", Hydrologic Unit 04100012, Voisard plant in Shiloh.

Owner: Voisard Corp.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 150 ft, cased.

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

DATUM.--Elevation of land-surface datum is 1080 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 3.17 ft above land-surface datum.

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 35.90 ft below land-surface datum, Feb. 12, 1981;

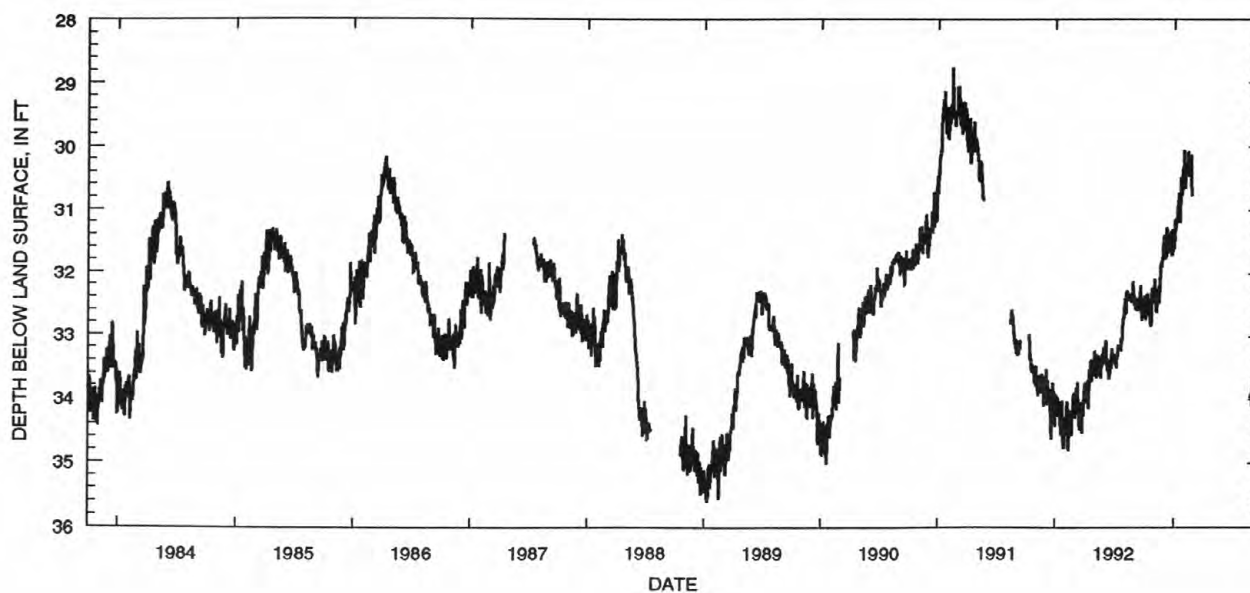
minimum daily low, 23.68 ft below land-surface datum, June 15, 23, 1947.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32.60	32.44	31.45	31.60	30.56	---	---	---	---	---	---	34.08
2	32.44	32.08	31.39	31.60	30.61	---	---	---	---	---	---	33.98
3	32.35	32.27	31.70	31.34	30.49	---	---	---	---	---	---	33.79
4	32.55	32.36	31.61	31.13	30.65	---	---	---	---	---	---	33.79
5	32.73	32.35	31.76	31.32	30.52	---	---	---	---	---	---	33.83
6	32.72	32.55	31.74	31.32	30.39	---	---	---	---	---	---	33.91
7	32.65	32.58	31.56	31.20	30.32	---	---	---	---	---	---	33.96
8	32.49	32.61	31.72	31.12	30.42	---	---	---	---	---	---	33.88
9	32.36	32.60	31.72	31.19	30.42	---	---	---	---	---	---	33.67
10	32.33	32.58	31.27	31.17	30.39	---	---	---	---	---	---	33.78
11	32.35	32.41	31.33	31.17	30.41	---	---	---	---	---	---	33.90
12	32.32	32.24	31.59	31.04	30.10	---	---	---	---	---	---	33.79
13	32.47	32.23	31.67	30.84	30.08	---	---	---	---	---	---	33.85
14	32.50	32.32	31.64	30.95	30.35	---	---	---	---	---	---	33.87
15	32.49	32.44	31.46	30.88	30.45	---	---	---	---	---	---	33.99
16	32.59	32.44	31.38	30.76	30.40	---	---	---	---	---	---	34.01
17	32.65	32.19	31.47	30.77	30.43	---	---	---	---	---	---	34.00
18	32.61	32.29	31.64	31.07	30.46	---	---	---	---	---	---	33.91
19	32.67	32.28	31.36	31.19	30.45	---	---	---	---	---	---	33.96
20	32.63	32.23	31.53	31.11	30.25	---	---	---	---	---	---	33.88
21	32.77	31.89	31.53	30.69	30.13	---	---	---	---	---	---	33.93
22	32.83	31.83	31.39	30.47	30.16	---	---	---	---	---	---	33.97
23	32.72	31.84	31.32	30.52	30.51	---	---	---	---	---	---	33.91
24	32.32	31.89	31.71	30.60	30.77	---	---	---	---	---	---	33.98
25	32.31	31.82	31.45	30.76	---	---	---	---	---	---	33.96	33.80
26	32.22	31.75	31.70	30.73	---	---	---	---	---	---	33.95	33.63
27	32.27	31.78	31.68	30.42	---	---	---	---	---	---	33.93	33.67
28	32.27	31.70	31.62	30.34	---	---	---	---	---	---	34.00	33.89
29	32.37	31.66	31.60	30.67	---	---	---	---	---	---	34.00	33.93
30	32.40	31.59	31.31	30.57	---	---	---	---	---	---	33.96	34.01
31	32.43	---	31.31	30.05	---	---	---	---	---	---	34.09	---
MAX	32.83	32.61	31.76	31.60	30.77	---	---	---	---	---	34.09	34.08

CAL YR 1992 LOW 34.80

WTR YR 1993 LOW 34.09



GROUND-WATER RECORDS

SANDUSKY COUNTY

411914083045300. Local number, S-3.

LOCATION.--Lat 41°19'14", long 83°04'53", Hydrologic Unit 04100011, 2.6 mi southeast of Fremont Post Office.

Owner: State of Ohio.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled test artesian well, diameter 12 in., depth 121 ft, cased to 93 ft.

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

DATUM.--Elevation of land-surface datum is 627 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 3.00 ft above land-surface datum.

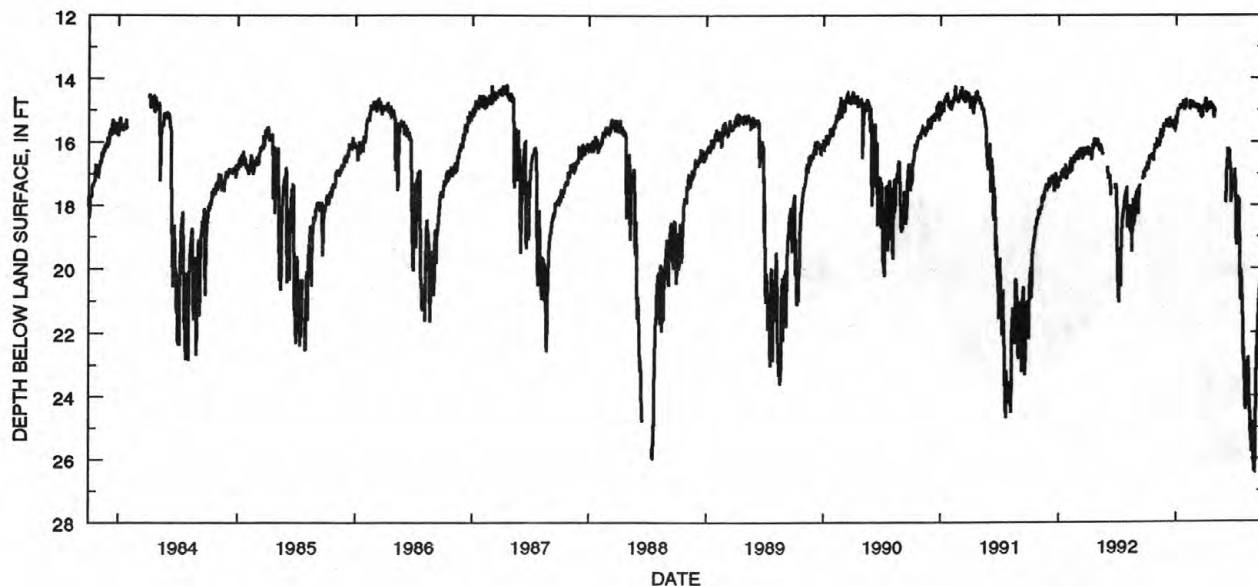
PERIOD OF RECORD.--December 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 26.38 ft below land-surface datum, Aug. 30, 1993;

minimum daily low, 14.02 ft below land-surface datum, Mar. 24, 1975.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.88	16.20	15.35	15.41	---	14.95	14.63	---	---	16.87	23.84	26.01
2	16.73	15.97	15.30	15.41	---	14.91	14.85	---	---	17.49	24.32	26.04
3	16.64	15.98	15.47	15.27	---	14.94	14.99	---	17.92	17.72	24.42	24.83
4	16.73	15.99	15.42	15.10	---	14.86	15.06	---	17.31	17.77	23.48	23.98
5	16.86	15.98	15.54	14.94	---	14.88	14.98	---	16.91	18.94	23.66	23.37
6	16.87	16.11	15.52	---	---	14.91	14.94	---	16.86	19.26	24.12	22.96
7	16.79	16.10	15.45	---	14.93	14.91	15.01	---	16.68	18.47	23.64	22.64
8	16.65	16.16	15.55	---	14.93	14.83	14.89	---	16.41	17.97	22.91	22.28
9	16.51	16.16	15.55	---	---	14.93	14.76	---	16.24	17.71	23.57	21.86
10	16.50	16.13	15.32	---	14.91	14.91	14.80	---	16.23	17.93	24.05	21.61
11	16.48	15.99	15.30	---	14.93	15.01	14.80	---	16.42	18.34	23.42	21.62
12	16.47	15.87	15.44	---	14.76	15.00	14.95	---	16.36	18.09	22.78	21.29
13	16.48	15.63	15.53	14.82	14.71	14.88	14.99	---	16.29	18.02	23.54	21.06
14	16.50	15.75	15.52	14.93	14.88	15.01	14.88	---	16.30	17.81	24.30	20.89
15	16.45	15.89	15.39	14.91	14.92	15.01	14.74	---	16.85	18.59	24.11	20.69
16	16.44	15.91	15.35	14.87	14.87	14.95	14.74	---	16.66	19.20	24.11	20.65
17	16.52	15.75	15.40	14.91	14.90	15.17	14.91	---	16.67	20.06	24.92	20.41
18	16.47	15.84	15.48	14.94	14.91	15.20	14.95	---	17.00	20.54	25.37	20.21
19	16.56	15.85	15.33	---	14.91	15.13	14.87	---	17.90	20.95	25.44	20.09
20	16.47	15.80	15.50	---	14.78	15.04	14.82	---	17.71	21.00	25.08	20.00
21	16.55	15.59	15.50	14.91	14.72	15.16	14.97	---	17.07	20.07	25.65	19.76
22	16.60	15.57	15.36	14.71	14.77	15.20	14.92	---	17.14	20.49	25.77	20.46
23	16.47	15.44	15.35	14.76	14.90	15.06	14.93	---	17.05	20.63	24.82	21.48
24	16.26	15.49	15.58	14.81	---	14.92	14.87	---	17.18	21.04	25.24	21.87
25	16.28	15.48	15.43	14.96	---	14.94	14.95	---	17.57	21.45	25.59	21.89
26	16.21	15.45	15.58	14.99	---	14.93	15.13	---	17.55	21.45	25.61	20.76
27	16.16	15.49	15.62	14.77	---	14.91	15.23	---	17.19	22.69	25.87	20.31
28	16.18	15.47	15.54	14.73	---	14.83	15.10	---	17.04	22.50	25.84	19.95
29	16.14	15.48	15.52	14.93	---	14.84	15.03	---	17.08	23.31	26.37	19.78
30	16.19	15.43	15.36	14.89	---	14.83	14.94	---	16.96	23.44	26.38	19.67
31	16.19	---	15.20	14.64	---	14.72	---	---	---	23.17	25.56	---
MAX	16.88	16.20	15.62	15.41	14.93	15.20	15.23	---	17.92	23.44	26.38	26.04
CAL YR 1992	LOW 21.09											
WTR YR 1993	LOW 26.38											



GROUND-WATER RECORDS

125

SANDUSKY COUNTY--Continued

412703083213600. Local number, S-2.

LOCATION.--Lat 41°27'03", long 83°21'36", Hydrologic Unit 04100010, at water works in Woodville.

Owner: Woodville Water department.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 198 ft cased.

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

DATUM.--Elevation of land-surface datum is 635 ft above sea level from topographic map.

Measuring point: Top of casing at land-surface datum.

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

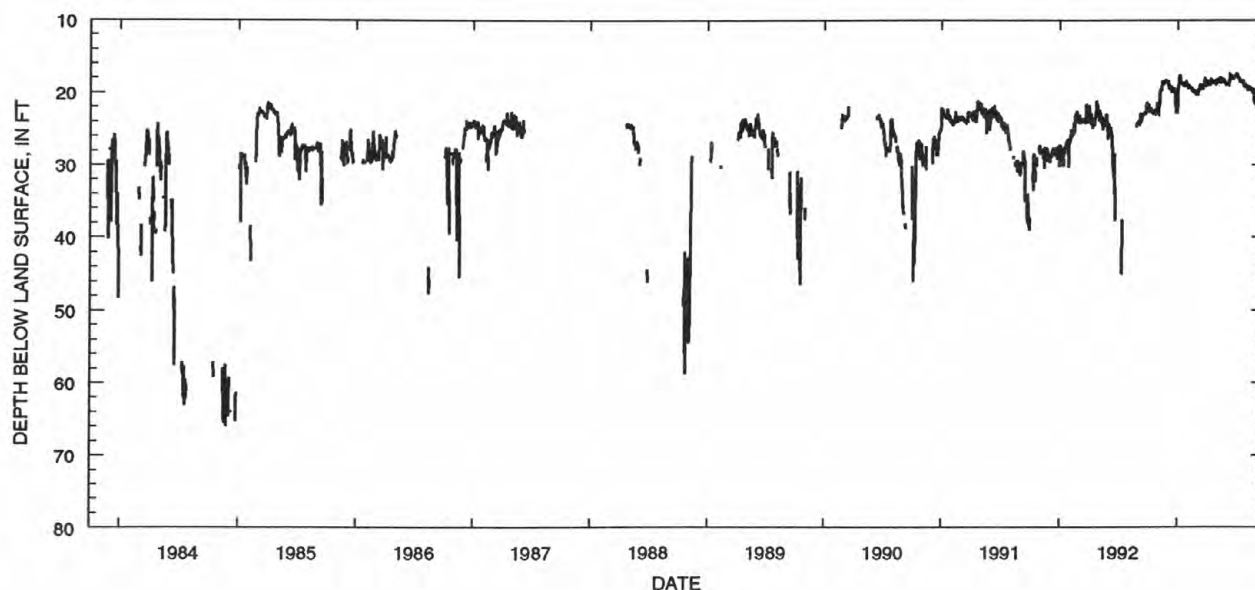
PERIOD OF RECORD.--June 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 100.97 ft below land-surface datum, Jan. 29, 1982;

minimum daily low, 17.58 ft below land-surface datum, June 11, 1993.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.88	22.96	18.51	19.47	19.45	19.97	18.55	18.66	18.94	17.75	19.25	20.73
2	21.64	22.63	18.71	19.29	19.28	19.97	18.74	18.29	18.71	17.72	19.06	22.22
3	21.75	21.22	19.30	19.09	19.20	20.09	19.02	18.26	18.67	17.80	19.63	20.88
4	22.36	21.85	19.27	18.81	19.38	19.72	18.70	18.11	18.65	17.82	19.67	20.66
5	22.49	21.13	19.36	18.29	19.18	19.65	18.61	18.22	18.78	17.83	19.70	21.03
6	22.41	19.96	19.15	17.64	19.33	19.79	18.77	18.25	18.82	17.90	19.25	21.13
7	22.26	19.86	19.25	18.00	19.18	19.52	18.95	18.43	18.74	18.00	19.37	22.00
8	22.26	19.79	19.26	18.56	19.44	19.35	18.96	18.37	18.57	18.07	19.45	20.94
9	22.36	19.69	19.36	18.71	19.47	19.35	18.92	18.50	18.40	18.01	19.46	20.70
10	22.45	19.54	19.10	18.81	19.37	18.87	18.81	18.38	18.17	18.40	19.43	21.62
11	22.58	19.53	19.79	18.94	19.54	19.05	18.56	18.28	17.58	18.44	19.43	21.09
12	22.82	19.17	19.72	18.74	19.33	19.15	18.58	18.10	17.71	18.30	19.37	21.10
13	22.75	19.05	19.75	18.75	19.74	18.84	18.58	18.22	17.74	18.34	19.45	22.24
14	22.80	18.37	20.00	18.85	19.84	19.24	18.46	18.10	17.67	18.31	19.49	22.77
15	22.91	18.65	19.61	18.69	19.70	19.46	18.30	18.21	17.80	18.43	19.50	23.19
16	22.62	18.65	19.61	18.64	19.75	19.47	18.42	18.54	17.89	18.40	19.77	23.10
17	23.03	18.69	19.72	18.91	19.83	19.47	18.76	18.37	17.86	18.71	19.55	22.61
18	22.59	18.92	19.67	19.05	20.00	19.38	18.69	18.26	17.86	18.46	19.88	21.63
19	22.87	18.79	19.72	19.22	19.83	18.97	18.60	18.32	18.11	18.45	19.60	21.57
20	22.59	18.60	19.92	18.98	19.81	18.91	18.61	18.37	18.10	18.42	19.84	21.55
21	22.58	18.62	19.88	18.89	19.62	18.96	18.88	18.49	17.97	18.64	19.76	21.68
22	22.77	18.52	19.85	18.87	19.82	18.92	18.78	18.61	17.90	18.97	20.05	21.74
23	22.55	18.63	19.88	18.73	20.01	18.63	18.67	18.45	17.98	19.04	19.83	21.72
24	22.64	18.41	21.77	18.75	20.04	18.44	18.55	18.37	17.85	19.11	21.05	22.83
25	22.84	18.21	19.99	19.00	20.18	18.21	18.82	18.65	17.83	18.85	21.41	22.62
26	22.72	18.31	22.74	18.71	20.08	18.38	18.60	18.66	17.86	18.81	20.50	22.55
27	22.56	18.52	22.49	18.87	20.28	18.85	18.60	18.87	17.73	19.03	21.71	21.39
28	21.84	18.48	22.64	18.79	20.26	18.85	18.41	18.62	17.62	19.15	20.56	21.21
29	21.71	18.56	22.88	19.25	---	18.89	18.26	19.02	17.80	19.23	21.22	21.62
30	21.76	18.51	22.58	18.91	---	18.84	18.72	18.85	17.75	19.06	21.23	21.84
31	22.84	---	21.45	18.94	---	18.54	---	18.60	---	19.12	20.61	---
MAX	23.03	22.96	22.88	19.47	20.28	20.09	19.02	19.02	18.94	19.23	21.71	23.19
CAL YR 1992	LOW 51.81											
WTR YR 1993	LOW 23.19											



GROUND-WATER RECORDS

SENECA COUNTY

410802083093900. Local number, SE-2.

LOCATION.--Lat 41°08'02", long 83°09'39", Hydrologic Unit 04100011, Tiffin State Hospital, Tiffin.

Owner: State of Ohio.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 12 in., depth 250 ft, cased.

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

DATUM.--Elevation of land-surface datum is 740 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 0.50 ft above land-surface datum.

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

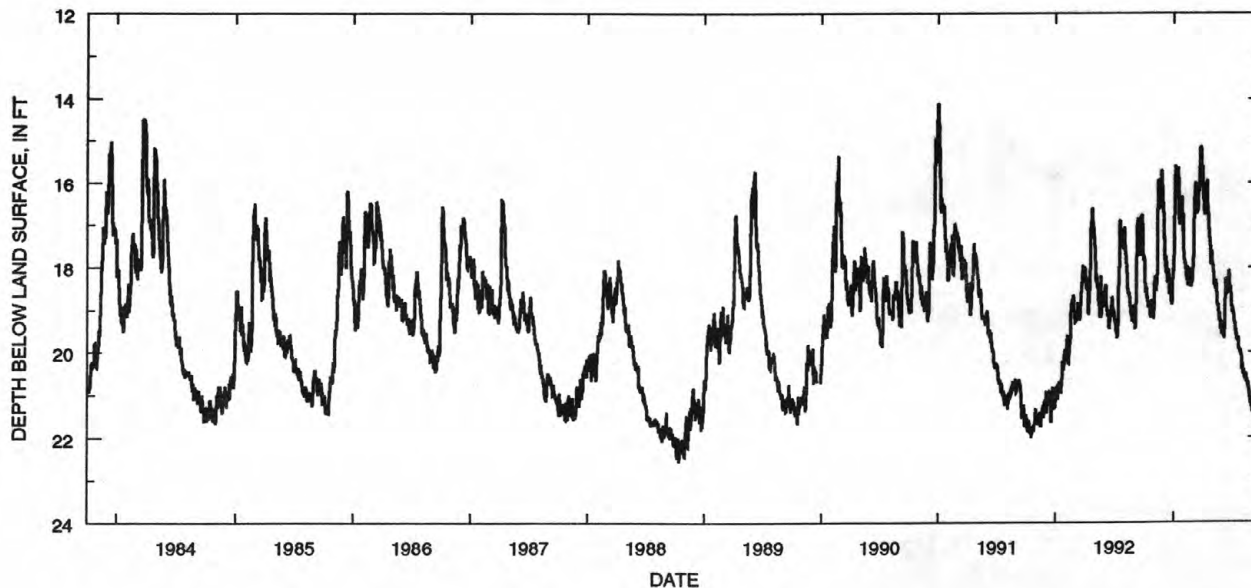
PERIOD OF RECORD.--July 1962 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 23.76 ft below land-surface datum, Nov. 22, 1964;
minimum daily low, 14.11 ft below land-surface datum, Jan. 2, 1991.DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.84	19.21	16.57	18.11	17.60	18.11	15.61	17.97	19.49	19.01	20.26	21.40
2	17.76	18.82	16.88	18.00	17.65	17.97	15.97	17.93	19.41	18.99	20.33	21.34
3	17.91	18.45	17.35	17.51	17.72	17.91	16.27	18.02	19.41	19.02	20.45	21.25
4	18.24	18.22	17.28	17.21	17.93	17.65	16.41	18.01	19.39	19.04	20.50	21.28
5	18.53	18.21	17.84	16.39	17.87	16.91	16.34	18.22	19.58	19.06	20.52	21.27
6	18.60	18.51	17.80	16.05	17.92	16.81	16.62	18.36	19.68	19.13	20.41	21.38
7	18.56	18.52	17.87	15.60	17.92	16.61	16.76	18.35	19.56	19.23	20.54	21.43
8	18.45	18.57	18.13	15.63	18.17	16.08	16.68	18.37	19.39	19.31	20.64	21.34
9	18.50	18.54	18.15	15.93	18.18	16.20	16.64	18.45	19.08	19.33	20.65	21.17
10	18.52	18.50	17.75	16.23	18.24	16.01	16.36	18.45	18.38	19.50	20.53	21.41
11	18.70	18.33	18.02	16.36	18.30	16.10	16.14	18.44	18.26	19.44	20.55	21.58
12	18.71	18.05	18.30	16.36	17.98	16.23	16.01	18.31	18.33	19.48	20.50	21.41
13	18.89	16.91	18.37	15.91	18.01	16.05	16.11	18.47	18.31	19.60	20.55	21.51
14	18.94	16.34	18.34	15.96	18.32	16.53	16.06	18.49	18.30	19.56	20.68	21.41
15	18.90	16.00	18.08	15.77	18.42	16.73	15.94	18.68	18.44	19.70	20.70	21.70
16	18.86	16.02	18.09	15.65	18.34	16.54	16.30	18.86	18.59	19.67	20.64	21.71
17	18.96	15.93	18.28	16.14	18.40	16.69	16.78	18.92	18.59	19.69	20.74	21.60
18	18.84	16.40	18.45	16.78	18.44	16.63	16.77	18.88	18.58	19.72	20.83	21.55
19	18.92	16.62	18.17	17.00	18.43	16.39	16.74	18.90	18.54	19.65	20.80	21.59
20	18.85	16.61	18.58	16.99	18.23	16.03	16.96	18.99	18.33	19.81	20.71	21.58
21	19.09	16.60	18.57	16.74	18.10	16.16	17.24	19.10	18.07	19.91	20.93	21.60
22	19.18	16.60	18.35	16.57	18.03	16.22	17.25	19.25	18.21	19.94	20.98	21.69
23	19.02	16.01	18.48	16.62	18.23	15.93	17.37	19.14	18.48	19.93	20.91	21.63
24	18.78	16.02	18.81	16.58	18.43	15.35	17.33	19.08	18.59	19.95	20.98	21.74
25	18.80	15.71	18.56	16.69	18.46	15.20	17.65	19.37	18.50	19.99	21.17	21.57
26	18.79	15.77	18.87	16.65	18.27	15.16	17.94	19.41	18.44	19.93	21.21	21.49
27	18.85	16.01	18.88	16.34	18.32	15.13	17.90	19.45	18.51	20.03	21.13	21.50
28	18.90	16.18	18.79	16.45	18.30	15.24	17.66	19.36	18.71	20.06	21.18	21.66
29	19.04	16.39	18.81	17.14	---	15.61	17.62	19.58	18.88	20.13	21.25	21.72
30	19.10	16.40	18.54	17.06	---	15.84	17.82	19.45	18.94	20.28	21.23	21.75
31	19.17	---	18.05	16.75	---	15.81	---	19.28	---	20.40	21.34	---
MAX	19.18	19.21	18.88	18.11	18.46	18.11	17.94	19.58	19.68	20.40	21.34	21.75

CAL YR 1992 LOW 21.24

WTR YR 1993 LOW 21.75



GROUND-WATER RECORDS

127

SUMMIT COUNTY

410330081282000. Local number, SU-6.

LOCATION.--Lat 41°03'30", long 81°28'20", Hydrologic Unit 04110002, Seiberling St, Akron.

Owner: Goodyear Tire and Rubber Co.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 24 in., depth 89 ft, cased.

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

DATUM.--Elevation of land-surface datum is 1000 ft above sea level from topographic map.

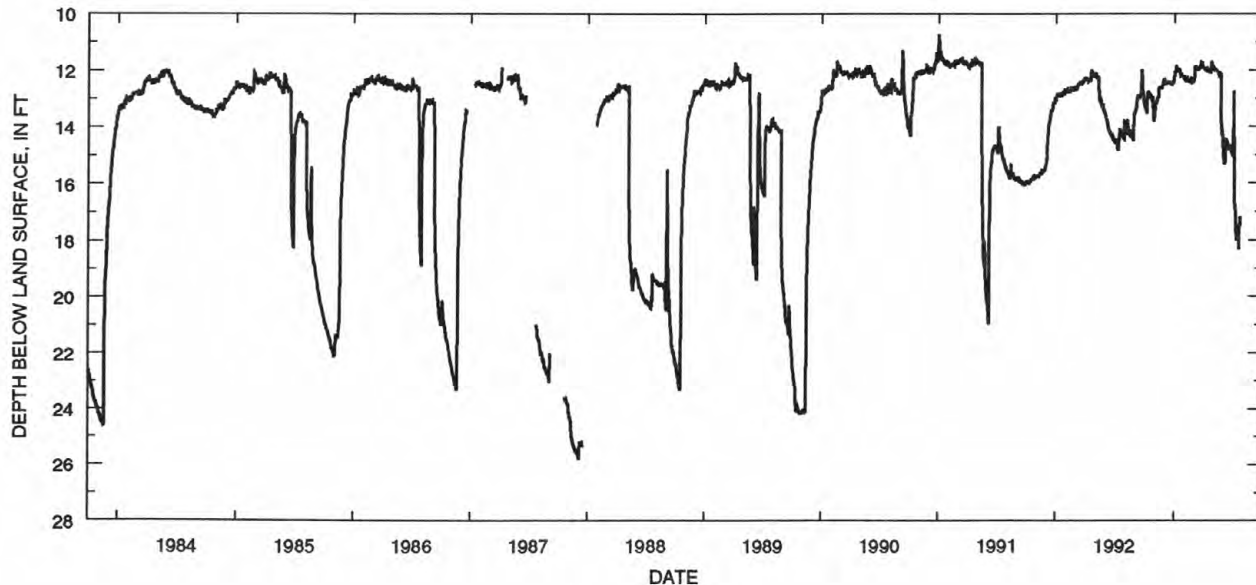
Measuring point: Floor of instrument shelter 2.63 ft above land-surface datum.

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

PERIOD OF RECORD.--March 1944 to current year. Records for May 14-Sept. 30, 1980, published in USGS-WRD-OH-80-1, are unreliable and should not be used.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 59.47 ft below land-surface datum, Oct. 18, 1947;
minimum daily low, 10.73 ft below land-surface datum, Dec. 31, 1990.DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.25	13.54	12.34	12.09	12.33	12.40	11.89	11.90	14.69	15.03	---	---
2	13.34	13.32	12.41	12.09	12.35	12.37	11.93	11.87	14.84	15.07	---	---
3	13.39	13.21	12.51	12.06	12.36	12.38	11.95	11.92	15.04	15.04	---	---
4	13.38	13.17	12.50	12.05	12.40	12.18	11.94	11.98	15.18	13.15	---	---
5	13.42	13.17	12.44	12.04	12.40	11.90	11.93	12.03	15.30	12.76	---	---
6	13.48	13.16	12.41	11.84	12.34	11.90	11.98	12.03	15.32	16.02	---	---
7	13.54	13.13	12.39	11.94	12.32	11.89	12.01	12.03	15.34	16.64	---	---
8	13.55	13.10	12.44	12.02	12.30	11.88	12.02	12.01	15.24	16.80	---	---
9	13.13	13.02	12.45	12.02	12.33	11.91	12.02	11.95	14.55	17.07	---	---
10	12.93	13.01	12.42	12.01	12.37	11.92	11.98	12.01	14.42	17.27	---	---
11	12.82	12.99	12.42	12.02	12.41	11.96	11.96	12.03	14.49	17.40	---	---
12	12.80	12.95	12.45	12.03	12.41	12.00	12.01	12.02	14.51	18.01	---	---
13	12.83	12.68	12.45	12.01	12.39	11.99	12.04	12.02	14.51	---	---	---
14	12.83	12.65	12.43	11.95	12.39	11.93	12.04	12.03	14.54	---	---	---
15	12.84	12.64	12.43	12.01	12.37	12.02	12.04	12.07	14.65	---	---	---
16	12.86	12.60	12.44	12.03	12.36	11.98	12.02	12.06	14.73	---	---	---
17	12.89	12.61	12.46	12.02	12.43	11.96	12.03	12.11	14.78	---	---	---
18	12.88	12.63	12.50	12.11	12.44	11.96	12.02	12.14	14.83	---	---	---
19	12.91	12.64	12.49	12.18	12.44	11.96	12.00	12.19	14.83	18.25	---	---
20	12.92	12.64	12.49	12.21	12.41	11.94	12.03	12.22	14.83	18.32	---	---
21	13.01	12.64	12.51	12.19	12.35	11.90	12.01	12.23	14.81	17.48	---	---
22	13.04	12.64	12.54	12.21	12.25	11.91	12.04	12.23	14.67	17.48	---	---
23	13.04	12.56	12.52	12.21	12.33	11.90	12.06	12.18	14.74	17.44	---	---
24	13.05	12.59	12.52	12.16	12.41	11.77	12.06	12.13	14.80	17.50	---	---
25	13.04	12.54	12.45	12.22	12.43	11.76	11.99	12.17	14.84	17.19	---	---
26	13.23	12.51	12.44	12.22	12.42	11.81	11.71	13.70	14.86	---	---	---
27	13.47	12.41	12.44	12.23	12.43	11.81	11.80	14.09	14.85	---	---	---
28	13.62	12.34	12.48	12.23	12.43	11.79	11.83	14.19	14.92	---	---	---
29	13.71	12.30	12.49	12.29	---	11.86	11.86	14.17	14.96	---	---	---
30	13.80	12.33	12.46	12.29	---	11.90	11.90	14.18	14.99	---	---	---
31	13.81	---	12.37	12.27	---	11.91	---	14.41	---	---	---	---
MAX	13.81	13.54	12.54	12.29	12.44	12.40	12.06	14.41	15.34	18.32	---	---

CAL YR 1992 LOW 14.83
WTR YR 1993 LOW 18.32

GROUND-WATER RECORDS

SUMMIT COUNTY--Continued

410846081271600. Local number, SU-7.

LOCATION.--Lat 41°08'46", long 81°27'16", Hydrologic Unit 04110002, Monroe Falls Road, Cuyahoga Falls.

Owner: Cuyahoga Falls Water Department.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused water-table, diameter 6 in., depth 100 ft, cased.

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

DATUM.--Elevation of land-surface datum is 994 ft above sea level, from topographic map.

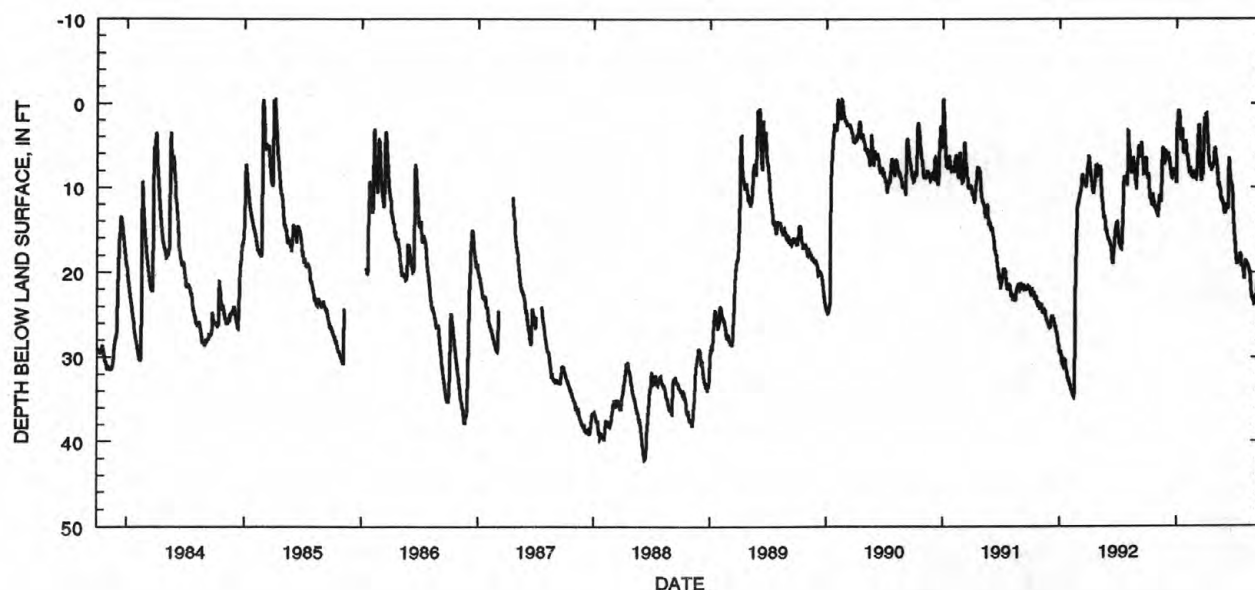
Measuring point: Floor of instrument shelter 5.00 ft above land-surface datum.

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 44.19 ft below land-surface datum, Sept. 7, 1971;
minimum daily low, 0.48 ft above land-surface datum, Feb. 5, 1990.DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.77	13.05	6.80	3.48	6.15	9.05	1.38	6.04	12.92	16.42	18.91	23.03
2	9.11	13.49	6.30	2.59	6.33	8.98	1.30	6.44	12.79	17.49	18.56	22.90
3	8.88	12.97	6.18	2.41	6.11	8.71	1.75	6.65	12.49	18.03	18.99	22.95
4	8.39	12.73	6.13	2.19	6.70	8.25	2.06	6.86	12.13	18.46	19.10	22.80
5	9.01	11.92	6.24	1.34	6.93	7.42	2.96	7.37	12.19	18.79	19.15	22.33
6	9.93	11.84	6.45	.84	7.18	6.20	4.34	7.54	11.89	18.99	19.04	21.80
7	10.64	10.93	6.45	1.22	8.03	5.24	4.52	8.43	12.60	19.01	19.04	21.51
8	11.09	11.07	6.72	1.29	8.35	4.35	5.34	8.43	12.60	18.65	19.17	21.30
9	11.18	11.15	7.06	1.75	8.09	3.18	6.22	9.72	12.36	18.68	19.11	21.24
10	11.07	10.96	7.23	2.51	8.19	2.56	6.51	9.68	8.80	18.65	19.30	21.29
11	11.23	11.50	7.34	3.65	7.99	2.72	7.07	9.43	6.51	18.56	19.37	21.29
12	11.65	11.81	7.73	4.42	7.66	5.08	7.20	9.58	6.63	18.41	19.63	21.16
13	11.38	11.19	8.22	4.24	8.54	5.11	7.32	10.10	7.13	18.25	19.82	21.18
14	12.03	8.36	8.30	3.04	8.58	6.25	7.65	9.92	8.02	18.26	19.92	21.29
15	12.08	7.09	8.89	3.10	8.77	7.76	7.50	10.06	8.81	17.99	20.03	21.30
16	11.85	6.61	8.95	3.20	8.75	8.84	7.49	10.41	9.11	17.67	20.04	21.22
17	11.02	5.62	8.94	3.11	8.83	8.81	7.47	11.13	9.33	17.91	20.94	21.50
18	10.71	5.33	8.59	4.10	8.30	9.21	7.47	11.63	9.57	18.07	21.49	21.78
19	11.37	5.74	8.36	5.14	8.15	8.92	8.02	11.15	9.53	18.20	21.87	22.18
20	11.44	6.66	7.96	5.74	8.05	8.50	7.66	11.29	9.49	18.68	22.23	22.47
21	11.38	7.19	7.80	5.85	8.14	8.33	7.84	11.46	10.12	19.13	22.60	22.58
22	12.03	6.97	7.86	5.91	8.72	8.10	7.56	11.60	10.16	19.20	22.89	22.94
23	12.43	7.34	7.93	5.90	8.71	8.51	7.30	11.69	11.26	19.30	23.13	22.92
24	12.46	6.85	8.12	6.03	8.14	7.60	7.39	11.83	12.41	19.36	23.02	22.34
25	12.54	5.73	8.21	5.55	8.52	4.33	7.36	12.10	13.24	19.17	23.02	22.65
26	12.13	5.84	8.22	4.71	8.94	3.19	6.81	12.16	13.98	19.82	23.23	23.30
27	12.49	6.00	8.14	4.43	8.58	2.68	5.93	12.82	14.63	20.10	23.43	23.64
28	12.70	5.74	9.04	4.48	8.95	2.04	5.76	13.00	15.30	20.57	23.60	23.87
29	12.82	5.92	9.35	5.47	---	2.06	5.26	13.07	16.00	20.80	23.62	24.22
30	12.96	6.56	9.44	5.85	---	1.87	5.66	13.05	16.53	20.69	23.60	24.60
31	12.98	---	9.41	5.90	---	1.65	---	12.78	---	19.95	23.64	---
MAX	12.98	13.49	9.44	6.03	8.95	9.21	8.02	13.07	16.53	20.80	23.64	24.60

CAL YR 1992 LOW 34.74
WTR YR 1993 LOW 24.60

GROUND-WATER RECORDS

129

VAN WERT COUNTY

405215084335400. Local number, VW-1.

LOCATION.--Lat 40°52'15", long 84°33'54", Hydrologic Unit 04100007, Ridge Road near Van Wert.

Owner: Marsh Foundation.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 340 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 790.37 ft above sea level.

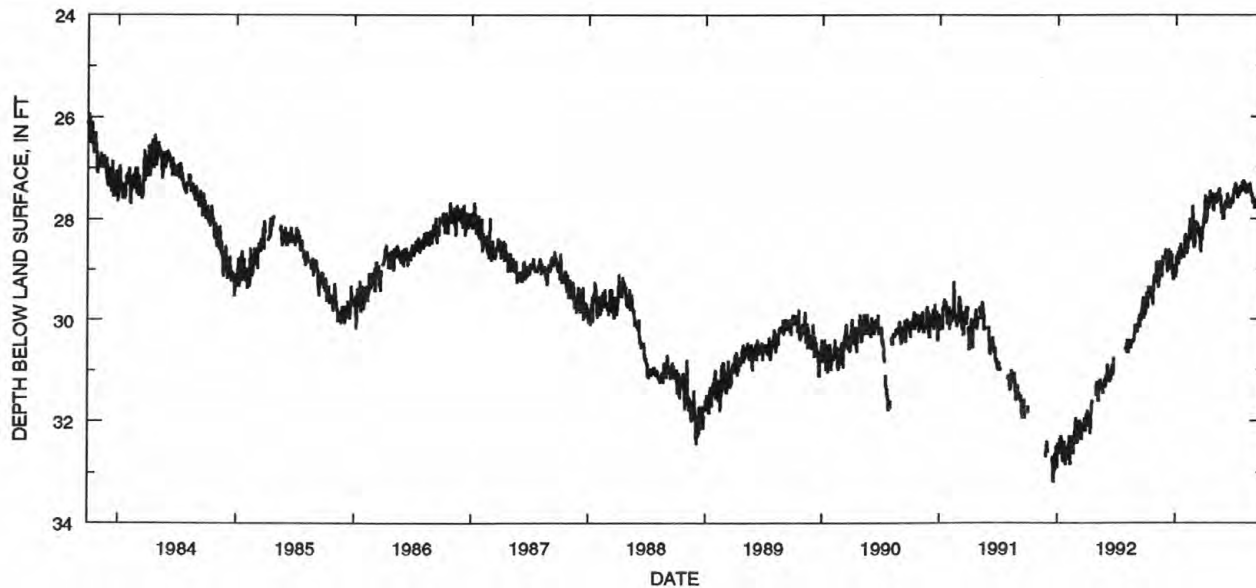
Measuring point: Floor of instrument shelter 6.15 ft above land-surface datum.

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

PERIOD OF RECORD.--August 1957 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low 33.20 ft below land-surface datum, Dec. 20-21, 1991;
minimum daily low, 18.85 ft below land-surface datum, Mar. 6, 1959.DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29.75	29.20	28.60	29.15	28.60	28.22	27.55	27.70	27.80	27.50	27.30	27.80
2	29.60	28.85	28.70	29.00	28.65	28.15	27.90	27.60	27.75	27.40	27.30	27.75
3	29.45	28.95	28.85	28.75	28.60	28.10	28.05	27.60	27.70	27.30	27.35	27.65
4	29.60	29.00	28.75	28.75	28.70	28.05	28.10	27.50	27.65	27.35	27.45	27.65
5	29.75	29.05	29.05	28.80	28.65	28.10	28.00	27.60	27.75	27.35	27.50	27.65
6	29.75	29.25	29.00	28.75	28.50	28.15	27.95	27.70	27.80	27.40	27.35	27.75
7	29.65	29.30	28.90	28.65	28.45	28.15	27.95	27.65	27.75	27.45	27.40	27.80
8	29.50	29.35	29.00	28.80	28.40	28.10	27.80	27.60	27.55	27.50	27.50	27.70
9	29.35	29.30	29.00	28.85	28.45	28.25	27.65	27.65	27.50	27.45	27.50	27.55
10	29.35	29.25	28.60	28.90	28.35	28.15	27.60	27.65	27.60	27.60	27.45	27.70
11	29.35	29.15	28.75	28.80	28.40	28.25	27.60	27.60	27.70	27.50	27.40	27.75
12	29.35	28.95	28.90	28.55	28.30	28.35	27.80	27.50	27.75	27.40	27.35	27.60
13	29.35	28.85	29.00	28.70	28.00	28.25	27.80	27.45	27.70	27.50	27.35	27.65
14	29.35	28.95	28.95	28.70	28.20	28.30	27.75	27.40	27.70	27.50	27.40	27.50
15	29.35	29.10	28.80	28.65	28.40	28.40	27.50	27.45	27.75	27.55	27.40	27.75
16	29.50	29.15	28.65	28.50	28.40	28.20	27.45	27.60	27.80	27.50	27.30	27.75
17	29.55	28.95	28.80	28.80	28.40	28.55	27.70	27.60	27.80	27.50	27.35	27.70
18	29.45	29.10	28.90	---	28.40	28.65	27.70	27.55	27.75	27.45	27.45	27.65
19	29.55	29.15	28.70	---	28.40	28.55	27.55	27.60	27.70	27.35	27.45	27.65
20	29.50	29.05	28.95	---	28.35	28.30	27.55	27.70	27.70	27.45	27.45	27.60
21	29.60	28.80	28.95	---	28.20	28.35	27.70	27.80	27.60	27.45	27.55	27.60
22	29.70	28.75	29.00	---	27.75	28.40	27.70	27.90	27.65	27.45	27.55	27.65
23	29.60	28.75	29.20	---	28.05	28.20	27.65	27.85	27.70	27.40	27.50	27.60
24	29.25	28.80	29.00	---	28.35	28.15	27.50	27.75	27.70	27.35	27.50	27.70
25	29.25	28.75	29.20	28.75	28.55	28.20	27.60	27.95	27.70	27.30	27.65	27.50
26	29.15	28.80	29.20	28.75	28.55	28.15	27.80	28.00	27.65	27.30	27.70	27.40
27	29.15	28.80	29.15	28.42	28.45	28.05	27.85	28.00	27.55	27.30	27.60	27.40
28	29.10	28.80	29.10	28.35	28.50	27.95	27.75	27.90	27.50	27.25	27.60	27.55
29	29.15	28.80	28.90	28.70	---	27.90	27.65	28.00	27.45	27.30	27.65	27.70
30	29.20	28.70	28.90	28.70	---	27.90	27.60	27.95	27.40	27.35	27.70	27.75
31	29.25	---	29.15	28.30	---	27.75	---	27.70	---	27.45	27.75	---
MAX	29.75	29.35	29.20	29.15	28.70	28.65	28.10	28.00	27.80	27.60	27.75	27.80
CAL YR 1992	LOW 32.90											
WTR YR 1993	LOW 29.75											



GROUND-WATER RECORDS

WILLIAMS COUNTY

412821084313600. Local number, WM-1.

LOCATION.--Lat 41°28'21", long 84°31'36", Hydrologic Unit 04100006, Bryan Water Treatment Plant, Bryan.

Owner: City of Bryan.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused production well, diameter 8 in., depth 118 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 747 ft above sea level, from topographic map.

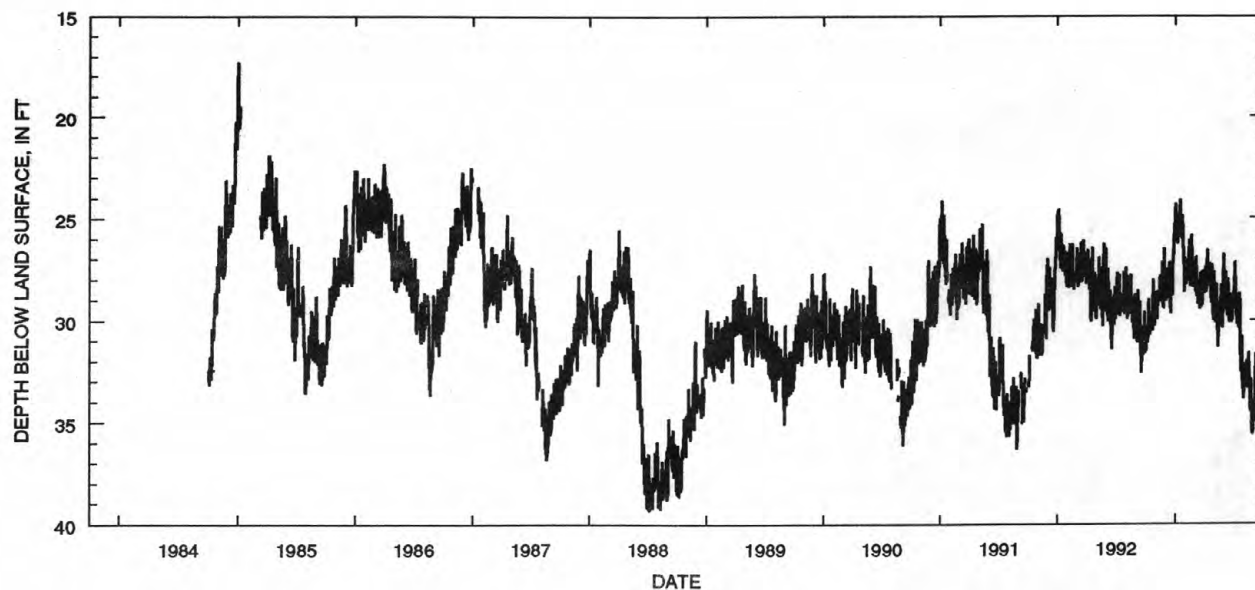
Measuring point: Floor of instrument shelter 3.30 ft above land-surface datum.

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

PERIOD OF RECORD.--May 1951 to May 1957, discontinued June 1957 to September 1984, reactivated October 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 39.35 ft below land-surface datum, July 7, 1988;
minimum daily low, 1.45 ft below land-surface datum, Jan. 27, 1952.DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31.10	28.70	28.35	24.70	27.00	27.95	28.70	28.85	28.50	28.60	33.20	34.45
2	31.40	28.65	28.35	24.75	27.50	28.20	28.30	27.65	28.80	28.80	32.15	34.90
3	31.50	29.30	28.70	24.35	27.85	28.10	28.60	28.70	29.30	28.10	32.55	34.75
4	30.50	29.30	29.05	24.55	28.25	28.25	28.15	29.35	28.85	27.70	33.15	34.35
5	30.30	29.15	28.25	25.10	28.15	28.60	27.40	30.00	28.50	27.20	33.25	33.00
6	30.40	29.85	27.70	25.60	28.00	27.95	27.90	30.10	27.65	28.60	33.10	31.65
7	30.80	29.95	27.50	25.70	27.35	26.95	28.50	29.80	28.45	29.20	32.60	31.90
8	31.10	28.60	28.70	26.15	27.10	27.85	28.65	29.10	28.25	29.50	32.00	32.00
9	31.00	28.60	28.30	26.30	27.30	28.80	28.35	28.25	29.25	30.20	32.55	32.05
10	30.80	28.80	28.55	25.25	27.80	28.80	27.60	29.55	29.75	29.40	33.10	32.85
11	29.30	29.00	28.95	25.05	28.00	28.50	26.60	30.25	29.60	28.80	32.90	32.90
12	29.00	28.80	27.80	25.25	27.50	29.05	28.10	30.50	29.80	29.45	33.35	31.85
13	30.30	29.10	27.50	25.40	26.80	29.20	28.25	30.05	28.00	29.60	32.90	31.15
14	30.50	29.00	27.60	25.20	26.10	28.10	28.15	31.30	28.45	30.00	33.15	32.55
15	30.70	28.00	27.20	25.90	27.80	28.30	28.00	30.30	28.80	30.30	32.35	33.45
16	30.55	27.85	28.70	24.80	28.35	28.85	28.00	29.15	29.75	30.40	31.60	33.65
17	30.50	27.90	29.30	24.15	27.45	29.10	28.25	29.40	30.05	30.00	32.60	33.95
18	29.60	28.85	29.50	25.90	27.90	29.45	27.25	30.30	29.80	28.70	33.80	32.90
19	29.80	28.60	29.65	25.70	27.75	29.30	27.65	30.05	30.10	29.35	34.40	32.05
20	30.05	29.10	28.00	25.95	27.20	28.60	28.15	30.05	28.75	29.70	34.30	31.70
21	29.90	28.60	28.20	25.95	25.85	27.70	28.60	30.05	29.50	31.40	34.45	33.40
22	30.50	27.20	28.10	26.05	27.05	27.90	28.80	29.50	29.65	32.05	33.70	34.00
23	30.50	28.10	28.60	25.75	27.90	29.35	29.15	28.30	29.65	32.50	32.90	34.10
24	29.60	28.70	28.80	24.90	28.40	28.40	27.95	28.60	29.65	32.05	33.60	34.40
25	28.05	29.30	27.70	25.75	28.10	29.15	27.30	29.85	30.10	31.35	34.90	34.00
26	29.00	29.35	26.70	26.25	28.20	28.60	28.60	30.20	29.85	30.80	35.40	32.60
27	29.45	27.45	26.60	26.70	27.90	29.25	28.95	30.40	29.30	32.50	35.60	31.35
28	29.30	27.05	26.80	26.85	27.15	28.15	29.50	30.25	28.90	33.40	35.25	32.35
29	29.95	26.50	26.30	27.80	---	27.60	29.95	29.10	29.00	33.20	34.85	33.10
30	30.25	27.95	25.80	28.60	---	28.30	30.00	28.30	29.45	33.50	33.95	32.25
31	29.45	---	25.90	27.70	---	28.45	---	26.80	---	33.85	33.95	---
MAX	31.50	29.95	29.65	28.60	28.40	29.45	30.00	31.30	30.10	33.85	35.60	34.90

CAL YR 1992 LOW 32.55
WTR YR 1993 LOW 35.60

GROUND-WATER RECORDS

131

WILLIAMS COUNTY--Continued

412930084320900. Local number, WM-3.

LOCATION.--Lat 41°29'30", long 84°32'09", Hydrologic Unit 04100006, Union Street, Bryan.

Owner: City of Bryan.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused test well, diameter 8 in., depth 174 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 760 ft above sea level, from topographic map.

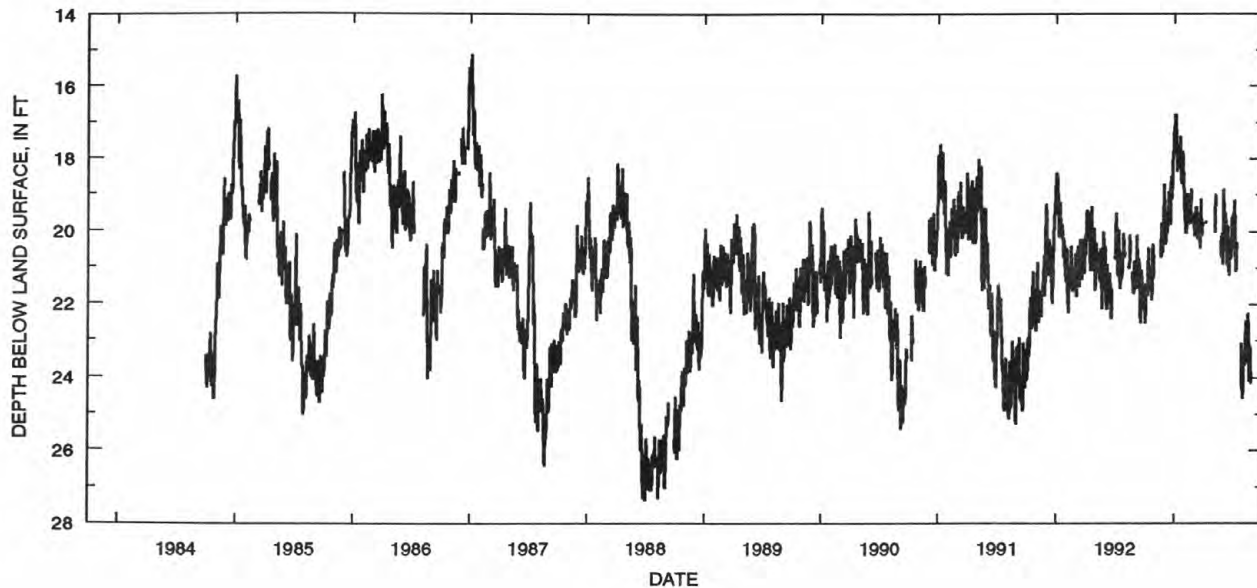
Measuring point: Floor of instrument shelter 2.00 ft above land-surface datum.

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

PERIOD OF RECORD.--October 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 27.35 ft below land-surface datum, June 30 - July 1, 1988;
minimum daily low, 15.15 ft below land-surface datum, Jan. 4, 1987.DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.00	---	19.40	17.20	19.20	19.50	---	---	18.85	19.55	24.20	---
2	22.40	---	19.75	17.00	19.45	19.80	---	---	19.60	19.60	23.50	---
3	22.50	---	20.15	16.80	20.00	20.00	---	---	19.75	19.55	23.50	---
4	22.05	---	20.35	16.80	20.05	20.10	---	---	19.80	19.40	23.55	---
5	21.45	---	20.25	17.65	20.00	20.10	---	20.00	19.80	19.15	23.65	---
6	21.45	---	19.80	17.85	19.80	19.85	---	19.60	19.50	19.95	23.45	---
7	21.65	---	19.70	17.90	19.00	19.35	19.70	19.00	19.70	20.60	23.05	---
8	21.75	---	20.05	18.35	19.00	19.35	19.75	---	19.70	20.80	22.45	---
9	21.70	---	19.90	18.20	19.30	20.05	---	---	20.45	21.10	22.90	---
10	21.75	---	19.90	17.75	19.35	20.15	---	---	20.65	21.00	23.20	---
11	21.15	---	19.80	17.70	19.45	20.15	---	---	20.90	20.65	23.30	---
12	20.45	---	19.70	17.65	19.50	20.20	---	---	20.90	20.30	23.60	---
13	21.15	---	19.20	18.05	19.50	20.20	---	---	20.30	---	23.40	---
14	21.55	---	18.90	18.10	19.00	19.50	---	---	19.85	---	23.30	---
15	21.45	---	18.95	18.15	19.40	19.70	---	---	20.10	---	22.75	---
16	21.60	---	19.20	17.80	19.80	19.90	---	---	20.60	---	22.25	---
17	21.55	---	19.65	17.40	19.75	20.15	---	---	21.00	---	22.70	---
18	21.10	20.20	19.80	18.00	19.75	20.10	---	---	21.20	---	23.45	---
19	20.95	20.30	19.70	18.40	19.65	20.20	---	---	20.90	---	24.10	---
20	21.15	20.70	18.80	18.60	19.55	20.45	---	---	20.20	---	24.00	---
21	21.30	20.65	18.50	18.55	18.85	20.40	---	---	20.45	---	24.10	---
22	21.80	19.75	18.80	18.70	---	19.85	---	20.25	20.75	---	23.70	24.30
23	21.85	19.95	19.10	18.55	---	19.10	---	20.25	20.55	---	23.15	---
24	21.55	20.35	19.00	17.80	---	19.50	---	20.60	20.70	---	23.55	---
25	20.55	20.55	18.70	17.95	---	19.80	---	20.70	20.60	---	24.15	---
26	20.35	20.55	18.20	18.45	---	20.10	---	20.20	20.40	23.05	---	---
27	20.60	19.55	17.85	18.65	---	19.90	---	20.05	19.65	24.15	---	---
28	20.65	19.05	17.75	18.40	---	19.75	---	20.60	19.60	24.30	---	---
29	21.25	18.70	17.50	19.30	---	---	---	20.80	19.75	24.35	---	---
30	---	18.85	17.25	19.40	---	---	---	20.90	19.70	24.50	---	---
31	---	---	17.45	18.90	---	---	---	19.50	---	24.55	---	---
MAX	22.50	20.70	20.35	19.40	20.05	20.45	19.75	20.90	21.20	24.55	24.20	24.30
CAL YR 1992	LOW 22.50											
WTR YR 1993	LOW 24.55											



GROUND-WATER RECORDS

WILLIAMS COUNTY--Continued

413108084415300. Local number, WM-12.

LOCATION.--Lat 41°31'08", long 84°41'53", Hydrologic Unit 04100003, 1.7 mi east of Blakeslee.

Owner: State of Ohio.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test artesian well, diameter 10 in., depth 115 ft, cased to 115 ft, screened 85 ft to 115 ft.

INSTRUMENTATION.--Periodic measurement with chalked tape by ODNR personnel.

DATUM.--Elevation of land-surface datum is 830 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 1.50 ft above land-surface datum.

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

PERIOD OF RECORD.--1974 to September 1982 continuous, periodic October 1983 to December 1984, continuous January 1985 to November 1986, periodic thereafter.

EXTREMES FOR PERIOD OF RECORD.--Maximum measured low, 10.59 ft below land-surface datum, Oct. 25, 1989; minimum daily low, 3.83 ft below land-surface datum, Mar. 17, 1982.

Date	Water Level	Date	Water Level
Oct. 20, 1992	8.45	Apr. 7, 1993	6.37

GROUND-WATER RECORDS

133

WYANDOT COUNTY

405009083172600. Local number, WY-1.

LOCATION.--Lat 40°50'09", long 83°17'26", Hydrologic Unit 04100011, State Rt 199, Upper Sandusky.

Owner: Karg Supply Co.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 5 in, depth 90 ft, cased.

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

DATUM.--Elevation of land-surface datum is 850 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 3.00 ft above land-surface datum.

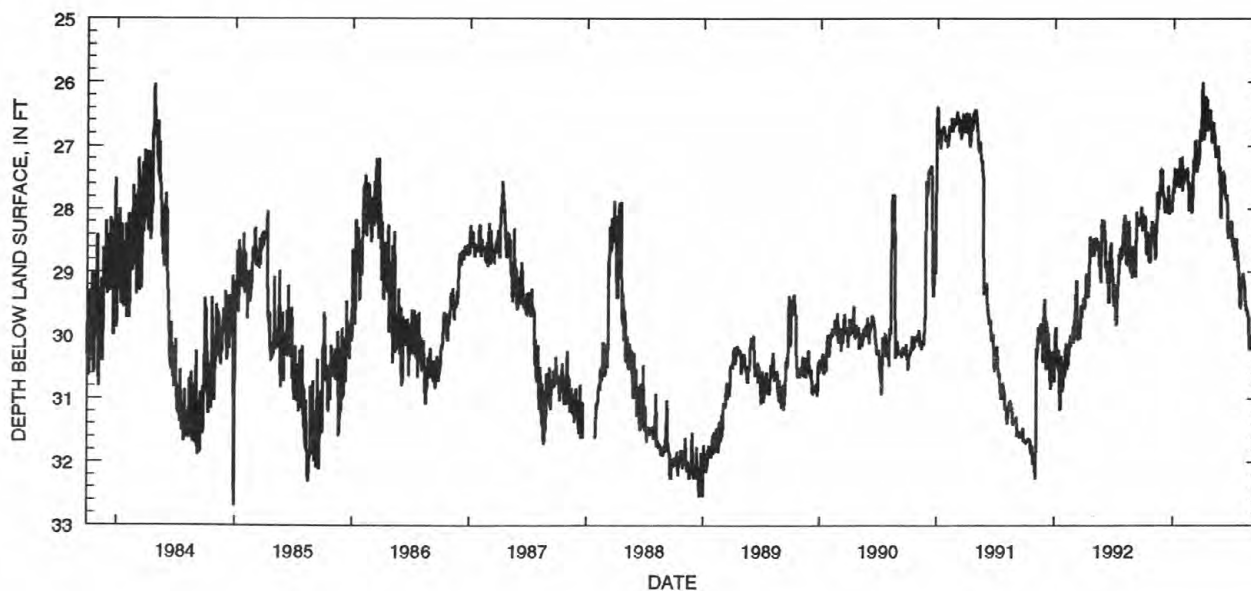
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 40.90 ft below land-surface datum, July 12, 15, 17, 21, Aug. 26, 1961; minimum daily low, 25.75 ft below land-surface datum, Apr. 16, 1980.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28.09	28.43	27.79	27.67	27.39	27.91	26.01	26.88	27.49	28.21	29.20	30.09
2	28.24	28.32	27.79	27.68	27.57	27.74	26.43	26.88	27.50	28.26	29.22	30.13
3	28.22	28.24	27.80	27.74	27.60	27.55	26.73	26.75	27.55	28.44	29.18	30.13
4	28.24	28.28	27.85	27.67	27.47	27.35	26.84	26.70	27.58	28.60	29.13	29.88
5	28.15	28.50	27.95	27.36	27.52	27.21	26.89	26.64	27.40	28.60	29.03	29.73
6	28.12	28.74	28.05	27.42	27.51	27.24	26.90	26.75	27.46	28.57	29.02	29.65
7	28.20	28.80	28.01	27.42	27.49	27.33	26.80	26.82	27.46	28.47	29.10	29.59
8	28.24	28.75	27.95	27.47	27.38	27.11	26.71	26.82	27.48	28.61	29.18	29.52
9	28.36	28.59	28.03	27.62	27.44	26.96	26.65	26.88	27.58	28.74	29.21	29.26
10	28.55	28.48	27.98	27.65	27.43	26.97	26.37	26.92	27.68	28.81	29.23	29.23
11	28.69	28.27	27.89	27.60	27.41	26.91	26.23	27.19	27.74	28.81	29.25	29.30
12	28.73	28.08	27.91	27.51	27.41	27.15	26.26	27.18	27.82	28.73	29.44	29.32
13	28.60	27.73	28.01	27.42	27.35	27.14	26.29	27.11	27.83	28.58	29.46	29.61
14	28.37	27.82	28.06	27.40	27.45	27.25	26.30	27.06	27.83	28.54	29.50	29.70
15	28.41	27.95	28.01	27.38	27.58	27.41	26.27	27.16	27.79	28.54	29.59	29.70
16	28.55	28.00	27.76	27.40	27.55	27.35	26.41	27.17	27.79	28.48	29.60	29.51
17	28.83	27.96	27.64	27.36	27.59	27.24	26.70	27.17	27.88	28.62	29.61	29.32
18	28.76	27.88	27.91	27.50	27.78	27.28	26.77	27.17	27.92	28.70	29.61	29.41
19	28.69	27.87	27.91	27.63	28.02	27.30	26.73	27.06	28.26	28.79	29.62	29.49
20	28.74	27.84	27.92	27.66	28.00	27.27	26.59	27.00	28.47	28.89	29.68	29.49
21	28.82	27.75	28.08	27.48	27.70	27.22	26.57	27.16	28.47	28.90	29.68	29.40
22	28.85	27.52	28.02	27.20	27.60	27.16	26.72	27.39	28.35	28.89	29.70	29.43
23	28.80	27.38	27.91	27.27	27.74	27.02	26.53	27.40	28.35	28.92	29.73	29.40
24	28.67	27.52	27.93	27.24	27.90	26.79	26.54	27.35	28.28	29.08	29.90	29.29
25	28.43	27.54	27.88	27.35	27.99	26.75	26.43	27.35	28.45	29.16	30.10	29.34
26	28.34	27.51	27.92	27.37	27.96	26.79	26.67	27.49	28.45	29.37	30.18	29.32
27	28.24	27.39	28.03	27.29	28.06	26.80	26.68	27.75	28.43	29.54	30.21	29.31
28	28.20	27.40	28.03	27.18	28.01	26.92	26.62	28.12	28.34	29.55	30.21	29.26
29	28.24	27.53	28.00	27.45	---	26.68	26.77	28.14	28.22	29.49	30.20	29.09
30	28.42	27.65	27.96	27.71	---	26.48	26.95	27.90	28.20	29.28	30.13	29.24
31	28.44	---	27.78	27.50	---	26.23	---	27.65	---	29.15	30.08	---
MAX	28.85	28.80	28.08	27.74	28.06	27.91	26.95	28.14	28.47	29.55	30.21	30.13
CAL YR 1992	LOW 31.17											
WTR YR 1993	LOW 30.21											



GROUND-WATER RECORDS FOR THE BASE WIDE MONITORING PROGRAM

The following tables contain ground-water-level measurements from a network of water-supply and monitoring wells near Wright-Patterson Air Force Base, Ohio. The data was collected as part of a cooperative study with Air Force Materiel Command, 640th Air Base Wing/Environmental Management. The purpose of the study is to evaluate ground-water resources near Wright-Patterson Air Force Base, Ohio.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

Site	Local well number	Aquifer code	Water level date	Water level (feet)	Altitude of land surface (feet)
394942084033500	GR-303	360ODVC	10-28-92	8.97	801.0
			11-30-92	7.97	
			12-30-92	8.77	
			02-03-93	7.80	
			03-04-93	7.10	
			04-07-93	7.81	
			05-11-93	7.93	
			06-10-93	7.75	
			07-12-93	6.85	
			08-11-93	8.79	
			09-16-93	8.57	
394855084033900	GR-304	360ODVC	10-28-92	2.06	798.1
			11-30-92	1.73	
			12-30-92	2.01	
			02-02-93	1.80	
			03-04-93	1.90	
			04-07-93	1.86	
			05-11-93	1.79	
			07-22-93	1.64	
			08-11-93	2.12	
			09-16-93	2.36	
394831084042700	GR-305	360ODVC	10-28-92	6.18	796.4
			11-30-92	5.80	
			12-30-92	6.26	
			02-02-93	5.90	
			03-04-93	4.98	
			04-07-93	5.10	
			05-11-93	5.09	
			06-10-93	5.24	
			07-12-93	4.89	
			08-11-93	5.34	
			09-16-93	5.26	
394815084020700	GR-306	360ODVC	10-28-92	29.21	839.2
			11-30-92	29.31	
			12-30-92	29.30	
			02-02-93	29.11	
			03-04-93	29.13	
			04-14-93	28.85	
			05-11-93	28.67	
			06-11-93	28.42	
			07-12-93	28.08	
			08-11-93	85.52	
			09-16-93	166.46	

GROUND-WATER RECORDS FOR THE BASE WIDE MONITORING PROGRAM

135

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

Site	Local well number	Aquifer code	Water level date	Water level (feet)	Altitude of land surface (feet)
394743084024300	GR-307	360ODVC	10-28-92	35.69	838.1
			11-30-92	35.05	
			12-30-92	34.51	
			02-03-93	35.49	
			03-04-93	33.65	
			04-17-93	33.24	
			05-11-93	32.56	
			06-11-93	32.58	
			07-12-93	32.34	
			08-11-93	38.32	
			09-16-93	157.68	
394750084043800	GR-308	360ODVC	10-28-92	5.52	799.9
			11-30-92	4.21	
			02-02-93	3.97	
			03-04-93	3.97	
			05-11-93	4.13	
			06-10-93	5.15	
			07-13-93	5.16	
			09-16-93	6.10	
394706084045800	GR-309	357BFLD	10-28-92	26.17	976.6
			11-30-92	25.04	
			12-30-92	25.44	
			02-03-93	25.12	
			03-04-93	24.08	
			04-06-93	24.68	
			05-11-93	25.18	
			06-11-93	25.60	
			07-12-93	25.20	
			08-11-93	26.03	
			09-16-93	26.25	
394633084045300	GR-310	357BFLD	10-28-92	26.05	974.0
			11-30-92	24.16	
			12-30-92	24.97	
			02-03-93	25.41	
			03-04-93	23.16	
			04-06-93	23.33	
			05-11-93	24.78	
			06-11-93	24.93	
			07-12-93	24.94	
			08-11-93	26.00	
			09-16-93	26.24	
394852084023100	GR-311	360ODVC	10-28-92	24.49	815
			11-30-92	23.84	
			12-30-92	23.25	
			02-02-93	19.57	
			03-04-93	22.19	

GROUND-WATER RECORDS FOR THE BASE WIDE MONITORING PROGRAM

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

Site	Local well number	Aquifer code	Water level date	Water level (feet)	Altitude of land surface (feet)
394852084023100	GR-311	360ODVC	04-07-93	21.53	
			05-11-93	20.99	
			06-10-93	20.57	
			07-12-93	20.22	
			08-11-93	135.76	
			09-16-93	189.14	
394706084045801	GR-312	361WTTR	10-28-92	93.73	976.3
			11-30-92	93.37	
			12-30-92	92.87	
			02-03-93	93.22	
			03-04-93	91.90	
			04-06-93	91.53	
			05-11-93	91.00	
			06-11-93	90.58	
			07-12-93	90.08	
			08-11-93	90.68	
394645084055200	GR-313	360ODVC	10-28-92	34.00	806.5
			11-30-92	34.22	
			12-30-92	34.66	
			02-03-93	34.92	
			03-04-93	34.64	
			04-07-93	33.83	
			05-11-93	33.03	
			06-11-93	32.24	
			07-12-93	28.23	
			08-11-93	32.66	
			09-16-93	33.11	
394929084015000	GR-314	360ODVC	10-28-92	19.63	821.6
			11-30-92	19.57	
			12-30-92	18.61	
			02-02-93	19.66	
			03-04-93	19.12	
			04-07-93	18.98	
			05-11-93	18.90	
			06-10-93	18.84	
			07-12-93	18.84	
			08-11-93	18.97	
			09-16-93	19.50	
395032084023100	GR-315	360ODVC	10-28-92	114.78	812.2
			11-30-92	112.73	
			12-30-92	111.01	
			02-02-93	109.23	
			03-04-93	107.16	
			04-07-93	105.10	
			05-11-93	103.19	
			06-10-93	101.53	
			07-12-93	99.87	
			08-11-93	98.21	
			09-16-93	190.56	

GROUND-WATER RECORDS FOR THE BASE WIDE MONITORING PROGRAM

137

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

Site	Local well number	Aquifer code	Water level date	Water level (feet)	Altitude of land surface (feet)
395032084023101	GR-316	112OTSH	10-28-92	8.22	812.2
			11-30-92	7.34	
			12-30-92	7.51	
			02-02-93	7.01	
			03-04-93	6.51	
			04-07-93	6.59	
			05-11-93	6.30	
			06-10-93	7.04	
			07-12-93	6.20	
			08-11-93	7.51	
			09-16-93	8.06	
395032084023102	GR-317	112OTSH	10-28-92	5.96	812.2
			11-30-92	4.96	
			12-30-92	4.82	
			02-02-93	4.08	
			03-04-93	4.06	
			04-07-93	3.98	
			05-11-93	4.51	
			06-10-93	4.66	
			07-12-93	3.21	
			08-11-93	5.23	
			09-16-93	6.03	
394929084015001	GR-318	112OTSH	10-28-92	17.56	821.6
			11-30-92	17.33	
			12-30-92	17.89	
			02-02-93	16.89	
			03-04-93	16.43	
			04-07-93	15.40	
			05-11-93	15.04	
			06-10-93	15.23	
			07-12-93	14.88	
			08-11-93	15.46	
			09-16-93	16.02	
394929084015002	GR-319	112OTSH	10-28-92	20.33	821.6
			11-30-92	19.86	
			12-30-92	20.13	
			02-02-93	19.25	
			03-04-93	19.13	
			04-07-93	18.57	
			05-11-93	18.52	
			06-10-93	18.76	
			07-12-93	18.15	
			08-11-93	18.97	
			09-16-93	19.36	
394942084033501	GR-320	12OTSH	10-28-92	9.53	801.0
			11-30-92	8.83	
			12-30-92	9.35	
			02-03-93	8.71	
			03-04-93	6.74	

GROUND-WATER RECORDS FOR THE BASE WIDE MONITORING PROGRAM

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

Site	Local well number	Aquifer code	Water level date	Water level (feet)	Altitude of land surface (feet)
394942084033501	GR-320	12OTSH	04-07-93	8.65	
			05-11-93	8.61	
			06-10-93	7.71	
			07-12-93	6.34	
			08-11-93	9.05	
			09-16-93	9.32	
394855084033901	GR-321	112OTSH	10-28-92	3.99	798.1
			11-30-92	3.45	
			12-30-92	3.91	
			02-02-93	3.00	
			03-04-93	2.84	
			04-07-93	3.41	
			05-11-93	3.41	
			08-11-93	3.77	
			09-16-93	3.80	
94855084033902	GR-322	112OTSH	10-28-92	3.02	798.1
			11-30-92	2.53	
			12-30-92	2.97	
			02-02-93	2.87	
			03-04-93	2.06	
			04-07-93	2.35	
			05-11-93	2.31	
			08-11-93	2.73	
			09-16-93	2.79	
394831084042701	GR-323	112OTSH	10-28-92	7.05	796.4
			11-30-92	6.27	
			12-30-92	7.09	
			02-02-93	6.87	
			03-04-93	6.58	
			04-07-93	6.94	
			05-11-93	6.95	
			06-10-93	7.01	
			07-12-93	6.87	
			08-11-93	7.20	
			09-16-93	7.15	
394831084042702	GR-324	112OTSH	10-28-92	6.27	796.4
			11-30-92	5.92	
			12-30-92	6.50	
			02-02-93	6.38	
			03-04-93	5.78	
			04-07-93	6.16	
			05-11-93	6.15	
			06-10-93	6.26	
			07-12-93	5.88	
			08-11-93	6.50	
			09-16-93	6.46	

GROUND-WATER RECORDS FOR THE BASE WIDE MONITORING PROGRAM

139

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

Site	Local well number	Aquifer code	Water level date	Water level (feet)	Altitude of land surface (feet)
394743084024301	GR-326	112OTSH	10-28-92	29.69	838.1
			11-30-92	29.73	
			12-30-92	29.94	
			02-03-93	29.73	
			03-04-93	29.11	
			04-07-93	28.17	
			05-11-93	27.58	
			06-11-93	27.90	
			07-12-93	27.90	
			08-11-93	28.28	
			09-16-93	28.72	
394743084024302	GR-327	112OTSH	10-28-92	29.40	838.1
			11-30-92	29.35	
			12-30-92	29.50	
			02-03-93	29.13	
			03-04-93	28.79	
			04-07-93	27.99	
			05-11-93	27.49	
			06-11-93	27.60	
			07-12-93	27.55	
			08-11-93	27.95	
			09-16-93	28.39	
394743084024303	GR-328	112OTSH	10-28-92	32.93	838.1
			11-30-92	32.76	
			12-30-92	33.00	
			02-03-93	33.11	
			03-04-93	32.31	
			04-07-93	31.78	
			05-11-93	31.45	
			06-11-93	31.69	
			07-15-93	31.69	
			08-11-93	31.80	
			09-16-93	32.30	
394645084055201	GR-329	112OTSH	10-28-92	32.91	806.5
			11-30-92	33.08	
			12-30-92	33.37	
			02-03-93	32.16	
			03-04-93	33.45	
			04-07-93	32.57	
			05-11-93	31.73	
			06-11-93	31.17	
			07-12-93	31.07	
			08-11-93	28.43	
			09-16-93	29.02	
394815084020701	GR-330	112OTSH	10-28-92	31.48	839.2
			11-30-92	31.63	
			12-30-92	31.71	
			02-02-93	31.45	
			03-04-93	31.30	

GROUND-WATER RECORDS FOR THE BASE WIDE MONITORING PROGRAM

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

Site	Local well number	Aquifer code	Water level date	Water level (feet)	Altitude of land surface (feet)
394815084020701	GR-330	112OTSH	04-14-93	30.55	
			05-11-93	30.20	
			06-11-93	30.10	
			07-12-93	30.10	
			08-11-93	30.14	
			09-16-93	30.52	
394815084020702	GR-331	112OTSH	10-28-92	31.37	839.2
			11-30-92	31.48	
			12-30-92	21.63	
			02-02-93	31.31	
			03-04-93	31.19	
			04-14-93	30.44	
			05-11-93	30.08	
			06-11-93	29.98	
			07-12-93	29.98	
			08-11-93	29.62	
			09-16-93	29.98	
394815084020703	GR-332	112OTSH	10-28-92	29.38	839.2
			11-30-92	29.52	
			12-30-92	29.67	
			02-02-93	29.38	
			03-04-93	29.27	
			04-14-93	28.53	
			05-11-93	28.16	
			06-11-93	28.02	
			07-12-93	28.00	
			08-11-93	28.11	
			09-16-93	31.48	
394852084023101	GR-333	112OTSH	10-28-92	13.83	812.1
			11-30-92	13.42	
			12-30-92	13.68	
			02-02-93	11.95	
			03-04-93	12.96	
			04-07-93	12.55	
			05-11-93	12.53	
			06-10-93	12.28	
			07-12-93	12.33	
			08-11-93	12.84	
			09-16-93	12.93	
394852084023102	GR-334	112OTSH	10-28-92	13.74	812.1
			11-30-92	13.29	
			12-30-92	13.67	
			02-02-93	12.84	
			03-04-93	12.90	

GROUND-WATER RECORDS FOR THE BASE WIDE MONITORING PROGRAM

141

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

Site	Local well number	Aquifer code	Water level date	Water level (feet)	Altitude of land surface (feet)
394852084023102	GR-334	112OTSH	04-07-93	12.59	
			05-11-93	12.43	
			06-10-93	12.61	
			07-12-93	12.43	
			08-11-93	12.86	
			09-16-93	12.92	
394852084023103	GR-335	112OTSH	10-28-92	13.02	812.1
			11-30-92	13.24	
			12-30-92	13.59	
			02-02-93	12.75	
			03-04-93	12.83	
			04-07-93	12.37	
			05-11-93	12.23	
			06-10-93	12.45	
			07-12-93	12.28	
			08-11-93	12.80	
			09-16-93	12.96	
394623084064400	MT-133	360ODVC	10-28-92	27.31	791.4
			12-30-92	27.25	
			05-11-93	27.06	
			06-11-93	27.05	
			09-16-93	29.67	
394623084064401	MT-152	112OTSH	10-28-92	22.51	791.4
			12-30-92	24.04	
			05-11-93	21.66	
			06-11-93	20.82	
			09-16-93	22.02	
394623084064402	MT-153	112OTSH	10-28-92	22.48	791.4
			12-30-92	24.07	
			05-11-93	23.25	
			06-11-93	20.81	
			09-16-93	22.19	

Aquifer Code

112TILL - Glacial Till
 357BFLD - Brassfield Limestone, Lower Silurian
 361RCMD - Richmond Group, Upper Ordovician
 111ALVM - Holocene Alluvium
 360ODVC - Ordovician System
 361WTTR - Whitewater Formation

GROUND-WATER RECORDS FOR THE BASE WIDE MONITORING PROGRAM

394853084042200. Local number, GR-208.

LOCATION.--Lat 39°48'53" Long 84°04'22" Hydrologic Unit 05080001, at Wright-Patterson Air Force Base, Ohio.

AQUIFER.--Sand of Pleistocene Age.

WELL CHARACTERISTICS.--Observation well installed by hollow stem auger, diameter 4.0 in. depth 19.5 ft. Cased with stainless steel to 4.50 ft; .010 in screen from 4.5 to 19.5 ft, bentonite seal.

INSTRUMENTATION.--Electronic data logger -- 60-minute record. Also collected: Water level and water temperature. Precipitation data from NOAA.

DATUM.--Elevation of land-surface datum is 796.29 feet above sea level.

Measuring point: Floor of shelter 3.01 ft above land-surface datum.

PERIOD OF DAILY RECORD.--

Water level: August 1989 to current year.

Water temperature: November 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Water level: Maximum daily low, 6.40 ft below land-surface datum,

August 2, 3, 1991; minimum daily low, 1.68 ft below land-surface datum, December 31, 1990.

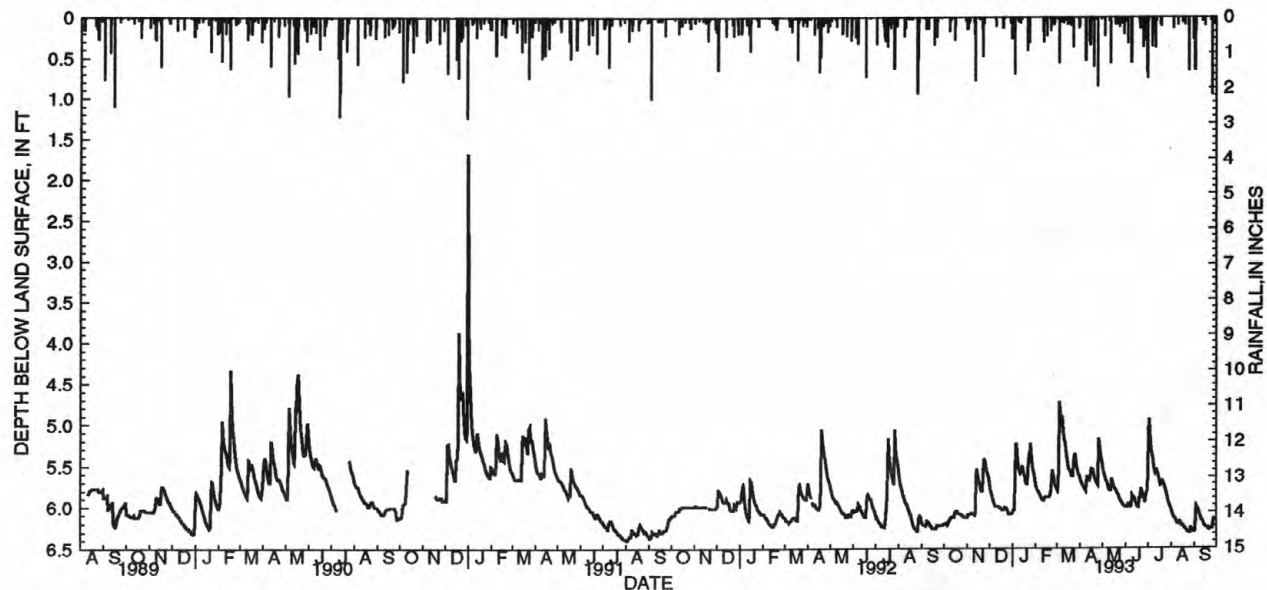
Water temperature: Maximum, 14.0°C, many days in 1991 and 1992; minimum, 10.6°C, many days in 1993.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.21	6.13	5.71	6.07	5.73	5.79	5.65	5.51	6.01	5.57	6.04	6.28
2	6.21	6.10	5.78	6.05	5.76	5.80	5.68	5.56	6.01	5.12	6.07	6.30
3	6.21	6.10	5.80	6.04	5.79	5.73	5.71	5.59	6.01	4.94	6.09	6.08
4	6.20	6.10	5.84	6.04	5.81	5.52	5.72	5.62	6.01	5.11	6.11	6.00
5	6.22	6.09	5.90	5.24	5.83	4.73	5.73	5.65	5.96	5.22	6.13	6.03
6	6.21	6.08	5.92	5.24	5.84	4.87	5.76	5.68	5.96	5.33	6.14	6.04
7	6.18	6.08	5.95	5.34	5.86	4.95	5.78	5.71	5.97	5.39	6.16	6.08
8	6.17	6.08	5.98	5.43	5.88	4.90	5.79	5.73	6.00	5.45	6.18	6.10
9	6.15	6.09	5.99	5.51	5.90	5.00	5.80	5.77	5.99	5.52	6.20	6.12
10	6.14	6.09	5.99	5.58	5.92	5.08	5.71	5.79	5.87	5.56	6.19	6.15
11	6.13	6.11	5.99	5.60	5.92	5.17	5.64	5.80	5.88	5.59	6.20	6.17
12	6.12	6.06	5.99	5.58	5.92	5.24	5.64	5.80	5.89	5.54	6.18	6.18
13	6.13	5.62	6.00	5.56	5.89	5.30	5.67	5.66	5.92	5.59	6.19	6.21
14	6.13	5.54	6.00	5.50	5.88	5.38	5.69	5.69	5.93	5.60	6.22	6.23
15	6.12	5.59	6.01	5.53	5.88	5.43	5.64	5.72	5.97	5.63	6.23	6.24
16	6.07	5.65	6.02	5.58	5.88	5.48	5.59	5.75	5.99	5.67	6.22	6.24
17	6.06	5.69	6.03	5.63	5.88	5.53	5.54	5.77	6.00	5.71	6.23	6.25
18	6.06	5.74	6.04	5.67	5.88	5.55	5.55	5.78	6.01	5.74	6.25	6.25
19	6.07	5.78	6.04	5.72	5.88	5.57	5.59	5.80	5.90	5.73	6.26	6.27
20	6.07	5.81	6.04	5.72	5.86	5.61	5.64	5.82	5.90	5.68	6.28	6.26
21	6.09	5.81	6.03	5.73	5.86	5.63	5.66	5.84	5.89	5.70	6.28	6.28
22	6.09	5.80	6.01	5.44	5.76	5.63	5.68	5.85	5.78	5.72	6.29	6.27
23	6.09	5.44	6.02	5.39	5.56	5.63	5.70	5.87	5.82	5.75	6.30	6.27
24	6.10	5.43	6.03	5.40	5.61	5.45	5.72	5.90	5.86	5.79	6.32	6.26
25	6.10	5.45	6.04	5.23	5.64	5.36	5.74	5.93	5.89	5.82	6.32	6.26
26	6.11	5.50	6.08	5.33	5.70	5.40	5.18	5.94	5.92	5.85	6.32	6.17
27	6.12	5.54	6.08	5.43	5.74	5.47	5.23	5.95	5.95	5.89	6.26	6.15
28	6.12	5.58	6.09	5.51	5.77	5.52	5.30	5.97	5.91	5.92	6.26	6.16
29	6.13	5.62	6.09	5.58	---	5.56	5.38	5.98	5.85	5.96	6.28	6.16
30	6.13	5.67	6.09	5.63	---	5.60	5.45	5.99	5.80	5.98	6.30	6.16
31	6.13	---	6.09	5.67	---	5.62	---	5.99	---	6.02	6.30	---
MAX	6.22	6.13	6.09	6.07	5.92	5.80	5.80	5.99	6.01	6.02	6.32	6.30

CAL YR 1992 LOW 6.29

WTR YR 1993 LOW 6.32



GROUND-WATER RECORDS FOR THE BASE WIDE MONITORING PROGRAM

143

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
GR-208 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.9	13.5	14.0	13.7	13.3	12.5	11.3	10.8	10.6	10.8	11.1	11.8
2	13.0	13.5	14.0	13.7	13.3	12.5	11.3	10.8	10.6	10.8	11.1	11.8
3	13.0	13.5	14.0	13.7	13.3	12.5	11.3	10.8	10.6	10.8	11.1	11.8
4	13.0	13.5	14.0	13.7	13.3	12.5	11.3	10.8	10.6	10.8	11.2	11.9
5	13.0	13.5	14.0	13.7	13.0	12.3	---	10.8	10.6	10.8	11.3	12.0
6	13.0	13.5	14.0	13.7	13.0	12.3	11.3	10.8	10.6	10.8	11.3	12.0
7	13.0	13.5	14.0	13.7	13.0	12.3	11.3	10.6	10.6	10.8	11.3	12.0
8	13.0	13.5	14.0	13.7	13.0	12.3	11.3	10.6	10.6	10.8	11.3	12.0
9	13.0	13.7	14.0	13.7	13.0	12.1	11.3	10.6	10.6	10.8	11.3	12.0
10	13.0	13.7	14.0	13.7	13.0	12.0	11.3	10.6	10.6	10.8	11.3	12.0
11	13.0	13.7	14.0	13.7	13.0	12.0	11.3	10.6	10.6	10.8	11.3	12.0
12	13.1	13.7	14.0	13.7	13.0	12.0	11.1	10.6	10.6	10.8	11.3	12.1
13	13.3	13.7	14.0	13.7	13.0	12.0	11.1	10.6	10.6	---	11.3	12.3
14	13.3	13.7	14.0	13.6	13.0	12.0	11.1	10.6	10.6	10.8	11.3	12.3
15	13.3	13.7	14.0	13.5	13.0	11.9	11.1	10.6	10.6	10.8	11.5	12.3
16	13.3	13.7	13.7	13.5	12.8	11.8	11.1	10.6	10.6	10.8	11.5	12.3
17	13.3	13.7	13.7	13.5	12.8	11.8	11.1	10.6	10.6	10.8	11.5	12.3
18	13.3	13.7	13.7	13.5	12.8	11.8	11.1	10.6	10.6	10.8	11.5	12.3
19	13.3	13.7	13.7	13.5	12.8	11.8	11.1	10.6	10.6	10.8	11.5	12.3
20	13.3	13.7	13.7	13.5	12.8	11.8	11.1	10.6	10.6	10.8	11.5	12.3
21	13.3	13.7	13.7	13.5	12.8	11.8	11.1	10.6	10.6	10.8	11.5	12.3
22	13.3	13.7	13.7	13.5	12.8	11.8	11.1	10.6	10.6	10.8	11.5	12.5
23	13.3	13.7	13.7	13.5	12.8	11.8	11.0	10.6	10.6	11.1	11.5	12.5
24	13.4	13.7	13.7	13.5	12.7	11.6	10.8	10.6	10.6	11.1	11.5	12.5
25	13.5	13.7	13.7	13.5	12.5	11.5	10.9	10.6	10.6	11.1	11.7	12.5
26	13.5	13.8	13.7	13.3	12.5	11.5	10.8	10.6	10.6	11.1	11.8	12.5
27	13.5	14.0	13.7	13.3	12.5	11.5	10.8	10.6	10.6	11.1	11.8	12.5
28	13.5	14.0	13.7	13.3	12.5	11.5	10.8	10.6	10.6	11.1	11.8	12.5
29	13.5	14.0	13.7	13.3	---	11.5	10.8	10.6	10.6	11.1	11.8	12.5
30	13.5	14.0	13.7	13.3	---	11.5	10.8	10.6	10.7	11.1	11.8	12.5
31	13.5	---	13.7	13.3	---	11.4	---	10.6	---	11.1	11.8	---

394851084042300. Local number, GR-210.

LOCATION.--Lat 39°48'51" Long 84°04'23" Hydrologic Unit 05080001, at Wright-Patterson Air Force Base, Ohio.

AQUIFER.--Sand of Pleistocene Age.

WELL CHARACTERISTICS.--Observation well installed by hollow stem auger, diameter 4.0 in. depth 38.0 ft. Cased with stainless steel to 33.0 ft; .010 in screen from 33.0 to 38.0 ft, bentonite seal.

INSTRUMENTATION.--Electronic data logger -- 60-minute record. Also collected: Water level and water temperature. Precipitation data from NOAA.

DATUM.--Elevation of land-surface datum is 796.07 feet above sea level.

Measuring point: Floor of shelter 2.97 ft above land-surface datum.

PERIOD OF DAILY RECORD.--

Water level: August 1989 to current year.

Water temperature: November 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Water level: Maximum daily low, 5.46 ft below land-surface datum,

August 25, 26, 1992; minimum daily low, 1.23 ft below land-surface datum, December 31, 1990.

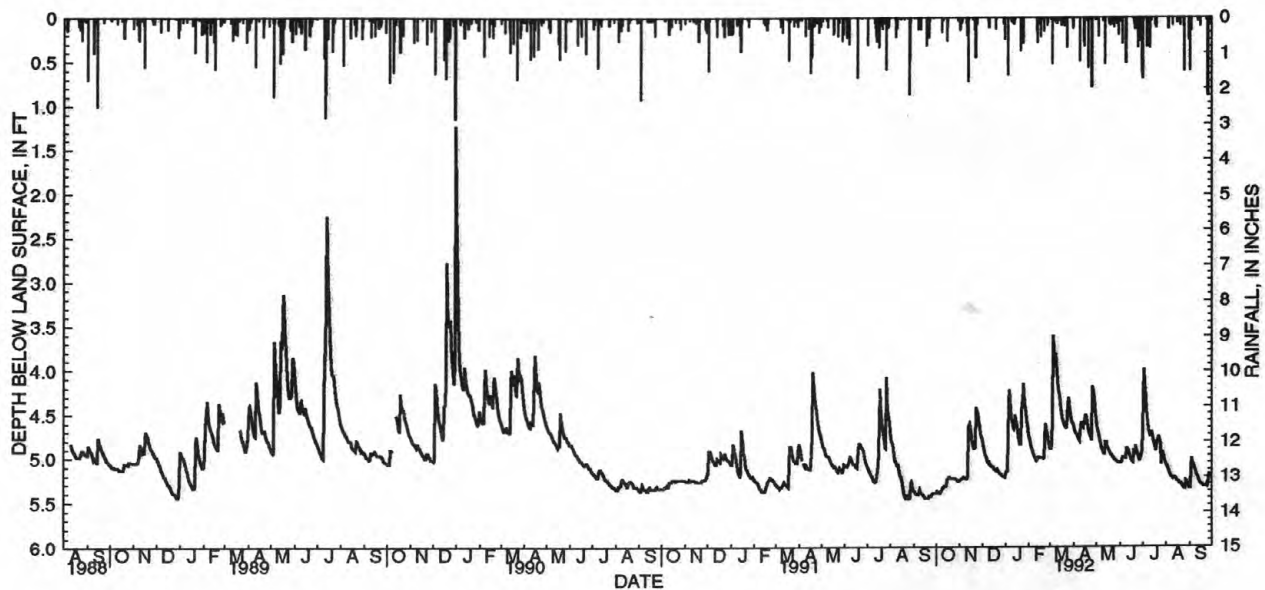
Water temperature: Maximum, 14.2°C, many days in 1993; minimum, 11.7°C, many days in 1993.

**WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.39	5.26	4.78	5.17	4.74	4.89	4.63	4.56	5.05	4.68	5.06	5.33
2	5.37	5.24	4.84	5.15	4.78	4.89	4.67	4.63	5.05	4.29	5.09	5.33
3	5.38	5.23	4.88	5.14	4.83	4.82	4.69	4.67	5.04	3.98	5.11	5.10
4	5.38	5.23	4.91	5.14	4.87	4.54	4.71	4.73	5.03	4.16	5.13	5.00
5	5.39	5.22	4.96	4.36	4.89	3.60	4.72	4.77	4.98	4.30	5.14	5.05
6	5.39	5.21	4.98	4.22	4.92	3.76	4.75	4.81	4.98	4.44	5.17	5.07
7	5.37	5.21	5.01	4.33	4.94	3.85	4.77	4.83	4.99	4.52	5.19	5.11
8	5.37	5.22	5.04	4.44	4.98	3.81	4.78	4.88	5.00	4.59	5.20	5.12
9	5.35	5.23	5.05	4.53	4.99	3.91	4.79	4.91	5.00	4.67	5.21	5.15
10	5.33	5.23	5.04	4.60	5.01	4.02	4.69	4.94	4.87	4.73	5.22	5.18
11	5.32	5.22	5.07	4.65	5.03	4.12	4.58	4.95	4.89	4.75	5.21	5.20
12	5.31	5.19	5.08	4.66	5.02	4.20	4.61	4.95	4.91	4.71	5.21	5.22
13	5.31	4.64	5.09	4.61	4.98	4.28	4.64	4.81	4.95	4.69	5.21	5.25
14	5.31	4.60	5.09	4.51	4.98	4.37	4.65	4.81	4.96	4.73	5.23	5.27
15	5.31	4.65	5.10	4.57	4.99	4.43	4.59	4.85	4.99	4.77	5.25	5.28
16	5.24	4.69	5.10	4.62	4.99	4.48	4.55	4.88	5.01	4.81	5.25	5.29
17	5.22	4.76	5.12	4.70	4.99	4.53	4.50	4.90	5.03	4.85	5.25	5.30
18	5.21	4.82	5.13	4.75	4.99	4.57	4.54	4.92	5.04	4.90	5.27	5.30
19	5.21	4.85	5.14	4.80	4.99	4.60	4.58	4.93	4.93	4.90	5.28	5.31
20	5.22	4.89	5.14	4.84	5.00	4.63	4.64	4.95	4.95	4.81	5.28	5.31
21	5.22	4.89	5.13	4.84	4.99	4.64	4.67	4.96	4.95	4.81	5.29	5.31
22	5.22	4.87	5.14	4.47	4.81	4.65	4.71	4.98	4.85	4.74	5.30	5.31
23	5.22	4.42	5.15	4.38	4.60	4.64	4.74	4.98	4.90	4.78	5.31	5.30
24	5.22	4.46	5.17	4.39	4.66	4.39	4.77	5.00	4.94	4.81	5.33	5.31
25	5.22	4.49	5.17	4.15	4.71	4.31	4.79	5.01	4.98	4.84	5.34	5.30
26	5.22	4.55	5.18	4.26	4.77	4.38	4.18	5.02	5.00	5.06	5.34	5.21
27	5.23	4.60	5.19	4.39	4.82	4.43	4.20	5.03	5.03	4.92	5.25	5.18
28	5.24	4.65	5.20	4.47	4.87	4.49	4.31	5.04	5.00	4.95	5.26	5.19
29	5.25	4.71	5.20	4.57	---	4.55	4.41	5.04	4.94	4.98	5.29	5.20
30	5.26	4.75	5.20	4.61	---	4.58	4.49	5.04	4.91	5.02	5.31	5.20
31	5.26	---	5.21	4.67	---	4.60	---	5.05	---	5.04	5.33	---
MAX	5.39	5.26	5.21	5.17	5.03	4.89	4.79	5.05	5.05	5.06	5.34	5.33

CAL YR 1992 LOW 5.46

WTR YR 1993 LOW 5.39



GROUND-WATER RECORDS FOR THE BASE WIDE MONITORING PROGRAM

145

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
GR-210 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.3	13.8	14.2	14.0	13.8	13.1	12.4	11.9	11.7	11.8	12.1	12.6
2	13.3	13.8	14.2	14.0	13.8	13.1	12.4	11.9	11.7	11.9	12.1	12.6
3	13.3	13.8	14.2	14.0	13.8	13.1	12.4	11.9	11.7	11.9	12.1	12.6
4	13.3	13.8	14.2	14.0	13.8	13.1	12.4	11.9	11.7	11.9	12.1	12.6
5	13.3	14.0	14.2	14.0	13.8	13.1	12.4	11.9	11.7	11.9	12.1	12.6
6	13.3	14.0	14.2	14.0	13.7	13.1	12.3	11.9	11.7	11.9	12.1	12.6
7	13.3	14.0	14.2	14.0	13.5	13.1	12.1	11.9	11.7	11.9	12.1	12.6
8	13.3	14.0	14.2	14.0	13.5	13.1	12.1	11.8	11.7	11.9	12.1	12.6
9	13.3	14.0	14.2	14.0	13.5	13.0	12.1	11.8	11.7	11.9	12.1	12.7
10	13.3	14.0	14.2	14.0	13.5	12.9	12.1	11.8	11.7	11.9	12.1	12.8
11	13.5	14.0	14.2	14.0	13.5	12.8	12.1	11.7	11.7	11.9	12.2	12.8
12	13.5	14.0	14.2	14.0	13.5	12.8	12.1	11.7	11.7	11.9	12.4	12.8
13	13.5	14.0	14.2	14.0	13.5	12.8	12.1	11.7	11.7	11.9	12.4	12.8
14	13.5	14.0	14.2	14.0	13.5	12.8	12.1	11.7	11.7	11.9	12.4	12.8
15	13.5	14.0	14.2	14.0	13.5	12.8	12.1	11.7	11.7	11.9	12.4	12.8
16	13.5	14.0	14.2	14.0	13.5	12.8	12.1	11.7	11.7	11.9	12.4	12.8
17	13.5	14.0	14.2	14.0	13.4	12.8	12.1	11.7	11.7	11.9	12.4	12.8
18	13.5	14.0	14.2	14.0	13.3	12.7	12.1	11.7	11.7	11.9	12.4	12.8
19	13.5	14.0	14.2	14.0	13.3	12.6	12.1	11.7	11.7	11.9	12.4	13.0
20	13.5	14.0	14.2	14.0	13.3	12.6	12.1	11.7	11.7	11.9	12.4	13.1
21	13.5	14.0	14.1	14.0	13.3	12.6	12.0	11.7	11.7	12.1	12.4	13.1
22	13.6	14.0	14.0	14.0	13.3	12.6	12.0	11.7	11.7	11.9	12.4	13.1
23	13.8	14.0	14.0	14.0	13.3	12.6	12.0	11.7	11.7	11.9	12.4	13.1
24	13.8	14.0	14.0	13.9	13.3	12.6	11.9	11.7	11.7	11.9	12.4	13.1
25	13.8	14.0	14.0	13.8	13.3	12.6	11.9	11.7	11.7	11.9	12.4	13.1
26	13.8	14.2	14.0	13.8	13.3	12.5	11.9	11.7	11.7	12.0	12.4	13.1
27	13.8	14.2	14.0	13.8	13.3	12.4	11.9	11.7	11.7	12.1	12.4	13.1
28	13.8	14.2	14.0	13.8	13.3	12.4	11.9	11.7	11.7	12.1	12.6	13.1
29	13.8	14.2	14.0	13.8	---	12.4	11.9	11.7	11.7	12.1	12.6	13.3
30	13.8	14.2	14.0	13.8	---	12.4	11.9	11.7	11.7	12.1	12.6	13.3
31	13.8	---	14.0	13.8	---	12.4	---	11.7	---	12.1	12.6	---

GROUND-WATER RECORDS FOR THE BASE WIDE MONITORING PROGRAM

395008084011500. Local number, GR-248.

LOCATION.--Lat 39°50'08" Long 84°01'15" Hydrologic Unit 05080001, at Wright-Patterson Air Force Base, Ohio.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Observation well drilled by cable tool, diameter 4.0 in. depth 31.0 ft. Cased with stainless steel to 21.0 ft; .010 in screen from 21.0 to 31.0 ft, bentonite seal.

INSTRUMENTATION.--Electronic data logger -- 60-minute punch. Also collected: water level and water temperature. Precipitation data from NOAA.

DATUM.--Elevation of land-surface datum is 825.43 ft above sea level.

Measuring point: Floor of shelter 2.32 ft above land-surface datum.

PERIOD OF DAILY RECORD --

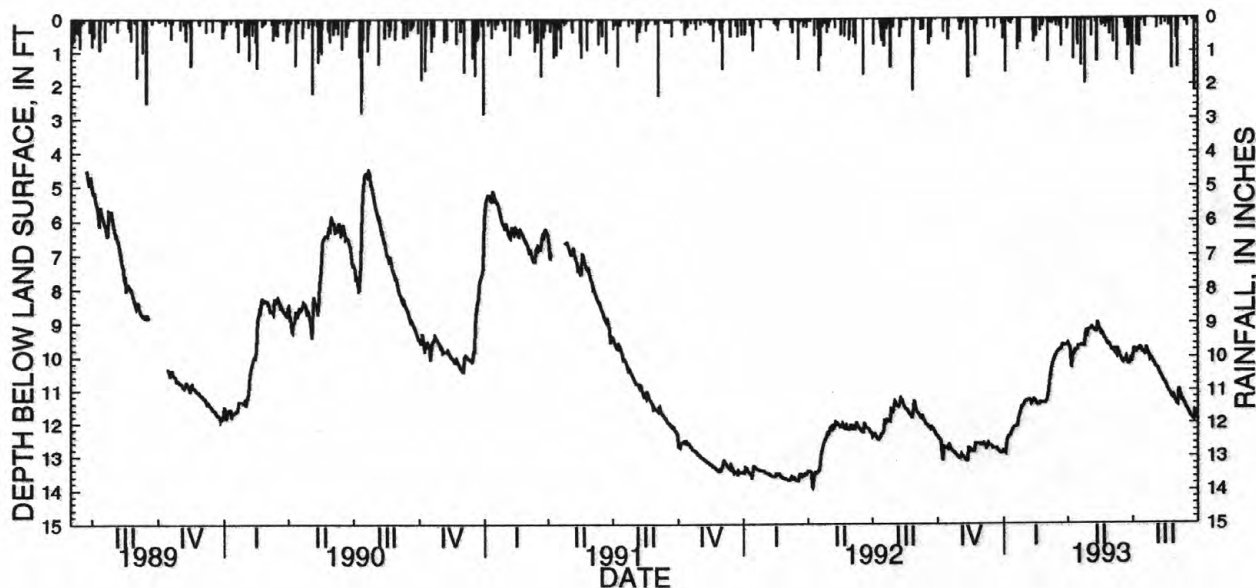
Water level: June 23, 1989 to current year.

Water temperature: December 19, 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Water level: Maximum daily low 13.92 ft below land-surface datum, April 7, 1992; minimum daily low, 4.34 ft below land-surface datum, June 23, 1989. Water temperature: Maximum, 15.9°C September 27-30, 1993; minimum 11.7°C many days in 1992 and 1993.

**WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.41	13.05	12.62	12.82	11.35	11.36	9.61	9.20	9.77	10.01	10.21	11.41
2	12.44	13.04	12.64	12.83	11.34	11.34	9.66	9.18	9.79	9.85	10.27	11.44
3	12.47	12.95	12.64	12.87	11.32	11.31	9.71	9.18	9.82	9.74	10.31	11.12
4	12.50	12.99	12.62	12.89	11.31	11.25	9.72	9.16	9.84	9.80	10.33	10.97
5	12.53	13.00	12.64	12.72	11.30	11.00	9.88	9.12	9.75	9.84	10.35	11.08
6	12.73	13.02	12.64	12.54	11.29	10.80	10.25	9.16	9.82	9.87	10.40	11.16
7	13.04	13.04	12.64	12.47	11.29	10.65	10.34	9.19	9.92	9.88	10.45	11.17
8	13.11	13.08	12.79	12.43	11.33	10.52	10.02	9.21	9.92	9.80	10.51	11.31
9	12.84	13.11	12.67	12.41	11.41	10.40	9.97	9.24	9.95	9.78	10.54	11.29
10	12.70	13.13	12.64	12.38	11.36	10.29	9.87	9.27	9.75	9.81	10.57	11.36
11	12.73	13.13	12.62	12.35	11.37	10.22	9.82	9.27	9.86	9.82	10.61	11.41
12	12.74	13.09	12.64	12.29	11.35	10.14	9.83	9.27	9.92	9.75	10.66	11.45
13	12.73	12.74	12.66	12.24	11.30	10.05	9.81	8.98	9.97	9.76	10.68	11.50
14	12.77	12.75	12.67	12.19	11.33	9.98	9.80	9.05	10.01	9.82	10.73	11.53
15	12.79	12.79	12.68	12.16	11.36	9.97	9.79	9.14	10.06	9.85	10.77	11.55
16	12.67	12.80	12.71	12.13	11.41	9.92	9.68	9.21	10.10	9.88	10.82	11.60
17	12.64	12.86	12.75	12.12	11.43	9.88	9.68	9.25	10.14	9.90	10.86	11.64
18	12.71	12.85	12.76	12.11	11.44	9.87	9.68	9.36	10.16	9.93	10.91	11.68
19	12.76	12.85	12.77	12.10	11.44	9.84	9.68	9.27	10.06	9.91	10.95	11.72
20	12.80	12.85	12.77	12.08	11.45	9.81	9.66	9.32	10.14	9.72	10.98	11.81
21	12.84	12.84	12.74	12.05	11.44	9.80	9.65	9.38	10.14	9.79	11.03	11.80
22	12.86	12.77	12.75	11.88	11.36	9.79	9.64	9.43	10.02	9.85	11.07	11.83
23	12.87	12.61	12.80	11.83	11.36	9.76	9.67	9.46	10.11	9.89	11.11	11.87
24	12.89	12.62	12.82	11.78	11.37	9.66	9.68	9.51	10.18	9.93	11.17	11.89
25	12.91	12.62	12.84	11.68	11.38	9.65	9.69	9.56	10.21	9.97	11.21	11.91
26	12.94	12.62	12.86	11.61	11.38	9.66	9.38	9.60	10.22	10.09	11.23	11.68
27	12.96	12.62	12.87	11.52	11.39	9.65	9.30	9.62	10.22	10.05	11.12	11.72
28	12.98	12.62	12.89	11.48	11.39	9.65	9.42	9.61	10.16	10.08	11.22	11.80
29	13.01	12.63	12.89	11.46	---	9.66	9.23	9.62	10.07	10.12	11.27	11.87
30	13.03	12.62	12.89	11.43	---	9.67	9.21	9.64	10.11	10.16	11.32	11.91
31	13.05	---	12.87	11.37	---	9.65	---	9.71	---	10.19	11.36	---
MAX	13.11	13.13	12.89	12.89	11.45	11.36	10.34	9.71	10.22	10.19	11.36	11.91
CAL YR 1992	LOW 13.92											
WTR YR 1993	LOW 13.13											



GROUND-WATER RECORDS FOR THE BASE WIDE MONITORING PROGRAM

147

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
GR-248 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.1	15.6	15.4	14.6	13.4	12.7	12.0	12.0	12.7	13.3	13.9	14.9
2	15.1	15.6	15.4	14.6	13.4	12.7	12.0	12.0	12.7	13.4	13.9	14.9
3	15.3	15.6	15.4	14.6	13.3	12.7	12.0	12.0	12.7	13.4	13.9	14.9
4	15.4	15.6	15.4	14.5	13.3	12.7	12.0	12.0	12.7	13.4	13.9	15.0
5	15.4	15.6	15.4	14.4	13.3	12.6	12.0	12.0	12.7	13.4	13.9	15.1
6	15.4	15.6	15.4	14.4	13.3	12.5	12.0	12.0	12.7	13.4	13.9	15.1
7	15.4	15.6	15.4	14.4	13.2	12.5	12.0	12.1	12.8	13.4	13.9	15.1
8	15.4	15.6	15.2	14.4	13.2	12.5	12.0	12.1	12.9	13.4	14.0	15.1
9	15.4	15.6	15.1	14.3	13.2	12.5	12.0	12.1	12.9	13.4	14.2	15.2
10	15.4	15.6	15.1	14.2	13.2	12.4	11.9	12.1	12.9	13.4	14.2	15.4
11	15.4	15.6	15.1	14.2	13.2	12.4	12.0	12.2	12.9	13.4	14.2	15.4
12	15.4	15.6	15.1	14.2	13.2	12.3	12.0	12.2	12.9	13.4	14.2	15.4
13	15.4	15.6	15.1	14.2	13.2	12.2	12.0	12.2	12.9	13.4	14.2	15.4
14	15.4	15.6	15.1	14.2	13.2	12.2	12.0	12.2	12.9	13.4	14.2	15.4
15	15.4	15.6	15.1	14.1	13.2	12.2	12.0	12.2	12.9	13.4	14.2	15.4
16	15.4	15.6	15.1	13.9	13.1	12.2	11.9	12.2	13.1	13.4	14.2	15.4
17	15.5	15.6	15.0	13.9	13.2	12.2	11.9	12.2	13.2	13.4	14.4	15.5
18	15.6	15.6	14.9	13.9	13.1	12.2	11.9	12.2	13.2	13.4	14.4	15.6
19	15.6	15.6	14.9	13.9	13.1	12.2	11.9	12.3	13.2	13.6	14.4	15.6
20	15.6	15.6	14.9	13.9	13.0	12.2	11.9	12.3	13.2	13.7	14.4	15.6
21	15.6	15.6	14.9	13.9	12.9	12.2	12.0	12.4	13.2	13.7	14.4	15.6
22	15.6	15.6	14.9	13.8	12.9	12.2	12.0	12.5	13.2	13.7	14.4	15.6
23	15.6	15.6	14.9	13.7	12.9	12.2	11.9	12.5	13.2	13.7	14.4	15.6
24	15.6	15.6	14.9	13.7	12.9	12.2	12.0	12.5	13.2	13.7	14.5	15.6
25	15.6	15.6	14.8	13.7	12.9	12.1	12.0	12.5	13.2	13.7	14.6	15.6
26	15.6	15.6	14.7	13.7	12.8	12.1	12.0	12.5	13.2	13.7	14.6	15.8
27	15.6	15.6	14.6	13.7	12.8	12.1	12.0	12.5	13.2	13.7	14.6	15.9
28	15.6	15.6	14.6	13.6	12.8	12.1	12.0	12.5	13.2	13.7	14.6	15.9
29	15.6	15.6	14.6	13.4	---	12.0	11.9	12.6	13.2	13.7	14.6	15.9
30	15.6	15.5	14.6	13.4	---	12.0	12.0	12.7	13.2	13.8	14.7	15.9
31	15.6	---	14.6	13.4	---	12.0	---	12.7	---	13.9	14.9	---

GROUND-WATER RECORDS FOR THE BASE WIDE MONITORING PROGRAM

394645084055201. Local number, GR-329.

LOCATION.--Lat 39°46'45" Long 84°05'52" Hydrologic Unit 05080001, at Wright-Patterson Air Force Base, Ohio.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Observation well drilled by cable tool, diameter 4.0 in., depth 55.0 ft. Cased with stainless steel to 45.0 ft; .010 in screen from 45.0 to 55.0 ft, bentonite seal.

INSTRUMENTATION.--Electronic data logger -- 60-minute record. Also collected: Water level and water temperature, Precipitation data from NOAA. and specific conductance.

DATUM.--Elevation of land-surface datum is 807.18 feet above sea level.

Measuring point: Top of measurement plug on cap 2.77 ft above land-surface datum.

PERIOD OF DAILY RECORD.--

Water level: December 1992 to current year.

Water temperature: December 1992 to current year.

Specific conductance: December 1992 to current year.

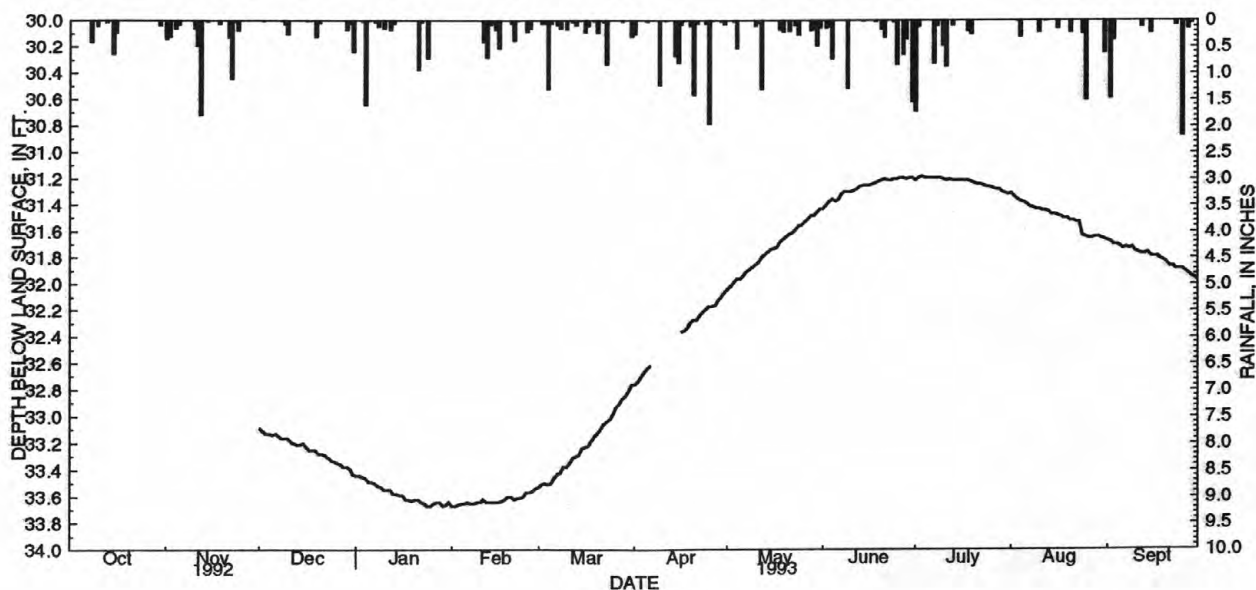
EXTREMES FOR PERIOD OF RECORD.--Water level: Maximum daily low, 33.67 ft below land-surface datum, January 24, 25, and 29, 1993, and February 1, 2, 1993; minimum daily low, 31.18 ft below land-surface datum, July 3, 1993.

Water temperature: Maximum mean, 14.2°C, many days in 1993; minimum mean, 13.5°C, August 19, 20, 1993.

Specific conductance: Maximum mean, 998 microsiemens many days in May 1993. Minimum mean 965 microsiemens September 30, 1993.

**WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
MAXIMUM VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	33.09	33.44	33.67	33.53	32.76	32.04	31.43	31.21	31.31	31.67
2	---	---	33.11	33.44	33.67	33.51	32.74	32.02	31.40	31.19	31.34	31.68
3	---	---	33.13	33.45	33.66	33.50	32.71	31.99	31.37	31.18	31.36	31.70
4	---	---	33.13	33.46	33.65	33.51	32.67	31.96	31.36	31.19	31.37	31.70
5	---	---	33.14	33.49	33.65	33.50	32.64	31.96	31.37	31.19	31.38	31.71
6	---	---	33.13	33.49	33.64	33.46	32.62	31.94	31.36	31.19	31.39	31.73
7	---	---	33.15	33.50	33.65	33.43	---	31.91	31.32	31.19	31.41	31.72
8	---	---	33.16	33.52	33.65	33.42	---	31.89	31.30	31.19	31.42	31.73
9	---	---	33.16	33.53	33.64	33.38	---	31.87	31.30	31.19	31.43	31.72
10	---	---	33.16	33.55	33.64	33.38	---	31.85	31.30	31.20	31.43	31.75
11	---	---	33.19	33.55	33.62	33.35	---	31.83	31.29	31.21	31.44	31.76
12	---	---	33.20	33.55	33.64	33.31	---	31.80	31.28	31.20	31.44	31.77
13	---	---	33.21	33.58	33.64	33.30	---	31.78	31.26	31.21	31.45	31.77
14	---	---	33.21	33.58	33.64	33.29	---	31.76	31.25	31.21	31.47	31.76
15	---	---	33.20	33.59	33.64	33.24	---	31.74	31.25	31.21	31.47	31.79
16	---	---	33.23	33.59	33.64	33.23	32.36	31.73	31.25	31.21	31.48	31.79
17	---	---	33.25	33.62	33.63	33.22	32.35	31.72	31.24	31.21	31.49	31.79
18	---	---	33.25	33.62	33.62	33.18	32.33	31.68	31.23	31.21	31.50	31.81
19	---	---	33.25	33.63	33.60	33.15	32.29	31.66	31.22	31.22	31.50	31.82
20	---	---	33.28	33.62	33.60	33.13	32.27	31.64	31.21	31.23	31.52	31.83
21	---	---	33.28	33.62	33.62	33.10	32.27	31.62	31.20	31.24	31.52	31.86
22	---	---	33.29	33.64	33.61	33.06	32.24	31.61	31.21	31.24	31.53	31.86
23	---	---	33.31	33.65	33.61	33.04	32.21	31.59	31.21	31.25	31.53	31.88
24	---	---	33.33	33.67	33.60	33.02	32.19	31.56	31.20	31.26	31.63	31.88
25	---	---	33.34	33.67	33.57	32.98	32.17	31.56	31.20	31.26	31.64	31.88
26	---	---	33.35	33.65	33.57	32.94	32.17	31.53	31.19	31.27	31.65	31.90
27	---	---	33.36	33.64	33.56	32.91	32.16	31.51	31.19	31.28	31.65	31.92
28	---	---	33.38	33.64	33.54	32.87	32.12	31.48	31.20	31.28	31.64	31.94
29	---	---	33.38	33.67	---	32.85	32.09	31.48	31.19	31.30	31.64	31.95
30	---	---	33.39	33.66	---	32.81	32.06	31.45	31.19	31.31	31.65	31.97
31	---	---	33.43	33.64	---	32.76	---	31.43	---	31.32	31.66	---



GROUND-WATER RECORDS FOR THE BASE WIDE MONITORING PROGRAM

149

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
GR-329 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	14.0	14.0	14.0	14.0	14.0	13.9	13.9	13.9	13.8	13.7
2	---	---	14.0	14.0	14.0	14.0	14.0	13.8	13.9	13.8	13.8	13.6
3	---	---	14.0	14.0	14.0	14.0	14.0	13.9	13.9	13.7	13.8	13.8
4	---	---	14.0	14.0	14.0	14.0	14.0	13.8	13.9	13.8	13.8	13.8
5	---	---	14.0	14.0	14.0	14.0	14.0	13.8	13.9	13.8	13.9	13.8
6	---	---	14.0	14.0	14.0	14.0	14.2	13.8	13.9	13.8	13.8	13.8
7	---	---	14.0	14.0	14.0	14.0	14.1	13.8	13.9	13.8	13.8	13.8
8	---	---	14.0	14.0	14.0	14.0	13.9	13.8	13.8	13.8	13.9	13.8
9	---	---	14.0	14.0	14.0	14.0	14.2	13.8	13.8	13.8	13.8	13.8
10	---	---	13.9	14.0	14.0	14.0	14.2	13.8	13.8	13.8	13.8	13.8
11	---	---	14.0	14.0	14.0	14.0	14.1	13.8	13.8	13.8	13.8	13.7
12	---	---	14.0	14.0	14.0	14.0	14.2	13.8	13.8	13.7	13.8	13.8
13	---	---	14.0	14.0	14.0	13.9	14.2	14.0	13.9	13.7	13.8	13.7
14	---	---	14.0	14.0	14.0	14.0	14.2	13.9	14.0	13.8	13.8	13.8
15	---	---	14.0	14.0	14.0	14.0	14.1	13.8	13.9	13.8	13.8	13.7
16	---	---	14.0	14.0	14.0	14.0	14.2	13.9	14.1	13.8	13.7	13.6
17	---	---	14.0	14.0	13.9	14.0	14.2	13.9	14.0	13.8	13.8	13.6
18	---	---	14.0	14.0	13.9	14.0	14.2	13.9	13.9	13.8	13.6	13.6
19	---	---	14.0	14.0	14.0	14.0	14.2	14.0	13.9	13.8	13.5	13.6
20	---	---	13.9	14.0	14.0	14.0	14.1	14.0	13.8	13.8	13.5	13.7
21	---	---	14.0	14.0	14.0	14.0	14.2	14.0	13.8	13.8	13.6	13.6
22	---	---	14.0	14.0	14.0	14.0	14.2	13.9	13.8	13.8	13.6	13.7
23	---	---	14.0	14.0	13.9	14.0	14.2	13.9	13.8	13.8	13.7	13.6
24	---	---	14.0	14.0	13.9	13.9	14.2	13.8	13.8	13.8	13.8	13.7
25	---	---	14.0	14.0	14.0	13.9	14.2	13.9	13.8	13.8	13.8	13.7
26	---	---	14.0	14.0	13.9	14.0	14.0	13.9	13.8	13.8	13.8	13.8
27	---	---	14.0	14.0	13.9	14.0	14.0	13.9	13.8	13.8	13.6	13.8
28	---	---	14.0	14.0	14.0	13.9	13.9	13.8	13.7	13.8	13.7	13.9
29	---	---	14.0	14.0	---	13.9	13.9	13.9	13.6	13.8	13.8	13.8
30	---	---	14.0	14.0	---	13.9	13.9	13.9	13.6	13.8	13.8	13.9
31	---	---	14.0	14.0	---	14.0	---	13.9	---	13.8	13.8	---

SPECIFIC CONDUCTANCE, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
GR-329 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	987	987	989	987	990	997	989	985	973	977
2	---	---	986	987	989	987	990	997	989	988	974	979
3	---	---	987	987	989	988	989	997	990	989	974	974
4	---	---	986	987	989	987	990	998	989	988	971	973
5	---	---	987	987	990	988	989	998	989	988	970	973
6	---	---	987	987	990	988	983	998	989	987	970	972
7	---	---	986	987	990	988	979	998	991	987	970	973
8	---	---	987	987	990	987	995	997	993	986	969	973
9	---	---	987	988	990	987	987	998	993	986	970	973
10	---	---	987	987	989	987	989	998	993	985	969	972
11	---	---	986	988	987	987	990	996	993	986	974	973
12	---	---	987	987	988	988	988	995	992	987	978	972
13	---	---	987	987	988	988	988	990	989	987	979	973
14	---	---	987	988	987	988	987	992	986	984	979	973
15	---	---	987	988	987	987	990	995	989	983	979	974
16	---	---	986	988	987	987	986	994	984	983	979	973
17	---	---	986	988	989	989	986	994	986	982	979	974
18	---	---	987	988	988	988	988	991	987	982	981	974
19	---	---	987	988	987	988	988	990	989	981	984	974
20	---	---	988	988	986	989	990	990	990	981	983	972
21	---	---	987	988	986	988	986	990	990	981	982	974
22	---	---	986	988	987	989	987	992	989	981	983	972
23	---	---	986	988	988	989	988	992	991	980	979	974
24	---	---	987	988	988	989	988	994	990	979	977	971
25	---	---	987	988	988	991	989	992	989	979	977	972
26	---	---	987	988	988	989	994	991	988	979	977	969
27	---	---	987	988	988	990	994	992	988	978	981	967
28	---	---	986	988	988	991	996	994	990	977	979	966
29	---	---	986	989	---	991	996	992	993	976	976	967
30	---	---	987	989	---	991	996	992	992	975	975	965
31	---	---	987	988	---	990	---	991	---	974	975	---

The following tables contain ground water-level measurements and chemical analyses from a network of wells and two surface-water sites in southern Franklin County. The data were collected as part of a cooperative study with the City of Columbus. The objective of the study is to present estimates of ground-water traveltimes and flow paths under transient flow to determine the zone of contribution to the City of Columbus' South Well Field. The five digit parameter codes (in parentheses) in the water-quality reports are defined in WATSTORE.

394957083002900. SCIOTO RIVER AT ROUTE 665 AT SHADEVILLE.

LOCATION.--Lat 39°49'57", long 83°00'29", Hydrologic Unit 05060001, north side of Rt. 665 bridge over the Scioto River, 0.1 mi west of Shadeville.

PERIOD OF RECORD.--Aug. 1987 intermittently to current year.

REMARKS.--This site is used for chemical-quality sampling only as part of a cooperative study with the City of Columbus. A "K" associated with bacteriologic data indicates non-ideal colony counts.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	HYDRO-GEN PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	SULFIDE TOTAL (MG/L AS H2S) (71875)	COLI-FORM, TOTAL, IMMED. MEM.FIL (COLS./100 ML) (31504)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ACIDITY (MG/L AS H) (71825)
MAR 31...	1970	540	8.2	9.5	--	--	>K80,000	36,000	21,000	0.2
SEP 09...	167	790	8.2	21.5	8.1	--	--	K600	<2	--
DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE IT-FLD (MG/L AS HCO3) (99440)	CAR-BONATE IT-FLD (MG/L AS CO3) (99445)	ALKA-LINITY, CARBON-ATE IT-FLD (MG/L AS CAC03) (99430)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
MAR 31...	61	18	18	3.8	162	--	134	88	33	0.20
SEP 09...	75	23	49	7.8	166	0.0	136	150	64	0.70
DATE	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	BARIIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)
MAR 31...	6.4	345	4.20	0.360	0.90	0.160	44	<0.5	<1.0	<3
SEP 09...	6.8	487	5.40	0.030	0.70	1.40	35	<0.5	<1.0	<3
DATE	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
MAR 31...	<10	61	<10	5	14	<10	840	<6	5	6.0
SEP 09...	<10	7	20	15	5	10	1500	<6	15	5.1

395000082593400. BIG WALNUT CREEK AT ROUTE 317 NEAR SHADEVILLE

LOCATION.--Lat 39°50'00", long 82°59'34", Hydrologic Unit 05060001, north side of Rt. 317 bridge over Big Walnut Creek, 0.5 mi east-northeast of Shadaville.

PERIOD OF RECORD.--June 1984 intermittently to current year.

REMARKS.--This site is used for chemical-quality sampling only as part of a cooperative study with the City of Columbus. A "K" associated with bacteriological data indicates non-ideal colony counts.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	HYDRO-GEN PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	SULFIDE TOTAL (MG/L AS H2S) (71875)	COLI-FORM, TOTAL, IMMED. MEM.FIL (COLS./100 ML) (31504)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ACIDITY (MG/L AS H) (71825)
MAR 31...	334	580	8.2	10.0	--	--	1800	K120	K23	<0.1
SEP 08...	33	515	7.7	21.5	6.5	--	--	160	1260	<0.1
DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE IT-FLD (MG/L AS HCO3) (99440)	CAR-BONATE IT-FLD (MG/L AS CO3) (99445)	ALKA-LINITY, CARBON-ATE IT-FLD (MG/L AS CAC03) (99430)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
MAR 31...	63	20	22	3.4	199	--	160	79	43	0.10
SEP 08...	64	19	22	3.4	168	0.0	137	61	36	0.20
DATE	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE qAT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC DIS-SOLVED (MG/L AS N) (00623)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)
MAR 31...	3.6	343	3.20	0.090	0.20	<0.010	71	<0.5	<1.0	<3
SEP 08...	6.2	297	0.770	0.070	0.40	0.050	72	<0.5	<1.0	<3
DATE	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
MAR 31...	<10	13	<10	<4	24	<10	390	<6	<3	4.4
SEP 08...	<10	18	<10	5	24	<10	330	<6	<3	4.7

395134083010000. Local number FR-100

LOCATION.--Lat 39°51'34", long 83°01'00", Hydrologic Unit 05060001.

Owner.--City of Columbus.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 12 in., depth 56.8 ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 688 feet above sea level. Measuring point: Top of casing, 2.47 ft above land-surface datum.

PERIOD OF RECORD.--July 1975 to current year.

34.71 ft below land-surface datum, Dec. 11, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 13.41	MAR 31 6.51	JUN 25 15.65	SEP 13 18.30

395116083010400. Local number, FR-101 TH-42

LOCATION.--Lat 39°51'16", long 83°01'04", Hydrologic Unit 05060001.

Owner.--City of Columbus.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 12 in., depth 81 ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 687.3 feet above sea level. Measuring point: Top of casing 2.10 ft above land-surface datum

PERIOD OF RECORD.--Dec. 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 20.13 ft below land-surface datum, Mar. 19, 1991; lowest measured, 35.33 ft below land-surface datum, June 11, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 30.52	MAR 29 27.59	JUN 25 26.07	SEP 13 25.21

395114083010201. Local number, FR-101 TH-46

LOCATION.--Lat 39°51'14", long 83°01'02", Hydrologic Unit 05060001.

Owner.--City of Columbus.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 12 in., depth 80 ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 687.5 feet above sea level. Measuring point: Top of casing, 3.57 ft above land-surface datum.

PERIOD OF RECORD.--May 1981 to current year

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.19 ft below land-surface datum, May 19, 1981; lowest measured, 60.69 ft below land-surface datum, Dec. 11, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 20.76	MAR 29 12.09	JUN 25 22.17	SEP 13 23.05

395045083003100. Local number, FR-103, TH-11

LOCATION.--Lat 39°50'45", long 83°00'31", Hydrologic Unit 05060001, near Columbus.

Owner.--City of Columbus.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in., depth 93 ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 699 feet above sea level, from topographic map. Measuring point: Top of sampler cap, 1.92 ft above land-surface datum.

PERIOD OF RECORD.--Aug. 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 18.00 ft below land-surface datum, May 9, 1983; lowest measured, 75.49 ft below land-surface datum, Dec. 11, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 41.38	MAR 25 33.05	JUN 25 49.58	SEP 13 52.42

395021083002900. Local number, FR-104 TH-18

LOCATION.--Lat 39°50'21", long 83°00'29", Hydrologic Unit 05060001.

Owner.--City of Columbus.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 12 in., depth 76 ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 691 feet above sea level, from topographic map. Measuring point:

Top of casing, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--Sept. 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.17 ft below land-surface datum, Mar. 26, 1984; lowest measured, 58.23 ft below land-surface datum, Dec. 11, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 23.63	MAR 25 21.85	JUN 25 36.66	SEP 13 40.59

395020083003400. Local number, FR-104 TH-72

LOCATION.--Lat 39°50'20", long 83°00'34", Hydrologic Unit 05060001.

Owner.--City of Columbus.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in., depth 100 ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 680 ft above sea level. Measuring point: top of casing, 6.17 ft above land-surface datum.

PERIOD OF RECORD.--Sept. 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.45 ft below land-surface datum, Mar. 26, 1984; lowest measured, 55.37 ft below land-surface datum, Dec. 20, 1990.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 14.54	MAR 25 14.97	JUN 25 29.92	SEP 13 36.24

395019083003300. Local number, FR-104 TH-A

LOCATION.--Lat 39°50'19", long 83°00'33", Hydrologic Unit 05060001.

Owner.--City of Columbus

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 79.3 ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 683 feet above sea level. Measuring point: Top of casing, 3.89 ft above land-surface datum

PERIOD OF RECORD.--Dec. 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.67 ft below land-surface datum, July 28, 1992; lowest measured, 53.59 ft below land-surface datum, Dec. 11, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 16.20	MAR 25 15.19	JUN 25 29.99	SEP 13 34.81

395157083003500. Local number, FR-109

LOCATION.--Lat 39°51'57", long 83°00'35", Hydrologic Unit 05060001.

Owner.--City of Columbus.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in., depth 92 ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 702.2 feet above sea level. Measuring point: Top of outer steel casing, 30.8 ft above land-surface datum.

PERIOD OF RECORD.--June 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.47 ft above land-surface datum, Sept. 05, 1990; lowest measured, 30.56 ft below land-surface datum, Aug. 05, 1988.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 -0.13	MAR 25 3.48	JUN 24 0.49	SEP 13 1.34

395039082585800. Local number, FR-115 TH-67

LOCATION.--Lat 39°50'39", long 82°58'58", Hydrologic Unit 05060001, near Hamilton Meadows.

Owner.--City of Columbus.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 116 ft.

INSTRUMENTATION - Data logger -- 60 minute record.

DATUM.--Elevation of land-surface datum is 721 feet above sea level. Measuring point: Floor of instrument shelter, 2.10 ft above land-surface datum.

PERIOD OF RECORD.--Aug. 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 48.15 ft below land-surface datum, Feb. 28 and 29, 1992; minimum daily low, 27.21 ft below land-surface datum, May 3, 1984.

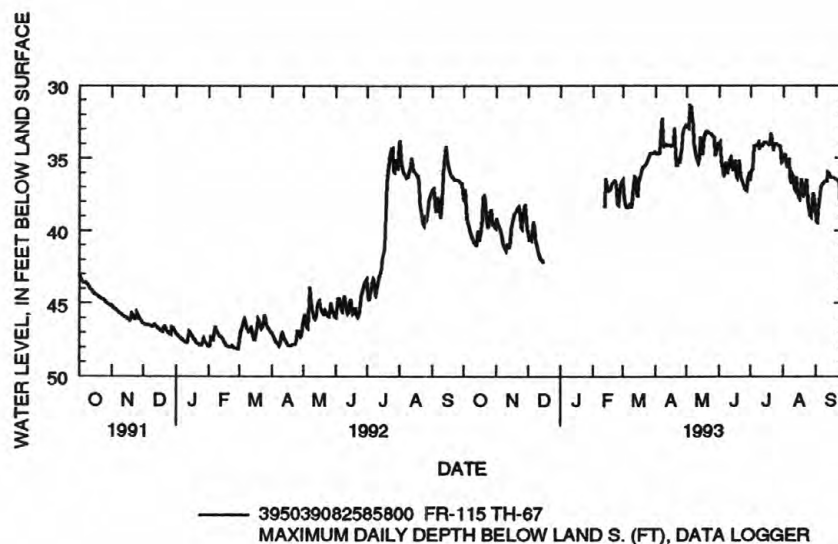
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 17 42.29	FEB 10 36.60	MAR 26 34.81	JUN 25 37.00	SEP 13 36.04

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37.99	39.19	40.24	---	---	36.48	34.64	32.84	34.05	36.01	34.77	39.35
2	37.19	39.51	40.65	---	---	37.44	34.73	32.92	33.99	35.85	34.78	39.41
3	38.48	39.71	40.57	---	---	38.13	34.73	32.96	35.15	35.73	34.82	38.61
4	39.17	39.85	40.67	---	---	38.37	34.66	31.43	35.80	34.19	35.66	38.01
5	39.59	40.05	40.04	---	---	38.42	34.61	31.53	36.28	34.17	35.24	37.01
6	39.89	40.55	39.39	---	---	38.37	33.35	32.19	36.02	34.10	35.02	36.93
7	40.14	40.89	39.78	---	---	38.24	32.28	32.67	35.30	34.09	36.37	36.83
8	40.34	41.13	40.56	---	---	38.35	33.75	33.99	35.81	33.95	36.79	36.72
9	40.59	41.31	40.91	---	---	38.37	34.14	34.57	35.97	34.43	36.10	36.63
10	40.72	41.39	41.29	---	---	38.18	34.07	34.93	35.47	34.10	36.27	36.64
11	40.88	40.94	41.56	---	38.32	36.94	34.05	35.13	35.15	34.11	37.12	36.64
12	41.03	40.96	41.75	---	38.33	36.33	34.15	35.35	34.98	34.15	37.22	36.01
13	41.05	41.21	41.90	---	36.40	36.42	34.13	34.98	35.54	33.98	36.30	36.12
14	40.02	40.74	42.02	---	36.97	37.43	34.11	33.57	35.86	33.91	36.99	36.21
15	40.38	39.89	42.11	---	37.15	37.64	34.09	34.54	35.42	33.96	37.71	36.34
16	40.56	39.43	42.23	---	37.25	36.78	34.17	34.79	35.14	33.99	37.83	36.34
17	39.97	39.04	---	---	37.20	36.35	34.16	33.93	36.13	34.03	36.98	36.36
18	39.18	38.87	---	---	36.90	36.10	34.13	33.45	36.39	34.08	36.44	36.41
19	37.74	38.71	---	---	36.80	35.83	32.93	33.23	35.86	34.07	37.23	36.44
20	37.61	38.57	---	---	36.67	35.66	34.77	33.17	35.18	33.31	37.75	36.45
21	37.75	38.44	---	---	36.60	35.60	35.53	33.23	36.21	33.73	37.25	36.53
22	38.90	38.38	---	---	36.64	35.51	35.52	33.31	36.43	34.48	36.74	36.54
23	39.58	38.89	---	---	37.26	35.38	34.98	33.31	36.66	34.17	36.51	36.57
24	39.82	39.76	---	---	38.15	35.23	35.34	33.36	36.93	34.03	37.97	38.19
25	39.31	39.89	---	---	38.25	35.04	34.81	33.46	37.07	34.02	38.61	38.26
26	38.74	39.02	---	---	37.21	34.85	34.32	33.48	37.20	34.10	38.96	36.42
27	38.53	38.50	---	---	36.90	34.72	33.49	33.60	37.26	34.14	39.08	36.52
28	39.55	38.18	---	---	36.64	34.69	32.99	34.84	36.44	34.16	38.14	36.62
29	39.53	39.31	---	---	---	34.69	32.87	34.61	36.18	34.22	37.42	36.67
30	39.75	39.89	---	---	---	34.68	32.79	34.16	36.56	35.31	37.89	37.34
31	39.84	---	---	---	---	34.59	---	34.03	---	35.21	38.87	---
MAX	41.05	41.39	---	---	---	38.42	35.53	35.35	37.26	36.01	39.08	39.41

395039082585800. Local number, FR-115 TH-67--Continued



395006083010300. Local number, FR-116, M-1

LOCATION.--Lat 39°50'06", long 83°01'36", Hydrologic Unit 05060001.

Owner.--Jackson Township.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 62 ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 725 feet above sea level. Measuring point: Top of plastic pipe, 2.5 ft above land-surface datum.

PERIOD OF RECORD.--Apr. 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 21.48 ft below land-surface datum, Mar. 26, 1984; lowest measured, 28.29 ft below land-surface datum, Dec. 10, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 24.11	MAR 25 22.07	JUN 24 23.82	SEP 13 25.32

395016083010300. Local number, FR-117, M-2

LOCATION.--Lat 39°50'16", long 83°01'03", Hydrologic Unit 05060001.

Owner.--Jackson Township.

AQUIFER.--Clay, sand, and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 45 ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 700 feet above sea level. Measuring point: Top of 2-inch steel pipe, 3.08 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.02 ft below land-surface datum, June 17, 1981; lowest measured, 24.15 ft below land-surface datum, Dec. 10, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 17.68	MAR 25 15.32	JUN 24 17.41	SEP 13 18.8

395058083002400. Local number, FR-119, M-5

LOCATION.--Lat 39°51'11", long 83°00'26", Hydrologic Unit 05060001.

Owner.--Franklin County.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 2 in., depth 85 ft.

INSTRUMENTATION - Data logger -- 60 minute record.

DATUM.--Elevation of land-surface datum is 700 feet above sea level. Measuring point: Top of plywood, 2.48 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 52.34 ft below land-surface datum, Mar. 4-7, 1992; minimum daily low, 11.10 ft below land-surface datum, June 17, 1981.

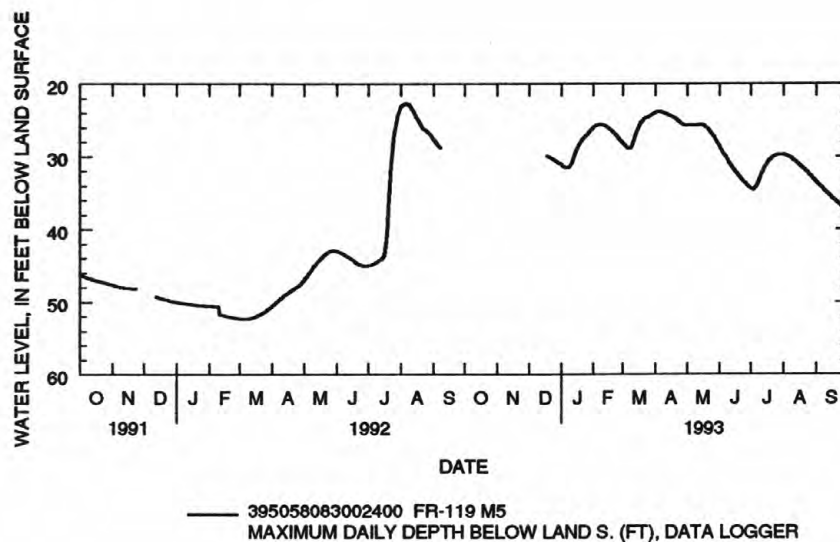
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 17 29.91	FEB 10 25.62	MAR 26 24.42	JUN 25 33.50	SEP 13 35.20

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993 DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	31.13	25.98	28.19	23.90	25.64	28.61	34.39	29.76	33.49
2	---	---	---	31.23	25.85	28.35	23.85	25.64	28.87	34.50	29.79	33.64
3	---	---	---	31.34	25.76	28.51	23.81	25.64	29.12	34.53	29.84	33.80
4	---	---	---	31.44	25.68	28.67	23.81	25.64	29.37	34.53	29.90	33.95
5	---	---	---	31.53	25.62	28.81	23.81	25.64	29.62	34.41	29.96	34.10
6	---	---	---	31.58	25.58	28.84	23.83	25.65	29.85	34.16	30.03	34.25
7	---	---	---	31.58	25.57	28.84	23.87	25.65	30.10	33.84	30.11	34.41
8	---	---	---	31.56	25.57	28.74	23.91	25.66	30.33	33.50	30.21	34.55
9	---	---	---	31.42	25.59	28.49	23.98	25.66	30.57	33.15	30.31	34.69
10	---	---	---	31.18	25.64	28.15	24.04	25.66	30.80	32.79	30.42	34.84
11	---	---	---	30.88	25.69	27.76	24.10	25.65	31.03	32.45	30.53	34.98
12	---	---	---	30.52	25.76	27.35	24.15	25.63	31.25	32.13	30.64	35.11
13	---	---	---	30.12	25.85	26.91	24.21	25.59	31.46	31.84	30.76	35.26
14	---	---	---	29.73	25.94	26.49	24.28	25.56	31.68	31.56	30.87	35.39
15	---	---	---	29.39	26.05	26.12	24.34	25.59	31.87	31.30	31.01	35.54
16	---	---	---	29.06	26.15	25.80	24.42	25.63	32.07	31.06	31.14	35.68
17	---	---	29.92	28.73	26.28	25.51	24.50	25.70	32.26	30.85	31.27	35.82
18	---	---	29.96	28.43	26.42	25.28	24.60	25.80	32.44	30.66	31.41	35.95
19	---	---	29.99	28.14	26.57	25.09	24.70	25.90	32.62	30.49	31.55	36.08
20	---	---	30.06	27.90	26.72	24.93	24.80	26.04	32.80	30.35	31.68	36.21
21	---	---	30.13	27.70	26.87	24.80	24.91	26.19	32.97	30.22	31.82	36.35
22	---	---	30.20	27.51	27.04	24.69	25.02	26.34	33.13	30.11	31.97	36.48
23	---	---	30.27	27.36	27.20	24.61	25.14	26.54	33.29	30.01	32.11	36.61
24	---	---	30.36	27.23	27.38	24.56	25.26	26.73	33.44	29.93	32.26	36.75
25	---	---	30.45	27.11	27.55	24.51	25.38	26.93	33.57	29.87	32.41	36.88
26	---	---	30.54	26.99	27.71	24.45	25.50	27.16	33.71	29.81	32.57	37.01
27	---	---	30.65	26.83	27.86	24.37	25.58	27.39	33.86	29.77	32.73	37.15
28	---	---	30.74	26.66	28.03	24.27	25.63	27.63	34.01	29.75	32.87	37.28
29	---	---	30.84	26.47	---	24.16	25.63	27.86	34.15	29.73	33.03	37.42
30	---	---	30.93	26.30	---	24.05	25.63	28.11	34.27	29.73	33.19	37.56
31	---	---	31.04	26.13	---	23.97	---	28.35	---	29.73	33.33	---
MAX	---	---	31.04	31.58	28.03	28.84	25.63	28.35	34.27	34.53	33.33	37.56

395058083002400. Local number, FR-119 M-5--Continued



395117083011600. Local number, FR-120, M-6

LOCATION.--Lat 39°51'17", long 83°01'16", Hydrologic Unit 05060001, near Columbus.

Owner.--Franklin County.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 72 ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 685 feet above sea level. Measuring point: Floor of instrument shelter, 7.14 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.36 ft below land-surface datum, Mar. 21, 1984; lowest measured, 35.24 ft below land-surface datum, Mar. 16, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 12.05	MAR 31 4.82	JUN 24 12.94	SEP 13 15.17

395123083003300. Local number, FR-121

LOCATION.--Lat 39°51'23", long 83°00'33", Hydrologic Unit 05060001.

Owner.--Franklin County.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 45 ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 690 feet above sea level. Measuring point: Top of casing, 2.6 ft above land-surface datum.

PERIOD OF RECORD.--Oct. 1979 to current year. Well replaced March 1993 by FR-121A.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.01 ft below land-surface datum, Mar. 24, 1984; lowest measured, 38.93 ft below land-surface datum, Mar. 16, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL
DEC 16 18.64	MAR 26 7.85

395123083003301. Local number, FR-121A

LOCATION.--Lat 39°51'23", long 83°00'33", Hydrologic Unit 05060001.

Owner.--City of Columbus.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 60 ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 690.99 feet above sea level. Measuring point: Top of outer steel casing, 3.16 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.53 ft below land-surface datum, Mar. 26, 1993; lowest measured, 24.10 ft below land-surface datum, Sep. 9, 1993.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
MAR 26 8.53	MAR 29 9.57	JUN 25 22.84	SEP 09 24.10

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	HYDRO- GEN PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HYDRO- GEN SULFIDE TOTAL (MG/L AS H2S) (71875)	COLI- FORM, TOTAL, IMMED. MEM.FIL (COLS./ 100 ML) (31504)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ACIDITY (MG/L AS H) (71825)	
MAR 30...	1200	7.0	14.5	--	--	<2	<2	<2	0.4	
SEP 09...	1250	6.8	12.3	0.2	<0.5	--	<2	<2	0.5	
DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE IT-FLD (MG/L AS HCO3) (99440)	ALKA- CAR- BONATE IT-FLD (MG/L AS CO3) (99445)	LINITY, CARBON- ATE IT-FLD (MG/L AS CAC03) (99430)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
MAR 30...	200	43	9.8	2.0	472	--	386	280	25	0.20
SEP 09...	190	54	21	2.2	539	0.0	442	240	57	0.30
DATE	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)
MAR 30...	14	842	1.30	0.050	0.50	<0.010	35	<0.5	<1.0	7
SEP 09...	15	854	0.083	0.150	0.60	0.030	25	<0.5	<1.0	<3
DATE	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)
MAR 30...	<10	950	<10	10	370	<10	270	<6	3	1.2
SEP 09...	<10	4200	<10	10	98	<10	290	<6	40	1.1

395059083000900. Local number, FR-122, M-8

LOCATION.--Lat 39°50'59", long 83°00'09", Hydrologic Unit 05060002, near Shadeville.

Owner.--Franklin County.

AQUIFER.--Clay, sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 104 ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 730 feet above sea level. Measuring point: Top of 3-inch aluminum casing, 2.90 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 30.15 ft below land-surface datum, May 19, 1981; lowest measured, 94.64 ft below land-surface datum, Mar. 2, 1982.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 47.17	MAR 25 45.80	JUN 24 43.62	SEP 13 42.87

395131082592400. Local number, FR-123, M-9

LOCATION.--Lat 39°51'31", long 82°59'24", Hydrologic Unit 05060001, near Hamilton Meadows.

Owner.--Franklin County.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 36.5 ft.

INSTRUMENTATION - Data logger -- 60 minute record.

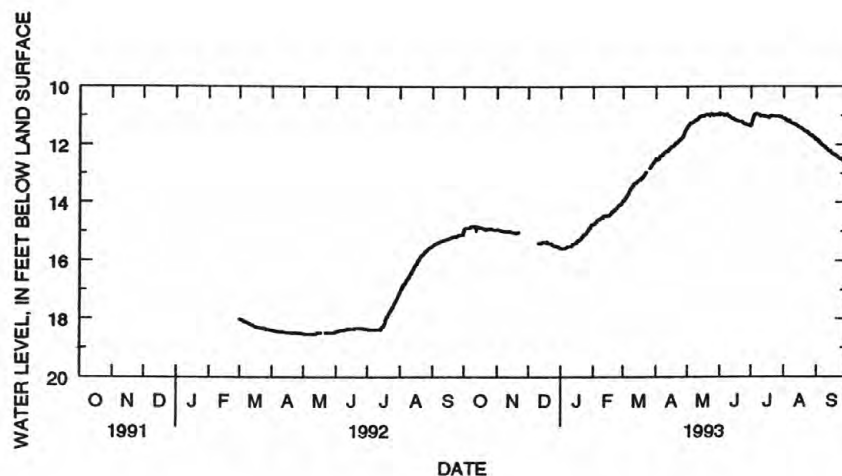
DATUM.--Elevation of land-surface datum is 710 feet above sea level. Measuring point: Floor of shelter, 2.25 ft above land-surface datum.

PERIOD OF RECORD.--Apr. 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 18.55 ft below land-surface datum, May 12, 1992; minimum daily low, 6.87 ft below land-surface datum, April 01, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
NOV 24 15.03	DEC 17 15.34	FEB 10 14.51	MAR 25 12.90	JUN 25 11.28	SEP 13 12.22



— 395131082592400 FR-123
MAXIMUM DAILY DEPTH BELOW LAND S. (FT), DATA LOGGER

395131082592400. Local number, FR-123, M-9--Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.92	14.94	---	15.58	14.76	13.97	12.51	11.40	10.98	11.33	11.09	11.84
2	14.90	14.92	---	15.58	14.74	13.94	12.54	11.35	10.96	11.19	11.12	11.86
3	14.88	14.95	---	15.59	14.69	13.90	12.54	11.31	10.94	11.05	11.17	11.90
4	14.87	14.96	---	15.59	14.68	13.81	12.49	11.26	10.94	10.98	11.18	11.93
5	14.87	14.96	---	15.58	14.64	13.78	12.44	11.26	11.00	10.96	11.20	11.96
6	14.87	14.98	---	15.56	14.61	13.71	12.42	11.25	11.01	10.95	11.19	12.01
7	14.85	14.99	---	15.54	14.58	13.60	12.39	11.22	10.99	10.96	11.24	12.03
8	14.81	14.99	---	15.52	14.56	13.56	12.35	11.19	10.97	10.97	11.26	12.05
9	14.81	15.00	---	15.52	14.55	13.50	12.30	11.17	11.01	10.98	11.28	12.07
10	14.81	15.01	15.38	15.51	14.53	13.45	12.27	11.14	11.05	11.03	11.28	12.14
11	14.81	15.01	15.41	15.52	14.46	13.40	12.25	11.12	11.08	11.00	11.30	12.17
12	14.92	14.98	15.41	15.48	14.46	13.35	12.26	11.08	11.10	11.01	11.31	12.20
13	14.83	15.00	15.40	15.44	14.47	13.35	12.22	11.06	11.10	11.03	11.34	12.23
14	14.84	15.01	15.36	15.44	14.47	13.35	12.16	11.04	11.11	11.04	11.37	12.24
15	14.85	15.03	15.37	15.40	14.46	13.26	12.11	11.02	11.14	11.06	11.38	12.30
16	14.88	15.04	15.36	15.36	14.46	13.24	12.08	11.03	11.17	11.05	11.40	12.32
17	14.88	15.03	15.37	15.31	14.41	13.23	12.08	11.04	11.18	11.06	11.43	12.34
18	14.88	15.05	15.38	15.31	14.38	13.18	12.06	10.99	11.19	11.07	11.45	12.36
19	14.90	15.05	15.37	15.29	14.34	13.13	12.00	10.98	11.20	11.04	11.47	12.38
20	14.90	15.05	15.41	15.27	14.30	13.11	11.97	10.97	11.21	11.00	11.50	12.40
21	14.93	15.04	15.41	15.21	14.28	13.08	11.95	10.98	11.20	11.02	11.54	12.45
22	14.93	15.04	15.42	15.17	14.24	13.02	11.92	11.01	11.22	11.03	11.55	12.47
23	14.92	---	15.44	15.14	14.22	12.95	11.88	10.97	11.26	11.03	11.58	12.50
24	14.89	---	15.47	15.10	14.19	---	11.84	10.94	11.28	11.03	11.61	12.52
25	14.90	---	15.47	15.10	14.12	---	11.80	10.99	11.28	11.04	11.65	12.50
26	14.90	---	15.50	15.03	14.10	12.86	11.76	11.01	11.30	11.03	11.67	12.55
27	14.91	---	15.50	14.96	14.07	12.79	11.71	10.99	11.32	11.04	11.68	12.59
28	14.91	---	15.52	14.90	14.03	12.73	11.60	10.97	11.32	11.05	11.72	12.62
29	14.93	---	15.52	14.89	---	12.68	11.51	10.99	11.35	11.06	11.74	12.66
30	14.94	---	15.53	14.84	---	12.64	11.45	10.96	11.36	11.09	11.77	12.68
31	14.94	---	15.56	14.77	---	12.58	---	10.95	---	11.10	11.81	---
MAX	14.94	---	---	15.59	14.76	---	12.54	11.40	11.36	11.33	11.81	12.68

395008082593100. Local number, FR-126 M-13

LOCATION.--Lat 39°50'08", long 82°59'31", Hydrologic Unit 05060001, near Shadeville.

Owner.--Franklin County.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 122 ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 703 feet above sea level. Measuring point: Top of PVC casing, 4.2 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.96 ft below land-surface datum, June 17, 1981; lowest measured, 51.42 ft below land-surface datum, Nov. 09, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 13.78	MAR 25 8.41	JUN 24 12.49	SEP 13 15.49

395126083014000. Local number, FR-131 M-18.

LOCATION.--Lat 39°51'26", long 83°01'40", Hydrologic Unit 05060001, near Columbus.

Owner.--Franklin County.

AQUIFER.--Clay, sand, and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 53 ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 728 feet above sea level. Measuring point: Top of plastic coupling,

2.4 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 37.77 ft below land-surface datum, July 1, 1981; lowest measured, dry on Dec. 10, 1991; Mar. 16, June 12, and July 28, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 50.18	MAR 25 46.56	JUN 24 46.76	SEP 13 48.04

395218083023900. Local number, FR-133

LOCATION.--Lat 39°52'18", long 83°02'39", Hydrologic Unit 05060001, on White Road near Grove City, Ohio

Owner.--Franklin County.

AQUIFER.--Gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 82 ft, cased to 78 ft, finish: 4.0 ft of 0.80 in. well screen.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 765 feet above sea level, from topographic map. Measuring point:

Top of casing, 0.0 ft above land-surface datum.

PERIOD OF RECORD.--Apr. 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 49.05 ft below land-surface datum, Apr. 1, 1981; lowest measured, 79.36 ft below land-surface datum, June 22, 1978.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 60.69	MAR 25 59.57	JUN 24 59.65	SEP 13 60.26

395020083014400. Local number, FR-141

LOCATION.--Lat 39°50'20", long 83°01'44", Hydrologic Unit 05060001.

Owner.--John Lako.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled domestic water well, diameter 4.25 in., depth 64 ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 720 feet above sea level. Measuring point: Top of casing, 0.6 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 26.13 ft below land-surface datum, June 26, 1990; lowest measured, 31.72 ft below land-surface datum, Dec. 10, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 28.17	MAR 25 26.23	JUN 24 27.82	SEP 13 29.09

395108083010600. Local number FR-147

LOCATION.--Lat 39°51'08", long 83°01'06", Hydrologic Unit 05060001, near Columbus.

Owner.--City of Columbus.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in., depth 75 ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 685 feet above sea level. Measuring point: Top of casing, 2.84 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.54 ft below land-surface datum, May 19, 1981; lowest measured, 45.66 ft below land-surface datum, Dec. 11, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 17.86	MAR 29 9.41	JUN 25 19.40	SEP 13 22.32

395114083010200. Local number, FR-148

LOCATION.--Lat 39°51'14", long 83°01'02", Hydrologic Unit 05060001.

Owner.--City of Columbus.

AQUIFER.--Devonian limestone.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 12 in., depth 140 ft., 12 in. casing to 85 ft; 8 in. casing to 97.5.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 687 feet above sea level. Measuring point: Top of casing, 2.5 ft

above land-surface datum.

PERIOD OF RECORD.--June 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.39 ft below land-surface datum, July 28, 1992; lowest measured, 54.34 ft below land-surface datum, Dec. 11, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 19.87	MAR 29 11.78	JUN 25 22.10	SEP 13 22.58

395024083003000. Local number, FR-149

LOCATION.--Lat 39°50'24", long 83°00'30", Hydrologic Unit 05060001, at Hartman Farms.

Owner.--City of Columbus.

AQUIFER.--Devonian limestone.

WELL CHARACTERISTICS.--Drilled observation water well, depth 144 ft.

INSTRUMENTATION - Continuous recording discontinued Aug. 13, 1991. Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 683 feet above sea level. Measuring point: Top of casing, 2.83 ft

above land-surface datum.

PERIOD OF RECORD.--June 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.33 ft below land-surface datum, June 20, 1990; lowest measured, 30.99 ft below land-surface datum, Dec. 11, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 16.15	MAR 25 12.29	JUN 25 18.59	SEP 13 20.34

394956083002700. Local number, FR-18

LOCATION.--Lat 39°49'56", long 83°00'27", Hydrologic Unit 05060001.

Owner.--City of Columbus.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, depth 74.75 ft, 6 in. casing.

INSTRUMENTATION - Continuous recorder operated by the Ohio Department of Natural Resources, Division of Water.

DATUM.--Elevation of land-surface datum is 695 feet above sea level. Measuring point: Floor of shelter, 4.05

ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.81 ft below land-surface datum, March 25, 1993; lowest measured, 32.04 ft below land-surface datum, Mar. 16, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 19.83	MAR 25 13.81	JUN 24 20.09	SEP 13 22.57

395314083021900. Local number, FR-202

LOCATION.--Lat 39°53'14", long 83°02'19", Hydrologic Unit 05060001.

Owner.--Mr. Daniel Himes

AQUIFER.--Devonian limestone

WELL CHARACTERISTICS.--Drilled domestic water well, diameter 4 in., depth 220 ft., cased to 175 ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 752 feet above sea level. Measuring point: Top of casing,

.17 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 66.17 ft below land-surface datum, June 25, 1979; lowest measured, 96.50 ft below land-surface datum, July 19, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 92.95	MAR 25 89.01	JUN 24 90.18	SEP 13 90.11

395027082592500. Local number, FR-151

LOCATION.--Lat 39°50'27", long 82°59'25", Hydrologic Unit 05060001, near Shadeville.

Owner.--City of Columbus.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 60 ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 718 feet above sea level. Measuring point: Top of plastic pipe, 2.50 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 23.00 ft below land-surface datum, Mar. 26, 1986; lowest measured, 37.56 ft below land-surface datum, Mar. 16, 1992.

REMARKS.--A "K" associated with bacteriological data indicates non-ideal colony counts.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 32.63	MAR 25 27.85	MAR 29 27.37	JUN 24 28.76	SEP 08 30.60

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	HYDRO- GEN PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HYDRO- GEN SULFIDE TOTAL (MG/L AS H2S) (71875)	COLI- FORM, TOTAL, IMMED. MEM.FIL (COLS./ 100 ML) (31504)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ACIDITY (MG/L AS H) (71825)	
MAR 29...	1150	7.0	14.5	--	--	<2	<2	<2	0.5	
SEP 08...	1350	6.9	14.0	0.3	<0.5	--	<2	<2	0.1	
08...	1350	6.9	14.0	0.3	<0.5	--	<2	<2	0.6	
DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE IT-FLD (MG/L AS HCO3) (99440)	CAR- BONATE IT-FLD (MG/L AS CO3) (99445)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L AS CAC03) (99430)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
MAR 29...	170	52	6.5	1.8	460	--	371	280	28	<0.10
SEP 08...	73	20	15	2.1	471	0.0	386	400	25	0.10
08...	220	63	14	2.1	471	0.0	386	420	25	0.10
DATE	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)
MAR 29...	13	806	<0.050	0.040	<0.20	<0.010	52	<0.5	<1.0	10
SEP 08...	15	944	0.220	0.100	0.20	0.020	85	<0.5	<1.0	<3
08...	14	886	0.300	0.200	0.90	0.080	53	<0.5	<1.0	<3
DATE	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)
MAR 29...	<10	2900	<10	4	61	20	310	<6	<3	0.8
SEP 08...	<10	1300	<10	<4	70	<10	170	<6	74	0.8
08...	<10	3400	<10	6	71	10	370	<6	120	0.9

395315083020002. Local number, FR-213

LOCATION.--Lat 39°53'15", long 83°02'00", Hydrologic Unit 05060001.

Owner.--Tom Cannon Co.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled commercial water well, diameter 5 in., depth 97 ft., cased to 97 ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 730 feet above sea level. Measuring point: Top of casing,

0.80 ft above land-surface datum

PERIOD OF RECORD.--June 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 71.38 ft below land-surface datum, June 08, 1982; lowest measured, 84.83 ft below land-surface datum, Mar. 16, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 82.61	MAR 25 82.02	JUN 24 81.74	SEP 13 81.79

395351083013700. Local number, FR-244

LOCATION.--Lat 39°53'35" long 83°01'37", Hydrologic Unit 05060001.

Owner.--Franklin County Waste to Energy Facility.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 4 in., depth 75 ft., cased to 51.4 ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 710 feet above sea level. Measuring point: Top of casing,

3.63 ft above land-surface datum

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 41.89 ft below land-surface datum, Oct. 18, 1979; lowest measured, 73.83 ft below land-surface datum, Dec. 10, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 68.51	MAR 25 68.07	JUN 24 67.93	SEP 13 67.62

395331083013900. Local number, FR-246

LOCATION.--Lat 39°53'31", long 83°01'39", Hydrologic Unit 05060001.

Owner.--Franklin County Waste to Energy Facility.

AQUIFER.--Devonian limestone.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 4 in., depth 142 ft., cased to 89 ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 722 feet above sea level. Measuring point: Top of casing,

0.63 ft above land-surface datum

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 104.40 ft below land-surface datum, Oct. 18, 1979; lowest measured, 127.99 ft below land-surface datum, Mar. 16, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 124.62	MAR 25 121.24	JUN 24 120.88	SEP 13 121.37

395206083014501. Local number, FR-209

LOCATION.--Lat 39°52'06", long 83°01'45", Hydrologic Unit 05060001.

Owner.--Mr. Martin Davis

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled domestic water well, diameter 4 in.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 704 feet above sea level. Measuring point: Top of casing,

0.72 ft above land-surface datum

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.51 ft below land-surface datum, May 23, 1984; lowest measured, 18.11 ft below land-surface datum, Mar. 16, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 16.05	MAR 25 13.10	JUN 24 14.67	SEP 13 15.75

395323083014000. Local number, FR-269

LOCATION.--Lat 39°53'23", long 83°01'40", Hydrologic Unit 05060001.

Owner.--Franklin County Waste to Energy Facility.

AQUIFER.--Devonian limestone.

WELL CHARACTERISTICS.--Drilled commercial water well, depth 90 ft.; 75 ft of 6 in casing.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 705 feet above sea level. Measuring point: Top of casing,

.22 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 67.04 ft below land-surface datum, Apr. 18, 1990; lowest measured,

71.79 ft below land-surface datum, Dec. 10, 1990.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 69.26	MAR 25 68.19	JUN 24 68.13	SEP 13 68.32

395224083000500. Local number, FR-273

LOCATION.--Lat 39°52'24", long 83°00'05", Hydrologic Unit 05060001, at County Water-Treatment Plant.

Owner.--Franklin County

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, depth 91.5 ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 710 feet above sea level. Measuring point: Top of casing,

1.15 ft above land-surface datum.

PERIOD OF RECORD.--May 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.5 ft below land-surface datum, June 27, 1990; lowest measured,

20.78 ft below land-surface datum, Mar. 16, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 17.49	MAR 25 14.02	JUN 24 14.85	SEP 09 15.58

394941083004400. Local number, FR-275

LOCATION.--Lat 39°49'41", long 83°00'44", Hydrologic Unit 05060001, near Shadeville.

Owner.--Franklin County

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, depth 35 ft.; 2 in. casing.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 680 feet above sea level. Measuring point: Top of steel protective

casing, 5.00 ft above land-surface datum.

PERIOD OF RECORD.--Apr. 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.44 ft below land-surface datum, Mar. 26, 1993; lowest measured,

13.12 ft below land-surface datum, Apr. 18, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 9.65	MAR 26 1.44	JUN 24 10.53	SEP 13 12.22

395055082592400. Local number, FR-271

LOCATION.--Lat 39°50'55", long 82°59'24", Hydrologic Unit 05060001, at Parsons Avenue Water Plant

Owner.--Franklin County

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, depth 91.8 ft.; 76 ft of 2 in casing.

INSTRUMENTATION - Data logger -- 60 minute record.

DATUM.--Elevation of land-surface datum is 710 feet above sea level. Measuring point: Top of PVC casing,

2.53 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 25.00 ft below land-surface datum, Apr. 25 - May 2, 1992; minimum daily low,

13.92 ft below land-surface datum, Mar. 18, 1991.

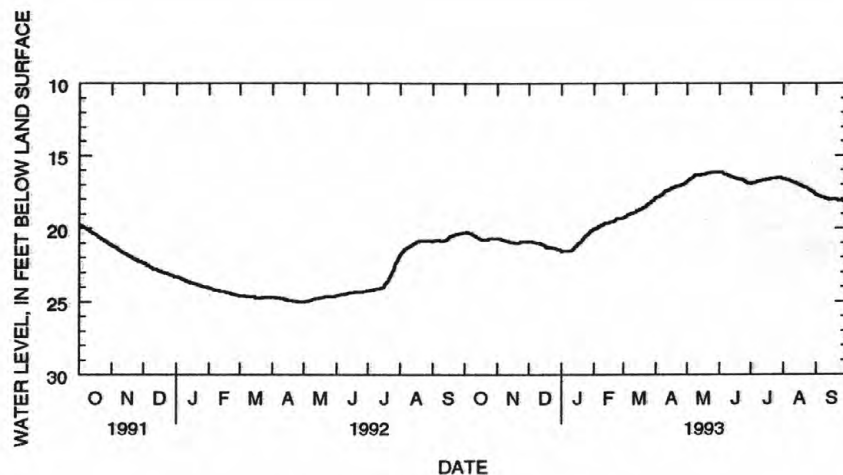
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
NOV 23 20.82	DEC 17 21.20	FEB 10 19.72	MAR 25 18.34	JUN 25 16.78	SEP 13 18.00

395055082592400. Local number, FR-271--Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.29	20.70	20.91	21.57	20.05	19.29	17.89	16.80	16.19	16.98	16.60	17.71
2	20.29	20.70	20.91	21.56	20.05	19.25	17.86	16.74	16.19	16.94	16.62	17.77
3	20.28	20.70	20.95	21.56	20.01	19.21	17.86	16.68	16.19	16.88	16.67	17.80
4	20.29	20.71	20.95	21.56	19.97	19.18	17.84	16.63	16.19	16.88	16.69	17.82
5	20.31	20.77	20.98	21.55	19.93	19.05	17.78	16.56	16.29	16.88	16.72	17.86
6	20.35	20.80	20.98	21.55	19.88	19.05	17.73	16.52	16.32	16.84	16.72	17.90
7	20.36	20.82	20.99	21.54	19.85	19.05	17.70	16.46	16.32	16.81	16.76	17.92
8	20.39	20.83	21.00	21.54	19.79	19.01	17.62	16.40	16.32	16.79	16.80	17.92
9	20.44	20.86	21.00	21.54	19.79	18.99	17.54	16.35	16.37	16.78	16.82	17.93
10	20.47	20.88	21.00	21.53	19.75	18.98	17.46	16.36	16.41	16.76	16.83	17.99
11	20.55	20.89	21.03	21.52	19.68	18.90	17.46	16.35	16.43	16.75	16.86	18.00
12	20.57	20.90	21.08	21.44	19.65	18.90	17.40	16.34	16.46	16.71	16.89	18.00
13	20.64	20.94	21.10	21.36	19.63	18.86	17.40	16.33	16.48	16.70	16.94	18.06
14	20.66	20.96	21.12	21.29	19.64	18.77	17.37	16.33	16.50	16.70	16.98	18.05
15	20.69	20.98	21.13	21.24	19.64	18.77	17.31	16.30	16.52	16.67	17.01	18.03
16	20.74	20.99	21.19	21.16	19.60	18.75	17.25	16.29	16.56	16.66	17.04	18.03
17	20.77	21.00	21.27	21.06	19.56	18.72	17.25	16.29	16.57	16.65	17.08	18.03
18	20.77	21.00	21.30	21.03	19.56	18.70	17.25	16.29	16.61	16.65	17.10	18.04
19	20.78	21.00	21.29	20.97	19.55	18.68	17.22	16.24	16.62	16.63	17.13	18.05
20	20.78	21.00	21.33	20.90	19.51	18.62	17.14	16.24	16.63	16.57	17.17	18.05
21	20.78	21.00	21.33	20.80	19.47	18.58	17.11	16.23	16.64	16.57	17.21	18.07
22	20.78	21.00	21.34	20.69	19.35	18.56	17.11	16.23	16.67	16.57	17.24	18.10
23	20.78	20.95	21.35	20.62	19.32	18.49	17.10	16.23	16.70	16.56	17.25	18.10
24	20.72	20.95	21.37	20.54	19.33	18.37	17.09	16.19	16.74	16.56	17.32	18.13
25	20.70	20.95	21.37	20.49	19.33	18.36	17.05	16.18	16.80	16.56	17.36	18.13
26	20.70	20.95	21.38	20.43	19.32	18.29	17.02	16.19	16.82	16.55	17.41	18.15
27	20.69	20.95	21.41	20.33	19.32	18.24	17.01	16.19	16.88	16.54	17.46	18.18
28	20.70	20.95	21.44	20.28	19.33	18.16	16.97	16.18	16.92	16.54	17.52	18.21
29	20.70	20.95	21.45	20.19	---	18.11	16.90	16.18	16.94	16.54	17.55	18.24
30	20.70	20.94	21.47	20.19	---	18.06	16.83	16.18	16.95	16.58	17.59	18.26
31	20.70	---	21.47	20.11	---	17.99	---	16.16	---	16.60	17.66	---
MAX	20.78	21.00	21.47	21.57	20.05	19.29	17.89	16.80	16.95	16.98	17.66	18.26
CAL	YR	1992	LOW	25.00								
WTR	YR	1993	LOW	21.57								



— 395055082592400 FR-271
MAXIMUM DAILY DEPTH BELOW LAND S. (FT), DATA LOGGER

395055082592401. Local number FR-272

LOCATION.--Lat 39°50'55", long 82°59'24", Hydrologic Unit 05060001.

Owner.--City of Columbus.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, depth 45.95; 2 in. PVC.

INSTRUMENTATION - Data logger -- 60 minute record.

DATUM.--Elevation of land-surface datum is 710 feet above sea level. Measuring point: Top of outer steel casing, 2.36 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 25.45 ft below land-surface datum, Apr. 24, 1992; minimum daily low, 14.53 ft below land-surface datum, Mar. 18, 1991.

REMARKS.--A "K" associated with bacteriological data indicates non-ideal colony counts.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
NOV 23 21.40	DEC 17 21.79	FEB 10 20.17	MAR 25 18.89	MAR 30 18.58	JUN 25 17.37	SEP 8 18.55

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	HYDRO- GEN PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HYDRO- GEN SULFIDE TOTAL (MG/L AS H2S) (71875)	COLI- FORM, TOTAL, IMMED. MEM.FIL (COLS./ 100 ML) (31504)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ACIDITY (MG/L AS H) (71825)
MAR 30...	1100	7.0	14.0	--	--	>100	<2	>200	0.5
MAR 30...	1100	7.0	14.0	--	--	--	--	--	0.5
SEP 08...	1400	7.0	14.5	0.2	<0.5	--	<2	<2	0.7

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE IT-FLD (MG/L AS HCO3) (99440)	CAR- BONATE IT-FLD (MG/L AS CO3) (99445)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L AS CAC03) (99430)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
MAR 30...	160	48	12	2.1	462	--	379	220	41	0.10
MAR 30...	150	48	12	2.0	462	--	379	220	43	0.10
SEP 08...	75	19	58	2.2	483	0.0	396	360	60	0.20

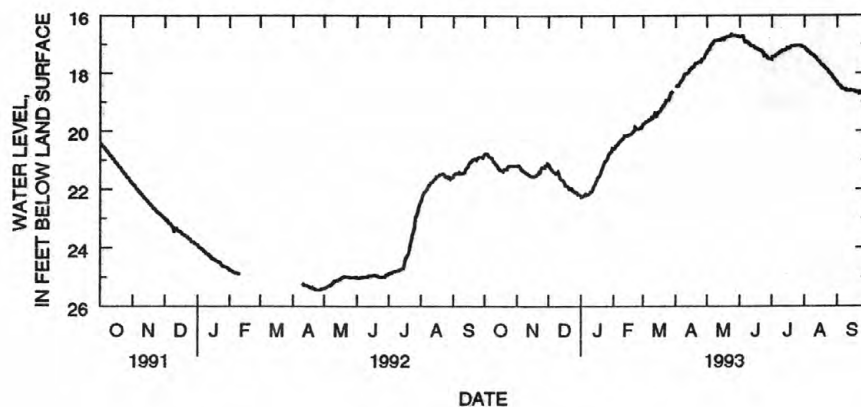
DATE	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L AS N) (70300)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	BARIIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)
MAR 30...	13	740	<0.050	0.050	<0.20	<0.010	47	<0.5	<1.0	20
MAR 30...	13	746	<0.050	0.050	<0.20	<0.010	47	<0.5	<1.0	20
SEP 08...	20	920	<0.050	0.080	0.60	0.060	63	<0.5	<1.0	<3

DATE	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)
MAR 30...	<10	3700	10	5	73	10	140	<6	<3	1.1
MAR 30...	<10	3700	<10	5	72	20	140	<6	<3	1.1
SEP 08...	<10	1300	<10	10	69	<10	240	<6	24	1.2

395055082592401. Local number FR-272--Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.80	21.21	21.16	22.26	20.62	19.76	18.44	17.27	16.75	17.54	17.11	18.34
2	20.78	21.18	21.24	22.25	20.59	19.74	18.47	17.21	16.73	17.43	17.16	18.39
3	20.78	21.20	21.31	22.22	20.51	19.72	18.44	17.17	16.71	17.43	17.21	18.43
4	20.83	21.26	21.33	22.20	20.50	19.67	18.39	17.10	16.72	17.42	17.24	18.48
5	20.88	21.31	21.41	22.16	20.44	19.68	18.33	17.02	16.88	17.38	17.26	18.52
6	20.90	21.35	21.39	22.19	20.39	19.64	18.29	16.98	16.91	17.35	17.26	18.55
7	20.92	21.38	21.42	22.17	20.35	19.59	18.24	16.93	16.90	17.33	17.31	18.55
8	20.96	21.40	21.46	22.16	20.31	19.59	18.15	16.88	16.94	17.31	17.36	18.55
9	21.03	21.42	21.46	22.15	20.30	19.53	18.08	16.88	16.97	17.28	17.38	18.55
10	21.06	21.45	21.41	22.08	20.24	19.56	18.03	16.86	17.01	17.28	17.40	18.62
11	21.12	21.47	21.52	22.06	20.15	19.47	18.02	16.86	17.05	17.22	17.44	18.63
12	21.16	21.49	21.60	22.00	20.16	19.40	18.01	16.84	17.06	17.22	17.48	18.62
13	21.22	21.54	21.66	21.90	20.17	19.50	17.97	16.86	17.07	17.22	17.52	18.62
14	21.26	21.54	21.68	21.82	20.17	19.46	17.91	16.83	17.07	17.20	17.57	18.60
15	21.31	21.55	21.70	21.75	20.14	19.35	17.86	16.80	17.12	17.18	17.59	18.63
16	21.35	21.55	21.78	21.68	20.14	19.33	17.82	16.85	17.15	17.14	17.65	18.63
17	21.36	21.53	21.88	21.58	20.12	19.32	17.81	16.84	17.16	17.15	17.71	18.62
18	21.36	21.53	21.90	21.56	20.10	19.25	17.79	16.78	17.18	17.14	17.74	18.65
19	21.37	21.54	21.89	21.49	20.03	19.17	17.72	16.75	17.20	17.11	17.76	18.66
20	21.32	21.50	21.97	21.41	19.97	19.14	17.66	16.73	17.22	17.07	17.80	18.65
21	21.32	21.46	21.96	21.29	19.87	19.10	17.67	16.73	17.23	17.06	17.85	18.69
22	21.31	21.39	21.96	21.15	19.92	19.02	17.64	16.73	17.27	17.07	17.87	18.71
23	21.25	21.42	22.00	21.12	19.94	18.94	17.63	16.69	17.32	17.05	17.90	18.68
24	21.21	21.27	22.05	21.03	19.94	18.94	17.61	16.67	17.39	17.06	17.96	18.72
25	21.21	21.24	22.06	21.01	19.91	18.94	17.63	16.71	17.37	17.05	18.01	18.72
26	21.19	21.26	22.09	20.93	19.91	18.85	17.52	16.71	17.42	17.04	18.05	18.76
27	21.21	21.26	22.10	20.83	19.88	18.72	17.52	16.70	17.47	17.05	18.10	18.79
28	21.19	21.18	22.13	20.75	19.85	18.67	17.45	16.71	17.51	17.05	18.16	18.85
29	21.21	21.17	22.17	20.76	---	40.93	17.38	16.73	17.52	17.06	18.20	18.85
30	21.21	21.12	22.18	20.70	---	---	17.31	16.72	17.51	17.10	18.23	18.86
31	21.21	---	22.21	20.60	---	---	---	16.73	---	17.12	18.29	---
MAX	21.37	21.55	22.21	22.26	20.62	---	18.47	17.27	17.52	17.54	18.29	18.86



— 395055082592401 FR-272
MAXIMUM DAILY DEPTH BELOW LAND S. (FT), DATA LOGGER

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

169

395224083000501. Local number, FR-274

LOCATION.--Lat 39°52'24", long 83°00'05", Hydrologic Unit 05060001, at County Water-Treatment Plant.

Owner.--Franklin County

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, depth 25 ft.; 4 in. casing.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 710 feet above sea level. Measuring point: Top of PVC casing, 2.44 ft above land-surface datum.

PERIOD OF RECORD.--May 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.63 ft below land-surface datum, Mar. 18, 1991; lowest measured, 16.98 ft below land-surface datum, Mar. 16, 1992.

REMARKS.--A "K" associated with bacteriological data indicates non-ideal colony counts.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 15.36	MAR 25 13.48	MAR 29 13.44	JUN 24 13.52	SEP 09 14.09

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	HYDRO- GEN PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HYDRO- GEN SULFIDE TOTAL (MG/L AS H2S) (71875)	COLI- FORM, TOTAL, IMMED. MEM.FIL (COLS./ 100 ML) (31504)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ACIDITY (MG/L AS H) (71825)	
MAR 29...	1200	7.2	13.0	--	--	<2	<2	<2	0.3	
SEP 09...	940	7.2	14.3	0.3	<0.5	--	<2	<2	0.4	
DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE IT-FLD (MG/L AS HCO3) (99440)	CAR- BONATE IT-FLD (MG/L AS CO3) (99445)	ALKA- LITY, CARBON- ATE IT-FLD (MG/L CAC03) (99430)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
MAR 29...	95	29	120	2.8	362	--	296	86	200	0.30
SEP 09...	100	27	83	2.3	434	0.0	356	100	58	0.30
DATE	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	BARIIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)
MAR 29...	12	732	0.140	0.150	0.30	<0.010	65	<0.5	<1.0	8
SEP 09...	14	557	0.340	0.150	0.50	0.050	46	<0.5	<1.0	<3
DATE	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)
MAR 29...	<10	1700	<10	8	44	30	150	<6	4	1.9
SEP 09...	<10	1600	10	7	46	10	140	<6	16	1.5

395239083021400. Local number, FR-276

LOCATION.--Lat 39°52'39", long 83°02'14", Hydrologic Unit 05060001

Owner.--Stanley and Betty Wray.

AQUIFER.--Devonian limestone

WELL CHARACTERISTICS.--Drilled domestic water well, depth 155 ft.

INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.

1.25 ft above land-surface datum.

PERIOD OF RECORD.--June 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 71.46 ft below land-surface datum, Mar. 18, 1991; lowest measured, 76.05 ft below land-surface datum, Mar. 16, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 73.68	MAR 25 72.69	JUN 24 72.77	SEP 13 73.35

394930083013100. Local number, FR-277

LOCATION.--Lat 39°49'30", long 83°01'31", Hydrologic unit 05060001

Owner.--Mr. and Mrs. Steve Doersam

AQUIFER.--Sand and gravel of Quaternary Age

WELL CHARACTERISTICS.--Drilled domestic water well, depth 52 ft.

INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 713 ft. above sea level. Measuring point: Top of casing, 1.5 ft above land-surface datum.

PERIOD OF RECORD.--Dec. 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.-- Highest water level measured, 16.30 ft below land-surface datum, March 25, 1993; lowest measured, 21.33 ft below land-surface datum, Dec. 10, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 17.86	MAR 25 16.30	JUN 24 17.73	SEP 13 19.29

395115083022600. Local number, FR-278

LOCATION.--Lat 39°51'15", long 83°02'26", Hydrologic Unit 05060001

Owner.--Mr. Mark Boster

AQUIFER.--Quaternary sand and gravel-primary; Devonian limestone-secondary

WELL CHARACTERISTICS.--Drilled domestic water well, diameter 5 in, depth 114 ft, 10 ft screen.

INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 735 feet above sea level. Measuring point: Top of casing, 0.95 ft above land-surface datum.

PERIOD OF RECORD.-- July 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 29.24 ft below land-surface datum, Mar. 18, 1991; lowest measured, 35.11 ft below land-surface datum, Dec. 10, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 32.35	MAR 25 30.99	JUN 24 31.41	SEP 13 32.46

394932083022700. Local number, FR-279

LOCATION.--Lat 39°49'32", long 83°02'27", Hydrologic unit 05060001

Owner.--Mr. Gerald Boggs

AQUIFER.--Devonian limestone

WELL CHARACTERISTICS.--Drilled domestic water well, diameter 5 in, depth 145 ft, cased to 102 ft.

INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 735 ft. above sea level. Measuring point: Top of casing, 1.35 ft above land-surface datum.

PERIOD OF RECORD.-- Sept. 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.85 ft below land-surface datum, Mar. 18, 1991; lowest measured, 23.54 ft below land-surface datum, Sep. 12, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 11.75	MAR 25 9.01	JUN 24 8.83	SEP 13 15.65

395000082581700. Local number, FR-281

LOCATION.--Lat 39°50'00", long 82°58'17", Hydrologic Unit 05060001.

Owner.--Hamilton Township Trustees.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled domestic water-supply well, depth 83 ft., 4 in. steel.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 731 feet above sea level. Measuring point: top of casing, 40 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 36.77 ft below land-surface datum, March 25, 1993; lowest measured, 42.42 ft below land-surface datum, March 16, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 39.68	MAR 25 36.77	JUN 24 37.38	SEP 13 38.28

394921083004700. Local number, FR-282

LOCATION.--Lat 39°49'21", long 83°00'47", Hydrologic Unit 05060001.

Owner.--City of Columbus.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, depth 56 ft., 2 in. PVC.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 673 feet above sea level. Measuring point: top of casing, 3.00 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.75 ft below land-surface datum, March 26, 1993; lowest measured, 10.90 ft below land-surface datum, Sept. 13, 1993.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 8.23	MAR 26 0.75	JUN 24 9.29	SEP 13 10.90

395118082573300. Local number, FR-3

LOCATION.--Lat 39°51'18", long 82°57'33", Hydrologic Unit 05060001.

Owner.--R. Hann.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, depth 60 ft.; 12 in. casing.

INSTRUMENTATION - Continuous recorder operated by the Ohio Department of Natural Resources, Division of Water.

DATUM.--Elevation of land-surface datum is 713.0 feet above sea level. Measuring point: Floor of shelter, 3.43 ft. above land-surface datum

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.33 ft below land-surface datum, Mar. 30, 1984 and Nov 29, 1985; lowest measured, 16.48 feet below land-surface datum, Dec. 20, 1989.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 12.18	MAR 25 9.39	JUN 24 12.61	SEP 13 13.24

395037082581900. Local number, FR-36

LOCATION.--Lat 39°50'37", long 82°58'19", Hydrologic Unit 05060001.

Owner.--J.P. Sand and Gravel

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 4 in., depth 31 ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 715 feet above sea level. Measuring point: Top of casing, 1.3 ft above land-surface datum

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.03 ft below land-surface datum, Oct. 17, 1979; lowest measured, 21.69 ft below land-surface datum, Mar. 16, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 19.42	MAR 25 17.49	JUN 24 17.48	SEP 13 18.52

394927082595800. Local number, FR-70.

LOCATION.--Lat 39°49'27", long 82°59'58", Hydrologic Unit 05060001.

Owner.--St. Joseph Cemetery.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, depth 59 ft.; 4 in. casing.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 705 feet above sea level. Measuring point: Top of concrete base, 0.35 ft above land-surface datum.

PERIOD OF RECORD.--Apr. 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.24 ft below land-surface datum, Mar. 18, 1991; lowest measured, 27.60 ft below land-surface datum, June 12, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 21.25	MAR 25 15.23	JUN 24 16.56	SEP 13 19.55

395217083002300. Local number FR-72

LOCATION.--Lat 39°52'17", long 83°00'23", Hydrologic Unit 05060001.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, depth 34.6 ft, 3 in. casing.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 715 feet above sea level. Measuring point: Top of casing inside pit, 3.5 ft below land-surface datum.

PERIOD OF RECORD.--May 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 23.01 ft below land-surface datum, June 27, 1990; lowest measured, dry on Mar. 16, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 35.22	MAR 25 31.93	JUN 24 34.30	SEP 13 35.78

395027082585600. Local number TH-83 M-15

LOCATION.--Lat 39°50'27", long 82°58'56", Hydrologic Unit 05060001

Owner.--J.P. Sand and Gravel

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, 8 in. diameter, 64 feet deep.

INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 707 feet above sea level. Measuring point: Top of casing, 1.70 ft above land-surface datum

PERIOD OF RECORD.--Oct. 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--highest water level measured, 11.71 ft below land-surface datum, June 17, 1981; lowest measured, 38.08 ft below land-surface datum, Dec. 10, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

WATER LEVEL	WATER LEVEL	WATER LEVEL	WATER LEVEL
DEC 16 31.78	MAR 25 22.63	JUN 24 22.76	SEP 13 23.76

The following tables list the results of chemical analysis of ground-water samples collected from eight sites throughout Ohio, established to monitor the ground-water quality in areas near state highways where road deicing is practiced. Some wells, with station ID's ending in "01" through "06" represent the multiports within the same well ending in "00". Level "01" is the deepest port and level "06" is the shallowest port. These ports were sampled using dialysis tubing filled with distilled water, set at each level and allowed to come to equilibrium in thirty to forty-five days. Wells at the sites in Pickaway and Clark counties were not sampled this water year due to lack of salt application in those areas. Sampling will resume at those sites as soon as salt is applied. Ground-water level measurements are listed in the third table.

This study began in 1988 and will continue through 1997. Water-quality sampling will be done 1991-1996. These data are presented to the Ohio Department of Transportation for their use in reviewing deicing practices and to accumulate base-line data.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1992 THROUGH SEPTEMBER 1993

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

CHAMPAIGN COUNTY SITE #7 (SR 29)

400947083480001 CH-44 NR URBANA OH-LEVEL 1 (LAT 40 09 47N LONG 083 48 00W)

NOV 1992						
04...	1130	831	110	12	38	0.02
DEC						
11...	1100	784	100	28	34	0.01
JAN 1993						
27...	1345	1040	110	57	43	0.05
MAR						
02...	1040	1040	110	60	54	0.04
APR						
20...	1315	1040	110	50	60	0.03
MAY						
20...	1155	989	110	45	56	0.04
JUL						
08...	1305	1020	110	50	52	0.03
AUG						
19...	1300	913	100	29	43	0.03

400947083480002 CH-44 NR URBANA OH-LEVEL 2 (LAT 40 09 47N LONG 083 48 00W)

NOV 1992						
04...	1135	872	110	16	42	0.03
DEC						
11...	1105	810	110	18	38	0.03
JAN 1993						
27... *	1340	1020	120	43	36	0.06
MAR						
02...	1035	1020	110	57	50	0.04
APR						
20...	1310	1020	110	56	57	0.03
MAY						
20...	1150	987	110	46	53	0.05
JUL						
08...	1310	961	110	41	44	0.03
AUG						
19...	1255	962	110	38	55	0.03

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
400947083480003 CH-44 NR URBANA OH-LEVEL 3 (LAT 40 09 47N LONG 083 48 00W)						
NOV 1992						
04...	1140	901	110	22	42	0.03
DEC						
11...	1110	835	100	24	38	<0.01
JAN 1993						
27...	1335	904	110	25	42	0.03
MAR						
02...	1030	960	110	33	41	0.04
APR						
20...	1305	992	110	45	47	0.05
MAY						
20...	1145	976	110	40	45	0.04
JUL						
08...	1315	979	110	39	45	0.02
AUG						
19...	1250	984	98	43	56	0.04
400947083480004 CH-44 NR URBANA OH-LEVEL 4 (LAT 40 09 47N LONG 083 48 00W)						
NOV 1992						
04...	1145	1010	100	41	66	0.04
DEC						
11...	1115	994	93	38	56	0.02
JAN 1993						
27...	1330	875	110	25	42	0.05
MAR						
02...	1025	1020	97	37	56	0.06
APR						
20...	1300	1030	97	43	52	0.05
MAY						
20...	1140	1120	110	40	52	0.07
JUL						
08...	1320	1160	120	41	52	0.04
AUG						
19...	1245	1170	100	45	55	0.03
400948083475801 CH-46 NR URBANA OH-LEVEL 1 (LAT 40 09 48N LONG 083 47 58W)						
NOV 1992						
04...	1100	1070	110	59	98	0.03
DEC						
11...	1250	916	110	36	64	0.03
JAN 1993						
27...	1340	917	110	28	43	0.03
MAR						
02...	1205	903	110	27	40	0.02
APR						
20...	1410	936	110	38	45	0.02
MAY						
20...	1225	872	100	39	44	0.03
JUL						
08...	1215	835	110	39	40	0.03
AUG						
19...	1330	850	100	36	45	0.02

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
400948083475802 CH-46 NR URBANA OH-LEVEL 2 (LAT 40 09 48N LONG 083 47 58W)						
NOV 1992						
04...	1055	963	110	50	87	0.04
DEC						
11...	1245	874	100	32	65	0.03
JAN 1993						
27...	1335	924	120	25	38	0.05
MAR						
02...	1200	905	110	25	40	0.03
APR						
20...	1405	950	110	39	44	0.02
MAY						
20...	1220	872	110	37	44	0.03
JUL						
08...	1210	837	110	39	40	0.01
AUG						
19...	1325	847	110	34	45	0.03
400948083475803 CH-46 NR URBANA OH-LEVEL 3 (LAT 40 09 48N LONG 083 47 58W)						
NOV 1992						
04...	1050	946	120	42	80	0.03
DEC						
11...	1240	917	110	31	66	0.03
JAN 1993						
27...	1330	1010	100	39	52	0.08
MAR						
02...	1155	901	110	26	39	0.03
APR						
20...	1400	940	110	38	48	0.02
MAY						
20...	1215	875	110	37	44	0.03
JUL						
08...	1205	774	110	39	39	0.02
AUG						
19...	1320	844	110	35	48	0.02
400948083475804 CH-46 NR URBANA OH-LEVEL 4 (LAT 40 09 48N LONG 083 47 58W)						
NOV 1992						
04...	1045	960	110	38	74	0.03
DEC						
11...	1230	863	100	34	58	0.03
JAN 1993						
27...	1325	--	120	26	45	0.01
MAR						
02...	1150	893	120	24	38	0.02
APR						
20...	1355	897	110	33	51	0.01
MAY						
20...	1210	871	110	34	49	0.03
JUL						
08...	1200	803	110	39	39	0.02
AUG						
19...	1315	846	100	30	52	0.01

176 EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
400948083475805 CH-46 NR URBANA OH-LEVEL 5 (LAT 40 09 48N LONG 083 47 58W)						
NOV 1992						
04...	1040	838	110	25	47	0.02
DEC						
11...	1220	896	110	36	46	0.01
JAN 1993						
27...	1320	--	110	31	45	--
MAR						
02...	1145	933	--	--	49	0.02
APR						
20...	1350	896	100	32	51	0.01
MAY						
20...	1205	821	120	29	48	0.01
JUL						
08...	1155	809	110	40	36	0.02
AUG						
19...	1310	849	95	28	51	0.03
400948083475806 CH-46 NR URBANA OH-LEVEL 6 (LAT 40 09 48N LONG 083 47 58W)						
DEC						
11...	1215	805	100	33	47	0.02
JAN 1993						
27...	1315	876	100	27	40	0.03
MAR						
02...	1140	899	100	31	45	0.02
APR						
20...	1345	818	94	27	44	0.01
MAY						
20...	1200	762	93	24	36	0.01
JUL						
08...	1150	732	100	31	31	0.02
AUG						
19...	1305	732	100	19	28	<0.01
400948083480002 CH-45 NR URBANA OH-LEVEL 2 (LAT 40 09 48N LONG 083 48 00W)						
NOV 1992						
04...	1125	727	110	12	33	0.02
DEC						
11...	1210	842	100	24	40	0.01
JAN 1993						
27...	1310	943	110	32	37	0.03
MAR						
02...	1135	984	110	53	53	0.01
APR						
20...	1340	969	100	50	50	0.02
MAY						
20...	1245	900	110	41	58	0.03
JUL						
08...	1240	834	--	--	40	0.03
AUG						
19...	1355	766	100	21	32	0.02

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
400948083480003 CH-45 NR URBANA OH-LEVEL 3 (LAT 40 09 48N LONG 083 48 00W)						
NOV 1992						
04...	1120	633	110	13	35	0.02
DEC						
11...	1205	877	100	26	41	0.01
JAN 1993						
27...	1305	907	--	--	36	0.01
MAR						
02...	1130	877	110	46	49	0.02
APR						
20...	1335	950	110	42	47	0.03
MAY						
20...	1240	857	110	43	57	0.03
JUL						
08...	1235	818	110	44	42	0.02
AUG						
19...	1350	--	--	45	55	<0.01
400948083480004 CH-45 NR URBANA OH-LEVEL 4 (LAT 40 09 48N LONG 083 48 00W)						
NOV 1992						
04...	1115	1060	120	56	110	0.03
DEC						
11...	1200	762	100	26	39	0.01
JAN 1993						
27...	1300	909	110	24	34	0.05
MAR						
02...	1125	980	110	46	47	0.02
APR						
20...	1330	916	100	47	56	0.02
MAY						
20...	1235	804	110	41	59	0.02
JUL						
08...	1230	880	110	43	44	<0.01
AUG						
19...	1345	860	110	48	64	0.02
400948083480005 CH-45 NR URBANA OH-LEVEL 5 (LAT 40 09 48N LONG 083 48 00W)						
NOV 1992						
04...	1110	1080	120	59	110	0.03
DEC						
11...	1155	843	99	30	38	0.02
JAN 1993						
27...	1255	898	110	33	36	--
MAR						
02...	1120	952	110	40	46	0.01
APR						
20...	1325	888	100	29	49	0.02
MAY						
20...	1230	769	110	31	54	0.02
JUL						
08...	1225	800	110	37	43	0.02
AUG						
19...	1340	861	96	40	57	0.01

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
400948083480006 CH-45 NR URBANA OH-LEVEL 6 (LAT 40 09 48N LONG 083 48 00W)						
NOV 1992						
04...	1105	762	88	25	36	0.02
DEC						
11...	1150	814	99	24	43	<0.01
JAN 1993						
27...	1250	888	110	20	34	0.02
MAR						
02...	1115	824	110	13	37	0.02
APR						
20...	1320	765	97	18	33	<0.01
JUL						
08...	1220	807	110	31	43	0.01
AUG						
19...	1335	--	95	15	24	<0.01
400948083480101 CH-43 NR URBANA OH-LEVEL 1 (LAT 40 09 48N LONG 083 48 01W)						
NOV 1992						
04...	1030	774	110	14	38	0.03
DEC						
11...	1145	849	110	36	37	<0.01
JAN 1993						
27...	1240	1040	110	63	42	0.04
MAR						
02...	1110	1020	110	59	55	0.03
APR						
20...	1350	990	--	--	57	0.04
MAY						
20...	1125	905	110	42	51	0.03
JUL						
08...	1300	945	130	47	50	0.02
AUG						
19...	1240	771	110	19	32	0.02
400948083480102 CH-43 NR URBANA OH-LEVEL 2 (LAT 40 09 48N LONG 083 48 01W)						
NOV 1992						
04...	1025	811	110	12	37	0.01
DEC						
11...	1140	897	100	36	37	<0.01
JAN 1993						
27...	1235	1050	110	60	43	0.04
MAR						
02...	1105	1020	110	58	53	0.03
APR						
20...	1345	1010	150	44	59	0.07
MAY						
20...	1120	872	110	40	50	0.03
JUL						
08...	1255	890	110	49	51	0.03
AUG						
19...	1235	--	110	16	29	0.02

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
400948083480103 CH-43 NR URBANA OH-LEVEL 3 (LAT 40 09 48N LONG 083 48 01W)						
NOV 1992						
04...	1020	644	110	13	36	0.03
DEC						
11...	1135	870	100	39	36	0.02
JAN 1993						
27...	1230	1050	110	60	44	0.05
MAR						
02...	1100	1020	110	61	52	0.04
APR						
20...	1215	1010	110	47	60	0.03
MAY						
20...	1115	896	110	41	51	0.02
JUL						
08...	1250	937	120	44	50	0.03
AUG						
19...	1230	866	110	36	54	0.02
400948083480104 CH-43 NR URBANA OH-LEVEL 4 (LAT 40 09 48N LONG 083 48 01W)						
NOV 1992						
04...	1015	776	110	13	39	0.02
DEC						
11...	1130	905	100	41	37	<0.01
JAN 1993						
27...	1225	1040	120	44	48	0.04
MAR						
02...	1055	1020	110	52	54	0.03
APR						
20...	1210	1010	--	--	58	0.03
MAY						
20...	1110	932	110	40	54	0.03
JUL						
08...	1245	905	120	40	50	<0.01
AUG						
19...	1225	861	98	48	59	0.02
400948083480105 CH-43 NR URBANA OH-LEVEL 5 (LAT 40 09 48N LONG 083 48 01W)						
NOV 1992						
04...	1010	833	100	29	37	0.02
DEC						
11...	1125	917	100	43	35	<0.01
JAN 1993						
27...	1220	1020	120	29	49	0.03
MAR						
02...	1050	1020	120	34	55	0.03
APR						
20...	1205	1050	--	--	57	0.01
MAY						
20...	1105	887	110	31	56	0.05
JUL						
08...	1145	828	120	38	46	0.02
AUG						
19...	1220	906	91	45	59	0.02

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
400948083480106 CH-43 NR URBANA OH-LEVEL 6 (LAT 40 09 48N LONG 083 48 01W)						
JAN 1993						
27...	1215	1010	--	--	71	0.02
APR						
20...	1200	816	--	--	47	<0.01
MAY						
20...	1100	821	100	13	48	--
JUL						
08...	1140	827	--	--	49	0.02
400948083480201 CH-41 NR URBANA OH-LEVEL 1 (LAT 40 09 48N LONG 083 48 02W)						
NOV 1992						
04...	1005	764	110	12	37	0.02
DEC						
11...	1120	771	110	16	42	0.01
JAN 1993						
27...	1210	840	110	15	32	0.04
MAR						
02...	1010	766	100	14	34	0.03
APR						
20...	1245	804	100	9.3	23	0.03
MAY						
20...	1055	687	110	8.2	22	0.03
JUL						
08...	1135	694	--	--	22	0.03
AUG						
19...	1210	738	110	7.6	20	0.02
400948083480202 CH-41 NR URBANA OH-LEVEL 2 (LAT 40 09 48N LONG 083 48 02W)						
NOV 1992						
04...	1000	798	100	12	39	0.01
DEC						
11...	1115	823	110	15	40	0.01
JAN 1993						
27...	1205	840	110	14	34	0.04
MAR						
02...	1005	803	100	12	29	0.04
APR						
20...	1240	788	110	8.1	22	0.03
MAY						
20...	1050	703	110	8.6	22	0.03
JUL						
08...	1130	707	110	7.7	22	0.02
AUG						
19...	1205	770	97	6.2	18	0.02

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
400948083480203 CH-41 NR URBANA OH-LEVEL 3 (LAT 40 09 48N LONG 083 48 02W)						
NOV 1992						
04...	0955	768	110	13	37	0.01
DEC						
11...	1110	840	100	14	38	0.01
JAN 1993						
27...	1200	836	110	13	33	0.04
MAR						
02...	1000	818	110	12	30	0.04
APR						
20...	1235	780	100	8.3	22	0.02
MAY						
20...	1045	725	110	8.7	22	0.03
JUL						
08...	1125	776	110	7.5	21	<0.01
AUG						
19...	1200	627	94	6.4	20	0.02
400948083480204 CH-41 NR URBANA OH-LEVEL 4 (LAT 40 09 48N LONG 083 48 02W)						
NOV 1992						
04...	0950	825	110	19	38	0.03
DEC						
11...	1105	803	--	--	41	0.02
JAN 1993						
27...	1155	875	110	18	40	0.04
MAR						
02...	0955	810	100	12	30	0.04
APR						
20...	1230	800	110	8.1	22	0.02
MAY						
20...	1040	821	110	32	56	0.04
JUL						
08...	1120	474	64	17	39	0.02
AUG						
19...	1155	766	100	6.0	19	0.03
400948083480205 CH-41 NR URBANA OH-LEVEL 5 (LAT 40 09 48N LONG 083 48 02W)						
NOV 1992						
04...	0945	942	110	59	43	0.02
DEC						
11...	1100	862	100	37	48	<0.01
JAN 1993						
27...	1150	971	110	38	60	0.04
MAR						
02...	0950	955	110	46	72	0.04
APR						
20...	1225	817	100	12	26	0.02
MAY						
20...	1035	736	--	--	23	0.03
JUL						
08...	1115	870	110	31	61	0.01
AUG						
19...	1150	770	95	8.7	23	0.02

182 EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
400948083480206 CH-41 NR URBANA OH-LEVEL 6 (LAT 40 09 48N LONG 083 48 02W)						
NOV 1992						
04...	0940	823	97	52	43	0.02
DEC						
11...	1055	769	88	35	51	0.01
JAN 1993						
27...	1145	851	--	--	40	<0.01
MAR						
02...	0945	941	110	37	61	0.04
APR						
20...	1220	876	100	24	39	0.03
MAY						
20...	1030	868	110	35	59	0.04
JUL						
08...	1110	821	110	28	54	0.03
AUG						
19...	1145	--	93	9.8	25	0.03
400952083480801 CH-40 NR URBANA OH-LEVEL 1 (LAT 40 09 52N LONG 083 48 08W)						
NOV 1992						
04...	1225	720	95	6.4	25	0.02
DEC						
11...	1320	709	110	7.7	24	0.03
JAN 1993						
27...	1415	779	110	6.7	23	0.04
MAR						
02...	1235	763	110	7.3	24	0.02
APR						
20...	1440	774	100	7.5	24	0.02
MAY						
20...	1315	729	120	6.7	22	0.04
JUL						
08...	1415	746	110	7.2	22	0.02
AUG						
19...	1400	--	--	6.4	23	<0.01
400952083480802 CH-40 NR URBANA OH-LEVEL 2 (LAT 40 09 52N LONG 083 48 08W)						
NOV 1992						
04...	1220	679	110	7.3	24	0.03
DEC						
11...	1315	677	100	7.4	23	0.04
MAR 1993						
02...	1230	490	110	7.2	24	0.01
APR						
20...	1435	777	110	7.1	23	0.02
MAY						
20...	1310	620	110	7.0	21	0.02
JUL						
08...	1410	690	120	7.1	21	0.03
AUG						
19...	1355	734	94	7.0	20	0.03

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
400952083480803 CH-40 NR URBANA OH-LEVEL 3 (LAT 40 09 52N LONG 083 48 08W)						
NOV 1992						
04...	1215	658	110	7.1	24	0.02
DEC						
11...	1310	662	100	7.1	25	0.03
JAN 1993						
27...	1405	788	110	6.5	22	0.04
MAR						
02...	1225	736	120	7.2	23	0.02
APR						
20...	1430	784	100	7.1	22	0.04
MAY						
20...	1305	665	95	6.2	21	0.03
JUL						
08...	1405	684	110	7.0	20	0.03
AUG						
19...	1350	712	130	7.2	21	0.02
400952083480804 CH-40 NR URBANA OH-LEVEL 4 (LAT 40 09 52N LONG 083 48 08W)						
NOV 1992						
04...	1210	545	100	6.5	23	0.02
DEC						
11...	1305	706	110	7.3	24	0.02
JAN 1993						
27...	1400	785	110	6.8	22	0.03
MAR						
02...	1220	777	110	7.4	23	0.02
APR						
20...	1425	775	100	6.7	22	0.03
MAY						
20...	1300	743	110	7.2	21	0.04
JUL						
08...	1400	726	110	7.4	21	0.03
AUG						
19...	1345	753	110	7.0	20	0.03
400952083480805 CH-40 NR URBANA OH-LEVEL 5 (LAT 40 09 52N LONG 083 48 08W)						
NOV 1992						
04...	1205	719	110	7.6	25	0.02
DEC						
11...	1300	698	120	9.3	22	0.02
JAN 1993						
27...	1355	780	100	9.6	15	0.02
MAR						
02...	1215	688	96	7.7	13	<0.01
APR						
20...	1420	715	92	6.2	13	0.02
MAY						
20...	1255	618	92	6.4	13	--
JUL						
08...	1355	683	100	7.0	13	0.02
AUG						
19...	1340	776	99	6.8	19	0.0

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
400952083480806 CH-40 NR URBANA OH-LEVEL 6 (LAT 40 09 52N LONG 083 48 08W)						
NOV 1992						
04...	1200	672	100	7.5	23	0.03
DEC						
11...	1255	790	100	8.8	19	0.02
JAN 1993						
27...	1350	768	120	5.6	15	0.01
MAR						
02...	1210	--	110	8.1	12	<0.01
APR						
20...	1415	631	79	8.7	11	<0.01
MAY						
20...	1250	624	81	9.4	12	0.02
JUL						
08...	1350	655	91	7.7	12	0.01
AUG						
19...	1335	653	98	6.8	9.8	0.01

ASHLAND COUNTY SITE #3 (SR 3)

403635082152101 AS-48 NR LOUDONVILLE OH-LEVEL 1 (LAT 40 36 35N LONG 082 15 21W)

APR 1993						
13...	1620	576	110	22	23	0.03
MAY						
24...	1630	553	68	21	28	0.03
JUL						
16...	1310	496	62	14	11	0.03
AUG						
16...	1545	474	62	12	7.8	0.03

403635082152102 AS-48 NR LOUDONVILLE OH-LEVEL 2 (LAT 40 36 35N LONG 082 15 21W)

APR 1993						
13...	1615	549	66	26	19	0.03
MAY						
24...	1625	549	67	20	22	0.03
JUL						
16...	1305	486	62	13	8.7	0.03
AUG						
16...	1540	481	60	12	7.4	0.03

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
403635082152103 AS-48 NR LOUDONVILLE OH-LEVEL 3 (LAT 40 36 35N LONG 082 15 21W)						
APR 1993						
13...	1610	508	65	21	16	0.01
MAY						
24...	1620	518	64	18	15	0.03
JUL						
16...	1300	481	63	12	7.9	0.04
AUG						
16...	1535	477	58	12	7.2	0.03
403635082152104 AS-48 NR LOUDONVILLE OH-LEVEL 4 (LAT 40 36 35N LONG 082 15 21W)						
APR 1993						
13...	1605	453	68	17	15	0.02
MAY						
24...	1615	613	75	26	37	0.03
JUL						
16...	1255	484	--	--	7.8	0.04
AUG						
16...	1530	479	62	12	7.3	0.03
403635082152105 AS-48 NR LOUDONVILLE OH-LEVEL 5 (LAT 40 36 35N LONG 082 15 21W)						
APR 1993						
13...	1600	494	69	15	15	0.01
MAY						
24...	1610	592	73	24	32	0.04
JUL						
16...	1250	480	60	12	7.7	0.03
AUG						
16...	1525	478	60	12	7.3	0.03
403635082152106 AS-48 NR LOUDONVILLE OH-LEVEL 6 (LAT 40 36 35N LONG 082 15 21W)						
MAY 1993						
24...	1605	504	66	14	20	0.02
JUL						
16...	1245	465	--	--	12	0.02
403635082152201 AS-47 NR LOUDONVILLE OH-LEVEL 1 (LAT 40 36 35N LONG 082 15 22W)						
APR 1993						
13...	1555	805	85	54	89	0.05
MAY						
24...	1530	873	91	56	100	0.06
JUL						
16...	1240	879	90	57	94	0.07
AUG						
16...	1515	752	61	55	85	0.0

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
403635082152202 AS-47 NR LOUDONVILLE OH-LEVEL 2 (LAT 40 36 35N LONG 082 15 22W)						
APR 1993						
13...	1550	816	86	54	94	0.05
MAY						
24...	1525	893	90	61	110	0.08
JUL						
16...	1235	888	91	58	98	0.08
AUG						
16...	1510	845	90	56	81	0.06
403635082152203 AS-47 NR LOUDONVILLE OH-LEVEL 3 (LAT 40 36 35N LONG 082 15 22W)						
APR 1993						
13...	1545	838	87	53	97	0.07
MAY						
24...	1520	893	--	--	110	0.10
JUL						
16...	1230	872	--	--	98	0.07
403635082152204 AS-47 NR LOUDONVILLE OH-LEVEL 4 (LAT 40 36 35N LONG 082 15 22W)						
APR 1993						
13...	1540	770	--	--	88	<0.01
403635082152205 AS-47 NR LOUDONVILLE OH-LEVEL 5 (LAT 40 36 35N LONG 082 15 22W)						
APR 1993						
13...	1535	653	46	75	47	0.01
MAY						
24...	1515	--	--	--	76	--
403635082152401 AS-46 NR LOUDONVILLE OH-LEVEL 1 (LAT 40 36 35N LONG 082 15 24W)						
APR 1993						
13...	1500	843	--	--	48	0.06
MAY						
24...	1510	801	92	39	54	0.04
JUL						
16...	1220	855	97	44	63	0.06
AUG						
16...	1405	785	99	46	61	0.05

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
403635082152402 AS-46 NR LOUDONVILLE OH-LEVEL 2 (LAT 40 36 35N LONG 082 15 24W)						
APR 1993						
13...	1455	869	96	43	57	0.04
MAY						
24...	1505	802	91	41	58	0.05
JUL						
16...	1215	877	95	47	75	0.07
AUG						
16...	1410	840	91	48	58	0.05
403635082152403 AS-46 NR LOUDONVILLE OH-LEVEL 3 (LAT 40 36 35N LONG 082 15 24W)						
APR 1993						
13...	1450	729	83	35	70	0.05
MAY						
24...	1500	812	92	45	74	0.06
JUL						
16...	1210	871	95	50	77	0.07
AUG						
16...	1415	848	94	48	62	0.05
403635082152404 AS-46 NR LOUDONVILLE OH-LEVEL 4 (LAT 40 36 35N LONG 082 15 24W)						
APR 1993						
13...	1445	710	81	33	69	0.05
MAY						
24...	1455	824	93	48	75	0.07
JUL						
16...	1205	744	---	--	58	0.05
403635082152405 AS-46 NR LOUDONVILLE OH-LEVEL 5 (LAT 40 36 35N LONG 082 15 24W)						
APR 1993						
13...	1440	671	79	33	72	0.03
MAY						
24...	1450	674	82	32	45	0.05
403635082152502 AS-44 NR LOUDONVILLE OH-LEVEL 2 (LAT 40 36 35N LONG 082 15 25W)						
APR 1993						
13...	1435	679	73	41	44	0.04
MAY						
24...	1445	761	82	49	73	0.03
JUL						
16...	1155	886	93	63	95	0.07
AUG						
16...	1345	761	81	52	69	0.06

188 EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
403635082152503 AS-44 NR LOUDONVILLE OH-LEVEL 3 (LAT 40 36 35N LONG 082 15 25W)						
APR 1993						
13...	1430	707	--	--	47	0.02
MAY						
24...	1440	743	80	45	64	0.03
JUL						
16...	1150	887	90	62	95	0.07
AUG						
16...	1350	663	78	39	49	0.05
403635082152504 AS-44 NR LOUDONVILLE OH-LEVEL 4 (LAT 40 36 35N LONG 082 15 25W)						
APR 1993						
13...	1425	614	--	--	25	<0.01
MAY						
24...	1435	734	--	--	68	0.02
JUL						
16...	1145	894	90	65	100	0.07
AUG						
16...	1355	803	82	57	63	0.05
403635082152505 AS-44 NR LOUDONVILLE OH-LEVEL 5 (LAT 40 36 35N LONG 082 15 25W)						
APR 1993						
13...	1420	637	--	--	25	0.01
MAY						
24...	1430	639	76	31	41	0.02
JUL						
16...	1140	874	88	67	97	0.07
AUG						
16...	1400	776	82	62	10	0.06
403635082152506 AS-44 NR LOUDONVILLE OH-LEVEL 6 (LAT 40 36 35N LONG 082 15 25W)						
APR 1993						
13...	1415	588	65	34	23	<0.01
MAY						
24...	1425	572	--	--	14	<0.01
403635082152603 AS-49 NR LOUDONVILLE OH-LEVEL 3 (LAT 40 36 35N LONG 083 15 26W)						
APR 1993						
13...	1520	802	88	42	67	0.07
MAY						
24...	1550	794	87	40	63	0.07
JUL						
16...	1320	787	83	41	64	0.06
AUG						
16...	1430	676	82	36	42	0.04

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
403635082152604 AS-49 NR LOUDONVILLE OH-LEVEL 4 (LAT 40 36 35N LONG 082 15 26W)						
APR 1993						
13...	1515	894	96	50	93	0.09
MAY						
24...	1545	813	85	48	71	0.07
403635082152605 AS-49 NR LOUDONVILLE OH-LEVEL 5 (LAT 40 36 35N LONG 082 15 26W)						
APR 1993						
13...	1510	753	86	39	70	0.06
403635082152606 AS-49 NR LOUDONVILLE OH-LEVEL 6 (LAT 40 36 35N LONG 082 15 26W)						
APR 1993						
13...	1505	577	45	68	19	0.03
403635082152702 AS-43 NR LOUDONVILLE OH-LEVEL 2 (LAT 40 36 35N LONG 082 15 27W)						
APR 1993						
13...	1345	739	120	22	53	0.09
MAY						
24...	1655	888	110	25	72	0.08
JUL						
16...	1400	816	110	21	57	0.06
AUG						
16...	1330	701	100	18	39	0.07
403635082152703 AS-43 NR LOUDONVILLE OH-LEVEL 3 (LAT 40 36 35N LONG 082 15 27W)						
APR 1993						
13...	1340	923	120	27	72	0.11
MAY						
24...	1650	959	120	28	82	--
JUL						
16...	1355	717	100	18	38	0.04
AUG						
16...	1325	733	110	18	15	0.02
403635082152704 AS-43 NR LOUDONVILLE OH-LEVEL 4 (LAT 40 36 35N LONG 082 15 27W)						
APR 1993						
13...	1335	674	90	23	31	0.01
MAY						
24...	1645	881	110	22	67	0.08
JUL						
16...	1350	488	--	--	22	0.03
AUG						
16...	1320	650	100	14	16	<0.01

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
403635082152705 AS-43 NR LOUDONVILLE OH-LEVEL 5 (LAT 40 36 35N LONG 082 15 27W)						
APR 1993						
13...	1330	572	86	26	15	<0.01
MAY						
24...	1640	816	110	18	59	0.07
JUL						
16...	1345	627	--	--	18	0.02
AUG						
16...	1315	415	--	--	7.5	<0.01

403635082152706 AS-43 NR LOUDONVILLE OH-LEVEL 6 (LAT 40 36 35N LONG 082 15 27W)						
MAY 1993						
24...	1635	385	--	--	14	0.02
JUL						
16...	1340	699	100	17	35	0.04

RICHLAND COUNTY SITE #4 (SR97)

403922082325901 R-19 NR LEXINGTON OH-LEVEL 1 (LAT 40 39 22N LONG 082 32 59W)						
OCT 1992						
29...	1045	618	79	6.0	43	0.03
DEC						
07...	1340	559	71	6.4	50	0.06
JAN 1993						
19...	1235	636	88	6.7	48	0.04
MAR						
03...	1150	673	--	--	54	0.04
APR						
13...	1225	593	81	9.7	47	0.03
MAY						
24...	1150	644	83	11	53	0.03
JUL						
13...	1150	575	78	10	45	0.03
AUG						
16...	1155	586	77	11	43	0.02

403922082325902 R-19 NR LEXINGTON OH-LEVEL 2 (LAT 40 39 22N LONG 082 32 59W)						
OCT 1992						
29...	1040	613	78	5.7	45	0.03
DEC						
07...	1335	562	71	6.5	50	0.05
JAN 1993						
19...	1230	616	81	6.7	48	0.03
MAR						
03...	1145	642	87	6.9	53	--
APR						
13...	1220	589	--	--	50	0.03
MAY						
24...	1145	644	83	11	51	0.03
JUL						
13...	1145	578	--	--	42	0.03
AUG						
16...	1150	583	71	10	43	0.02

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
403922082325903 R-19 NR LEXINGTON OH-LEVEL 3 (LAT 40 39 22N LONG 082 32 59W)						
OCT 1992						
29...	1035	601	78	6.5	45	0.03
DEC						
07...	1330	475	--	--	50	0.05
JAN 1993						
19...	1225	652	95	6.3	48	0.04
MAR						
03...	1140	640	88	6.9	55	0.02
APR						
13...	1215	594	77	11	59	0.02
MAY						
24...	1140	630	82	12	50	0.03
JUL						
13...	1140	571	79	11	43	0.03
AUG						
16...	1145	573	71	11	43	0.02
403922082325904 R-19 NR LEXINGTON OH-LEVEL 4 (LAT 40 39 22N LONG 082 32 59W)						
OCT 1992						
29...	1030	626	82	6.9	45	0.03
DEC						
07...	1325	598	82	7.7	45	0.04
JAN 1993						
19...	1220	658	91	6.7	47	0.03
MAR						
03...	1135	656	--	--	55	0.03
APR						
13...	1210	617	75	12	59	0.03
MAY						
24...	1135	573	70	17	44	0.03
JUL						
13...	1135	587	77	11	44	0.04
AUG						
16...	1140	526	74	11	44	0.02
403922082325905 R-19 NR LEXINGTON OH-LEVEL 5 (LAT 40 39 22N LONG 082 32 59W)						
OCT 1992						
29...	1025	640	81	6.8	43	0.03
DEC						
07...	1320	616	83	8.2	46	0.03
JAN 1993						
19...	1215	597	74	7.0	47	0.04
MAR						
03...	1130	711	97	7.4	59	0.03
APR						
13...	1205	614	--	--	78	<0.01
MAY						
24...	1130	461	54	19	33	<0.01
JUL						
13...	1130	588	65	18	43	0.03
AUG						
16...	1135	594	77	12	41	0.02

192 EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
403922082325906 R-19 NR LEXINGTON OH-LEVEL 6 (LAT 40 39 22N LONG 082 32 59W)						
MAY 1993						
24...	1125	230	--	--	25	0.01
403922082330001 R-20 NR LEXINGTON OH-LEVEL 1 (LAT 40 39 22N LONG 082 33 00W)						
OCT 1992						
29...	1115	565	76	5.4	41	0.03
DEC						
07...	1410	566	81	7.0	40	0.06
JAN 1993						
19...	1305	595	82	6.5	38	0.06
MAR						
03...	1225	518	72	6.2	24	0.04
APR						
13...	1255	458	64	10	13	<0.01
MAY						
24...	1220	443	--	--	10	0.01
JUL						
13...	1220	486	68	7.4	19	0.02
AUG						
16...	1130	505	66	8.5	19	0.01
403922082330002 R-20 NR LEXINGTON OH-LEVEL 2 (LAT 40 39 22N LONG 082 33 00W)						
OCT 1992						
29...	1110	577	78	5.7	43	0.03
DEC						
07...	1405	575	81	7.0	42	0.01
JAN 1993						
19...	1300	583	79	6.6	35	0.03
MAR						
03...	1220	523	71	6.8	26	0.04
APR						
13...	1250	460	63	9.8	13	0.01
MAY						
24...	1215	438	--	--	9.7	0.02
JUL						
13...	1215	488	68	7.7	18	0.02
AUG						
16...	1125	499	67	8.0	19	0.01

DATE	TIME	SPE- CIFIC DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
403922082330003 R-20 NR LEXINGTON OH-LEVEL 3 (LAT 40 39 22N LONG 082 33 00W)						
OCT 1992						
29...	1105	571	77	6.2	42	0.03
DEC						
07...	1400	569	82	7.3	43	0.01
JAN 1993						
19...	1255	593	83	6.5	34	0.03
MAR						
03...	1210	519	71	6.6	26	0.02
APR						
13...	1245	466	64	9.6	13	<0.01
MAY						
24...	1210	433	62	6.5	9.5	0.01
JUL						
13...	1210	483	69	7.8	16	0.02
AUG						
16...	1120	452	69	8.0	20	<0.01
403922082330004 R-20 NR LEXINGTON OH-LEVEL 4 (LAT 40 39 22N LONG 082 33 00W)						
OCT 1992						
29...	1100	581	83	6.8	43	0.04
DEC						
07...	1355	546	79	8.3	42	0.04
JAN 1993						
19...	1250	562	81	6.2	34	0.01
MAR						
03...	1205	525	72	6.1	26	0.05
APR						
13...	1240	446	--	--	14	<0.01
MAY						
24...	1205	445	62	6.3	9.4	<0.01
JUL						
13...	1205	484	65	8.1	16	0.02
AUG						
16...	1115	483	72	7.9	20	<0.01
403922082330005 R-20 NR LEXINGTON OH-LEVEL 5 (LAT 40 39 22N LONG 082 33 00W)						
OCT 1992						
29...	1055	576	84	7.1	42	0.03
DEC						
07...	1350	551	82	8.3	42	<0.01
JAN 1993						
19...	1245	--	81	6.6	35	0.03
MAR						
03...	1200	517	73	6.4	25	0.03
APR						
13...	1235	462	--	--	14	0.02
MAY						
24...	1200	433	62	7.1	9.5	0.01
JUL						
13...	1200	488	66	7.5	17	0.02
AUG						
16...	1110	466	--	8.4	20	<0.01

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
403922082330006 R-20 NR LEXINGTON OH-LEVEL 6 (LAT 40 39 22N LONG 082 33 00W)						
OCT 1992						
29...	1050	578	82	6.9	45	0.05
DEC						
07...	1345	551	78	7.6	44	0.05
JAN 1993						
19...	1240	585	76	6.5	35	0.03
MAR						
03...	1155	522	72	5.9	27	0.04
APR						
13...	1230	463	64	10	13	0.03
MAY						
24...	1155	425	62	6.9	9.3	0.01
JUL						
13...	1155	472	64	8.4	15	0.03
AUG						
16...	1105	487	65	7.8	16	<0.01
403923082325401 R-21 NR LEXINGTON OH-LEVEL 1 (LAT 40 39 23N LONG 082 32 54W)						
OCT 1992						
29...	1125	175	23	1.9	2.3	0.02
DEC						
07...	1435	302	45	2.3	2.7	<0.01
JAN 1993						
19...	1335	248	34	2.0	2.9	0.02
MAR						
03...	1255	287	41	2.3	3.3	0.02
APR						
13...	1000	286	43	2.5	2.9	0.02
MAY						
24...	1245	305	43	3.6	5.0	0.01
JUL						
13...	1310	384	60	2.3	3.2	0.02
AUG						
16...	1225	--	27	2.1	3.0	0.01
403923082325402 R-21 NR LEXINGTON OH-LEVEL 2 (LAT 40 39 23N LONG 082 32 54W)						
OCT 1992						
29...	1120	181	20	2.0	2.4	0.01
DEC						
07...	1430	307	47	2.4	3.4	<0.01
JAN 1993						
19...	1330	247	33	2.0	2.8	0.02
MAR						
03...	1250	281	42	2.0	2.9	0.02
APR						
13...	1005	281	42	2.5	2.8	0.01
MAY						
24...	1240	299	43	3.4	4.0	<0.01
JUL						
13...	1305	319	52	2.4	2.7	0.02
AUG						
16...	1230	188	23	2.0	2.5	0.02

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
403923082325403 R-21 NR LEXINGTON OH-LEVEL 3 (LAT 40 39 23N LONG 082 32 54W)						
DEC 1992						
07...	1425	297	--	--	3.1	0.01
JAN 1993						
19...	1325	241	34	2.1	2.7	<0.01
MAR						
03...	1245	263	37	2.0	2.9	0.02
APR						
13...	1010	282	42	2.6	2.8	<0.01
MAY						
24...	1235	295	43	2.4	3.7	<0.01
JUL						
13...	1300	305	44	2.2	2.6	0.02
AUG						
16...	1235	206	27	2.1	2.9	0.02
403923082325404 R-21 NR LEXINGTON OH-LEVEL 4 (LAT 40 39 23N LONG 082 32 54W)						
JAN 1993						
19...	1320	239	--	--	2.9	<0.01
MAR						
03...	1240	268	38	2.2	3.6	<0.01
APR						
13...	1015	275	39	2.6	3.1	<0.01
MAY						
24...	1230	263	38	3.4	3.5	<0.01
403923082325405 R-21 NR LEXINGTON OH-LEVEL 5 (LAT 40 39 23N LONG 082 32 54W)						
MAR 1993						
03...	1235	270	--	--	4.1	<0.01
MAY						
24...	1225	266	--	--	3.5	<0.01
403923082325601 R-15 NR LEXINGTON OH-LEVEL 1 (LAT 40 39 23N LONG 082 32 56W)						
OCT 1992						
29...	1005	505	47	25	52	0.02
DEC						
07...	1150	440	33	34	73	0.01
JAN 1993						
19...	1120	543	37	44	96	0.02
MAR						
03...	1025	--	--	--	53	0.04
APR						
13...	1050	390	29	29	42	0.03
MAY						
24...	1055	246	21	15	20	0.02
JUL						
13...	1055	393	39	20	25	0.02
AUG						
16...	1025	--	49	23	22	0.01

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
403923082325602 R-15 NR LEXINGTON OH-LEVEL 2 (LAT 40 39 23N LONG 082 32 56W)						
OCT 1992						
29...	1000	487	46	25	49	0.02
DEC						
07...	1145	424	34	34	71	<0.01
JAN 1993						
19...	1115	532	39	43	94	0.02
MAR						
03...	1020	--	30	21	53	--
APR						
13...	1055	373	28	29	40	0.01
MAY						
24...	1050	269	22	15	21	<0.01
JUL						
13...	1050	404	40	20	23	0.02
AUG						
16...	1020	475	45	22	25	0.01
403923082325603 R-15 NR LEXINGTON OH-LEVEL 3 (LAT 40 39 23N LONG 082 32 56W)						
DEC 1992						
07...	1140	324	--	--	83	--
JAN 1993						
19...	1110	529	37	43	91	0.02
MAR						
03...	1015	353	29	22	54	--
APR						
13...	1100	358	--	--	40	0.02
MAY						
24...	1045	269	23	16	21	<0.01
JUL						
13...	1045	401	39	19	24	0.02
AUG						
16...	1015	474	--	--	22	0.01
403923082325604 R-15 NR LEXINGTON OH-LEVEL 4 (LAT 40 39 23N LONG 082 32 56W)						
JAN 1993						
19...	1105	525	35	44	93	0.03
MAR						
03...	1010	351	28	21	54	0.02
APR						
13...	1105	361	--	--	43	0.02
MAY						
24...	1040	257	21	15	20	<0.01
403923082325605 R-15 NR LEXINGTON OH-LEVEL 5 (LAT 40 39 23N LONG 082 32 56W)						
JAN 1993						
19...	1100	523	38	43	89	0.03
MAR						
03...	1005	--	--	--	57	0.03
APR						
13...	1110	354	--	--	41	0.02
MAY						
24...	1035	250	23	19	23	<0.01

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
403923082325701 R-18 NR LEXINGTON OH-LEVEL 1 (LAT 40 39 23N LONG 082 32 57W)						
JAN 1993						
19...	1125	559	60	12	90	0.03
MAR						
03...	1055	499	52	17	63	0.03
APR						
13...	1200	528	49	30	66	0.03
MAY						
24...	1250	413	38	25	40	0.03
JUL						
13...	1230	420	49	11	43	0.04
AUG						
16...	1100	459	56	7.1	49	0.03
403923082325702 R-18 NR LEXINGTON OH-LEVEL 2 (LAT 40 39 23N LONG 082 32 57W)						
JAN 1993						
19...	1130	537	62	12	89	0.03
MAR						
03...	1050	485	52	18	64	0.03
APR						
13...	1155	511	48	29	66	0.03
MAY						
24...	1245	406	36	24	39	0.03
JUL						
13...	1235	425	47	11	45	0.04
AUG						
16...	1055	458	54	7.1	50	0.03
403923082325703 R-18 NR LEXINGTON OH-LEVEL 3 (LAT 40 39 23N LONG 082 32 57W)						
JAN 1993						
19...	1135	625	71	8.4	76	0.04
MAR						
03...	1045	594	66	16	74	0.03
JUL						
13...	1240	519	60	17	46	0.03
403923082325704 R-18 NR LEXINGTON OH-LEVEL 4 (LAT 40 39 23N LONG 082 32 57W)						
JAN 1993						
19...	1140	677	89	11	64	0.05
MAR						
03...	1040	620	78	15	74	0.03
APR						
13...	1145	647	74	21	65	0.04
MAY						
24...	1235	567	65	21	53	0.04
JUL						
13...	1245	559	76	12	50	0.04
AUG						
16...	1050	555	62	15	49	0.03

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
403923082325705 R-18 NR LEXINGTON OH-LEVEL 5 (LAT 40 39 23N LONG 082 32 57W)						
DEC 1992						
07...	1225	785	100	13	51	0.04
JAN 1993						
19...	1145	689	90	11	64	0.04
MAR						
03...	1035	787	110	18	77	0.03
APR						
13...	1140	714	81	33	71	<0.01
MAY						
24...	1230	573	62	30	50	0.03
JUL						
13...	1250	611	73	25	52	0.03
AUG						
16...	1045	587	68	19	47	0.02
403923082325706 R-18 NR LEXINGTON OH-LEVEL 6 (LAT 40 39 23N LONG 082 32 57W)						
JAN 1993						
19...	1150	987	140	21	55	0.05
APR						
13...	1135	632	61	43	69	0.03
MAY						
24...	1225	503	51	36	41	0.03
403923082325901 R-17 NR LEXINGTON OH-LEVEL 1 (LAT 40 39 23N LONG 082 32 59W)						
OCT 1992						
29...	1020	512	69	5.0	46	0.02
DEC						
07...	1220	515	61	6.2	47	0.02
JAN 1993						
19...	1210	555	--	--	67	0.03
MAR						
03...	1125	600	--	--	79	0.04
APR						
13...	1130	576	61	27	65	0.03
MAY						
24...	1120	501	55	27	46	0.02
JUL						
13...	1125	471	57	18	41	0.03
AUG						
16...	1040	500	61	11	48	0.03

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
403923082325902 R-17 NR LEXINGTON OH-LEVEL 2 (LAT 40 39 23N LONG 082 32 59W)						
OCT 1992						
29...	1015	507	63	5.1	48	0.04
DEC						
07...	1215	502	62	5.8	49	0.02
JAN 1993						
19...	1205	558	64	9.3	76	0.02
APR						
13...	1125	548	55	28	66	0.03
MAY						
24...	1115	450	--	--	44	0.03
JUL						
13...	1120	457	51	14	45	0.04
AUG						
16...	1035	490	--	--	47	0.03
403923082325903 R-17 NR LEXINGTON OH-LEVEL 3 (LAT 40 39 23N LONG 082 32 59W)						
OCT 1992						
29...	1010	498	61	4.9	48	0.03
DEC						
07...	1210	486	59	6.6	54	0.02
JAN 1993						
19...	1200	618	65	22	100	0.02
MAR						
03...	1115	499	--	--	62	0.05
APR						
13...	1120	571	--	--	72	0.03
MAY						
24...	1110	430	40	26	41	0.02
JUL						
13...	1115	439	50	11	45	0.04
AUG						
16...	1030	--	56	7.0	46	0.03
403923082325904 R-17 NR LEXINGTON OH-LEVEL 4 (LAT 40 39 23N LONG 082 32 59W)						
JAN 1993						
19...	1155	599	--	--	93	<0.01
MAR						
03...	1110	503	--	--	62	0.05
APR						
13...	1115	554	51	34	69	0.02
MAY						
24...	1105	430	38	27	41	0.03
403923082325905 R-17 NR LEXINGTON OH-LEVEL 5 (LAT 40 39 23N LONG 082 32 59W)						
MAY 1993						
24...	1100	249	--	--	22	<0.01

DATE	TIME	SPE-			CHLO-	
		CIFIC			RIDE,	BROMIDE
		CON-	CALCIUM	SODIUM,	DIS-	DIS-
		DUCT-	DIS-	DIS-	DIS-	DIS-
		ANCE	SOLVED	SOLVED	SOLVED	SOLVED
		LAB	(MG/L	(MG/L	(MG/L	(MG/L
		(US/CM)	AS CA)	AS NA)	AS CL)	AS BR)
PORTAGE COUNTY SITE #5 (SR 14)						
411136081172501 PO-119 NR RAVENNA OH-LEVEL 1 (LAT 41 11 36N LONG 081 17 25W)						
OCT 1992						
28...	1340	629	--	--	21	<0.01
DEC						
09...	1205	617	96	20	22	--
JAN 1993						
21...	1145	550	60	55	7.7	<0.01
MAR						
09...	1610	554	64	42	11	0.01
APR						
15...	1010	218	30	11	2.2	<0.01
MAY						
26...	1055	488	63	24	7.2	<0.01
JUL						
15...	1150	517	68	23	22	<0.01
AUG						
18...	1130	516	65	21	26	<0.01
411136081172502 PO-119 NR RAVENNA OH-LEVEL 2 (LAT 41 11 36N LONG 081 17 25W)						
OCT 1992						
28...	1335	558	--	--	13	<0.01
DEC						
09...	1200	494	70	14	9.5	<0.01
JAN 1993						
21...	1140	520	36	73	2.5	<0.01
MAR						
09...	1605	479	61	36	1.7	<0.01
APR						
15...	1005	482	32	55	106	0.02
MAY						
26...	1050	457	63	22	9.2	<0.01
JUL						
15...	1145	464	63	20	13	<0.01
AUG						
18...	1125	--	65	18	23	<0.01
411136081172503 PO-119 NR RAVENNA OH-LEVEL 3 (LAT 41 11 36N LONG 081 17 25W)						
OCT 1992						
28...	1330	428	--	--	5.7	<0.01
DEC						
09...	1155	366	60	7.0	3.2	--
JAN 1993						
21...	1135	477	33	68	1.4	<0.01
MAR						
09...	1600	317	42	16	1.9	0.01
APR						
15...	1000	--	34	58	98	0.03
MAY						
26...	1045	368	57	17	4.1	<0.01
JUL						
15...	1140	375	55	10	16	<0.01
AUG						
18...	1120	448	63	14	20	<0.01

411136081172504 PO-119 NR RAVENNA OH-LEVEL 4 (LAT 41 11 36N LONG 081 17 25W)

OCT 1992						
28...	1325	325	61	7.4	3.7	<0.01
DEC						
09...	1150	325	52	7.7	2.6	--
JAN 1993						
21...	1130	453	--	--	1.3	<0.01
MAR						
09...	1555	275	38	11	1.6	<0.01
APR						
15...	0955	1770	100	220	91	0.08
MAY						
26...	1040	287	43	9.1	3.2	<0.01
JUL						
15...	1135	322	49	7.2	16	<0.01
AUG						
18...	1115	418	58	11	19	<0.01

411136081172505 PO-119 NR RAVENNA OH-LEVEL 5 (LAT 41 11 36N LONG 081 17 25W)

OCT 1992						
28...	1320	373	--	--	3.4	<0.01
DEC						
09...	1145	303	48	7.4	3.1	0.01
JAN 1993						
21...	1125	--	39	42	1.2	<0.01
MAR						
09...	1550	266	38	10	1.2	0.02
APR						
15...	0950	380	25	42	69	0.01
MAY						
26...	1035	--	43	7.0	3.6	--
JUL						
15...	1130	323	--	--	15	--

411136081172506 PO-119 NR RAVENNA OH-LEVEL 6 (LAT 41 11 36N LONG 081 17 25W)

JAN 1993						
21...	1120	357	--	--	1.3	<0.01

411136081172601 PO-120 NR RAVENNA OH-LEVEL 1 (LAT 41 11 36N LONG 081 17 26W)

OCT 1992						
28...	1410	370	--	--	4.0	<0.01
DEC						
09...	1230	312	48	12	2.0	--
JAN 1993						
21...	1115	--	47	9.7	1.3	<0.01
MAR						
09...	1645	203	36	11	1.3	<0.01
APR						
15...	1040	188	30	10	2.2	<0.01
MAY						
26...	1155	288	49	7.5	4.2	<0.01
JUL						
15...	1055	355	50	14	4.4	<0.01
AUG						
18...	1200	362	51	170	3.8	<0.01

202 EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
411136081172602 PO-120 NR RAVENNA OH-LEVEL 2 (LAT 41 11 36N LONG 081 17 26W)						
OCT 1992						
28...	1405	324	54	8.1	1.4	<0.01
DEC						
09...	1225	260	41	8.7	1.1	--
MAR 1993						
09...	1640	201	28	8.6	1.0	<0.01
APR						
15...	1035	--	--	--	2.0	0.01
MAY						
26...	1150	284	45	5.0	3.1	<0.01
JUL						
15...	1050	366	57	12	1.2	<0.01
AUG						
18...	1155	380	59	11	2.7	<0.01
411136081172603 PO-120 NR RAVENNA OH-LEVEL 3 (LAT 41 11 36N LONG 081 17 26W)						
OCT 1992						
28...	1400	289	50	5.2	0.50	<0.01
DEC						
09...	1220	253	40	8.4	0.80	0.01
JAN 1993						
21...	1105	225	30	9.2	0.70	--
MAR						
09...	1635	208	--	--	1.1	<0.01
APR						
15...	1030	487	67	28	10	<0.01
MAY						
26...	1145	--	46	5.2	3.0	--
JUL						
15...	1045	376	58	11	1.0	<0.01
AUG						
18...	1150	388	61	9.6	2.0	<0.01
411136081172604 PO-120 NR RAVENNA OH-LEVEL 4 (LAT 41 11 36N LONG 081 17 26W)						
OCT 1992						
28...	1355	288	48	4.2	0.50	<0.01
DEC						
09...	1215	--	--	--	--	--
JAN 1993						
21...	1100	223	31	9.9	0.80	<0.01
MAR						
09...	1630	225	28	8.4	1.4	<0.01
APR						
15...	1025	379	33	48	--	--
MAY						
26...	1140	299	49	4.1	2.8	<0.01
JUL						
15...	1040	367	58	10	0.60	<0.01
AUG						
18...	1145	382	63	8.8	1.4	<0.01

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
411136081172605 PO-120 NR RAVENNA OH-LEVEL 5 (LAT 41 11 36N LONG 081 17 26W)						
OCT 1992						
28...	1350	279	49	3.5	0.50	<0.01
DEC						
09...	1210	544	38	6.9	1.1	--
JAN 1993						
21...	1055	199	28	9.5	0.70	<0.01
MAR						
09...	1625	198	--	--	1.1	<0.01
APR						
15...	1020	239	35	10	1.7	<0.01
MAY						
26...	1135	301	45	5.1	3.3	<0.01
JUL						
15...	1035	389	--	--	1.5	<0.01
411136081172606 PO-120 NR RAVENNA OH-LEVEL 6 (LAT 41 11 36N LONG 081 17 26W)						
OCT 1992						
28...	1345	249	--	--	2.1	<0.01
JAN 1993						
21...	1050	150	--	--	1.3	<0.01
APR						
15...	1015	184	--	--	2.6	0.01
MAY						
26...	1130	173	--	--	3.3	<0.01
411137081172101 PO-114 NR RAVENNA OH-LEVEL 1 (LAT 41 11 37N LONG 081 17 21W)						
OCT 1992						
28...	0955	479	72	19	3.1	<0.01
DEC						
09...	1330	445	74	19	2.7	<0.01
JAN 1993						
21...	0955	487	79	26	3.4	<0.01
MAR						
09...	1325	393	62	17	5.2	<0.01
APR						
15...	1110	460	--	--	5.5	0.01
MAY						
26...	0925	475	78	14	6.7	0.01
JUL						
15...	1305	754	81	9.4	4.6	0.01
AUG						
18...	1230	--	93	7.7	5.2	<0.01

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
411137081172102 PO-114 NR RAVENNA OH-LEVEL 2 (LAT 41 11 37N LONG 081 17 21W)						
OCT 1992						
28...	0950	478	77	20	2.7	<0.01
DEC						
09...	1325	461	75	20	2.9	<0.01
JAN 1993						
21...	0950	477	82	24	3.8	<0.01
MAR						
09...	1320	383	57	16	5.2	<0.01
APR						
15...	1105	427	77	9.6	4.9	<0.01
MAY						
26...	0920	485	84	12	7.4	0.01
JUL						
15...	1300	1240	79	8.8	4.7	0.01
AUG						
18...	1225	516	92	8.0	4.7	<0.01
411137081172103 PO-114 NR RAVENNA OH-LEVEL 3 (LAT 41 11 37N LONG 081 17 21W)						
OCT 1992						
28...	0945	472	71	17	3.9	<0.01
DEC						
09...	1320	474	77	19	3.0	<0.01
JAN 1993						
21...	0945	491	--	--	3.9	<0.01
MAR						
09...	1315	371	56	16	5.8	<0.01
APR						
15...	1100	424	76	9.2	5.5	--
MAY						
26...	0915	484	76	11	7.2	0.02
JUL						
15...	1255	479	81	7.5	4.9	0.02
AUG						
18...	1220	555	95	8.0	4.7	0.01
411137081172104 PO-114 NR RAVENNA OH-LEVEL 4 (LAT 41 11 37N LONG 081 17 21W)						
OCT 1992						
28...	0940	472	74	16	2.7	<0.01
DEC						
09...	1315	463	82	20	3.4	<0.01
JAN 1993						
21...	0940	481	78	19	4.4	<0.01
MAR						
09...	1310	379	58	16	5.0	<0.01
APR						
15...	1055	411	77	10	5.5	<0.01
MAY						
26...	0910	467	73	7.0	6.6	0.01
JUL						
15...	1250	479	79	7.3	4.5	0.02
AUG						
18...	1215	555	89	7.9	4.6	0.02

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
411137081172105 PO-114 NR RAVENNA OH-LEVEL 5 (LAT 41 11 37N LONG 081 17 21W)						
OCT 1992						
28...	0935	473	77	16	2.8	<0.01
DEC						
09...	1310	451	78	19	3.0	<0.01
JAN 1993						
21...	0935	460	--	--	4.6	<0.01
MAR						
09...	1305	390	59	57	5.0	<0.01
APR						
15...	1050	--	--	--	5.1	<0.01
MAY						
26...	0905	463	--	--	5.6	0.02
JUL						
15...	1245	480	79	7.4	4.4	0.01
AUG						
18...	1210	552	97	7.5	4.9	0.01
411137081172106 PO-114 NR RAVENNA OH-LEVEL 6 (LAT 41 11 37N LONG 081 17 21W)						
OCT 1992						
28...	0930	475	74	14	3.3	<0.01
DEC						
09...	1305	500	79	20	2.8	0.01
JAN 1993						
21...	0930	463	80	15	5.2	<0.01
MAR						
09...	1300	364	72	13	1.0	<0.01
APR						
15...	1045	452	--	--	5.7	0.01
MAY						
26...	0900	458	76	5.9	13	0.03
JUL						
15...	1240	466	79	8.1	4.7	0.01
AUG						
18...	1205	545	--	--	6.7	<0.01
411137081172301 PO-118 NR RAVENNA OH-LEVEL 1 (LAT 41 11 37N LONG 081 17 23W)						
OCT 1992						
28...	1310	1660	--	--	360	0.08
DEC						
09...	1135	768	40	120	150	0.04
JAN 1993						
21...	1220	277	--	--	27	<0.01
MAR						
09...	1545	910	37	91	210	0.04
APR						
15...	0940	423	56	23	5.3	<0.01
MAY						
26...	1025	1480	93	170	350	0.07
JUL						
15...	1125	2360	100	340	650	0.10
AUG						
18...	1105	3060	95	460	740	0.12

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
411137081172302 PO-118 NR RAVENNA OH-LEVEL 2 (LAT 41 11 37N LONG 081 17 23W)						
OCT 1992						
28...	1305	1710	--	--	70	0.06
DEC						
09...	1130	788	39	120	160	0.03
JAN 1993						
21...	1215	271	--	--	27	<0.01
MAR						
09...	1540	810	--	--	190	0.04
APR						
15...	0935	362	47	23	1.6	<0.01
MAY						
26...	1020	1480	--	--	380	0.06
JUL						
15...	1120	--	100	340	--	0.09
AUG						
18...	1100	--	97	480	840	0.13
411137081172303 PO-118 NR RAVENNA OH-LEVEL 3 (LAT 41 11 37N LONG 081 17 23W)						
OCT 1992						
28...	1300	1720	58	280	370	0.04
DEC						
09...	1125	718	--	--	140	0.04
JAN 1993						
21...	1210	297	19	32	30	<0.01
MAR						
09...	1535	832	--	--	190	0.04
APR						
15...	0930	442	--	--	80	0.02
MAY						
26...	1015	1450	--	--	370	0.06
JUL						
15...	1115	2310	95	330	650	0.10
AUG						
18...	1055	3130	97	490	770	0.12
411137081172304 PO-118 NR RAVENNA OH-LEVEL 4 (LAT 41 11 37N LONG 081 17 23W)						
OCT 1992						
28...	1255	1660	64	270	350	0.06
DEC						
09...	1120	689	34	87	130	0.03
JAN 1993						
21...	1205	257	16	33	24	<0.01
MAR						
09...	1530	556	37	91	120	0.02
APR						
15...	0925	212	29	11	2.0	<0.01
MAY						
26...	1010	1320	78	140	340	0.06
JUL						
15...	1110	2330	98	320	300	0.09
AUG						
18...	1045	3050	98	480	700	0.12

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
411137081172305 PO-118 NR RAVENNA OH-LEVEL 5 (LAT 41 11 37N LONG 081 17 23W)						
OCT 1992						
28...	1250	1400	74	220	280	0.08
DEC						
09...	1115	728	35	87	140	0.04
JAN 1993						
21...	1200	214	18	26	14	<0.01
MAR						
09...	1525	780	--	--	180	0.04
APR						
15...	0920	--	100	200	430	<0.01
MAY						
26...	1005	1270	87	140	320	0.05
JUL						
15...	1105	1940	92	260	420	0.09
AUG						
18...	1045	3050	98	480	700	0.12
411137081172306 PO-118 NR RAVENNA OH-LEVEL 6 (LAT 41 11 37N LONG 081 17 23W)						
OCT 1992						
28...	1245	1230	76	190	250	0.04
DEC						
09...	1110	580	35	69	100	0.02
JAN 1993						
21...	1155	271	18	30	24	<0.01
MAR						
09...	1520	--	38	89	15	0.03
APR						
15...	0915	256	43	14	1.5	<0.01
MAY						
26...	1000	1020	75	100	250	0.05
JUL						
15...	1100	1410	88	180	350	0.06
AUG						
18...	1040	1580	--	--	390	0.05
411137081172401 PO-117 NR RAVENNA OH-LEVEL 1 (LAT 41 11 37N LONG 081 17 24W)						
DEC 1992						
09...	1300	980	91	98	170	0.03
JAN 1993						
21...	1045	621	70	53	63	<0.01
MAR						
09...	1515	490	52	34	39	<0.01
MAY						
26...	1125	538	55	40	57	0.01
JUL						
15...	1335	772	72	70	120	0.03
AUG						
18...	1035	854	62	67	150	0.03

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
411137081172402 PO-117 NR RAVENNA OH-LEVEL 2 (LAT 41 11 37N LONG 081 17 24W)						
DEC 1992						
09...	1255	1370	100	150	280	0.05
JAN 1993						
21...	1040	748	74	80	100	0.02
MAR						
09...	1510	878	62	91	130	0.03
MAY						
26...	1120	809	63	84	130	0.02
JUL						
15...	1330	1030	78	110	190	0.04
AUG						
18...	1030	1100	77	120	220	0.04
411137081172403 PO-117 NR RAVENNA OH-LEVEL 3 (LAT 41 11 37N LONG 081 17 24W)						
JAN 1993						
21...	1035	859	67	97	130	0.03
MAR						
09...	1505	746	60	80	100	0.02
MAY						
26...	1115	661	57	64	88	0.01
JUL						
15...	1325	1000	78	94	200	0.03
AUG						
18...	1025	1240	93	120	260	0.04
411137081172404 PO-117 NR RAVENNA OH-LEVEL 4 (LAT 41 11 37N LONG 081 17 24W)						
DEC 1992						
09...	1245	606	56	58	96	0.03
JAN 1993						
21...	1030	745	69	80	93	0.03
MAR						
09...	1500	697	59	66	94	0.02
MAY						
26...	1110	618	57	59	82	0.01
JUL						
15...	1320	1150	93	110	250	0.04
AUG						
18...	1020	1550	120	150	360	0.06
411137081172405 PO-117 NR RAVENNA OH-LEVEL 5 (LAT 41 11 37N LONG 081 17 24W)						
DEC 1992						
09...	1240	837	64	86	130	0.03
JAN 1993						
21...	1025	647	68	61	66	0.01
MAR						
09...	1455	555	52	49	63	0.02
MAY						
26...	1105	640	60	51	92	0.02
JUL						
15...	1315	1230	100	120	270	0.05
AUG						
18...	1015	1840	130	210	460	0.07

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
411137081172406 PO-117 NR RAVENNA OH-LEVEL 6 (LAT 41 11 37N LONG 081 17 24W)						
DEC 1992						
09...	1235	652	62	51	81	0.02
JAN 1993						
21...	1020	509	60	38	32	<0.01
MAR						
09...	1450	426	45	30	39	0.01
MAY						
26...	1100	479	53	29	48	0.02
JUL						
15...	1310	920	88	75	180	0.03
AUG						
18...	1010	1400	91	180	320	0.05
411138081172401 PO-115 NR RAVENNA OH-LEVEL 1 (LAT 41 11 38N LONG 081 17 24W)						
OCT 1992						
28...	1240	682	40	99	88	<0.01
DEC						
09...	1105	611	38	88	78	0.02
JAN 1993						
21...	1250	613	--	--	90	<0.01
MAR						
09...	1445	1560	83	170	79	0.06
APR						
15...	0910	324	42	18	1.4	<0.01
MAY						
26...	0955	1900	99	260	470	0.06
JUL						
15...	1215	1180	48	180	260	0.03
AUG						
18...	1005	1250	--	--	250	0.04
411138081172402 PO-115 NR RAVENNA OH-LEVEL 2 (LAT 41 11 38N LONG 081 17 24W)						
OCT 1992						
28...	1235	683	--	--	89	<0.01
DEC						
09...	1100	540	45	64	54	0.02
JAN 1993						
21...	1245	677	38	99	120	<0.01
APR						
15...	0905	488	34	50	92	0.03
MAY						
26...	0950	1840	95	240	460	0.06
JUL						
15...	1210	1140	--	--	240	0.03
AUG						
18...	1000	1200	43	200	230	0.03

210 EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
411138081172403 PO-115 NR RAVENNA OH-LEVEL 3 (LAT 41 11 38N LONG 081 17 24W)						
DEC 1992						
09...	1055	310	--	--	48	0.02
JAN 1993						
21...	1240	601	55	51	80	<0.01
MAR						
09...	1435	1080	83	130	25	0.04
MAY						
26...	0945	1740	87	230	430	0.06
JUL						
15...	1205	1020	--	--	210	0.03
AUG						
18...	0955	1170	44	190	240	0.03
411138081172404 PO-115 NR RAVENNA OH-LEVEL 4 (LAT 41 11 38N LONG 081 17 24W)						
OCT 1992						
28...	1225	642	46	83	75	<0.01
DEC						
09...	1050	506	--	--	43	<0.01
JAN 1993						
21...	1235	524	--	--	66	<0.01
MAR						
09...	1430	1160	60	15	270	0.04
APR						
15...	0900	1390	--	--	370	0.05
MAY						
26...	0940	1770	93	230	440	0.06
AUG						
18...	0950	1120	36	190	240	0.02
411138081172405 PO-115 NR RAVENNA OH-LEVEL 5 (LAT 41 11 38N LONG 081 17 24W)						
OCT 1992						
28...	1220	612	--	--	66	<0.01
DEC						
09...	1045	535	48	41	48	0.01
JAN 1993						
21...	1230	--	52	30	34	<0.01
MAR						
09...	1425	854	73	88	170	0.03
MAY						
26...	0935	1410	100	150	330	0.04
JUL						
15...	1200	872	--	--	170	0.02
AUG						
18...	0945	1060	39	170	190	0.02

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
411138081172406 PO-115 NR RAVENNA OH-LEVEL 6 (LAT 41 11 38N LONG 081 17 24W)						
OCT 1992						
28...	1215	593	44	75	65	<0.01
DEC						
09...	1040	415	45	51	24	<0.01
JAN 1993						
21...	1225	364	53	32	19	<0.01
MAR						
09...	1420	842	74	120	170	0.03
MAY						
26...	0930	924	89	82	190	0.04
JUL						
15...	1155	842	52	100	150	0.05
AUG						
18...	0940	804	--	--	150	0.01

LUCAS COUNTY SITE #2 (SR 2)

413546083480901 LU-28 NR HOLLAND OH-LEVEL 1 (LAT 41 35 46N LONG 083 48 09W)

NOV 1992						
05...	1335	460	77	7.1	23	0.06
DEC						
15...	1535	476	77	6.9	27	0.01
JAN 1993						
28...	1215	461	79	7.2	22	0.04
MAR						
11...	1330	468	84	7.0	25	<0.01
APR						
21...	1255	560	87	9.7	57	<0.01
JUN						
01...	1615	591	91	18	73	<0.01
JUL						
09...	1310	599	89	20	68	<0.01
AUG						
24...	1320	622	96	23	75	0.02

413546083480902 LU-28 NR HOLLAND OH-LEVEL 2 (LAT 41 35 46N LONG 083 48 09W)

NOV 1992						
05...	1330	591	89	8.3	63	0.03
DEC						
15...	1535	577	97	6.1	70	0.05
JAN 1993						
28...	1210	589	94	7.3	67	0.03
MAR						
11...	1325	600	98	7.2	75	0.02
APR						
21...	1250	883	120	28	170	0.03
JUN						
01...	1610	922	--	--	--	--
JUL						
09...	1305	886	110	50	150	0.03
AUG						
24...	1315	783	88	52	130	0.02

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
413546083480903 LU-28 NR HOLLAND OH-LEVEL 3 (LAT 41 35 46N LONG 083 48 09W)						
NOV 1992						
05...	1325	588	93	7.6	65	0.02
DEC						
15...	1530	561	74	19	74	0.02
JAN 1993						
28...	1205	629	86	15	84	0.03
MAR						
11...	1320	725	110	13	120	0.02
APR						
21...	1245	1230	120	82	280	0.05
JUN						
01...	1605	1150	--	--	--	--
JUL						
09...	1300	955	62	110	170	0.03
AUG						
24...	1310	539	29	80	36	<0.01

413546083480904 LU-28 NR HOLLAND OH-LEVEL 4 (LAT 41 35 46N LONG 083 48 09W)

NOV 1992						
05...	1320	623	65	34	90	0.02
DEC						
15...	1525	778	46	88	150	0.03
JAN 1993						
28...	1200	291	30	22	23	<0.01
MAR						
11...	1315	241	32	12	4.9	0.03
APR						
21...	1240	549	44	53	69	0.01
JUN						
01...	1600	832	45	110	160	0.02
JUL						
09...	1255	785	39	100	120	0.02
AUG						
24...	1305	570	25	90	55	<0.01

413546083480905 LU-28 NR HOLLAND OH-LEVEL 5 (LAT 41 35 46N LONG 083 48 09W)

NOV 1992						
05...	1315	514	62	17	31	<0.01
DEC						
15...	1520	268	35	11	5.9	<0.01
JAN 1993						
28...	1155	274	29	13	15	<0.01
MAR						
11...	1310	226	31	6.9	3.6	--
APR						
21...	1235	228	29	8.9	10	<0.01
JUN						
01...	1555	235	31	8.7	7.1	<0.01
JUL						
09...	1250	318	51	10	16	<0.01
AUG						
24...	1300	407	43	27	24	<0.01

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
413546083480906 LU-28 NR HOLLAND OH-LEVEL 6 (LAT 41 35 46N LONG 083 48 09W)						
MAR 1993						
11...	1305	134	--	--	120	<0.01
413547083481001 LU-26 NR HOLLAND OH-LEVEL 1 (LAT 41 35 47N LONG 083 48 10W)						
NOV 1992						
05...	1240	496	83	7.7	38	0.02
DEC						
15...	1425	391	85	8.0	31	0.02
JAN 1993						
28...	1115	556	86	9.4	54	0.03
MAR						
11...	1230	521	88	7.6	45	0.01
APR						
21...	1125	561	86	7.8	56	0.03
JUN						
01...	1455	515	87	8.8	44	0.02
JUL						
09...	1240	517	85	8.1	41	0.02
AUG						
24...	1250	548	88	7.4	59	0.03
413547083481002 LU-26 NR HOLLAND OH-LEVEL 2 (LAT 41 35 47N LONG 083 48 10W)						
NOV 1992						
05...	1245	562	87	6.1	63	0.03
DEC						
15...	1420	589	87	5.6	67	0.05
JAN 1993						
28...	1110	--	--	--	--	--
MAR						
11...	1225	549	85	6.3	57	0.03
APR						
21...	1120	994	130	34	210	0.03
JUN						
01...	1450	618	68	44	91	0.04
JUL						
09...	1235	540	66	37	61	0.02
AUG						
24...	1245	834	120	6.2	160	0.02

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
413547083481003 LU-26 NR HOLLAND OH-LEVEL 3 (LAT 41 35 47N LONG 083 48 10W)						
NOV 1992						
05...	1250	849	93	43	180	0.02
DEC						
15...	1415	1010	63	120	230	0.03
JAN 1993						
28...	1105	2160	160	170	590	0.11
MAR						
11...	1220	1570	91	180	370	0.05
APR						
21...	1115	1400	72	170	350	0.05
JUN						
01...	1445	1340	57	200	340	0.04
JUL						
09...	1230	957	28	150	200	0.01
AUG						
24...	1240	403	11	75	27	<0.01
413547083481004 LU-26 NR HOLLAND OH-LEVEL 4 (LAT 41 35 47N LONG 083 48 10W)						
NOV 1992						
05...	1255	1830	200	62	500	0.08
DEC						
15...	1410	2260	120	260	660	0.12
JAN 1993						
28...	1100	1330	51	190	340	0.06
MAR						
11...	1215	1830	100	210	470	0.09
APR						
21...	1110	1050	25	190	230	0.06
JUN						
01...	1440	812	15	160	110	0.03
JUL						
09...	1225	498	8.0	2.2	39	0.01
AUG						
24...	1235	507	9.1	110	52	0.02
413547083481005 LU-26 NR HOLLAND OH-LEVEL 5 (LAT 41 35 47N LONG 083 48 10W)						
NOV 1992						
05...	1300	1200	41	180	250	0.08
DEC						
15...	1405	1200	36	190	280	0.07
JAN 1993						
28...	1055	1270	37	210	280	0.06
MAR						
11...	1210	1060	89	83	230	0.05
APR						
21...	1105	795	26	140	180	0.05
JUN						
01...	1435	1090	39	180	220	0.06
JUL						
09...	1220	1040	22	170	180	0.06
AUG						
24...	1230	1060	28	170	180	0.06

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
413547083481006 LU-26 NR HOLLAND OH-LEVEL 6 (LAT 41 35 47N LONG 083 48 10W)						
DEC 1992						
15...	1400	386	19	9.8	23	0.02
JAN 1993						
28...	1050	161	14	7.2	3.7	<0.01
MAR						
11...	1205	160	18	11	5.8	<0.01
APR						
21...	1100	109	8.3	9.3	5.8	<0.01
JUN						
01...	1430	142	12	8.5	2.5	<0.01
JUL						
09...	1215	144	13	5.8	4.5	<0.01
AUG						
24...	1225	149	13	6.7	5.9	<0.01
413547083481101 LU-27 NR HOLLAND OH-LEVEL 1 (LAT 41 35 47N LONG 083 48 11W)						
NOV 1992						
05...	1400	994	100	70	190	0.02
DEC						
15...	1605	840	84	65	150	0.03
JAN 1993						
28...	1240	561	74	27	53	0.11
MAR						
11...	1300	481	70	21	29	<0.01
APR						
21...	1225	490	76	15	36	<0.01
JUN						
01...	1545	473	--	--	29	0.02
JUL						
09...	1340	474	74	12	30	<0.01
AUG						
24...	1345	549	77	14	57	<0.01
413547083481102 LU-27 NR HOLLAND OH-LEVEL 2 (LAT 41 35 47N LONG 083 48 11W)						
NOV 1992						
05...	1355	1340	120	120	330	0.04
DEC						
15...	1600	1030	76	110	200	0.03
JAN 1993						
28...	1235	626	41	80	64	0.03
MAR						
11...	1255	559	46	66	51	0.02
APR						
21...	1220	493	44	44	40	0.02
JUL						
09...	1335	858	130	11	160	0.04
AUG						
24...	1340	1050	140	25	220	0.03

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
413547083481103 LU-27 NR HOLLAND OH-LEVEL 3 (LAT 41 35 47N LONG 083 48 11W)						
NOV 1992						
05...	1350	948	64	110	180	0.02
DEC						
15...	1555	1250	63	170	280	0.06
JAN 1993						
28...	1230	748	34	110	110	0.01
MAR						
11...	1250	459	26	70	22	<0.01
APR						
21...	1215	411	--	--	19	<0.01
JUN						
01...	1540	487	48	35	60	<0.01
JUL						
09...	1330	613	58	42	110	0.04
AUG						
24...	1335	1020	99	59	230	0.03
413547083481104 LU-27 NR HOLLAND OH-LEVEL 4 (LAT 41 35 47N LONG 083 48 11W)						
NOV 1992						
05...	1345	512	68	16	22	0.06
DEC						
15...	1550	609	33	80	83	0.04
JAN 1993						
28...	1225	616	36	75	95	0.03
MAR						
11...	1245	367	39	31	20	<0.01
APR						
21...	1210	534	35	64	77	0.02
JUN						
01...	1535	411	28	54	32	<0.01
JUL						
09...	1325	776	57	71	46	0.04
AUG						
24...	1330	526	59	21	28	0.03
413547083481105 LU-27 NR HOLLAND OH-LEVEL 5 (LAT 41 35 47N LONG 083 48 11W)						
NOV 1992						
05...	1340	389	59	5.7	1.0	--
DEC						
15...	1545	416	63	9.1	1.5	0.01
JAN 1993						
28...	1220	359	56	8.6	2.6	<0.01
MAR						
11...	1240	303	35	22	6.2	0.16
APR						
21...	1205	324	31	32	7.4	<0.01
JUN						
01...	1530	314	37	23	6.2	0.21
JUL						
09...	1320	330	53	8.9	5.0	<0.01
AUG						

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
413547083481201 LU-25 NR HOLLAND OH-LEVEL 1 (LAT 41 35 47N LONG 083 48 11W)						
NOV 1992						
05...	1235	486	79	7.4	31	0.05
DEC						
15...	1515	519	81	9.2	43	0.03
JAN 1993						
28...	1145	736	98	27	110	0.02
MAR						
11...	1400	583	94	17	63	<0.01
APR						
21...	1155	570	87	15	57	0.01
JUN						
01...	1520	533	85	13	47	0.02
JUL						
09...	1210	525	84	17	44	<0.01
AUG						
24...	1315	510	82	11	39	0.01
413547083481202 LU-25 NR HOLLAND OH-LEVEL 2 (LAT 41 35 47N LONG 083 48 12W)						
NOV 1992						
05...	1230	601	96	9.5	74	0.03
DEC						
15...	1510	638	99	15	91	0.05
JAN 1993						
28...	1140	858	100	38	150	0.05
MAR						
11...	1355	782	100	30	130	0.05
APR						
21...	1150	688	93	19	110	0.03
JUN						
01...	1515	675	93	20	100	0.05
JUL						
09...	1205	662	91	19	94	0.03
AUG						
24...	1310	575	79	15	68	0.02
413547083481203 LU-25 NR HOLLAND OH-LEVEL 3 (LAT 41 35 47N LONG 083 48 12W)						
NOV 1992						
05...	1225	617	81	8.7	89	0.02
DEC						
15...	1505	1270	130	93	320	0.06
JAN 1993						
28...	1135	1730	120	170	450	0.06
MAR						
11...	1350	1460	98	150	400	0.06
APR						
21...	1145	1500	110	140	370	0.05
JUN						
01...	1510	1490	94	170	380	0.07
JUL						
09...	1200	1070	83	92	250	0.03
AUG						
24...	1305	676	68	39	120	0.02

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
413547083481204 LU-25 NR HOLLAND OH-LEVEL 4 (LAT 41 35 47N LONG 083 48 12W)						
NOV 1992						
05...	1220	858	99	28	200	0.03
DEC						
15...	1500	1190	110	70	320	0.05
JAN 1993						
28...	1130	1340	86	140	310	0.05
MAR						
11...	1345	1020	71	110	250	0.03
APR						
21...	1140	1060	65	110	240	0.03
JUN						
01...	1505	1270	56	200	300	0.05
JUL						
09...	1155	1070	38	160	200	0.02
AUG						
24...	1300	758	24	130	110	0.02
413547083481205 LU-25 NR HOLLAND OH-LEVEL 5 (LAT 41 35 47N LONG 083 48 12W)						
NOV 1992						
05...	1215	673	27	95	120	0.03
DEC						
15...	1455	467	31	43	73	0.03
JAN 1993						
28...	1125	468	18	71	61	0.01
MAR						
11...	1340	481	29	40	100	<0.01
APR						
21...	1135	445	22	51	70	<0.01
JUN						
01...	1500	263	19	22	28	<0.01
JUL						
09...	1150	367	22	27	43	<0.01
AUG						
24...	1255	469	29	56	60	0.02
413547083481206 LU-25 NR HOLLAND OH-LEVEL 6 (LAT 41 35 47N LONG 083 48 12W)						
MAR 1993						
11...	1335	655	--	--	91	0.02
APR						
21...	1130	252	15	25	39	<0.01

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
413547083481301 LU-22 NR HOLLAND OH-LEVEL 1 (LAT 41 35 47N LONG 083 48 13W)						
NOV 1992						
05...	1210	658	97	18	91	0.02
DEC						
15...	1450	633	100	8.0	76	0.05
JAN 1993						
28...	1040	619	100	6.7	70	0.11
MAR						
11...	1430	607	110	6.1	67	0.03
APR						
21...	1055	591	99	5.5	64	0.04
JUN						
01...	1425	620	110	6.3	68	0.02
JUL						
09...	1135	620	100	7.3	73	0.02
AUG						
24...	1220	634	110	7.4	86	0.03
413547083481302 LU-22 NR HOLLAND OH-LEVEL 2 (LAT 41 35 47N LONG 083 48 13W)						
NOV 1992						
05...	1205	695	91	24	110	0.02
DEC						
15...	1445	629	90	13	--	0.03
JAN 1993						
28...	1035	599	97	5.8	68	0.04
MAR						
11...	1425	620	100	5.7	71	0.03
APR						
21...	1050	609	97	5.0	66	0.03
JUN						
01...	1420	612	110	7.3	75	0.03
JUL						
09...	1130	603	99	6.5	64	0.02
AUG						
24...	1215	568	91	7.2	59	0.02
413547083481303 LU-22 NR HOLLAND OH-LEVEL 3 (LAT 41 35 47N LONG 083 48 13W)						
NOV 1992						
05...	1200	833	86	53	170	0.02
DEC						
15...	1440	846	95	33	180	0.04
JAN 1993						
28...	1030	572	80	14	79	0.02
MAR						
11...	1420	439	69	5.6	37	<0.01
APR						
21...	1045	443	61	10	34	<0.01
JUN						
01...	1415	403	48	20	25	<0.01
JUL						
09...	1125	489	75	9.8	42	0.01
AUG						
24...	1210	398	44	20	23	<0.01

220 EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
413547083481304 LU-22 NR HOLLAND OH-LEVEL 4 (LAT 41 35 47N LONG 083 48 13W)						
NOV 1992						
05...	1155	1440	48	230	310	0.04
DEC						
15...	1435	502	20	90	63	0.02
JAN 1993						
28...	1025	712	19	120	110	0.03
MAR						
11...	1415	323	14	53	17	<0.01
APR						
21...	1040	575	22	80	100	0.02
JUN						
01...	1410	543	13	96	1.6	0.03
JUL						
09...	1120	684	110	8.0	22	0.02
AUG						
24...	1205	1230	46	170	320	0.05
413547083481305 LU-22 NR HOLLAND OH-LEVEL 5 (LAT 41 35 47N LONG 083 48 13W)						
DEC 1992						
15...	1430	682	23	110	100	0.03
JAN 1993						
28...	1020	458	17	59	60	0.03
APR						
21...	1035	494	27	43	98	<0.01
JUN						
01...	1405	401	28	43	51	<0.01
JUL						
09...	1115	641	29	97	87	0.03
AUG						
24...	1200	760	30	120	98	0.02
413549083481501 LU-21 NR HOLLAND OH-LEVEL 1 (LAT 41 35 49N LONG 083 48 15W)						
JAN 1993						
28...	1000	846	140	6.7	130	0.09
APR						
21...	1025	247	34	7.0	21	0.01
JUN						
01...	1345	837	150	5.7	130	0.07
JUL						
09...	1045	864	150	6.6	130	0.08
AUG						
24...	1155	870	150	6.7	130	0.08

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
413549083481502 LU-21 NR HOLLAND OH-LEVEL 2 (LAT 41 35 49N LONG 083 48 15W)						
NOV 1992						
05...	1105	384	53	3.1	26	<0.01
DEC						
15...	1225	378	55	3.4	26	0.02
JAN 1993						
28...	0955	236	29	7.5	8.0	<0.01
MAR						
11...	1155	404	61	3.4	31	0.01
APR						
21...	1020	145	12	6.9	3.8	--
JUN						
01...	1340	245	33	2.5	6.1	<0.01
JUL						
09...	1040	254	39	2.5	6.8	<0.01
AUG						
24...	1150	295	41	2.5	12	<0.01
413549083481503 LU-21 NR HOLLAND OH-LEVEL 3 (LAT 41 35 49N LONG 083 48 15W)						
NOV 1992						
05...	1100	221	31	2.8	4.3	0.04
DEC						
15...	1220	186	22	7.2	4.1	<0.01
JAN 1993						
28...	0950	200	16	9.9	5.1	<0.01
MAR						
11...	1150	244	34	4.0	9.2	<0.01
APR						
21...	1015	126	9.6	7.0	3.5	<0.01
JUN						
01...	1335	118	9.0	4.6	2.6	<0.01
JUL						
09...	1035	144	16	3.0	3.1	<0.01
AUG						
24...	1145	224	30	2.2	3.9	<0.01
413549083481504 LU-21 NR HOLLAND OH-LEVEL 4 (LAT 41 35 49N LONG 083 48 15W)						
NOV 1992						
05...	1055	190	24	3.4	4.4	0.04
DEC						
15...	1215	137	12	4.8	3.9	<0.01
JAN 1993						
28...	0945	143	8.6	12	3.7	<0.01
MAR						
11...	1145	181	21	4.8	5.1	<0.01
APR						
21...	1010	107	6.6	6.6	3.3	<0.01
JUN						
01...	1330	95	5.9	3.9	2.2	0.01
JUL						
09...	1030	119	--	--	3.0	<0.01
AUG						
24...	1140	149	18	2.9	2.7	<0.01

222 EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
413549083481505 LU-21 NR HOLLAND OH-LEVEL 5 (LAT 41 35 49N LONG 083 48 15W)						
NOV 1992						
05...	1050	168	19	3.6	5.0	0.04
DEC						
15...	1210	127	11	4.2	3.6	<0.01
JAN 1993						
28...	0940	--	7.6	11	3.8	<0.01
MAR						
11...	1140	158	17	5.1	4.2	<0.01
APR						
21...	1005	118	7.8	7.3	3.4	<0.01
JUN						
01...	1325	116	8.1	4.4	3.5	<0.01
JUL						
09...	1025	125	--	--	3.6	<0.01
AUG						
24...	1135	134	15	2.8	2.8	<0.01

413549083481506 LU-21 NR HOLLAND OH-LEVEL 6 (LAT 41 35 49N LONG 083 48 15W)

MAR 1993						
11...	1135	119	--	--	4.7	<0.01
APR						
21...	1000	87	--	--	3.4	<0.01

ASHTABULA COUNTY SITE #1 (SR 84)

415305080414201 AB-139 NR KINGSVILLE OH-LEVEL 1 (LAT 41 53 05 LONG 080 41 42W)

OCT 1992						
27...	1230	442	63	6.6	9.8	0.01
DEC						
08...	1435	396	60	6.0	3.2	<0.01
JAN 1993						
20...	1040	450	--	--	3.4	<0.01
MAR						
10...	1055	482	76	7.4	2.3	<0.01
APR						
14...	1325	437	61	20	2.8	<0.01
MAY						
25...	1010	472	75	8.7	2.6	0.01
JUL						
14...	1050	461	--	--	16	0.01
AUG						
17...	1320	478	62	10	17	<0.01

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
415305080414202 AB-139 NR KINGSVILLE OH-LEVEL 2 (LAT 41 53 05 LONG 080 41 42W)						
OCT 1992						
27...	1225	396	54	7.3	10	<0.01
DEC						
08...	1430	391	59	8.9	4.8	0.02
JAN 1993						
20...	1035	424	64	8.1	2.7	<0.01
MAR						
10...	1050	506	87	8.7	2.4	<0.01
APR						
14...	1320	464	60	18	2.9	<0.01
MAY						
25...	1005	472	--	--	2.6	<0.01
JUL						
14...	1045	469	68	8.6	16	0.01
AUG						
17...	1315	469	61	11	17	0.02
415305080414203 AB-139 NR KINGSVILLE OH-LEVEL 3 (LAT 41 53 05 LONG 080 41 42W)						
OCT 1992						
27...	1220	367	51	4.2	4.5	<0.01
DEC						
08...	1425	374	56	7.3	2.7	<0.01
MAR 1993						
10...	1045	611	95	11	2.3	<0.01
APR						
14...	1315	433	61	19	2.8	<0.01
MAY						
25...	1000	482	74	8.4	2.4	0.01
JUL						
14...	1040	471	71	8.2	13	<0.01
AUG						
17...	1310	479	--	--	16	0.01
415305080414204 AB-139 NR KINGSVILLE OH-LEVEL 4 (LAT 41 53 05 LONG 080 41 42W)						
OCT 1992						
27...	1215	312	--	--	3.7	<0.01
DEC						
08...	1420	369	54	6.7	2.8	0.01
JAN 1993						
20...	1025	420	62	7.9	2.7	<0.01
MAR						
10...	1040	580	84	9.9	24	<0.01
APR						
14...	1310	--	66	17	3.2	<0.01
MAY						
25...	0955	490	80	8.9	3.1	--
JUL						
14...	1035	476	--	--	8.8	0.01

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
415305080414205 AB-139 NR KINGSVILLE OH-LEVEL 5 (LAT 41 53 05 LONG 080 41 42W)						
OCT 1992						
27...	1210	332	41	4.1	4.2	<0.01
DEC						
08...	1415	277	39	5.0	2.4	0.01
JAN 1993						
20...	1020	447	--	--	2.7	<0.01
MAR						
10...	1035	460	--	--	2.7	0.01
APR						
14...	1305	338	50	9.2	2.9	<0.01
JUL						
14...	1030	205	--	--	1.8	<0.01
415305080414206 AB-139 NR KINGSVILLE OH-LEVEL 6 (LAT 41 53 05 LONG 080 41 42W)						
OCT 1992						
27...	1205	214	--	--	3.5	<0.01
DEC						
08...	1410	255	--	--	3.0	0.01
JAN 1993						
20...	1015	--	73	8.2	3.9	<0.01
MAR						
10...	1030	445	--	--	3.1	0.02
APR						
14...	1300	--	49	8.3	3.4	0.01
415307080414201 AB-133 NR KINGSVILLE OH-LEVEL 1 (LAT 41 53 07 LONG 080 41 42W)						
OCT 1992						
27...	1035	1970	150	180	460	0.11
DEC						
08...	1140	967	45	160	--	--
JAN 1993						
20...	1110	817	--	--	140	0.02
MAR						
10...	1155	1540	65	220	360	0.05
APR						
14...	1355	--	75	310	660	0.09
MAY						
25...	1055	1920	66	310	450	0.08
JUL						
14...	1215	2090	79	310	540	0.09
AUG						
17...	1045	2380	100	320	590	0.12

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
415307080414202 AB-133 NR KINGSVILLE OH-LEVEL 2 (LAT 41 53 07 LONG 080 41 42W)						
OCT 1992						
27...	1030	1780	64	270	380	0.06
DEC						
08...	1135	983	47	170	140	0.02
JAN 1993						
20...	1105	833	36	130	140	0.03
MAR						
10...	1150	1240	52	170	280	0.03
APR						
14...	1350	1800	76	300	540	0.09
MAY						
25...	1050	1890	58	300	460	0.07
JUL						
14...	1210	2250	96	320	540	0.11
AUG						
17...	1050	2220	100	320	570	0.11
415307080414203 AB-133 NR KINGSVILLE OH-LEVEL 3 (LAT 41 53 07 LONG 080 41 42W)						
OCT 1992						
27...	1025	1840	61	250	390	0.06
DEC						
08...	1130	1030	45	170	160	0.05
JAN 1993						
20...	1100	949	--	--	170	0.02
MAR						
10...	1145	1080	52	170	230	0.03
APR						
14...	1345	1810	78	310	530	0.08
MAY						
25...	1045	1900	61	300	440	0.07
JUL						
14...	1205	2220	93	330	550	0.10
AUG						
17...	1055	2230	--	--	570	0.10
415307080414204 AB-133 NR KINGSVILLE OH-LEVEL 4 (LAT 41 53 07 LONG 080 41 42W)						
OCT 1992						
27...	1020	1750	62	260	390	0.05
DEC						
08...	1125	983	45	160	140	--
JAN 1993						
20...	1055	815	35	130	140	0.02
MAR						
10...	1140	1170	55	180	250	0.03
APR						
14...	1340	1810	77	300	530	0.08
MAY						
25...	1040	1720	59	290	430	0.06
JUL						
14...	1200	2130	83	330	600	0.09
AUG						
17...	1100	2160	76	330	460	0.09

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
415307080414205 AB-133 NR KINGSVILLE OH-LEVEL 5 (LAT 41 53 07 LONG 080 41 42W)						
OCT 1992						
27...	1015	1640	51	230	350	0.05
DEC						
08...	1120	948	43	160	--	--
JAN 1993						
20...	1050	831	35	130	140	<0.01
MAR						
10...	1135	854	48	150	150	0.01
APR						
14...	1335	2020	73	300	530	0.08
MAY						
25...	1035	1680	48	270	380	0.06
JUL						
14...	1155	2080	75	320	490	0.09
AUG						
17...	1105	2010	63	320	510	0.08
415307080414206 AB-133 NR KINGSVILLE OH-LEVEL 6 (LAT 41 53 07 LONG 080 41 42W)						
OCT 1992						
27...	1010	1510	--	--	300	0.03
DEC						
08...	1115	901	41	150	120	--
JAN 1993						
20...	1045	808	33	130	130	0.02
MAR						
10...	1130	1200	54	170	250	0.03
APR						
14...	1330	1720	73	280	530	0.09
MAY						
25...	1030	1560	40	260	360	0.08
415308080414301 AB-135 NR KINGSVILLE OH-LEVEL 1 (LAT 41 53 08 LONG 080 41 43W)						
DEC 1992						
08...	1210	1080	86	90	210	0.05
JAN 1993						
20...	1210	964	88	74	170	<0.01
MAR						
10...	1255	944	90	68	170	0.05
APR						
14...	1425	--	110	110	280	0.06
MAY						
25...	1125	1110	92	85	210	0.05
JUL						
14...	1250	1030	--	--	190	0.06
AUG						
17...	1135	1040	83	81	200	0.05

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
415308080414302 AB-135 NR KINGSVILLE OH-LEVEL 2 (LAT 41 53 08 LONG 080 41 43W)						
OCT 1992						
27...	1100	1140	100	110	220	0.08
DEC						
08...	1205	1050	83	87	210	0.05
JAN 1993						
20...	1205	947	91	74	170	0.02
MAR						
10...	1250	920	89	62	160	0.04
APR						
14...	1420	1260	100	110	250	0.06
MAY						
25...	1120	1050	98	81	200	0.05
JUL						
14...	1245	1040	90	78	200	0.06
AUG						
17...	1130	1090	83	83	210	0.06
415308080414303 AB-135 NR KINGSVILLE OH-LEVEL 3 (LAT 41 53 08 LONG 080 41 43W)						
OCT 1992						
27...	1055	1090	98	99	210	0.09
DEC						
08...	1200	1030	85	87	190	0.05
JAN 1993						
20...	1200	967	89	72	170	0.04
MAR						
10...	1245	913	86	62	160	0.04
APR						
14...	1415	1280	100	110	250	0.07
MAY						
25...	1115	1040	100	92	190	0.06
JUL						
14...	1240	1030	93	77	190	0.05
AUG						
17...	1125	1090	85	86	210	0.06
415308080414304 AB-135 NR KINGSVILLE OH-LEVEL 4 (LAT 41 53 08 LONG 080 41 43W)						
OCT 1992						
27...	1050	1100	95	99	210	0.06
DEC						
08...	1155	993	83	83	200	0.05
JAN 1993						
20...	1155	966	91	73	170	0.05
MAR						
10...	1240	883	86	64	150	0.03
APR						
14...	1410	1240	100	97	230	0.07
MAY						
25...	1110	1030	97	77	190	0.06
JUL						
14...	1235	1040	90	77	190	0.06
AUG						
17...	1120	1090	86	86	210	0.05

228 EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
415308080414305 AB-135 NR KINGSVILLE OH-LEVEL 5 (LAT 41 53 08 LONG 080 41 43W)						
OCT 1992						
27...	1045	1050	92	89	200	0.05
DEC						
08...	1150	1040	84	89	--	--
JAN 1993						
20...	1150	966	92	73	180	0.04
MAR						
10...	1235	892	89	65	160	0.04
APR						
14...	1405	--	91	71	190	0.06
MAY						
25...	1105	1050	93	78	190	0.05
JUL						
14...	1230	1010	91	72	180	0.05
AUG						
17...	1115	976	82	73	190	0.05
415308080414306 AB-135 NR KINGSVILLE OH-LEVEL 6 (LAT 41 53 08 LONG 080 41 43W)						
OCT 1992						
27...	1040	1220	94	110	240	0.06
DEC						
08...	1145	1070	86	92	--	0.05
JAN 1993						
20...	1145	--	86	79	190	0.05
MAR						
10...	1230	962	89	72	170	0.06
APR						
14...	1400	--	92	70	190	0.05
MAY						
25...	1100	1060	100	78	190	0.05
JUL						
14...	1225	1000	96	72	180	0.05
AUG						
17...	1110	999	87	75	180	0.06
415309080414301 AB-136 NR KINGSVILLE OH-LEVEL 1 (LAT 41 53 09 LONG 080 41 43W)						
OCT 1992						
27...	1130	1470	77	190	330	0.06
DEC						
08...	1325	1460	64	210	330	0.07
JAN 1993						
20...	1240	1290	--	--	300	0.08
MAR						
10...	1325	1370	62	190	310	0.06
APR						
14...	1525	1230	55	170	260	0.08
MAY						
25...	1155	1290	65	160	260	0.06
JUL						
14...	1320	1470	70	200	310	0.07
AUG						
17...	1235	1530	67	210	310	0.07

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
415309080414302 AB-136 NR KINGSVILLE OH-LEVEL 2 (LAT 41 53 09 LONG 080 41 43W)						
OCT 1992						
27...	1125	1510	76	200	340	0.07
DEC						
08...	1320	1460	62	210	330	0.06
JAN 1993						
20...	1235	1370	65	190	310	0.05
MAR						
10...	1320	1280	--	--	280	0.06
APR						
14...	1520	--	54	170	280	0.06
MAY						
25...	1150	1250	--	--	260	0.06
JUL						
14...	1315	1460	74	210	--	0.06
AUG						
17...	1230	1530	63	210	350	0.07
415309080414303 AB-136 NR KINGSVILLE OH-LEVEL 3 (LAT 41 53 09 LONG 080 41 43W)						
OCT 1992						
27...	1120	1480	78	200	320	0.08
DEC						
08...	1315	1420	63	200	320	0.07
JAN 1993						
20...	1230	1330	64	180	300	--
MAR						
10...	1315	1280	53	180	280	0.07
APR						
14...	1515	1090	54	170	250	0.06
MAY						
25...	1145	1140	68	160	230	0.08
JUL						
14...	1310	1470	70	200	320	0.07
AUG						
17...	1225	1500	--	--	350	0.07
415309080414304 AB-136 NR KINGSVILLE OH-LEVEL 4 (LAT 41 53 09 LONG 080 41 43W)						
OCT 1992						
27...	1115	1590	77	220	360	0.07
DEC						
08...	1310	1410	63	200	320	<0.01
JAN 1993						
20...	1225	1260	53	180	300	0.06
MAR						
10...	1310	1220	54	180	260	0.06
APR						
14...	1510	1190	53	170	250	0.05
MAY						
25...	1140	1330	66	180	280	0.06
JUL						
14...	1305	1470	68	210	320	0.07
AUG						
17...	1220	1510	64	210	300	0.07

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
415309080414305 AB-136 NR KINGSVILLE OH-LEVEL 5 (LAT 41 53 09 LONG 080 41 43W)						
OCT 1992						
27...	1110	1580	75	210	360	0.07
DEC						
08...	1305	1410	63	200	310	<0.01
JAN 1993						
20...	1220	1250	59	180	280	0.04
MAR						
10...	1305	1220	52	170	260	0.07
APR						
14...	1505	1040	54	160	260	0.06
MAY						
25...	1135	1380	70	190	280	--
JUL						
14...	1300	1470	67	210	330	0.07
AUG						
17...	1215	1510	74	210	290	0.06
415309080414306 AB-136 NR KINGSVILLE OH-LEVEL 6 (LAT 41 53 09 LONG 080 41 43W)						
OCT 1992						
27...	1105	1460	73	180	330	0.06
DEC						
08...	1300	1300	70	170	280	0.03
JAN 1993						
20...	1215	--	--	--	--	--
MAR						
10...	1300	1250	65	170	260	0.08
APR						
14...	1500	1100	61	160	240	0.06
MAY						
25...	1130	1210	70	160	250	0.06
JUL						
14...	1255	1120	68	140	210	0.06
AUG						
17...	1210	1280	63	160	250	0.09
415309080414401 AB-138 NR KINGSVILLE OH-LEVEL 1 (LAT 41 53 09 LONG 080 41 44W)						
DEC 1992						
08...	1230	556	56	40	68	--
JAN 1993						
20...	1140	585	51	57	86	0.05
MAR						
10...	1225	547	52	40	71	0.02
MAY						
25...	1225	522	51	39	65	0.02
JUL						
14...	1350	537	60	26	56	0.02
AUG						
17...	1205	606	63	26	66	0.03

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
415309080414402 AB-138 NR KINGSVILLE OH-LEVEL 2 (LAT 41 53 09 LONG 080 41 44W)						
DEC 1992						
08...	1235	540	58	20	60	0.02
JAN 1993						
20...	1135	513	55	34	58	0.05
MAR						
10...	1220	532	55	32	62	0.02
MAY						
25...	1220	519	57	27	59	0.03
JUL						
14...	1345	531	58	26	57	0.03
AUG						
17...	1200	617	66	25	69	0.03
415309080414403 AB-138 NR KINGSVILLE OH-LEVEL 3 (LAT 41 53 09 LONG 080 41 44W)						
DEC 1992						
08...	1240	547	58	19	62	0.02
JAN 1993						
20...	1130	534	58	32	60	0.04
MAR						
10...	1215	524	59	25	60	0.02
MAY						
25...	1215	509	57	25	57	0.02
JUL						
14...	1340	537	58	26	60	0.03
AUG						
17...	1155	626	64	24	73	0.03
415309080414404 AB-138 NR KINGSVILLE OH-LEVEL 4 (LAT 41 53 09 LONG 080 41 44W)						
DEC 1992						
08...	1245	1160	74	130	220	0.04
JAN 1993						
20...	1125	662	52	65	100	0.03
MAR						
10...	1210	581	50	52	82	0.03
MAY						
25...	1210	497	50	35	61	0.03
JUL						
14...	1335	485	60	17	49	0.02
AUG						
17...	1150	561	67	18	61	0.03
415309080414405 AB-138 NR KINGSVILLE OH-LEVEL 5 (LAT 41 53 09 LONG 080 41 44W)						
JUL 1993						
14...	1330	466	48	27	53	0.03

232 EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
415309080414406 AB-138 NR KINGSVILLE OH-LEVEL 6 (LAT 41 53 09 LONG 080 41 44W)						
DEC 1992						
08...	1255	642	53	59	100	0.04
JAN 1993						
20...	1115	662	50	72	110	0.03
MAR						
10...	1200	602	46	60	94	0.03
MAY						
25...	1200	552	43	52	78	0.03
JUL						
14...	1325	498	43	43	63	0.02
AUG						
17...	1140	541	45	45	63	0.03
415310080414401 AB-137 NR KINGSVILLE OH-LEVEL 1 (LAT 41 53 10 LONG 080 41 44W)						
OCT 1992						
27...	1200	875	--	--	92	0.03
DEC						
08...	1405	791	90	45	--	0.02
JAN 1993						
20...	1310	794	90	43	100	0.03
MAR						
10...	1335	751	--	--	91	0.08
APR						
14...	1555	696	82	45	20	0.04
MAY						
25...	1255	774	--	--	95	0.03
JUL						
14...	1420	778	--	--	100	0.03
AUG						
17...	1305	763	74	43	110	0.03
415310080414402 AB-137 NR KINGSVILLE OH-LEVEL 2 (LAT 41 53 10 LONG 080 41 44W)						
OCT 1992						
27...	1155	822	98	45	95	0.03
DEC						
08...	1400	784	86	46	100	0.02
JAN 1993						
20...	1305	775	--	--	99	0.02
MAR						
10...	1350	782	--	--	91	0.04
APR						
14...	1550	682	75	48	90	0.07
MAY						
25...	1250	772	84	44	96	0.03
JUL						
14...	1415	800	86	47	120	0.04
AUG						
17...	1300	801	76	49	130	0.04

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	CALCIUM DIS- SOLVED (MG/L AS CA)	SODIUM, DIS- SOLVED (MG/L AS NA)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	BROMIDE DIS- SOLVED (MG/L AS BR)
415310080414403 AB-137 NR KINGSVILLE OH-LEVEL 3 (LAT 41 53 10 LONG 080 41 44W)						
OCT 1992						
27...	1150	831	91	43	95	0.03
DEC						
08...	1355	784	82	44	100	0.03
JAN 1993						
20...	1300	769	85	43	98	0.02
MAR						
10...	1345	758	80	41	90	0.03
APR						
14...	1545	--	78	48	99	0.03
MAY						
25...	1245	744	--	--	91	0.03
JUL						
14...	1410	800	84	47	110	0.04
AUG						
17...	1255	795	78	50	130	0.03
415310080414404 AB-137 NR KINGSVILLE OH-LEVEL 4 (LAT 41 53 10 LONG 080 41 44W)						
OCT 1992						
27...	1145	802	91	42	96	0.03
DEC						
08...	1350	778	85	45	100	<0.01
JAN 1993						
20...	1255	773	90	43	98	0.02
MAR						
10...	1340	756	--	--	90	0.04
APR						
14...	1540	744	77	47	90	0.04
MAY						
25...	1240	752	--	--	92	0.03
JUL						
14...	1405	797	--	--	110	0.04
AUG						
17...	1250	791	75	49	120	0.04
415310080414405 AB-137 NR KINGSVILLE OH-LEVEL 5 (LAT 41 53 10 LONG 080 41 44W)						
OCT 1992						
27...	1140	835	97	43	93	0.03
DEC						
08...	1345	776	85	45	100	0.03
JAN 1993						
20...	1250	--	86	42	99	<0.01
MAR						
10...	1335	712	--	--	91	0.03
APR						
14...	1535	692	79	45	97	0.03
MAY						
25...	1235	761	89	45	96	0.03
JUL						
14...	1400	798	84	45	110	0.04
AUG						
17...	1245	786	74	48	120	0.03

234 EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

415310080414406 AB-137 NR KINGSVILLE OH-LEVEL 6 (LAT 41 53 10 LONG 080 41 44W)

OCT 1992						
27...	1135	840	93	43	96	0.03
DEC						
08...	1340	733	86	45	100	0.03
JAN 1993						
20...	1245	758	90	43	99	--
MAR						
10...	1330	755	79	43	95	0.04
APR						
14...	1530	--	79	46	98	--
MAY						
25...	1230	761	88	45	96	0.02
JUL						
14...	1355	795	83	44	110	0.04
AUG						
17...	1240	776	77	47	100	0.04

ADDITIONAL SAMPLE ANALYSES FROM ONE WELL AT EACH SITE
WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

		SPE-	PH	SOLIDS,	
	SPE-	CIFIC	WATER	RESIDUE	
	CIFIC	CON-	WHOLE	AT 180	CYANIDE
	CON-	DUCT-	LAB	DEG. C	DIS-
	DUCT-	ANCE	(STAND-	DIS-	SOLVED
DATE	ANCE	LAB	ARD	SOLVED	(MG/L
	(US/CM)	(US/CM)	UNITS)	(MG/L)	AS CN)

CHAMPAIGN COUNTY SITE #6 (SR 104)

400947083480002 CH-44 NR URBANA OH-LEVEL 2 (LAT 40 09 47N LONG 083 48 00W)

APR 1993					
09...	987	--	7.4	630	<0.01

400947083480003 CH-44 NR URBANA OH-LEVEL 3 (LAT 40 09 47N LONG 083 48 00W)

APR 1993					
09...	950	989	7.4	592	<0.01

400947083480004 CH-44 NR URBANA OH-LEVEL 4 (LAT 40 09 47N LONG 083 48 00W)

APR 1993					
09...	1030	1040	7.5	639	<0.01

CLARK COUNTY SITE #8 (SR 4)

395859083440503 CL-140 NR SPRINGFIELD OH-LEVEL 3 (LAT 39 58 59N LONG 083 44 05W)

APR 1993					
09...	989	1030	7.3	594	<0.01

395859083440504 CL-140 NR SPRINGFIELD OH-LEVEL 4 (LAT 39 58 59N LONG 083 44 05W)

APR 1993					
09...	900	935	7.3	537	<0.01

395859083440505 CL-140 NR SPRINGFIELD OH-LEVEL 5 (LAT 39 58 59N LONG 083 44 05W)

APR 1993					
09...	834	846	7.4	499	<0.01

ASHLAND COUNTY SITE #3 (SR 3)

403635082152604 AS-49 NR LOUDONVILLE OH-LEVEL 4 (LAT 40 36 35N LONG 082 15 26W)

APR 1993					
06...	826	848	7.3	478	<0.01

403635082152605 AS-49 NR LOUDONVILLE OH-LEVEL 5 (LAT 40 36 35N LONG 082 15 26W)

APR 1993					
06...	683	699	7.4	395	<0.01

	SPE-	SPE-	PH	SOLIDS,	
	CIFIC	CIFIC	WATER	RESIDUE	
	CON-	CON-	WHOLE	AT 180	CYANIDE
	DUCT-	DUCT-	LAB	DEG. C	DIS-
	DUCT-	ANCE	(STAND-	DIS-	SOLVED
DATE	ANCE	LAB	ARD	SOLVED	(MG/L
	(US/CM)	(US/CM)	UNITS)	(MG/L)	AS CN)

ASHLAND COUNTY SITE #3 (SR 3)--Continued

403635082152606 AS-49 NR LOUDONVILLE OH-LEVEL 6 (LAT 40 36 35N LONG 082 15 26W)

APR 1993					
06...	660	633	7.7	367	<0.01

RICHLAND COUNTY SITE # 4 (SR 97)

403923082325704 R-18 NR LEXINGTON OH-LEVEL 4 (LAT 40 39 23N LONG 082 32 57W)

APR 1993					
06...	650	699	7.6	410	<0.01

403923082325705 R-18 NR LEXINGTON OH-LEVEL 5 (LAT 40 39 23N LONG 082 32 57W)

APR 1993					
06...	686	722	7.6	430	<0.01

403923082325706 R-18 NR LEXINGTON OH-LEVEL 6 (LAT 40 39 23N LONG 082 32 57W)

APR 1993					
06...	694	731	7.6	439	<0.01

PORTAGE COUNTY SITE #5 (SR 14)

411137081172406 PO-117 NR RAVENNA OH-LEVEL 6 (LAT 41 11 37N LONG 081 17 24W)

APR 1993					
07...	346	376	7.8	209	<0.01

411137081172405 PO-117 NR RAVENNA OH-LEVEL 5 (LAT 41 11 37N LONG 081 17 24W)

APR 1993					
07...	431	469	7.9	263	<0.01

411137081172404 PO-117 NR RAVENNA OH-LEVEL 4 (LAT 41 11 37N LONG 081 17 24W)

APR 1993					
07...	538	555	7.8	306	<0.01

LUCAS COUNTY SITE #2 (SR 2)

413547083481004 LU-26 NR HOLLAND OH-LEVEL 4 (LAT 41 35 47N LONG 083 48 10W)

APR 1993					
08...	1540	1640	8.0	884	<0.01

	SPE-	SPE-	PH	SOLIDS,	
	CIFIC	CIFIC	WATER	RESIDUE	
	CON-	CON-	WHOLE	AT 180	CYANIDE
	DUCT-	DUCT-	LAB	DEG. C	DIS-
	DUCT-	ANCE	(STAND-	DIS-	SOLVED
DATE	ANCE	LAB	ARD	SOLVED	(MG/L
	(US/CM)	(US/CM)	UNITS)	(MG/L)	AS CN)

LUCAS COUNTY SITE #2 (SR 2)

413547083481005 LU-26 NR HOLLAND OH-LEVEL 5 (LAT 41 35 47N LONG 083 48 10W)

APR 1993

08... 780 810 7.9 439 <0.01

413547083481006 LU-26 NR HOLLAND OH-LEVEL 6 (LAT 41 35 47N LONG 083 48 10W)

APR 1993

08... 156 156 7.3 90 <0.01

ASHTABULA COUNTY SITE #1 (SR 84)

415309080414406 AB-138 NR KINGSVILLE OH-LEVEL 6 (LAT 41 53 09N LONG 080 41 44W)

APR 1993

07... 590 589 7.9 318 <0.01

415309080414404 AB-138 NR KINGSVILLE OH-LEVEL 4 (LAT 41 53 09N LONG 080 41 44W)

APR 1993

07... 565 603 7.7 336 <0.01

415309080414403 AB-138 NR KINGSVILLE OH-LEVEL 3 (LAT 41 53 09N LONG 080 41 44W)

APR 1993

07... 514 536 7.8 303 <0.01

238 EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
393540083001200	PK-46	34.6	112OTSH	11-02-92	12.49	680
				12-03-92	12.68	
				01-26-93	12.53	
				03-04-93	11.86	
				04-15-93	10.80	
				06-08-93	10.57	
				07-07-93	10.51	
				08-13-93	10.95	
				11-02-92	13.89	
				12-03-92	14.01	
393541083000700	PK-44 NR CIRCLEVILLE OH	38	112OTSH	03-04-93	13.13	680
				04-15-93	12.19	
				06-08-93	12.04	
				07-07-93	12.11	
				08-13-93	12.49	
				11-02-92	13.65	
				12-03-92	13.82	
				01-26-93	13.71	
				03-04-93	12.97	
				04-15-93	11.98	
393541083000800	PK-50 NR CIRCLEVILLE OH	34.3	112OTSH	06-08-93	11.80	680
				07-07-93	11.83	
				08-13-93	12.21	
				11-02-92	13.33	
				12-03-92	13.49	
				01-26-93	13.35	
				03-04-93	12.67	
				04-15-93	11.61	
				06-08-93	11.44	
				07-07-93	11.47	
393541083000900	PK-49 NR CIRCLEVILLE OH	35.6	112OTSH	08-13-93	11.85	680
				11-02-92	12.19	
				12-03-92	12.31	
				01-26-93	12.14	
				03-04-93	11.44	
				04-15-93	10.44	
				06-08-93	10.26	
				07-07-93	10.27	
				08-13-93	10.66	
				11-02-92	12.51	
393541083001000	PK-47 NR CIRCLEVILLE OH	36.1	112OTSH	12-03-92	12.64	680
				01-26-93	12.56	
				03-04-93	11.83	
				04-15-93	10.85	
				06-08-93	10.66	
				07-07-93	10.69	
				08-13-93	11.08	
				11-02-92	11.83	
				12-03-92	12.00	
				01-26-93	11.84	
393541083001100	PK-48 NR CIRCLEVILLE OH	28.0	112OTSH	11-02-92	12.51	680
				12-03-92	12.64	
				01-26-93	12.56	
				03-04-93	11.83	
				04-15-93	10.85	
				06-08-93	10.66	
				07-07-93	10.69	
				08-13-93	11.08	
				11-02-92	11.83	
				12-03-92	12.00	
393541083001200	PK-53 NR CIRCLEVILLE OH	35.6	112OTSH	01-26-93	11.84	680
				11-02-92	11.83	
				12-03-92	12.00	
				01-26-93	11.84	
				11-02-92	11.83	
				12-03-92	12.00	
				01-26-93	11.84	
				11-02-92	11.83	
				12-03-92	12.00	
				01-26-93	11.84	

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
393541083001200	PK-53 NR CIRCLEVILLE OH	35.6	112OTSH	03-04-93	11.16	
				04-15-93	10.14	
				06-08-93	9.87	
				07-07-93	9.84	
				08-13-93	10.26	
393542083000500	PK-52 NR CIRCLEVILLE OH	36.2	112OTSH	11-02-92	13.59	680
				12-03-92	13.76	
				01-26-93	13.62	
				03-04-93	12.90	
				04-15-93	11.91	
				06-08-93	11.76	
				07-07-93	11.80	
				08-13-93	12.19	
393542083000700	PK-51 NR CIRCLEVILLE OH	35.5	112OTSH	11-02-92	13.51	680
				12-03-92	13.70	
				01-26-93	13.54	
				03-04-93	12.84	
				04-15-93	11.82	
				06-08-93	11.65	
				07-07-93	11.69	
393542083000700	PK-51 NR CIRCLEVILLE OH	35.5	112OTSH	08-13-93	12.09	680
395854083440500	CL-132 NR SPRINGFIELD OH	27.3	112OTSH	11-02-92	12.75	1020
				01-27-93	13.17	
				03-04-93	13.31	
				04-20-93	11.34	
				05-20-93	10.73	
395858083440100	CL-133 NR SPRINGFIELD OH	22.3	112OTSH	11-02-92	14.28	1025
				01-27-93	14.68	
				03-04-93	14.74	
				04-09-93	13.79	
				04-20-93	12.79	
				05-20-93	12.29	
				07-06-93	11.64	
395859083440200	CL-141 NR SPRINGFIELD OH	37.5	112OTSH	08-19-93	12.73	1030
				11-02-92	20.74	
				12-03-92	21.38	
				01-27-93	21.14	
				03-04-93	21.33	
				04-09-93	20.26	
				04-20-93	19.13	
				05-20-93	18.80	
395859083440300	CL-143 NR SPRINGFIELD OH	40.0	112OTSH	07-06-93	18.09	1030
				08-19-93	18.65	
				11-02-92	19.51	
				12-03-92	20.15	
				01-27-93	19.91	
				03-04-93	20.11	
				04-09-93	19.02	

240 EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
393541083001200	PK-53 NR CIRCLEVILLE OH	35.6	1120TSH	04-20-93	18.13	
				05-20-93	17.47	
				07-06-93	16.87	
				08-19-93	17.43	
395859083440400	CL-142 NR SPRINGFIELD OH	35.9	1120TSH	11-02-92	20.03	1030
				12-03-92	20.69	
				01-27-93	20.44	
				03-04-93	20.64	
				04-09-93	19.56	
				04-20-93	18.66	
				05-20-93	18.03	
				07-06-93	17.39	
395859083440500	CL-140 NR SPRINGFIELD OH	36.7	1120TSH	11-02-92	20.59	1030
				12-03-92	21.19	
				01-27-93	20.97	
				03-04-93	21.19	
				04-09-93	20.10	
				04-20-93	19.21	
				05-20-93	18.58	
				07-06-93	17.92	
395859083440600	CL-137 NR SPRINGFIELD OH	38.0	1120TSH	11-02-92	21.37	1030
				12-03-92	22.01	
				01-27-93	21.76	
				03-04-93	21.98	
				04-09-93	20.60	
				04-20-93	19.99	
				05-20-93	19.37	
				07-06-93	18.70	
395859083440700	CL-138 NR SPRINGFIELD OH	28.5	1120TSH	11-02-92	21.63	1030
				12-03-92	22.29	
				01-27-93	22.03	
				03-04-93	22.24	
				03-08-93	21.53	
				04-09-93	21.16	
				04-20-93	20.26	
				04-27-93	19.58	
395859083440800	CL-139 NR SPRINGFIELD OH	36.9	1120TSH	05-20-93	19.63	1030
				07-06-93	18.94	
				08-19-93	19.51	
				11-02-92	20.99	
				12-03-92	21.61	
				01-27-93	21.36	
				03-04-93	21.58	
				04-09-93	20.49	
				04-20-93	19.58	
				05-20-93	18.98	
				07-06-93	18.29	
				08-19-93	18.87	

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
395901083440600	CL-135 NR SPRINGFIELD OH	37.2	112OTSH	11-02-92	20.02	1030
				12-03-92	20.27	
				01-27-93	18.64	
				03-04-93	19.69	
				04-09-93	18.39	
				04-20-93	18.43	
				05-20-93	18.14	
				07-06-93	17.76	
				08-19-93	18.23	
395901083440700	CL-136 NR SPRINGFIELD OH	37.5	112OTSH	11-02-92	20.28	1030
				12-03-92	20.52	
				01-27-93	20.17	
				03-04-93	20.00	
				04-09-93	19.21	
				04-20-93	18.80	
				05-20-93	18.41	
				07-06-93	18.02	
				08-19-93	18.51	
400947083480000	CH-44 NR URBANA OH	31.0	112OTSH	11-04-92	10.65	1030
				12-11-92	8.57	
				01-27-93	8.03	
				03-02-93	8.89	
				04-09-93	8.49	
				05-20-93	8.90	
				07-08-93	6.79	
				08-19-93	8.96	
400948083475800	CH-46 NR URBANA OH	34.8	112OTSH	11-04-92	8.96	1030
				12-11-92	8.01	
				01-27-93	6.97	
				03-02-93	7.90	
				04-09-93	7.59	
				04-20-93	7.34	
				05-20-93	7.94	
				07-08-93	5.82	
				08-19-93	8.24	
400948083480000	CH-45 NR URBANA OH	34.4	112OTSH	11-04-92	9.61	1030
				12-11-92	8.65	
				01-27-93	7.60	
				03-02-93	8.51	
				04-09-93	8.21	
				04-20-93	7.98	
				05-20-93	8.58	
				07-08-93	6.42	
				08-19-93	8.87	
400948083480100	CH-43 NR URBANA OH	32.2	112OTSH	11-04-92	9.86	1030
				12-11-92	8.86	
				01-27-93	7.84	
				03-02-93	8.78	
				04-09-93	8.46	

242 EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
400948083480100	CH-43 NR URBANA OH	32.2	112OTSH	04-20-93	8.22	
				05-20-93	8.85	
				07-08-93	6.63	
				08-19-93	9.10	
400948083480200	CH-41 NR URBANA OH	34.3	112OTSH	11-04-92	10.30	1030
				12-11-92	9.32	
				01-27-93	8.27	
				03-02-93	9.19	
				04-09-93	8.86	
				04-20-93	8.64	
				05-20-93	9.24	
				07-08-93	7.05	
400948083480200	CH-41 NR URBANA OH	34.3	112OTSH	08-19-93	9.54	1030
400949083480100	CH-42 NR URBANA OH	28.7	112OTSH	11-04-92	10.26	1030
				12-11-92	9.30	
				01-27-93	8.23	
				03-02-93	9.18	
				04-09-93	8.83	
				04-20-93	8.58	
				04-27-93	8.42	
				05-20-93	9.21	
400950083480600	CH-38 NR URBANA OH	19.2	112OTSH	07-08-93	7.00	
				08-19-93	9.48	
				11-04-92	7.62	
				12-11-92	6.59	
				01-27-93	5.46	
				03-02-93	7.45	
				04-20-93	5.84	
				05-20-93	6.48	
400952083475400	CH-37 NR URBANA OH	24.0	112OTSH	07-08-93	4.23	1030
				08-19-93	6.81	
				03-03-93	7.52	
400952083480800	CH-40 NR URBANA OH	34.7	112OTSH	05-20-93	7.71	1030
				08-19-93	7.98	
				11-04-92	8.27	
				12-11-92	7.27	
				01-27-93	6.21	
				03-02-93	7.13	
				04-20-93	6.55	
				05-20-93	7.16	
403631082152100	AS-9 NR LOUDONVILLE OH	12.3	111ALVM	07-08-93	5.09	930
				08-19-93	7.46	
				10-26-92	5.73	
				01-19-93	3.15	
				03-03-93	4.38	
				04-06-93	2.98	
				04-13-93	3.48	

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
403631082152100	AS-9 NR LOUDONVILLE OH	12.3	111ALVM	05-24-93 07-16-93 08-16-93	5.15 6.14 6.97	
403631082152200	AS-6 NR LOUDONVILLE OH	19.9	111ALVM	10-26-92 01-19-93 03-03-93 04-06-93 04-13-93 05-24-93 08-16-93	5.42 3.03 4.06 2.99 3.29 4.96 6.67	930
403633082152400	AS-10 NR LOUDONVILLE OH	12.7	111ALVM	10-26-92 01-19-93 03-03-93 04-06-93 04-13-93	5.85 3.18 4.40 3.00 3.32	930
403634082152300	AS-7 NR LOUDONVILLE OH	23.1	111ALVM	10-26-92 01-19-93 03-03-93 04-06-93 04-13-93	5.74 3.17 4.28 3.02 3.32	930
403635082152100	AS-48 NR LOUDONVILLE OH	16.0	111ALVM	05-24-93 04-06-93 04-13-93 05-24-93 07-16-93	5.12 2.95 3.32 5.26 6.31	930
403635082152200	AS-47 NR LOUDONVILLE OH	11.2	111ALVM	08-16-93 04-13-93 05-24-93 07-16-93 08-16-93	7.04 2.98 5.08 6.24 7.92	930
403635082152300	AS-45 NR LOUDONVILLE OH	15.7	111ALVM	10-26-92 01-19-93 04-06-93 04-13-93 05-24-93	5.41 2.89 2.55 2.82 4.83	930
403635082152300	AS-45 NR LOUDONVILLE OH	15.7	111ALVM	07-16-93	5.84	930
403635082152400	AS-46 NR LOUDONVILLE OH	11.6	111ALVM	04-13-93 05-24-93 07-16-93 08-16-93	2.66 4.74 5.79 7.27	930
403635082152500	AS-44 NR LOUDONVILLE OH	18.0	111ALVM	04-06-93 04-13-93 05-24-93 07-16-93 08-16-93	2.40 2.88 4.72 5.68 6.47	930
403635082152600	AS-49 NR LOUDONVILLE OH	11.0	111ALVM	03-03-93 04-06-93 04-13-93 05-24-93 07-16-93 08-16-93	4.18 2.88 3.11 5.13 7.01 7.55	930

244 EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
403635082152700	AS-43 NR LOUDONVILLE OH	16.2	111ALVM	04-13-93	2.58	935
				05-24-93	3.42	
				07-16-93	5.09	
				08-16-93	5.84	
403635082152800	AS-8 NR LOUDONVILLE OH	16.2	111ALVM	10-26-92	4.55	935
				01-19-93	2.72	
				03-03-93	2.21	
				04-06-93	2.55	
403636082152200	AS-42 NR LOUDONVILLE OH	16.5	111ALVM	04-13-93	3.04	930
				05-24-93	5.08	
				07-16-93	6.17	
				08-16-93	6.99	
403636082152300	AS-41 NR LOUDONVILLE OH	11.8	111ALVM	10-26-92	5.59	930
				11-16-92	6.57	
				01-19-93	2.81	
				04-06-93	2.62	
403636082152600	AS-5 NR LOUDONVILLE OH	12.7	111ALVM	04-13-93	2.92	930
				05-24-93	4.95	
				07-16-93	5.97	
				08-16-93	6.85	
403922082325700	R-11 NR LEXINGTON OH	22.5	112OTSH	10-26-92	3.14	930
				01-19-93	1.12	
				03-03-93	.93	
				04-06-93	.86	
403922082325900	R-19 NR LEXINGTON OH	30.0	112OTSH	04-13-93	.95	1170
				05-24-93	2.37	
				08-16-93	4.98	
				10-29-92	17.19	
403922082325700	R-11 NR LEXINGTON OH	22.5	112OTSH	12-07-92	15.75	1170
				01-19-93	14.39	
				03-03-93	15.48	
				04-06-93	13.66	
403922082325900	R-19 NR LEXINGTON OH	30.0	112OTSH	04-13-93	14.06	1160
				05-24-93	15.34	
				07-13-93	15.81	
				08-16-93	16.62	
403922082325900	R-19 NR LEXINGTON OH	30.0	112OTSH	10-29-92	13.83	1160
				12-07-92	12.31	
				01-19-93	10.84	
				03-03-93	12.02	
403922082325900	R-19 NR LEXINGTON OH	30.0	112OTSH	04-06-93	10.07	1160
				04-13-93	10.51	
				05-24-93	11.88	
				07-13-93	12.37	
403922082325900	R-19 NR LEXINGTON OH	30.0	112OTSH	08-16-93	13.29	1160

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
403922082330000	R-20 NR LEXINGTON OH	34.2	112OTSH	10-29-92	10.59	1155
				12-07-92	9.21	
				01-19-93	7.88	
				03-03-93	8.89	
				04-06-93	6.97	
403922082330000	R-20 NR LEXINGTON OH	34.2	112OTSH	04-13-93	7.33	1155
				05-24-93	8.60	
				07-13-93	9.21	
				08-16-93	10.01	
403923082325400	R-21 NR LEXINGTON OH	25.0	112OTSH	10-29-92	19.91	1180
				12-07-92	15.36	
				01-19-93	10.67	
				03-03-93	14.63	
				04-06-93	10.69	
				04-13-93	12.61	
				05-24-93	15.55	
				07-13-93	16.29	
403923082325500	R-16 NR LEXINGTON OH	18.9	112OTSH	08-16-93	17.37	1170
				10-29-92	17.16	
				12-09-92	14.14	
				01-19-93	12.01	
				03-03-93	13.24	
				04-06-93	11.87	
				05-24-93	13.59	
				07-13-93	15.62	
403923082325600	R-15 NR LEXINGTON OH	23.0	112OTSH	08-16-93	16.59	1170
				01-19-93	10.73	
				03-03-93	11.14	
				04-06-93	10.88	
				05-24-93	11.48	
403923082325700	R-18 NR LEXINGTON OH	23.0	112OTSH	07-13-93	14.48	1160
				08-16-93	16.28	
				10-29-92	15.67	
				12-09-92	14.12	
				01-19-93	12.55	
				03-03-93	13.84	
				04-06-93	11.72	
				04-13-93	12.22	
403923082325800	R-12 NR LEXINGTON OH	22.0	112OTSH	05-24-93	13.68	1170
				07-13-93	14.26	
				08-16-93	15.18	
				10-29-92	15.86	
				12-07-92	14.29	
				01-19-93	12.69	
				03-03-93	13.96	
				04-06-93	11.89	
				04-13-93	12.37	
				05-24-93	13.79	
				07-13-93	14.39	
				08-16-93	15.32	
				09-13-93	15.75	

246 EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
403923082325900	R-17 NR LEXINGTON OH	23.2	1120TSH	12-07-92	13.78	1160
				01-19-93	12.15	
				05-24-93	13.32	
403923082330000	R-13	30	1120TSH	10-29-92	11.64	1160
				12-07-92	10.28	
				01-19-93	8.99	
				03-03-93	9.97	
				04-06-93	8.28	
				05-24-93	9.82	
				07-13-93	10.27	
				08-16-93	11.08	
				09-13-93	11.50	
403925082325600	R-14 NR LEXINGTON OH	30	1120TSH	10-29-92	27.30	1185
				12-07-92	18.16	
				03-03-93	17.43	
				04-06-93	13.51	
				04-13-93	15.44	
				05-24-93	18.36	
				07-13-93	19.10	
				08-16-93	20.22	
411135081172600	PO-113 NR RAVENNA OH	9.2	1120TSH	10-28-92	.73	1060
				12-09-92	.54	
				01-21-93	.48	
				03-09-93	.24	
411135081172600	PO-113 NR RAVENNA OH	9.2	1120TSH	04-07-93	.52	1060
				04-15-93	.52	
				05-26-93	.98	
				07-15-93	1.20	
				08-18-93	2.09	
411136081172500	PO-119 NR RAVENNA OH	11.0	1120TSH	10-28-92	3.84	1065
				12-09-92	3.16	
				01-21-93	2.46	
				03-09-93	2.01	
				04-15-93	2.98	
				05-26-93	3.88	
				07-15-93	3.98	
				08-18-93	5.77	
411136081172600	PO-120 NR RAVENNA OH	10.4	1120TSH	10-28-92	3.22	1065
				12-09-92	2.33	
				01-21-93	1.83	
				03-09-93	1.37	
				04-15-93	2.29	
				05-26-93	3.07	
				07-15-93	3.15	
				08-18-93	4.39	
411137081172100	PO-114 NR RAVENNA OH	12.3	1120TSH	10-28-92	2.26	1065
				12-09-92	1.60	
				01-21-93	.86	
				03-09-93	.57	

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
411137081172100	PO-114 NR RAVENNA OH	12.3	112OTSH	04-07-93	.91	
				04-15-93	1.09	
				05-26-93	2.23	
				07-15-93	2.60	
				08-18-93	4.41	
411137081172300	PO-118 NR RAVENNA OH	19.0	112OTSH	10-28-92	6.02	1065
				12-09-92	5.39	
				01-21-93	4.68	
				03-09-93	4.19	
				04-07-93	4.93	
411137081172400	PO-117 NR RAVENNA OH	18.5	112OTSH	04-15-93	5.12	
				07-15-93	6.15	
				08-18-93	7.20	
				12-09-92	5.08	
				01-21-93	4.39	
411137081172500	PO-112 NR RAVENNA OH	8.5	112OTSH	03-09-93	3.91	
				04-07-93	4.64	
				04-15-93	4.88	
				05-26-93	5.74	
				07-15-93	5.85	
411137081172500	PO-112 NR RAVENNA OH	8.5	112OTSH	08-18-93	6.94	1065
				10-28-92	3.27	
				12-09-92	2.69	
				01-21-93	2.12	
				03-09-93	1.65	
411137081172500	PO-112 NR RAVENNA OH	8.5	112OTSH	04-07-93	2.33	
				04-15-93	2.53	
				05-26-93	3.33	
				07-15-93	6.27	
				08-18-93	7.35	
411138081172100	PO-111 NR RAVENNA OH	10.0	112OTSH	10-28-92	1.79	1065
				12-09-92	1.09	
				01-21-93	.34	
				03-09-93	.19	
				04-07-93	.48	
411138081172100	PO-111 NR RAVENNA OH	10.0	112OTSH	04-15-93	.65	
				05-26-93	1.83	
				07-15-93	2.12	
				08-18-93	3.41	
				10-28-92	7.48	
411138081172400	PO-115 NR RAVENNA OH	17.5	112OTSH	01-21-93	6.07	1070
				03-09-93	5.58	
				04-07-93	6.33	
				04-15-93	6.59	
				05-26-93	7.44	
411138081172400	PO-115 NR RAVENNA OH	17.5	112OTSH	07-15-93	7.56	1070
				08-18-93	8.61	

248 EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
411138081172500	PO-116 NR RAVENNA OH	17.5	112OTSH	10-28-92	7.25	1070
				12-09-92	6.61	
				01-21-93	5.86	
				03-09-93	5.39	
				04-07-93	6.15	
				04-15-93	6.38	
				05-26-93	7.26	
				07-15-93	7.38	
				08-18-93	8.40	
413546083480900	LU-28 NR HOLLAND OH	28.2	112LAKE	11-05-92	5.90	675
				12-15-92	5.43	
				01-28-93	4.04	
				03-11-93	4.32	
				04-08-93	3.98	
				04-21-93	4.02	
				06-01-93	5.33	
				07-09-93	5.75	
				08-24-93	6.92	
413547083481000	LU-26 NR HOLLAND OH	29.6	112LAKE	11-05-92	5.42	675
				12-15-92	4.94	
				01-28-93	3.59	
				03-11-93	3.74	
				04-08-93	3.56	
				04-21-93	3.52	
				06-01-93	4.80	
				07-09-93	5.20	
				08-24-93	6.41	
413547083481100	LU-27 NR HOLLAND OH	28.4	112LAKE	11-05-92	5.17	675
				12-15-92	4.76	
				01-28-93	3.38	
				03-11-93	3.56	
				04-08-93	3.28	
				04-21-93	3.30	
				06-01-93	4.57	
				07-09-93	5.01	
				08-24-93	6.20	
413547083481200	LU-25 NR HOLLAND OH	29.4	112LAKE	11-05-92	5.33	675
				12-15-92	4.86	
				01-28-93	3.56	
				03-11-93	3.70	
				04-08-93	3.47	
				04-21-93	3.47	
				06-01-93	4.74	
				07-09-93	5.15	
				08-24-93	6.36	
413547083481300	LU-22 NR HOLLAND OH	28.3	112LAKE	11-05-92	5.67	675
				12-15-92	5.20	
				01-28-93	3.88	

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
413547083481300	LU-22 NR HOLLAND OH	28.3	112LAKE	03-11-93	3.89	
				04-08-93	3.70	
				04-21-93	3.79	
				06-01-93	5.07	
				07-09-93	5.47	
				08-24-93	6.56	
413547083481400	LU-23 NR HOLLAND OH	29.4	112LAKE	11-05-92	5.57	675
				12-15-92	5.11	
				01-28-93	3.78	
				03-11-93	3.92	
				04-08-93	3.72	
				04-21-93	3.71	
				06-01-93	4.97	
				07-09-93	5.37	
				08-24-93	6.57	
413547083481500	LU-24 NR HOLLAND OH	18.7	112LAKE	11-05-92	5.83	675
				12-15-92	5.35	
				01-28-93	4.02	
				03-11-93	4.17	
				04-08-93	3.97	
413547083481500	LU-24 NR HOLLAND OH	18.7	112LAKE	04-21-93	3.94	675
				06-01-93	5.21	
				07-09-93	5.60	
				08-24-93	6.80	
413548083480400	LU-17 NR HOLLAND OH	29.2	112LAKE	11-05-92	5.77	675
				12-15-92	5.45	
				01-28-93	4.08	
				03-11-93	4.37	
				04-08-93	4.03	
				04-21-93	4.05	
				05-01-93	5.37	
				07-09-93	5.75	
				08-24-93	6.93	
413549083481500	LU-21 NR HOLLAND OH	29.1	112LAKE	11-05-92	5.19	675
				12-15-92	4.73	
				01-28-93	3.30	
				03-11-93	3.10	
				04-08-93	3.16	
				04-21-93	3.10	
				06-01-93	7.20	
				07-09-93	4.97	
				08-24-93	6.18	
413551083481200	LU-20 NR HOLLAND OH	31.0	112LAKE	11-05-92	4.26	675
				12-15-92	3.87	
				01-28-93	2.61	
				03-11-93	2.62	
				04-08-93	2.54	
				07-09-93	2.41	
				08-24-93	5.47	

250 EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
415307080414300	AB-129	18.0	111TRRC	04-14-93 05-25-93 07-14-93 08-17-93	6.26 8.01 8.80 9.31	
415307080414400	AB-130	10.0	111TRRC	10-27-92 12-08-92 01-20-93 03-10-93 04-07-93 04-14-93 05-25-93 07-14-93 08-17-93	5.99 5.66 5.24 5.32 4.81 5.48 7.06 8.03 8.77	765
415307080414500	AB-134 NR KINGSVILLE OH	17.4	111TRRC	10-27-92 12-08-92 01-20-93 03-10-93 04-07-93 04-14-93 05-25-93 07-14-93 08-17-93	6.07 6.10 5.49 4.46 5.01 5.92 7.65 8.47 9.00	770
415307080414600	AB-140 NR KINGSVILLE OH	20.8	111TRRC	10-27-92 12-08-92 04-07-93 04-14-93 05-25-93 07-14-93 08-17-93	6.22 6.25 5.13 6.06 7.80 8.62 9.18	772.2
415308080414300	AB-135 NR KINGSVILLE OH	19.5	111TRRC	10-27-92 12-08-92 01-20-93 03-10-93 04-07-93 04-14-93 05-25-93 07-14-93 08-17-93	6.16 6.18 5.69 5.38 5.29 5.98 7.64 8.58 9.19	765
415308080414400	AB-131	21	111TRRC	10-27-92 12-08-92 01-20-93 03-10-93 04-07-93 05-25-93 07-14-93 08-17-93	4.81 4.98 4.32 4.13 4.10 6.12 6.81 7.11	760

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
415309080414300	AB-136 NR KINGSVILLE OH	20.1	111TRRC	10-27-92	5.29	760
				12-08-92	5.36	
				01-20-93	4.77	
				03-10-93	4.79	
				04-07-93	4.45	
				04-14-93	4.92	
				05-25-93	6.33	
				07-14-93	7.18	
				08-17-93	7.68	
				10-27-92	5.56	
415309080414400	AB-138 NR KINGSVILLE OH	19.5	111TRRC	12-08-92	5.57	760
				01-20-93	5.04	
				03-10-93	5.04	
				04-07-93	4.69	
				04-14-93	5.16	
				05-25-93	6.55	
415309080414400	AB-138 NR KINGSVILLE OH	19.5	111TRRC	07-14-93	7.43	760
				08-17-93	7.95	
415310080414400	AB-137 NR KINGSVILLE OH	19.5	111TRRC	10-27-92	3.55	755
				12-08-92	3.23	
				01-20-93	3.02	
				03-10-93	2.82	
				04-07-93	2.79	
				04-14-93	3.15	
				05-25-93	4.86	
				07-14-93	5.58	
				08-17-93	5.90	

AQUIFER CODE (Geologic Unit)

1120TSH - Outwash, Pleistocene Epoch
111TRRC - Terrace Deposits, Holocene Epoch
112LAKE - Lake Deposits, Pleistocene Epoch
111ALVM - Alluvium, Holocene Epoch

GROUND-WATER RECORDS

415307080414500. Local number, AB-134.

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

AQUIFER.--Sand and Gravel of Pleistocene age.

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

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

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

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

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

PERIOD OF DAILY RECORD.--

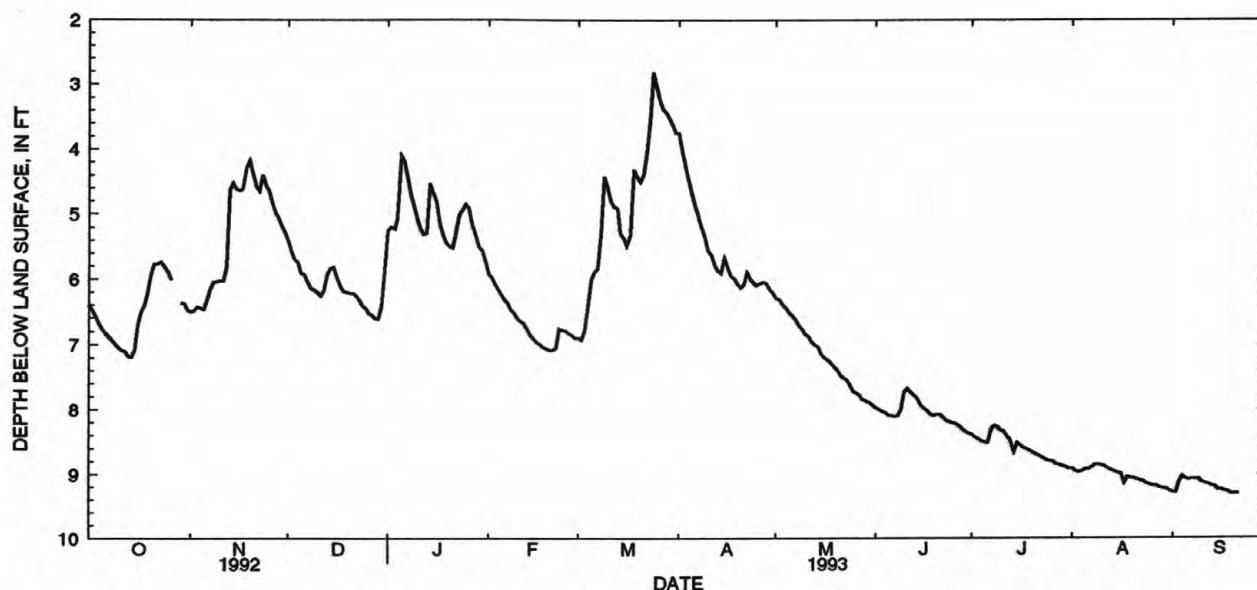
WATER LEVEL: February 1991 to current year
SPECIFIC CONDUCTANCE: February 1991 to July 1992
AIR TEMPERATURE: February 1991 to current year
WATER TEMPERATURE: February 1991 to July 1992
SOIL TEMPERATURE: July 1992 to current year
PRECIPITATION: February 1991 to current year

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER LEVEL: Maximum daily low, 9.93 ft. below land-surface datum, October 3-4, November 12-13 1991; minimum daily low, 2.52 ft. below land-surface datum, March 23, 1993.
SPECIFIC CONDUCTANCE: Maximum, 2560 microsiemens March 27, 1991; minimum, 948 microsiemens August 8, 1991.
AIR TEMPERATURE: Maximum, 33.0°C September 16, 1991; minimum, -19.8°C February 25, 1993.
WATER TEMPERATURE: Maximum, 15.5°C many days in 1991; minimum, 6.6°C March 26-28, April 1-7 1992.
SOIL TEMPERATURE: Maximum, 31.8°C July 11, 1993; minimum, -0.7°C February 2, 1993.

EXTREMES FOR CURRENT YEAR.--

WATER LEVEL: Maximum daily low, 9.30 ft. below land-surface datum, September 19-21, 1993; minimum daily low, 2.11 ft. below land-surface datum, March 23, 1993.
AIR TEMPERATURE: Maximum, 33.0°C July 9, 1993; minimum, -19.8°C February 25, 1993.
SOIL TEMPERATURE: Maximum, 31.8°C July 11, 1993; minimum, -0.7°C February 2, 1993.



415307080414500 AB-134 NR KINGSVILLE OH

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.41	6.51	5.40	5.26	5.92	6.90	3.76	6.29	7.97	8.39	8.91	9.28
2	6.48	6.49	5.57	5.20	5.98	6.93	4.04	6.32	8.00	8.42	8.95	9.28
3	6.58	6.43	5.70	5.23	6.08	6.78	4.28	6.39	8.03	8.46	8.97	9.11
4	6.68	6.45	5.74	5.06	6.16	6.42	4.49	6.45	8.05	8.48	8.95	9.03
5	6.77	6.47	5.91	4.11	6.24	6.02	4.69	6.52	8.09	8.50	8.92	9.07
6	6.83	6.32	5.93	4.21	6.32	5.89	4.88	6.57	8.10	8.51	8.92	9.08
7	6.88	6.15	6.04	4.45	6.37	5.85	5.06	6.63	8.11	8.33	8.89	9.07
8	6.93	6.05	6.14	4.71	6.48	5.31	5.20	6.71	8.10	8.25	8.85	9.07
9	6.99	6.04	6.17	4.89	6.52	4.43	5.37	6.77	8.00	8.27	8.85	9.07
10	7.05	6.03	6.20	5.07	6.61	4.59	5.55	6.84	7.73	8.32	8.86	9.12
11	7.09	6.03	6.26	5.23	6.65	4.80	5.63	6.87	7.68	8.34	8.88	9.14
12	7.11	5.82	6.17	5.31	6.67	4.89	5.79	6.95	7.73	8.42	8.91	9.15
13	7.18	4.63	5.93	5.29	6.76	4.92	5.87	7.00	7.78	8.47	8.94	9.18
14	7.19	4.53	5.84	4.54	6.85	5.29	5.91	7.03	7.82	8.66	8.96	9.19
15	7.09	4.62	5.82	4.69	6.90	5.38	5.67	7.14	7.92	8.52	8.98	9.24
16	6.71	4.64	5.98	4.81	6.96	5.49	5.82	7.20	7.98	8.55	8.99	9.24
17	6.51	4.62	6.10	5.14	6.99	5.32	5.95	7.23	8.02	8.59	9.14	9.26
18	6.41	4.29	6.19	5.32	7.04	4.32	5.99	7.28	8.07	8.61	9.04	9.27
19	6.21	4.18	6.20	5.44	7.06	4.43	6.07	7.34	8.10	8.64	9.06	9.30
20	5.93	4.39	6.22	5.50	7.09	4.51	6.13	7.39	8.08	8.67	9.06	9.30
21	5.77	4.58	6.22	5.52	7.09	4.40	6.09	7.46	8.08	8.70	9.08	9.30
22	5.77	4.65	6.26	5.28	7.06	4.06	5.90	7.51	8.13	8.72	9.09	---
23	5.74	4.40	6.33	5.02	6.77	3.58	6.00	7.54	8.17	8.75	9.11	---
24	5.82	4.56	6.41	4.95	6.78	2.82	6.05	7.61	8.19	8.78	9.14	---
25	5.89	4.65	6.45	4.86	6.79	3.04	6.10	7.72	8.21	8.79	9.16	---
26	6.01	4.83	6.53	4.91	6.83	3.24	6.07	7.74	8.22	8.80	9.18	---
27	---	4.97	6.56	5.16	6.86	3.39	6.05	7.78	8.25	8.84	9.18	---
28	---	5.06	6.61	5.34	6.90	3.43	6.06	7.84	8.30	8.85	9.21	---
29	6.37	5.18	6.62	5.52	---	3.52	6.15	7.87	8.34	8.87	9.22	---
30	6.38	5.28	6.43	5.56	---	3.63	6.22	7.89	8.37	8.89	9.23	---
31	6.48	---	5.87	5.73	---	3.75	---	7.93	---	8.91	9.26	---
MAX	7.19	6.51	6.62	5.73	7.09	6.93	6.22	7.93	8.37	8.91	9.26	9.30

WTR YR 1993 LOW 9.30

AIR TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	15.9	5.0	10.4	6.6	1.0	3.5	3.4	.6	1.4	-1.1	-5.0	-3.5
2	21.4	8.3	14.7	12.7	4.5	9.4	2.0	.2	1.0	-1.6	-5.0	-3.2
3	22.4	11.2	16.1	17.6	9.8	13.2	1.7	-1.4	-.3	10.5	-.2	4.4
4	15.2	5.7	12.1	15.2	3.7	9.6	2.1	-2.0	-.1	15.7	10.5	12.7
5	11.3	3.2	6.8	3.4	.1	1.6	-.5	-3.2	-1.9	11.5	.0	3.1
6	14.2	.2	7.1	3.2	-.9	2.3	-1.7	-5.6	-3.4	1.2	-1.2	-.1
7	20.6	3.7	10.3	2.6	-2.6	-.3	.2	-3.0	-.8	3.8	-2.8	-.1
8	20.7	7.6	13.9	4.9	-3.4	.2	-.1	-1.9	-1.0	-.6	-2.2	-1.4
9	18.1	7.9	13.9	8.1	-.3	4.6	1.5	-2.4	-1.1	-2.4	-6.0	-4.4
10	19.2	10.2	13.6	12.0	7.6	9.0	.6	-1.3	.0	-1.8	-7.4	-4.5
11	13.1	9.0	10.3	10.7	8.8	9.7	1.7	.2	.7	-.5	-1.7	-1.1
12	15.3	8.1	11.8	16.9	5.1	12.4	1.9	-.1	.9	1.7	-1.5	-.2
13	12.8	3.4	8.2	5.0	-1.8	2.0	3.2	-1.5	.9	4.7	-1.5	.9
14	18.4	5.9	11.6	1.4	-3.7	-1.6	7.9	-4.9	1.2	-.7	-3.9	-2.9
15	17.0	13.2	15.0	-.7	-4.1	-2.2	8.8	-1.1	4.8	-2.0	-3.5	-2.9
16	15.9	5.9	12.5	2.1	-4.2	-.7	11.3	-1.8	6.1	-2.2	-4.2	-3.2
17	8.4	4.3	5.9	5.9	2.0	3.6	4.5	-.1	2.2	-.4	-4.8	-1.9
18	6.1	.4	3.7	4.1	.6	2.5	2.3	-1.7	1.0	-4.8	-7.5	-5.9
19	3.9	1.3	2.9	5.4	-3.5	.8	8.7	.9	5.1	-1.2	-11.5	-7.2
20	3.8	-.1	1.8	10.5	-.9	5.1	5.5	-3.4	.5	3.8	-11.2	-4.5
21	7.5	4.6	6.4	13.8	6.2	10.8	2.9	-6.4	-1.6	5.5	-4.6	2.5
22	12.6	2.9	6.8	15.2	6.6	9.0	4.2	-1.9	1.0	5.7	.3	1.8
23	19.4	3.8	11.3	11.0	6.3	8.6	4.0	-3.4	2.0	7.8	-.2	3.2
24	16.5	6.8	11.9	7.8	5.6	6.6	-4.6	-9.9	-7.6	9.0	-2.8	2.7
25	8.2	3.6	5.9	11.8	6.5	7.7	.7	-8.1	-3.6	-2.6	-5.4	-3.6
26	13.2	.6	6.8	12.5	2.7	7.8	-4.7	-10.5	-7.0	.7	-9.9	-3.9
27	---	---	---	2.5	1.0	2.1	1.1	-11.1	-5.0	.9	-3.5	-1.1
28	---	---	---	2.7	.4	1.7	5.9	-3.8	1.6	3.8	-3.2	-.2
29	7.9	-.4	5.0	.9	-.8	.2	7.2	3.8	5.2	-.7	-6.8	-5.3
30	6.2	-1.3	3.5	2.0	-1.3	.7	12.2	7.1	9.5	3.4	-6.4	-1.7
31	9.2	-1.5	4.5	---	---	---	15.0	.2	7.4	4.4	.4	2.4
MONTH	22.4	-1.5	9.1	17.6	-4.2	4.7	15.0	-11.1	.6	15.7	-11.5	-.9

415307080414500 AB-134 NR KINGSVILLE OH

SOIL TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	16.1	12.7	14.2	7.9	6.7	7.3	4.1	3.4	3.6	5.6	2.2	3.5
2	17.2	12.9	14.8	9.8	7.1	8.2	3.6	2.8	3.2	2.1	1.6	1.8
3	18.8	14.4	16.3	11.7	9.4	10.5	3.1	2.2	2.6	4.6	1.5	2.2
4	17.9	15.2	16.5	10.9	9.0	10.4	2.2	1.9	2.1	9.0	4.9	7.3
5	15.7	12.6	14.2	8.8	5.7	7.3	2.1	2.0	2.0	9.0	5.0	7.0
6	15.7	11.3	13.3	5.8	5.1	5.6	2.0	1.7	1.9	4.9	3.1	4.0
7	16.4	11.6	13.7	6.4	4.6	5.2	1.8	1.7	1.7	4.1	2.4	3.1
8	16.3	12.5	14.3	5.9	3.7	4.6	1.8	1.7	1.7	3.2	2.7	2.9
9	16.7	14.7	15.6	5.5	4.1	4.7	1.9	1.5	1.6	2.6	1.8	2.2
10	15.9	13.6	14.7	7.4	5.5	6.4	1.6	1.5	1.5	1.8	1.6	1.7
11	14.9	13.6	14.2	9.1	7.5	8.6	1.7	1.5	1.6	1.7	1.7	1.7
12	14.6	12.9	13.6	12.3	9.1	10.5	2.0	1.7	1.8	1.8	1.7	1.7
13	13.2	10.8	12.1	10.7	6.3	8.1	3.6	1.8	2.4	1.7	1.5	1.6
14	13.8	10.6	12.0	6.2	5.1	5.6	3.4	1.7	2.4	1.5	1.4	1.5
15	15.1	13.8	14.4	5.1	4.3	4.7	3.8	1.8	2.8	1.4	1.3	1.4
16	15.4	12.2	14.7	4.3	3.9	4.1	5.9	3.9	4.9	1.3	1.3	1.3
17	11.9	10.4	11.1	3.9	3.3	3.6	4.5	3.7	4.1	1.3	1.2	1.2
18	10.4	8.2	9.5	3.8	3.3	3.5	3.9	2.8	3.4	1.2	1.2	1.2
19	8.1	6.5	7.2	4.9	2.9	3.7	4.7	2.5	3.4	1.1	1.0	1.1
20	6.9	6.0	6.3	5.6	3.1	4.2	4.9	2.5	3.9	1.0	.9	.9
21	7.9	6.1	7.1	9.1	5.0	6.9	2.4	1.7	1.9	.9	.8	.9
22	11.2	7.7	9.0	9.5	8.7	9.2	2.4	1.6	1.8	1.5	.8	1.2
23	11.4	8.0	9.7	9.0	8.6	8.9	2.9	1.7	2.2	2.9	1.2	1.9
24	12.3	10.7	11.7	8.6	8.2	8.4	2.2	1.5	1.8	3.6	2.0	3.0
25	10.6	9.2	9.9	9.2	8.3	8.6	1.5	1.1	1.3	1.9	1.2	1.5
26	9.8	8.0	9.0	9.5	7.7	9.0	1.1	.9	1.0	1.2	1.0	1.0
27	---	---	---	7.5	6.0	6.6	.9	.8	.8	.9	.9	.9
28	---	---	---	6.0	5.4	5.7	.8	.7	.7	.9	.8	.8
29	9.7	8.5	9.1	5.3	3.7	4.5	2.6	.8	1.3	.8	.5	.7
30	9.4	7.7	8.9	3.7	3.0	3.4	7.2	2.8	4.7	.5	.4	.4
31	9.0	7.2	7.9	---	---	---	8.7	5.9	7.6	.4	.4	.4
MONTH	18.8	6.0	11.9	12.3	2.9	6.6	8.7	.7	2.5	9.0	.4	2.0

SOIL TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	.4	.2	.4	.5	.5	.5	7.6	5.2	6.4	17.0	12.0	14.3
2	.1	-.7	-.2	.5	.5	.5	6.3	3.8	5.0	16.3	11.8	14.1
3	.2	-.4	-.1	.5	.5	.5	5.2	3.1	4.0	17.0	14.1	15.4
4	.2	.2	.2	.6	.5	.5	7.8	3.1	4.9	16.6	15.1	15.8
5	.3	.2	.2	.6	.5	.6	7.1	3.7	5.4	17.5	15.3	16.2
6	.3	.3	.3	.6	.5	.6	7.3	4.6	5.9	18.9	15.2	16.7
7	.3	.3	.3	.6	.6	.6	10.3	5.1	7.3	19.3	14.0	16.5
8	.3	.3	.3	.6	.6	.6	10.7	6.7	8.7	19.3	13.6	16.3
9	.3	.1	.2	.6	.6	.6	11.9	9.6	10.6	20.3	14.6	17.2
10	.3	.2	.3	.6	.6	.6	10.9	9.0	10.1	21.4	15.3	18.1
11	.4	.3	.3	.6	.6	.6	10.0	6.2	8.1	21.6	16.4	18.9
12	.4	.3	.3	.7	.6	.6	10.4	6.5	8.0	21.6	17.1	19.2
13	.4	.3	.4	.7	.6	.7	11.0	5.7	8.0	20.9	16.1	18.3
14	.4	.3	.4	.7	.6	.7	8.3	6.0	7.1	18.9	14.8	16.9
15	.4	.4	.4	.6	.6	.6	13.0	7.2	9.7	20.4	16.4	18.1
16	.4	.4	.4	.6	.6	.6	12.6	10.2	11.5	18.6	15.0	16.7
17	.4	.4	.4	.6	.6	.6	10.0	6.8	8.5	17.4	12.7	14.8
18	.4	.4	.4	.6	.6	.6	11.1	5.1	7.7	16.0	14.3	15.2
19	.4	.4	.4	.6	.6	.6	12.6	8.9	10.5	15.2	13.7	14.4
20	.4	.4	.4	.6	.6	.6	13.7	11.1	12.1	17.6	12.0	14.4
21	.4	.4	.4	.6	.6	.6	12.5	8.7	10.1	18.3	12.8	15.3
22	.4	.4	.4	.6	.6	.6	10.6	6.9	8.6	19.5	13.6	16.3
23	.4	.4	.4	.6	.6	.6	11.5	6.6	8.8	17.3	15.2	16.0
24	.5	.4	.4	.6	.5	.6	9.7	7.6	8.5	17.2	14.9	15.7
25	.5	.4	.5	2.1	.5	1.1	11.3	9.8	10.6	16.6	15.1	15.9
26	.5	.5	.5	3.4	1.3	2.2	10.0	8.4	9.2	19.0	12.9	15.7
27	.5	.5	.5	4.6	1.7	3.0	12.1	5.8	8.6	17.9	15.1	16.7
28	.5	.5	.5	5.2	3.3	4.2	12.3	7.8	9.8	19.4	16.0	17.6
29	---	---	---	8.0	4.3	5.9	14.6	10.5	12.3	21.2	16.0	18.3
30	---	---	---	10.4	5.8	7.7	17.1	12.6	14.3	22.0	15.2	18.4
31	---	---	---	9.4	6.2	7.6	---	---	---	19.9	16.3	18.3
MONTH	.5	-.7	.3	10.4	.5	1.5	17.1	3.1	8.7	22.0	11.8	16.5

415307080414500 AB-134 NR KINGSVILLE OH

SOIL TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	18.9	14.5	16.4	25.2	21.0	22.8	27.4	23.4	25.4	30.0	26.7	28.1
2	17.7	14.6	16.3	26.7	22.9	24.5	28.0	24.5	26.0	27.3	25.2	26.3
3	20.1	15.0	17.2	27.8	24.2	25.6	27.8	23.5	25.5	27.2	26.1	26.6
4	20.0	16.0	18.0	29.7	24.5	26.8	26.8	23.6	25.0	26.9	25.4	26.0
5	18.0	15.1	16.7	31.4	25.6	28.2	27.1	23.3	24.9	26.1	23.3	24.7
6	20.6	14.0	16.8	30.1	27.5	28.6	26.2	22.3	24.1	25.4	24.2	24.8
7	20.7	16.8	18.5	30.5	26.8	28.5	26.2	22.5	24.0	25.5	23.0	24.0
8	21.7	18.4	19.9	30.5	27.4	28.8	26.5	22.2	24.2	24.4	21.8	23.1
9	23.9	20.2	21.7	31.4	27.1	29.0	27.2	22.1	24.5	24.0	21.5	22.7
10	23.6	21.0	22.3	31.3	27.9	29.5	25.6	23.7	24.8	23.5	20.8	22.4
11	25.2	20.4	22.5	31.8	27.4	29.4	27.2	23.5	25.0	20.7	19.2	20.0
12	25.0	20.3	22.5	31.2	27.7	29.3	28.9	24.1	26.2	20.3	18.5	19.4
13	26.3	20.7	23.2	30.0	26.6	28.2	29.5	24.6	26.9	23.6	20.0	21.4
14	27.0	21.8	24.2	27.9	26.2	27.0	29.3	25.3	27.2	25.5	22.4	23.7
15	26.8	23.0	24.7	29.7	25.2	27.2	30.0	25.6	27.7	25.1	22.3	23.9
16	26.6	21.2	23.7	29.3	24.2	26.6	30.1	27.2	28.6	22.6	21.1	21.8
17	27.3	21.4	24.1	29.8	24.3	26.8	30.3	27.2	28.6	22.8	20.6	21.6
18	27.1	23.1	25.1	29.0	25.0	26.8	30.9	26.7	28.6	21.7	19.9	20.9
19	28.1	24.1	25.8	28.8	26.0	27.2	30.0	26.4	28.2	22.5	19.9	20.9
20	27.3	24.8	25.9	30.1	25.9	27.6	29.8	27.3	28.4	20.2	18.2	19.0
21	25.9	24.2	25.1	29.4	25.5	27.3	28.9	26.2	27.4	19.2	17.6	18.6
22	26.6	23.1	24.7	29.3	24.2	26.6	27.3	23.0	25.1	---	---	---
23	26.0	21.8	23.8	28.6	23.8	26.2	26.2	23.3	24.8	---	---	---
24	27.0	20.9	23.6	28.3	23.8	26.0	28.1	25.0	26.3	---	---	---
25	27.7	23.7	25.5	27.9	25.2	26.6	30.4	25.7	27.8	---	---	---
26	27.2	24.5	25.8	30.1	25.5	27.4	30.6	25.8	28.1	---	---	---
27	26.8	23.5	25.0	31.3	26.5	28.5	31.6	27.1	29.1	---	---	---
28	25.0	23.2	23.9	31.7	27.2	29.2	31.6	28.8	29.9	---	---	---
29	25.9	21.2	23.3	29.0	26.2	27.6	29.2	27.2	28.2	---	---	---
30	23.4	21.2	22.3	26.0	23.4	24.2	31.1	26.1	28.3	---	---	---
31	---	---	---	27.7	22.8	24.7	30.3	28.5	29.4	---	---	---
MONTH	28.1	14.0	22.3	31.8	21.0	27.2	31.6	22.1	26.7	30.0	17.6	22.9
YEAR	31.8	- .7	12.2									

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.37	.00	.01	.19	.00	.23	.00	.02	.00	.00	.00
2	.00	.30	.12	.00	.11	.00	.01	.00	.00	.00	.22	1.32
3	.00	.01	.01	.44	.06	.00	.02	.00	.04	.00	.70	.11
4	.00	.09	.03	1.09	.05	.14	.00	.00	.03	.00	.15	.03
5	.00	.51	.00	.13	.05	.19	.00	.06	.66	.00	.00	.00
6	.00	.09	.00	.00	.18	.08	.00	.01	.00	1.43	.72	.25
7	.00	.01	.00	.00	.04	.07	.00	.00	.54	.00	.13	.00
8	.01	.00	.01	.00	.02	.22	.00	.00	.66	.00	.00	.00
9	.43	.00	.00	.00	.06	.01	.08	.00	.63	.01	.00	.00
10	.12	.25	.06	.00	.05	.02	.29	.00	.22	.03	.05	.28
11	.36	.52	.12	.00	.05	.02	.07	.00	.00	.03	.01	.00
12	.15	.99	.00	.45	.07	.06	.00	.00	.00	.00	.00	.00
13	.00	.02	.00	.41	.00	.10	.00	.00	.00	.00	.00	.00
14	.89	.04	.00	.00	.01	.12	.02	.00	.00	.00	.00	.00
15	.49	.00	.00	.01	.04	.14	.00	.00	.00	.00	.00	.25
16	.28	.01	.00	.00	.00	.29	.21	.02	.00	.00	.34	.00
17	.00	.13	.00	.00	.00	.35	.00	.00	.00	.00	.02	.00
18	.66	.01	.00	.00	.00	.19	.00	.00	.00	.00	.00	.00
19	.12	.00	.16	.00	.00	.11	.26	.06	.66	.10	.00	.00
20	.04	.00	.22	.01	.08	.15	.69	.00	.28	.00	.35	.02
21	.06	.08	.00	.13	.55	.08	.07	.00	.08	.00	.00	.73
22	.00	.58	.00	.10	.03	.09	.00	.00	.00	.00	.00	---
23	.00	.08	.00	.00	.00	.40	.00	.15	.00	.00	.00	---
24	.18	.17	.12	.48	.00	.09	.01	.03	.00	.00	.01	---
25	.00	.00	.07	.06	.04	.10	.59	.00	.01	.01	.00	---
26	.00	.00	.17	.12	.01	.08	.00	.00	.38	.00	.00	---
27	---	.04	.13	.07	.00	.08	.00	.00	.20	.00	.00	---
28	---	.19	.09	.07	.00	.39	.00	.00	.01	.21	.00	---
29	.00	.00	.17	.22	---	.09	.00	.00	.00	.41	.00	---
30	.00	.00	1.08	.16	---	.09	.19	.00	.00	.13	.00	---
31	.00	---	.17	.06	---	.23	---	.53	---	.01	.09	---
TOTAL	3.79	4.49	2.73	4.02	1.69	3.98	2.74	0.86	4.42	2.37	2.79	2.99

WTR YR 1993 TOTAL 36.87

GROUND-WATER RECORDS

415307080414600. Local number, AB-140.

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

AQUIFER.--Sand and Gravel of Pleistocene age.

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

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

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

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

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: (FOUR LEVELS): July 1992 to current year

WATER TEMPERATURE: (FOUR LEVELS): July 1992 to current year

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE:

LEVEL 1-Maximum, 2880 microsiemens August 23-24, 1992; minimum, 1370 microsiemens February 22, 1993.

LEVEL 2- Maximum, 2640 microsiemens August 18,20-21, 1992; minimum, 387 microsiemens January 6, 1993.

LEVEL 3- Maximum, 2450 microsiemens August 26-27, 1992; minimum, 362 microsiemens January 24, 1993.

LEVEL 4- Maximum, 2480 microsiemens August 28, 1992; minimum, 308 microsiemens January 23, 1993.

WATER TEMPERATURE: LEVEL 1- Maximum, 12.3°C October 29-December 13, 1993; minimum, 7.2°C March 31, April 2-3, 1993.

LEVEL 2- Maximum, 13.0 °C many days October, November, 1992; minimum, 6.7°C March 23, 1993.

LEVEL 3- Maximum, 14.0°C October 1-26, 1992; minimum, 6.0°C March 23-24, 1993.

LEVEL 4- Maximum, 15.8°C October 1-4, 1992; minimum, 3.8°C March 23-24, 1993.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE:

LEVEL 1-Maximum, 2660 microsiemens March 23, 1993; minimum, 1370 microsiemens February 22, 1993.

LEVEL 2-Maximum, 2460 microsiemens March 23, 1993; minimum, 387 microsiemens January 6, 1993.

LEVEL 3-Maximum, 2160 microsiemens October 20, 1992; minimum, 362 microsiemens January 24, 1993.

LEVEL 4-Maximum, 2040 microsiemens November 12, 1992; minimum, 308 microsiemens January 23, 1993.

WATER TEMPERATURE:

LEVEL 1-Maximum, 12.3°C October 29-December 13, 1992; minimum, 7.2°C March 31, April 2-3, 1993.

LEVEL 2-Maximum, 13.0°C many days October, November, 1992; minimum, 6.7°C March 23, 1993.

LEVEL 3-Maximum, 14.0°C October 1-26, 1992; minimum, 6.0°C March 23-24, 1993.

LEVEL 4-Maximum, 15.3°C October 1-4, 1992; minimum, 3.8°C March 23-24, 1993.

415307080414600 AB-140 NR KINGSVILLE OH

#1 (22.0' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	2410	2400	2400	2300	2300	2300	2050	2030	2040	1950	1940	1950
2	2410	2400	2400	2320	2300	2300	2030	2010	2020	1950	1940	1940
3	2410	2400	2400	2310	2300	2300	2010	2000	2010	1940	1940	1940
4	2410	2390	2400	2300	2290	2290	2000	1990	1990	1940	1930	1940
5	2400	2380	2390	2290	2280	2280	1980	1970	1980	1930	1930	1930
6	2400	2370	2380	2280	2270	2270	1970	1960	1970	1930	1930	1930
7	2400	2370	2380	2270	2260	2270	1960	1960	1960	1930	1930	1930
8	2400	2380	2380	2260	2250	2260	1960	1850	1920	1940	1930	1930
9	2400	2380	2380	2250	2250	2250	1870	1840	1860	1940	1930	1930
10	2390	2380	2380	2250	2240	2250	1880	1860	1870	1940	1930	1940
11	2380	2370	2380	2250	2240	2240	1880	1860	1870	1940	1930	1940
12	2370	2370	2370	2260	2240	2240	1890	1870	1880	1930	1880	1910
13	2380	2350	2370	2260	2260	2260	1910	1890	1900	1880	1820	1850
14	2370	2350	2360	2270	2260	2260	1920	1900	1910	1820	1730	1780
15	2370	2350	2360	2260	2260	2260	1930	1920	1930	1730	1680	1710
16	2350	2340	2350	2260	2250	2260	1930	1930	1930	1690	1660	1670
17	2340	2340	2340	2260	2250	2260	1940	1930	1930	1660	1650	1650
18	2340	2330	2340	2250	2250	2250	1940	1930	1940	1640	1630	1640
19	2340	2330	2340	2250	2240	2240	1940	1930	1930	1630	1610	1620
20	2360	2340	2350	2240	2230	2230	1930	1930	1930	1610	1590	1610
21	2360	2360	2360	2230	2220	2220	1930	1920	1920	1600	1590	1600
22	2370	2360	2370	2220	2200	2210	1930	1920	1930	1600	1590	1600
23	2370	2360	2370	2200	2180	2190	1930	1910	1920	1590	1580	1580
24	2370	2370	2370	2180	2160	2170	1920	1910	1920	1600	1570	1580
25	2370	2370	2370	2160	2140	2150	1920	1910	1920	1620	1600	1620
26	2370	2370	2370	2140	2120	2130	1910	1910	1910	1630	1620	1630
27	---	---	---	2120	2100	2110	1920	1900	1910	1640	1630	1630
28	---	---	---	2100	2080	2090	1920	1900	1910	1640	1630	1630
29	2320	2300	2310	2080	2060	2070	1910	1910	1910	1640	1630	1640
30	2320	2300	2310	2060	2050	2060	1920	1900	1910	1640	1630	1640
31	2320	2300	2310	---	---	---	1960	1920	1940	1650	1630	1640
MONTH	2410	2300	2370	2320	2050	2220	2050	1840	1930	1950	1570	1760

#1 (22.0' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	1650	1640	1640	1670	1660	1670	1610	1580	1590	2100	2090	2090
2	1640	1630	1640	1680	1660	1670	1650	1620	1640	2110	2100	2100
3	1630	1610	1620	1710	1670	1680	1710	1650	1670	2150	2100	2120
4	1610	1570	1590	1810	1710	1760	1850	1720	1790	2120	2110	2120
5	1570	1530	1550	1930	1820	1880	1870	1840	1860	2120	2110	2120
6	1530	1500	1520	2000	1930	1970	1880	1870	1870	2130	2110	2120
7	1500	1490	1500	2100	2000	2050	1880	1750	1810	2130	2120	2120
8	1490	1490	1490	2180	2100	2140	1770	1750	1760	2140	2110	2130
9	1490	1480	1480	2220	2180	2200	1760	1740	1760	2150	2120	2130
10	1480	1480	1480	2210	2180	2200	1750	1720	1740	2200	2120	2160
11	1480	1470	1470	2180	2150	2170	1850	1730	1790	2250	2150	2180
12	1480	1460	1470	2190	2170	2180	1890	1850	1870	2260	2180	2200
13	1460	1450	1450	2190	2190	2190	1890	1810	1860	2200	2180	2190
14	1450	1430	1440	2200	2190	2190	1810	1780	1790	2230	2180	2190
15	1430	1410	1420	2220	2190	2210	1800	1760	1780	2240	2190	2210
16	1420	1400	1410	2230	2210	2220	1820	1800	1810	2200	2190	2190
17	1400	1390	1400	2470	2210	2320	1840	1820	1830	2200	2180	2190
18	1390	1390	1390	2520	2470	2510	1870	1840	1860	2190	2180	2190
19	1390	1380	1380	2520	2500	2510	1880	1870	1880	2190	2180	2180
20	1390	1380	1380	2530	2500	2520	1930	1890	1900	2180	2170	2180
21	1380	1380	1380	2530	2520	2520	1910	1900	1910	2190	2170	2180
22	1390	1370	1380	2650	2520	2580	1950	1910	1930	2190	2170	2180
23	1480	1390	1430	2660	2630	2650	1970	1940	1950	2180	2170	2180
24	1560	1480	1520	2620	2600	2610	1990	1970	1980	2190	2170	2180
25	1610	1560	1590	2650	2600	2620	2020	1990	2010	2220	2170	2190
26	1640	1610	1630	2650	2570	2630	2020	2010	2020	2230	2200	2210
27	1650	1640	1640	2560	2200	2400	2050	2020	2030	2240	2220	2220
28	1720	1650	1670	2180	1810	1990	2080	2050	2060	2250	2220	2230
29	---	---	---	1790	1570	1680	2100	2070	2080	2230	2220	2230
30	---	---	---	1560	1540	1550	2100	2080	2090	2250	2230	2240
31	---	---	---	1580	1540	1560	---	---	---	2250	2250	2250
MONTH	1720	1370	1500	2660	1540	2160	2100	1580	1860	2260	2090	2170

415307080414600 AB-140 NR KINGSVILLE OH

#1 (22.0' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	2250	2240	2250	2290	2230	2250	2350	2290	2320	2430	2410	2410
2	2250	2240	2250	2290	2230	2250	2340	2300	2320	2430	2400	2420
3	2260	2240	2250	2290	2240	2250	2360	2300	2320	2430	2410	2420
4	2250	2240	2250	2300	2240	2270	2320	2300	2310	2440	2410	2420
5	2250	2240	2250	2300	2240	2270	2320	2300	2310	2430	2420	2420
6	2270	2240	2250	2300	2230	2260	2330	2300	2310	2440	2430	2430
7	2300	2240	2250	2250	2230	2240	2320	2300	2310	2450	2430	2440
8	2290	2250	2260	2260	2220	2240	2320	2290	2310	2450	2440	2450
9	2310	2240	2270	2290	2230	2250	2350	2290	2310	2470	2450	2460
10	2290	2240	2260	2260	2230	2230	2330	2300	2310	2470	2460	2470
11	2280	2220	2240	2290	2230	2240	2330	2300	2310	2480	2460	2470
12	2230	2210	2220	2300	2260	2280	2350	2300	2320	2500	2470	2490
13	2260	2210	2230	2300	2250	2270	2350	2310	2320	2540	2490	2510
14	2260	2220	2230	2290	2240	2260	2370	2310	2330	2550	2510	2520
15	2250	2220	2240	2300	2240	2260	2380	2320	2340	2530	2520	2530
16	2240	2210	2220	2310	2240	2260	2350	2330	2340	2540	2530	2540
17	2290	2230	2240	2300	2250	2260	2360	2330	2340	2560	2540	2550
18	2300	2240	2270	2320	2250	2270	2380	2340	2350	2570	2550	2570
19	2320	2230	2270	2320	2260	2280	2390	2330	2360	2590	2570	2580
20	2330	2240	2270	2320	2270	2280	2380	2350	2360	2600	2570	2580
21	2270	2240	2250	2300	2270	2280	2370	2350	2350	2610	2590	2590
22	2280	2240	2250	2310	2270	2280	2370	2350	2360	---	---	---
23	2260	2240	2250	2320	2260	2280	2400	2360	2370	---	---	---
24	2310	2240	2260	2320	2270	2290	2420	2370	2380	---	---	---
25	2310	2250	2270	2360	2280	2300	2440	2380	2390	---	---	---
26	2300	2240	2260	2360	2290	2310	2450	2380	2400	---	---	---
27	2310	2240	2270	2350	2290	2310	2460	2390	2420	---	---	---
28	2260	2230	2250	2350	2290	2320	2430	2390	2410	---	---	---
29	2260	2230	2240	2310	2300	2310	2420	2390	2400	---	---	---
30	2250	2230	2230	2300	2300	2300	2470	2400	2420	---	---	---
31	---	---	---	2330	2300	2310	2470	2410	2420	---	---	---
MONTH	2330	2210	2250	2360	2220	2270	2470	2290	2350	2610	2400	2490
YEAR	2660	1370	2100									

#2 (18.0' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	2080	2060	2070	1890	1870	1880	1340	1300	1320	1830	1790	1810
2	2070	2050	2060	1920	1870	1900	1390	1340	1360	1800	1700	1790
3	2060	2020	2040	1970	1920	1950	1420	1390	1400	1690	1560	1610
4	2020	1970	2000	2000	1970	1990	1470	1420	1440	1740	1570	1660
5	1970	1940	1960	2000	1990	1990	1480	1470	1480	1760	401	1310
6	1940	1920	1930	2040	2000	2030	1500	1480	1490	462	387	407
7	1920	1910	1920	2070	2040	2060	1520	1500	1510	603	471	541
8	1910	1910	1910	2070	2050	2060	1530	1500	1510	659	610	637
9	1910	1900	1910	2060	2030	2050	1540	1530	1530	668	657	663
10	1900	1900	1900	2040	2020	2030	1570	1530	1550	683	669	676
11	1900	1890	1890	2050	2020	2030	1600	1570	1580	679	654	669
12	1890	1880	1890	2100	2050	2080	1710	1600	1660	705	668	683
13	1890	1890	1890	2100	1870	1990	1770	1710	1740	1050	707	851
14	1900	1870	1890	1860	1640	1700	1800	1770	1790	1210	1060	1140
15	1990	1900	1940	1660	1580	1630	1800	1790	1800	1300	1210	1260
16	2080	1990	2040	1570	1560	1560	1780	1730	1760	1310	981	1150
17	2120	2080	2100	1620	1570	1580	1730	1730	1730	963	634	831
18	2140	2120	2130	1660	1630	1650	1730	1720	1730	625	495	528
19	2180	2140	2150	1640	1240	1420	1730	1720	1720	621	540	575
20	2210	2180	2200	1250	1210	1230	1740	1720	1730	765	621	685
21	2210	2170	2190	1290	1250	1270	1770	1740	1750	860	728	776
22	2170	2110	2140	1400	1270	1310	1780	1760	1770	1120	886	1010
23	2120	2080	2100	1510	1410	1480	1780	1770	1770	1300	1130	1210
24	2080	2040	2060	1450	1270	1340	1770	1760	1770	1450	1300	1370
25	2030	2010	2020	1350	1280	1320	1770	1750	1760	1490	1450	1480
26	2010	1990	2010	1360	1250	1330	1760	1740	1750	1490	1060	1240
27	---	---	---	1250	1170	1200	1740	1720	1730	1050	551	856
28	---	---	---	1190	1140	1160	1720	1710	1720	621	552	587
29	1950	1920	1940	1260	1190	1230	1710	1700	1700	735	622	666
30	1940	1920	1930	1300	1260	1280	1790	1710	1750	845	739	791
31	1920	1890	1900	---	---	---	1840	1810	1830	930	853	890
MONTH	2210	1870	2000	2100	1140	1660	1840	1300	1650	1830	387	979

415307080414600 AB-140 NR KINGSVILLE OH

#3 (14.0' BLS)
SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	967	934	949	1200	1160	1180	627	622	624	1840	1810	1830
2	997	968	982	1230	1200	1220	633	624	628	1820	923	1280
3	1020	997	1010	1270	1230	1250	646	634	638	862	670	719
4	1030	1020	1030	1280	1270	1280	658	646	651	749	732	743
5	1060	1040	1050	1330	1280	1290	664	651	660	743	364	637
6	1080	1060	1070	1470	1330	1400	674	657	664	468	390	412
7	1100	1080	1090	1550	1480	1520	675	664	669	606	474	545
8	1110	1100	1100	1550	1500	1540	681	656	670	660	610	640
9	1120	1110	1120	1490	1400	1440	692	665	679	672	659	666
10	1130	1120	1130	1390	1310	1360	715	693	703	686	669	677
11	1130	1130	1130	1760	1300	1420	738	716	727	682	653	670
12	1150	1140	1140	2030	1790	1980	1060	739	827	706	652	681
13	1150	1150	1150	1990	1050	1740	1160	1070	1130	1030	712	843
14	1180	1150	1160	993	732	766	1160	909	1070	1210	964	1130
15	1300	1190	1230	732	706	721	900	811	821	899	386	508
16	1430	1310	1370	705	683	695	810	796	801	464	431	447
17	1530	1440	1480	683	669	673	798	769	783	488	466	476
18	1700	1530	1570	668	664	666	781	763	773	542	489	514
19	2120	1730	1980	665	646	656	802	776	788	620	547	578
20	2160	2120	2140	679	646	659	821	804	812	722	621	663
21	2130	2030	2080	711	682	698	843	821	830	866	724	778
22	2030	1800	1950	720	712	715	861	840	848	1130	879	1010
23	1790	1470	1600	720	690	708	884	862	871	1210	667	950
24	1450	1240	1340	688	673	680	922	885	901	574	362	398
25	1230	1200	1210	674	665	668	947	922	934	422	387	400
26	1200	1190	1190	666	658	662	973	948	960	485	425	453
27	---	---	---	659	656	658	997	974	985	557	489	518
28	---	---	---	656	650	653	1010	995	1000	625	560	593
29	1160	1150	1150	650	636	644	1030	1010	1030	731	628	671
30	1160	1150	1150	635	626	631	1820	1030	1140	849	736	792
31	1170	1160	1170	---	---	---	1850	1820	1840	934	852	896
MONTH	2160	934	1300	2030	626	1010	1850	622	853	1840	362	713

#3 (14.0' BLS)
SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	939	794	896	1330	1280	1300	1640	1560	1600	1720	1690	1700
2	944	650	725	1420	1330	1370	1690	1640	1680	1740	1720	1730
3	763	746	756	1620	1500	1570	1790	1660	1700	1770	1740	1750
4	791	758	774	1730	1630	1670	1900	1800	1860	1780	1760	1770
5	825	788	807	1840	1740	1790	1920	1900	1910	1800	1780	1790
6	862	826	844	1910	1840	1880	1900	1840	1880	1820	1800	1810
7	902	862	881	2000	1910	1950	1840	1540	1760	1820	1770	1790
8	930	904	918	2080	1700	2020	1660	1540	1620	1800	1770	1780
9	955	930	942	1710	719	1320	1640	1410	1530	1790	1740	1760
10	976	957	967	698	575	638	1600	1380	1490	1740	1710	1730
11	1010	978	990	819	701	757	1460	1400	1430	1720	1690	1700
12	1170	1010	1110	904	822	865	1490	1450	1470	1690	1660	1680
13	1190	1160	1180	968	909	935	1500	1380	1400	1660	1620	1640
14	1200	1170	1190	1000	846	941	1420	1410	1410	1620	1610	1620
15	1200	1160	1180	1050	938	990	1440	1360	1400	1610	1580	1600
16	1200	1150	1190	1140	1060	1100	1410	1400	1410	1570	1550	1560
17	1210	1180	1190	1170	1150	1160	1420	1380	1400	1540	1530	1540
18	1210	1160	1190	1180	772	959	1470	1420	1440	1530	1510	1520
19	1210	1190	1210	1050	859	951	1510	1470	1490	1510	1500	1500
20	1210	1170	1190	1190	1060	1120	1550	1510	1530	1500	1480	1490
21	1240	1210	1230	1270	1190	1230	1560	1550	1550	1480	1460	1470
22	1270	1210	1240	1360	1280	1320	1570	1550	1560	1460	1460	1460
23	1380	1280	1330	1370	579	892	1570	1550	1560	1460	1450	1460
24	1440	1380	1410	576	478	499	1600	1570	1590	1470	1460	1470
25	1500	1440	1470	605	494	536	1630	1600	1620	1510	1480	1490
26	1520	1490	1500	811	609	707	1640	1620	1630	1550	1510	1530
27	1540	1520	1530	971	817	899	1650	1630	1640	1570	1550	1560
28	1550	1250	1370	1090	975	1030	1660	1640	1650	1600	1580	1590
29	---	---	---	1290	1100	1190	1680	1660	1660	1610	1600	1600
30	---	---	---	1450	1300	1380	1690	1670	1680	1620	1600	1610
31	---	---	---	1560	1460	1520	---	---	---	1620	1620	1620
MONTH	1550	650	1110	2080	478	1180	1920	1360	1580	1820	1450	1620

415307080414600 AB-140 NR KINGSVILLE OH

#3 (14.0' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	1630	1630	1630	1730	1720	1720	1780	1770	1780	1800	1800	1800
2	1640	1630	1630	1730	1720	1730	1780	1780	1780	1810	1800	1800
3	1640	1630	1640	1730	1710	1720	1780	1770	1780	1810	1810	1810
4	1650	1640	1640	1720	1710	1720	1780	1770	1770	1820	1810	1820
5	1650	1640	1650	1730	1720	1720	1780	1770	1780	1820	1810	1820
6	1660	1650	1650	1770	1720	1730	1790	1770	1780	1820	1810	1810
7	1670	1660	1660	1780	1770	1780	1790	1770	1780	1820	1810	1810
8	1700	1670	1680	1790	1770	1780	1790	1780	1780	1820	1810	1820
9	1730	1700	1710	1800	1780	1790	1790	1780	1790	1830	1820	1820
10	1740	1730	1740	1800	1770	1780	1790	1790	1790	1830	1830	1830
11	1750	1740	1740	1780	1770	1770	1790	1790	1790	1830	1820	1830
12	1750	1740	1750	1780	1770	1780	1790	1790	1790	1840	1820	1830
13	1750	1730	1740	1770	1750	1760	1790	1790	1790	1840	1830	1840
14	1740	1730	1730	1760	1730	1750	1790	1780	1790	1850	1830	1840
15	1730	1720	1720	1750	1740	1750	1790	1780	1790	1840	1830	1840
16	1720	1710	1710	1750	1740	1740	1800	1780	1790	1840	1830	1840
17	1720	1710	1710	1750	1740	1750	1790	1780	1790	1840	1840	1840
18	1710	1700	1710	1750	1740	1750	1790	1790	1790	1840	1840	1840
19	1710	1700	1710	1760	1740	1750	1790	1780	1790	1840	1830	1840
20	1710	1700	1710	1750	1750	1750	1790	1780	1790	1850	1830	1840
21	1710	1700	1710	1760	1750	1750	1790	1790	1790	1850	1830	1840
22	1710	1700	1700	1760	1750	1750	1790	1790	1790	---	---	---
23	1710	1700	1700	1760	1750	1750	1790	1790	1790	---	---	---
24	1720	1710	1710	1770	1760	1760	1790	1790	1790	---	---	---
25	1720	1710	1720	1770	1760	1770	1800	1790	1790	---	---	---
26	1730	1720	1720	1770	1770	1770	1800	1790	1790	---	---	---
27	1730	1720	1720	1780	1770	1780	1800	1780	1790	---	---	---
28	1730	1720	1730	1780	1760	1770	1790	1790	1790	---	---	---
29	1730	1720	1730	1780	1770	1780	1800	1790	1790	---	---	---
30	1730	1720	1720	1780	1770	1780	1800	1790	1790	---	---	---
31	---	---	---	1780	1770	1780	1800	1800	1800	---	---	---
MONTH	1750	1630	1700	1800	1710	1760	1800	1770	1790	1850	1800	1830
YEAR	2160	362	1360									

#4 (10.0' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	804	764	784	802	772	785	640	635	638	1890	923	1600
2	824	805	815	848	804	828	649	638	642	901	617	697
3	839	824	830	882	850	867	660	649	652	748	659	716
4	846	830	838	888	870	882	669	661	666	773	750	766
5	863	846	854	909	869	879	680	665	675	765	361	611
6	885	861	872	1110	918	1020	686	667	677	477	400	422
7	904	886	895	1190	1120	1160	688	676	682	621	487	557
8	925	903	911	1190	1130	1170	695	673	684	674	627	654
9	938	923	930	1120	987	1060	711	682	697	684	672	679
10	937	923	928	986	872	924	733	712	721	698	664	689
11	947	932	937	1240	870	1020	760	734	747	692	619	675
12	996	950	976	2040	1250	1630	781	759	769	709	477	636
13	976	960	968	2030	744	1240	807	781	796	1050	453	707
14	1030	967	995	760	744	753	835	808	828	1120	366	663
15	1140	1040	1080	747	721	736	841	831	838	436	382	407
16	1190	1150	1170	722	698	709	833	817	823	476	440	458
17	1240	1190	1220	698	682	688	822	765	797	500	477	489
18	1270	1240	1250	684	678	682	799	786	795	554	502	527
19	1420	1270	1340	682	660	673	822	799	810	633	557	591
20	1570	1430	1520	697	659	676	845	824	833	731	638	674
21	1570	1390	1510	730	699	717	865	842	854	744	559	626
22	1380	1180	1250	738	729	733	882	864	872	905	475	705
23	1180	1130	1160	738	707	725	906	883	893	472	308	358
24	1130	914	1060	705	690	697	944	906	924	398	352	384
25	907	682	782	689	678	684	971	945	958	435	398	412
26	678	583	625	680	671	676	998	972	984	500	437	467
27	---	---	---	674	669	671	1020	998	1010	570	501	533
28	---	---	---	670	665	667	1040	1020	1030	642	574	609
29	649	533	558	664	649	658	1070	1040	1050	744	646	685
30	703	534	586	650	639	645	1080	1070	1080	827	608	756
31	770	710	747	---	---	---	1900	1080	1700	699	512	647
MONTH	1570	1430	1520	2040	639	842	1900	635	843	1890	308	626

415307080414600 AB-140 NR KINGSVILLE OH

#1 (22.0' BLS)

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER				NOVEMBER			DECEMBER			JANUARY		
1	11.6	11.6	11.6	12.3	12.3	12.3	12.3	12.3	12.3	11.4	11.1	11.2
2	11.7	11.6	11.6	12.3	12.1	12.3	12.3	12.3	12.3	11.6	11.4	11.5
3	11.7	11.6	11.6	12.3	12.1	12.2	12.3	12.3	12.3	11.6	11.6	11.6
4	11.8	11.6	11.6	12.3	12.3	12.3	12.3	12.3	12.3	11.6	11.4	11.6
5	11.8	11.6	11.7	12.3	12.3	12.3	12.3	12.2	12.3	11.6	11.6	11.6
6	11.8	11.6	11.7	12.3	12.3	12.3	12.3	12.2	12.3	11.6	11.6	11.6
7	11.9	11.6	11.8	12.3	12.2	12.3	12.3	12.2	12.3	11.6	11.6	11.6
8	11.9	11.6	11.8	12.3	12.2	12.3	12.3	12.0	12.3	11.6	11.4	11.4
9	11.9	11.6	11.8	12.3	12.3	12.3	12.3	12.0	12.2	11.4	10.9	11.2
10	11.9	11.6	11.8	12.3	12.3	12.3	12.3	12.0	12.1	10.9	10.9	10.9
11	11.9	11.8	11.8	12.3	12.3	12.3	12.3	12.0	12.1	10.9	10.7	10.7
12	11.9	11.8	11.8	12.3	12.3	12.3	12.3	12.0	12.0	10.7	10.5	10.6
13	12.1	11.8	11.9	12.3	12.3	12.3	12.3	12.0	12.1	10.7	10.5	10.7
14	12.0	11.8	11.9	12.3	12.2	12.3	12.2	12.0	12.1	10.9	10.5	10.6
15	12.1	11.9	11.9	12.3	12.2	12.3	12.1	12.0	12.0	11.4	10.9	11.2
16	12.1	12.0	12.1	12.3	12.2	12.3	12.1	12.0	12.1	11.4	11.1	11.3
17	12.1	12.0	12.1	12.3	12.3	12.3	12.0	12.0	12.0	11.4	11.4	11.4
18	12.0	12.0	12.0	12.3	12.3	12.3	12.0	12.0	12.0	11.4	11.3	11.4
19	12.0	12.0	12.0	12.3	12.2	12.3	12.1	12.0	12.0	11.4	11.3	11.3
20	12.0	12.0	12.0	12.3	12.3	12.3	12.0	12.0	12.0	11.4	11.3	11.4
21	12.1	12.0	12.1	12.3	12.3	12.3	12.0	12.0	12.0	11.4	10.9	11.1
22	12.1	12.0	12.1	12.3	12.3	12.3	12.0	11.8	11.9	10.9	10.3	10.7
23	12.1	12.0	12.1	12.3	12.3	12.3	12.0	11.8	11.8	10.9	10.5	10.6
24	12.1	12.1	12.1	12.3	12.3	12.3	12.0	11.8	11.8	11.0	10.9	10.9
25	12.1	12.0	12.1	12.3	12.3	12.3	11.8	11.6	11.8	10.9	10.9	10.9
26	12.1	12.0	12.1	12.3	12.3	12.3	11.8	11.8	11.8	11.1	10.9	11.1
27	---	---	---	12.3	12.3	12.3	11.8	11.6	11.7	11.4	11.1	11.2
28	---	---	---	12.3	12.3	12.3	11.8	11.6	11.6	11.4	11.1	11.3
29	12.3	12.0	12.1	12.3	12.3	12.3	11.6	11.6	11.6	11.4	11.1	11.2
30	12.3	12.0	12.2	12.3	12.3	12.3	11.6	11.4	11.6	11.1	10.9	11.1
31	12.3	12.1	12.3	---	---	---	11.4	11.1	11.3	10.9	10.5	10.8
MONTH	12.3	11.6	11.9	12.3	12.1	12.3	12.3	11.1	12.0	11.6	10.3	11.2

#1 (22.0' BLS)

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	10.7	10.5	10.5	9.9	9.7	9.8	7.6	7.4	7.4	8.7	8.7	8.7
2	10.7	10.5	10.6	9.9	9.7	9.8	7.4	7.2	7.4	8.7	8.7	8.7
3	10.7	10.5	10.6	9.7	9.5	9.5	7.6	7.2	7.4	8.8	8.6	8.7
4	10.5	10.3	10.4	9.5	9.3	9.4	7.6	7.5	7.6	8.7	8.7	8.7
5	10.3	10.3	10.3	9.5	9.3	9.3	7.8	7.5	7.7	8.7	8.7	8.7
6	10.3	10.2	10.3	9.5	9.3	9.3	8.0	7.7	7.9	8.7	8.7	8.7
7	10.5	10.2	10.3	9.5	9.5	9.5	8.7	7.9	8.0	8.7	8.7	8.7
8	10.3	10.3	10.3	9.5	9.5	9.5	8.3	7.9	8.0	8.9	8.7	8.7
9	10.3	10.3	10.3	10.1	9.5	9.7	8.3	8.0	8.1	8.8	8.7	8.7
10	10.3	10.3	10.3	10.1	9.9	10.0	8.3	8.1	8.2	8.9	8.7	8.8
11	10.3	10.3	10.3	10.3	10.1	10.2	8.7	8.3	8.4	8.9	8.7	8.8
12	10.3	9.7	9.9	10.3	10.3	10.3	8.7	8.5	8.6	8.9	8.7	8.8
13	9.9	9.7	9.8	10.3	10.3	10.3	8.7	8.7	8.7	8.9	8.7	8.8
14	9.9	9.7	9.7	10.3	10.2	10.3	8.9	8.7	8.8	8.9	8.7	8.9
15	9.9	9.7	9.7	10.2	9.9	10.1	8.9	8.7	8.8	9.0	8.7	8.9
16	9.9	9.7	9.8	9.9	9.5	9.9	8.9	8.7	8.9	8.9	8.9	8.9
17	9.9	9.6	9.7	9.5	9.4	9.5	8.9	8.7	8.9	8.9	8.9	8.9
18	9.9	9.6	9.7	9.9	9.4	9.6	8.9	8.7	8.8	8.9	8.9	8.9
19	9.9	9.6	9.8	10.1	9.8	10.0	8.7	8.7	8.7	8.9	8.9	8.9
20	9.8	9.6	9.7	10.3	10.1	10.1	8.7	8.7	8.7	8.9	8.9	8.9
21	9.7	9.6	9.7	10.1	9.3	9.7	8.7	8.7	8.7	8.9	8.9	8.9
22	9.7	9.5	9.5	9.5	9.3	9.3	8.7	8.5	8.6	9.0	8.9	8.9
23	9.5	9.4	9.4	9.9	9.5	9.7	8.7	8.7	8.7	8.9	8.9	8.9
24	9.5	9.4	9.4	9.9	9.5	9.8	8.7	8.7	8.7	8.9	8.7	8.9
25	9.6	9.4	9.5	9.5	8.1	8.8	8.7	8.7	8.7	8.9	8.9	8.9
26	9.7	9.4	9.5	8.1	7.7	7.9	8.7	8.7	8.7	8.9	8.7	8.8
27	9.7	9.5	9.6	7.7	7.4	7.6	8.7	8.5	8.7	8.9	8.7	8.9
28	9.9	9.6	9.7	7.6	7.4	7.5	8.7	8.5	8.7	9.0	8.7	8.9
29	---	---	---	7.6	7.4	7.4	8.8	8.6	8.7	8.9	8.9	8.9
30	---	---	---	7.4	7.4	7.4	8.7	8.7	8.7	9.0	8.9	8.9
31	---	---	---	7.4	7.2	7.4	---	---	---	8.9	8.9	8.9
MONTH	10.7	9.4	9.9	10.3	7.2	9.3	8.9	7.2	8.4	9.0	8.6	8.8

415307080414600 AB-140 NR KINGSVILLE OH

#1 (22.0' BLS)
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	8.9	8.9	8.9	9.6	9.4	9.5	10.1	9.9	10.0	10.8	10.8	10.8
2	8.9	8.9	8.9	9.6	9.4	9.5	10.1	9.9	10.0	11.0	10.7	10.8
3	9.0	8.9	8.9	9.6	9.5	9.5	10.2	9.9	10.1	11.0	10.8	10.8
4	8.9	8.9	8.9	9.6	9.5	9.6	10.2	10.1	10.1	11.0	10.8	10.9
5	8.9	8.9	8.9	9.6	9.5	9.6	10.2	10.1	10.1	11.0	11.0	11.0
6	9.0	8.9	8.9	9.6	9.5	9.6	10.2	10.1	10.1	11.0	11.0	11.0
7	9.0	8.9	8.9	9.6	9.5	9.6	10.2	10.1	10.1	11.0	11.0	11.0
8	9.0	8.9	8.9	9.6	9.5	9.5	10.4	10.1	10.2	11.0	11.0	11.0
9	9.0	8.9	8.9	9.6	9.5	9.6	10.4	10.1	10.3	11.0	11.0	11.0
10	9.1	8.9	9.0	9.6	9.5	9.6	10.4	10.1	10.3	11.0	11.0	11.0
11	9.1	8.9	9.0	9.6	9.5	9.6	10.4	10.3	10.4	11.2	11.0	11.0
12	9.2	9.0	9.1	9.6	9.5	9.5	10.4	10.3	10.4	11.2	11.0	11.1
13	9.2	9.0	9.1	9.6	9.5	9.5	10.4	10.3	10.4	11.2	11.0	11.1
14	9.2	9.1	9.1	9.7	9.5	9.6	10.4	10.3	10.4	11.2	11.0	11.1
15	9.1	9.1	9.1	9.7	9.5	9.6	10.4	10.3	10.4	11.2	11.2	11.2
16	9.1	9.1	9.1	9.7	9.5	9.7	10.4	10.4	10.4	11.2	11.2	11.2
17	9.2	9.1	9.1	9.8	9.6	9.7	10.4	10.4	10.4	11.2	11.2	11.2
18	9.3	9.1	9.2	9.8	9.7	9.7	10.4	10.3	10.4	11.4	11.2	11.2
19	9.3	9.1	9.2	9.8	9.7	9.7	10.5	10.3	10.4	11.4	11.2	11.2
20	9.4	9.2	9.3	9.8	9.7	9.7	10.6	10.4	10.4	11.4	11.2	11.3
21	9.4	9.3	9.3	9.8	9.7	9.7	10.6	10.4	10.5	11.4	11.2	11.4
22	9.4	9.3	9.3	9.8	9.7	9.7	10.6	10.5	10.6	---	---	---
23	9.4	9.3	9.3	9.9	9.7	9.8	10.6	10.5	10.6	---	---	---
24	9.4	9.3	9.3	9.9	9.7	9.8	10.6	10.6	10.6	---	---	---
25	9.4	9.3	9.3	10.0	9.7	9.8	10.6	10.5	10.6	---	---	---
26	9.4	9.3	9.3	10.0	9.8	9.9	10.6	10.5	10.6	---	---	---
27	9.4	9.3	9.3	10.0	9.8	9.9	10.6	10.6	10.6	---	---	---
28	9.5	9.3	9.3	10.0	9.8	9.9	10.8	10.6	10.6	---	---	---
29	9.5	9.3	9.4	10.0	9.9	9.9	10.8	10.5	10.7	---	---	---
30	9.5	9.3	9.5	9.9	9.9	9.9	10.8	10.6	10.7	---	---	---
31	---	---	---	10.0	9.9	9.9	10.8	10.6	10.8	---	---	---
MONTH	9.5	8.9	9.1	10.0	9.4	9.7	10.8	9.9	10.4	11.4	10.7	11.1
YEAR	12.3	7.2	10.3									

#2 (18.0' BLS)
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	12.7	12.5	12.6	13.0	13.0	13.0	12.3	12.3	12.3	11.4	10.9	11.1
2	12.7	12.5	12.6	13.0	12.8	12.9	12.3	12.3	12.3	11.6	11.4	11.4
3	12.8	12.5	12.6	13.0	12.7	12.8	12.3	12.3	12.3	11.4	11.4	11.4
4	12.8	12.5	12.7	13.0	12.7	12.8	12.3	12.3	12.3	11.4	11.4	11.4
5	12.8	12.7	12.8	13.0	13.0	13.0	12.3	12.2	12.3	11.4	9.5	10.8
6	12.8	12.7	12.8	13.0	12.7	12.9	12.3	12.2	12.3	10.1	9.5	9.8
7	12.8	12.7	12.8	13.0	12.7	12.9	12.3	12.2	12.3	10.3	10.1	10.2
8	12.8	12.7	12.8	13.0	12.7	12.9	12.3	12.0	12.3	10.3	10.1	10.3
9	12.8	12.7	12.8	13.0	12.7	12.8	12.3	12.0	12.2	10.3	10.3	10.3
10	12.8	12.7	12.8	12.8	12.7	12.8	12.3	12.0	12.1	10.3	10.3	10.3
11	12.8	12.7	12.8	12.8	12.7	12.8	12.3	12.0	12.1	10.3	10.3	10.3
12	12.8	12.7	12.8	12.8	12.7	12.8	12.0	12.0	12.0	10.3	10.3	10.3
13	12.8	12.7	12.8	13.0	12.7	12.8	12.0	12.0	12.0	10.3	10.3	10.3
14	13.0	12.7	12.8	13.0	12.7	12.8	12.1	12.0	12.0	10.7	10.3	10.4
15	12.8	12.8	12.8	13.0	12.7	12.7	12.1	12.0	12.0	11.1	10.7	11.0
16	12.8	12.7	12.8	12.7	12.7	12.7	12.1	12.0	12.1	11.1	10.3	10.6
17	12.8	12.7	12.7	12.7	12.7	12.7	12.0	12.0	12.0	10.3	9.9	10.1
18	12.7	12.7	12.7	12.7	12.7	12.7	12.0	12.0	12.0	9.9	9.5	9.5
19	13.0	12.7	12.7	12.7	12.5	12.6	12.0	11.8	11.9	9.7	9.6	9.7
20	12.7	12.7	12.7	12.5	12.5	12.5	11.8	11.8	11.8	10.3	9.7	9.9
21	13.0	12.7	12.8	12.5	12.3	12.5	11.8	11.6	11.8	10.1	9.9	10.0
22	13.0	12.7	12.8	12.5	12.3	12.4	11.8	11.6	11.8	10.3	10.1	10.2
23	13.0	12.7	12.8	12.5	12.3	12.4	11.8	11.6	11.8	10.7	10.3	10.4
24	13.0	12.7	12.8	12.3	12.3	12.3	11.8	11.8	11.8	11.0	10.7	10.8
25	13.0	13.0	13.0	12.3	12.3	12.3	11.8	11.6	11.7	10.9	10.9	10.9
26	13.0	12.7	12.9	12.3	12.3	12.3	11.8	11.6	11.7	10.7	10.1	10.3
27	---	---	---	12.3	12.3	12.3	11.8	11.5	11.7	10.1	8.9	9.6
28	---	---	---	12.3	12.3	12.3	11.6	11.6	11.6	9.3	8.9	9.1
29	13.0	13.0	13.0	12.3	12.3	12.3	11.6	11.6	11.6	9.5	9.3	9.4
30	13.0	13.0	13.0	12.3	12.3	12.3	11.6	11.4	11.4	9.7	9.5	9.6
31	13.0	13.0	13.0	---	---	---	11.4	11.1	11.2	9.9	9.7	9.8
MONTH	13.0	12.5	12.8	13.0	12.3	12.6	12.3	11.1	12.0	11.6	8.9	10.3

415307080414600 AB-140 NR KINGSVILLE OH

#3 (14.0' BLS)
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	14.0	14.0	14.0	13.7	13.4	13.6	11.6	11.6	11.6	11.4	10.7	10.9
2	14.0	14.0	14.0	13.5	13.5	13.5	11.6	11.6	11.6	11.4	10.3	10.7
3	14.0	14.0	14.0	13.5	13.5	13.5	11.6	11.6	11.6	10.1	9.3	9.6
4	14.0	14.0	14.0	13.5	13.5	13.5	11.6	11.4	11.6	9.7	9.3	9.4
5	14.0	13.9	14.0	13.5	13.4	13.4	11.6	11.4	11.6	9.9	8.9	9.4
6	14.0	13.9	14.0	13.5	13.4	13.4	11.6	11.4	11.4	9.7	9.3	9.5
7	14.0	14.0	14.0	13.5	13.2	13.4	11.6	11.4	11.4	9.7	9.5	9.6
8	14.0	14.0	14.0	13.5	13.2	13.3	11.4	11.4	11.4	9.7	9.7	9.7
9	14.0	14.0	14.0	13.4	13.2	13.2	11.4	11.4	11.4	9.9	9.7	9.7
10	14.0	14.0	14.0	13.2	13.2	13.2	11.4	11.4	11.4	9.9	9.7	9.8
11	14.0	14.0	14.0	13.2	13.2	13.2	11.4	11.4	11.4	9.9	9.7	9.8
12	14.0	14.0	14.0	13.2	13.0	13.0	11.6	10.9	11.2	10.1	9.7	10.0
13	14.0	13.9	14.0	13.0	13.0	13.0	11.6	11.6	11.6	10.3	10.1	10.1
14	14.0	14.0	14.0	13.0	12.3	12.5	11.6	11.1	11.4	10.5	9.9	10.3
15	14.0	14.0	14.0	12.5	12.5	12.5	11.1	10.7	10.9	9.9	8.5	9.1
16	14.0	14.0	14.0	12.5	12.3	12.4	11.1	10.9	11.0	9.1	8.9	9.1
17	14.0	14.0	14.0	12.3	12.3	12.3	11.1	10.9	11.0	9.1	8.9	9.1
18	14.0	13.9	13.9	12.3	12.3	12.3	11.1	10.9	10.9	9.4	9.1	9.2
19	14.0	13.7	13.8	12.3	12.0	12.1	11.0	10.7	10.8	9.5	9.2	9.4
20	13.9	13.7	13.7	12.1	12.0	12.0	10.7	10.7	10.7	9.7	9.3	9.4
21	14.0	13.7	13.9	12.1	12.0	12.1	10.7	10.5	10.7	9.9	9.7	9.7
22	14.0	13.7	13.9	12.1	11.8	12.0	10.7	10.5	10.6	10.3	9.7	9.9
23	14.0	13.7	13.9	12.1	11.8	11.8	10.5	10.5	10.5	10.3	9.3	9.8
24	14.0	13.7	14.0	11.8	11.8	11.8	10.7	10.5	10.5	9.1	8.1	8.3
25	14.0	14.0	14.0	11.8	11.6	11.7	10.5	10.5	10.5	8.7	8.3	8.4
26	14.0	13.7	13.9	11.6	11.6	11.6	10.5	10.5	10.5	8.7	8.5	8.5
27	---	---	---	11.6	11.6	11.6	10.5	10.3	10.4	8.7	8.5	8.6
28	---	---	---	11.6	11.6	11.6	10.5	10.3	10.3	8.9	8.7	8.8
29	13.7	13.7	13.7	11.6	11.6	11.6	10.3	10.3	10.3	9.3	8.9	9.0
30	13.7	13.7	13.7	11.6	11.6	11.6	11.4	9.9	10.3	9.5	9.1	9.3
31	13.7	13.5	13.7	---	---	---	11.4	10.7	11.0	9.7	9.5	9.6
MONTH	14.0	13.5	13.9	13.7	11.6	12.6	11.6	9.9	11.0	11.4	8.1	9.5

#3 (14.0' BLS)
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	9.9	9.1	9.6	8.7	8.5	8.5	6.7	6.5	6.7	7.2	7.2	7.2
2	9.6	8.6	8.9	8.9	8.7	8.7	6.6	6.3	6.5	7.2	7.2	7.2
3	9.1	8.9	9.1	9.3	8.9	9.0	6.8	6.3	6.6	7.4	7.2	7.3
4	9.1	8.9	9.0	8.9	8.7	8.8	6.9	6.6	6.8	7.4	7.2	7.4
5	9.1	8.9	8.9	8.9	8.7	8.7	7.0	6.8	6.9	7.4	7.4	7.4
6	8.9	8.8	8.9	9.1	8.7	8.9	7.4	7.2	7.2	7.8	7.4	7.6
7	8.9	8.7	8.8	9.5	8.9	9.2	7.8	6.5	7.2	7.8	7.4	7.5
8	8.9	8.9	8.9	9.3	8.5	9.0	7.6	6.3	7.2	7.8	7.4	7.6
9	8.9	8.7	8.8	8.5	6.8	8.0	7.8	6.3	7.1	7.8	7.4	7.5
10	8.9	8.7	8.7	7.2	6.4	6.8	7.8	6.5	7.2	7.6	7.4	7.5
11	8.9	8.7	8.7	7.2	7.0	7.2	7.2	6.6	6.9	7.8	7.4	7.5
12	9.3	8.7	9.1	7.4	7.1	7.2	7.2	7.0	7.2	7.6	7.4	7.6
13	9.5	9.3	9.3	7.7	7.2	7.4	6.9	6.5	6.7	7.6	7.6	7.6
14	9.5	9.3	9.3	7.9	6.6	7.4	7.2	6.8	7.0	7.7	7.6	7.6
15	9.5	9.1	9.3	7.2	7.0	7.1	7.2	6.7	6.9	7.8	7.6	7.6
16	9.5	9.1	9.4	7.4	7.2	7.3	7.2	7.0	7.1	7.8	7.7	7.8
17	9.5	9.2	9.3	7.7	7.0	7.3	7.2	6.6	6.8	7.8	7.7	7.8
18	9.4	9.0	9.3	7.9	6.3	7.1	6.8	6.6	6.7	7.9	7.7	7.8
19	9.5	9.2	9.4	6.9	6.6	6.8	6.9	6.7	6.7	8.0	7.9	8.0
20	9.3	9.0	9.2	6.8	6.6	6.7	6.9	6.7	6.8	8.0	7.9	7.9
21	9.5	9.2	9.3	6.8	6.6	6.7	6.9	6.6	6.7	8.0	7.9	8.0
22	9.3	8.9	9.0	6.8	6.6	6.7	6.6	6.5	6.5	8.0	7.9	8.0
23	9.1	8.9	8.9	7.4	6.0	6.6	6.7	6.5	6.5	8.2	7.9	8.1
24	9.1	8.8	8.9	6.5	6.0	6.3	6.7	6.6	6.7	8.2	8.1	8.2
25	9.2	9.0	9.1	6.5	6.3	6.4	6.9	6.7	6.8	8.3	8.1	8.2
26	9.3	9.1	9.2	6.7	6.3	6.4	6.8	6.7	6.8	8.3	8.1	8.2
27	9.5	9.2	9.3	6.7	6.3	6.6	6.9	6.6	6.8	8.4	8.2	8.3
28	9.4	8.2	8.6	6.7	6.5	6.6	6.9	6.8	6.9	8.4	8.3	8.4
29	---	---	---	6.7	6.3	6.5	6.9	6.9	6.9	8.4	8.3	8.3
30	---	---	---	6.7	6.3	6.5	7.2	6.9	7.1	8.5	8.3	8.4
31	---	---	---	6.7	6.3	6.5	---	---	---	8.5	8.5	8.5
MONTH	9.9	8.2	9.1	9.5	6.0	7.4	7.8	6.3	6.9	8.5	7.2	7.8

415307080414600 AB-140 NR KINGSVILLE OH

#3 (14.0' BLS)
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	8.5	8.5	8.5	10.0	9.9	9.9	11.9	11.9	11.9	13.0	13.0	13.0
2	8.7	8.5	8.6	10.0	9.9	9.9	11.9	11.9	11.9	13.0	13.0	13.0
3	8.7	8.5	8.7	10.2	10.0	10.1	12.1	11.9	12.0	13.0	13.0	13.0
4	8.7	8.7	8.7	10.2	10.1	10.2	12.1	12.1	12.1	13.0	13.0	13.0
5	8.9	8.7	8.7	10.4	10.1	10.2	12.1	12.1	12.1	13.2	13.0	13.1
6	8.9	8.7	8.8	10.4	10.4	10.4	12.3	12.1	12.1	13.3	13.0	13.2
7	9.0	8.7	8.9	10.4	10.4	10.4	12.3	12.1	12.2	13.3	13.2	13.2
8	9.0	8.9	8.9	10.4	10.4	10.4	12.4	12.1	12.3	13.3	13.2	13.2
9	9.0	8.9	8.9	10.4	10.4	10.4	12.4	12.3	12.3	13.3	13.2	13.2
10	9.0	8.9	8.9	10.6	10.4	10.4	12.4	12.3	12.3	13.2	13.2	13.2
11	9.0	8.9	8.9	10.6	10.5	10.6	12.4	12.3	12.3	13.5	13.2	13.3
12	9.0	8.9	8.9	10.6	10.6	10.6	12.4	12.3	12.3	13.5	13.2	13.4
13	9.1	8.9	9.0	10.8	10.5	10.6	12.4	12.3	12.3	13.5	13.2	13.4
14	9.2	9.0	9.1	11.0	10.5	10.8	12.6	12.3	12.4	13.5	13.3	13.4
15	9.1	9.1	9.1	11.0	10.8	10.8	12.6	12.3	12.4	13.5	13.5	13.5
16	9.3	9.1	9.2	11.0	10.8	10.9	12.6	12.4	12.5	13.5	13.5	13.5
17	9.4	9.1	9.3	11.0	11.0	11.0	12.8	12.5	12.6	13.5	13.5	13.5
18	9.4	9.2	9.3	11.0	11.0	11.0	12.6	12.5	12.6	13.5	13.5	13.5
19	9.4	9.3	9.3	11.2	11.0	11.0	12.8	12.5	12.6	13.7	13.5	13.5
20	9.4	9.3	9.3	11.2	11.2	11.2	12.8	12.8	12.8	13.7	13.5	13.6
21	9.5	9.3	9.4	11.2	11.2	11.2	12.8	12.8	12.8	13.7	13.5	13.6
22	9.6	9.5	9.5	11.4	11.2	11.3	12.8	12.7	12.8	---	---	---
23	9.5	9.5	9.5	11.5	11.4	11.4	12.8	12.7	12.8	---	---	---
24	9.6	9.5	9.5	11.5	11.4	11.4	12.8	12.8	12.8	---	---	---
25	9.6	9.5	9.6	11.5	11.4	11.4	12.8	12.8	12.8	---	---	---
26	9.7	9.5	9.6	11.5	11.4	11.4	13.0	12.8	12.9	---	---	---
27	9.8	9.7	9.7	11.7	11.4	11.5	13.1	12.8	12.9	---	---	---
28	9.9	9.7	9.7	11.7	11.5	11.6	13.0	13.0	13.0	---	---	---
29	10.0	9.7	9.8	11.7	11.6	11.6	13.0	13.0	13.0	---	---	---
30	10.0	9.9	9.9	11.9	11.6	11.7	13.1	13.0	13.0	---	---	---
31	---	---	---	11.9	11.6	11.8	13.0	13.0	13.0	---	---	---
MONTH	10.0	8.5	9.2	11.9	9.9	10.9	13.1	11.9	12.5	13.7	13.0	13.3
YEAR	14.0	6.0	10.2									

#4 (10.0' BLS)
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	
OCTOBER			NOVEMBER			DECEMBER			JANUARY				
1	15.3	15.2	15.2	13.5	13.4	13.5	11.4	11.4	11.4	10.5	9.3	9.9	
2	15.3	15.2	15.3	13.5	13.2	13.3	11.4	11.4	11.4		9.3	8.5	8.8
3	15.3	15.0	15.2	13.3	13.2	13.2	11.4	11.4	11.4		9.5	8.9	9.2
4	15.3	15.2	15.3	13.2	13.2	13.2	11.4	11.4	11.4		9.5	8.9	9.1
5	15.2	15.0	15.1	13.2	13.2	13.2	11.4	11.4	11.4		9.3	8.1	8.7
6	15.2	15.0	15.1	13.2	13.0	13.1	11.4	11.4	11.4	9.1	8.7	8.8	
7	15.0	15.0	15.0	13.0	13.0	13.0	11.4	11.1	11.3	9.1	8.9	9.1	
8	15.0	15.0	15.0	13.0	13.0	13.0	11.4	11.1	11.2	9.3	9.1	9.1	
9	15.0	15.0	15.0	13.0	13.0	13.0	11.2	11.1	11.1	9.3	9.1	9.2	
10	15.0	15.0	15.0	13.0	12.7	12.8	11.1	10.9	11.1	9.5	9.2	9.3	
11	15.0	15.0	15.0	13.0	12.7	12.8	11.1	10.9	11.1	9.5	8.9	9.3	
12	15.0	14.7	14.9	13.0	12.7	12.9	11.1	10.5	10.8	9.5	8.3	9.1	
13	15.0	14.7	14.8	13.0	11.6	12.3	10.5	10.3	10.4	9.7	8.3	9.0	
14	14.7	14.7	14.7	12.3	12.0	12.2	10.5	10.3	10.3	9.7	7.7	8.5	
15	14.7	14.7	14.7	12.3	12.2	12.3	10.7	10.5	10.5	8.7	7.9	8.3	
16	14.7	14.7	14.7	12.3	12.0	12.2	10.9	10.5	10.7	8.7	8.5	8.7	
17	14.7	14.5	14.6	12.0	12.0	12.0	10.7	10.3	10.6	8.7	8.5	8.7	
18	14.7	14.4	14.5	12.0	11.8	12.0	10.7	10.5	10.6	8.9	8.7	8.7	
19	14.5	14.4	14.4	11.8	11.6	11.7	10.5	10.5	10.5	8.9	8.8	8.9	
20	14.5	14.2	14.4	11.8	11.6	11.6	10.5	10.3	10.5	9.3	8.8	9.0	
21	14.5	14.2	14.2	11.6	11.6	11.6	10.5	10.3	10.3	9.3	8.1	8.5	
22	14.2	14.2	14.2	11.6	11.4	11.6	10.3	10.3	10.3	8.5	7.9	8.3	
23	14.2	14.0	14.2	11.6	11.4	11.4	10.3	10.3	10.3	7.9	7.2	7.4	
24	14.2	14.0	14.0	11.4	11.4	11.4	10.3	10.3	10.3	8.1	7.6	7.9	
25	14.0	14.0	14.0	11.4	11.4	11.4	10.3	10.3	10.3	8.1	7.9	8.0	
26	14.0	13.7	13.9	11.4	11.4	11.4	10.3	10.3	10.3	8.1	7.9	8.1	
27	---	---	---	11.4	11.4	11.4	10.3	10.1	10.2	8.1	7.9	8.1	
28	---	---	---	11.4	11.4	11.4	10.3	10.1	10.1	8.3	8.1	8.3	
29	13.5	13.5	13.5	11.4	11.4	11.4	10.1	9.9	10.1	8.7	8.3	8.5	
30	13.5	13.4	13.5	11.4	11.4	11.4	9.9	9.5	9.8	8.9	7.7	8.5	
31	13.5	13.4	13.5	---	---	---	10.5	9.3	10.1	8.1	7.4	7.9	
MONTH	15.3	13.4	14.6	13.5	11.4	12.3	11.4	9.3	10.7	10.5	7.2	8.7	

GROUND-WATER RECORDS

413551083481200. Local number, LU-20.

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

AQUIFER.--Sand of Quaternary age.

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

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

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

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

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

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE:

LEVEL 1- Maximum, 1260 microsiemens August 13, 1991; minimum, 330 microsiemens April 1, 1993.
LEVEL 2- Maximum, 953 microsiemens July 1, 1991; minimum, 293 microsiemens April 1-2, 1993.
LEVEL 3- Maximum, 785 microsiemens April 25, 1991; minimum, 99 microsiemens June 9-10, 1993.
LEVEL 4- Maximum, 544 microsiemens April 9, 1991; minimum, 83 microsiemens May 3-26, 1993.

AIR TEMPERATURE: Maximum, 35.5°C August 27, 1993; minimum, -19.8°C January 16, 1992.

WATER TEMPERATURE:

LEVEL 1- Maximum, 12.7°C several days in November, December 1991; minimum, 9.6°C April 8, 1993.
LEVEL 2- Maximum, 13.6°C several days in November, 1991; minimum, 9.2°C April 8, 1993.
LEVEL 3- Maximum, 15.2°C many days in October 1991; minimum, 7.6°C March 26, 28, 1993.
LEVEL 4- Maximum, 17.5°C many days in 1991; minimum, 6.0°C March 24-26, 1993.

SOIL TEMPERATURE: Maximum, 30.0°C July 20, 1991; minimum, 0.0°C March 19, 1993.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE:

LEVEL 1- Maximum, 974 microsiemens October 15, 16, 29, November 3, 1992; minimum, 330 microsiemens April 1, 1993.
LEVEL 2- Maximum, 887 microsiemens January 4, 1993; minimum, 293 microsiemens April 1-2, 1993.
LEVEL 3- Maximum, 437 microsiemens March 9, 1993; minimum, 99 microsiemens June 9-10, 1993.
LEVEL 4- Maximum, 386 microsiemens March 10, 1993; minimum, 83 microsiemens May 3-26, 1993.

AIR TEMPERATURE: Maximum, 35.5°C August 27, 1993; minimum, -19.7°C February 25, 1993.

WATER TEMPERATURE:

LEVEL 1- Maximum, 12.6°C many days December, 1992; minimum, 9.6°C April 8, 1993.
LEVEL 2- Maximum, 13.1°C November 13-14, 1992; minimum, 9.2°C April 8, 1993.
LEVEL 3- Maximum, 14.6°C October 1-23, 1992; minimum, 7.6°C March 26, 28, 1993.
LEVEL 4- Maximum, 16.7°C September 11, 1993; minimum, 6.0°C March 24-26, 1993.

SOIL TEMPERATURE: Maximum, 28.9°C August 28, 1993; minimum, 0.0°C March 19, 1993.

413551083481200 LU-20 NR HOLLAND OH

#1 (26.6' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	972	969	971	968	966	967	966	964	965	969	967	967
2	972	969	970	972	967	968	966	964	965	968	963	967
3	971	968	970	974	968	969	966	965	966	972	965	967
4	972	969	970	968	966	967	966	965	966	972	970	971
5	972	969	971	969	962	966	967	966	966	967	964	966
6	973	970	972	966	964	965	967	961	966	964	963	963
7	973	970	972	966	961	965	967	966	966	964	963	963
8	973	971	972	966	961	964	967	961	966	964	963	963
9	973	971	972	966	960	965	967	962	967	964	961	962
10	973	971	972	966	960	965	967	966	967	963	961	962
11	973	967	972	966	960	965	967	966	967	964	961	962
12	973	966	969	967	961	965	968	966	967	961	958	960
13	972	967	969	965	960	964	969	963	968	961	958	960
14	972	967	969	962	961	961	969	968	968	958	954	956
15	974	967	969	963	961	962	969	965	967	954	950	952
16	974	968	969	964	963	963	967	965	966	951	943	948
17	970	968	969	964	963	963	968	967	967	944	931	938
18	969	967	968	964	963	964	968	967	967	935	928	930
19	970	968	969	965	963	964	968	966	967	930	921	926
20	971	970	970	968	963	964	968	962	967	924	906	917
21	971	969	970	963	962	963	969	963	967	907	892	901
22	971	969	971	965	962	963	968	962	967	890	868	879
23	971	969	970	966	964	965	968	962	967	867	847	857
24	972	969	970	965	963	964	969	962	967	846	829	838
25	973	966	970	964	963	963	968	961	967	828	817	822
26	972	967	971	965	964	964	969	962	967	817	802	809
27	973	967	972	965	964	965	969	963	968	801	785	794
28	973	967	970	965	965	965	968	967	968	784	764	775
29	974	967	971	965	964	965	968	967	968	763	745	754
30	973	967	968	965	964	964	968	965	967	744	738	741
31	969	967	968	---	---	---	973	965	969	739	728	735
MONTH	974	966	970	974	960	965	973	961	967	972	728	903

#1 (26.6' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	727	708	718	377	373	375	352	330	340	---	---	---
2	708	702	706	399	376	381	343	331	337	562	552	557
3	704	694	700	434	401	416	351	343	348	574	563	568
4	695	683	689	427	400	415	355	349	353	583	574	578
5	682	667	675	399	378	387	353	350	352	589	582	585
6	666	647	657	377	367	372	352	345	349	595	588	591
7	646	629	637	375	364	366	347	343	345	605	595	600
8	627	612	620	426	377	390	353	343	348	614	604	609
9	612	575	598	437	423	429	365	350	354	622	613	618
10	572	395	463	437	419	431	354	344	348	628	619	624
11	395	381	388	418	400	409	362	348	355	634	626	629
12	386	374	379	398	379	387	358	354	355	637	631	634
13	390	372	378	378	361	371	360	355	358	640	634	637
14	373	362	368	361	354	357	364	358	361	643	638	640
15	364	360	362	372	358	365	369	362	365	645	640	642
16	363	358	362	404	372	382	371	352	360	647	642	643
17	359	356	358	409	396	403	358	353	355	650	645	647
18	360	357	359	396	382	387	362	356	360	651	646	648
19	367	358	363	384	379	383	369	361	364	651	647	648
20	373	367	370	390	383	387	366	355	360	654	649	651
21	381	373	378	384	365	376	---	---	---	652	647	650
22	378	374	377	363	340	351	---	---	---	655	649	652
23	376	368	373	365	338	353	---	---	---	657	652	655
24	371	364	368	350	335	343	---	---	---	661	654	658
25	368	363	366	336	332	334	---	---	---	663	658	661
26	369	367	368	335	332	333	---	---	---	668	661	664
27	371	367	369	337	332	334	---	---	---	671	665	668
28	373	369	371	338	333	336	---	---	---	675	669	672
29	---	---	---	339	337	338	---	---	---	680	672	676
30	---	---	---	341	337	340	---	---	---	685	676	681
31	---	---	---	351	340	343	---	---	---	690	682	686
MONTH	727	356	469	437	332	373	371	330	353	690	552	636

413551083481200 LU-20 NR HOLLAND OH

#1 (26.6' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	692	686	689	839	831	836	889	887	888	925	923	924
2	699	689	694	841	834	839	891	889	889	926	923	925
3	707	696	702	843	837	841	893	891	891	926	924	925
4	715	707	711	846	839	844	895	893	893	926	921	926
5	725	715	719	848	841	845	897	890	895	926	921	926
6	729	721	726	849	843	847	898	891	897	926	921	926
7	736	727	731	851	844	847	899	893	898	926	921	923
8	740	737	738	852	847	848	902	895	899	926	921	923
9	742	738	739	854	848	850	903	897	901	926	921	923
10	751	741	746	857	850	852	905	899	903	923	920	921
11	762	751	757	858	852	853	907	900	904	923	919	922
12	770	762	766	860	854	855	908	902	906	923	920	922
13	775	769	772	858	856	857	910	903	906	923	920	922
14	780	776	778	859	855	858	911	904	908	924	921	923
15	786	780	782	861	855	860	913	906	909	925	923	924
16	789	785	787	866	857	861	914	907	910	925	918	923
17	792	788	790	865	858	862	915	909	911	926	920	923
18	797	792	794	866	860	864	916	910	912	926	920	923
19	800	796	798	868	862	866	917	912	914	926	920	923
20	803	799	801	870	863	867	915	912	913	925	919	921
21	806	802	805	872	866	869	916	914	915	927	921	922
22	809	805	807	874	868	870	917	915	916	923	921	922
23	810	804	808	876	870	872	922	916	917	924	922	923
24	813	808	812	877	872	873	919	917	917	925	922	924
25	819	813	815	880	873	875	920	918	918	925	922	923
26	822	817	820	881	875	877	920	919	919	925	923	924
27	824	817	822	883	878	879	921	919	920	925	922	924
28	829	820	825	885	879	881	922	920	921	925	923	924
29	833	825	830	883	881	882	923	922	922	926	920	923
30	836	830	833	884	883	883	924	922	923	924	919	921
31	---	---	---	887	885	885	925	923	924	---	---	---
MONTH	836	686	773	887	831	861	925	887	908	927	918	923
YEAR	974	330	773									

#2 (21.6' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	868	863	867	875	873	873	870	868	869	877	874	875
2	867	866	867	883	875	879	868	866	867	878	873	874
3	867	866	867	883	865	876	867	866	867	879	873	876
4	869	863	868	863	853	856	866	865	866	887	879	882
5	869	864	866	860	802	832	866	864	865	883	873	877
6	869	864	866	846	827	838	865	863	864	874	866	872
7	869	864	866	858	848	853	864	863	863	871	865	870
8	865	864	864	863	858	860	863	863	863	869	865	867
9	869	864	866	867	863	865	863	862	863	866	864	865
10	871	870	871	869	867	868	863	862	862	871	864	868
11	871	870	870	871	869	870	863	862	862	871	869	870
12	870	870	870	882	871	874	870	863	867	873	866	868
13	870	869	870	883	794	846	869	859	865	873	783	863
14	873	870	871	856	796	825	861	851	856	868	744	820
15	880	874	878	871	858	865	858	856	857	872	866	870
16	881	877	879	873	871	872	863	858	860	870	863	867
17	877	855	867	874	873	873	865	862	864	863	857	860
18	859	854	856	874	873	873	866	865	866	857	851	854
19	867	860	863	874	873	873	866	865	866	852	845	849
20	871	867	869	873	871	872	867	866	866	849	832	841
21	874	870	872	872	870	871	868	866	867	835	817	827
22	876	870	874	874	871	871	866	864	865	815	790	804
23	876	870	874	878	874	877	865	864	864	790	773	783
24	874	869	873	875	873	874	865	864	864	775	755	766
25	875	870	872	874	873	873	864	862	863	757	742	750
26	875	870	872	875	874	874	863	862	862	744	735	740
27	875	870	872	874	873	874	862	860	861	736	717	727
28	876	871	873	874	872	873	861	859	860	719	697	710
29	872	871	871	872	871	872	863	858	859	697	678	688
30	873	872	872	871	870	870	885	857	867	679	674	677
31	873	872	873	---	---	---	886	877	881	677	664	671
MONTH	881	854	870	883	794	866	886	851	864	887	664	820

413551083481200 LU-20 NR HOLLAND OH

#3 (13.6' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	394	379	387	412	409	410	180	173	175	202	199	201
2	403	393	399	414	412	412	178	177	177	200	199	200
3	408	403	406	414	362	404	178	176	177	214	200	208
4	410	407	410	353	137	211	178	176	177	252	213	218
5	411	408	410	252	141	204	178	177	177	257	217	225
6	412	409	410	264	240	252	179	177	178	217	210	214
7	412	409	410	277	265	270	178	177	177	212	207	209
8	412	409	410	289	278	284	177	176	177	206	198	202
9	414	409	412	298	289	294	177	176	177	199	194	196
10	414	411	413	304	296	300	178	177	177	195	192	194
11	415	412	412	356	304	327	180	177	178	192	189	191
12	414	412	412	403	358	377	184	178	182	190	186	188
13	414	411	413	404	139	263	183	179	182	192	183	189
14	414	411	413	139	138	139	179	174	176	185	180	182
15	416	413	415	141	139	140	174	172	173	181	177	179
16	417	414	415	144	141	142	173	171	172	179	177	178
17	413	259	354	145	144	144	173	171	172	178	176	178
18	255	230	239	147	145	146	174	172	173	178	175	176
19	294	237	265	150	147	148	175	173	174	179	176	178
20	327	295	312	152	150	151	177	174	176	188	178	183
21	372	324	343	155	152	153	178	177	177	213	188	198
22	395	373	386	158	154	156	178	177	178	217	213	215
23	402	394	398	254	158	186	179	178	178	213	208	211
24	399	391	395	168	167	167	180	178	179	209	205	207
25	407	400	404	169	167	168	180	179	179	206	203	204
26	408	406	407	183	168	173	181	179	180	215	205	210
27	409	407	408	180	177	179	182	180	181	218	214	216
28	409	409	409	178	175	177	184	181	182	222	218	220
29	409	409	409	176	174	175	184	183	184	222	216	218
30	409	409	409	174	173	174	196	184	187	222	216	219
31	409	408	409	---	---	---	306	195	213	226	223	225
MONTH	417	230	390	414	137	224	306	171	179	257	175	201

#3 (13.6' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	225	222	224	366	361	363	343	320	332	---	---	---
2	226	221	223	385	365	370	331	320	324	168	160	164
3	233	226	229	425	386	405	341	330	336	175	161	167
4	236	229	233	426	397	414	345	339	342	190	175	182
5	240	234	237	393	369	380	345	340	343	211	191	200
6	240	237	238	370	357	364	343	335	339	213	141	190
7	244	239	241	362	356	358	337	332	335	139	132	135
8	250	243	246	411	366	381	339	332	335	135	134	135
9	274	251	259	437	411	425	343	337	340	135	127	131
10	378	276	351	435	415	428	344	332	337	127	122	125
11	373	364	369	414	388	401	348	333	341	125	121	123
12	364	355	359	391	369	379	347	342	345	130	125	127
13	363	356	360	369	351	361	349	344	346	128	125	127
14	358	348	353	350	343	346	352	347	350	130	128	129
15	351	345	348	360	346	353	360	348	354	132	122	130
16	351	344	347	395	361	371	364	344	354	131	120	124
17	345	342	344	405	392	399	347	343	345	134	129	132
18	348	342	345	392	372	380	354	345	349	133	128	131
19	354	345	349	377	370	372	362	349	354	128	124	126
20	360	352	356	384	376	380	361	347	353	129	127	128
21	368	358	364	377	361	369	---	---	---	128	123	127
22	367	362	364	359	331	343	---	---	---	125	120	123
23	363	357	360	353	330	342	---	---	---	127	122	124
24	358	353	356	347	326	336	---	---	---	135	128	131
25	357	351	354	327	318	323	---	---	---	127	125	126
26	359	353	356	324	320	322	---	---	---	128	125	126
27	360	354	357	326	320	323	---	---	---	128	124	126
28	363	357	360	327	321	325	---	---	---	128	119	127
29	---	---	---	328	325	327	---	---	---	126	117	122
30	---	---	---	331	326	329	---	---	---	141	126	134
31	---	---	---	343	329	332	---	---	---	176	143	162
MONTH	378	221	317	437	318	365	364	320	343	213	117	138

413551083481200 LU-20 NR HOLLAND OH

#3 (13.6' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	193	169	174	184	162	174	257	249	255	339	336	337
2	169	162	166	205	185	196	253	237	246	357	339	343
3	161	152	157	218	206	213	250	237	243	380	359	374
4	152	150	151	224	219	222	262	249	256	383	380	381
5	193	150	165	227	211	223	279	263	271	380	373	377
6	195	168	187	210	190	199	283	278	281	372	368	370
7	216	126	147	192	189	191	281	276	278	370	367	369
8	264	106	186	208	190	199	288	280	283	367	362	364
9	105	99	101	217	209	213	298	288	293	362	356	360
10	102	99	100	215	184	197	300	296	299	355	346	350
11	109	103	105	198	187	191	302	298	300	347	343	346
12	117	109	113	245	201	231	306	301	304	348	346	347
13	122	118	120	251	245	249	305	301	303	346	344	345
14	137	123	129	248	238	243	311	303	307	349	346	347
15	162	138	153	245	238	241	316	308	312	350	345	347
16	160	149	157	240	233	238	317	314	316	352	349	351
17	148	135	143	232	225	230	316	314	315	354	352	353
18	142	135	139	225	216	223	321	315	317	355	354	354
19	161	141	153	218	213	215	326	319	322	357	354	355
20	183	153	161	218	213	216	326	322	325	359	357	358
21	261	188	240	219	214	217	326	321	323	360	357	359
22	246	166	208	219	213	215	330	324	328	362	358	360
23	164	146	153	215	208	212	332	328	330	360	352	357
24	155	138	150	210	208	209	331	324	328	353	349	351
25	305	134	158	235	209	216	328	323	325	356	351	353
26	328	118	236	256	238	249	332	326	328	358	356	358
27	115	109	111	258	251	254	334	330	332	361	358	359
28	122	111	117	259	248	256	333	328	331	366	362	364
29	139	123	131	248	242	247	334	329	331	369	366	367
30	162	140	150	244	238	242	337	332	334	372	369	371
31	---	---	---	253	238	244	336	334	335	---	---	---
MONTH	328	99	152	259	162	221	337	237	305	383	336	358
YEAR	437	99	264									

#4 (8.6' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	110	109	109	114	113	114	161	155	157	180	176	178
2	109	109	109	115	114	115	160	157	158	178	176	177
3	109	109	109	116	115	116	159	157	158	191	177	184
4	109	108	109	117	117	117	159	157	158	197	190	194
5	109	108	109	124	117	121	158	157	157	203	191	197
6	109	108	108	124	123	124	160	158	158	192	185	188
7	109	108	109	123	122	123	159	157	158	186	182	184
8	109	108	109	123	121	122	158	157	158	183	175	179
9	109	108	109	123	122	122	159	157	157	175	172	173
10	108	108	108	123	122	122	158	157	158	173	169	171
11	108	107	107	124	122	123	159	157	158	170	167	168
12	110	108	109	126	123	124	163	159	161	168	164	166
13	110	109	110	127	125	126	164	159	162	169	163	167
14	110	109	110	125	124	125	159	155	157	164	159	161
15	110	109	110	127	125	126	156	153	154	160	157	159
16	109	109	109	130	127	128	153	152	153	158	156	157
17	110	109	109	131	129	130	153	152	153	159	155	157
18	110	109	110	133	130	131	154	152	153	158	155	156
19	110	109	110	134	132	133	155	154	154	159	156	157
20	110	109	110	136	134	135	158	155	156	166	158	161
21	110	110	110	139	136	137	158	157	157	186	165	173
22	110	110	110	142	138	140	158	157	158	191	186	188
23	110	110	110	151	142	147	159	158	158	187	182	185
24	111	110	110	151	149	150	160	158	159	184	179	181
25	111	110	110	152	150	151	160	159	159	181	178	179
26	111	111	111	163	151	155	161	159	160	188	180	183
27	112	111	111	162	159	161	161	159	161	192	187	189
28	112	111	112	160	157	158	162	161	161	195	191	193
29	113	112	112	158	155	156	163	162	162	196	189	191
30	113	112	113	157	155	156	172	163	165	195	189	192
31	113	113	113	---	---	---	181	173	178	199	196	197
MONTH	113	107	110	163	113	133	181	152	159	203	155	177

413551083481200 LU-20 NR HOLLAND OH

AIR TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	21.1	2.7	11.5	7.5	4.8	6.1	1.2	.0	.7	-1.4	-7.5	-3.8
2	23.7	8.8	15.7	15.6	6.2	11.5	2.8	-.5	1.2	-.2	-9.3	-4.5
3	25.8	12.3	17.9	15.6	4.7	10.5	1.3	-2.1	-.3	12.2	.0	6.1
4	17.1	10.2	13.8	15.3	3.0	6.8	2.5	-3.5	.0	12.8	11.1	12.1
5	15.8	4.1	9.4	3.7	1.5	2.5	-2.2	-7.7	-4.3	4.2	-.3	.8
6	19.2	1.7	9.5	2.6	-1.5	.8	-1.8	-7.9	-4.1	.9	-3.7	-.7
7	22.5	1.8	11.7	2.8	-4.1	-.9	.2	-1.9	-.9	2.1	-3.4	-1.1
8	18.3	6.3	12.8	4.4	-3.4	1.1	-1.0	-1.9	-1.5	-1.2	-4.1	-2.5
9	14.1	8.4	11.3	8.7	1.8	5.6	.3	-3.0	-1.5	-2.3	-5.5	-4.0
10	14.7	8.2	11.1	9.7	7.6	8.7	1.5	-1.7	.4	-4.2	-6.6	-5.3
11	11.5	6.7	9.1	11.3	8.0	9.7	2.1	.7	1.4	-2.6	-4.9	-3.7
12	16.9	2.2	9.1	14.2	3.0	10.2	2.2	.9	1.3	.3	-3.2	-1.0
13	14.6	2.8	8.5	3.3	-2.1	.8	1.8	-1.2	.9	2.3	-2.4	-.3
14	23.7	7.9	14.6	.9	-3.1	-1.4	5.4	-4.2	.0	-1.8	-4.4	-3.2
15	17.3	13.0	15.2	1.3	-3.6	-1.4	11.4	-.3	4.4	-2.9	-5.3	-4.2
16	16.7	3.9	11.2	4.1	-4.6	.1	12.0	3.0	6.8	-1.4	-8.1	-5.2
17	10.5	.2	4.5	10.0	2.8	5.7	2.8	.9	1.8	-.3	-8.5	-2.7
18	6.3	-1.5	2.8	5.6	-1.4	2.9	2.0	-.3	.7	-5.9	-12.3	-9.4
19	6.1	-4.5	.5	5.4	-.4	2.9	6.9	.2	4.1	.5	-14.2	-8.1
20	7.9	-2.0	1.9	16.0	3.9	8.7	1.5	-7.4	-2.8	2.4	-12.2	-3.8
21	11.8	.7	7.2	17.5	7.9	12.5	.3	-9.1	-3.8	5.7	.6	2.9
22	15.8	-1.7	6.1	9.5	5.8	7.4	2.8	-1.6	-.2	1.5	.6	1.0
23	23.0	5.0	14.7	8.4	3.6	6.3	4.7	-5.6	1.1	7.9	-2.0	2.7
24	17.0	2.7	13.1	5.3	3.2	4.2	-5.4	-10.7	-7.9	7.1	-3.8	.5
25	12.2	.4	5.7	8.3	4.3	6.2	2.0	-7.3	-3.9	-2.1	-10.3	-5.1
26	15.6	2.7	9.1	8.4	1.0	4.0	-4.4	-10.8	-7.9	2.0	-11.0	-3.7
27	14.3	1.3	7.4	1.7	.4	.9	5.8	-10.4	-2.7	1.8	-1.5	.2
28	15.9	-.3	8.0	.8	-1.7	-.1	5.1	.1	3.0	5.0	-.7	1.4
29	10.0	6.8	8.2	4.4	-1.8	.8	6.8	3.5	5.2	-1.2	-8.0	-5.4
30	8.4	3.9	6.7	2.4	.2	1.2	13.2	6.1	9.7	2.9	-7.4	-2.4
31	8.4	-.1	4.7	---	---	---	14.1	-1.0	5.6	7.3	.1	3.1
MONTH	25.8	-4.5	9.5	17.5	-4.6	4.5	14.1	-10.8	.2	12.8	-14.2	-1.6

AIR TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	1.7	-10.2	-5.2	3.6	-7.1	-1.3	2.8	-.9	1.5	---	---	---
2	.7	-12.2	-5.6	5.9	-.4	2.6	2.9	-1.5	.2	21.0	10.5	15.0
3	7.4	-3.9	.9	4.8	1.4	2.8	4.5	-3.2	.9	20.5	15.6	17.5
4	7.3	-5.5	1.0	1.5	-.8	.3	6.1	-4.1	1.5	21.2	15.2	17.7
5	10.2	-1.2	3.9	.3	-2.1	-.9	5.7	.5	3.4	22.2	14.7	17.6
6	-.4	-8.8	-5.7	4.5	-8.1	-1.2	12.0	2.5	7.2	24.7	9.7	18.0
7	5.0	-10.8	-3.1	5.7	-4.6	1.3	17.1	.6	8.4	23.4	8.4	16.4
8	1.2	-6.7	-1.7	3.2	.6	1.7	18.5	6.0	12.7	24.6	8.1	16.9
9	2.4	-8.8	-2.3	1.8	-.8	.5	13.5	7.4	11.8	25.5	7.6	17.4
10	4.9	-3.7	1.5	-.2	-6.7	-1.6	14.6	3.1	9.1	28.4	8.1	18.9
11	-.2	-2.6	-1.7	1.3	-7.9	-3.1	10.8	2.7	5.5	30.5	10.9	20.9
12	.4	-2.3	-.8	-3.7	-7.4	-5.5	11.1	4.1	7.2	28.8	9.9	19.6
13	-.7	-3.4	-2.0	-3.7	-11.5	-7.3	13.1	-.4	6.4	17.6	5.1	11.2
14	.6	-3.5	-1.9	-6.9	-15.2	-10.8	11.6	5.4	7.5	22.9	5.3	15.2
15	-1.6	-3.5	-2.6	3.3	-14.5	-5.4	22.0	7.1	13.3	25.7	10.9	19.4
16	-1.0	-4.7	-2.3	3.6	.8	2.6	12.2	4.9	8.1	16.2	5.2	11.4
17	-5.2	-14.1	-7.9	2.8	-9.6	-3.8	10.3	.5	4.6	20.3	2.1	12.8
18	-12.9	-19.0	-15.5	-3.9	-12.4	-7.7	18.0	.9	10.4	20.4	10.8	14.6
19	-6.2	-16.7	-11.2	1.3	-9.5	-3.3	19.4	9.1	12.7	14.8	5.7	10.7
20	-.2	-6.9	-3.9	3.4	.7	2.0	19.7	2.7	14.4	15.7	2.1	9.9
21	.1	-4.1	-1.9	5.2	-.3	1.9	---	---	---	18.3	4.9	11.6
22	-2.1	-7.6	-3.7	6.2	-.9	2.1	---	---	---	23.4	2.8	14.2
23	-5.1	-10.7	-7.6	3.8	.6	2.4	---	---	---	19.7	12.5	15.1
24	-8.1	-15.8	-11.8	3.8	1.9	2.9	---	---	---	24.0	15.4	19.2
25	-6.0	-19.7	-11.3	4.8	2.1	3.3	---	---	---	17.0	9.6	14.0
26	-2.1	-10.6	-5.7	4.6	.4	2.2	---	---	---	23.6	4.8	15.6
27	-4.7	-17.4	-9.6	10.1	-1.1	3.8	---	---	---	19.2	10.5	14.4
28	-1.9	-15.7	-7.3	14.8	4.7	8.8	---	---	---	28.2	14.3	20.4
29	---	---	---	13.7	6.6	9.6	---	---	---	18.9	6.0	12.9
30	---	---	---	16.7	8.9	12.2	---	---	---	24.5	4.6	15.4
31	---	---	---	12.3	2.6	7.0	---	---	---	18.5	9.2	14.0
MONTH	10.2	-19.7	-4.5	16.7	-15.2	.6	22.0	-4.1	7.3	30.5	2.1	15.6

413551083481200 LU-20 NR HOLLAND OH

AIR TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	17.6	3.9	11.4	22.6	18.0	19.8	29.1	13.0	22.2	25.3	12.5	18.5
2	16.7	10.2	13.4	28.1	17.5	22.5	28.2	15.0	22.5	25.7	14.5	19.6
3	19.1	10.7	14.4	29.3	17.9	22.7	29.6	14.8	20.4	21.1	17.2	19.8
4	16.5	8.9	13.5	33.7	20.9	27.1	24.3	11.3	18.7	23.8	10.7	17.5
5	16.7	8.3	12.2	33.7	20.8	28.2	24.2	8.9	16.0	24.7	13.7	19.1
6	24.2	4.9	16.0	30.4	24.4	27.1	24.0	10.8	16.7	18.4	14.6	16.4
7	21.7	15.1	17.6	30.2	22.0	26.1	23.0	11.9	16.5	22.4	11.0	16.6
8	23.8	16.3	19.6	30.2	21.4	25.4	27.8	10.9	19.6	21.4	10.4	15.3
9	28.6	18.9	23.4	34.0	20.7	27.1	29.2	11.6	21.2	24.8	11.4	18.0
10	24.7	17.2	21.1	28.7	21.0	24.9	25.7	18.5	21.1	18.2	6.9	14.2
11	25.3	14.3	20.3	31.6	20.2	24.3	29.9	15.7	23.0	21.0	4.3	12.4
12	25.3	13.6	19.8	28.8	16.6	23.1	30.7	17.5	23.7	24.9	11.2	17.5
13	27.9	14.1	21.0	28.0	12.0	20.9	31.9	17.6	23.6	30.2	17.4	23.6
14	23.9	16.6	20.6	28.8	19.9	23.0	31.2	17.1	24.2	28.9	19.0	25.4
15	23.5	13.6	18.8	25.7	16.3	21.2	31.8	17.1	24.7	19.0	11.5	14.1
16	23.7	11.7	17.7	28.4	13.5	21.2	30.4	22.3	25.5	14.4	10.5	12.5
17	30.3	11.4	22.0	27.8	13.6	21.4	29.6	19.3	23.9	19.3	12.5	15.1
18	31.5	20.8	25.5	31.3	18.5	23.1	32.8	18.0	24.1	20.0	12.2	16.0
19	30.1	20.0	24.7	26.6	20.9	23.7	32.2	15.3	23.9	19.2	12.9	15.3
20	26.1	19.6	22.6	28.1	18.0	22.6	30.2	20.6	24.6	19.2	11.9	14.6
21	24.0	18.0	20.7	27.4	15.9	21.0	24.9	12.7	19.9	18.0	11.9	14.9
22	29.7	14.1	21.3	26.9	13.2	19.5	27.1	7.7	18.0	20.3	9.1	15.4
23	25.8	11.8	19.5	28.5	11.4	20.8	34.6	14.5	24.8	20.7	8.8	17.0
24	32.4	13.5	23.7	29.6	17.8	23.2	31.4	21.3	25.9	20.8	4.6	12.4
25	28.8	18.0	23.1	30.2	18.9	24.1	34.2	18.5	26.2	16.7	9.0	12.8
26	28.2	16.1	21.8	30.9	22.3	27.1	34.7	18.5	25.7	15.7	9.9	13.5
27	27.6	18.7	22.4	32.2	19.6	25.8	35.5	22.1	28.5	13.4	8.4	10.7
28	24.3	16.2	19.5	34.5	22.0	27.4	29.2	18.6	24.2	14.0	5.4	9.4
29	23.6	12.9	18.4	25.9	17.7	22.0	26.1	16.7	21.0	12.0	3.7	6.3
30	20.0	11.3	16.8	26.2	15.3	20.7	34.7	17.5	24.9	13.1	-3	6.3
31	---	---	---	28.6	12.2	20.3	26.9	16.4	21.4	---	---	---
MONTH	32.4	3.9	19.4	34.5	11.4	23.5	35.5	7.7	22.5	30.2	-3	15.3
YEAR	35.5	-19.7	9.5									

#1 (26.6' BLS)

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	11.8	11.7	11.7	12.2	12.2	12.2	12.4	12.4	12.4	12.4	12.4	12.4
2	11.8	11.7	11.7	12.2	12.0	12.2	12.4	12.4	12.4	12.6	12.3	12.4
3	11.8	11.7	11.7	12.2	12.0	12.2	12.4	12.4	12.4	12.4	12.2	12.3
4	11.7	11.7	11.7	12.2	12.1	12.2	12.4	12.4	12.4	12.2	12.2	12.2
5	11.8	11.7	11.7	12.4	12.1	12.2	12.4	12.4	12.4	12.4	12.4	12.4
6	11.8	11.7	11.7	12.2	12.1	12.1	12.6	12.3	12.4	12.4	12.4	12.4
7	11.8	11.7	11.7	12.4	12.1	12.2	12.4	12.4	12.4	12.4	12.4	12.4
8	11.7	11.7	11.7	12.4	12.1	12.2	12.6	12.4	12.4	12.4	12.4	12.4
9	11.7	11.7	11.7	12.4	12.1	12.2	12.6	12.4	12.4	12.4	12.4	12.4
10	11.7	11.7	11.7	12.4	12.2	12.2	12.4	12.4	12.4	12.4	12.4	12.4
11	11.9	11.7	11.7	12.4	12.2	12.2	12.4	12.4	12.4	12.4	12.4	12.4
12	11.9	11.7	11.8	12.4	12.2	12.2	12.4	12.4	12.4	12.4	12.4	12.4
13	12.0	11.7	11.9	12.4	12.1	12.4	12.6	12.4	12.4	12.4	12.4	12.4
14	12.0	11.7	11.9	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4
15	12.0	11.7	11.9	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4
16	12.0	11.7	11.9	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.1	12.3
17	12.0	11.9	11.9	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.1	12.2
18	11.9	11.9	11.9	12.4	12.4	12.4	12.4	12.4	12.4	12.3	12.1	12.2
19	11.9	11.9	11.9	12.4	12.4	12.4	12.4	12.4	12.4	12.3	12.1	12.2
20	11.9	11.9	11.9	12.4	12.2	12.4	12.6	12.4	12.4	12.2	11.9	12.1
21	12.0	11.9	11.9	12.4	12.4	12.4	12.6	12.3	12.4	12.1	11.9	12.0
22	12.0	11.9	11.9	12.4	12.4	12.4	12.6	12.4	12.4	11.9	11.9	11.9
23	12.0	11.9	12.0	12.4	12.4	12.4	12.6	12.4	12.4	12.1	11.9	11.9
24	12.0	11.9	12.0	12.4	12.4	12.4	12.6	12.3	12.4	11.9	11.9	11.9
25	12.2	11.9	12.0	12.4	12.4	12.4	12.6	12.4	12.4	11.9	11.9	11.9
26	12.2	11.9	12.0	12.4	12.4	12.4	12.6	12.3	12.4	12.1	11.9	11.9
27	12.2	11.9	12.0	12.4	12.4	12.4	12.6	12.3	12.4	11.9	11.9	11.9
28	12.2	11.9	12.0	12.4	12.4	12.4	12.4	12.4	12.4	11.9	11.7	11.9
29	12.2	11.9	12.0	12.4	12.4	12.4	12.4	12.4	12.4	11.9	11.9	11.9
30	12.2	11.9	12.1	12.4	12.4	12.4	12.4	12.4	12.4	11.9	11.7	11.9
31	12.2	12.1	12.2	---	---	---	12.4	12.2	12.4	11.9	11.7	11.8
MONTH	12.2	11.7	11.9	12.4	12.0	12.3	12.6	12.2	12.4	12.6	11.7	12.2

413551083481200 LU-20 NR HOLLAND OH

#2 (21.6' BLS)

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	12.6	12.4	12.4	12.9	12.9	12.9	12.8	12.8	12.8	12.6	12.6	12.6
2	12.5	12.4	12.4	12.9	12.9	12.9	12.9	12.8	12.8	12.6	12.4	12.6
3	12.5	12.4	12.4	12.9	12.9	12.9	12.9	12.8	12.8	12.6	12.4	12.4
4	12.6	12.4	12.4	12.9	12.9	12.9	12.9	12.8	12.8	12.4	12.2	12.4
5	12.6	12.4	12.5	12.9	12.8	12.8	12.8	12.8	12.8	12.4	12.4	12.4
6	12.6	12.4	12.5	12.9	12.8	12.8	12.8	12.8	12.8	12.6	12.4	12.4
7	12.7	12.4	12.6	12.9	12.8	12.8	12.8	12.8	12.8	12.6	12.4	12.4
8	12.7	12.6	12.6	12.9	12.8	12.8	12.8	12.8	12.8	12.4	12.4	12.4
9	12.6	12.6	12.6	12.9	12.8	12.9	12.9	12.8	12.8	12.4	12.4	12.4
10	12.7	12.6	12.6	12.9	12.9	12.9	12.9	12.8	12.8	12.4	12.4	12.4
11	12.6	12.6	12.6	12.9	12.9	12.9	12.9	12.8	12.8	12.4	12.4	12.4
12	12.7	12.6	12.6	12.9	12.9	12.9	12.8	12.6	12.7	12.4	12.1	12.3
13	12.7	12.6	12.6	13.1	12.8	12.9	12.8	12.6	12.7	12.4	11.9	12.1
14	12.7	12.6	12.7	13.1	12.8	12.9	12.8	12.6	12.6	12.1	11.9	12.0
15	12.7	12.6	12.7	12.9	12.8	12.8	12.6	12.6	12.6	12.4	12.1	12.2
16	12.6	12.6	12.6	12.9	12.8	12.8	12.6	12.6	12.6	12.1	12.1	12.1
17	12.6	12.6	12.6	12.9	12.8	12.9	12.6	12.6	12.6	12.1	12.1	12.1
18	12.6	12.6	12.6	12.9	12.8	12.9	12.6	12.6	12.6	12.1	12.1	12.1
19	12.6	12.6	12.6	12.9	12.8	12.9	12.6	12.6	12.6	12.1	11.9	12.1
20	12.6	12.6	12.6	12.9	12.9	12.9	12.6	12.6	12.6	12.1	11.9	11.9
21	12.7	12.6	12.6	12.9	12.9	12.9	12.6	12.6	12.6	11.9	11.9	11.9
22	12.8	12.6	12.7	12.9	12.9	12.9	12.6	12.6	12.6	11.9	11.7	11.9
23	12.9	12.6	12.7	12.9	12.9	12.9	12.6	12.6	12.6	11.9	11.7	11.8
24	12.9	12.6	12.7	12.9	12.9	12.9	12.6	12.6	12.6	11.9	11.7	11.8
25	12.9	12.6	12.8	12.9	12.9	12.9	12.6	12.6	12.6	11.9	11.6	11.7
26	12.9	12.6	12.8	12.9	12.8	12.9	12.6	12.6	12.6	11.7	11.6	11.7
27	12.9	12.6	12.8	12.8	12.8	12.8	12.6	12.6	12.6	11.7	11.7	11.7
28	12.9	12.6	12.8	12.8	12.8	12.8	12.6	12.6	12.6	11.7	11.7	11.7
29	12.9	12.9	12.9	12.9	12.8	12.8	12.6	12.4	12.6	11.7	11.7	11.7
30	12.9	12.9	12.9	12.9	12.8	12.8	12.6	12.4	12.4	11.7	11.7	11.7
31	12.9	12.8	12.9	---	---	---	12.6	12.4	12.5	11.7	11.7	11.7
MONTH	12.9	12.4	12.6	13.1	12.8	12.9	12.9	12.4	12.7	12.6	11.6	12.1

#2 (21.6' BLS)

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	11.7	11.7	11.7	10.4	10.1	10.2	9.6	9.4	9.4	---	---	---
2	11.7	11.5	11.7	10.4	10.2	10.2	9.6	9.4	9.4	10.0	9.8	9.9
3	11.7	11.5	11.6	10.4	10.2	10.2	9.6	9.3	9.4	10.0	9.8	9.8
4	11.7	11.5	11.6	10.2	10.0	10.1	9.6	9.3	9.4	10.0	9.8	9.9
5	11.7	11.5	11.5	10.2	10.0	10.1	9.6	9.4	9.4	10.0	9.8	9.9
6	11.7	11.4	11.5	10.2	9.9	10.1	9.6	9.4	9.4	10.1	9.8	10.0
7	11.7	11.3	11.5	10.2	10.0	10.0	9.6	9.4	9.4	10.0	9.8	10.0
8	11.5	11.2	11.4	10.2	10.0	10.1	9.6	9.2	9.4	10.1	9.8	10.0
9	11.5	11.2	11.3	10.2	10.0	10.1	9.4	9.4	9.4	10.1	9.8	10.0
10	11.2	10.6	10.9	10.2	9.7	9.9	9.4	9.4	9.4	10.0	9.8	9.9
11	10.8	10.6	10.7	10.2	9.7	9.9	9.4	9.4	9.4	10.0	9.8	10.0
12	10.8	10.6	10.7	10.0	9.7	9.9	9.4	9.4	9.4	10.1	9.8	10.0
13	10.8	10.6	10.7	10.2	9.7	9.9	9.5	9.4	9.4	10.0	10.0	10.0
14	10.8	10.6	10.7	10.0	9.7	9.8	9.6	9.4	9.4	10.0	10.0	10.0
15	10.8	10.4	10.6	10.0	9.6	9.8	9.4	9.4	9.4	10.0	9.8	10.0
16	10.8	10.4	10.6	10.0	9.8	9.8	9.4	9.4	9.4	10.0	10.0	10.0
17	10.8	10.4	10.6	10.0	9.6	9.8	9.6	9.4	9.4	10.0	10.0	10.0
18	10.8	10.3	10.6	10.0	9.5	9.7	9.6	9.4	9.4	10.0	10.0	10.0
19	10.6	10.3	10.5	10.0	9.5	9.7	9.6	9.4	9.4	10.0	10.0	10.0
20	10.6	10.1	10.5	10.0	9.6	9.6	9.4	9.4	9.4	10.2	10.0	10.0
21	10.6	10.2	10.5	9.8	9.6	9.6	---	---	---	10.0	10.0	10.0
22	10.6	10.2	10.4	9.8	9.4	9.6	---	---	---	10.0	9.8	10.0
23	10.6	10.1	10.4	9.8	9.4	9.6	---	---	---	10.0	10.0	10.0
24	10.6	10.1	10.3	9.8	9.4	9.5	---	---	---	10.0	10.0	10.0
25	10.5	10.1	10.3	9.8	9.4	9.5	---	---	---	10.0	10.0	10.0
26	10.6	10.1	10.3	9.8	9.4	9.5	---	---	---	10.2	10.0	10.0
27	10.4	10.1	10.2	9.6	9.4	9.5	---	---	---	10.0	10.0	10.0
28	10.4	10.1	10.2	9.8	9.4	9.4	---	---	---	10.1	10.0	10.0
29	---	---	---	9.6	9.4	9.5	---	---	---	10.2	10.0	10.0
30	---	---	---	9.6	9.4	9.5	---	---	---	10.2	10.0	10.0
31	---	---	---	9.6	9.4	9.5	---	---	---	10.2	10.0	10.0
MONTH	11.7	10.1	10.8	10.4	9.4	9.8	9.6	9.2	9.4	10.2	9.8	10.0

413551083481200 LU-20 NR HOLLAND OH

#2 (21.6' BLS)

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	10.2	10.0	10.1	10.2	10.2	10.2	10.7	10.6	10.7	11.5	11.3	11.4
2	10.2	10.2	10.2	10.3	10.2	10.2	10.7	10.6	10.7	11.5	11.3	11.5
3	10.2	10.0	10.2	10.3	10.2	10.2	10.9	10.6	10.7	11.5	11.3	11.5
4	10.2	10.2	10.2	10.3	10.2	10.3	10.9	10.6	10.8	11.5	11.5	11.5
5	10.2	10.2	10.2	10.3	10.2	10.3	10.9	10.7	10.8	11.6	11.5	11.5
6	10.2	10.0	10.1	10.3	10.2	10.3	10.9	10.7	10.9	11.7	11.5	11.6
7	10.2	10.0	10.2	10.3	10.2	10.3	10.9	10.9	10.9	11.8	11.5	11.7
8	10.2	10.0	10.2	10.3	10.2	10.3	10.9	10.8	10.9	11.8	11.5	11.7
9	10.3	10.2	10.2	10.3	10.2	10.3	10.9	10.8	10.9	11.8	11.7	11.7
10	10.3	10.2	10.2	10.5	10.2	10.3	10.9	10.9	10.9	11.7	11.7	11.7
11	10.3	10.2	10.2	10.5	10.2	10.3	10.9	10.9	10.9	11.8	11.7	11.7
12	10.3	10.1	10.2	10.5	10.2	10.3	10.9	10.9	10.9	11.8	11.7	11.7
13	10.3	10.1	10.2	10.5	10.2	10.4	10.9	10.9	10.9	11.8	11.7	11.8
14	10.2	10.2	10.2	10.5	10.2	10.4	10.9	10.9	10.9	11.8	11.7	11.8
15	10.3	10.0	10.2	10.5	10.3	10.4	10.9	10.9	10.9	11.7	11.7	11.7
16	10.3	10.2	10.2	10.5	10.3	10.4	10.9	10.9	10.9	11.7	11.7	11.7
17	10.3	10.1	10.2	10.5	10.3	10.4	11.1	10.9	11.0	12.0	11.7	11.8
18	10.3	10.2	10.3	10.5	10.3	10.4	11.1	10.9	11.0	12.0	11.7	11.8
19	10.3	10.2	10.3	10.5	10.5	10.5	11.1	10.9	11.0	12.0	11.7	11.9
20	10.3	10.2	10.2	10.6	10.4	10.5	11.1	11.1	11.1	12.0	12.0	12.0
21	10.3	10.2	10.2	10.5	10.4	10.5	11.1	11.1	11.1	12.0	12.0	12.0
22	10.3	10.2	10.2	10.6	10.4	10.5	11.3	11.0	11.1	12.0	11.9	12.0
23	10.3	10.2	10.2	10.6	10.4	10.5	11.3	11.1	11.2	12.0	12.0	12.0
24	10.3	10.2	10.2	10.6	10.4	10.5	11.3	11.1	11.2	12.0	11.9	12.0
25	10.3	10.2	10.2	10.7	10.4	10.5	11.3	11.1	11.2	12.0	11.9	12.0
26	10.3	10.2	10.2	10.7	10.5	10.5	11.4	11.1	11.3	12.0	12.0	12.0
27	10.3	10.2	10.2	10.7	10.5	10.6	11.4	11.1	11.3	12.2	11.9	12.1
28	10.3	10.2	10.2	10.7	10.5	10.6	11.4	11.3	11.3	12.2	12.0	12.2
29	10.3	10.2	10.2	10.7	10.6	10.7	11.3	11.3	11.3	12.2	12.1	12.2
30	10.2	10.2	10.2	10.7	10.6	10.7	11.4	11.3	11.3	12.2	12.1	12.2
31	---	---	---	10.7	10.6	10.7	11.5	11.3	11.3	---	---	---
MONTH	10.3	10.0	10.2	10.7	10.2	10.4	11.5	10.6	11.0	12.2	11.3	11.8
YEAR	13.1	9.2	11.2									

#3 (13.6' BLS)

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	14.6	14.3	14.4	14.3	14.1	14.3	12.4	12.4	12.4	10.6	10.2	10.4
2	14.6	14.3	14.4	14.1	14.1	14.1	12.4	12.4	12.4	10.4	10.4	10.4
3	14.4	14.4	14.4	14.1	14.1	14.1	12.4	12.1	12.4	10.4	10.2	10.3
4	14.6	14.3	14.4	14.1	13.8	13.9	12.4	12.1	12.2	10.2	9.6	10.0
5	14.6	14.3	14.4	14.1	13.8	13.9	12.1	12.1	12.1	10.2	9.8	10.0
6	14.6	14.3	14.5	14.1	13.8	13.9	12.4	12.1	12.2	10.2	10.2	10.2
7	14.6	14.3	14.5	13.8	13.8	13.8	12.1	11.9	12.1	10.4	10.2	10.2
8	14.6	14.3	14.5	13.8	13.8	13.8	12.1	11.9	12.0	10.4	10.2	10.3
9	14.6	14.3	14.4	13.8	13.6	13.8	12.1	11.9	11.9	10.4	10.2	10.3
10	14.6	14.3	14.5	13.8	13.6	13.6	11.9	11.9	11.9	10.4	10.1	10.2
11	14.6	14.4	14.6	13.8	13.6	13.6	11.9	11.7	11.9	10.2	10.2	10.2
12	14.6	14.4	14.5	13.9	13.6	13.8	11.9	11.7	11.7	10.2	10.2	10.2
13	14.6	14.4	14.5	13.8	13.1	13.5	11.7	11.7	11.7	10.2	10.0	10.1
14	14.6	14.4	14.5	13.3	13.1	13.2	11.7	11.7	11.7	10.2	10.0	10.2
15	14.6	14.4	14.4	13.1	13.1	13.1	11.7	11.7	11.7	10.2	10.0	10.1
16	14.6	14.4	14.5	13.1	12.8	13.0	11.7	11.5	11.6	10.2	9.9	10.0
17	14.6	14.6	14.6	12.9	12.8	12.9	11.7	11.5	11.5	10.0	9.9	10.0
18	14.6	14.6	14.6	12.9	12.8	12.9	11.5	11.5	11.5	10.2	9.9	10.0
19	14.6	14.3	14.5	12.9	12.6	12.8	11.5	11.2	11.4	10.0	9.8	9.9
20	14.6	14.3	14.5	12.7	12.6	12.6	11.5	11.2	11.4	10.0	9.7	9.9
21	14.6	14.3	14.4	12.7	12.6	12.6	11.5	11.2	11.3	10.0	9.6	9.7
22	14.6	14.3	14.4	12.6	12.6	12.6	11.3	11.2	11.2	9.6	9.4	9.5
23	14.6	14.3	14.4	12.6	12.6	12.6	11.3	11.2	11.2	9.7	9.4	9.6
24	14.4	14.3	14.4	12.6	12.6	12.6	11.2	11.2	11.2	9.6	9.5	9.6
25	14.4	14.3	14.3	12.6	12.4	12.6	11.2	11.0	11.2	9.5	9.3	9.5
26	14.4	14.3	14.3	12.6	12.4	12.6	11.2	11.0	11.1	9.6	9.3	9.4
27	14.4	14.3	14.3	12.6	12.4	12.6	11.2	11.0	11.0	9.4	9.4	9.4
28	14.4	14.3	14.3	12.6	12.4	12.4	11.0	10.8	11.0	9.4	9.4	9.4
29	14.4	14.3	14.3	12.6	12.4	12.4	11.0	10.8	10.9	9.5	9.3	9.3
30	14.3	14.3	14.3	12.4	12.4	12.4	10.9	10.6	10.8	9.4	9.3	9.3
31	14.3	14.3	14.3	---	---	---	10.6	10.2	10.2	9.4	9.1	9.3
MONTH	14.6	14.3	14.4	14.3	12.4	13.2	12.4	10.2	11.6	10.6	9.1	9.9

413551083481200 LU-20 NR HOLLAND OH

#4 (8.6' BLS)
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	16.2	15.9	16.1	14.1	13.8	13.9	11.9	11.7	11.8	9.5	9.3	9.5
2	16.2	15.9	16.0	13.9	13.8	13.8	11.9	11.7	11.7	9.5	9.3	9.4
3	16.0	15.9	16.0	13.9	13.8	13.8	11.7	11.7	11.7	9.5	9.2	9.3
4	16.0	15.9	15.9	13.9	13.6	13.8	11.7	11.5	11.6	9.2	9.0	9.1
5	16.0	15.9	15.9	13.8	13.6	13.7	11.7	11.5	11.6	9.4	9.0	9.2
6	15.9	15.7	15.8	13.8	13.6	13.6	11.7	11.2	11.5	9.4	9.1	9.3
7	15.9	15.6	15.8	13.6	13.5	13.6	11.5	11.2	11.3	9.4	9.1	9.3
8	15.7	15.6	15.7	13.6	13.3	13.5	11.5	11.2	11.3	9.5	9.1	9.3
9	15.7	15.6	15.7	13.6	13.1	13.3	11.5	11.0	11.2	9.4	9.1	9.2
10	15.7	15.6	15.7	13.4	13.1	13.2	11.2	11.0	11.1	9.3	9.1	9.2
11	15.7	15.6	15.6	13.1	13.1	13.1	11.2	11.0	11.1	9.3	9.0	9.1
12	15.7	15.6	15.7	13.1	12.9	13.0	11.2	10.8	11.0	9.3	8.9	9.1
13	15.7	15.4	15.6	13.1	12.8	12.9	11.0	10.8	10.9	9.0	8.7	8.9
14	15.7	15.4	15.5	12.9	12.8	12.8	11.0	10.8	10.8	9.1	8.7	8.9
15	15.4	15.1	15.4	12.8	12.6	12.7	10.8	10.6	10.8	9.1	8.7	8.9
16	15.1	15.1	15.1	12.8	12.6	12.6	10.8	10.6	10.7	9.1	8.5	8.8
17	15.1	15.1	15.1	12.6	12.6	12.6	10.8	10.6	10.7	9.1	8.6	8.8
18	15.1	15.1	15.1	12.6	12.4	12.6	10.8	10.6	10.7	9.0	8.5	8.7
19	15.1	14.8	15.0	12.6	12.4	12.5	10.8	10.6	10.6	8.8	8.5	8.7
20	15.1	14.8	14.9	12.6	12.2	12.4	10.6	10.4	10.6	8.8	8.4	8.6
21	14.9	14.8	14.9	12.4	12.2	12.3	10.6	10.4	10.5	9.0	8.4	8.5
22	14.9	14.6	14.8	12.4	12.2	12.3	10.6	10.4	10.5	8.4	8.0	8.3
23	14.8	14.6	14.7	12.4	11.9	12.1	10.6	10.2	10.4	8.4	8.0	8.3
24	14.6	14.4	14.6	12.2	11.9	12.1	10.6	10.2	10.4	8.4	8.0	8.2
25	14.6	14.3	14.5	12.2	11.9	12.0	10.4	10.1	10.3	8.4	8.0	8.2
26	14.4	14.3	14.3	12.2	11.9	12.0	10.4	10.1	10.2	8.4	7.9	8.1
27	14.4	14.3	14.3	12.1	11.9	11.9	10.4	10.1	10.2	8.4	8.0	8.1
28	14.4	14.1	14.3	11.9	11.9	11.9	10.2	10.0	10.2	8.4	7.8	8.1
29	14.3	14.1	14.2	11.9	11.7	11.8	10.2	10.0	10.1	8.4	7.8	8.0
30	14.3	14.1	14.1	11.9	11.7	11.7	10.2	9.8	10.0	8.4	7.8	8.0
31	14.1	13.8	14.1	---	---	---	10.0	9.4	9.5	8.2	7.6	8.0
MONTH	16.2	13.8	15.2	14.1	11.7	12.8	11.9	9.4	10.8	9.5	7.6	8.7

#4 (8.6' BLS)
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	8.4	7.8	8.0	7.6	7.2	7.4	7.1	6.4	6.7	---	---	---
2	8.0	7.8	7.9	7.6	7.2	7.4	7.1	6.5	6.8	7.5	7.5	7.5
3	8.2	7.6	7.9	7.4	7.1	7.3	7.1	6.5	6.8	7.7	7.5	7.6
4	8.2	7.6	7.9	7.4	6.9	7.2	7.1	6.5	6.8	7.7	7.7	7.7
5	8.2	7.6	7.8	7.4	7.1	7.2	7.1	6.5	6.8	7.7	7.7	7.7
6	8.0	7.6	7.8	7.4	7.0	7.2	7.1	6.6	6.9	7.9	7.6	7.7
7	8.0	7.6	7.8	7.3	6.9	7.1	7.1	6.5	6.9	7.9	7.8	7.9
8	8.0	7.6	7.8	7.1	6.7	7.0	7.1	6.7	7.0	8.1	7.8	7.9
9	8.0	7.6	7.7	7.2	6.7	6.9	7.3	6.7	7.0	8.1	8.0	8.0
10	8.0	7.6	7.8	7.1	6.5	6.9	7.3	6.9	7.1	8.3	8.0	8.1
11	8.0	7.6	7.8	7.1	6.6	6.9	7.3	7.1	7.1	8.5	8.2	8.3
12	8.0	7.6	7.8	7.1	6.4	6.9	7.3	7.1	7.1	8.5	8.4	8.4
13	8.0	7.6	7.8	7.1	6.5	6.8	7.4	7.1	7.2	8.6	8.4	8.5
14	8.0	7.6	7.8	7.1	6.5	6.9	7.3	7.1	7.2	8.6	8.6	8.6
15	8.0	7.6	7.7	7.2	6.5	6.8	7.5	7.1	7.4	8.8	8.6	8.8
16	8.0	7.6	7.7	7.1	6.5	6.8	7.5	7.3	7.4	9.0	8.8	9.0
17	8.0	7.6	7.7	6.9	6.5	6.7	7.5	7.3	7.4	9.2	9.0	9.0
18	7.8	7.4	7.7	7.1	6.5	6.7	7.7	7.3	7.5	9.2	9.2	9.2
19	7.8	7.4	7.6	7.1	6.5	6.8	7.7	7.4	7.6	9.4	9.2	9.3
20	7.8	7.4	7.6	6.9	6.5	6.7	7.7	7.6	7.7	9.4	9.4	9.4
21	7.8	7.4	7.6	6.9	6.4	6.6	---	---	---	9.6	9.4	9.4
22	7.8	7.4	7.6	6.7	6.4	6.5	---	---	---	9.6	9.4	9.6
23	7.8	7.4	7.6	6.9	6.2	6.4	---	---	---	9.6	9.6	9.6
24	7.8	7.2	7.5	6.5	6.0	6.3	---	---	---	9.8	9.6	9.6
25	7.6	7.4	7.5	6.6	6.0	6.3	---	---	---	9.8	9.8	9.8
26	7.6	7.2	7.5	6.6	6.0	6.3	---	---	---	10.0	9.8	9.9
27	7.6	7.2	7.4	6.6	6.2	6.3	---	---	---	10.0	10.0	10.0
28	7.6	7.2	7.4	6.6	6.2	6.4	---	---	---	10.1	10.0	10.0
29	---	---	---	6.9	6.2	6.5	---	---	---	10.2	10.0	10.0
30	---	---	---	6.8	6.2	6.5	---	---	---	10.3	10.0	10.1
31	---	---	---	6.9	6.4	6.7	---	---	---	10.2	10.2	10.2
MONTH	8.4	7.2	7.7	7.6	6.0	6.8	7.7	6.4	7.1	10.3	7.5	8.9

413551083481200 LU-20 NR HOLLAND OH

#4 (8.6' BLS)
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	10.4	10.2	10.2	12.7	12.7	12.7	15.2	15.1	15.2	16.5	16.3	16.5
2	10.2	10.2	10.2	12.9	12.7	12.7	15.5	15.1	15.3	16.5	16.2	16.4
3	10.5	10.2	10.3	13.0	12.9	12.9	15.5	15.4	15.4	16.5	16.2	16.3
4	10.4	10.4	10.4	13.0	12.9	12.9	15.7	15.4	15.4	16.5	16.5	16.5
5	10.6	10.4	10.4	13.2	12.9	12.9	15.7	15.4	15.5	16.5	16.5	16.5
6	10.7	10.4	10.6	13.2	13.1	13.2	15.7	15.4	15.7	16.5	16.5	16.5
7	10.7	10.4	10.6	13.2	13.1	13.2	15.7	15.7	15.7	16.5	16.5	16.5
8	10.9	10.4	10.6	13.4	13.1	13.2	15.7	15.6	15.7	16.5	16.5	16.5
9	10.9	10.6	10.8	13.4	13.1	13.4	15.7	15.7	15.7	16.5	16.5	16.5
10	10.9	10.7	10.8	13.7	13.4	13.6	15.7	15.7	15.7	16.5	16.5	16.5
11	10.9	10.7	10.9	13.7	13.6	13.6	15.7	15.7	15.7	16.7	16.5	16.5
12	10.9	10.9	10.9	13.9	13.6	13.6	15.7	15.7	15.7	16.5	16.5	16.5
13	10.9	10.9	10.9	13.9	13.9	13.9	15.7	15.7	15.7	16.5	16.5	16.5
14	10.9	10.9	10.9	13.9	13.9	13.9	15.7	15.7	15.7	16.5	16.5	16.5
15	11.1	10.9	10.9	13.9	13.9	13.9	15.7	15.7	15.7	16.5	16.5	16.5
16	11.3	11.1	11.1	14.2	13.9	14.1	15.7	15.7	15.7	16.5	16.5	16.5
17	11.4	11.1	11.2	14.4	14.1	14.2	15.7	15.7	15.7	16.5	16.5	16.5
18	11.4	11.3	11.3	14.4	14.4	14.4	16.0	15.7	15.8	16.5	16.5	16.5
19	11.5	11.3	11.4	14.4	14.4	14.4	16.0	15.7	15.8	16.5	16.2	16.5
20	11.5	11.5	11.5	14.6	14.4	14.4	16.0	15.7	16.0	16.5	16.2	16.4
21	11.8	11.5	11.6	14.7	14.6	14.6	16.0	15.9	16.0	16.5	16.2	16.4
22	11.8	11.7	11.8	14.7	14.6	14.6	16.0	15.9	16.0	16.5	16.2	16.3
23	12.0	11.7	11.8	14.9	14.6	14.7	16.0	15.9	16.0	16.5	16.2	16.3
24	12.0	11.8	11.9	14.9	14.7	14.9	16.0	16.0	16.0	16.5	16.2	16.3
25	12.0	11.7	12.0	14.9	14.9	14.9	16.3	16.0	16.0	16.5	16.2	16.2
26	12.5	11.7	12.2	14.9	14.9	14.9	16.2	16.0	16.1	16.2	16.2	16.2
27	12.5	12.4	12.4	14.9	14.9	14.9	16.3	16.0	16.2	16.2	16.2	16.2
28	12.5	12.4	12.4	14.9	14.9	14.9	16.3	16.0	16.2	16.2	15.9	16.2
29	12.7	12.4	12.5	15.2	14.9	15.0	16.3	16.2	16.2	16.2	15.9	16.1
30	12.7	12.6	12.7	15.2	14.9	15.1	16.5	16.2	16.3	16.2	15.9	16.0
31	---	---	---	15.2	15.1	15.2	16.5	16.2	16.4	---	---	---
MONTH	12.7	10.2	11.2	15.2	12.7	14.0	16.5	15.1	15.8	16.7	15.9	16.4
YEAR	16.7	6.0	11.4									

SOIL TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	16.7	11.9	14.1	8.2	7.8	8.0	3.8	3.4	3.6	4.3	2.1	2.9
2	17.2	13.1	15.0	10.5	7.7	9.2	4.0	3.1	3.5	2.0	1.4	1.6
3	18.5	14.4	16.2	10.7	8.3	9.6	3.7	2.7	3.2	5.1	1.3	2.3
4	17.6	15.2	16.3	10.2	7.9	9.5	3.4	2.6	2.9	8.5	5.3	7.3
5	16.8	13.4	15.0	7.8	6.9	7.4	2.7	2.0	2.3	8.4	4.0	5.8
6	16.7	12.3	14.3	6.8	5.5	6.2	2.0	1.5	1.6	3.9	2.7	3.3
7	16.4	11.9	14.1	6.0	4.3	5.2	1.5	1.4	1.4	2.6	2.0	2.3
8	14.8	12.9	14.0	5.5	3.9	4.7	1.5	1.4	1.4	2.3	1.9	2.1
9	14.0	12.3	13.1	6.3	4.7	5.4	1.6	1.4	1.5	1.8	1.4	1.5
10	13.5	11.7	12.7	8.0	6.3	7.1	1.9	1.6	1.7	1.4	1.2	1.3
11	12.5	11.3	12.0	9.3	8.0	8.8	2.1	2.0	2.1	1.2	1.2	1.2
12	12.7	9.9	11.2	11.3	8.9	9.9	2.5	2.1	2.3	1.3	1.2	1.2
13	12.5	8.9	10.6	8.6	4.8	6.5	3.1	2.4	2.7	1.5	1.2	1.3
14	15.0	10.6	12.5	4.6	3.5	4.0	3.2	1.8	2.4	1.6	1.5	1.5
15	14.7	13.6	14.1	4.6	3.3	3.8	4.7	2.6	3.4	1.5	1.4	1.5
16	14.5	11.4	13.8	3.8	2.7	3.2	6.1	4.9	5.5	1.4	1.2	1.3
17	12.1	9.0	10.5	5.9	3.3	4.8	5.0	3.8	4.4	1.2	1.2	1.2
18	9.7	7.9	8.9	6.4	4.8	5.6	3.8	2.8	3.4	1.2	.9	1.1
19	8.5	5.7	7.1	5.9	4.1	4.9	4.4	2.6	3.4	.9	.7	.8
20	6.9	5.6	6.0	7.9	5.2	6.4	4.2	2.0	2.9	.7	.5	.6
21	10.5	6.5	8.1	10.1	7.5	8.8	1.9	1.3	1.5	.5	.4	.5
22	10.6	6.0	8.2	9.0	7.9	8.5	1.3	1.2	1.2	.5	.4	.5
23	12.5	8.2	10.1	8.1	7.4	8.0	2.4	1.3	1.6	.6	.5	.6
24	14.2	11.7	12.6	7.3	6.7	7.0	1.7	1.0	1.3	1.2	.7	1.0
25	12.0	9.0	10.5	7.6	6.6	7.1	1.0	.7	.8	.9	.8	.8
26	11.8	8.6	10.1	7.5	5.8	6.7	.7	.4	.5	.8	.6	.6
27	11.9	8.2	9.9	5.7	4.8	5.2	.4	.1	.2	.6	.6	.6
28	11.1	7.6	9.4	4.7	3.8	4.4	.4	.2	.3	.6	.6	.6
29	10.7	9.4	9.9	4.5	3.2	3.7	1.0	.4	.5	.6	.6	.6
30	9.7	8.9	9.3	4.0	3.2	3.6	8.2	1.2	3.9	.6	.4	.5
31	9.1	7.1	8.2	---	---	---	8.6	4.5	7.1	.5	.4	.4
MONTH	18.5	5.6	11.5	11.3	2.7	6.4	8.6	.1	2.4	8.5	.4	1.6

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY SUM VALUES

[illegible]

GROUND-WATER RECORDS

413547083481400. Local number, LU-23.

LOCATION.--Lat 41°35'47" Long 83°48'14", Hydrologic Unit 04100009, along State Route 2 near Holland, OH.
Owner.--USGS-Toledo Express Airport.

AQUIFER.--Sand of Quaternary age.

WELL CHARACTERISTICS.--Observation well drilled by hollow stem auger, diameter 4.0 in., depth 29.4 ft. Cased with Sch 40 PVC to 4.4 ft; .010 in. screen from 4.4 to 29.4 ft.

INSTRUMENTATION - Data logger--60 minute record. At this well there are 4 conductivity/water temperature probes at increasing depths within the well to better document vertical movement of high conductivity water on an hourly basis. Conductivity/water temperature probes are set at 6.9 (level 4), 10.4 (level 3), 16.9 (level 2), and 25.4 (level 1) feet below land surface.

DATUM.--Elevation of land-surface datum is 676.97 feet above sea level.
Measuring point: shelter floor 0.58 ft above land-surface datum.

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

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (FOUR LEVELS): February 1991 to current year.

WATER TEMPERATURE (FOUR LEVELS): February 1991 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE:

LEVEL 1- Maximum, 1630 microsiemens July 16 and 17, 1991; minimum, 441 microsiemens March 2-3, 1992.

LEVEL 2- Maximum, 1790 microsiemens July 15, 1991; minimum, 462 microsiemens September 11, 1991.

LEVEL 3- Maximum, 1530 microsiemens July 22 and 23, 1991; minimum, 413 microsiemens October 8, 1991.

LEVEL 4- Maximum, 1030 microsiemens August 3 and 4, 1991; minimum, 107 microsiemens August 31, 1991.

WATER TEMPERATURE:

LEVEL 1- Maximum, 13.9°C many days in 1991; minimum, 11.1°C many days April, May, June, 1993.

LEVEL 2- Maximum, 15.4°C October 30, November 11, 16, 1991; minimum, 9.6°C April 2, 7, 13, 18, 1993.

LEVEL 3- Maximum, 17.5°C many days in 1991; minimum, 7.9°C March 29-30, 1993.

LEVEL 4- Maximum, 19.0°C many days in 1991; minimum, 7.4°C March 25-29, 1993.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE:

LEVEL 1- Maximum, 936 microsiemens September 30, 1993; minimum, 447 microsiemens January 1, 1993.

LEVEL 2- Maximum, 753 microsiemens September 30, 1993; minimum, 480 microsiemens January 1-2, 1993.

LEVEL 3- Maximum, 652 microsiemens September 30, 1993; minimum, 424 microsiemens December 31, 1992.

LEVEL 4- Maximum, 674 microsiemens September 30, 1993; minimum, 418 microsiemens January 22, 1993.

WATER TEMPERATURE:

LEVEL 1- Maximum, 13.7°C November 20-21, 1992; minimum, 11.1°C many days April, May, June, 1993.

LEVEL 2- Maximum, 14.4°C many days October, November, 1992; minimum, 9.6°C April 2, 7, 13, 18, 1993.

LEVEL 3- Maximum, 16.5°C many days in September 1993; minimum, 7.9°C March 29-30, 1993.

LEVEL 4- Maximum, 17.4°C September 8-15, 17, 1993; minimum, 7.4°C March 25-29, 1993.

413547083481400 LU-23 NR HOLLAND OH

#1 (25.4' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	546	543	545	552	547	550	458	447	450
2	---	---	---	545	542	543	550	546	547	454	448	451
3	---	---	---	545	540	543	551	549	550	462	454	457
4	---	---	---	547	544	545	552	550	550	483	460	467
5	---	---	---	554	542	546	551	545	548	491	463	472
6	---	---	---	546	541	543	547	545	546	477	465	471
7	---	---	---	545	541	542	547	545	546	490	476	483
8	---	---	---	547	541	543	547	544	545	495	487	492
9	---	---	---	547	542	544	547	544	545	500	494	497
10	---	---	---	549	542	545	548	544	545	503	498	500
11	---	---	---	551	545	548	546	544	545	505	499	503
12	---	---	---	551	546	549	545	543	544	507	504	505
13	---	---	---	550	547	548	545	542	543	506	503	504
14	---	---	---	551	550	551	545	542	544	508	501	504
15	539	535	538	551	550	550	550	542	544	517	508	512
16	540	537	539	550	549	550	544	542	543	524	517	521
17	540	535	538	552	549	550	545	543	544	528	525	526
18	542	537	538	552	550	551	545	543	544	528	527	528
19	542	538	540	553	550	551	545	543	544	528	527	527
20	541	538	540	552	548	550	545	541	543	528	527	527
21	543	540	541	552	546	550	542	540	541	571	524	531
22	542	540	541	552	547	549	543	540	541	580	478	527
23	544	540	541	550	546	549	542	538	540	478	472	474
24	544	540	542	549	547	548	542	537	539	486	478	482
25	545	542	543	549	547	548	540	536	537	495	486	490
26	545	539	542	550	547	548	537	533	535	511	495	502
27	544	542	543	552	547	550	536	531	533	531	512	521
28	544	539	543	552	550	551	532	526	530	553	532	541
29	545	543	544	552	550	551	528	510	520	572	554	563
30	545	544	544	552	550	551	512	503	508	589	573	581
31	545	544	545	---	---	---	523	461	496	601	590	596
MONTH	545	535	541	554	540	548	552	461	540	601	447	507

#1 (25.4' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	606	601	603	562	559	560	580	575	577	615	610	613
2	613	605	608	560	551	557	597	579	588	614	609	612
3	616	610	613	550	534	543	605	595	602	612	606	609
4	618	613	616	533	531	532	605	599	602	610	605	608
5	621	618	619	535	531	533	599	592	596	608	602	606
6	624	619	622	534	531	532	592	584	588	606	600	604
7	627	621	625	532	528	531	586	577	581	604	598	602
8	628	627	628	527	519	523	580	570	576	602	596	600
9	629	628	628	522	518	520	575	570	572	600	594	598
10	630	629	629	520	517	518	577	569	571	597	592	596
11	629	627	628	520	516	517	585	576	581	596	591	594
12	628	622	627	518	514	516	589	582	586	594	590	593
13	622	612	616	515	514	514	592	586	589	593	589	592
14	613	609	611	518	515	516	594	590	592	593	589	591
15	608	604	606	521	516	519	596	591	593	592	588	591
16	604	600	602	525	521	523	595	591	594	592	587	591
17	599	595	597	522	511	516	595	593	594	592	587	591
18	595	591	593	512	508	511	598	591	594	592	588	590
19	591	587	589	519	512	515	601	596	599	592	588	591
20	589	583	586	522	519	521	605	599	602	592	587	590
21	585	582	584	524	515	520	607	603	606	592	587	590
22	584	575	581	514	507	510	609	604	607	591	586	589
23	578	572	575	510	507	507	609	603	607	589	588	588
24	574	568	571	510	507	508	608	603	606	588	582	585
25	571	567	569	516	507	511	606	599	604	585	578	582
26	569	566	567	529	516	522	616	605	610	581	574	578
27	566	564	565	546	530	538	621	616	618	577	572	575
28	564	561	563	561	547	553	622	617	620	575	568	572
29	---	---	---	572	560	565	621	615	619	572	564	568
30	---	---	---	578	570	573	618	612	616	568	562	565
31	---	---	---	581	575	578	---	---	---	566	558	562
MONTH	630	561	601	581	507	529	622	569	596	615	558	591

413547083481400 LU-23 NR HOLLAND OH

#1 (25.4' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	558	535	553	512	508	510	554	552	553	692	683	685
2	553	548	552	512	506	510	556	551	555	699	688	693
3	552	547	550	509	504	507	558	554	557	706	696	700
4	551	546	549	508	504	506	560	555	558	711	704	707
5	550	541	547	507	503	505	562	558	560	716	709	713
6	543	536	539	507	504	505	565	560	562	723	718	720
7	539	534	537	508	503	505	567	563	565	731	721	726
8	536	523	529	508	504	505	569	564	567	740	728	733
9	525	517	520	511	504	507	573	567	570	747	736	740
10	520	514	516	513	509	511	575	571	573	755	745	749
11	517	512	514	515	511	512	577	572	576	762	754	757
12	516	513	514	515	512	513	586	575	580	775	762	766
13	517	513	514	516	512	514	590	586	588	781	771	775
14	518	515	516	518	514	515	596	589	591	789	780	785
15	518	514	516	520	516	517	597	590	594	801	790	794
16	518	514	515	521	517	519	597	589	594	811	802	806
17	518	514	515	523	519	521	601	595	598	821	812	815
18	518	514	515	525	522	523	603	590	596	833	821	825
19	519	515	516	527	525	526	604	593	596	844	833	836
20	519	516	517	533	528	529	610	598	605	852	843	846
21	519	512	515	536	531	533	622	609	616	863	853	856
22	514	509	512	539	534	536	627	618	622	873	861	866
23	513	510	511	541	536	537	631	625	629	883	871	876
24	511	510	511	543	538	540	640	624	632	891	878	883
25	512	508	510	543	540	542	645	639	642	899	886	892
26	512	506	510	543	542	542	653	646	649	910	897	902
27	512	506	509	547	544	545	660	651	656	913	908	911
28	510	506	509	549	545	547	668	658	663	923	914	918
29	509	506	508	551	547	548	674	668	670	930	923	926
30	511	507	509	550	548	549	680	672	676	936	929	932
31	---	---	---	553	551	551	689	681	685	---	---	---
MONTH	558	506	522	553	503	524	689	551	603	936	683	804
YEAR	936	447	576									

#2 (16.9' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	518	514	516	534	533	533	487	480	482
2	---	---	---	519	514	515	535	534	534	489	480	485
3	---	---	---	521	514	517	535	534	534	495	489	492
4	---	---	---	520	516	518	535	535	535	497	495	496
5	---	---	---	541	515	525	536	535	535	499	495	496
6	---	---	---	544	536	540	539	536	536	514	500	507
7	---	---	---	538	530	533	539	536	538	527	515	521
8	---	---	---	534	528	530	540	539	539	534	526	530
9	---	---	---	528	525	527	540	539	539	540	533	536
10	---	---	---	528	524	526	541	540	540	543	538	540
11	---	---	---	530	525	528	540	539	540	545	539	542
12	---	---	---	530	525	529	540	539	539	547	544	545
13	---	---	---	534	523	529	539	538	539	544	540	542
14	---	---	---	532	530	531	541	538	539	546	541	543
15	523	516	519	531	530	530	542	537	540	556	547	551
16	518	513	515	532	531	531	542	541	542	567	556	561
17	514	508	511	531	529	530	542	540	541	570	565	568
18	511	505	507	529	529	529	541	538	540	570	567	569
19	508	503	505	529	528	528	540	538	539	571	566	569
20	506	502	504	531	528	529	539	535	536	571	568	569
21	507	502	504	531	528	530	538	535	537	644	564	581
22	507	503	505	531	517	527	541	535	537	636	502	542
23	509	503	505	520	515	517	541	535	538	513	499	504
24	508	504	506	523	520	521	541	535	538	523	511	517
25	510	505	507	524	523	523	540	538	539	536	522	528
26	511	506	508	526	524	525	541	538	539	558	534	545
27	512	508	510	529	526	527	540	538	539	581	559	569
28	513	509	511	531	527	529	542	538	539	607	582	593
29	513	511	512	532	528	531	543	539	541	630	608	619
30	515	512	513	533	532	532	544	536	541	649	629	639
31	517	513	515	---	---	---	536	488	520	663	649	656
MONTH	523	502	509	544	514	527	544	488	538	663	480	546

413547083481400 LU-23 NR HOLLAND OH

#3 (10.4' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	464	457	462	475	473	474	432	425	429
2	---	---	---	457	452	454	477	473	474	437	432	435
3	---	---	---	453	449	451	477	473	475	443	437	439
4	---	---	---	455	452	454	477	474	476	444	440	442
5	---	---	---	467	455	461	478	474	476	449	441	445
6	---	---	---	473	467	470	478	476	477	465	450	457
7	---	---	---	479	473	476	479	476	477	474	465	469
8	---	---	---	481	477	480	479	476	478	482	473	477
9	---	---	---	480	479	480	479	476	478	486	480	483
10	---	---	---	480	477	479	481	478	479	489	484	486
11	---	---	---	479	477	478	482	479	480	491	486	488
12	---	---	---	477	471	475	481	479	480	494	487	491
13	---	---	---	471	470	470	480	478	479	488	484	486
14	---	---	---	472	470	471	479	477	478	497	486	491
15	487	482	486	472	471	472	484	477	480	506	496	500
16	484	482	483	474	472	473	485	481	483	514	506	510
17	482	473	478	476	473	474	484	481	482	516	511	514
18	476	472	474	476	472	474	483	479	482	517	513	514
19	473	471	472	475	474	475	482	479	481	515	511	513
20	471	466	468	474	471	474	480	478	479	516	512	514
21	468	464	466	476	473	474	480	477	479	600	505	531
22	465	462	463	476	459	469	483	477	479	547	430	456
23	464	459	462	464	458	461	483	477	480	459	444	450
24	462	458	460	466	463	465	482	479	480	468	459	464
25	463	459	460	467	466	467	484	479	481	481	467	474
26	462	459	460	469	467	468	483	479	481	505	481	492
27	462	458	460	469	468	469	484	480	482	525	505	513
28	463	458	461	472	469	470	483	481	482	548	522	535
29	461	461	461	473	470	472	485	482	483	569	548	557
30	464	461	462	475	471	473	484	476	480	588	568	577
31	464	461	463	---	---	---	478	424	456	599	586	593
MONTH	487	458	467	481	449	470	485	424	478	600	425	491

#3 (10.4' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	604	596	600	556	551	553	575	568	571	605	602	603
2	610	601	606	556	540	551	591	575	583	603	598	601
3	616	607	612	540	517	532	596	591	594	601	597	599
4	618	611	614	521	516	519	594	585	590	600	595	598
5	622	614	618	521	517	519	588	580	584	596	591	594
6	623	616	620	520	514	517	581	572	577	594	589	592
7	626	620	624	518	512	515	573	566	569	593	588	590
8	627	623	625	511	498	504	569	561	565	592	586	588
9	627	623	626	502	496	498	565	559	561	587	585	586
10	628	624	626	497	493	495	567	558	561	586	581	584
11	626	623	624	501	492	496	573	567	570	585	580	583
12	624	618	622	501	493	496	577	571	574	584	580	582
13	620	608	614	503	495	499	581	575	577	584	580	582
14	609	603	606	505	498	501	583	577	580	584	580	581
15	604	597	600	510	501	506	584	579	581	584	580	581
16	600	591	596	514	500	509	582	577	579	582	578	581
17	593	587	591	498	487	492	580	576	578	583	579	580
18	590	582	586	497	488	493	586	578	581	583	580	580
19	585	579	583	507	498	502	589	584	586	581	578	581
20	584	577	580	508	503	506	592	586	589	582	578	580
21	580	574	577	509	489	498	596	589	593	582	578	580
22	577	570	573	492	486	489	598	594	596	582	578	579
23	572	565	569	493	488	490	598	593	595	581	576	578
24	568	562	564	492	484	487	597	591	594	576	571	575
25	565	558	562	504	490	497	596	585	591	574	568	572
26	563	557	559	524	505	513	607	594	600	571	564	566
27	559	553	557	541	522	531	611	604	607	565	562	563
28	557	552	555	555	540	548	612	607	609	562	556	560
29	---	---	---	568	555	560	611	605	608	559	552	556
30	---	---	---	572	564	568	609	603	605	555	550	553
31	---	---	---	576	571	574	---	---	---	554	547	550
MONTH	628	552	596	576	484	515	612	558	585	605	547	580

413547083481400 LU-23 NR HOLLAND OH

#3 (10.4' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	546	519	542	491	488	490	482	478	481	538	533	535
2	543	538	541	492	489	490	483	478	480	541	536	539
3	541	537	539	492	486	490	483	480	481	547	542	545
4	540	536	539	490	486	488	481	477	480	550	544	546
5	539	534	536	488	484	486	481	478	479	552	547	550
6	535	525	532	486	485	486	482	476	479	555	551	553
7	527	522	525	488	482	484	480	477	480	558	553	556
8	523	513	518	484	481	483	482	478	480	559	555	557
9	514	506	509	491	482	486	483	479	481	560	555	557
10	509	504	506	491	485	488	484	481	483	561	556	558
11	504	499	503	490	485	487	485	482	483	565	558	560
12	503	499	502	490	479	483	486	482	485	564	562	563
13	503	500	501	480	477	479	488	485	487	571	564	569
14	502	499	501	481	478	480	490	487	489	578	568	572
15	502	498	500	482	478	480	492	488	490	586	578	581
16	502	498	500	481	477	479	491	488	489	588	586	587
17	501	497	498	482	477	480	494	490	492	592	587	589
18	499	496	498	482	478	480	494	491	493	594	589	592
19	500	496	498	483	477	480	497	494	495	595	591	594
20	501	498	499	480	476	479	501	495	498	602	595	599
21	501	497	499	482	477	479	504	499	501	604	600	603
22	500	495	497	485	481	483	507	502	504	612	605	608
23	496	493	495	484	478	482	509	505	507	615	610	613
24	496	492	495	483	480	482	516	507	510	622	615	619
25	496	492	494	485	481	483	517	511	515	624	623	624
26	495	490	492	481	477	479	518	515	516	633	624	630
27	494	490	491	483	478	481	521	517	519	640	633	635
28	494	489	492	484	480	481	524	519	521	643	640	641
29	492	489	491	486	480	483	527	522	525	650	643	648
30	493	490	491	487	479	481	530	525	528	652	648	651
31	---	---	---	481	478	480	535	527	531	---	---	---
MONTH	546	489	507	492	476	483	535	476	496	652	533	586
YEAR	652	424	523									

#4 (6.9' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	482	474	480	492	491	492	450	439	446
2	---	---	---	474	471	473	495	492	493	454	448	451
3	---	---	---	472	468	471	495	491	494	459	453	456
4	---	---	---	473	470	471	495	493	494	459	457	458
5	---	---	---	487	472	480	497	494	495	467	456	460
6	---	---	---	492	485	489	498	495	496	482	468	475
7	---	---	---	498	493	495	497	496	497	493	483	488
8	---	---	---	499	497	498	497	496	496	499	493	496
9	---	---	---	501	498	500	497	495	496	504	499	501
10	---	---	---	500	497	499	501	495	497	506	503	504
11	---	---	---	497	494	495	499	496	498	507	505	506
12	---	---	---	495	487	491	498	497	497	510	504	508
13	---	---	---	490	486	488	497	495	496	504	500	502
14	---	---	---	491	487	490	498	494	496	512	503	507
15	511	505	508	493	490	491	503	495	499	524	512	519
16	507	503	506	494	490	493	504	501	502	532	523	528
17	503	499	501	493	492	493	503	499	501	534	531	533
18	500	488	495	494	491	492	502	499	501	534	531	533
19	490	484	488	494	491	493	501	497	500	534	531	532
20	484	482	483	493	489	492	498	497	497	534	530	532
21	484	480	482	492	489	491	499	497	498	608	522	543
22	483	478	480	491	472	483	500	496	498	553	418	457
23	482	477	479	481	472	476	500	496	498	473	455	464
24	480	476	479	483	478	482	500	496	498	482	475	479
25	481	477	479	485	483	484	500	497	499	498	484	490
26	480	476	478	486	485	486	500	498	499	523	499	510
27	480	476	479	490	486	487	502	498	500	542	523	531
28	481	478	479	491	487	490	502	499	501	566	542	553
29	482	479	481	491	491	491	502	501	501	589	567	578
30	482	481	481	492	491	491	502	491	496	608	589	598
31	482	481	481	---	---	---	494	437	470	621	608	614
MONTH	511	476	486	501	468	488	504	437	497	621	418	508

413547083481400 LU-23 NR HOLLAND OH

#1 (25.4' BLS)
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	13.2	13.2	13.2	13.4	13.4	13.4	13.1	13.1	13.1
2	---	---	---	13.2	13.2	13.2	13.4	13.4	13.4	13.1	13.1	13.1
3	---	---	---	13.4	13.2	13.2	13.4	13.4	13.4	13.2	12.9	13.1
4	---	---	---	13.2	13.1	13.2	13.4	13.4	13.4	13.2	12.9	13.0
5	---	---	---	13.4	13.1	13.2	13.4	13.4	13.4	13.1	12.9	12.9
6	---	---	---	13.4	13.1	13.3	13.4	13.4	13.4	13.1	12.9	12.9
7	---	---	---	13.4	13.2	13.4	13.4	13.4	13.4	13.1	12.9	13.0
8	---	---	---	13.4	13.2	13.4	13.4	13.4	13.4	13.1	12.9	13.0
9	---	---	---	13.4	13.2	13.3	13.4	13.4	13.4	13.1	12.9	13.0
10	---	---	---	13.4	13.2	13.4	13.4	13.4	13.4	13.1	12.9	13.0
11	---	---	---	13.4	13.2	13.3	13.4	13.4	13.4	13.1	12.9	13.0
12	---	---	---	13.4	13.2	13.3	13.4	13.4	13.4	12.9	12.9	12.9
13	---	---	---	13.4	13.4	13.4	13.4	13.4	13.4	12.9	12.9	12.9
14	---	---	---	13.4	13.4	13.4	13.4	13.4	13.4	12.9	12.9	12.9
15	13.2	13.0	13.0	13.4	13.4	13.4	13.4	13.4	13.4	12.9	12.9	12.9
16	13.0	12.9	12.9	13.4	13.4	13.4	13.4	13.4	13.4	12.9	12.9	12.9
17	13.2	12.9	13.0	13.4	13.4	13.4	13.4	13.4	13.4	12.9	12.9	12.9
18	13.2	12.9	13.1	13.4	13.4	13.4	13.4	13.4	13.4	12.9	12.9	12.9
19	13.2	12.9	13.1	13.4	13.4	13.4	13.4	13.4	13.4	12.9	12.9	12.9
20	13.2	13.1	13.1	13.7	13.4	13.4	13.4	13.4	13.4	12.9	12.9	12.9
21	13.2	12.9	13.1	13.7	13.4	13.4	13.4	13.4	13.4	12.9	12.5	12.8
22	13.2	13.1	13.2	13.4	13.4	13.4	13.4	13.4	13.4	12.7	12.5	12.6
23	13.2	13.0	13.2	13.4	13.4	13.4	13.4	13.4	13.4	12.7	12.7	12.7
24	13.2	13.0	13.1	13.4	13.4	13.4	13.4	13.4	13.4	12.7	12.7	12.7
25	13.2	13.0	13.1	13.4	13.4	13.4	13.4	13.4	13.4	12.7	12.6	12.7
26	13.4	13.0	13.2	13.4	13.4	13.4	13.4	13.4	13.4	12.9	12.6	12.7
27	13.2	13.1	13.2	13.4	13.4	13.4	13.4	13.1	13.4	12.7	12.7	12.7
28	13.4	13.1	13.2	13.4	13.4	13.4	13.4	13.2	13.3	12.7	12.7	12.7
29	13.2	13.2	13.2	13.4	13.4	13.4	13.4	13.1	13.2	12.7	12.6	12.7
30	13.2	13.2	13.2	13.4	13.4	13.4	13.2	13.2	13.2	12.7	12.6	12.7
31	13.2	13.1	13.2	---	---	---	13.2	12.9	13.1	12.7	12.5	12.6
MONTH	13.4	12.9	13.1	13.7	13.1	13.4	13.4	12.9	13.4	13.2	12.5	12.9

#1 (25.4' BLS)
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	12.7	12.5	12.7	12.2	12.0	12.2	11.5	11.5	11.5	11.4	11.1	11.2
2	12.7	12.4	12.6	12.2	12.0	12.2	11.5	11.3	11.4	11.4	11.1	11.2
3	12.7	12.4	12.6	12.2	12.2	12.2	11.5	11.3	11.4	11.4	11.1	11.3
4	12.7	12.4	12.6	12.2	12.2	12.2	11.5	11.3	11.4	11.4	11.1	11.2
5	12.5	12.4	12.5	12.2	12.0	12.2	11.5	11.3	11.3	11.4	11.1	11.2
6	12.7	12.4	12.5	12.3	12.0	12.1	11.6	11.3	11.4	11.4	11.1	11.2
7	12.6	12.4	12.5	12.2	12.0	12.1	11.6	11.3	11.4	11.4	11.1	11.2
8	12.5	12.4	12.4	12.2	12.0	12.2	11.6	11.1	11.4	11.4	11.1	11.2
9	12.5	12.4	12.4	12.2	12.0	12.0	11.4	11.1	11.2	11.4	11.1	11.2
10	12.5	12.4	12.4	12.0	12.0	12.0	11.4	11.1	11.3	11.4	11.1	11.2
11	12.5	12.4	12.4	12.0	11.8	11.9	11.3	11.1	11.2	11.4	11.1	11.2
12	12.5	12.4	12.4	12.0	11.8	11.9	11.4	11.1	11.2	11.4	11.1	11.2
13	12.5	12.4	12.4	12.0	12.0	12.0	11.4	11.1	11.2	11.4	11.1	11.2
14	12.5	12.4	12.4	12.0	11.8	11.9	11.4	11.1	11.2	11.4	11.1	11.2
15	12.5	12.4	12.4	12.0	11.8	11.9	11.4	11.1	11.3	11.4	11.1	11.2
16	12.5	12.4	12.4	12.0	11.8	11.8	11.4	11.1	11.2	11.4	11.1	11.2
17	12.5	12.4	12.4	12.0	11.7	11.9	11.1	11.1	11.1	11.4	11.1	11.2
18	12.4	12.4	12.4	12.0	11.7	11.8	11.4	11.1	11.2	11.4	11.1	11.2
19	12.5	12.4	12.4	11.8	11.7	11.8	11.4	11.1	11.2	11.4	11.1	11.2
20	12.5	12.2	12.4	11.8	11.8	11.8	11.4	11.1	11.2	11.4	11.1	11.2
21	12.5	12.2	12.3	11.8	11.6	11.7	11.4	11.1	11.1	11.4	11.1	11.2
22	12.4	12.2	12.3	11.8	11.6	11.8	11.4	11.1	11.2	11.4	11.1	11.2
23	12.4	12.2	12.3	11.8	11.5	11.8	11.4	11.1	11.2	11.2	11.1	11.2
24	12.4	12.2	12.3	11.8	11.5	11.6	11.4	11.1	11.2	11.4	11.2	11.3
25	12.4	12.2	12.3	11.6	11.5	11.6	11.4	11.1	11.2	11.4	11.1	11.2
26	12.2	12.2	12.2	11.6	11.5	11.6	11.4	11.1	11.2	11.4	11.1	11.2
27	12.2	12.2	12.2	11.6	11.4	11.6	11.4	11.1	11.2	11.4	11.1	11.2
28	12.2	12.2	12.2	11.6	11.4	11.5	11.4	11.1	11.2	11.4	11.1	11.2
29	---	---	---	11.6	11.4	11.5	11.4	11.1	11.2	11.4	11.1	11.2
30	---	---	---	11.6	11.4	11.5	11.4	11.1	11.2	11.4	11.1	11.3
31	---	---	---	11.6	11.4	11.5	---	---	---	11.2	11.1	11.2
MONTH	12.7	12.2	12.4	12.3	11.4	11.9	11.6	11.1	11.3	11.4	11.1	11.2

413547083481400 LU-23 NR HOLLAND OH

#1 (25.4' BLS)
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	13.0	11.1	11.3	11.6	11.4	11.5	11.6	11.6	11.6	12.1	11.8	12.0
2	11.4	11.1	11.2	11.6	11.4	11.4	11.8	11.6	11.7	12.1	11.8	12.0
3	11.4	11.1	11.2	11.6	11.4	11.5	11.8	11.6	11.6	12.3	11.8	12.1
4	11.4	11.1	11.2	11.6	11.4	11.5	11.9	11.6	11.7	12.3	12.0	12.1
5	11.4	11.1	11.2	11.7	11.4	11.5	11.9	11.6	11.7	12.3	12.0	12.1
6	11.4	11.1	11.3	11.6	11.4	11.6	11.9	11.6	11.7	12.0	12.0	12.0
7	11.4	11.1	11.2	11.6	11.4	11.5	11.9	11.6	11.7	12.3	12.0	12.1
8	11.4	11.2	11.3	11.7	11.4	11.6	11.9	11.6	11.7	12.3	12.0	12.1
9	11.4	11.2	11.4	11.6	11.4	11.5	11.9	11.6	11.7	12.3	12.0	12.2
10	11.4	11.2	11.3	11.6	11.4	11.5	11.9	11.6	11.7	12.3	12.0	12.2
11	11.4	11.1	11.3	11.7	11.4	11.5	11.9	11.6	11.7	12.3	12.0	12.2
12	11.4	11.1	11.3	11.6	11.4	11.5	11.9	11.6	11.8	12.5	12.0	12.3
13	11.4	11.1	11.4	11.7	11.4	11.5	11.9	11.6	11.8	12.3	12.3	12.3
14	11.4	11.2	11.3	11.6	11.4	11.5	11.9	11.6	11.8	12.5	12.1	12.3
15	11.4	11.1	11.3	11.6	11.4	11.5	11.9	11.6	11.8	12.5	12.2	12.3
16	11.4	11.2	11.4	11.7	11.4	11.5	11.9	11.6	11.8	12.3	12.2	12.3
17	11.4	11.2	11.4	11.6	11.4	11.5	11.9	11.8	11.8	12.5	12.2	12.3
18	11.4	11.2	11.4	11.7	11.4	11.5	12.1	11.8	11.9	12.5	12.2	12.4
19	11.4	11.2	11.3	11.6	11.4	11.5	12.1	11.8	11.9	12.5	12.2	12.4
20	11.4	11.2	11.4	11.6	11.4	11.5	12.1	11.8	11.9	12.5	12.2	12.3
21	11.6	11.2	11.4	11.6	11.4	11.5	12.1	11.8	11.9	12.5	12.2	12.3
22	11.6	11.2	11.4	11.7	11.4	11.5	12.1	11.8	11.9	12.5	12.2	12.4
23	11.4	11.2	11.4	11.7	11.4	11.6	12.1	11.8	11.9	12.5	12.3	12.3
24	11.5	11.4	11.4	11.7	11.4	11.5	12.1	11.8	12.0	12.5	12.2	12.5
25	11.6	11.4	11.5	11.6	11.4	11.5	12.1	11.8	11.9	12.5	12.3	12.4
26	11.6	11.4	11.4	11.7	11.6	11.6	12.1	11.8	11.9	12.5	12.3	12.5
27	11.6	11.2	11.4	11.7	11.4	11.6	12.1	11.8	12.0	12.5	12.5	12.5
28	11.6	11.4	11.4	11.7	11.4	11.6	12.1	11.8	12.0	12.5	12.5	12.5
29	11.6	11.4	11.4	11.6	11.4	11.6	12.1	11.8	11.9	12.5	12.5	12.5
30	11.6	11.4	11.4	11.6	11.6	11.6	12.1	11.8	12.0	12.7	12.4	12.5
31	---	---	---	11.7	11.6	11.6	12.1	11.8	11.9	---	---	---
MONTH	13.0	11.1	11.3	11.7	11.4	11.5	12.1	11.6	11.8	12.7	11.8	12.3
YEAR	13.7	11.1	12.2									

#2 (16.9' BLS)
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	14.4	14.4	14.4	13.6	13.6	13.6	12.4	12.4	12.4
2	---	---	---	14.4	14.1	14.3	13.6	13.6	13.6	12.7	12.4	12.5
3	---	---	---	14.4	14.1	14.3	13.6	13.6	13.6	12.5	12.4	12.5
4	---	---	---	14.4	14.4	14.4	13.6	13.6	13.6	12.5	12.5	12.5
5	---	---	---	14.4	14.4	14.4	13.6	13.6	13.6	12.5	12.5	12.5
6	---	---	---	14.4	14.4	14.4	13.6	13.4	13.6	12.5	12.2	12.4
7	---	---	---	14.4	14.4	14.4	13.6	13.4	13.5	12.5	12.2	12.4
8	---	---	---	14.4	14.4	14.4	13.4	13.4	13.4	12.5	12.2	12.4
9	---	---	---	14.4	14.4	14.4	13.4	13.4	13.4	12.4	12.2	12.4
10	---	---	---	14.4	14.4	14.4	13.4	13.4	13.4	12.4	12.2	12.4
11	---	---	---	14.4	14.1	14.2	13.4	13.4	13.4	12.5	12.2	12.3
12	---	---	---	14.4	14.1	14.2	13.4	13.4	13.4	12.2	12.2	12.2
13	---	---	---	14.1	14.1	14.1	13.4	13.4	13.4	12.2	12.2	12.2
14	---	---	---	14.1	14.1	14.1	13.4	13.2	13.4	12.2	12.2	12.2
15	14.4	14.1	14.2	14.1	14.1	14.1	13.4	13.2	13.3	12.2	12.0	12.2
16	14.2	14.1	14.2	14.1	14.1	14.1	13.2	13.1	13.2	12.2	12.0	12.2
17	14.4	14.1	14.2	14.1	14.1	14.1	13.1	13.1	13.1	12.2	12.0	12.0
18	14.4	14.1	14.3	14.1	14.1	14.1	13.1	13.1	13.1	12.2	12.0	12.1
19	14.4	14.1	14.3	14.1	14.1	14.1	13.2	13.1	13.2	12.2	11.8	12.0
20	14.4	14.4	14.4	14.2	13.9	14.0	13.1	13.1	13.1	12.0	11.8	11.9
21	14.4	14.1	14.3	14.2	13.9	14.0	13.1	13.1	13.1	12.0	11.3	11.7
22	14.4	14.1	14.4	14.1	13.9	13.9	13.1	12.9	13.1	11.5	11.3	11.5
23	14.4	14.2	14.4	13.9	13.9	13.9	13.1	12.9	13.0	11.8	11.5	11.7
24	14.4	14.1	14.3	13.9	13.9	13.9	13.1	12.9	13.0	11.8	11.5	11.7
25	14.4	14.1	14.4	13.9	13.9	13.9	12.9	12.9	12.9	11.8	11.5	11.7
26	14.4	14.2	14.4	13.9	13.9	13.9	12.9	12.9	12.9	11.7	11.5	11.6
27	14.4	14.2	14.4	13.9	13.6	13.9	12.9	12.9	12.9	11.6	11.5	11.5
28	14.4	14.2	14.4	13.9	13.6	13.7	12.9	12.7	12.9	11.6	11.5	11.5
29	14.4	14.4	14.4	13.9	13.6	13.6	12.9	12.7	12.8	11.5	11.5	11.5
30	14.4	14.4	14.4	13.6	13.6	13.6	12.7	12.7	12.7	11.5	11.5	11.5
31	14.4	14.4	14.4	---	---	---	13.0	12.5	12.6	11.6	11.3	11.5
MONTH	14.4	14.1	14.3	14.4	13.6	14.1	13.6	12.5	13.2	12.7	11.3	12.0

413547083481400 LU-23 NR HOLLAND OH

#3 (10.4' BLS)
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	14.9	14.9	14.9	13.1	13.1	13.1	11.3	11.1	11.3
2	---	---	---	14.9	14.9	14.9	13.1	12.9	13.1	11.3	11.1	11.3
3	---	---	---	14.9	14.7	14.8	13.1	12.9	13.1	11.4	11.1	11.3
4	---	---	---	14.7	14.6	14.6	13.1	12.9	12.9	11.4	11.1	11.3
5	---	---	---	14.6	14.6	14.6	13.1	12.9	13.0	11.4	10.9	11.1
6	---	---	---	14.6	14.6	14.6	12.9	12.9	12.9	11.1	10.7	11.0
7	---	---	---	14.6	14.4	14.5	12.9	12.7	12.9	11.1	10.7	11.0
8	---	---	---	14.6	14.4	14.4	12.9	12.7	12.8	11.1	10.9	11.1
9	---	---	---	14.4	14.4	14.4	12.9	12.7	12.7	11.1	10.9	11.0
10	---	---	---	14.4	14.1	14.3	12.7	12.5	12.6	11.1	10.7	11.0
11	---	---	---	14.1	14.1	14.1	12.7	12.5	12.5	11.1	10.7	11.0
12	---	---	---	14.1	14.1	14.1	12.5	12.5	12.4	11.1	10.7	10.9
13	---	---	---	14.1	14.1	14.1	12.5	12.4	12.4	10.9	10.7	10.8
14	---	---	---	14.1	14.1	14.1	12.5	12.2	12.4	10.9	10.5	10.7
15	16.0	15.7	15.7	14.1	14.1	14.1	12.5	12.2	12.4	10.7	10.5	10.7
16	15.7	15.7	15.7	14.1	13.9	14.0	12.5	12.2	12.4	10.7	10.5	10.6
17	15.7	15.7	15.7	13.9	13.6	13.8	12.5	12.2	12.4	10.7	10.5	10.6
18	15.7	15.7	15.7	13.9	13.6	13.7	12.5	12.2	12.3	10.7	10.4	10.6
19	15.7	15.6	15.7	13.6	13.6	13.6	12.4	12.2	12.2	10.7	10.4	10.5
20	15.7	15.6	15.7	13.9	13.6	13.7	12.2	12.2	12.2	10.6	10.4	10.5
21	15.7	15.4	15.6	13.7	13.4	13.6	12.2	12.0	12.2	10.7	10.1	10.4
22	15.7	15.4	15.6	13.6	13.4	13.4	12.2	11.8	12.1	10.1	9.6	9.9
23	15.7	15.4	15.5	13.4	13.4	13.4	12.2	11.8	12.1	10.3	9.9	10.1
24	15.7	15.4	15.5	13.4	13.4	13.4	12.2	11.7	12.0	10.1	9.9	10.1
25	15.5	15.2	15.4	13.4	13.4	13.4	12.0	11.7	11.9	10.2	9.8	10.0
26	15.5	15.1	15.3	13.4	13.4	13.4	12.0	11.7	11.9	10.1	9.9	10.0
27	15.5	15.1	15.2	13.4	13.4	13.4	12.0	11.6	11.8	10.1	9.9	10.0
28	15.5	14.9	15.2	13.4	13.1	13.3	11.8	11.5	11.8	10.1	9.9	10.0
29	15.2	15.1	15.2	13.4	13.1	13.3	11.8	11.5	11.7	10.1	9.8	10.0
30	15.1	14.9	15.1	13.4	13.1	13.2	11.8	11.6	11.7	10.1	9.6	10.0
31	15.1	14.9	15.0	---	---	---	11.8	11.1	11.4	10.1	9.7	9.9
MONTH	16.0	14.9	15.5	14.9	13.1	14.0	13.1	11.1	12.4	11.4	9.6	10.6

#3 (10.4' BLS)
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	10.1	9.6	9.9	9.4	9.0	9.1	8.5	8.1	8.3	9.3	9.1	9.3
2	10.0	9.7	9.9	9.5	8.9	9.2	8.3	8.1	8.3	9.5	9.3	9.3
3	10.1	9.6	9.8	9.5	9.1	9.3	8.5	8.1	8.3	9.5	9.3	9.4
4	10.1	9.6	9.8	9.3	9.1	9.1	8.5	8.3	8.4	9.5	9.3	9.4
5	9.9	9.6	9.8	9.2	8.9	9.0	8.5	8.3	8.4	9.7	9.5	9.6
6	9.9	9.6	9.7	9.3	8.8	9.1	8.5	8.3	8.4	9.7	9.5	9.6
7	9.8	9.6	9.7	9.3	8.7	9.0	8.5	8.3	8.5	9.7	9.5	9.6
8	9.9	9.5	9.6	9.5	8.9	9.1	8.5	8.3	8.4	9.7	9.5	9.7
9	9.7	9.6	9.6	9.1	8.5	8.9	8.5	8.3	8.5	9.7	9.7	9.7
10	9.7	9.5	9.6	8.9	8.5	8.8	8.5	8.3	8.5	9.9	9.7	9.8
11	9.6	9.6	9.6	8.9	8.5	8.8	8.5	8.3	8.5	10.0	9.7	9.8
12	9.6	9.6	9.6	8.9	8.5	8.7	8.7	8.5	8.5	10.0	9.7	9.8
13	9.7	9.5	9.6	8.9	8.5	8.7	8.7	8.5	8.6	9.9	9.7	9.8
14	9.7	9.4	9.6	8.9	8.4	8.6	8.7	8.5	8.6	9.9	9.7	9.9
15	9.7	9.4	9.6	8.8	8.4	8.6	8.9	8.5	8.7	9.9	9.7	9.9
16	9.6	9.4	9.5	9.1	8.5	8.6	8.7	8.5	8.7	10.1	9.9	9.9
17	9.6	9.4	9.5	9.1	8.5	8.7	8.9	8.7	8.7	10.1	9.9	10.1
18	9.6	9.2	9.5	8.8	8.4	8.5	8.9	8.7	8.8	10.1	9.9	10.1
19	9.6	9.2	9.5	8.6	8.2	8.5	8.9	8.7	8.8	10.3	10.1	10.1
20	9.5	9.0	9.4	8.7	8.3	8.5	8.9	8.7	8.9	10.3	10.1	10.2
21	9.5	9.1	9.4	8.5	8.3	8.4	8.9	8.9	8.9	10.3	10.1	10.2
22	9.5	9.0	9.4	8.5	8.3	8.4	9.1	8.9	9.0	10.4	10.1	10.3
23	9.5	9.0	9.3	8.5	8.1	8.4	9.1	8.9	9.1	10.3	10.1	10.2
24	9.5	9.2	9.4	8.5	8.1	8.3	9.3	8.9	9.1	10.5	10.3	10.4
25	9.4	9.0	9.3	8.3	8.1	8.3	9.3	8.9	9.1	10.5	10.3	10.4
26	9.5	9.0	9.3	8.3	8.1	8.2	9.3	9.1	9.1	10.6	10.3	10.5
27	9.4	9.0	9.2	8.5	8.1	8.2	9.3	9.1	9.2	10.5	10.3	10.5
28	9.4	8.9	9.2	8.4	8.1	8.2	9.3	9.1	9.2	10.7	10.5	10.6
29	---	---	---	8.3	7.9	8.3	9.3	9.1	9.2	10.7	10.5	10.6
30	---	---	---	8.5	7.9	8.3	9.3	9.1	9.2	10.8	10.5	10.6
31	---	---	---	8.5	8.1	8.3	---	---	---	10.7	10.5	10.5
MONTH	10.1	8.9	9.5	9.5	7.9	8.6	9.3	8.1	8.7	10.8	9.1	10.0

413547083481400 LU-23 NR HOLLAND OH

#3 (10.4' BLS)
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	13.2	10.5	10.7	12.5	12.3	12.4	14.7	14.4	14.5	16.0	15.7	15.8
2	10.7	10.5	10.6	12.5	12.3	12.4	14.7	14.4	14.6	16.0	15.7	15.8
3	10.8	10.5	10.6	12.7	12.3	12.5	14.7	14.4	14.7	16.0	15.7	15.7
4	10.7	10.5	10.5	12.8	12.5	12.6	15.0	14.7	14.7	16.0	15.7	15.9
5	10.7	10.5	10.6	12.8	12.5	12.7	15.0	14.6	14.8	16.0	16.0	16.0
6	11.0	10.7	10.8	12.8	12.7	12.8	15.2	14.7	14.9	16.3	16.0	16.0
7	11.0	10.7	10.8	12.8	12.5	12.7	15.2	14.9	15.0	16.3	16.0	16.0
8	11.0	10.7	10.9	13.0	12.7	12.8	15.2	14.9	15.0	16.3	16.0	16.1
9	11.0	10.7	10.9	13.0	12.7	12.8	15.2	14.9	15.1	16.3	16.0	16.2
10	11.0	10.7	10.9	13.2	12.7	13.0	15.2	14.9	15.0	16.3	16.0	16.2
11	11.2	10.9	11.0	13.2	13.0	13.1	15.2	14.9	15.2	16.3	16.0	16.2
12	11.2	10.9	11.0	13.2	13.0	13.1	15.5	15.2	15.3	16.3	16.2	16.3
13	11.2	10.9	11.1	13.5	13.2	13.2	15.5	15.2	15.3	16.5	16.2	16.3
14	11.4	11.2	11.2	13.5	13.2	13.3	15.5	15.2	15.3	16.5	16.3	16.4
15	11.4	11.1	11.3	13.5	13.2	13.4	15.5	15.2	15.3	16.5	16.2	16.3
16	11.4	11.1	11.3	13.7	13.4	13.5	15.5	15.2	15.4	16.2	16.2	16.2
17	11.4	11.2	11.4	13.7	13.4	13.6	15.5	15.2	15.4	16.5	16.2	16.3
18	11.6	11.4	11.4	13.7	13.4	13.6	15.7	15.5	15.5	16.5	16.2	16.3
19	11.6	11.4	11.5	13.9	13.5	13.6	15.7	15.4	15.5	16.5	16.2	16.3
20	11.6	11.4	11.6	14.0	13.7	13.7	15.7	15.5	15.6	16.5	16.2	16.3
21	11.6	11.4	11.5	14.0	13.7	13.8	15.7	15.4	15.5	16.5	16.2	16.3
22	11.7	11.4	11.6	14.0	13.7	13.9	15.8	15.4	15.5	16.5	16.2	16.3
23	11.9	11.6	11.6	14.2	13.9	14.0	15.8	15.4	15.5	16.5	16.2	16.4
24	11.9	11.6	11.7	14.2	13.9	14.0	15.8	15.5	15.7	16.5	16.2	16.3
25	11.9	11.6	11.8	14.2	13.9	14.1	15.8	15.5	15.6	16.2	16.2	16.2
26	12.1	11.6	11.9	14.5	14.2	14.3	15.8	15.5	15.6	16.5	16.2	16.3
27	12.1	11.8	12.0	14.5	14.2	14.3	15.8	15.5	15.7	16.2	16.2	16.2
28	12.3	11.8	12.0	14.5	14.2	14.4	15.8	15.5	15.7	16.2	16.2	16.2
29	12.3	12.0	12.1	14.5	14.2	14.3	16.0	15.7	15.7	16.2	16.2	16.2
30	12.3	12.0	12.2	14.5	14.2	14.3	16.0	15.7	15.8	16.5	16.2	16.3
31	---	---	---	14.7	14.4	14.5	16.0	15.7	15.8	---	---	---
MONTH	13.2	10.5	11.3	14.7	12.3	13.4	16.0	14.4	15.3	16.5	15.7	16.2
YEAR	16.5	7.9	12.0									

#4 (6.9' BLS)
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	14.9	14.9	14.9	12.9	12.9	12.9	10.9	10.7	10.7
2	---	---	---	14.9	14.6	14.8	12.9	12.7	12.8	10.9	10.7	10.8
3	---	---	---	14.9	14.6	14.7	12.9	12.7	12.7	10.9	10.7	10.8
4	---	---	---	14.7	14.6	14.6	12.9	12.7	12.7	10.9	10.7	10.7
5	---	---	---	14.6	14.4	14.5	12.7	12.5	12.6	10.7	10.5	10.6
6	---	---	---	14.6	14.4	14.4	12.7	12.4	12.5	10.5	10.5	10.5
7	---	---	---	14.4	14.4	14.4	12.5	12.4	12.4	10.5	10.5	10.5
8	---	---	---	14.4	14.4	14.4	12.5	12.4	12.4	10.5	10.5	10.5
9	---	---	---	14.4	14.1	14.2	12.5	12.4	12.4	10.5	10.5	10.5
10	---	---	---	14.1	14.1	14.1	12.5	12.2	12.4	10.5	10.5	10.5
11	---	---	---	14.1	14.1	14.1	12.5	12.2	12.3	10.5	10.5	10.5
12	---	---	---	14.1	14.1	14.1	12.2	12.2	12.2	10.5	10.3	10.4
13	---	---	---	14.1	13.9	14.0	12.2	12.2	12.2	10.5	10.3	10.3
14	---	---	---	14.1	13.9	13.9	12.2	12.0	12.1	10.5	10.1	10.3
15	16.2	16.0	16.1	13.9	13.6	13.8	12.2	12.0	12.0	10.2	10.0	10.1
16	16.0	15.9	16.0	13.9	13.6	13.7	12.0	12.0	12.0	10.2	10.0	10.1
17	16.2	15.9	16.0	13.6	13.6	13.6	12.0	11.8	11.9	10.1	9.9	10.0
18	15.9	15.7	15.9	13.6	13.4	13.6	12.0	11.8	11.8	10.2	10.0	10.0
19	15.9	15.7	15.8	13.6	13.4	13.4	11.8	11.8	11.8	10.1	9.9	10.0
20	15.7	15.6	15.7	13.7	13.4	13.4	11.8	11.7	11.8	10.1	9.9	10.0
21	15.7	15.4	15.6	13.7	13.4	13.4	11.8	11.7	11.8	10.1	9.7	9.9
22	15.7	15.4	15.6	13.4	13.2	13.4	11.8	11.6	11.8	9.7	9.1	9.4
23	15.7	15.4	15.6	13.4	13.1	13.3	11.8	11.5	11.6	9.7	9.4	9.6
24	15.7	15.4	15.5	13.4	13.1	13.2	11.7	11.5	11.6	9.7	9.4	9.6
25	15.5	15.1	15.4	13.2	13.2	13.2	11.7	11.5	11.5	9.6	9.4	9.6
26	15.5	15.1	15.3	13.2	13.1	13.2	11.5	11.5	11.5	9.6	9.4	9.5
27	15.5	15.1	15.2	13.1	12.9	13.1	11.5	11.3	11.4	9.7	9.4	9.5
28	15.2	14.9	15.1	13.1	12.9	12.9	11.5	11.3	11.3	9.5	9.4	9.5
29	15.1	14.9	15.0	12.9	12.9	12.9	11.3	11.3	11.3	9.6	9.4	9.4
30	14.9	14.9	14.9	12.9	12.9	12.9	11.4	11.3	11.3	9.5	9.2	9.4
31	14.9	14.9	14.9	---	---	---	11.4	10.5	10.9	9.5	9.3	9.4
MONTH	16.2	14.9	15.5	14.9	12.9	13.8	12.9	10.5	12.0	10.9	9.1	10.1

#4 (6.9' BLS)
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

#4 (6.9' BLS)												
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	12.3	10.7	11.0	13.5	13.2	13.2	15.8	15.4	15.7	17.1	16.8	16.8
2	11.2	10.9	11.0	13.5	13.2	13.3	16.0	15.5	15.7	17.1	16.5	16.8
3	11.2	10.9	11.0	13.7	13.2	13.4	16.0	15.7	15.8	17.1	16.5	16.8
4	11.2	11.0	11.1	13.7	13.4	13.5	16.0	15.7	15.9	17.1	16.8	17.0
5	11.4	11.1	11.2	13.7	13.4	13.7	16.0	15.7	15.9	17.1	16.8	17.1
6	11.4	11.1	11.3	13.7	13.7	13.7	16.0	15.7	16.0	17.1	16.8	17.1
7	11.4	11.1	11.2	13.9	13.5	13.7	16.3	16.0	16.0	17.1	17.1	17.1
8	11.4	11.2	11.3	14.0	13.7	13.8	16.3	16.0	16.1	17.4	17.1	17.1
9	11.6	11.2	11.4	14.0	13.7	13.8	16.3	16.0	16.2	17.4	17.1	17.2
10	11.6	11.4	11.5	14.2	13.7	13.9	16.3	16.0	16.2	17.4	17.1	17.1
11	11.6	11.4	11.5	14.2	13.9	14.0	16.5	16.0	16.3	17.4	17.0	17.1
12	11.6	11.4	11.5	14.4	13.9	14.1	16.5	16.2	16.3	17.4	17.1	17.1
13	11.7	11.4	11.5	14.5	14.1	14.2	16.6	16.2	16.3	17.4	17.1	17.2
14	11.8	11.4	11.6	14.5	14.2	14.3	16.6	16.2	16.3	17.4	17.1	17.3
15	11.9	11.6	11.7	14.5	14.2	14.3	16.6	16.2	16.4	17.4	17.1	17.1
16	11.9	11.6	11.8	14.7	14.4	14.5	16.6	16.3	16.5	17.1	17.1	17.1
17	12.1	11.8	11.9	14.7	14.4	14.6	16.6	16.3	16.4	17.4	16.8	17.1
18	12.1	11.8	12.0	15.0	14.4	14.7	16.6	16.2	16.4	17.1	17.1	17.1
19	12.3	11.8	12.0	15.0	14.7	14.8	16.6	16.2	16.5	17.1	16.8	17.1
20	12.3	12.0	12.2	15.2	14.7	14.9	16.6	16.3	16.5	17.1	16.8	17.0
21	12.5	12.0	12.2	15.2	14.9	15.0	16.8	16.3	16.5	17.1	16.8	17.0
22	12.5	12.3	12.3	15.2	14.9	15.1	16.8	16.5	16.6	17.1	16.8	17.0
23	12.5	12.3	12.5	15.2	14.9	15.2	16.8	16.5	16.6	17.1	16.8	16.9
24	12.8	12.5	12.6	15.5	14.9	15.3	16.8	16.5	16.7	17.1	16.8	17.0
25	12.8	12.5	12.7	15.5	15.2	15.3	16.8	16.5	16.6	17.1	16.8	16.8
26	12.8	12.5	12.6	15.5	15.5	15.5	16.9	16.5	16.7	17.1	16.8	16.8
27	13.0	12.7	12.8	15.5	15.2	15.4	16.9	16.5	16.8	16.8	16.8	16.8
28	13.2	12.7	12.8	15.7	15.5	15.6	16.9	16.5	16.8	16.8	16.8	16.8
29	13.2	13.0	13.0	15.7	15.5	15.6	16.8	16.5	16.7	16.8	16.8	16.8
30	13.2	12.9	13.0	15.7	15.4	15.6	16.9	16.5	16.8	16.8	16.5	16.7
31	---	---	---	15.8	15.4	15.6	17.1	16.5	16.8	---	---	---
MONTH	13.2	10.7	11.9	15.8	13.2	14.5	17.1	15.4	16.4	17.4	16.5	17.0
YEAR	17.4	7.4	12.1									

GROUND-WATER RECORDS

413547083481500. Local number, LU-24.

LOCATION.--Lat 41°35'47" Long 83°48'15", Hydrologic Unit 04100009, along State Route 2 near Holland, OH.
Owner.--USGS-Toledo Express Airport.

AQUIFER.--Sand of Quaternary age.

WELL CHARACTERISTICS.--Observation well drilled by hollow stem auger, diameter 4.0 in., depth 18.7 ft. Cased with Sch 40 PVC to 8.7 ft; .010 in. screen from 8.7 to 18.7 ft.

INSTRUMENTATION - Data logger--60 minute record. Water-level data only was collected at this well.

DATUM.--Elevation of land-surface datum is 677.21 feet above sea level.
Measuring point: shelter floor 2.12 ft above land-surface datum.

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

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

PERIOD OF DAILY RECORD.--

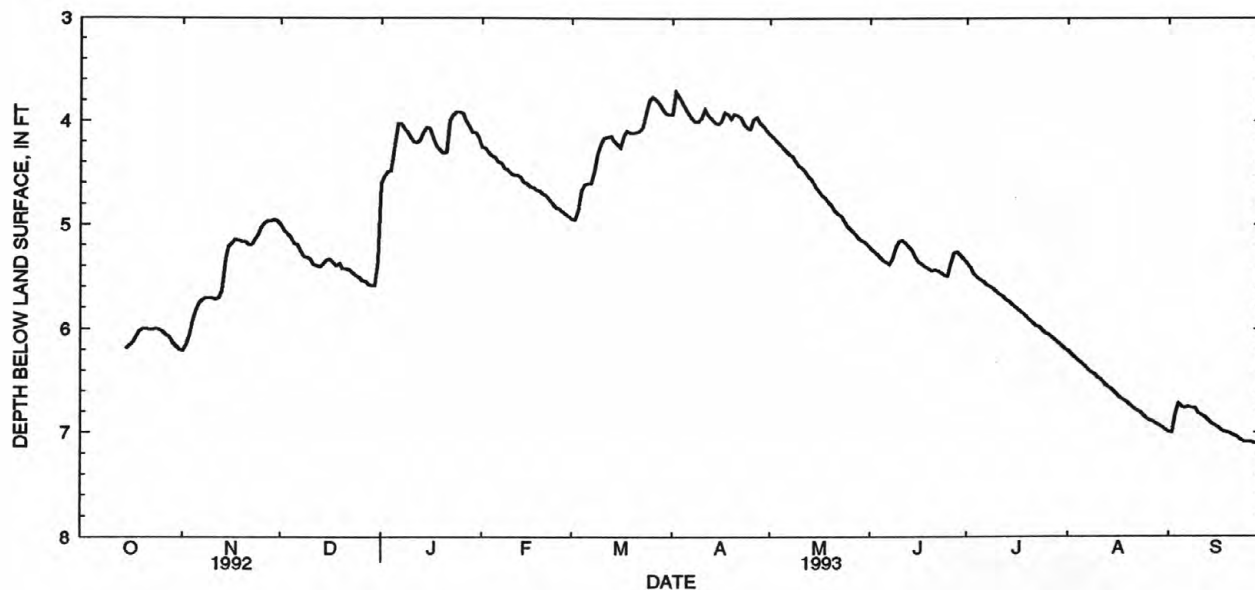
WATER LEVEL: February 1991 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER LEVEL: Maximum daily low, 8.10 ft. below land-surface datum, October 24, 1991; minimum daily low, 3.70 ft. below land-surface data, April 2, 1993.

EXTREMES FOR CURRENT YEAR.--

WATER LEVEL: Maximum daily low, 7.11 ft. below land-surface datum, September 29-30, 1993; minimum daily low, 3.70 ft. below land-surface data, April 2, 1993.



DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	6.21	5.00	4.61	4.26	4.95	3.94	4.14	5.23	5.37	6.21	6.99
2	---	6.16	5.06	4.54	4.27	4.96	3.72	4.16	5.26	5.42	6.24	7.00
3	---	6.07	5.10	4.50	4.31	4.87	3.77	4.20	5.29	5.47	6.27	6.82
4	---	5.93	5.13	4.49	4.34	4.68	3.83	4.23	5.32	5.51	6.30	6.72
5	---	5.83	5.19	4.24	4.36	4.62	3.88	4.27	5.35	5.53	6.32	6.75
6	---	5.76	5.20	4.03	4.40	4.61	3.94	4.30	5.37	5.55	6.35	6.76
7	---	5.73	5.26	4.03	4.42	4.61	3.98	4.33	5.39	5.58	6.39	6.75
8	---	5.71	5.31	4.08	4.47	4.50	4.01	4.35	5.33	5.60	6.41	6.76
9	---	5.71	5.32	4.12	4.48	4.33	4.01	4.40	5.23	5.62	6.43	6.76
10	---	5.71	5.34	4.17	4.52	4.22	3.97	4.44	5.17	5.65	6.46	6.81
11	---	5.72	5.39	4.21	4.53	4.17	3.89	4.46	5.16	5.67	6.48	6.83
12	---	5.71	5.40	4.22	4.53	4.16	3.96	4.50	5.18	5.69	6.52	6.85
13	---	5.64	5.41	4.19	4.55	4.15	3.98	4.54	5.22	5.72	6.55	6.88
14	---	5.33	5.39	4.12	4.60	4.20	4.02	4.57	5.25	5.74	6.57	6.91
15	6.19	5.22	5.35	4.07	4.61	4.23	4.03	4.64	5.31	5.77	6.60	6.93
16	6.16	5.18	5.34	4.08	4.64	4.26	4.01	4.68	5.36	5.80	6.63	6.95
17	6.13	5.15	5.37	4.17	4.65	4.15	3.92	4.72	5.39	5.82	6.66	6.97
18	6.07	5.16	5.40	4.25	4.67	4.10	3.94	4.75	5.41	5.85	6.68	6.99
19	6.02	5.17	5.38	4.29	4.68	4.12	3.98	4.79	5.43	5.88	6.70	7.00
20	6.00	5.17	5.43	4.32	4.71	4.12	3.94	4.82	5.45	5.91	6.73	7.01
21	6.00	5.20	5.43	4.31	4.72	4.11	3.95	4.87	5.44	5.94	6.76	7.03
22	6.01	5.20	5.44	4.00	4.77	4.10	3.97	4.90	5.45	5.97	6.78	7.04
23	6.01	5.15	5.47	3.95	4.81	4.06	4.03	4.92	5.47	5.98	6.80	7.07
24	6.00	5.11	5.49	3.92	4.84	3.92	4.07	4.97	5.49	6.01	6.83	7.09
25	6.01	5.03	5.51	3.92	4.85	3.80	4.08	5.02	5.50	6.04	6.86	7.09
26	6.03	4.99	5.54	3.93	4.88	3.77	3.99	5.05	5.38	6.05	6.88	7.09
27	6.06	4.97	5.55	4.01	4.90	3.80	3.97	5.08	5.28	6.08	6.89	7.10
28	6.08	4.97	5.58	4.06	4.93	3.84	4.02	5.12	5.27	6.11	6.91	7.10
29	6.13	4.96	5.59	4.12	---	3.89	4.06	5.15	5.30	6.13	6.93	7.11
30	6.17	4.97	5.59	4.12	---	3.93	4.10	5.17	5.33	6.16	6.95	7.11
31	6.20	---	5.36	4.17	---	3.94	---	5.19	---	6.19	6.97	---
MAX	6.20	6.21	5.59	4.61	4.93	4.96	4.10	5.19	5.50	6.19	6.97	7.11

WTR YR 1993 LOW 7.11

GROUND-WATER RECORDS

403635082152300. Local number, AS-45.

LOCATION.--Lat 40°36'35" Long 82°15'23", Hydrologic Unit 05040002, along State Route 3 near Loudonville, OH.
Owner.--USGS-State of Ohio (Mohican State Park).

AQUIFER.--Sand and Gravel of Quaternary age.

WELL CHARACTERISTICS.--Observation well drilled by hollow stem auger, diameter 4.0 in., depth 15.7 ft. Cased with Sch 40 PVC to 5.7 ft; .010 in. screen from 5.7 to 15.7 ft.

INSTRUMENTATION - Data logger--60 minute record. Precipitation data collected with a propane-heated, tipping-bucket rain gauge. Also collected: water level, air temperature, soil temperature, water temperature and specific conductance. Conductivity/water temperature probe set at 6.9 feet below land surface.

DATUM.--Elevation of land-surface datum is 931.74 feet above sea level.
Measuring point: shelter floor 3.08 ft above land-surface datum.

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

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

PERIOD OF DAILY RECORD.--

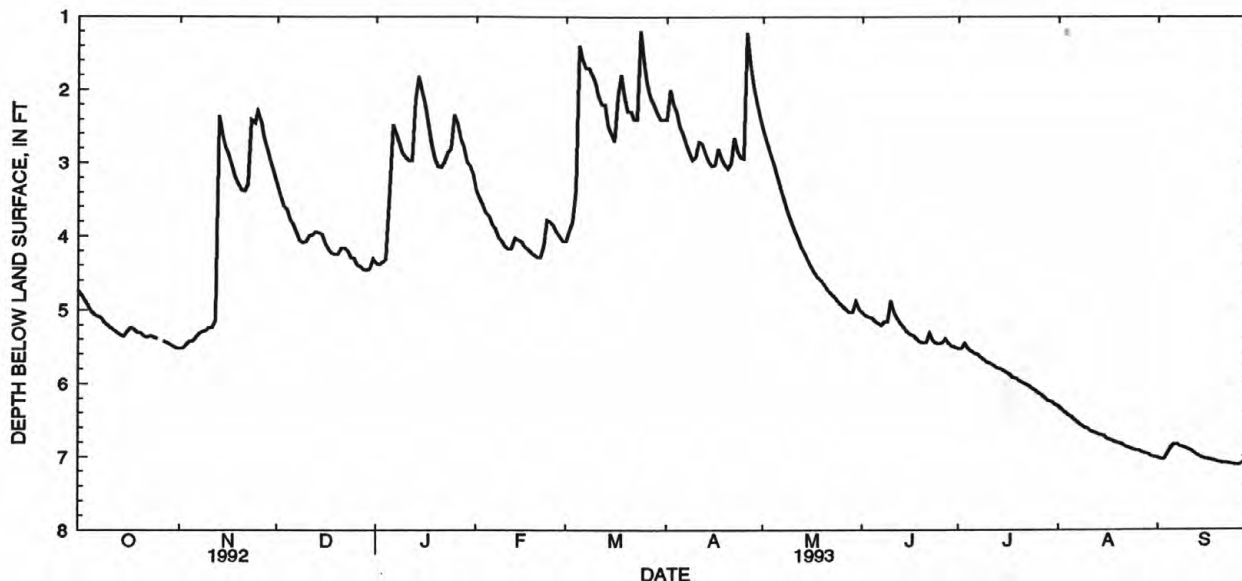
WATER LEVEL: February 1991 to current year.
SPECIFIC CONDUCTANCE: February 1991 to current year.
AIR TEMPERATURE: February 1991 to current year.
WATER TEMPERATURE: February 1991 to current year.
SOIL TEMPERATURE: February 1991 to current year.
PRECIPITATION: February 1991 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--YYYYY

WATER LEVEL: Maximum daily low, 7.18 ft. below land-surface datum, October 7-11, 1991; minimum daily low, 0.87 ft. below land-surface datum, April 26, 1993.
SPECIFIC CONDUCTANCE: Maximum, 907 microsiemens March 26, 1993; minimum, 722 microsiemens March 26, 1992.
AIR TEMPERATURE: Maximum, 35.5°C July 3, 1991; minimum, -23.2°C February 25, 1993.
WATER TEMPERATURE: Maximum, 16.0°C September 27, 1991; minimum, 7.2°C March 25-26, 1993.
SOIL TEMPERATURE: Maximum, 35.5°C July 3, 1991; minimum, 3.8°C February 7-11, 1993.

EXTREMES FOR CURRENT YEAR.--

WATER LEVEL: Maximum daily low, 7.12 ft. below land-surface datum, September 25-26, 1993; minimum daily low, 0.87 ft. below land-surface datum, April 26, 1993.
SPECIFIC CONDUCTANCE: Maximum, 907 microsiemens March 26, 1993; minimum, 798 microsiemens November 23-24, 1993.
AIR TEMPERATURE: Maximum, 34.8°C August 26, 1993; minimum, -23.2°C February 25, 1993.
WATER TEMPERATURE: Maximum, 15.9°C September 11, 12, 16, 20, 1993; minimum, 7.2°C March 25-26, 1993.
SOIL TEMPERATURE: Maximum, 31.3°C August 28, 1993; minimum, 3.8°C February 7-11, 1993.



403635082152300 AS-45 NR LOUDONVILLE OH

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.74	5.52	3.31	4.38	3.39	4.07	2.40	2.54	5.04	5.53	6.32	7.02
2	4.80	5.52	3.46	4.40	3.49	3.93	2.00	2.69	5.07	5.53	6.35	7.04
3	4.87	5.47	3.60	4.36	3.58	3.81	2.20	2.84	5.10	5.46	6.40	7.04
4	4.94	5.42	3.63	4.33	3.69	3.39	2.30	2.97	5.11	5.53	6.43	6.96
5	5.02	5.42	3.78	3.55	3.73	1.40	2.50	3.12	5.15	5.56	6.46	6.88
6	5.06	5.37	3.84	2.48	3.84	1.60	2.60	3.28	5.18	5.59	6.50	6.84
7	5.09	5.32	3.96	2.59	3.90	1.70	2.74	3.43	5.20	5.61	6.54	6.84
8	5.11	5.29	4.06	2.74	4.02	1.70	2.86	3.57	5.16	5.64	6.57	6.86
9	5.17	5.27	4.09	2.86	4.07	1.80	2.96	3.71	5.16	5.68	6.60	6.87
10	5.20	5.24	4.07	2.93	4.14	1.90	2.92	3.84	4.88	5.71	6.62	6.90
11	5.24	5.23	4.00	2.97	4.18	2.10	2.71	3.96	5.03	5.73	6.65	6.92
12	5.27	5.14	3.98	2.97	4.18	2.20	2.74	4.05	5.12	5.76	6.67	6.95
13	5.31	2.36	3.95	2.14	4.03	2.20	2.87	4.15	5.18	5.79	6.69	6.99
14	5.34	2.59	3.96	1.82	4.05	2.50	2.97	4.25	5.23	5.80	6.70	7.01
15	5.36	2.79	3.98	2.03	4.08	2.60	3.04	4.34	5.29	5.83	6.71	7.03
16	5.28	2.89	4.11	2.21	4.14	2.70	3.03	4.43	5.33	5.85	6.76	7.04
17	5.24	3.04	4.19	2.47	4.18	2.10	2.81	4.50	5.35	5.88	6.77	7.05
18	5.26	3.19	4.24	2.75	4.23	1.80	2.94	4.56	5.39	5.92	6.79	7.06
19	5.31	3.29	4.25	2.95	4.26	2.10	3.03	4.60	5.43	5.93	6.81	7.07
20	5.31	3.37	4.25	3.05	4.29	2.30	3.08	4.66	5.44	5.97	6.82	7.08
21	5.36	3.39	4.17	3.07	4.29	2.30	3.01	4.72	5.44	5.99	6.84	7.09
22	5.37	3.30	4.17	2.99	4.13	2.40	2.66	4.77	5.32	6.01	6.86	7.09
23	5.35	2.41	4.20	2.87	3.79	2.40	2.84	4.81	5.41	6.04	6.88	7.10
24	5.37	2.46	4.29	2.82	3.81	1.20	2.92	4.86	5.45	6.07	6.90	7.11
25	5.39	2.30	4.31	2.35	3.86	1.60	2.94	4.91	5.46	6.10	6.92	7.12
26	---	2.46	4.40	2.46	3.95	1.90	1.23	4.95	5.45	6.13	6.92	7.12
27	5.42	2.66	4.42	2.67	4.01	2.10	1.64	4.99	5.40	6.16	6.94	7.09
28	5.44	2.84	4.46	2.79	4.07	2.20	1.95	5.03	5.46	6.20	6.96	7.07
29	5.47	3.01	4.47	2.99	---	2.30	2.17	5.03	5.49	6.24	6.97	7.06
30	5.49	3.15	4.45	3.05	---	2.40	2.37	4.89	5.51	6.26	7.00	7.06
31	5.52	---	4.32	3.17	---	2.40	---	4.98	---	6.29	7.01	---
MAX	5.52	5.52	4.47	4.40	4.29	4.07	3.08	5.03	5.51	6.29	7.01	7.12

WTR YR 1993 LOW 7.12

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, PROBE 6.9' BLS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	845	839	842	835	830	831	803	801	801	818	815	817
2	845	839	842	834	831	833	802	800	801	822	816	819
3	844	838	841	835	830	833	801	799	801	822	817	820
4	843	837	840	835	830	833	805	799	802	825	819	820
5	842	837	839	835	830	833	805	799	803	850	829	846
6	841	836	839	834	832	833	804	799	802	853	847	850
7	843	836	839	833	830	832	806	801	803	851	846	849
8	842	837	839	833	828	830	807	801	802	851	847	849
9	842	836	838	833	827	831	805	800	803	852	847	848
10	841	836	839	832	828	830	805	802	804	853	847	849
11	841	836	839	830	827	829	808	803	804	852	846	849
12	841	837	839	831	806	823	808	803	806	857	846	850
13	839	835	837	809	806	808	808	804	806	867	857	864
14	837	831	835	809	805	807	808	802	805	868	863	865
15	836	830	832	808	805	807	808	802	805	866	862	864
16	836	829	833	809	803	806	808	802	806	869	862	865
17	836	828	831	807	802	805	808	803	806	868	862	864
18	829	826	827	806	803	804	809	803	807	867	863	865
19	829	826	827	806	801	803	808	805	806	867	861	865
20	834	828	829	805	801	802	810	805	806	868	862	864
21	835	829	832	804	801	803	812	805	808	866	861	864
22	836	829	832	802	799	801	812	807	810	868	862	865
23	837	832	835	804	798	800	811	808	810	869	863	865
24	837	836	837	805	798	801	813	807	811	872	861	868
25	837	833	836	803	799	802	813	809	811	877	870	873
26	---	---	---	804	802	803	814	809	811	875	870	872
27	837	832	834	804	799	803	814	809	812	875	869	872
28	836	833	834	804	799	803	816	810	813	875	868	871
29	835	833	834	804	802	803	816	810	813	875	870	873
30	834	832	833	804	801	802	818	813	815	876	866	871
31	835	830	832	---	---	---	820	815	817	873	867	870
MONTH	845	826	836	835	798	814	820	799	807	877	815	856

403635082152300 AS-45 NR LOUDONVILLE OH

TEMPERATURE, AIR, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	19.7	-.8	8.0	7.6	3.9	5.4	2.3	-4.2	.1	-.5	-4.6	-2.2
2	22.5	1.9	10.6	17.8	5.9	11.9	3.2	-.5	.8	.6	-9.1	-3.0
3	24.5	2.9	12.2	19.2	3.3	10.3	1.0	-4.4	-.9	10.8	.7	5.6
4	18.2	4.2	11.9	14.7	1.2	8.0	4.9	-1.9	.9	15.6	10.7	12.5
5	16.3	-.7	7.2	3.0	.4	1.4	-2.7	-8.9	-4.1	11.1	.6	3.5
6	19.3	-1.1	6.8	3.2	.0	1.2	-2.6	-10.1	-5.6	2.4	-4.9	.3
7	21.7	-1.3	8.3	3.8	-1.9	.5	-.2	-2.6	-1.3	4.4	-6.4	-1.1
8	20.7	.9	11.0	9.2	-4.4	.4	-1.4	-3.3	-2.2	.2	-1.6	-.6
9	16.7	4.8	11.2	8.3	-4.2	2.9	2.0	-3.8	-1.3	-1.9	-3.7	-2.7
10	20.1	4.2	11.1	11.4	3.4	8.3	2.4	-.6	1.2	.7	-3.8	-1.5
11	12.8	4.6	9.1	12.2	9.7	11.1	1.6	.7	1.0	.1	-2.2	-.8
12	16.5	1.0	8.9	16.1	4.0	11.9	2.0	.5	1.2	2.7	.0	1.0
13	16.3	.5	7.1	5.0	-2.7	1.2	4.3	-6.1	-.1	5.2	-2.6	1.3
14	25.4	5.8	14.1	.9	-7.2	-2.5	9.4	-7.2	-.7	-.5	-4.3	-2.4
15	21.6	7.7	14.7	.5	-7.4	-3.8	10.9	-4.8	3.0	-1.7	-3.5	-2.8
16	15.8	3.5	11.5	3.2	-9.8	-1.9	11.8	-1.8	7.3	-.8	-3.7	-2.4
17	11.2	-1.8	3.6	11.0	2.2	7.4	6.6	-.8	2.4	.9	-5.2	-1.0
18	8.0	-1.8	2.7	5.7	.8	4.6	2.7	-4.1	.2	-3.3	-11.6	-7.1
19	6.0	-4.4	.3	8.1	-.8	3.0	9.0	-3.2	4.9	.8	-14.0	-7.8
20	5.9	-6.7	.4	17.1	-1.0	8.2	6.5	-8.4	.0	7.8	-12.2	-4.6
21	9.3	-2.2	6.1	13.9	9.1	12.0	4.2	-8.6	-2.3	8.3	-3.5	4.1
22	15.2	-3.8	3.6	16.8	11.4	13.7	6.8	-4.6	.7	3.0	.5	1.5
23	21.9	-2.4	8.6	11.9	5.8	8.0	6.5	-3.2	2.6	9.7	-3.9	4.2
24	15.6	-.9	10.0	8.5	5.5	6.7	-2.8	-9.8	-6.9	10.0	-4.2	3.1
25	12.2	-2.9	2.7	10.6	6.7	8.3	.6	-7.9	-3.5	1.9	-9.2	-4.3
26	---	---	---	9.2	1.7	5.5	-3.1	-12.7	-8.6	2.7	-11.8	-3.9
27	16.1	-2.4	5.7	2.1	.8	1.3	6.1	-14.3	-5.9	1.5	-6.5	-.7
28	17.6	-4.4	5.5	1.4	-.5	.4	6.9	-5.4	1.3	10.3	-5.0	2.7
29	12.8	.8	7.1	1.6	-3.1	-.5	8.2	2.2	5.4	.9	-7.5	-3.9
30	7.1	4.8	5.8	3.0	-3.8	-.3	14.7	6.3	10.7	4.0	-8.1	-1.9
31	13.3	.2	7.1	---	---	---	14.6	.0	8.8	7.3	-.3	3.2
MONTH	25.4	-6.7	7.8	19.2	-9.8	4.8	14.7	-14.3	.3	15.6	-14.0	-.4

TEMPERATURE, AIR, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	3.3	-9.9	-4.6	6.7	-12.1	-1.4	13.7	3.2	10.3	23.4	2.8	13.4
2	.7	-13.0	-6.9	9.7	-1.4	3.3	2.8	.4	1.3	27.0	5.4	16.6
3	8.2	-9.4	-2.0	9.1	-.4	4.3	5.6	-2.9	1.5	26.0	13.1	18.9
4	7.5	-6.9	-1.0	4.0	-.1	1.7	5.4	-4.1	.6	21.8	15.1	17.9
5	10.8	-8.2	-.1	.5	-1.1	-.3	7.9	-3.9	3.5	23.0	10.7	16.5
6	1.2	-9.4	-3.8	5.5	-4.9	.2	10.7	4.1	7.0	24.5	7.5	15.8
7	7.2	-11.6	-4.0	10.8	-6.6	2.4	18.6	1.9	10.1	23.2	3.9	13.9
8	1.1	-3.7	-1.0	3.8	1.4	2.4	22.9	.0	12.5	26.7	3.2	14.9
9	5.8	-8.8	-1.7	3.0	-2.0	1.1	17.7	8.6	11.9	29.8	5.9	17.5
10	16.1	-4.5	3.9	2.3	-4.2	-1.0	13.9	2.1	9.2	29.9	6.4	18.3
11	3.1	.8	1.8	.6	-5.7	-2.5	18.4	-1.4	6.9	30.0	8.5	19.6
12	5.4	1.9	4.1	2.1	-6.3	-3.2	10.8	.6	6.9	24.6	9.5	17.4
13	2.0	-2.6	-1.1	-6.6	-10.0	-7.3	14.4	-2.4	5.5	16.0	3.4	10.3
14	.7	-3.0	-1.6	-6.1	-15.2	-10.2	11.6	-.7	6.0	21.4	.4	11.6
15	-.3	-3.7	-2.0	1.7	-20.5	-7.4	25.8	5.7	15.4	25.5	10.1	17.9
16	.4	-2.5	-1.5	6.8	-.4	3.9	12.9	3.5	9.2	18.2	3.4	11.2
17	-3.5	-15.0	-7.3	4.8	-10.2	-2.4	8.6	.4	4.0	21.1	.5	11.1
18	-12.8	-21.4	-17.1	-2.7	-12.1	-7.9	18.3	.0	9.2	15.7	6.1	10.5
19	-6.1	-22.9	-13.3	6.9	-13.8	-1.6	20.7	3.1	11.3	15.4	3.7	9.5
20	-.4	-8.0	-4.3	4.5	.6	2.7	22.7	9.0	16.7	14.6	1.4	8.4
21	6.3	-3.1	.8	5.4	.5	2.4	8.9	1.7	3.5	16.8	-.7	9.1
22	1.7	-5.4	-1.6	9.1	-.9	3.1	13.2	-2.1	6.0	21.6	-.2	11.4
23	-4.0	-10.1	-6.4	11.9	1.8	7.2	16.8	-2.6	7.3	17.6	6.4	12.4
24	-7.8	-18.4	-12.3	10.5	3.0	7.0	16.7	1.8	10.9	20.7	14.7	17.8
25	-5.7	-23.2	-12.1	15.4	2.2	6.9	18.2	6.5	14.5	16.8	6.4	12.9
26	-.9	-9.3	-5.0	16.1	1.5	6.9	6.3	-.7	4.7	23.0	1.7	13.0
27	-1.4	-15.4	-8.9	10.8	-1.9	4.7	15.9	-1.4	6.3	25.9	4.1	15.1
28	.0	-18.1	-9.0	8.0	5.4	6.4	23.0	-1.1	11.2	28.9	9.2	19.9
29	---	---	---	13.6	5.2	8.5	23.7	5.4	15.9	18.3	5.1	12.2
30	---	---	---	18.7	3.2	11.2	21.4	6.8	15.3	24.7	1.6	13.3
31	---	---	---	20.5	.1	10.6	---	---	---	20.6	9.4	15.2
MONTH	16.1	-23.2	-4.2	20.5	-20.5	1.7	25.8	-4.1	8.5	30.0	-.7	14.3

403635082152300 AS-45 NR LOUDONVILLE OH

TEMPERATURE, AIR, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	17.0	4.0	9.7	27.3	14.0	21.1	29.7	8.0	18.7	24.7	15.2	18.6
2	18.1	4.7	10.9	29.0	19.5	23.1	29.0	12.3	21.2	29.7	15.2	21.4
3	17.4	7.4	12.5	30.0	17.7	23.1	28.8	9.4	19.0	24.8	17.1	20.5
4	16.4	11.1	13.5	31.3	15.7	23.8	26.8	11.0	18.8	24.8	11.9	18.0
5	16.6	6.6	13.2	32.7	17.8	26.1	24.9	8.7	16.0	26.8	8.9	16.8
6	24.1	2.1	13.8	30.0	19.4	24.8	27.2	11.7	17.4	25.4	11.4	17.9
7	24.7	9.6	16.8	32.2	18.4	24.1	26.5	10.3	17.2	23.4	10.4	17.3
8	29.2	13.2	20.8	31.3	18.9	24.7	28.6	7.1	17.2	22.5	8.1	14.4
9	26.2	16.7	20.6	32.2	18.1	25.4	30.3	8.2	18.5	25.9	11.0	17.6
10	29.1	14.3	21.8	30.6	18.0	22.9	27.4	11.1	18.2	20.6	4.4	15.3
11	28.4	11.4	19.5	32.0	17.3	23.5	31.3	12.1	20.2	20.0	1.2	9.7
12	26.8	11.9	18.6	28.6	17.1	22.8	29.0	14.2	21.9	22.8	5.9	14.8
13	28.1	10.4	19.5	29.8	13.0	21.3	30.5	15.0	21.6	29.4	10.3	20.2
14	27.4	12.8	19.6	28.5	15.6	21.7	31.5	11.8	20.8	29.9	17.8	23.6
15	25.2	11.9	19.1	25.9	12.4	20.9	32.2	13.5	21.3	23.5	12.6	17.0
16	26.9	8.5	17.5	28.6	8.6	18.2	30.7	19.2	24.0	19.8	8.6	14.5
17	29.8	7.6	19.4	28.9	9.3	18.6	30.1	16.6	24.0	22.1	9.0	15.1
18	32.0	12.9	22.0	30.0	12.1	21.7	31.3	14.4	22.1	20.9	6.8	13.2
19	32.2	15.9	23.4	28.8	17.1	23.2	32.1	14.5	22.3	21.3	8.1	14.1
20	28.3	16.0	21.4	29.3	13.9	21.2	29.5	17.6	22.3	18.8	5.0	11.5
21	24.2	16.1	20.4	26.6	11.7	19.1	26.6	9.7	18.8	21.0	10.4	15.5
22	29.5	12.3	20.6	26.3	9.4	17.9	30.3	5.9	17.3	20.8	10.3	15.8
23	26.8	8.7	17.8	29.1	9.4	18.0	31.9	10.5	20.5	18.8	9.3	16.8
24	30.9	8.0	20.3	31.2	14.7	21.6	31.5	17.2	23.2	19.6	5.0	11.1
25	29.6	18.4	23.9	31.2	16.4	22.9	33.0	16.3	23.7	19.2	7.0	12.7
26	28.4	13.7	20.6	33.1	15.4	24.0	34.8	14.5	23.6	19.1	10.0	15.5
27	28.3	12.5	20.7	31.9	14.2	22.7	34.3	16.8	24.6	14.6	7.8	10.8
28	22.8	11.6	17.8	33.7	15.7	24.8	33.2	16.0	23.8	16.7	3.6	9.1
29	25.2	11.0	19.0	26.1	14.6	21.1	34.0	13.4	22.5	12.7	-4	5.6
30	24.0	10.0	16.6	21.8	13.1	17.5	34.2	15.4	23.7	12.4	-5	5.9
31	---	---	---	29.8	9.5	19.2	32.7	17.5	23.6	---	---	---
MONTH	32.2	2.1	18.4	33.7	8.6	22.0	34.8	5.9	20.9	29.9	-5	15.0
YEAR	34.8	-23.2	9.2									

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	15.7	15.4	15.6	14.1	13.8	14.0	12.2	12.1	12.2	10.6	10.4	10.6
2	15.7	15.4	15.6	13.9	13.8	13.8	12.2	12.2	12.2	10.6	10.4	10.5
3	15.6	15.4	15.5	13.8	13.6	13.7	12.2	12.1	12.2	10.6	10.4	10.4
4	15.6	15.4	15.5	13.8	13.6	13.7	12.2	11.9	12.0	10.5	10.4	10.4
5	15.6	15.4	15.5	13.8	13.6	13.7	12.1	11.9	12.0	10.4	10.0	10.1
6	15.6	15.4	15.5	13.6	13.6	13.6	12.1	11.9	12.0	10.0	9.8	10.0
7	15.6	15.2	15.4	13.6	13.6	13.6	11.9	11.7	11.9	10.0	9.8	10.0
8	15.4	15.1	15.4	13.6	13.4	13.6	11.9	11.7	11.9	10.0	9.8	10.0
9	15.4	15.1	15.3	13.6	13.3	13.5	11.9	11.7	11.8	10.0	9.8	10.0
10	15.4	15.1	15.2	13.6	13.3	13.4	11.7	11.7	11.7	10.0	9.8	9.9
11	15.4	15.1	15.1	13.4	13.4	13.4	11.7	11.5	11.7	10.0	9.8	9.9
12	15.1	15.1	15.1	13.4	12.9	13.2	11.7	11.5	11.5	10.0	9.8	9.8
13	15.1	15.1	15.1	12.9	12.8	12.9	11.5	11.5	11.5	9.8	9.6	9.6
14	15.1	14.9	15.0	12.9	12.8	12.8	11.5	11.3	11.5	9.6	9.6	9.6
15	15.1	14.9	15.0	12.9	12.8	12.8	11.5	11.3	11.5	9.6	9.6	9.6
16	15.1	14.8	14.9	12.9	12.6	12.8	11.5	11.3	11.4	9.6	9.4	9.6
17	15.1	14.8	14.9	12.9	12.6	12.7	11.5	11.3	11.4	9.6	9.4	9.6
18	14.8	14.8	14.8	12.6	12.6	12.6	11.5	11.3	11.3	9.6	9.4	9.5
19	14.9	14.8	14.8	12.6	12.4	12.6	11.3	11.1	11.3	9.6	9.4	9.6
20	14.8	14.6	14.8	12.6	12.4	12.5	11.3	11.1	11.3	9.6	9.4	9.5
21	14.8	14.6	14.7	12.4	12.4	12.4	11.3	11.0	11.2	9.6	9.4	9.5
22	14.8	14.4	14.6	12.4	12.4	12.4	11.3	11.0	11.1	9.4	9.4	9.4
23	14.6	14.3	14.5	12.4	12.2	12.3	11.1	11.0	11.1	9.4	9.2	9.3
24	14.4	14.3	14.3	12.4	12.2	12.3	11.2	11.0	11.1	9.4	9.2	9.2
25	14.5	14.3	14.3	12.4	12.2	12.2	11.0	11.0	11.0	9.2	9.0	9.1
26	---	---	---	12.2	12.2	12.2	11.1	10.8	11.0	9.2	9.0	9.1
27	14.3	14.1	14.2	12.4	12.2	12.2	11.0	10.8	11.0	9.2	9.0	9.0
28	14.3	14.0	14.2	12.4	12.2	12.2	11.0	10.6	10.8	9.2	9.0	9.0
29	14.1	14.1	14.1	12.2	12.1	12.2	10.9	10.6	10.7	9.2	9.0	9.0
30	14.1	14.1	14.1	12.2	12.1	12.2	10.7	10.5	10.6	9.2	9.0	9.0
31	14.1	13.9	14.0	---	---	---	10.7	10.4	10.5	9.0	9.0	9.0
MONTH	15.7	13.9	14.9	14.1	12.1	12.9	12.2	10.4	11.4	10.6	9.0	9.6

403635082152300 AS-45 NR LOUDONVILLE OH

SOIL TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	18.4	15.1	16.8	13.6	12.9	13.2	8.0	7.2	7.7	8.6	6.5	7.4
2	18.9	15.3	17.1	15.7	13.0	14.4	8.1	7.2	7.6	6.4	5.7	5.9
3	19.7	15.8	17.7	14.9	13.0	14.0	7.9	7.2	7.6	8.3	5.7	6.6
4	19.7	17.4	18.5	14.3	13.0	13.9	7.8	6.8	7.2	11.6	8.4	9.9
5	18.3	15.7	17.2	12.9	10.9	11.9	7.3	6.4	6.8	11.7	9.2	10.6
6	18.0	14.8	16.4	11.1	10.4	10.7	6.3	5.7	5.9	9.2	7.9	8.7
7	18.2	14.5	16.3	11.0	9.9	10.4	5.7	5.6	5.7	7.7	6.4	6.9
8	18.8	14.8	16.8	10.6	9.1	9.8	5.7	5.6	5.6	6.8	6.6	6.7
9	18.6	17.2	18.1	10.4	8.6	9.5	5.6	5.5	5.5	6.6	6.1	6.3
10	18.7	16.2	17.4	12.1	10.2	11.1	5.7	5.6	5.6	6.0	5.8	5.9
11	17.9	16.6	17.4	13.6	12.0	12.8	6.0	5.7	5.8	6.2	5.9	6.0
12	17.5	15.4	16.6	15.7	13.6	14.5	6.6	6.0	6.3	6.3	6.0	6.2
13	16.6	14.6	15.7	14.3	10.3	12.0	7.4	6.4	6.8	6.7	5.9	6.3
14	18.9	15.3	16.7	10.1	8.7	9.1	6.4	5.7	5.9	5.8	5.4	5.5
15	18.8	16.9	17.9	8.6	7.6	8.1	7.0	5.5	6.0	5.4	5.3	5.3
16	18.7	16.9	18.2	7.5	6.7	7.1	9.5	7.1	8.4	5.3	5.1	5.3
17	16.7	14.5	15.4	9.9	7.2	8.5	8.5	7.5	8.0	5.3	5.1	5.2
18	14.8	13.7	14.2	10.3	9.8	10.0	8.2	7.2	7.8	5.1	4.8	4.9
19	13.5	11.6	12.6	10.6	9.3	9.8	8.3	6.5	7.2	4.8	4.6	4.7
20	12.3	10.7	11.4	11.1	9.0	9.9	8.5	6.6	7.8	4.5	4.3	4.4
21	13.7	11.9	12.7	13.1	10.6	11.8	6.5	5.7	5.9	4.3	4.3	4.3
22	13.5	11.0	12.3	14.7	13.2	13.8	6.2	5.6	5.8	4.4	4.3	4.3
23	14.8	11.0	12.8	14.6	13.1	13.7	7.1	5.7	6.3	4.4	4.3	4.4
24	15.7	14.0	14.7	13.2	12.6	12.9	6.2	5.2	5.6	6.0	4.5	5.3
25	14.3	12.2	13.4	13.3	12.6	12.9	5.2	4.8	5.0	5.3	4.8	5.0
26	---	---	---	12.9	11.2	12.2	4.8	4.4	4.6	4.8	4.6	4.7
27	14.9	13.1	13.8	11.1	10.1	10.5	4.4	4.1	4.2	4.6	4.6	4.6
28	13.8	11.1	12.6	10.0	9.3	9.6	4.1	4.0	4.1	4.6	4.5	4.5
29	14.1	12.6	13.3	9.2	8.1	8.9	4.2	4.1	4.1	4.6	4.5	4.5
30	13.6	13.0	13.3	7.9	7.1	7.6	6.3	4.2	4.4	4.5	4.4	4.5
31	14.5	12.4	13.4	---	---	---	9.7	6.7	8.8	4.4	4.3	4.3
MONTH	19.7	10.7	15.4	15.7	6.7	11.2	9.7	4.0	6.3	11.7	4.3	5.8

SOIL TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	4.4	4.3	4.4	4.5	4.4	4.4	14.7	13.6	14.1	20.1	15.0	17.4
2	4.4	4.2	4.2	4.5	4.4	4.4	13.5	10.3	11.8	20.1	16.1	18.1
3	4.2	4.0	4.1	5.3	4.3	4.6	11.4	8.9	10.2	20.0	17.9	18.9
4	4.1	3.9	4.0	5.9	5.4	5.6	10.6	8.5	9.6	20.2	18.2	19.0
5	4.0	3.9	3.9	5.4	5.2	5.3	10.2	8.0	9.1	20.9	18.0	19.3
6	4.0	3.9	4.0	6.4	5.3	5.6	11.8	9.5	10.4	22.0	17.6	19.7
7	4.0	3.8	3.8	7.1	4.9	5.8	15.0	10.1	12.2	21.9	17.1	19.4
8	3.8	3.8	3.8	7.3	6.8	7.0	15.6	11.1	13.4	22.0	16.7	19.3
9	3.8	3.8	3.8	7.4	6.4	6.8	14.9	13.6	14.3	22.8	17.3	19.9
10	3.9	3.8	3.8	6.6	5.7	5.9	16.5	13.1	14.5	23.4	17.9	20.6
11	3.9	3.8	3.9	5.8	5.6	5.7	15.6	12.0	13.9	23.8	18.6	21.2
12	4.0	3.9	3.9	5.6	5.3	5.4	15.3	12.9	14.0	22.0	19.7	21.1
13	4.1	4.0	4.0	5.3	4.9	5.1	15.8	11.3	13.4	22.1	18.0	20.0
14	4.2	4.1	4.2	4.9	4.6	4.7	13.9	11.9	12.9	21.6	16.4	18.9
15	4.5	4.2	4.3	4.7	4.5	4.6	16.6	12.5	14.4	22.2	18.0	19.9
16	4.7	4.5	4.6	5.6	4.5	4.8	15.9	14.0	14.9	20.1	17.7	18.9
17	4.8	4.7	4.8	5.9	5.1	5.7	13.7	11.7	12.6	20.7	15.5	18.1
18	4.9	4.8	4.9	5.0	4.4	4.6	15.3	10.6	12.6	18.7	16.8	17.7
19	5.0	4.8	4.9	4.4	4.2	4.3	15.0	12.5	13.8	18.9	16.0	17.1
20	5.0	4.9	4.9	5.8	4.2	4.8	17.2	14.1	15.4	18.1	14.9	16.6
21	5.0	4.9	5.0	7.7	5.6	6.5	15.9	12.9	14.2	18.2	14.0	16.0
22	5.0	4.9	5.0	9.2	6.4	7.5	15.4	10.6	12.9	19.8	14.3	17.0
23	5.0	4.8	4.9	9.6	7.4	8.3	16.7	11.2	13.8	17.6	16.1	16.9
24	4.9	4.7	4.8	11.0	9.4	10.1	14.7	13.1	13.9	18.5	16.6	17.5
25	4.6	4.5	4.6	12.7	9.3	10.7	16.1	14.6	15.2	18.0	16.4	17.3
26	4.5	4.4	4.5	13.5	10.1	11.6	15.2	13.3	14.1	20.4	14.9	17.5
27	4.5	4.4	4.5	11.8	9.8	10.9	17.1	11.6	13.9	20.8	15.9	18.3
28	4.5	4.4	4.4	11.5	10.6	11.0	17.1	12.6	14.8	22.6	17.4	19.9
29	---	---	---	13.2	10.5	11.7	17.7	14.4	16.1	21.8	18.8	20.3
30	---	---	---	15.2	12.0	13.4	18.8	16.0	17.2	22.0	16.6	19.3
31	---	---	---	14.5	11.4	13.2	---	---	---	20.9	19.1	20.0
MONTH	5.0	3.8	4.4	15.2	4.2	7.1	18.8	8.0	13.5	23.8	14.0	18.7

403635082152300 AS-45 NR LOUDONVILLE OH

SOIL TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	20.9	16.7	18.7	26.1	22.2	24.1	26.2	21.2	23.7	27.4	24.3	25.9
2	18.9	16.9	18.1	27.0	24.1	25.3	27.0	22.6	24.5	27.6	23.5	25.4
3	18.8	16.6	17.7	28.6	24.4	26.2	26.8	21.4	23.9	26.6	24.0	25.0
4	18.4	17.4	18.0	29.4	24.4	26.8	26.1	22.1	23.9	27.1	22.8	24.7
5	18.3	17.6	17.8	30.6	25.7	27.9	24.4	20.2	22.4	26.1	20.9	23.5
6	20.9	15.6	18.1	29.1	26.3	27.8	25.3	20.5	22.7	24.7	21.2	23.0
7	20.5	17.8	19.1	30.5	25.8	27.9	26.1	20.8	23.2	25.6	21.9	23.5
8	23.0	18.9	20.7	31.1	25.8	28.2	26.2	20.1	23.2	23.7	20.0	21.9
9	22.7	20.7	21.6	31.0	26.3	28.6	28.0	20.5	23.9	24.3	20.0	22.0
10	24.0	20.9	22.4	29.3	26.4	27.9	24.7	21.9	23.5	23.6	20.6	22.0
11	24.0	20.8	22.5	30.2	25.3	27.5	26.5	21.3	23.6	22.6	17.0	19.8
12	23.8	20.7	22.2	29.6	25.8	27.6	27.1	22.1	24.5	21.3	17.7	19.3
13	24.1	20.4	22.3	29.9	24.6	27.1	28.5	23.1	25.4	24.0	18.3	20.9
14	24.7	20.9	22.7	27.5	24.9	26.2	28.8	22.4	25.5	25.0	20.5	22.5
15	25.4	21.4	23.3	29.0	24.9	26.7	27.5	22.9	25.4	23.3	20.3	21.9
16	26.1	20.8	23.3	29.0	23.0	25.8	28.0	24.1	25.9	22.6	18.7	20.5
17	26.8	21.1	23.9	28.6	22.8	25.6	29.6	24.7	26.9	22.5	19.0	20.5
18	27.2	22.2	24.6	28.8	23.3	25.8	29.9	23.9	26.6	21.8	18.3	20.0
19	28.0	23.2	25.4	27.4	24.9	26.0	29.6	23.9	26.7	22.2	18.6	20.1
20	25.8	23.8	25.1	28.7	23.5	25.9	28.1	24.8	26.3	20.0	17.2	18.7
21	25.9	23.4	24.6	27.3	23.7	25.3	28.3	23.2	25.7	20.8	18.1	19.2
22	27.8	22.3	24.9	26.1	21.9	24.1	28.8	21.2	24.8	21.4	18.4	19.8
23	28.0	22.6	25.3	27.4	21.6	24.2	28.4	22.2	25.1	20.6	19.5	20.2
24	27.9	22.2	25.1	27.7	22.6	24.8	28.4	23.8	25.9	20.6	17.1	18.9
25	27.8	24.6	26.2	26.8	23.4	25.1	30.4	23.9	26.8	18.7	16.7	17.9
26	28.6	24.2	26.2	28.1	23.6	25.6	30.4	24.1	27.0	19.2	18.0	18.9
27	27.9	23.7	25.8	28.6	23.2	25.7	30.9	25.3	27.9	18.3	16.8	17.5
28	25.9	23.4	24.2	28.5	23.8	26.1	31.3	25.8	28.2	17.1	15.1	16.0
29	26.7	23.0	24.5	26.4	23.8	25.3	31.2	24.8	27.9	15.6	13.1	14.6
30	24.6	22.4	23.6	24.7	22.6	23.3	30.7	25.3	27.9	16.1	13.1	14.5
31	---	---	---	27.4	20.8	23.7	30.1	25.6	27.6	---	---	---
MONTH	28.6	15.6	22.6	31.1	20.8	26.1	31.3	20.1	25.4	27.6	13.1	20.6
YEAR	31.3	3.8	14.8									

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.18	.00	.00	.15	.00	.45	.00	.00	.58	.00	.00
2	.00	.75	.21	.00	.04	.00	.08	.00	.10	.33	.00	.00
3	.01	.01	.03	.22	.01	.08	.00	.00	.21	.07	.00	.00
4	.00	.14	.02	1.37	.01	1.15	.00	.11	.14	.12	.00	.00
5	.03	.30	.00	.07	.00	.00	.00	.01	.06	.00	.00	.00
6	.54	.10	.00	.00	.00	.26	.00	.00	.00	.16	.00	.00
7	.57	.00	.00	.01	.00	.19	.00	.00	.56	.07	.00	.00
8	.01	.00	.00	.00	.00	.20	.00	.00	.01	.01	.00	.00
9	.02	.00	.00	.00	.00	.02	.68	.00	.98	.00	.00	.00
10	.01	.19	.41	.03	.00	.05	.13	.00	.00	.10	.00	.00
11	.00	.77	.02	.01	.20	.02	.35	.00	.00	.37	.00	.00
12	.01	2.01	.00	1.25	.47	.07	.01	.10	.00	.00	.00	.00
13	.00	.01	.00	.30	.06	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.08	.01	.10	.00	.00	.13	.00	.00
15	.02	.00	.00	.00	.00	.02	.53	.00	.00	.00	.00	.00
16	.00	.00	.00	.01	.04	.67	.08	.00	.00	.00	.00	.00
17	.30	.00	.00	.01	.00	.13	.02	.00	.00	.00	.00	.00
18	.24	.00	.00	.00	.00	.00	.00	.05	.02	.00	.00	.00
19	.84	.00	.24	.00	.00	.00	.27	.04	.01	.03	.00	.00
20	.02	.00	.20	.01	.01	.23	.62	.00	.53	.00	.00	.00
21	.00	.43	.00	.58	.82	.01	.02	.00	1.02	.00	.00	.00
22	.00	.85	.00	.13	.01	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.06	.00	1.09	.00	.03	.00	.00	.00	.00
24	.08	.47	.00	.59	.00	.17	.31	.07	.00	.00	.00	.00
25	.01	.01	.00	.07	.00	.00	1.83	.01	.81	.00	.00	.00
26	.01	.00	.00	.07	.03	.00	.09	.00	.19	.00	.00	.00
27	.00	.00	.00	.17	.01	.11	.00	.00	.10	.00	.00	.00
28	.00	.12	.00	.17	.12	.00	.00	.75	.06	.00	.00	.00
29	.00	.00	.11	.14	---	.00	.00	.49	.03	.00	.00	.00
30	.01	.00	.33	.14	---	.00	.05	.00	.18	.00	.00	.00
31	.00	---	.07	.14	---	.50	---	.28	---	.00	.00	---
TOTAL	2.73	6.34	1.64	5.55	2.06	4.98	5.62	1.94	5.01	1.97	0.00	0.00

WTR YR 1993 TOTAL 37.84

GROUND-WATER RECORDS

403923082325500. Local number, R-16.

LOCATION.--Lat 40°39'23" Long 82°32'55", Hydrologic Unit 05040002, along State Route 97 near Lexington, OH.
Owner.--USGS-Sam McBride.

AQUIFER.--Sand and Gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well drilled by hollow stem auger, diameter 4.0 in., depth 18.9 ft. Cased with Sch 40 PVC to 8.9 ft; .010 in. screen from 8.9 to 18.9 ft.

INSTRUMENTATION - Data logger--60 minute record. Precipitation data collected with a propane-heated, tipping-bucket rain gauge. Also collected: air temperature, soil temperature, water temperature, and specific conductance. Conductivity/water temperature probe set at 18.6 feet below land surface.

DATUM.--Elevation of land-surface datum is 1168.37 feet above sea level.
Measuring point: shelter floor 2.36 ft above land-surface datum.

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

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

PERIOD OF DAILY RECORD.--

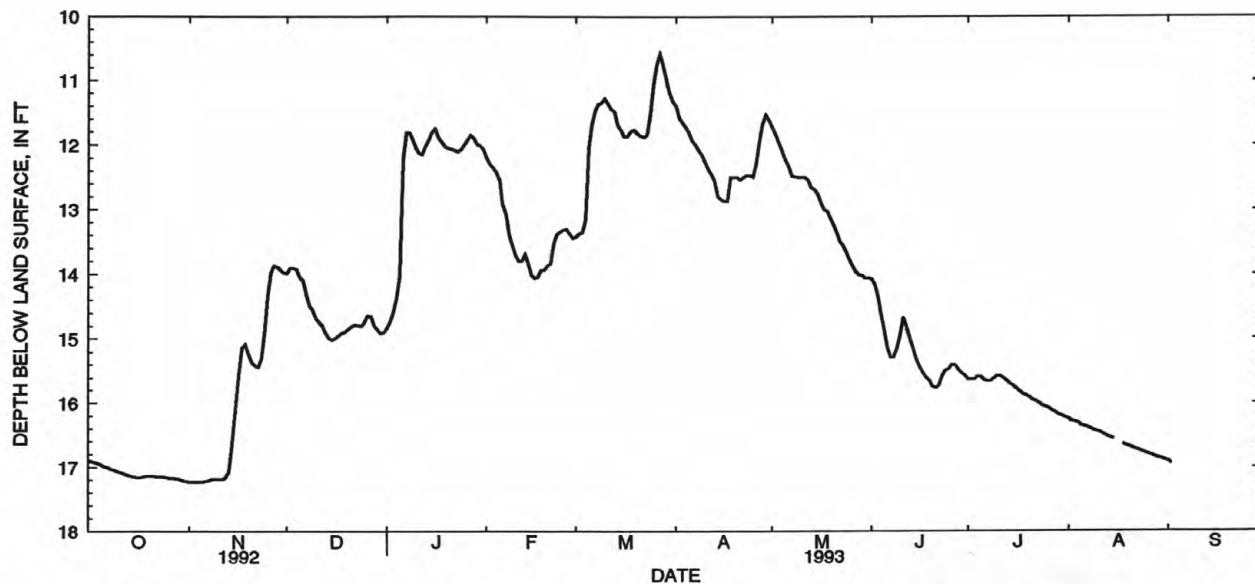
WATER LEVEL: February 1991 to current year.
SPECIFIC CONDUCTANCE: February 1991 to current year.
AIR TEMPERATURE: February 1991 to current year.
WATER TEMPERATURE: February 1991 to current year.
SOIL TEMPERATURE: February 1991 to current year.
PRECIPITATION: February 1991 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER LEVEL: Maximum daily low, 17.62 ft. below land-surface datum, November 30-December 3, 1991; minimum daily low, 10.56 ft. below land-surface datum, March 27, 1993.
SPECIFIC CONDUCTANCE: Maximum, 645 microsiemens January 7-8, 1993; minimum, 157 microsiemens March 6, 1991.
AIR TEMPERATURE: Maximum, 36.0°C August 1, 1991; minimum, -26.1°C January 19, 1992.
WATER TEMPERATURE: Maximum, 12.2°C November 22, 1992; minimum, 7.9°C March 26, 1993.
SOIL TEMPERATURE: Maximum, 29.3°C August 29, 1993; minimum, 1.0°C February 27 & 28, 1991.

EXTREMES FOR CURRENT YEAR.--

WATER LEVEL: Maximum daily low, 17.23 ft below land-surface datum, November 1-5, 1992; minimum daily low, 10.56 ft below land-surface datum, March 27, 1993.
SPECIFIC CONDUCTANCE: Maximum, 645 microsiemens January 7-8, 1993; minimum, 219 microsiemens May 27-29, 1993.
AIR TEMPERATURE: Maximum, 33.0°C August 27, 30, 1993; minimum, -24.6°C February 25, 1993.
WATER TEMPERATURE: Maximum, 12.2°C November 22, 1992; minimum, 7.9°C March 26, 1993.
SOIL TEMPERATURE: Maximum, 29.3°C August 29, 1993; minimum, 4.6°C February 2-11, 1993.



403923082325500 R-16 NR LEXINGTON OH

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.89	17.23	13.99	14.83	12.20	13.43	11.40	11.73	14.07	15.62	16.24	16.90
2	16.91	17.23	13.91	14.73	12.30	13.38	11.59	11.84	14.16	15.62	16.27	16.94
3	16.92	17.23	13.91	14.59	12.37	13.36	11.66	11.96	14.34	15.62	16.29	---
4	16.94	17.23	13.93	14.37	12.42	13.16	11.73	12.09	14.62	15.59	16.31	---
5	16.96	17.23	14.05	14.02	12.55	12.04	11.82	12.24	14.86	15.59	16.34	---
6	16.99	17.22	14.10	12.23	12.91	11.68	11.93	12.34	15.13	15.63	16.35	---
7	17.00	17.21	14.31	11.82	13.08	11.47	12.00	12.48	15.28	15.66	16.38	---
8	17.03	17.19	14.49	11.82	13.40	11.37	12.08	12.49	15.28	15.66	16.40	---
9	17.04	17.19	14.55	11.92	13.56	11.35	12.15	12.50	15.16	15.61	16.42	---
10	17.07	17.19	14.68	12.05	13.71	11.29	12.26	12.50	14.95	15.58	16.44	---
11	17.08	17.19	14.74	12.13	13.80	11.36	12.37	12.50	14.67	15.58	16.46	---
12	17.10	17.17	14.79	12.15	13.80	11.45	12.45	12.54	14.81	15.60	16.49	---
13	17.12	17.08	14.90	12.03	13.70	11.48	12.55	12.66	14.98	15.65	16.51	---
14	17.14	16.64	14.98	11.93	13.84	11.69	12.79	12.69	15.14	15.69	16.54	---
15	17.15	16.10	15.01	11.82	14.02	11.77	12.85	12.76	15.32	15.73	16.56	---
16	17.16	15.58	15.00	11.76	14.06	11.87	12.87	12.90	15.44	15.77	---	---
17	17.16	15.14	14.95	11.89	14.04	11.87	12.87	13.00	15.53	15.82	---	---
18	17.15	15.09	14.91	11.96	13.94	11.79	12.50	13.03	15.60	15.85	16.64	---
19	17.14	15.24	14.89	12.03	13.94	11.77	12.50	13.14	15.65	15.88	16.66	---
20	17.14	15.35	14.85	12.06	13.87	11.83	12.50	13.24	15.74	15.91	16.68	---
21	17.14	15.42	14.81	12.07	13.84	11.86	12.54	13.36	15.76	15.94	16.70	---
22	17.15	15.43	14.78	12.09	13.53	11.88	12.50	13.50	15.73	15.97	16.72	---
23	17.15	15.33	14.79	12.11	13.39	11.85	12.47	13.56	15.58	16.00	16.74	---
24	17.15	14.93	14.80	12.08	13.35	11.52	12.47	13.66	15.50	16.03	16.76	---
25	17.16	14.35	14.76	12.01	13.32	11.07	12.49	13.77	15.47	16.06	16.78	---
26	17.17	13.98	14.64	11.93	13.31	10.76	12.30	13.87	15.41	16.08	16.80	---
27	17.17	13.87	14.65	11.86	13.38	10.59	11.96	13.96	15.41	16.11	16.82	---
28	17.18	13.89	14.79	11.90	13.45	10.77	11.68	14.01	15.47	16.14	16.84	---
29	17.19	13.94	14.85	12.00	---	10.99	11.54	14.02	15.53	16.17	16.86	---
30	17.21	13.98	14.91	12.02	---	11.21	11.64	14.06	15.57	16.19	16.87	---
31	17.22	---	14.90	12.08	---	11.33	---	14.06	---	16.22	16.89	---
MAX	17.22	17.23	15.01	14.83	14.06	13.43	12.87	14.06	15.76	16.22	16.89	16.94
WTR YR 1993	LOW 17.23											

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, PROBE 18.6' BLS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	561	557	559	586	584	585	590	573	581	417	411	415
2	563	559	560	586	585	585	572	554	563	419	416	418
3	565	558	561	587	583	586	554	535	544	419	415	417
4	565	559	562	589	587	588	534	506	522	414	411	413
5	564	560	563	590	586	588	504	482	493	534	415	463
6	566	560	564	591	587	588	481	462	471	631	541	594
7	566	561	565	591	588	589	463	452	459	645	634	642
8	567	563	566	591	588	589	453	442	447	645	636	642
9	568	566	567	592	588	590	441	431	435	636	620	629
10	569	565	568	592	591	592	431	428	429	621	604	612
11	570	569	569	593	592	592	429	428	428	603	583	594
12	571	567	570	593	592	593	431	429	430	583	568	575
13	572	568	571	593	584	589	433	431	432	591	566	578
14	572	568	571	583	577	580	434	432	433	599	591	596
15	573	569	572	577	574	576	437	434	435	599	589	594
16	575	573	574	576	573	575	437	437	437	589	574	582
17	576	571	575	576	572	573	437	435	436	573	557	566
18	576	575	576	584	575	580	435	434	434	557	537	547
19	577	576	577	591	585	588	434	431	432	537	518	527
20	578	577	578	594	591	592	431	430	431	518	502	510
21	578	577	577	597	593	594	431	426	428	503	493	497
22	579	573	577	605	595	601	425	419	422	493	490	492
23	579	574	578	609	605	608	418	415	417	490	483	487
24	579	575	578	610	608	609	420	416	417	484	480	481
25	580	579	579	614	610	613	420	417	419	493	485	488
26	581	576	579	615	614	614	420	417	419	501	493	496
27	581	576	579	614	612	613	420	417	418	503	501	502
28	582	577	580	614	611	613	417	413	415	500	492	496
29	586	578	580	611	606	608	412	405	407	492	474	485
30	583	580	582	606	591	600	408	405	406	476	459	467
31	584	582	583	---	---	---	413	409	411	458	446	453
MONTH	586	557	572	615	572	593	590	405	447	645	411	524

403923082325500 R-16 NR LEXINGTON OH

AIR TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	18.1	.1	8.3	7.8	4.0	5.2	.9	-2.0	-.2	-1.4	-5.5	-3.2
2	21.7	2.7	11.7	16.9	9.2	12.8	1.1	-.9	.2	.1	-8.2	-3.5
3	23.6	5.5	13.6	18.6	6.5	12.6	.1	-4.0	-1.2	11.2	.4	5.5
4	17.1	6.9	12.3	14.9	2.3	7.4	3.5	-2.2	.2	14.6	10.3	12.4
5	15.1	2.6	9.1	2.3	.2	1.1	-3.6	-8.5	-5.1	11.2	-.3	2.5
6	19.5	-.1	8.0	2.0	-.4	.6	-3.1	-12.3	-6.3	1.3	-4.0	-.4
7	20.9	.0	9.2	3.7	-3.9	-.3	-.9	-3.3	-2.1	3.3	-5.9	-1.3
8	18.2	3.1	12.0	5.7	-2.4	.7	-2.3	-4.0	-3.1	.1	-2.3	-1.2
9	15.9	8.1	11.8	7.4	-.3	4.3	.7	-4.7	-2.1	-2.3	-4.3	-3.2
10	18.3	7.0	12.1	10.9	7.2	8.5	2.0	-.9	.8	.4	-4.6	-2.0
11	11.0	4.0	8.6	11.6	10.3	11.1	1.0	.0	.3	-.8	-3.4	-1.9
12	15.2	1.6	9.5	16.2	3.3	11.3	.9	.0	.3	2.6	-.7	1.1
13	14.8	.4	7.1	4.0	-2.3	.7	4.1	-5.1	-.2	5.4	-3.5	1.1
14	24.7	6.1	15.9	-.1	-6.2	-2.7	7.2	-6.5	-1.0	-2.0	-3.9	-3.1
15	20.0	13.1	16.4	.5	-7.2	-3.3	9.5	-.7	3.9	-2.6	-4.6	-3.8
16	16.3	3.6	11.5	2.6	-8.1	-1.6	12.1	-1.3	6.7	-1.2	-4.6	-3.0
17	9.2	.0	3.7	9.9	3.9	7.3	5.3	-.3	1.6	.0	-6.1	-1.9
18	6.2	-.6	2.2	5.1	2.7	4.2	2.0	-.9	.3	-4.2	-12.2	-7.7
19	5.4	-4.2	.2	7.9	1.2	3.9	8.6	-1.3	4.8	1.1	-13.6	-7.1
20	7.8	-5.3	.7	16.6	2.9	9.4	6.2	-6.7	-.8	5.8	-11.2	-2.2
21	8.3	-1.1	6.6	13.8	9.3	11.8	2.1	-8.7	-2.8	7.4	1.9	5.1
22	14.9	-3.8	4.1	17.0	11.7	13.8	6.0	-3.4	.8	1.8	.1	.8
23	20.7	-1.0	10.2	10.7	4.8	7.2	5.8	-3.1	3.0	9.9	-1.8	3.7
24	15.1	1.1	11.5	8.0	4.8	6.1	-4.1	-10.4	-7.6	10.6	-4.2	2.3
25	9.9	-1.8	3.6	11.4	6.2	8.1	.2	-8.1	-3.8	-.3	-9.8	-4.4
26	18.8	-2.9	8.0	11.6	.5	4.9	-4.8	-12.2	-9.0	1.3	-11.4	-4.1
27	15.8	-1.2	5.9	1.0	-.1	.5	3.9	-13.1	-3.9	.9	-5.6	-.8
28	15.1	-3.2	5.7	.6	-.9	-.2	5.6	-1.0	3.1	8.7	-3.4	2.2
29	11.5	2.3	7.7	1.4	-2.9	-.8	8.1	3.7	5.5	-.2	-7.6	-4.6
30	6.7	4.4	5.4	1.2	-2.2	-.3	14.0	8.3	11.1	3.4	-8.3	-2.5
31	11.4	1.0	6.8	---	---	---	14.2	-1.4	7.5	6.2	-.9	2.5
MONTH	24.7	-5.3	8.4	18.6	-8.1	4.8	14.2	-13.1	.0	14.6	-13.6	-.7

AIR TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	2.1	-10.7	-5.2	4.3	-11.7	-.9	12.6	2.1	9.1	22.9	4.8	14.3
2	.3	-12.2	-6.3	7.0	1.0	3.6	1.6	-.6	.5	24.3	9.8	17.9
3	7.5	-8.1	-.2	8.8	.8	4.9	3.5	-2.1	.5	23.9	15.8	19.0
4	7.4	-5.8	-.2	3.9	-.5	1.7	4.8	-4.2	.4	20.5	15.4	17.2
5	10.6	-7.9	1.2	-.5	-2.0	-1.0	7.8	-2.2	3.6	21.4	13.2	16.9
6	.8	-10.3	-4.7	4.5	-3.7	.2	10.7	4.0	6.7	23.4	9.4	16.7
7	6.7	-11.3	-3.1	8.8	-5.8	2.2	16.9	2.6	10.2	23.5	5.0	14.5
8	.5	-3.4	-.9	3.5	.6	1.7	21.8	1.9	12.9	26.5	4.0	15.9
9	4.9	-7.8	-1.7	2.2	-1.2	.5	16.1	9.6	12.1	29.8	7.4	18.6
10	14.7	-4.2	3.8	2.0	-4.6	-1.1	12.7	1.7	8.2	29.8	7.7	18.8
11	2.7	-.1	1.0	-.5	-6.0	-3.1	17.5	-1.6	6.9	29.1	10.0	19.7
12	5.2	.7	3.8	-.5	-7.2	-3.6	10.2	1.5	6.3	23.2	10.7	17.4
13	.2	-3.3	-2.1	-7.0	-11.3	-7.9	13.3	-1.5	5.9	15.3	3.5	9.9
14	.5	-3.8	-2.4	-7.3	-15.1	-11.0	12.2	3.5	7.9	20.4	.9	11.9
15	-1.3	-5.1	-2.9	.7	-22.6	-8.8	24.6	9.0	16.0	24.7	12.3	18.6
16	-1.0	-3.7	-2.2	5.0	.4	3.2	12.3	5.0	8.3	17.3	3.9	11.8
17	-5.1	-16.5	-7.8	4.6	-10.9	-3.1	8.0	1.2	4.1	20.4	.4	11.2
18	-15.3	-24.3	-18.6	-3.1	-13.4	-8.6	17.7	1.0	10.1	15.4	5.4	11.2
19	-7.0	-24.2	-14.0	5.1	-11.9	-1.4	18.2	10.7	12.9	14.7	4.8	9.7
20	-1.7	-6.7	-4.3	3.9	.6	2.4	21.4	9.1	15.6	15.2	2.2	8.5
21	6.3	-3.4	.7	3.9	.1	1.7	7.9	1.0	3.1	15.8	.2	8.6
22	.9	-6.4	-2.7	9.4	-.4	3.9	12.3	-1.3	5.8	20.4	.7	11.6
23	-5.5	-11.5	-7.6	11.8	3.4	7.9	15.1	-1.9	7.0	18.2	10.3	14.1
24	-9.3	-21.2	-13.4	9.2	2.6	5.5	16.8	5.1	11.7	18.9	15.4	17.4
25	-6.3	-24.6	-13.8	15.7	.1	6.4	18.0	6.4	13.9	15.4	7.9	13.0
26	-1.9	-7.8	-5.5	15.5	1.0	6.6	6.1	-.7	4.2	21.6	2.4	12.5
27	-3.9	-14.8	-8.3	11.0	-.2	4.9	15.0	-2.5	6.3	23.9	5.5	15.5
28	.2	-20.5	-10.2	7.3	5.0	5.7	22.1	2.4	12.6	28.2	12.4	20.8
29	---	---	---	12.5	5.0	7.9	23.0	6.7	15.6	16.7	5.6	11.9
30	---	---	---	16.4	4.3	10.5	20.8	8.1	15.3	22.6	3.5	14.2
31	---	---	---	19.2	2.5	11.0	---	---	---	18.5	9.6	14.6
MONTH	14.7	-24.6	-4.6	19.2	-22.6	1.4	24.6	-4.2	8.5	29.8	.2	14.6

403923082325500 R-16 NR LEXINGTON OH

AIR TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	15.6	5.2	9.8	26.5	16.6	21.2	27.4	9.0	19.1	24.9	15.1	19.3
2	16.5	5.9	10.7	26.5	19.4	22.2	27.0	13.9	21.7	29.7	16.8	21.7
3	16.1	8.2	12.4	28.3	19.0	23.0	26.9	10.8	19.0	---	---	---
4	15.5	10.9	13.0	31.5	17.6	24.6	23.2	14.8	18.6	---	---	---
5	16.3	6.0	12.4	32.4	20.7	26.5	21.6	8.8	15.4	---	---	---
6	22.9	2.9	13.3	29.0	22.8	25.0	23.8	12.8	17.4	---	---	---
7	23.2	10.0	17.0	31.0	20.1	24.4	23.1	11.9	17.1	---	---	---
8	28.8	15.2	21.4	30.5	20.4	24.7	26.2	8.8	17.4	---	---	---
9	24.9	18.5	21.8	32.0	19.9	26.0	27.9	9.6	18.6	---	---	---
10	26.8	14.9	21.5	29.0	20.9	24.0	22.9	13.8	18.4	---	---	---
11	25.8	12.3	18.8	30.9	19.0	23.6	28.5	14.3	21.2	---	---	---
12	27.9	12.6	19.5	28.4	17.2	23.0	28.1	14.2	21.1	---	---	---
13	27.5	12.1	20.1	27.9	12.0	20.2	30.2	16.7	22.5	---	---	---
14	26.3	16.2	20.2	26.2	17.2	22.0	30.8	13.1	21.8	---	---	---
15	24.0	12.3	18.9	25.1	13.7	21.0	30.1	14.4	22.6	---	---	---
16	25.9	9.2	17.7	26.4	10.6	18.6	---	---	---	---	---	---
17	28.5	10.3	20.1	27.8	10.8	19.0	---	---	---	---	---	---
18	30.9	15.7	22.2	28.8	14.9	22.2	31.3	18.4	23.8	---	---	---
19	30.2	17.3	23.6	26.9	19.7	23.2	31.4	14.0	22.6	---	---	---
20	27.0	19.6	22.3	27.0	15.2	21.4	27.5	19.7	23.2	---	---	---
21	23.1	17.8	19.7	24.9	14.3	19.8	26.0	10.8	19.9	---	---	---
22	27.1	13.9	20.7	24.2	10.1	17.7	27.8	6.4	17.5	---	---	---
23	26.5	10.3	18.6	25.7	10.9	18.6	31.2	12.3	21.4	---	---	---
24	29.8	10.3	20.4	28.6	16.4	21.8	29.8	20.4	24.4	---	---	---
25	28.1	18.9	22.7	28.6	18.4	23.5	32.7	17.3	24.4	---	---	---
26	27.1	14.5	20.9	31.4	19.9	25.5	32.7	15.7	24.0	---	---	---
27	26.6	15.9	21.6	30.4	17.1	23.6	33.0	18.0	25.4	---	---	---
28	22.2	14.2	18.9	32.6	17.3	24.8	31.6	17.2	24.8	---	---	---
29	24.8	12.2	18.9	24.7	18.4	22.0	32.7	15.2	23.4	---	---	---
30	21.5	11.3	16.8	22.3	15.0	18.2	33.0	16.9	24.2	---	---	---
31	---	---	---	26.2	12.0	19.1	32.5	19.8	23.5	---	---	---
MONTH	30.9	2.9	18.5	32.6	10.1	22.3	33.0	6.4	21.2	29.7	15.1	20.5
YEAR	33.0	-24.6	8.7									

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	11.8	11.5	11.7	11.7	11.7	11.7	12.0	12.0	12.0	11.5	11.3	11.3
2	11.8	11.6	11.7	11.8	11.7	11.8	12.0	12.0	12.0	11.5	11.3	11.3
3	12.0	11.5	11.8	12.0	11.7	11.8	12.0	11.9	12.0	11.3	11.1	11.3
4	12.0	11.6	11.8	11.8	11.7	11.8	12.0	12.0	12.0	11.3	11.1	11.1
5	12.0	11.7	11.8	12.0	11.7	11.8	12.0	11.9	11.9	11.1	11.1	11.1
6	12.0	11.7	11.8	12.0	11.7	11.9	12.0	11.9	11.9	11.1	10.8	10.9
7	12.0	11.7	11.8	12.0	11.7	11.9	12.0	11.7	11.8	10.9	10.8	10.8
8	12.0	11.7	11.8	12.0	11.7	11.9	12.0	11.7	11.7	10.9	10.6	10.8
9	11.8	11.7	11.8	12.0	11.7	11.8	11.7	11.7	11.7	10.8	10.6	10.7
10	12.0	11.7	11.8	11.8	11.7	11.8	11.7	11.7	11.7	10.8	10.6	10.7
11	11.8	11.7	11.8	11.8	11.8	11.8	11.7	11.7	11.7	10.6	10.6	10.6
12	12.0	11.7	11.8	11.8	11.7	11.8	11.7	11.7	11.7	10.6	10.6	10.6
13	12.0	11.7	11.8	12.0	11.7	11.9	11.8	11.7	11.7	10.6	10.4	10.5
14	12.0	11.7	11.9	12.0	11.7	11.9	11.8	11.7	11.7	10.6	10.4	10.5
15	12.0	11.8	11.8	12.0	11.7	11.9	11.7	11.7	11.7	10.4	10.4	10.4
16	11.8	11.7	11.8	12.0	11.9	11.9	11.8	11.7	11.8	10.4	10.4	10.4
17	12.0	11.7	11.8	12.0	11.7	12.0	11.7	11.7	11.7	10.4	10.4	10.4
18	11.7	11.7	11.7	12.0	12.0	12.0	11.7	11.7	11.7	10.4	10.4	10.4
19	11.8	11.7	11.7	12.0	12.0	12.0	11.7	11.7	11.7	10.5	10.4	10.4
20	11.7	11.7	11.7	12.0	11.8	12.0	11.7	11.7	11.7	10.4	10.2	10.3
21	11.8	11.7	11.7	12.0	12.0	12.0	11.7	11.7	11.7	10.4	10.2	10.3
22	12.0	11.7	11.8	12.2	12.0	12.0	11.8	11.7	11.7	10.2	10.2	10.2
23	12.0	11.7	11.8	12.0	12.0	12.0	11.7	11.5	11.7	10.2	10.2	10.2
24	12.0	11.7	11.8	12.0	12.0	12.0	11.7	11.5	11.6	10.2	10.2	10.2
25	11.8	11.7	11.7	12.0	12.0	12.0	11.7	11.5	11.5	10.2	10.2	10.2
26	12.0	11.7	11.8	12.0	12.0	12.0	11.7	11.5	11.5	10.2	10.2	10.2
27	12.0	11.7	11.8	12.0	12.0	12.0	11.7	11.5	11.5	10.2	10.2	10.2
28	12.0	11.7	11.8	12.0	12.0	12.0	11.5	11.5	11.5	10.2	10.0	10.1
29	11.8	11.7	11.7	12.0	12.0	12.0	11.5	11.5	11.5	10.2	10.0	10.0
30	11.7	11.7	11.7	12.0	11.9	12.0	11.5	11.3	11.4	10.0	10.0	10.0
31	11.8	11.7	11.7	---	---	---	11.3	11.3	11.3	10.0	10.0	10.0
MONTH	12.0	11.5	11.8	12.2	11.7	11.9	12.0	11.3	11.7	11.5	10.0	10.5

403923082325500 R-16 NR LEXINGTON OH

SOIL TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	19.1	15.9	17.4	13.2	12.5	12.8	8.0	7.5	7.8	9.1	6.5	7.6
2	19.9	16.6	18.1	15.1	12.6	14.0	7.6	7.2	7.3	6.4	5.8	6.0
3	20.8	17.5	19.1	15.4	13.8	14.6	7.3	6.9	7.1	8.0	5.7	6.3
4	20.0	18.8	19.4	14.7	13.1	14.2	7.2	6.6	6.9	12.1	8.1	10.0
5	19.2	17.0	18.2	13.0	10.8	11.9	6.9	6.2	6.4	11.9	9.0	10.5
6	19.3	16.1	17.7	10.8	9.8	10.2	6.2	5.9	6.0	8.9	7.7	8.4
7	19.4	16.1	17.7	9.8	8.9	9.5	5.9	5.8	5.9	7.5	6.5	6.9
8	18.7	16.9	17.9	10.2	8.9	9.4	5.9	5.8	5.8	7.0	6.5	6.8
9	18.7	17.6	18.1	10.0	8.8	9.4	5.8	5.6	5.7	6.5	5.9	6.2
10	18.0	16.8	17.5	11.4	10.0	10.6	5.8	5.7	5.7	5.9	5.7	5.8
11	17.6	16.3	16.8	13.3	11.5	12.4	6.0	5.8	5.9	6.0	5.8	5.9
12	16.8	15.3	16.2	15.3	13.3	14.2	6.3	6.0	6.1	6.2	6.0	6.1
13	16.8	14.6	15.8	14.0	10.1	11.8	7.2	6.3	6.6	6.6	6.0	6.3
14	18.7	15.1	16.7	10.0	8.6	9.0	6.7	5.9	6.3	5.9	5.5	5.7
15	18.7	17.8	18.3	8.5	7.8	8.1	7.8	6.2	6.8	5.5	5.4	5.5
16	18.5	16.5	18.0	7.7	6.9	7.3	9.8	7.9	9.0	5.4	5.3	5.4
17	16.2	14.3	15.2	9.7	7.4	8.5	8.7	8.1	8.4	5.4	5.3	5.3
18	14.7	13.3	13.9	10.1	9.7	9.8	8.0	7.3	7.7	5.3	5.1	5.2
19	13.2	11.5	12.3	10.6	9.4	9.9	8.3	6.7	7.3	5.1	4.9	5.0
20	11.8	10.4	10.8	11.7	9.8	10.6	8.5	6.9	7.9	5.0	4.8	4.9
21	12.6	11.0	11.8	13.3	11.5	12.2	6.8	5.9	6.2	4.9	4.8	4.8
22	13.4	10.6	11.9	15.1	13.3	14.0	6.9	5.9	6.2	4.9	4.8	4.8
23	15.0	11.4	13.0	15.0	12.8	13.8	7.6	6.3	6.9	5.7	4.8	5.1
24	15.7	14.8	15.2	12.8	12.4	12.6	7.0	5.5	6.1	7.0	5.8	6.4
25	14.6	13.1	13.6	12.8	12.3	12.6	5.5	5.2	5.3	5.8	5.3	5.4
26	14.5	11.6	13.0	12.9	11.1	12.1	5.2	4.9	5.1	5.3	5.0	5.1
27	15.1	12.9	13.9	11.0	9.7	10.2	4.9	4.7	4.8	5.1	4.9	5.0
28	14.2	11.9	13.2	9.6	9.0	9.2	4.8	4.7	4.8	5.0	4.9	5.0
29	13.9	13.1	13.5	9.0	8.1	8.6	4.9	4.8	4.8	5.0	4.9	4.9
30	13.6	13.0	13.2	8.0	7.3	7.6	8.5	4.8	5.7	4.9	4.8	4.9
31	13.7	12.3	13.0	---	---	---	10.6	8.8	9.9	4.9	4.8	4.8
MONTH	20.8	10.4	15.5	15.4	6.9	11.0	10.6	4.7	6.5	12.1	4.8	6.0

SOIL TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	4.9	4.8	4.8	4.9	4.8	4.9	14.1	13.2	13.7	17.7	13.4	15.5
2	4.8	4.6	4.7	4.9	4.8	4.9	12.9	9.5	11.0	19.0	16.1	17.6
3	4.7	4.6	4.6	6.4	4.8	5.2	10.2	8.1	9.2	18.1	16.5	17.4
4	4.7	4.6	4.7	6.7	6.1	6.5	9.6	8.1	8.8	17.4	16.1	16.7
5	4.7	4.6	4.6	6.1	5.5	5.8	9.9	7.6	8.7	18.2	15.8	16.8
6	4.7	4.6	4.7	8.0	5.3	6.3	12.3	9.2	10.1	19.0	15.7	17.2
7	4.7	4.6	4.6	7.6	5.6	6.6	14.7	11.0	12.6	19.1	15.0	17.0
8	4.7	4.6	4.6	7.5	6.8	7.1	14.8	11.2	13.1	19.4	14.7	17.0
9	4.7	4.6	4.6	6.8	6.2	6.5	14.7	13.3	14.0	20.2	15.6	17.8
10	4.7	4.6	4.6	6.4	5.6	5.9	14.4	11.6	12.9	20.6	16.1	18.3
11	4.7	4.6	4.7	5.6	5.5	5.6	12.7	10.2	11.6	20.7	16.7	18.7
12	4.9	4.7	4.7	5.5	5.3	5.4	11.9	10.4	11.1	19.7	17.7	18.8
13	5.1	5.0	5.1	5.4	5.0	5.2	12.1	8.3	10.1	18.8	15.5	17.2
14	5.1	5.0	5.1	5.0	4.8	4.9	10.9	8.9	9.8	18.9	14.2	16.5
15	5.1	5.0	5.1	4.8	4.7	4.8	14.2	9.8	11.4	19.7	16.2	17.7
16	5.1	5.0	5.1	4.8	4.7	4.7	13.7	10.8	12.2	18.3	16.1	16.9
17	5.2	5.1	5.1	4.8	4.7	4.7	10.6	8.6	9.4	18.0	13.6	15.8
18	5.2	5.0	5.1	4.8	4.7	4.7	11.9	7.5	9.4	16.7	15.1	15.8
19	5.1	5.0	5.0	4.8	4.7	4.7	11.8	10.0	11.0	15.5	13.9	14.7
20	5.1	5.0	5.0	5.1	4.6	4.8	13.8	11.2	12.2	15.2	12.9	14.1
21	5.1	5.0	5.0	6.6	5.0	5.6	12.9	8.9	10.7	15.0	12.3	13.7
22	5.1	4.9	5.0	8.6	5.9	7.0	10.5	6.9	8.6	17.1	12.4	14.6
23	5.1	5.0	5.1	9.6	7.6	8.4	12.7	7.5	9.9	15.8	14.7	15.3
24	5.1	5.0	5.1	10.5	9.4	9.9	11.6	10.2	10.8	16.1	15.2	15.6
25	5.1	4.9	5.0	13.2	9.0	10.8	13.2	11.6	12.3	16.0	14.8	15.3
26	5.0	4.9	4.9	13.9	10.4	12.0	12.3	9.6	10.7	17.4	13.0	15.1
27	5.0	4.9	4.9	12.4	10.2	11.1	13.2	8.1	10.2	17.9	14.2	16.0
28	5.0	4.9	4.9	11.2	10.4	10.8	14.4	10.0	12.0	20.4	16.0	17.9
29	---	---	---	12.4	10.3	11.2	15.6	12.3	13.9	19.7	17.0	18.5
30	---	---	---	14.0	11.6	12.6	17.2	13.9	15.3	19.4	15.2	17.3
31	---	---	---	13.9	11.5	12.9	---	---	---	18.4	16.5	17.8
MONTH	5.2	4.6	4.9	14.0	4.6	7.1	17.2	6.9	11.2	20.7	12.3	16.6

SOIL TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	17.9	14.7	16.2	23.0	20.9	21.9	25.0	21.6	23.3	26.3	23.8	25.1
2	16.4	15.0	15.7	23.8	22.1	22.8	25.7	23.3	24.3	26.1	23.5	24.6
3	16.1	14.6	15.4	25.0	22.5	23.6	25.7	22.2	23.9	---	---	---
4	15.8	15.2	15.6	26.2	23.0	24.5	24.8	22.6	23.7	---	---	---
5	15.6	15.1	15.4	27.2	24.3	25.7	23.5	20.8	22.3	---	---	---
6	18.1	13.3	15.5	26.5	25.0	25.8	24.1	21.0	22.4	---	---	---
7	18.2	16.1	17.1	27.5	24.6	25.9	24.6	21.2	22.8	---	---	---
8	20.9	17.2	18.7	27.7	24.8	26.2	24.3	20.9	22.7	---	---	---
9	21.0	19.6	20.2	27.8	25.4	26.6	25.6	21.1	23.2	---	---	---
10	22.1	19.5	20.7	26.9	25.6	26.3	24.1	22.4	23.1	---	---	---
11	21.7	19.3	20.6	27.2	24.6	25.8	25.4	21.5	23.2	---	---	---
12	22.3	19.1	20.6	27.0	24.8	25.8	25.6	22.5	24.1	---	---	---
13	22.7	19.5	21.1	26.2	23.7	25.0	27.0	23.2	24.9	---	---	---
14	22.3	20.3	21.4	25.4	24.0	24.7	26.8	23.3	25.1	---	---	---
15	22.9	20.2	21.4	25.6	23.8	24.7	27.0	23.5	25.3	---	---	---
16	23.4	19.7	21.5	25.3	22.3	23.8	---	---	---	---	---	---
17	23.9	20.1	22.0	25.4	22.1	23.8	---	---	---	---	---	---
18	24.3	21.2	22.7	26.0	22.8	24.3	28.1	24.6	26.1	---	---	---
19	25.4	22.0	23.6	25.3	24.2	24.7	28.6	24.4	26.5	---	---	---
20	24.2	22.7	23.4	25.1	23.0	24.0	27.2	25.5	26.2	---	---	---
21	22.9	21.7	22.4	24.7	22.7	23.6	26.6	23.5	25.0	---	---	---
22	24.8	20.9	22.7	23.5	21.5	22.6	26.9	22.0	24.4	---	---	---
23	24.9	21.4	23.2	24.4	21.1	22.7	27.1	23.3	25.1	---	---	---
24	24.9	21.2	23.1	25.6	22.3	23.7	27.0	24.9	25.8	---	---	---
25	24.6	22.7	23.7	25.5	23.4	24.5	28.3	24.0	26.0	---	---	---
26	25.2	22.4	23.7	26.6	24.0	25.1	28.3	24.4	26.3	---	---	---
27	24.9	22.4	23.7	27.0	23.7	25.2	29.1	25.1	27.0	---	---	---
28	23.7	21.9	22.4	27.5	24.2	25.8	29.2	25.9	27.5	---	---	---
29	23.9	21.2	22.3	26.4	24.4	25.1	29.3	25.1	27.2	---	---	---
30	22.7	21.1	21.7	24.3	22.3	23.0	29.1	25.7	27.4	---	---	---
31	---	---	---	25.2	21.3	23.0	28.2	26.0	27.1	---	---	---
MONTH	25.4	13.3	20.6	27.8	20.9	24.5	29.3	20.8	24.9	26.3	23.5	24.8
YEAR	29.3	4.6	13.6									

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.17	.08	.00	.01	.00	.39	.00	.00	.59	.00	.11
2	.00	.44	.30	.00	.03	.00	.00	.00	.08	.35	.01	1.45
3	.00	.00	.09	.21	.00	.03	.00	.00	.15	.07	.11	---
4	.00	.16	.11	1.49	.00	.95	.00	.24	.17	.01	.26	---
5	.00	.14	.09	.03	.00	.01	.00	.00	.19	.00	.00	---
6	.00	.15	.16	.00	.00	.00	.00	.00	.00	.28	.00	---
7	.00	.00	.20	.00	.02	.16	.00	.00	1.34	.90	.00	---
8	.14	.00	.11	.00	.00	.11	.00	.00	.04	.00	.00	---
9	.11	.00	.08	.00	.00	.01	.59	.00	.97	.00	.00	---
10	.09	.20	.29	.00	.00	.22	.12	.00	.00	.04	.00	---
11	.01	.74	.02	.03	.15	.00	.40	.00	.00	.39	.00	---
12	.00	1.55	.00	.79	.35	.01	.00	.01	.00	.00	.00	---
13	.00	.00	.00	.26	.02	.00	.00	.00	.00	.05	.00	---
14	.25	.00	.08	.00	.00	.00	.08	.00	.00	.08	.00	---
15	.60	.01	.16	.00	.01	.01	.34	.00	.00	.00	.00	---
16	.54	.00	.14	.02	.31	.20	.05	.00	.00	.00	---	---
17	.00	.00	.00	.00	.00	.12	.00	.00	.00	.00	---	---
18	.05	.00	.00	.00	.04	.07	.00	.00	.29	.00	.00	---
19	.01	.00	.25	.05	.01	.00	.24	.03	.00	.19	.00	---
20	.02	.00	.11	.05	.01	.16	.50	.00	.17	.00	.05	---
21	.00	.63	.00	.65	.27	.00	.01	.01	1.94	.00	.00	---
22	.00	1.20	.00	.03	.03	.00	.00	.00	.00	.00	.00	---
23	.20	.01	.01	.00	.00	.75	.00	.02	.00	.00	.00	---
24	.00	.17	.01	.53	.01	.23	.19	.13	.90	.00	.22	---
25	.00	.00	.00	.00	.00	.00	1.25	.00	.25	.00	.00	---
26	.01	.00	.00	.00	.03	.00	.01	.00	.11	.00	.00	---
27	.00	.00	.00	.00	.00	.03	.00	.00	.08	.00	.00	---
28	.00	.04	.00	.00	.13	.00	.00	1.41	.31	.04	.00	---
29	.00	.00	.15	.00	---	.00	.01	.26	.00	.00	.00	---
30	.02	.01	.43	.00	---	.00	.07	.09	.13	.00	.00	---
31	.01	---	.08	.00	---	.20	---	.25	---	.00	.34	---
TOTAL	2.06	5.62	2.95	4.14	1.43	3.27	4.25	2.45	7.12	2.99	0.99	1.56

WTR YR 1993 TOTAL 38.83

GROUND-WATER RECORDS

411138081172500. Local number, PO-116.

LOCATION.--Lat 41°11'38" Long 81°17'25", Hydrologic Unit 04110002, along State Route 14 near Ravenna, OH.
Owner.--USGS-City of Akron, OH.

AQUIFER.--Sand and Gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well drilled by hollow stem auger, diameter 4.0 in., depth 17.5 ft. Cased with Sch 40 PVC to 5.2 ft; .010 in. screen from 5.2 to 17.5 ft.

INSTRUMENTATION - Data logger--60 minute record. Precipitation data collected with a propane-heated, tipping-bucket rain gauge. Also collected: water level, air temperature, soil temperature, water temperature and specific conductance. Conductivity/water temperature probe set at 10.8 feet below land surface.

DATUM.--Elevation of land-surface datum is 1068.39 feet above sea level.
Measuring point: shelter floor 2.20 ft above land-surface datum.

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

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

PERIOD OF DAILY RECORD.--

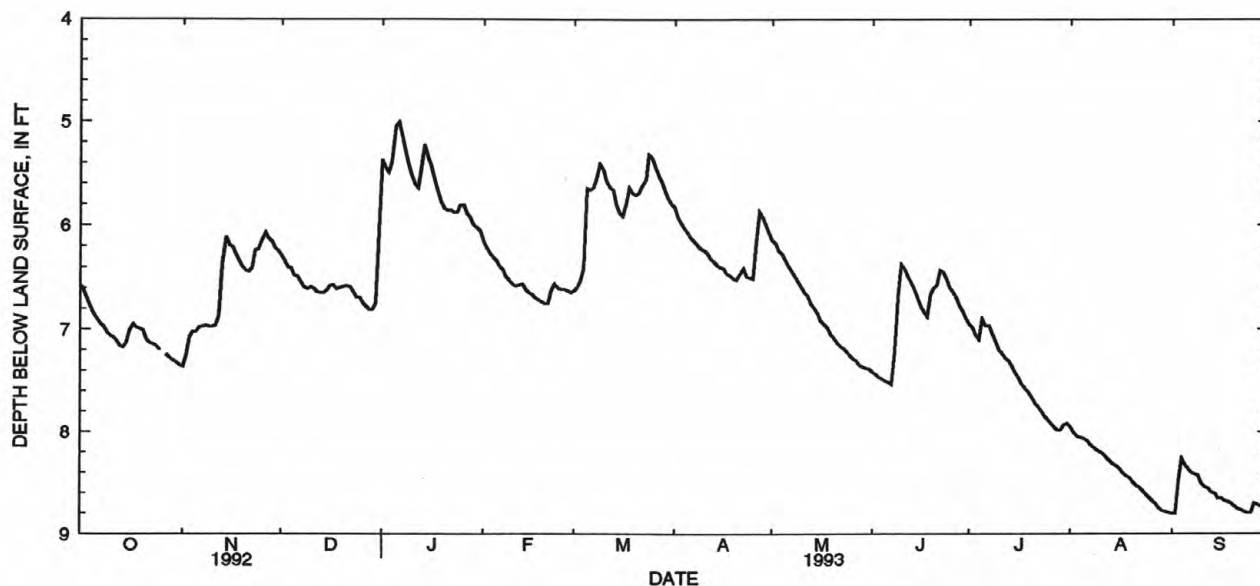
WATER LEVEL: February 1991 to current year.
SPECIFIC CONDUCTANCE: February 1991 to July 1992.
AIR TEMPERATURE: February 1991 to current year.
SOIL TEMPERATURE: July 1992 to current year.
PRECIPITATION: February 1991 to current year.
WATER TEMPERATURE: February 1991 to July 1992.

EXTREMES FOR PERIOD OF DAILY RECORD:

WATER LEVEL: Maximum daily low, 9.45 ft. below land-surface datum, October 9-10, 1991; minimum daily low, 4.79 ft. below land-surface datum, January 5, 1993.
SPECIFIC CONDUCTANCE: Maximum, 2540 microsiemens December 19-20, 22-28, 1991; minimum, 242 microsiemens April 10, 1992.
AIR TEMPERATURE: Maximum, 36.0°C August 2, 1991; minimum, -24.9°C February 25, 1993.
WATER TEMPERATURE: Maximum, 14.8°C October 1, 1991; minimum, 6.5°C many days in 1991.
SOIL TEMPERATURE: Maximum, 28.5°C August 11, 1992; minimum, 0.4°C February 3, 9, 1993.

EXTREMES FOR CURRENT YEAR:

WATER LEVEL: Maximum daily low, 8.80 ft. below land-surface datum, September 1-2, 1993; minimum daily low, 4.79 ft. below land-surface datum, January 5, 1993.
AIR TEMPERATURE: Maximum, 39.5°C August 27, 1993; minimum, -24.9°C February 25, 1993.
SOIL TEMPERATURE: Maximum, 26.2°C July 8, 1993; minimum, 0.4°C February 3, 9, 1993



411138081172500 PO-116 NR RAVENNA OH

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.57	7.36	6.29	5.37	6.16	6.62	5.83	6.14	7.41	6.94	7.95	8.80
2	6.62	7.25	6.34	5.45	6.22	6.59	5.92	6.18	7.43	6.98	8.00	8.80
3	6.70	7.07	6.40	5.50	6.27	6.53	5.98	6.24	7.46	7.05	8.04	8.48
4	6.77	7.02	6.41	5.39	6.31	6.41	6.03	6.28	7.48	7.09	8.05	8.26
5	6.84	7.02	6.48	5.05	6.34	5.65	6.07	6.34	7.50	6.90	8.06	8.32
6	6.90	6.98	6.49	5.01	6.39	5.66	6.12	6.39	7.51	6.96	8.08	8.36
7	6.94	6.97	6.54	5.14	6.42	5.64	6.16	6.44	7.53	6.96	8.12	8.40
8	6.97	6.96	6.59	5.29	6.49	5.54	6.20	6.49	7.21	7.04	8.15	8.41
9	7.02	6.97	6.61	5.42	6.52	5.41	6.23	6.54	6.69	7.11	8.17	8.42
10	7.06	6.97	6.59	5.53	6.56	5.47	6.24	6.59	6.37	7.19	8.19	8.50
11	7.07	6.96	6.61	5.61	6.58	5.57	6.27	6.64	6.42	7.23	8.21	8.54
12	7.11	6.87	6.64	5.65	6.57	5.64	6.32	6.68	6.49	7.27	8.25	8.55
13	7.16	6.37	6.65	5.44	6.56	5.66	6.35	6.75	6.55	7.30	8.28	8.59
14	7.17	6.11	6.65	5.23	6.61	5.81	6.38	6.79	6.61	7.35	8.31	8.60
15	7.13	6.19	6.62	5.34	6.64	5.88	6.40	6.85	6.69	7.41	8.33	8.65
16	7.01	6.21	6.58	5.42	6.66	5.91	6.41	6.91	6.77	7.46	8.36	8.65
17	6.95	6.28	6.57	5.55	6.69	5.80	6.46	6.95	6.83	7.52	8.40	8.67
18	6.98	6.34	6.61	5.68	6.71	5.64	6.48	6.98	6.87	7.56	8.43	8.68
19	6.99	6.39	6.60	5.78	6.73	5.69	6.51	7.04	6.66	7.60	8.45	8.70
20	7.01	6.43	6.59	5.84	6.75	5.71	6.52	7.08	6.60	7.65	8.49	8.72
21	7.10	6.44	6.58	5.86	6.75	5.69	6.46	7.12	6.57	7.71	8.52	8.75
22	7.13	6.41	6.59	5.86	6.62	5.62	6.41	7.16	6.43	7.75	8.54	8.76
23	7.14	6.24	6.63	5.88	6.56	5.56	6.49	7.18	6.45	7.79	8.57	8.78
24	7.16	6.23	6.69	5.88	6.60	5.32	6.50	7.21	6.52	7.84	8.61	8.79
25	7.20	6.15	6.69	5.81	6.61	5.36	6.51	7.25	6.59	7.87	8.64	8.79
26	---	6.07	6.75	5.81	6.61	5.45	6.16	7.28	6.64	7.91	8.67	8.70
27	7.24	6.12	6.78	5.89	6.62	5.53	5.87	7.30	6.70	7.95	8.70	8.71
28	7.27	6.16	6.81	5.93	6.64	5.59	5.92	7.34	6.77	7.98	8.74	8.73
29	7.30	6.22	6.81	6.00	---	5.68	5.99	7.36	6.82	7.98	8.77	8.74
30	7.32	6.25	6.75	6.02	---	5.75	6.07	7.37	6.89	7.93	8.78	8.74
31	7.35	---	6.06	6.06	---	5.80	---	7.38	---	7.91	8.79	---
MAX	7.35	7.36	6.81	6.06	6.75	6.62	6.52	7.38	7.53	7.98	8.79	8.80
WTR YR 1993 LOW 8.80												

AIR TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	18.7	.1	8.3	5.7	.4	3.4	1.5	-.2	.7	-.4	-4.5	-3.2
2	22.1	3.9	12.6	14.4	5.1	10.1	2.5	-.7	.4	-1.2	-6.1	-3.3
3	24.3	6.5	15.1	19.2	7.4	12.5	.4	-4.2	-1.5	10.9	-.8	4.8
4	17.7	7.6	12.3	14.5	2.5	8.9	2.9	-3.2	-.2	15.7	10.9	12.5
5	15.5	1.9	7.7	2.6	.4	1.2	-2.1	-5.2	-4.3	11.5	.1	3.1
6	19.0	.0	7.7	2.3	.2	1.1	-3.4	-8.6	-5.3	1.7	-3.4	-.2
7	21.2	-.2	9.1	2.7	-.7	.5	-1.0	-3.2	-2.0	4.5	-3.3	.1
8	20.7	2.3	12.0	6.9	-2.9	.9	-.9	-2.8	-1.8	.3	-2.3	-1.0
9	18.0	6.9	13.1	9.3	-2.5	4.7	1.4	-3.6	-1.4	-2.6	-4.5	-3.6
10	20.5	9.2	13.3	12.1	7.7	9.3	1.3	-1.4	-.1	.2	-5.2	-2.4
11	12.1	8.6	10.1	11.5	9.5	10.6	1.7	-.4	.7	.9	-.7	.1
12	15.8	6.0	11.1	16.4	4.0	12.3	1.7	-.3	.7	4.8	-1.0	1.3
13	15.0	.5	6.7	5.2	-2.4	1.4	4.6	-3.2	.5	7.6	-2.6	2.1
14	23.1	4.1	12.1	-.3	-4.2	-2.4	8.0	-5.6	.0	-1.7	-3.3	-2.6
15	21.1	10.2	15.0	-.2	-5.4	-2.8	8.9	-2.9	3.6	-1.9	-4.1	-3.1
16	15.7	5.5	11.9	2.7	-9.2	-1.6	11.8	-1.0	8.1	-2.1	-4.3	-3.5
17	9.9	-1.4	4.7	9.5	1.5	6.3	5.9	-.5	2.1	-.1	-5.1	-1.7
18	6.8	-2.0	1.6	6.5	-.9	3.8	3.7	-.6	1.2	-4.7	-12.3	-7.0
19	3.5	-1.4	1.4	9.3	-4.0	1.5	8.7	-1.1	5.1	.0	-14.2	-8.0
20	5.6	-4.4	.6	14.0	.8	6.4	6.4	-5.1	.4	5.2	-11.9	-4.0
21	8.3	1.2	6.7	13.7	6.2	10.8	2.6	-9.1	-2.2	7.4	-2.7	3.3
22	14.8	-2.7	4.8	15.6	11.5	13.4	5.1	-3.6	.6	5.9	.4	1.8
23	20.5	-1.3	9.8	13.0	6.0	8.3	4.1	-2.5	2.0	10.3	-.4	4.0
24	15.0	6.1	11.9	9.0	5.7	6.9	-3.4	-11.9	-7.9	10.9	-3.6	3.3
25	10.2	-2.0	5.0	9.9	6.9	8.2	.5	-8.4	-3.8	-1.6	-10.7	-4.9
26	---	---	---	11.3	1.7	6.7	-6.1	-14.3	-9.2	1.2	-14.0	-5.0
27	15.1	-1.3	5.0	1.2	.5	1.0	4.2	-13.5	-4.6	.9	-6.2	-1.4
28	15.3	-3.0	6.4	2.0	.1	.9	9.0	-2.7	2.6	6.6	-4.1	1.0
29	10.7	1.6	7.0	.9	-2.3	-.6	7.8	3.2	5.4	-.9	-7.7	-5.4
30	7.7	-1.2	3.9	2.7	-2.2	.0	13.4	8.0	10.8	2.7	-8.0	-1.9
31	12.7	.5	6.7	---	---	---	14.2	.2	8.1	5.3	.6	2.9
MONTH	24.3	-4.4	8.5	19.2	-9.2	4.8	14.2	-14.3	.3	15.7	-14.2	-.7

411138081172500 PO-116 NR RAVENNA OH

SOIL TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	16.0	11.3	13.6	8.2	7.3	7.8	4.1	3.5	3.8	5.7	2.6	3.9
2	16.8	12.1	14.4	10.3	7.5	8.7	3.6	3.0	3.3	2.5	1.8	2.1
3	18.0	13.4	15.6	11.3	8.6	9.9	3.2	2.9	3.1	4.7	1.8	2.6
4	17.0	14.5	15.6	10.3	8.4	9.7	2.9	2.6	2.8	8.0	4.9	6.5
5	15.7	12.0	13.9	8.2	6.2	7.2	2.7	2.1	2.3	8.0	4.7	6.4
6	15.4	11.1	13.2	6.2	5.4	5.8	2.4	2.3	2.3	4.6	3.3	4.2
7	15.5	10.8	13.2	6.4	5.1	5.7	2.5	2.4	2.4	4.1	2.5	3.2
8	15.8	11.2	13.6	7.2	5.1	5.9	2.6	2.5	2.6	3.4	2.3	2.9
9	16.1	14.0	15.0	6.6	4.9	5.8	2.6	2.2	2.4	2.3	1.7	1.9
10	15.7	13.2	14.3	7.7	6.4	7.1	2.3	2.2	2.2	1.7	1.5	1.5
11	14.4	13.3	13.9	9.1	7.7	8.5	2.3	2.3	2.3	1.7	1.5	1.6
12	14.6	12.1	13.3	11.7	9.2	10.5	2.3	2.3	2.3	1.9	1.6	1.8
13	13.4	10.5	12.0	10.2	6.2	7.9	2.6	2.3	2.4	3.3	1.7	2.5
14	13.8	10.8	12.1	6.1	4.2	5.2	2.7	1.8	2.2	2.2	1.8	2.0
15	14.6	12.5	13.6	4.1	3.3	3.7	3.9	1.8	2.6	1.8	1.6	1.7
16	14.4	12.1	13.8	3.9	2.9	3.4	6.3	4.0	5.1	1.5	1.3	1.4
17	12.0	10.1	11.2	5.5	3.6	4.6	4.9	3.9	4.3	1.3	1.2	1.3
18	10.1	8.7	9.4	6.2	5.3	5.6	4.3	3.2	3.8	1.2	1.0	1.1
19	8.5	7.6	8.1	5.8	3.9	4.8	4.5	2.7	3.5	1.0	.8	.9
20	7.7	6.3	6.8	6.8	4.3	5.4	4.7	2.8	4.1	.8	.7	.7
21	8.6	7.0	7.9	8.5	5.8	7.0	2.7	1.9	2.1	.7	.7	.7
22	10.0	6.3	8.1	10.2	8.5	9.3	3.2	1.8	2.3	1.0	.7	.8
23	11.1	6.9	8.9	10.2	8.5	9.2	3.1	2.1	2.5	2.8	1.0	1.8
24	11.5	10.2	10.9	8.7	8.1	8.4	2.2	1.7	1.9	3.6	2.3	3.1
25	10.5	8.7	9.6	8.9	8.2	8.5	1.7	1.3	1.5	2.3	1.4	1.8
26	---	---	---	8.6	7.0	8.2	1.3	1.1	1.2	1.4	1.1	1.2
27	10.6	7.6	9.0	6.9	5.7	6.1	1.0	.9	.9	1.1	1.0	1.0
28	10.2	6.7	8.6	5.7	5.2	5.5	.9	.8	.8	1.0	.9	.9
29	9.7	8.7	9.2	5.2	3.7	4.6	2.4	.8	1.2	1.0	.9	.9
30	8.6	7.4	8.1	4.1	3.1	3.7	8.3	2.6	4.8	.9	.7	.8
31	10.1	7.6	8.7	---	---	---	8.8	6.0	7.9	.8	.7	.7
MONTH	18.0	6.3	11.5	11.7	2.9	6.8	8.8	.8	2.8	8.0	.7	2.1

SOIL TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	.7	.6	.7	.8	.8	.8	11.7	9.5	10.7	16.8	10.9	13.8
2	.6	.5	.5	.9	.8	.8	9.3	5.9	7.6	16.1	12.0	14.2
3	.5	.4	.5	1.3	.9	1.2	6.3	4.9	5.6	17.0	13.6	15.1
4	.5	.5	.5	1.2	1.0	1.1	6.3	4.6	5.3	16.0	14.4	15.2
5	.7	.5	.6	1.0	1.0	1.0	7.7	3.6	5.4	16.3	14.1	15.2
6	.6	.5	.6	1.0	1.0	1.0	8.3	5.6	6.8	18.6	13.8	15.9
7	.6	.5	.5	1.7	.8	1.1	11.8	5.7	8.6	18.2	12.5	15.4
8	.5	.5	.5	2.4	1.8	2.1	12.3	7.3	10.0	18.2	12.3	15.3
9	.5	.4	.5	2.2	1.4	1.7	12.4	10.0	11.3	19.6	13.6	16.6
10	.6	.5	.5	1.8	1.0	1.2	11.9	9.4	10.7	20.2	14.2	17.2
11	1.4	.6	1.0	1.8	1.1	1.5	12.0	6.6	9.5	20.3	14.6	17.5
12	1.8	1.1	1.4	1.1	1.0	1.0	12.1	9.2	10.6	20.1	15.7	17.9
13	1.6	1.1	1.3	1.0	.9	.9	12.1	7.3	9.7	19.1	14.4	16.7
14	1.1	1.0	1.0	.9	.8	.8	9.3	7.6	8.4	17.9	12.5	15.2
15	1.0	.9	.9	.8	.8	.8	13.9	8.3	10.8	18.6	14.7	16.5
16	.9	.9	.9	.8	.7	.7	12.8	10.4	11.8	16.4	13.6	14.9
17	1.0	.9	.9	.7	.7	.7	10.2	7.6	9.0	15.9	11.0	13.5
18	.9	.8	.9	.7	.7	.7	11.8	5.9	8.7	15.0	12.7	13.8
19	1.6	1.1	1.4	.7	.6	.7	12.9	8.9	10.7	13.4	12.0	12.6
20	1.1	.9	1.0	.6	.6	.6	13.9	10.8	12.1	13.8	10.5	12.1
21	.9	.8	.9	.7	.6	.6	12.5	7.9	10.0	13.2	9.8	11.6
22	.8	.8	.8	3.9	.7	1.8	10.9	6.5	8.5	15.5	9.6	12.4
23	.9	.8	.8	3.7	1.6	2.6	12.2	6.2	9.1	13.5	11.8	12.7
24	.9	.8	.9	6.9	3.7	5.0	10.2	8.3	9.1	14.2	12.4	13.3
25	.9	.9	.9	8.7	4.8	6.4	11.6	10.2	10.8	13.9	12.8	13.4
26	.9	.9	.9	10.6	5.1	7.4	10.2	8.2	9.3	16.2	10.7	13.5
27	.9	.8	.9	8.2	5.0	6.9	12.3	5.9	9.0	16.1	12.1	14.1
28	.8	.8	.8	8.9	6.8	7.7	12.6	7.4	10.0	17.8	13.3	15.5
29	---	---	---	9.5	7.3	8.3	14.8	10.1	12.4	17.7	13.9	15.7
30	---	---	---	13.1	7.7	10.0	16.2	12.2	13.9	17.7	11.3	14.6
31	---	---	---	12.2	7.6	10.0	---	---	---	16.5	14.2	15.3
MONTH	1.8	.4	.8	13.1	.6	2.8	16.2	3.6	9.5	20.3	9.6	14.7

411138081172500 PO-116 NR RAVENNA OH

SOIL TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	16.7	12.6	14.4	21.6	18.6	20.0	21.4	18.5	20.0	23.6	21.6	22.5
2	15.5	12.1	13.9	22.8	19.7	21.0	22.6	19.6	20.9	23.1	20.4	21.7
3	16.9	12.8	14.7	24.3	20.7	22.3	21.8	18.7	20.3	22.2	21.3	21.7
4	15.9	13.6	15.0	24.4	20.7	22.3	21.5	19.4	20.4	22.9	20.6	21.5
5	14.8	13.4	14.3	24.8	20.4	22.6	20.8	18.3	19.5	21.6	18.8	20.3
6	17.8	11.9	14.6	24.7	22.3	23.5	21.0	18.3	19.6	21.0	19.3	20.3
7	18.6	14.0	16.0	25.6	22.1	23.7	20.6	18.7	19.6	21.2	19.0	20.0
8	19.4	16.4	17.7	26.2	22.6	24.3	20.5	17.3	19.0	20.1	17.5	18.9
9	19.9	17.5	18.5	26.0	22.5	24.2	21.5	17.3	19.3	20.4	17.6	18.9
10	20.6	17.9	19.2	25.9	23.0	24.4	20.0	18.5	19.4	19.9	18.1	19.0
11	20.8	17.2	19.0	25.0	22.0	23.5	21.8	18.7	20.2	18.8	16.4	17.6
12	20.5	16.7	18.6	25.0	22.5	23.7	22.5	18.8	20.6	17.3	15.8	16.6
13	20.7	16.9	18.9	24.4	20.8	22.7	23.4	19.7	21.4	19.9	16.4	18.0
14	21.1	17.4	19.3	23.2	20.9	22.1	23.2	19.6	21.4	20.7	18.0	19.2
15	21.7	18.6	19.9	24.1	21.0	22.4	23.4	19.9	21.6	19.8	17.9	19.0
16	21.0	16.7	18.9	23.1	18.9	21.0	23.5	21.3	22.3	18.2	16.9	17.6
17	21.5	16.7	19.1	22.8	18.5	20.7	23.6	20.9	22.2	18.3	16.6	17.4
18	22.5	17.9	20.2	22.3	19.0	20.6	24.2	20.7	22.3	17.8	16.0	16.9
19	23.4	19.7	21.4	22.5	20.7	21.4	24.1	20.8	22.5	18.5	16.1	17.0
20	22.5	20.4	21.5	23.8	20.5	22.0	23.5	21.8	22.5	16.5	15.1	15.9
21	21.2	20.2	20.7	23.2	20.1	21.5	23.5	20.4	21.8	17.1	15.3	16.1
22	23.2	19.1	20.9	22.0	18.5	20.3	22.6	18.3	20.5	17.7	15.0	16.4
23	22.2	18.0	20.2	22.3	17.7	20.0	21.9	19.1	20.5	17.0	16.0	16.7
24	22.5	17.6	20.0	22.9	19.0	20.7	22.4	20.3	21.2	16.8	13.7	15.3
25	23.2	20.0	21.6	22.3	20.1	21.2	24.0	20.2	22.0	15.5	14.0	14.8
26	23.0	20.3	21.7	23.9	20.5	21.9	24.5	20.4	22.4	16.0	15.2	15.6
27	23.2	19.7	21.4	24.6	20.7	22.5	24.9	21.5	23.2	15.1	14.1	14.6
28	21.7	19.7	20.9	24.5	20.8	22.6	24.9	22.3	23.5	14.0	12.5	13.1
29	22.4	19.5	20.8	22.6	21.2	21.9	24.6	20.7	22.6	13.0	11.6	12.3
30	20.3	17.6	19.2	21.1	19.8	20.3	24.8	21.1	22.9	13.1	10.6	11.8
31	---	---	---	22.3	18.3	20.1	24.5	22.1	23.3	---	---	---
MONTH	23.4	11.9	18.7	26.2	17.7	22.0	24.9	17.3	21.3	23.6	10.6	17.6
YEAR	26.2	.4	10.9									

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.45	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00
2	.00	.61	.01	.00	.00	.00	.00	.00	.00	.07	.06	1.75
3	.00	.00	.04	.56	.00	.00	.00	.00	.00	.01	.25	.56
4	.00	.04	.14	.94	.00	.94	.00	.02	.04	.94	.15	.01
5	.00	.00	.00	.09	.00	.03	.00	.15	.31	.00	.00	.00
6	.00	.31	.00	.00	.00	.45	.00	.00	.01	.39	.00	.04
7	.00	.08	.00	.00	.00	.09	.03	.00	1.47	.05	.00	.00
8	.00	.00	.03	.00	.00	.17	.00	.00	1.98	.01	.00	.00
9	.00	.00	.00	.00	.00	.04	.00	.00	.51	.00	.00	.00
10	.00	.05	.21	.01	.00	.01	.00	.00	.03	.00	.02	.09
11	.00	.58	.09	.00	.01	.20	.00	.00	.00	.28	.01	.00
12	.00	1.06	.03	.95	.34	.04	.00	.00	.00	.29	.00	.00
13	.00	.00	.00	.33	.01	.00	.00	.00	.00	.01	.00	.00
14	.00	.00	.00	.00	.08	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.08	.07	.01	.00	.01	.00	.31
16	.00	.00	.00	.00	.04	.25	.28	.00	.00	.00	.02	.00
17	.00	.01	.03	.01	.02	.19	.02	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	1.47	.00	.00	.00
19	.00	.00	.19	.01	.00	.00	.16	.02	.10	.00	.00	.01
20	.00	.00	.18	.00	.04	.04	.50	.00	.30	.00	.03	.00
21	.00	.28	.00	.38	.62	.00	.04	.04	.61	.00	.01	.00
22	.00	.56	.00	.05	.01	.00	.00	.00	.00	.00	.00	.00
23	.00	.03	.01	.00	.00	.00	.00	.03	.00	.00	.00	.12
24	.00	.41	.01	.40	.01	.00	.14	.07	.00	.00	.00	.00
25	.00	.02	.00	.00	.01	.00	1.40	.00	.03	.00	.00	.76
26	---	.01	.00	.05	.22	.00	.02	.01	.18	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.12
28	.00	.06	.00	.05	.00	.00	.00	.20	.00	.52	.00	.15
29	.01	.01	.26	.00	---	.00	.00	.15	.17	.70	.42	.26
30	.01	.00	2.10	.00	---	.00	.03	.00	.01	.10	.01	.32
31	.00	---	.44	.01	---	.00	---	.34	---	.00	.39	---
TOTAL	0.02	4.57	3.77	3.84	1.41	2.53	2.70	1.04	7.22	3.40	1.37	4.50

WTR YR 1993 TOTAL 36.37

GROUND-WATER RECORDS

411138081172600. Local number, PO-121.

LOCATION.--Lat 41°11'38" Long 81°17'26", Hydrologic Unit 04110002, along State Route 14 near Ravenna, OH.
Owner.--USGS-City of Akron, OH.

AQUIFER.--Sand and Gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well drilled by hollow stem auger, diameter 4.0 in., depth 18.4 ft. Cased with Sch 40 PVC to 3.4 ft; .020 in. screen from 3.4 to 18.4 ft.

INSTRUMENTATION - Data logger--60 minute record. At this well there are 4 conductivity/water temperature probes at increasing depths within the well to better document vertical movement of high conductivity water on an hourly basis. Conductance/water temperature probes are set at 5.4 (level 4), 9.4 (level 3), 13.4 (level 2), and 17.4 (level 1) feet below land surface.

DATUM.--Elevation of land-surface datum is 1068.24 feet above sea level.
Measuring point: Top of PVC casing, 1.80 ft above land-surface datum.

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

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (FOUR LEVELS): July 1992 to current year.

WATER TEMPERATURE (FOUR LEVELS): July 1992 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE:

LEVEL 1- Maximum, 2000 microsiemens October 17, 1992; minimum, 167 microsiemens January 6, 1993.

LEVEL 2- Maximum, 1810 microsiemens June 8, 1993; minimum, 159 microsiemens January 6, 1993.

LEVEL 3- Maximum, 1830 microsiemens June 8, 1993; minimum, 125 microsiemens January 16, 1993.

LEVEL 4- Probe out of water.

WATER TEMPERATURE:

LEVEL 1- Maximum, 15.2°C many days in August, September 1992; minimum, 4.1°C March 25, 1993.

LEVEL 2- Maximum, 16.0°C August 5, September 11-14, 1992; minimum, 3.8°C March 24-27, 1993.

LEVEL 3- Maximum, 16.3°C August 1, 1992; minimum, 3.7°C March 25-26, 1993.

LEVEL 4- Probe out of water.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE:

LEVEL 1- Maximum, 2000 microsiemens October 17, 1992; minimum, 167 microsiemens January 6, 1993.

LEVEL 2- Maximum, 1810 microsiemens June 8, 1993; minimum, 159 microsiemens January 6, 1993.

LEVEL 3- Maximum, 1830 microsiemens June 8, 1993; minimum, 125 microsiemens January 16, 1993.

LEVEL 4- Probe out of water.

WATER TEMPERATURE:

LEVEL 1- Maximum, 14.5°C October 1-3, 1992; minimum, 4.1°C March 25, 1993.

LEVEL 2- Maximum, 15.2°C October 1-4, 1992; minimum, 3.8°C March 24-27, 1993.

LEVEL 3- Maximum, 15.5°C October 1-3, 1992; minimum, 3.7°C March 25-26, 1993.

LEVEL 4- Probe out of water.

411138081172600 PO-121 NR RAVENNA OH

#1 (17.4' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	336	333	334	1550	520	721	305	297	301	376	237	293
2	337	331	334	1690	1570	1640	306	300	304	236	206	217
3	338	334	335	1640	1590	1610	312	304	307	206	199	202
4	347	338	342	1600	1590	1600	313	302	308	309	195	204
5	355	347	351	1590	1590	1590	308	300	304	409	171	214
6	361	355	358	1590	1580	1590	307	302	305	171	167	169
7	364	361	363	1580	1560	1570	306	300	303	170	168	169
8	372	364	368	1560	1450	1480	303	299	301	174	170	172
9	376	367	371	1450	1370	1440	304	298	301	181	174	177
10	380	374	376	1350	1070	1220	307	302	305	188	181	184
11	386	376	381	1390	998	1200	308	300	304	194	187	190
12	393	387	390	1380	1240	1300	302	297	298	263	194	199
13	392	389	391	1260	733	1060	316	295	301	311	181	239
14	853	387	563	720	540	625	322	313	318	181	179	180
15	1860	505	1000	535	481	501	327	316	322	181	179	180
16	1990	1870	1950	479	442	463	354	328	347	183	180	181
17	2000	1730	1960	440	424	428	330	282	301	186	182	184
18	1690	1390	1500	428	422	426	284	280	281	191	186	188
19	1390	1260	1330	421	405	413	289	284	286	196	190	193
20	1310	946	1130	406	395	400	308	288	301	202	197	199
21	937	654	776	400	389	394	298	288	292	208	202	204
22	655	575	609	911	383	491	288	285	287	209	205	206
23	575	553	565	920	373	598	287	285	286	208	205	207
24	556	539	547	369	320	336	287	283	285	209	205	208
25	540	533	536	358	277	334	288	286	287	206	200	201
26	540	522	532	274	260	264	290	285	287	204	200	202
27	521	512	516	271	263	267	298	290	294	210	204	206
28	517	509	513	276	270	273	301	297	299	215	210	212
29	507	498	503	291	277	283	344	301	310	224	214	220
30	514	495	502	298	291	293	1390	346	777	229	225	227
31	526	516	521	---	---	---	1360	394	901	234	228	231
MONTH	2000	331	653	1690	260	827	1390	280	336	409	167	202

#1 (17.4' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	252	233	242	400	388	392	259	254	257	455	426	440
2	264	253	258	445	398	408	271	258	264	482	457	467
3	273	263	268	1630	439	749	285	271	279	519	483	500
4	284	273	278	1800	1030	1690	292	282	287	551	521	536
5	287	281	284	918	312	475	300	291	295	571	550	559
6	295	286	290	310	300	304	314	299	307	592	572	578
7	301	294	297	343	307	316	341	303	321	613	591	600
8	313	301	306	345	303	317	343	336	338	628	611	617
9	323	312	318	310	300	304	348	342	345	638	628	632
10	336	324	329	310	304	307	363	339	353	645	637	640
11	346	336	340	307	303	305	348	338	342	649	641	645
12	370	344	355	309	303	305	358	348	353	657	644	650
13	385	363	379	311	307	308	364	357	360	663	649	657
14	366	357	361	318	307	311	364	359	361	670	664	668
15	365	357	360	325	317	321	363	357	360	675	667	672
16	372	364	369	355	325	331	375	359	368	693	674	686
17	374	367	370	412	283	341	359	353	356	709	690	702
18	377	373	374	296	290	293	364	359	361	729	708	721
19	379	375	378	300	293	295	372	362	365	739	724	732
20	381	377	379	304	294	298	379	370	375	762	735	751
21	633	380	398	307	293	300	477	381	428	787	760	775
22	1390	765	1150	296	288	292	433	371	381	808	786	797
23	714	414	490	334	270	295	394	378	385	828	806	815
24	413	378	392	276	262	270	415	395	405	849	828	839
25	378	372	374	262	247	253	1370	412	590	855	849	852
26	376	371	373	249	242	246	1420	394	896	1050	847	930
27	382	375	378	247	242	244	383	340	353	912	838	878
28	391	382	385	245	239	242	362	341	348	1010	893	943
29	---	---	---	246	239	242	394	363	377	1430	1010	1300
30	---	---	---	254	245	248	426	396	409	1420	1250	1380
31	---	---	---	257	250	253	---	---	---	1590	1280	1450
MONTH	1390	233	374	1800	239	363	1420	254	374	1590	426	755

411138081172600 PO-121 NR RAVENNA OH

#1 (17.4' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	1650	1520	1620	---	---	---	1400	1370	1390	1250	1240	1240
2	1510	1380	1470	---	---	---	1390	1360	1380	1240	1230	1240
3	1450	1370	1430	---	---	---	1370	1350	1360	1240	1200	1220
4	1440	1360	1410	---	---	---	1390	1350	1380	1200	1180	1190
5	1690	1440	1580	---	---	---	1380	1360	1370	1200	1190	1190
6	1830	1700	1770	---	---	---	1380	1350	1370	1210	1200	1200
7	1840	1680	1720	---	---	---	1350	1340	1340	1220	1200	1210
8	1870	1750	1800	---	---	---	1350	1330	1340	1220	1210	1210
9	1800	1690	1730	---	---	---	1350	1330	1340	1210	1210	1210
10	1860	1680	1750	---	---	---	1340	1330	1340	1210	1200	1210
11	1700	1520	1610	---	---	---	1340	1320	1330	1220	1210	1210
12	1510	1370	1440	---	---	---	1330	1310	1330	1220	1210	1220
13	1360	1290	1320	---	---	---	1340	1300	1320	1220	1210	1220
14	1290	1210	1260	982	947	969	1310	1290	1300	1220	1210	1210
15	1210	1130	1170	959	938	950	1300	1280	1290	1220	1210	1220
16	1130	1090	1110	953	943	947	1300	1270	1290	1220	1210	1220
17	1100	1070	1090	977	950	968	1290	1260	1280	1220	1210	1220
18	1270	1060	1090	1030	979	1010	1280	1270	1280	1220	1210	1210
19	1500	1310	1450	1090	1040	1070	1290	1260	1280	1210	1210	1210
20	1400	1240	1310	1100	1060	1080	1270	1250	1260	1210	1210	1210
21	---	---	---	1120	1080	1100	1260	1250	1250	1210	1200	1210
22	---	---	---	1140	1090	1130	1250	1240	1250	1210	1200	1210
23	---	---	---	1180	1140	1170	1250	1240	1250	1210	1210	1210
24	---	---	---	1220	1170	1200	1250	1240	1240	1210	1200	1210
25	---	---	---	1270	1220	1250	1250	1240	1240	1210	1200	1210
26	---	---	---	1310	1270	1300	1250	1230	1240	1210	1190	1200
27	---	---	---	1330	1300	1320	1240	1230	1240	1200	1200	1200
28	---	---	---	1350	1320	1340	1230	1220	1230	1210	1200	1200
29	---	---	---	1390	1350	1380	1240	1230	1230	1210	1200	1210
30	---	---	---	1430	1400	1420	1240	1230	1240	1210	1190	1210
31	---	---	---	1410	1380	1400	1250	1240	1240	---	---	---
MONTH	1870	1060	1460	1430	938	1170	1400	1220	1300	1250	1180	1210
YEAR	2000	167	716									

#2 (13.4' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	346	337	341	504	492	497	297	285	290	354	231	281
2	343	336	340	1580	515	1180	298	289	294	229	196	209
3	343	336	340	1570	1490	1530	304	291	298	199	184	193
4	351	338	343	1490	1460	1480	303	287	299	233	187	194
5	355	347	351	1450	1430	1440	301	285	295	309	165	195
6	359	352	355	1430	1420	1430	299	288	296	173	159	165
7	360	354	358	1420	1410	1420	299	287	294	170	160	165
8	364	357	360	1410	1400	1410	295	284	292	172	163	168
9	374	355	365	1400	1130	1280	298	282	293	179	168	172
10	371	357	364	1110	839	965	300	293	297	184	174	180
11	379	364	373	1310	809	940	300	290	296	189	178	184
12	383	368	376	1330	1210	1270	295	288	291	204	184	192
13	374	368	371	1210	690	999	304	288	292	282	174	218
14	389	372	379	684	517	594	311	302	306	180	173	176
15	667	390	423	507	458	479	316	303	310	180	172	176
16	1750	736	1260	465	416	443	344	316	334	180	174	177
17	1730	1410	1560	422	406	412	314	273	289	183	176	179
18	1400	845	1130	417	405	412	277	271	274	189	178	184
19	838	721	762	406	390	398	281	276	279	193	182	188
20	718	574	652	397	380	387	298	281	292	198	190	194
21	568	490	518	389	372	381	290	280	283	202	192	198
22	493	487	490	557	362	398	281	277	279	204	196	199
23	497	491	493	565	352	447	281	276	278	204	197	201
24	500	483	496	359	302	323	280	275	278	205	196	202
25	481	471	474	348	262	318	282	279	280	200	194	197
26	481	471	476	266	248	254	284	277	281	202	195	199
27	471	448	456	264	253	259	291	284	287	207	197	202
28	457	427	444	270	259	265	296	290	292	211	204	207
29	467	440	453	282	269	275	327	295	302	219	209	213
30	481	467	475	289	280	284	1330	331	594	225	216	221
31	493	482	488	---	---	---	1300	367	836	227	219	223
MONTH	1750	336	518	1580	248	739	1330	271	319	354	159	195

411138081172600 PO-121 NR RAVENNA OH

#3 (9.4' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	270	267	269	523	509	516	310	298	304	382	234	297
2	271	266	268	1620	524	1050	313	301	307	226	198	207
3	274	266	270	1620	1560	1590	314	304	311	203	186	197
4	290	275	282	1560	1530	1550	316	302	310	219	188	200
5	302	290	295	1520	1500	1510	314	301	308	302	145	188
6	306	297	300	1500	1490	1490	312	304	309	152	136	145
7	303	295	299	1490	1480	1480	312	300	306	147	129	140
8	306	295	299	1480	1400	1470	306	297	303	149	128	140
9	313	297	307	1390	999	1210	310	298	305	152	129	141
10	313	306	308	991	740	851	313	305	309	149	131	137
11	324	308	316	1310	724	874	313	296	308	157	133	147
12	316	308	311	1380	1270	1330	308	292	302	208	140	171
13	310	305	308	1270	683	1010	317	294	303	292	166	215
14	394	310	363	682	519	593	322	303	315	167	149	156
15	487	395	413	518	472	497	328	305	320	156	132	148
16	1690	522	1110	484	444	464	357	315	345	135	125	129
17	1680	1410	1570	441	425	430	328	283	300	158	131	143
18	1390	651	962	436	422	431	288	281	285	160	132	148
19	733	601	680	424	406	413	294	286	290	170	146	161
20	685	541	600	407	388	401	310	292	304	186	160	176
21	540	475	500	403	387	395	301	290	294	202	176	191
22	485	471	477	473	384	402	292	288	290	209	191	197
23	499	479	488	471	302	435	293	288	290	204	192	198
24	503	455	482	370	319	335	292	284	288	211	190	203
25	468	459	464	362	276	333	293	287	291	199	171	191
26	488	422	470	278	260	267	295	287	291	200	168	189
27	452	413	430	279	267	272	302	287	298	207	182	196
28	457	422	442	282	271	277	307	300	303	219	191	206
29	489	448	470	296	278	287	341	301	313	229	208	221
30	503	489	497	304	291	296	1380	343	586	232	225	229
31	512	504	508	---	---	---	1340	394	867	238	225	231
MONTH	1690	266	476	1620	260	749	1380	281	331	382	125	182

#3 (9.4' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	256	234	247	401	386	393	194	185	189	405	387	394
2	267	251	261	442	397	409	207	189	199	415	403	409
3	277	260	269	845	443	468	227	206	216	439	415	423
4	288	273	280	1760	906	1370	233	211	224	454	437	445
5	292	280	286	819	289	419	246	228	238	462	450	456
6	298	286	292	295	249	276	257	242	251	479	458	469
7	303	294	298	337	255	292	293	247	257	496	478	486
8	316	299	306	297	279	291	264	256	260	507	483	498
9	324	311	317	340	272	297	267	255	262	514	501	507
10	334	321	327	366	268	327	270	237	250	520	506	512
11	348	333	339	286	258	271	268	244	257	521	509	515
12	374	347	358	278	255	264	285	264	276	526	511	517
13	384	352	377	273	253	262	286	280	283	532	521	526
14	369	354	361	273	255	268	285	279	282	532	527	529
15	366	356	360	257	250	253	286	279	283	533	523	526
16	372	363	369	352	250	258	288	255	265	542	532	537
17	379	363	370	404	225	297	275	260	268	553	543	547
18	378	373	375	230	222	226	275	265	269	562	556	560
19	380	376	378	231	219	225	281	274	278	575	558	566
20	383	377	379	227	219	223	374	269	283	597	578	590
21	410	381	391	227	217	224	417	266	359	626	600	615
22	535	409	454	231	215	223	296	266	284	637	628	632
23	438	406	428	316	193	227	312	295	304	679	638	656
24	408	373	387	208	186	202	319	311	314	686	672	680
25	375	370	373	188	181	185	1280	317	456	671	661	665
26	377	368	373	181	175	178	1350	350	812	763	660	718
27	382	372	378	181	174	177	350	305	318	725	717	720
28	389	380	384	179	170	176	331	302	316	743	717	725
29	---	---	---	185	175	180	364	331	346	890	747	853
30	---	---	---	190	179	185	391	366	373	808	754	790
31	---	---	---	191	183	188	---	---	---	923	769	867
MONTH	535	234	347	1760	170	298	1350	185	299	923	387	578

411138081172600 PO-121 NR RAVENNA OH

#3 (9.4' BLS)

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	936	820	912	727	711	719	1200	1160	1180	1230	1190	1210
2	817	810	814	724	712	717	1170	1120	1150	1200	1150	1180
3	824	815	818	731	719	722	1120	1110	1120	1150	1130	1140
4	846	820	829	952	731	790	1130	1110	1120	1140	1130	1130
5	986	852	939	1010	925	976	1130	1130	1130	1200	1150	1180
6	1020	989	1000	913	761	842	1140	1130	1140	1250	1200	1230
7	1670	949	1010	925	692	853	1140	1120	1130	1250	1170	1200
8	1830	1720	1780	754	680	726	1130	1120	1130	1190	1170	1180
9	1780	1710	1740	781	740	758	1140	1130	1140	1180	1170	1180
10	1720	1610	1680	787	765	773	1150	1140	1140	1190	1180	1180
11	1590	1380	1460	801	789	795	1150	1150	1150	1190	1180	1190
12	1370	1230	1300	820	794	805	1160	1150	1160	1190	1180	1190
13	1230	1150	1180	821	766	802	1160	1150	1160	1190	1180	1190
14	1150	1050	1100	794	774	782	1150	1140	1150	1190	1190	1190
15	1050	982	1000	784	774	780	1150	1150	1150	1190	1190	1190
16	990	949	963	800	785	790	1150	1140	1150	1190	1180	1180
17	954	918	931	813	798	804	1150	1140	1150	1180	1170	1180
18	1110	895	956	825	810	815	1170	1150	1160	1180	1170	1180
19	1380	1140	1310	845	826	836	1170	1160	1160	1180	1170	1170
20	1230	988	1110	860	841	853	1180	1170	1170	1180	1170	1180
21	1460	1110	1330	877	858	870	1180	1170	1170	1180	1170	1170
22	1470	1260	1430	905	877	895	1190	1180	1180	1180	1170	1170
23	1220	839	966	935	908	926	1190	1180	1190	1170	1160	1170
24	842	818	827	976	937	957	1200	1190	1190	1170	1160	1160
25	832	823	826	1030	981	1000	1210	1190	1200	1170	1160	1170
26	839	797	817	1060	1030	1050	1220	1210	1220	1160	1150	1160
27	803	773	785	1090	1070	1090	1240	1230	1230	1170	1160	1170
28	777	754	761	1140	1100	1120	1250	1230	1240	1170	1170	1170
29	759	722	740	1170	1140	1150	1260	1250	1260	1180	1170	1170
30	735	718	727	1190	1170	1180	1260	1240	1260	1170	1140	1160
31	---	---	---	1200	1190	1190	1240	1220	1230	---	---	---
MONTH	1830	718	1070	1200	680	883	1260	1110	1170	1250	1130	1180
YEAR	1830	125	630									

#1 (17.4' BLS)

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	14.5	14.1	14.3	12.9	12.9	12.9	11.3	11.3	11.3	8.0	7.8	8.0
2	14.5	14.1	14.3	12.9	12.7	12.9	11.3	11.3	11.3	7.9	7.8	7.8
3	14.5	14.1	14.2	13.0	12.7	12.8	11.3	11.1	11.3	8.5	7.9	7.9
4	14.2	13.9	14.1	12.9	12.7	12.9	11.3	11.3	11.3	9.0	7.7	8.1
5	14.2	13.9	14.1	12.9	12.9	12.9	11.3	11.3	11.3	9.2	7.1	7.5
6	14.2	13.9	14.0	12.9	12.9	12.9	11.3	11.3	11.3	7.1	7.1	7.1
7	14.2	13.9	13.9	12.9	12.9	12.9	11.3	11.1	11.2	7.1	7.1	7.1
8	13.9	13.7	13.9	12.9	12.5	12.7	11.3	11.1	11.1	7.3	7.1	7.1
9	13.9	13.6	13.7	12.9	12.7	12.8	11.3	11.1	11.1	7.3	7.3	7.3
10	13.9	13.6	13.7	12.7	12.7	12.7	11.3	11.1	11.1	7.5	7.3	7.3
11	13.7	13.6	13.7	12.7	12.5	12.6	11.3	11.1	11.1	7.5	7.3	7.4
12	13.7	13.4	13.6	12.5	12.4	12.5	11.1	10.9	11.1	8.4	7.5	7.6
13	13.7	13.4	13.6	12.4	12.0	12.2	11.1	10.9	11.1	8.6	7.1	7.9
14	13.6	13.2	13.4	12.0	12.0	12.0	11.1	10.9	11.0	7.1	6.9	7.0
15	13.4	12.9	13.3	12.0	12.0	12.0	11.1	10.9	11.0	7.1	6.9	6.9
16	13.2	12.9	13.1	12.0	11.9	12.0	10.9	10.7	10.8	7.1	6.9	7.0
17	13.4	13.1	13.3	12.0	11.8	11.9	10.9	10.6	10.7	7.1	6.9	7.0
18	13.6	13.4	13.4	12.0	11.8	11.9	10.7	10.4	10.6	7.1	6.9	7.1
19	13.4	13.1	13.3	12.0	11.8	11.9	10.7	10.4	10.5	7.1	6.9	7.1
20	13.4	13.1	13.4	12.0	11.7	11.8	10.7	10.4	10.6	7.1	7.1	7.1
21	13.4	13.1	13.3	12.0	11.8	11.8	10.6	10.4	10.5	7.7	7.1	7.3
22	13.4	13.1	13.3	12.0	11.8	11.9	10.5	10.4	10.4	7.9	7.5	7.6
23	13.5	13.1	13.2	12.0	11.5	11.8	10.5	10.2	10.4	7.5	7.5	7.5
24	13.2	13.2	13.2	11.8	11.5	11.7	10.4	10.2	10.4	8.1	7.3	7.7
25	13.2	13.1	13.2	11.8	11.3	11.6	10.4	10.2	10.4	7.5	7.1	7.2
26	13.2	12.9	13.1	11.3	11.1	11.2	10.4	10.2	10.3	7.1	6.9	7.0
27	13.2	12.9	13.1	11.1	11.1	11.1	10.4	10.0	10.2	7.1	6.9	7.0
28	13.2	12.9	13.1	11.3	11.1	11.2	10.3	10.0	10.2	7.1	6.9	7.1
29	13.1	12.9	13.0	11.3	11.1	11.3	10.5	10.2	10.3	7.1	7.1	7.1
30	13.1	12.9	13.0	11.3	11.3	11.3	11.1	10.2	10.6	7.3	7.1	7.1
31	13.0	12.9	12.9	---	---	---	11.1	8.0	9.4	7.3	7.1	7.1
MONTH	14.5	12.9	13.5	13.0	11.1	12.1	11.3	8.0	10.8	9.2	6.9	7.3

411138081172600 PO-121 NR RAVENNA OH

#2 (13.4' BLS)

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	15.2	14.9	15.1	13.1	12.9	13.0	10.9	10.9	10.9	7.9	7.5	7.7
2	15.2	14.9	15.1	13.1	12.9	12.9	10.9	10.6	10.8	7.5	7.3	7.5
3	15.2	14.9	15.0	13.0	12.9	12.9	10.9	10.6	10.8	8.1	7.5	7.5
4	15.2	14.9	15.0	12.9	12.7	12.9	11.1	10.6	10.9	8.6	7.3	7.7
5	15.0	14.7	14.9	12.9	12.9	12.9	10.9	10.6	10.8	8.8	6.8	7.3
6	15.0	14.6	14.8	12.9	12.7	12.7	10.9	10.6	10.8	6.9	6.9	6.9
7	14.9	14.4	14.7	12.7	12.7	12.7	10.9	10.6	10.7	7.1	6.9	7.0
8	14.7	14.4	14.6	12.7	12.4	12.6	10.7	10.6	10.6	7.1	7.1	7.1
9	14.7	14.4	14.4	12.9	12.4	12.5	10.9	10.6	10.7	7.3	7.1	7.1
10	14.7	14.2	14.4	12.5	12.4	12.5	10.6	10.6	10.7	7.3	7.1	7.2
11	14.4	14.1	14.3	12.5	12.5	12.5	10.6	10.6	10.6	7.3	7.1	7.2
12	14.4	14.1	14.2	12.5	12.4	12.5	10.6	10.6	10.6	8.0	7.1	7.4
13	14.4	14.1	14.2	12.4	11.7	12.1	10.7	10.4	10.6	8.4	6.7	7.5
14	14.2	13.9	14.0	11.7	11.7	11.7	10.7	10.4	10.6	6.9	6.7	6.8
15	13.9	13.9	13.9	11.7	11.7	11.7	10.6	10.4	10.5	6.9	6.7	6.8
16	13.9	13.9	13.9	11.8	11.5	11.7	10.5	10.4	10.5	6.9	6.7	6.9
17	13.9	13.9	13.9	11.8	11.5	11.6	10.5	10.0	10.3	6.9	6.7	6.9
18	13.9	13.9	13.9	11.8	11.5	11.6	10.2	10.0	10.2	6.9	6.9	6.9
19	13.9	13.9	13.9	11.7	11.3	11.6	10.2	10.0	10.1	7.1	6.7	6.9
20	13.9	13.9	13.9	11.5	11.3	11.5	10.2	10.0	10.2	7.0	6.8	6.9
21	13.9	13.9	13.9	11.8	11.3	11.6	10.2	10.0	10.1	7.3	6.8	7.0
22	13.9	13.6	13.8	11.8	11.3	11.6	10.0	9.8	10.0	7.3	7.1	7.2
23	13.9	13.6	13.8	11.8	11.3	11.4	10.0	9.8	9.9	7.1	6.9	7.0
24	13.7	13.6	13.7	11.5	11.1	11.3	10.0	9.8	9.8	7.5	6.8	7.2
25	13.7	13.4	13.6	11.5	10.9	11.2	10.0	9.6	9.8	7.1	6.6	6.8
26	13.6	13.4	13.5	10.9	10.7	10.7	9.8	9.6	9.7	6.8	6.4	6.6
27	13.6	13.2	13.4	10.9	10.6	10.7	9.8	9.6	9.7	6.8	6.4	6.6
28	13.4	13.1	13.3	10.9	10.6	10.7	9.8	9.6	9.6	6.9	6.4	6.6
29	13.2	13.1	13.2	10.9	10.6	10.8	9.8	9.6	9.8	6.9	6.6	6.7
30	13.2	13.1	13.1	10.9	10.6	10.8	10.9	9.4	10.0	6.8	6.6	6.7
31	13.2	12.9	13.1	---	---	---	10.9	7.9	9.0	6.9	6.4	6.7
MONTH	15.2	12.9	14.1	13.1	10.6	11.9	11.1	7.9	10.3	8.8	6.4	7.0

#2 (13.4' BLS)

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	6.9	6.6	6.7	7.2	6.9	7.1	4.8	4.6	4.6	6.9	6.6	6.8
2	7.1	6.7	6.8	7.2	6.9	7.1	4.9	4.6	4.7	6.9	6.6	6.8
3	7.1	6.8	6.9	7.3	6.6	6.9	5.1	4.7	4.9	7.0	6.8	6.9
4	7.1	6.9	7.0	8.4	5.5	7.3	5.2	5.0	5.1	7.0	6.8	6.8
5	7.3	6.9	7.1	5.4	4.9	5.1	5.3	5.1	5.2	7.0	7.0	7.0
6	7.3	6.9	7.1	5.2	5.0	5.2	5.3	5.2	5.2	7.2	7.0	7.1
7	7.3	7.1	7.1	6.2	5.1	5.4	5.8	5.2	5.4	7.2	7.0	7.2
8	7.5	7.1	7.1	6.2	4.6	5.2	5.6	5.4	5.5	7.4	7.1	7.2
9	7.3	7.1	7.2	4.7	4.4	4.6	5.7	5.4	5.6	7.4	7.1	7.3
10	7.3	7.1	7.2	4.6	4.4	4.5	5.9	5.7	5.9	7.4	7.1	7.3
11	7.5	7.1	7.3	4.6	4.4	4.4	5.9	5.8	5.9	7.4	7.1	7.3
12	7.7	7.5	7.6	4.6	4.4	4.5	5.9	5.9	5.9	7.6	7.3	7.4
13	7.7	7.5	7.6	4.7	4.4	4.6	6.1	5.9	5.9	7.5	7.3	7.5
14	7.6	7.3	7.5	4.7	4.4	4.5	6.1	5.9	6.0	7.7	7.4	7.5
15	7.5	7.3	7.4	4.7	4.3	4.6	6.1	5.9	6.0	7.7	7.5	7.6
16	7.5	7.3	7.4	5.9	4.6	4.9	6.3	5.9	6.2	7.7	7.5	7.6
17	7.5	7.3	7.4	6.1	4.4	5.2	6.2	6.1	6.2	7.7	7.5	7.7
18	7.5	7.3	7.4	4.4	4.2	4.3	6.4	6.1	6.2	7.7	7.5	7.6
19	7.5	7.2	7.4	4.4	4.2	4.3	6.5	6.3	6.3	7.9	7.7	7.7
20	7.5	7.3	7.4	4.9	4.2	4.5	6.6	6.3	6.5	7.9	7.7	7.8
21	7.7	7.3	7.5	5.2	4.7	5.0	6.6	6.4	6.4	7.9	7.7	7.9
22	7.3	6.4	7.1	4.6	4.1	4.3	6.6	6.4	6.4	7.9	7.9	7.9
23	7.3	6.4	7.0	5.6	3.9	4.4	6.6	6.4	6.5	7.9	7.9	7.9
24	7.5	7.1	7.3	3.9	3.8	3.9	6.6	6.4	6.5	7.9	7.9	7.9
25	7.3	7.0	7.2	3.8	3.8	3.8	7.5	6.4	6.7	8.1	7.9	8.0
26	7.3	7.1	7.1	4.0	3.8	3.8	7.5	6.6	6.8	8.1	7.9	8.1
27	7.3	7.1	7.1	4.0	3.8	3.9	6.6	6.4	6.6	8.1	7.9	8.1
28	7.3	7.0	7.1	4.1	3.9	4.0	6.7	6.6	6.6	8.3	8.1	8.1
29	---	---	---	4.3	4.1	4.1	6.8	6.6	6.6	8.3	8.1	8.1
30	---	---	---	4.5	4.3	4.3	6.8	6.6	6.7	8.3	8.0	8.2
31	---	---	---	4.6	4.3	4.4	---	---	---	8.3	8.1	8.1
MONTH	7.7	6.4	7.2	8.4	3.8	4.8	7.5	4.6	6.0	8.3	6.6	7.6

411138081172600 PO-121 NR RAVENNA OH

#2 (13.4' BLS)
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	8.3	8.1	8.1	10.5	10.3	10.4	11.6	11.3	11.6	12.7	12.5	12.5
2	8.3	8.1	8.2	10.5	10.3	10.4	11.8	11.6	11.6	12.7	12.2	12.5
3	8.3	8.1	8.2	10.5	10.3	10.4	11.8	11.5	11.7	12.7	12.2	12.6
4	8.5	8.1	8.3	10.5	9.7	10.3	11.8	11.6	11.7	12.7	12.5	12.6
5	8.3	8.3	8.3	10.5	9.7	10.0	12.0	11.6	11.8	13.0	12.7	12.7
6	8.5	8.2	8.3	10.5	10.1	10.4	12.0	11.8	11.8	13.0	12.7	12.8
7	8.5	8.3	8.4	10.7	10.1	10.3	12.0	11.8	11.9	13.0	12.7	12.8
8	8.5	8.3	8.4	10.8	10.3	10.6	12.1	11.8	11.9	13.0	12.7	12.8
9	8.5	8.3	8.5	10.8	10.5	10.7	12.1	11.8	12.0	13.0	12.7	12.9
10	8.9	8.5	8.7	10.9	10.5	10.7	12.0	11.8	12.0	13.0	12.7	12.9
11	9.1	8.7	8.9	11.0	10.5	10.7	12.3	12.0	12.0	13.0	12.9	12.9
12	9.3	8.8	9.0	10.7	10.5	10.6	12.3	12.0	12.1	13.2	12.9	13.0
13	9.3	9.0	9.1	11.0	10.5	10.7	12.3	12.0	12.1	13.2	12.9	13.0
14	9.3	9.0	9.2	11.0	10.7	10.8	12.3	12.0	12.2	13.2	12.9	13.1
15	9.5	9.0	9.2	11.2	10.7	10.9	12.3	12.0	12.2	13.2	12.9	13.0
16	9.5	9.2	9.4	11.2	10.9	11.0	12.3	12.0	12.2	13.2	12.9	12.9
17	9.7	9.2	9.5	11.2	10.9	11.0	12.3	12.0	12.2	13.2	12.9	13.0
18	9.5	8.9	9.3	11.2	10.9	11.0	12.3	12.0	12.2	13.2	12.9	13.0
19	9.3	8.7	8.8	11.2	10.9	11.0	12.3	12.0	12.2	13.2	12.9	13.0
20	9.3	9.0	9.1	11.2	10.9	11.1	12.3	12.0	12.1	13.0	12.9	12.9
21	9.1	8.7	8.8	11.4	11.1	11.2	12.3	12.0	12.2	13.2	12.9	13.0
22	9.7	8.7	9.1	11.4	11.1	11.2	12.3	12.0	12.2	13.2	12.9	13.0
23	10.1	9.6	9.8	11.4	11.1	11.3	12.5	12.2	12.3	12.9	12.9	12.9
24	10.3	9.9	10.1	11.4	11.1	11.4	12.5	12.0	12.3	13.2	12.9	13.1
25	10.3	10.1	10.2	11.6	11.1	11.4	12.5	12.2	12.3	13.2	12.9	13.0
26	10.3	10.1	10.2	11.6	11.4	11.4	12.5	12.2	12.3	13.2	12.9	13.0
27	10.5	10.3	10.4	11.6	11.4	11.4	12.5	12.2	12.3	13.2	12.9	13.1
28	10.5	10.3	10.4	11.6	11.3	11.5	12.5	12.2	12.4	13.2	13.1	13.2
29	10.7	10.3	10.4	11.6	11.4	11.5	12.5	12.2	12.5	13.2	12.9	13.1
30	10.5	10.3	10.4	11.4	11.3	11.3	12.5	12.2	12.5	13.2	12.9	13.1
31	---	---	---	11.6	11.3	11.5	12.7	12.2	12.5	---	---	---
MONTH	10.7	8.1	9.2	11.6	9.7	10.9	12.7	11.3	12.1	13.2	12.2	12.9
YEAR	15.2	3.8	9.5									

#3 (9.4' BLS)
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	15.5	15.2	15.3	13.1	12.9	13.1	10.7	10.6	10.7	8.0	7.5	7.7
2	15.5	15.2	15.3	12.9	12.9	12.9	10.9	10.6	10.7	7.5	7.3	7.4
3	15.5	15.2	15.2	13.2	12.9	13.0	10.9	10.6	10.7	8.1	7.1	7.3
4	15.2	14.9	15.2	12.9	12.9	12.9	10.9	10.6	10.8	8.3	7.1	7.5
5	15.2	14.9	15.1	12.9	12.9	12.9	10.9	10.6	10.7	8.6	6.9	7.3
6	15.2	14.9	15.0	12.9	12.7	12.7	10.9	10.6	10.7	6.9	6.9	6.9
7	15.0	14.7	14.9	12.7	12.4	12.6	10.6	10.6	10.6	7.0	6.9	6.9
8	15.0	14.7	14.8	12.7	12.4	12.6	10.7	10.4	10.6	7.1	6.9	6.9
9	14.7	14.4	14.7	12.4	12.2	12.3	10.7	10.4	10.6	7.1	6.9	7.0
10	14.7	14.4	14.6	12.2	12.2	12.2	10.6	10.4	10.6	7.1	6.9	7.0
11	14.4	14.4	14.4	12.5	12.2	12.3	10.6	10.4	10.5	7.1	6.9	6.9
12	14.4	14.4	14.4	12.5	12.4	12.5	10.4	10.4	10.4	8.0	6.9	7.1
13	14.4	14.2	14.3	12.4	11.5	12.0	10.5	10.4	10.4	8.2	6.9	7.5
14	14.4	14.1	14.3	11.5	11.3	11.4	10.5	10.2	10.4	6.8	6.6	6.7
15	14.2	13.9	14.1	11.7	11.5	11.5	10.5	10.2	10.4	6.7	6.6	6.6
16	14.2	13.9	14.0	11.7	11.5	11.6	10.5	10.0	10.3	6.6	6.6	6.6
17	14.1	13.9	14.1	11.5	11.3	11.5	10.2	10.0	10.1	6.6	6.4	6.5
18	14.1	13.9	14.0	11.5	11.3	11.5	10.0	10.0	10.0	6.6	6.4	6.5
19	14.1	13.9	14.0	11.5	11.3	11.4	10.0	9.8	10.0	6.6	6.4	6.5
20	13.9	13.9	13.9	11.5	11.3	11.3	10.0	9.8	10.0	6.6	6.4	6.5
21	13.9	13.9	13.9	11.6	11.3	11.4	10.0	9.6	9.9	6.9	6.4	6.6
22	13.9	13.7	13.8	11.6	11.3	11.4	9.8	9.6	9.8	7.1	6.6	6.8
23	13.9	13.7	13.8	11.3	10.9	11.3	9.8	9.6	9.6	6.6	6.4	6.6
24	13.7	13.6	13.7	11.3	11.1	11.2	9.8	9.6	9.7	7.1	6.4	6.8
25	13.7	13.6	13.6	11.3	10.7	11.2	9.8	9.6	9.6	6.6	6.0	6.3
26	13.6	13.4	13.5	10.7	10.5	10.7	9.6	9.4	9.6	6.2	6.1	6.1
27	13.4	13.2	13.3	10.7	10.4	10.6	9.6	9.4	9.5	6.2	6.0	6.1
28	13.4	13.1	13.3	10.7	10.6	10.6	9.6	9.4	9.5	6.2	6.0	6.1
29	13.2	13.1	13.2	10.6	10.6	10.6	9.6	9.4	9.5	6.4	6.2	6.3
30	13.2	13.1	13.1	10.7	10.6	10.6	10.7	9.4	9.7	6.4	6.1	6.3
31	13.2	12.9	13.1	---	---	---	10.9	7.9	9.0	6.4	6.2	6.3
MONTH	15.5	12.9	14.2	13.2	10.4	11.8	10.9	7.9	10.1	8.6	6.0	6.8

GROUND-WATER RECORDS

393541083001100. Local number, PK-48.

LOCATION.--Lat 39°35'41" Long 83°00'11", Hydrologic Unit 05060002, along State Route 104 near Circleville, OH.
Owner.--USGS-Stacy Thomas.

AQUIFER.--Sand and Gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well drilled by hollow stem auger, diameter 4.0 in., depth 28 ft. Cased with Sch 40 PVC to 8 ft; .010 in. screen from 8 to 28 ft.

INSTRUMENTATION - Data logger--60 minute record. Precipitation data collected with a propane-heated, tipping-bucket rain gauge. Also collected: water level, air temperature, soil temperature, water temperature, and specific conductance. Conductivity/water temperature probe set at 16.0 feet below land surface.

DATUM.--Elevation of land-surface datum is 678.50 feet above sea level.
Measuring point: shelter floor 3.36 ft above land-surface datum.

REMARKS.--

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

PERIOD OF DAILY RECORD.--

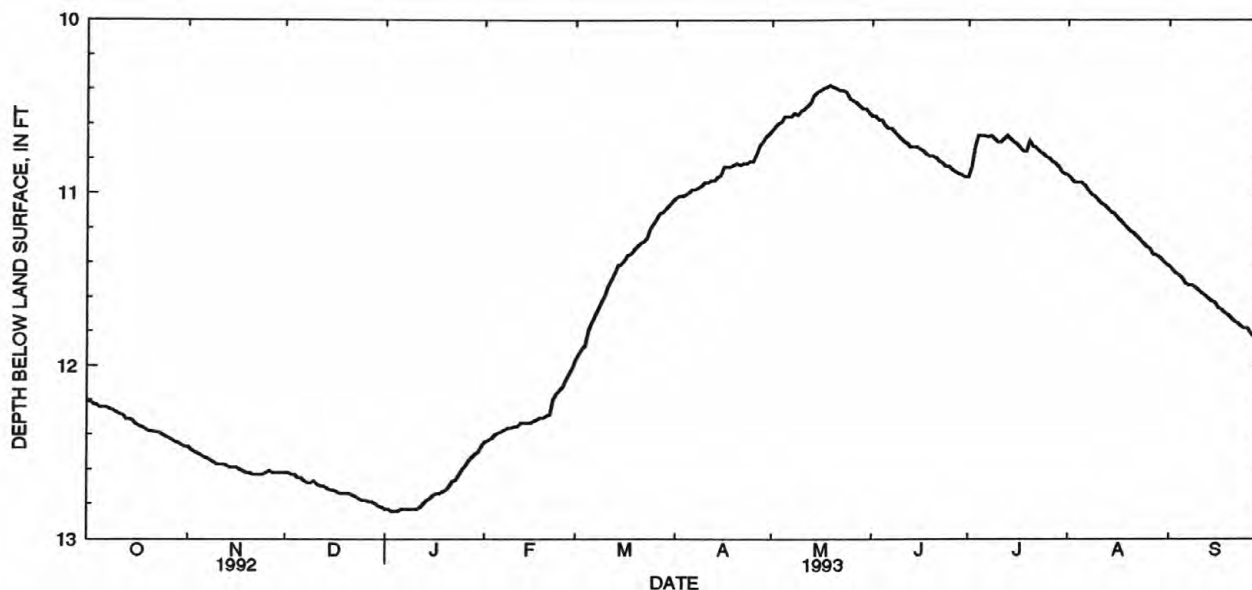
WATER LEVEL: February 1991 to current year.
SPECIFIC CONDUCTANCE: February 1991 to current year.
AIR TEMPERATURE: February 1991 to current year.
WATER TEMPERATURE: February 1991 to current year.
SOIL TEMPERATURE: February 1991 to current year.
PRECIPITATION: February 1991 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER LEVEL: Maximum daily low, 13.11 ft. below land-surface datum, June 18, 1992; minimum daily low, 6.68 ft. below land-surface datum, March 27, 1991.
SPECIFIC CONDUCTANCE: Maximum, 799 microsiemens April 4, 1993; minimum, 585 microsiemens October 23, 1992.
AIR TEMPERATURE: Maximum, 37.0°C June 29 and August 1, 1991; minimum, -19.8°C January 19, 1992.
WATER TEMPERATURE: Maximum, 15.0°C October 20-21 1991; minimum, 10.6°C April 29, 1993.
SOIL TEMPERATURE: Maximum, 32.5°C September 16, 1991; minimum, 0.3°C February 7-8, 1993.

EXTREMES FOR CURRENT YEAR.--

WATER LEVEL: Maximum daily low, 12.84 ft. below land-surface datum, January 3-5, 1993; minimum daily low, 10.37 ft. below land-surface datum, May 18, 1993.
SPECIFIC CONDUCTANCE: Maximum, 799 microsiemens April 4, 1993; minimum, 593 microsiemens August 22-23, 1993.
AIR TEMPERATURE: Maximum, 37.0°C August 28, 1993; minimum, -18.9°C February, 1993.
WATER TEMPERATURE: Maximum, 14.8°C many days October, November 1992; minimum, 10.6°C April 29, 1993.
SOIL TEMPERATURE: Maximum, 24.6°C August 27, 30, 31, 1993; minimum, 0.3°C February 7-8, 1993.



393541083001100 PK-48 NR CIRCLEVILLE OH

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.21	12.47	12.62	12.83	12.44	11.96	11.03	10.64	10.56	10.91	10.90	11.42
2	12.21	12.49	12.62	12.83	12.43	11.93	11.02	10.62	10.56	10.85	10.92	11.44
3	12.22	12.50	12.63	12.84	12.42	11.90	11.02	10.60	10.58	10.74	10.94	11.46
4	12.23	12.51	12.63	12.84	12.40	11.88	11.01	10.59	10.58	10.67	10.94	11.47
5	12.24	12.52	12.65	12.84	12.39	11.79	11.00	10.56	10.61	10.67	10.94	11.49
6	12.24	12.53	12.65	12.83	12.38	11.75	10.98	10.56	10.63	10.67	10.96	11.52
7	12.24	12.54	12.67	12.83	12.37	11.71	10.98	10.56	10.63	10.68	10.98	11.53
8	12.25	12.55	12.68	12.83	12.36	11.67	10.97	10.54	10.65	10.67	11.01	11.53
9	12.26	12.56	12.68	12.83	12.36	11.63	10.96	10.55	10.67	10.69	11.02	11.54
10	12.27	12.57	12.67	12.83	12.35	11.59	10.94	10.53	10.69	10.71	11.04	11.56
11	12.28	12.57	12.69	12.83	12.35	11.54	10.94	10.52	10.71	10.71	11.06	11.58
12	12.29	12.57	12.70	12.82	12.33	11.50	10.93	10.50	10.72	10.69	11.07	11.59
13	12.31	12.58	12.70	12.80	12.33	11.46	10.93	10.48	10.74	10.67	11.09	11.61
14	12.31	12.59	12.71	12.78	12.33	11.42	10.91	10.44	10.74	10.69	11.11	11.62
15	12.32	12.59	12.72	12.77	12.33	11.41	10.90	10.42	10.74	10.71	11.12	11.63
16	12.34	12.59	12.72	12.75	12.32	11.39	10.85	10.41	10.75	10.72	11.14	11.66
17	12.35	12.60	12.73	12.74	12.31	11.36	10.85	10.40	10.76	10.74	11.16	11.67
18	12.36	12.61	12.74	12.74	12.30	11.35	10.85	10.39	10.78	10.76	11.18	11.69
19	12.37	12.62	12.74	12.73	12.30	11.33	10.84	10.38	10.79	10.76	11.20	11.70
20	12.38	12.62	12.74	12.72	12.29	11.31	10.83	10.39	10.79	10.70	11.22	11.72
21	12.38	12.63	12.74	12.70	12.28	11.29	10.84	10.40	10.80	10.73	11.23	11.74
22	12.39	12.63	12.75	12.67	12.19	11.28	10.83	10.41	10.82	10.74	11.25	11.75
23	12.39	12.63	12.76	12.66	12.16	11.26	10.83	10.41	10.83	10.76	11.27	11.77
24	12.40	12.63	12.77	12.63	12.14	11.21	10.82	10.42	10.85	10.77	11.29	11.78
25	12.41	12.62	12.78	12.60	12.12	11.18	10.82	10.46	10.85	10.79	11.31	11.78
26	12.42	12.61	12.78	12.58	12.08	11.15	10.78	10.47	10.87	10.80	11.32	11.81
27	12.43	12.62	12.79	12.55	12.04	11.12	10.73	10.48	10.88	10.82	11.35	11.83
28	12.44	12.62	12.79	12.53	12.01	11.11	10.71	10.50	10.89	10.83	11.36	11.83
29	12.45	12.62	12.80	12.51	---	11.09	10.68	10.52	10.90	10.85	11.37	11.84
30	12.46	12.62	12.81	12.50	---	11.07	10.66	10.52	10.91	10.88	11.39	11.85
31	12.47	---	12.82	12.46	---	11.05	---	10.54	---	10.89	11.41	---
MAX	12.47	12.63	12.82	12.84	12.44	11.96	11.03	10.64	10.91	10.91	11.41	11.85
WTR YR 1993	LOW 12.84											

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, PROBE 16.0' BLS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	674	666	670	629	628	629	621	617	620	623	615	619
2	671	663	667	628	627	628	621	617	619	622	617	620
3	669	661	664	628	627	628	621	617	620	621	617	619
4	664	661	663	629	625	627	621	617	619	619	618	619
5	662	660	661	629	624	627	621	617	618	620	616	618
6	662	657	660	628	624	627	620	616	618	620	615	619
7	660	656	658	628	623	626	620	616	619	620	615	618
8	658	655	657	628	623	626	620	616	619	619	615	618
9	656	653	655	627	623	625	620	615	618	619	616	618
10	655	652	654	625	623	624	619	615	618	619	614	617
11	653	652	652	624	622	623	622	615	618	619	614	617
12	652	650	651	623	622	623	622	618	620	618	614	617
13	651	647	649	624	620	623	622	615	620	618	614	617
14	649	646	648	625	619	623	622	618	620	622	614	617
15	647	645	647	625	620	623	622	617	619	622	615	619
16	646	645	645	623	619	622	621	618	619	622	618	620
17	646	641	644	623	619	622	621	617	619	622	617	619
18	645	641	644	622	621	622	621	616	619	623	617	619
19	643	640	642	622	620	621	622	616	619	623	617	620
20	643	636	640	622	618	620	624	616	619	623	617	620
21	640	636	638	620	619	620	622	617	620	624	618	620
22	639	635	637	620	619	619	623	615	620	625	618	622
23	638	633	635	620	619	620	622	618	621	626	618	623
24	635	633	634	619	619	619	623	617	620	627	623	625
25	636	632	634	619	618	618	622	618	620	628	623	625
26	635	629	632	623	615	619	621	617	619	628	623	625
27	632	630	631	622	615	618	620	616	618	629	623	626
28	633	629	631	622	614	620	620	616	619	629	625	627
29	631	630	630	622	617	620	619	617	618	630	624	627
30	630	629	630	621	617	619	618	617	617	631	626	628
31	630	626	629	---	---	---	621	617	617	633	626	629
MONTH	674	626	646	629	614	623	624	615	619	633	614	621

393541083001100 PK-48 NR CIRCLEVILLE OH

AIR TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	19.0	-.9	8.2	11.2	7.0	8.7	.7	-4.0	-1.0	-.8	-4.6	-2.6
2	23.2	1.3	11.5	18.1	9.9	13.9	3.5	-1.7	.5	.4	-7.3	-2.4
3	25.9	2.2	13.0	20.1	6.2	12.0	1.0	-4.3	-1.1	11.2	.8	6.0
4	18.6	6.4	12.3	14.4	.6	7.3	6.3	-1.9	1.8	18.3	10.9	13.2
5	16.5	3.1	9.6	2.9	.0	1.5	-3.2	-10.1	-5.7	11.6	1.0	3.8
6	19.2	-.3	8.1	3.2	.2	1.5	-2.1	-10.1	-5.4	4.4	-2.3	1.4
7	22.4	-.6	9.3	5.2	-3.5	1.1	1.0	-2.7	-1.3	6.5	-3.2	1.0
8	17.4	3.2	11.6	7.9	-3.8	.9	-2.0	-3.5	-2.8	2.1	-.8	.4
9	17.6	6.3	12.3	10.0	-4.5	3.5	2.7	-3.9	-1.1	-.8	-2.4	-1.6
10	22.3	3.7	11.7	13.1	6.1	9.2	4.0	-.5	1.5	2.0	-1.9	-.3
11	14.0	4.7	10.2	12.6	10.2	11.5	1.6	.0	.8	1.8	-2.1	.0
12	18.3	2.5	11.4	16.0	2.8	11.0	2.6	.7	1.4	6.6	.9	3.4
13	19.3	1.2	9.8	7.2	-4.4	1.2	1.6	-6.1	-.8	9.3	-2.0	3.7
14	27.4	6.3	16.8	2.3	-5.3	-1.8	3.9	-6.2	-1.5	-.6	-3.1	-2.3
15	24.2	11.9	17.5	2.5	-9.0	-2.2	10.4	-5.8	2.5	-.7	-2.7	-2.0
16	15.9	3.4	11.3	5.6	-8.9	-1.4	12.5	.0	8.3	2.0	-2.9	-1.2
17	10.0	-1.6	3.7	12.1	2.2	9.0	8.6	-.4	3.4	2.6	-4.4	-.5
18	11.1	-.8	3.6	8.3	4.5	6.0	3.9	-4.6	-.5	-3.7	-7.9	-5.1
19	6.9	-4.7	-.2	10.3	2.9	5.5	10.4	-3.1	5.6	2.2	-9.6	-5.0
20	7.1	-6.2	.9	18.6	-.7	9.0	7.0	-7.6	-.1	8.9	-10.2	-1.3
21	16.2	1.1	8.3	13.5	9.4	11.5	3.8	-9.8	-2.1	8.9	.9	5.8
22	15.9	-1.7	5.3	16.6	10.0	13.7	8.4	-2.5	2.5	2.7	.6	1.9
23	22.2	-2.0	9.5	10.1	6.0	7.1	9.2	.6	4.6	12.4	-3.1	3.6
24	21.3	3.0	13.0	8.6	5.2	6.6	-1.6	-9.6	-6.7	9.0	-3.8	2.5
25	11.3	-2.0	3.6	13.4	5.6	8.7	-.5	-10.4	-4.7	2.4	-7.9	-3.2
26	21.9	-3.1	9.4	11.2	1.4	5.1	-3.0	-14.4	-9.6	3.7	-10.1	-3.1
27	17.7	2.7	10.5	1.7	-.7	.6	5.8	-14.1	-4.0	2.9	-4.6	-.3
28	17.7	-1.7	7.6	1.4	-1.1	-.1	6.7	1.1	3.3	12.3	-3.0	4.1
29	14.3	2.3	8.4	1.2	-4.8	-1.6	8.6	3.2	5.8	1.4	-9.2	-2.8
30	7.6	5.7	6.8	3.8	-4.8	-.7	14.7	8.5	12.1	2.9	-10.1	-3.3
31	13.0	1.4	7.0	---	---	---	14.0	-.3	8.7	8.4	-2.0	2.4
MONTH	27.4	-6.2	9.1	20.1	-9.0	5.3	14.7	-14.4	.5	18.3	-10.2	.5

AIR TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	2.8	-11.5	-3.1	6.3	-13.7	-2.8	12.7	6.8	10.3	23.6	7.7	16.0
2	.5	-12.9	-7.1	8.5	.4	3.7	4.4	.3	1.6	25.2	7.7	17.0
3	10.0	-10.1	-2.6	8.3	1.4	4.7	6.1	-2.2	1.6	23.3	14.5	17.7
4	6.8	-9.7	-2.4	5.2	-.5	3.0	8.5	-3.0	2.4	21.6	14.0	16.8
5	12.4	-9.2	-.2	-.3	-1.1	-.8	7.2	1.3	3.9	22.5	13.0	16.6
6	2.1	-7.7	-2.6	6.5	-4.6	-.2	12.3	4.4	7.5	23.4	10.1	16.7
7	8.8	-10.5	-2.8	9.9	-4.6	3.3	18.4	1.4	11.0	22.6	6.5	15.2
8	2.7	-7.6	-.7	5.8	1.5	3.4	23.8	4.0	13.6	26.6	6.5	17.0
9	12.2	-1.8	3.0	5.5	-2.8	1.8	16.1	8.6	11.4	29.6	9.4	19.1
10	17.2	-3.4	4.9	10.8	-1.2	2.6	14.7	2.2	9.2	29.1	13.5	20.7
11	5.9	-.3	2.9	2.0	-4.1	-1.1	21.1	-.2	10.0	28.6	13.7	19.7
12	7.7	-.2	5.3	1.5	-4.5	-1.8	11.4	3.9	8.1	19.3	10.3	16.2
13	-.5	-3.2	-1.6	-4.6	-10.4	-7.0	14.5	.8	7.7	15.8	6.2	11.1
14	1.0	-3.6	-1.7	-6.1	-14.5	-10.5	12.8	4.4	8.8	20.4	3.1	12.4
15	1.0	-3.2	-1.4	2.1	-18.7	-6.8	22.7	6.9	14.4	25.4	9.7	17.5
16	1.6	-5.5	-1.1	6.4	-.6	3.0	12.4	3.9	8.1	20.2	7.4	13.9
17	-2.6	-14.5	-6.1	3.9	-8.6	-.8	10.7	1.3	4.8	20.6	3.2	13.0
18	-11.3	-18.3	-15.3	-1.1	-10.6	-6.4	18.7	-.7	9.1	15.9	7.7	11.5
19	-4.6	-17.2	-10.5	6.9	-10.2	-.3	16.6	7.9	12.3	14.4	5.9	10.6
20	1.1	-5.2	-2.8	5.1	.5	2.9	21.2	8.9	15.8	16.8	1.3	9.2
21	6.6	-2.4	1.8	5.3	1.0	2.9	8.4	-.5	4.2	17.4	2.3	9.1
22	1.5	-5.5	-1.6	12.7	1.1	6.9	14.0	-1.9	6.1	20.0	.8	11.6
23	-3.1	-10.1	-6.1	13.5	6.5	10.2	17.0	4.0	10.4	22.4	9.5	14.8
24	-6.8	-14.7	-10.7	13.8	4.0	8.6	18.6	8.4	13.1	21.0	16.6	18.2
25	-4.5	-15.1	-9.4	17.4	3.0	8.6	19.7	10.1	15.5	20.2	8.8	15.4
26	-2.7	-8.2	-4.9	20.3	2.7	10.8	10.2	.6	6.8	21.7	4.8	13.9
27	-3.2	-14.4	-9.0	9.6	4.0	6.6	16.6	-1.4	7.0	25.4	4.8	16.1
28	-2.7	-18.9	-11.0	10.4	5.7	7.3	23.3	.7	12.7	28.6	10.7	21.1
29	---	---	---	11.7	5.7	8.2	23.9	5.5	15.4	18.5	8.9	14.3
30	---	---	---	18.1	6.7	10.9	20.2	10.0	15.0	25.6	3.6	16.3
31	---	---	---	18.2	4.2	10.6	---	---	---	20.1	9.1	15.4
MONTH	17.2	-18.9	-3.5	20.3	-18.7	2.6	23.9	-3.0	9.3	29.6	.8	15.3

393541083001100 PK-48 NR CIRCLEVILLE OH

AIR TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	16.6	4.9	10.8	25.5	17.5	21.2	30.9	10.2	20.4	25.1	17.6	20.6
2	19.3	4.3	11.1	29.5	19.0	23.3	30.2	15.1	23.0	33.4	16.8	23.1
3	19.9	9.5	14.7	30.7	18.8	23.2	30.0	11.1	20.2	26.6	17.5	21.1
4	15.3	11.8	13.7	33.8	18.7	25.5	26.0	14.1	19.0	25.7	12.5	18.6
5	16.3	9.1	14.1	33.1	17.8	25.8	23.7	8.6	16.6	28.7	10.5	18.3
6	24.6	4.4	15.2	30.3	20.5	24.7	26.6	12.1	18.5	30.0	10.6	19.8
7	26.6	10.5	19.5	31.2	19.8	25.3	25.5	11.4	18.3	23.6	13.4	18.6
8	30.7	18.2	24.8	33.6	19.3	26.0	27.7	7.9	17.8	24.4	10.5	17.1
9	24.9	18.3	22.3	32.5	19.4	26.3	30.2	9.2	19.4	26.8	11.8	19.6
10	31.3	17.5	23.0	32.3	18.5	24.0	25.8	11.7	18.2	22.2	7.6	16.9
11	27.8	17.3	21.7	33.9	17.7	23.0	30.8	14.1	22.1	21.7	1.2	11.8
12	26.3	16.5	19.9	28.4	17.8	22.5	29.4	15.6	21.8	22.5	4.8	15.0
13	29.2	16.0	21.6	29.6	15.1	22.8	30.0	18.0	23.2	30.9	12.8	21.6
14	30.0	14.1	20.3	32.1	19.4	23.6	31.8	14.3	22.8	32.2	16.2	23.9
15	27.7	12.8	20.9	23.8	17.5	21.0	33.5	14.2	23.3	25.3	11.6	17.9
16	27.4	9.8	18.6	26.9	13.5	20.4	28.7	18.1	22.9	18.7	9.1	13.8
17	30.4	11.3	21.4	27.7	14.9	21.1	31.9	18.6	24.0	22.5	8.3	15.7
18	31.9	17.0	23.2	32.6	15.6	23.8	31.1	16.1	22.9	23.8	10.1	15.9
19	32.1	18.2	24.8	28.4	19.6	23.7	33.0	14.4	23.2	22.4	10.6	15.5
20	28.8	18.4	21.7	28.9	16.8	22.3	31.2	18.6	23.5	23.6	9.6	16.1
21	25.1	14.0	20.3	26.6	15.1	20.3	28.6	13.1	20.5	24.0	12.0	18.1
22	28.3	12.8	20.6	25.8	12.0	19.5	31.7	9.8	19.7	23.4	7.6	15.2
23	28.5	15.0	21.4	25.5	15.4	19.7	34.6	13.9	23.7	20.5	13.1	18.0
24	32.3	13.1	23.0	29.1	13.2	21.1	34.3	19.0	25.6	19.3	6.8	13.0
25	29.1	18.4	23.6	32.7	17.7	24.2	34.7	18.6	25.3	20.6	9.6	14.2
26	30.4	14.6	21.8	34.4	17.8	26.3	34.0	18.3	25.7	19.8	10.3	16.1
27	30.0	13.1	22.1	33.3	15.6	24.0	36.0	19.2	26.4	14.9	9.2	11.2
28	25.9	13.2	18.5	34.1	17.9	26.3	37.0	18.9	24.2	18.8	5.5	11.0
29	27.0	17.5	20.9	28.8	17.3	23.3	35.5	17.0	25.1	14.8	1.1	8.3
30	27.4	14.7	19.9	25.5	14.5	19.8	35.6	17.7	25.9	12.9	1.3	6.7
31	---	---	---	29.4	11.2	19.6	35.2	19.1	25.4	---	---	---
MONTH	32.3	4.3	19.8	34.4	11.2	23.0	37.0	7.9	22.2	33.4	1.1	16.4
YEAR	37.0	-18.9	10.1									

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	14.6	14.3	14.4	14.6	14.5	14.6	14.5	14.3	14.4	14.0	13.5	13.8
2	14.8	14.3	14.5	14.6	14.6	14.6	14.5	14.3	14.4	13.8	13.5	13.6
3	14.8	14.3	14.5	14.6	14.5	14.6	14.5	14.3	14.3	13.8	13.5	13.6
4	14.6	14.5	14.6	14.8	14.5	14.6	14.5	14.3	14.3	13.6	13.6	13.6
5	14.6	14.5	14.6	14.8	14.5	14.6	14.5	14.2	14.4	13.8	13.5	13.7
6	14.8	14.5	14.6	14.8	14.5	14.6	14.5	14.3	14.4	13.8	13.5	13.6
7	14.8	14.5	14.6	14.8	14.5	14.6	14.5	14.3	14.3	13.8	13.5	13.6
8	14.8	14.5	14.6	14.8	14.5	14.6	14.5	14.3	14.3	13.8	13.5	13.6
9	14.6	14.5	14.6	14.8	14.5	14.6	14.5	14.3	14.3	13.8	13.5	13.6
10	14.6	14.5	14.6	14.6	14.5	14.6	14.5	14.3	14.3	13.8	13.5	13.6
11	14.6	14.5	14.6	14.6	14.6	14.6	14.5	14.0	14.3	13.8	13.5	13.6
12	14.6	14.5	14.6	14.6	14.5	14.6	14.3	14.0	14.2	13.8	13.5	13.6
13	14.8	14.5	14.6	14.8	14.5	14.6	14.5	14.0	14.1	13.8	13.5	13.6
14	14.6	14.5	14.6	14.8	14.5	14.6	14.3	14.0	14.1	13.8	13.3	13.6
15	14.6	14.6	14.6	14.8	14.5	14.6	14.3	14.0	14.1	13.8	13.3	13.5
16	14.6	14.5	14.6	14.8	14.5	14.6	14.1	14.0	14.0	13.5	13.3	13.4
17	14.8	14.5	14.6	14.8	14.5	14.6	14.3	14.0	14.1	13.5	13.3	13.4
18	14.8	14.5	14.5	14.5	14.5	14.5	14.3	14.0	14.1	13.5	13.3	13.4
19	14.8	14.5	14.6	14.6	14.5	14.5	14.3	13.8	14.1	13.5	13.3	13.4
20	14.8	14.5	14.6	14.8	14.5	14.6	14.3	13.8	14.0	13.5	13.3	13.4
21	14.8	14.5	14.6	14.6	14.5	14.6	14.2	13.8	14.0	13.5	13.1	13.3
22	14.8	14.5	14.6	14.6	14.6	14.6	14.3	13.8	13.9	13.5	13.1	13.2
23	14.8	14.5	14.6	14.6	14.5	14.5	14.0	13.8	13.8	13.5	13.1	13.2
24	14.6	14.5	14.6	14.6	14.5	14.5	14.0	13.8	13.9	13.3	13.0	13.1
25	14.8	14.5	14.6	14.6	14.5	14.6	14.0	13.8	13.9	13.3	13.0	13.2
26	14.8	14.5	14.6	14.8	14.3	14.5	14.0	13.8	13.9	13.3	13.0	13.2
27	14.6	14.5	14.6	14.8	14.3	14.6	14.0	13.8	13.9	13.3	13.0	13.2
28	14.8	14.5	14.6	14.8	14.3	14.4	14.0	13.8	13.8	13.3	13.0	13.1
29	14.6	14.5	14.6	14.5	14.3	14.3	13.8	13.8	13.8	13.3	13.0	13.2
30	14.5	14.5	14.5	14.5	14.3	14.4	13.8	13.8	13.8	13.3	13.0	13.2
31	14.8	14.5	14.6	---	---	---	13.8	13.6	13.8	13.3	12.8	13.1
MONTH	14.8	14.3	14.6	14.8	14.3	14.6	14.5	13.6	14.1	14.0	12.8	13.4

393541083001100 PK-48 NR CIRCLEVILLE OH

SOIL TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	13.5	12.6	13.1	10.6	10.0	10.2	5.4	4.9	5.2	5.7	3.4	4.4
2	13.6	12.1	12.8	12.6	11.6	11.7	5.3	4.8	5.1	3.4	2.8	3.0
3	13.9	12.3	13.1	12.0	10.7	11.3	5.1	4.6	4.9	4.6	2.8	3.6
4	14.5	13.1	13.8	11.1	10.0	10.8	5.1	4.3	4.7	7.4	4.7	5.7
5	14.2	13.0	13.4	9.8	8.2	8.9	4.8	3.1	3.8	7.5	5.7	6.7
6	12.9	11.6	12.3	8.2	7.7	7.9	3.1	2.5	2.7	5.6	5.0	5.4
7	12.7	11.2	12.0	7.7	7.1	7.3	2.5	2.4	2.5	4.9	4.0	4.4
8	13.6	11.5	12.4	7.4	6.5	6.9	2.6	2.5	2.5	4.5	3.8	4.2
9	13.8	13.1	13.5	7.3	5.8	6.6	2.6	2.5	2.5	3.7	2.9	3.3
10	13.7	12.3	13.0	8.8	7.3	7.9	3.5	2.5	2.9	3.1	2.7	2.9
11	13.5	12.8	13.2	10.1	8.8	9.4	3.4	3.2	3.3	3.4	2.9	3.2
12	13.3	12.5	13.0	11.2	10.1	10.6	3.7	3.3	3.5	4.4	3.4	3.7
13	13.0	11.8	12.4	10.4	7.5	8.8	3.7	3.3	3.6	5.1	4.3	4.8
14	13.9	11.9	12.7	7.4	6.2	6.6	3.2	2.8	3.0	4.2	3.3	3.6
15	15.1	13.7	14.3	6.4	5.4	5.9	3.5	2.5	2.8	3.2	3.0	3.1
16	14.8	13.4	14.4	5.4	4.4	4.8	5.8	3.6	4.8	3.2	2.7	2.9
17	13.2	10.8	11.7	7.1	4.9	5.9	5.4	4.9	5.1	3.2	2.7	3.0
18	11.2	10.0	10.6	7.6	7.1	7.4	4.9	4.2	4.5	2.7	2.0	2.3
19	10.5	8.7	9.3	7.8	7.2	7.5	4.9	3.5	4.0	2.0	1.5	1.7
20	8.7	7.4	8.1	7.8	6.8	7.3	5.2	3.9	4.8	1.5	1.2	1.3
21	10.1	8.3	9.1	9.6	7.8	8.6	3.8	2.8	3.1	1.2	1.1	1.1
22	9.6	8.2	8.9	11.0	9.7	10.3	3.6	2.9	3.2	2.6	1.2	1.8
23	10.3	8.0	8.9	10.9	9.8	10.3	4.4	3.4	3.9	3.1	2.2	2.6
24	11.9	10.3	11.0	9.8	9.3	9.6	3.9	2.4	3.1	3.7	3.0	3.3
25	11.2	9.2	10.0	10.0	9.2	9.5	2.3	1.9	2.0	2.9	2.0	2.3
26	10.1	8.2	9.1	9.6	8.7	9.3	1.9	1.4	1.7	1.9	1.5	1.7
27	10.8	9.9	10.3	8.6	6.9	7.7	1.4	1.1	1.2	1.5	1.3	1.4
28	10.3	8.8	9.6	6.9	6.4	6.6	1.1	1.1	1.1	1.5	1.3	1.4
29	10.7	9.5	10.1	6.5	5.8	6.2	1.5	1.1	1.2	1.7	1.5	1.6
30	10.5	10.2	10.4	5.7	4.9	5.3	5.1	1.5	3.1	1.6	1.2	1.3
31	10.5	9.5	10.1	---	---	---	6.6	5.2	6.1	1.2	1.1	1.1
MONTH	15.1	7.4	11.5	12.6	4.4	8.2	6.6	1.1	3.4	7.5	1.1	3.0

SOIL TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	1.2	1.0	1.1	.5	.5	.5	10.3	8.6	9.5	14.1	12.1	13.1
2	1.1	.7	.9	.5	.4	.5	9.6	6.7	7.9	14.6	12.6	13.7
3	.7	.5	.6	.5	.4	.4	7.2	5.8	6.5	15.0	13.8	14.4
4	.6	.4	.5	.9	.4	.6	7.0	5.1	6.0	15.3	14.0	14.6
5	.5	.4	.4	.8	.7	.7	6.3	5.5	5.9	15.7	14.1	15.0
6	.5	.4	.4	1.4	.7	.9	8.2	6.2	6.9	16.0	14.3	15.1
7	.4	.3	.4	1.9	.9	1.2	10.1	6.9	8.3	15.5	13.9	14.8
8	.4	.3	.4	3.1	2.0	2.5	11.2	8.0	9.5	15.7	13.7	14.7
9	.4	.4	.4	3.3	2.3	2.7	10.8	10.1	10.4	16.9	14.3	15.4
10	.5	.4	.4	3.5	2.1	2.7	10.6	9.3	10.0	18.1	15.8	16.8
11	.7	.5	.6	3.2	2.2	2.7	10.9	8.1	9.5	18.1	16.7	17.4
12	3.0	.6	1.6	2.8	1.9	2.3	10.3	9.3	9.7	17.7	16.7	17.0
13	2.9	2.1	2.5	2.2	1.3	1.6	10.3	8.5	9.4	16.5	15.2	15.8
14	2.1	2.0	2.0	1.4	1.1	1.2	10.2	8.7	9.4	15.3	13.7	14.6
15	2.1	1.9	2.0	1.1	1.0	1.0	11.6	9.4	10.4	15.9	14.3	14.9
16	2.1	1.8	2.0	1.0	.8	.9	11.4	10.5	10.9	15.6	13.7	14.9
17	1.9	1.7	1.8	.9	.8	.8	10.3	8.9	9.4	15.3	13.6	14.5
18	1.7	1.4	1.5	.9	.7	.8	10.7	7.6	9.0	14.9	13.8	14.3
19	1.4	1.2	1.3	.8	.6	.7	10.9	9.5	10.2	14.6	13.3	13.9
20	1.2	1.1	1.1	.7	.6	.6	12.3	10.5	11.2	14.0	12.6	13.4
21	1.1	.8	1.0	1.6	.7	1.1	11.8	9.0	10.5	13.3	12.1	12.7
22	1.0	.8	.9	3.8	1.4	2.3	9.9	7.6	8.7	13.7	11.6	12.7
23	1.0	.9	.9	5.9	3.7	4.7	11.2	8.6	9.8	13.9	12.9	13.3
24	1.0	.8	.9	7.6	5.7	6.5	11.6	10.0	10.6	14.5	13.8	14.1
25	.8	.6	.7	8.0	5.9	6.8	12.5	11.2	11.8	15.2	14.2	14.7
26	.6	.5	.6	8.8	6.2	7.4	12.4	10.9	11.4	15.3	13.4	14.4
27	.6	.5	.6	8.2	7.0	7.4	11.3	9.0	10.2	15.5	13.3	14.4
28	.6	.5	.5	7.8	7.0	7.3	12.2	9.2	10.6	16.6	14.5	15.4
29	---	---	---	8.2	7.2	7.6	13.2	10.8	11.9	16.6	15.5	16.1
30	---	---	---	10.1	7.7	8.6	13.7	12.3	12.9	16.7	14.2	15.4
31	---	---	---	9.2	7.8	8.5	---	---	---	16.4	15.6	16.2
MONTH	3.0	.3	1.0	10.1	.4	3.0	13.7	5.1	9.6	18.1	11.6	14.8

393541083001100 PK-48 NR CIRCLEVILLE OH

SOIL TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	15.5	14.2	14.8	21.1	20.3	20.6	22.2	20.4	21.3	24.2	23.2	23.5
2	14.6	13.7	14.1	22.0	21.0	21.4	22.8	21.8	22.2	23.9	22.6	23.2
3	15.0	13.8	14.3	22.4	21.5	21.9	22.3	20.7	21.5	23.7	23.1	23.5
4	14.9	14.5	14.7	23.2	21.8	22.4	21.8	21.0	21.4	23.0	21.7	22.3
5	14.9	14.7	14.8	23.7	22.2	23.0	21.1	19.8	20.5	21.6	20.2	20.8
6	15.4	13.5	14.4	23.8	22.9	23.4	21.0	19.8	20.3	21.3	19.8	20.6
7	16.6	14.7	15.5	23.9	22.8	23.3	20.9	19.8	20.4	21.1	20.7	20.9
8	18.5	16.5	17.3	24.2	22.9	23.5	20.7	19.1	19.9	20.7	19.6	20.1
9	18.4	17.8	18.3	24.3	23.0	23.7	21.0	19.1	20.0	21.0	19.6	20.2
10	19.0	17.7	18.2	24.0	23.1	23.6	20.7	19.7	20.2	20.8	19.4	20.2
11	19.2	17.7	18.5	23.7	22.6	23.1	21.7	19.9	20.6	19.2	17.2	18.0
12	18.9	18.2	18.5	23.3	22.4	22.8	21.9	20.6	21.2	18.3	17.2	17.7
13	19.4	18.1	18.6	23.3	22.3	22.8	22.4	21.4	21.8	20.0	17.9	18.7
14	19.6	18.3	18.8	23.7	22.8	23.2	22.4	21.0	21.8	21.2	19.3	20.1
15	19.6	18.8	19.2	23.5	22.8	23.0	22.8	21.2	21.9	21.2	19.3	20.4
16	19.2	17.7	18.5	22.6	21.6	22.1	22.8	22.0	22.4	19.1	18.2	18.5
17	19.6	17.7	18.6	22.2	21.3	21.8	23.2	22.3	22.7	18.6	17.3	17.9
18	20.5	18.8	19.6	23.0	21.4	22.1	23.1	21.8	22.5	18.5	17.8	18.2
19	21.2	19.8	20.4	23.5	22.0	22.9	23.2	21.7	22.4	18.2	17.5	17.8
20	21.0	20.3	20.7	23.4	22.5	23.0	23.4	22.4	22.8	18.3	17.2	17.7
21	20.7	20.2	20.5	22.9	22.1	22.5	23.1	22.0	22.5	18.8	18.0	18.4
22	20.5	19.1	19.8	22.3	21.1	21.7	22.3	20.8	21.6	18.5	17.3	17.9
23	20.6	19.5	20.1	21.8	21.1	21.5	23.1	21.2	22.0	18.9	18.4	18.6
24	21.2	19.2	20.1	21.9	20.7	21.2	23.9	22.4	23.0	18.7	17.3	17.8
25	21.7	20.5	21.1	22.8	21.4	22.0	24.0	23.0	23.4	17.7	16.7	17.0
26	21.4	20.3	20.9	23.9	22.5	23.1	24.2	22.9	23.5	18.3	17.7	18.1
27	21.4	19.8	20.6	23.4	22.1	22.8	24.6	23.3	23.9	17.6	16.5	17.0
28	20.8	19.6	20.1	24.0	22.4	23.1	24.4	23.4	24.0	16.3	15.5	15.8
29	20.9	19.9	20.3	23.8	22.9	23.3	24.2	23.0	23.6	15.5	14.2	14.7
30	20.8	19.8	20.3	23.0	21.9	22.3	24.6	23.1	23.8	14.4	13.3	13.8
31	---	---	---	22.2	20.8	21.6	24.6	23.5	24.0	---	---	---
MONTH	21.7	13.5	18.4	24.3	20.3	22.5	24.6	19.1	22.0	24.2	13.3	19.0
YEAR	24.6	.3	11.4									

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.27	.02	.00	.00	.00	.15	.00	.00	1.00	.00	.03
2	.00	.36	.04	.00	.00	.01	.06	.00	.17	.70	.01	.07
3	.00	.00	.00	.00	.00	.11	.00	.01	.07	.02	.00	.72
4	.00	.02	.00	.74	.00	1.00	.00	.92	.43	.00	.08	.00
5	.00	.42	.00	.03	.00	.10	.05	.00	.03	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.01	.00	.00	.15	.00	.01
7	.00	.00	.00	.00	.00	.09	.00	.00	.00	.00	.00	.01
8	.02	.00	.00	.07	.00	.04	.00	.00	.01	.00	.00	.00
9	.04	.00	.02	.00	.00	.00	.76	.75	.04	.00	.00	.00
10	.04	.06	.52	.15	.00	.10	.00	.28	.14	.01	.05	.00
11	.02	.41	.00	.27	.12	.01	.00	.01	.01	1.43	.00	.00
12	.00	.48	.00	.18	.26	.00	.00	.68	.01	.06	.00	.07
13	.00	.00	.00	.20	.05	.00	.00	.09	.00	.00	.00	.00
14	.03	.00	.00	.00	.06	.00	.50	.00	1.14	.00	.00	.00
15	.51	.00	.01	.00	.01	.00	.30	.08	.00	.00	.00	.62
16	.10	.00	.00	.00	.61	.15	.01	.00	.00	.00	.04	.00
17	.00	.00	.10	.00	.00	.08	.00	.00	.00	.00	.00	.00
18	.02	.10	.00	.00	.00	.00	.00	.14	.47	.05	.00	.00
19	.01	.00	.06	.00	.00	.00	.09	.00	.00	1.37	.00	.00
20	.01	.00	.22	.00	.00	.14	.26	.00	.33	.00	.00	.00
21	.00	.36	.00	.78	.93	.00	.06	.09	.15	.00	.00	.00
22	.00	.51	.00	.06	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.01	.68	.00	.02	.00	.00	.00	.02
24	.00	.44	.00	.48	.00	.01	.09	.01	.00	.00	.18	.01
25	.00	.01	.00	.00	.00	.00	1.05	.00	.07	.00	.01	.58
26	.00	.00	.00	.00	.05	.00	.28	.00	.07	.00	.00	.33
27	.00	.00	.00	.00	.11	.13	.00	.00	.35	.00	.00	.01
28	.00	.05	.00	.00	.01	.00	.00	.00	.25	.00	.12	.07
29	.00	.00	.11	.00	---	.00	.00	.00	.18	.00	.00	.01
30	.05	.01	.04	.00	---	.00	.00	.37	.53	.00	.00	.00
31	.00	---	.12	.00	---	.38	---	.10	---	.00	.00	---
TOTAL	0.85	3.50	1.26	2.96	2.22	3.03	3.67	3.55	4.45	4.79	0.49	2.56

WTR YR 1993 TOTAL 33.33

GROUND-WATER RECORDS

400949083480100. Local number, CH-42.

LOCATION.--Lat 40°09'49" Long 83°48'01", Hydrologic Unit 05080001, along State Route 29 near Urbana, OH.
Owner.--USGS-Jack Sommers.

AQUIFER.--Sand and Gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well drilled by hollow stem auger, diameter 4.0 in., depth 28.7 ft. Cased with Sch 40 PVC to 13.7 ft; .020 in. screen from 13.7 to 28.7 ft.

INSTRUMENTATION - Data logger--60 minute record. Precipitation data was collected with a propane-heated, tipping-bucket rain gauge. Also collected: air temperature, soil temperature, water temperature, and specific conductance. Conductivity/water temperature probe set at 23.7 feet below land surface.

DATUM.--Elevation of land-surface datum is 1029.89 feet above sea level.
Measuring point: shelter floor 2.32 ft above land-surface datum.

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

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

PERIOD OF DAILY RECORD.--

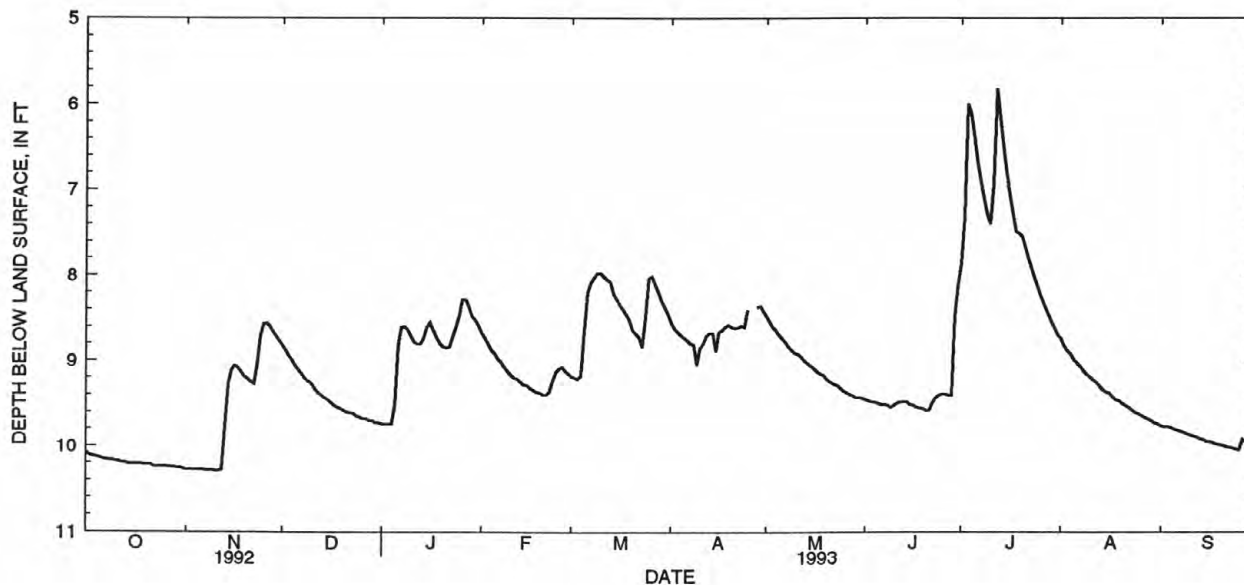
WATER LEVEL: February 1991 to current year.
SPECIFIC CONDUCTANCE: February 1991 to current year.
AIR TEMPERATURE: February 1991 to current year.
WATER TEMPERATURE: February 1991 to current year.
SOIL TEMPERATURE: February 1991 to current year.
PRECIPITATION: February 1991 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER LEVEL: Maximum daily low, 10.62 ft. below land-surface datum, December 19, 1991; minimum daily low, 5.47 ft. below land-surface datum, July 18, 1992.
SPECIFIC CONDUCTANCE: Maximum, 918 microsiemens April 5, 7, 9, 1993; minimum, 725 microsiemens July 31, 1991.
AIR TEMPERATURE: Maximum, 37.0°C August 1, 1991; minimum, -22.2°C February 18, 1993.
WATER TEMPERATURE: Maximum, 13.2°C many days October, November 1992; minimum, 10.5°C many days in 1991.
SOIL TEMPERATURE: Maximum, 30.5°C August 2, 1991; minimum, <0.0°C many days in 1991.

EXTREMES FOR CURRENT YEAR.--

WATER LEVEL: Maximum daily low, 10.30 ft. below land-surface datum, November 10-11, 1992; minimum daily low, 5.66 ft. below land-surface datum, July 12, 1993.
SPECIFIC CONDUCTANCE: Maximum, 918 microsiemens April 5, 7, 9, 1993; minimum, 780 microsiemens October 1-2, 1992.
AIR TEMPERATURE: Maximum, 35.0°C August 25, 1993; minimum, -22.2°C February 18, 1993.
WATER TEMPERATURE: Maximum, 13.2°C many days October, November 1992; minimum, 10.6°C May 14, 17, 20, 22, 1993.
SOIL TEMPERATURE: Maximum, 24.8°C August 29-30, 1993; minimum, 0.3°C January 21, February 25-March 3, 1992.



400949083480100 CH-42 NR URBANA OH

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.08	10.28	8.84	9.74	8.68	9.18	8.55	8.48	9.45	7.88	8.75	9.76
2	10.11	10.28	8.90	9.74	8.74	9.20	8.62	8.54	9.47	7.34	8.83	9.77
3	10.12	10.28	8.96	9.74	8.81	9.21	8.66	8.60	9.48	6.01	8.89	9.77
4	10.13	10.28	9.01	9.74	8.88	9.17	8.70	8.64	9.48	6.13	8.93	9.78
5	10.14	10.28	9.08	9.52	8.92	8.64	8.73	8.70	9.50	6.40	8.99	9.80
6	10.15	10.28	9.12	8.82	8.98	8.20	8.76	8.74	9.51	6.69	9.03	9.81
7	10.16	10.29	9.17	8.61	9.02	8.09	8.80	8.78	9.51	6.92	9.07	9.82
8	10.17	10.29	9.22	8.60	9.08	8.03	8.81	8.84	9.52	7.11	9.12	9.84
9	10.17	10.29	9.25	8.65	9.12	7.98	9.05	8.88	9.54	7.30	9.16	9.85
10	10.18	10.30	9.28	8.72	9.16	7.98	8.85	8.91	9.52	7.41	9.19	9.87
11	10.18	10.30	9.33	8.78	9.20	8.02	8.80	8.93	9.50	6.94	9.23	9.88
12	10.20	10.28	9.38	8.81	9.21	8.05	8.71	8.96	9.48	5.83	9.26	9.89
13	10.20	9.78	9.41	8.81	9.24	8.08	8.68	9.00	9.48	6.16	9.30	9.91
14	10.21	9.29	9.44	8.74	9.28	8.21	8.68	9.03	9.48	6.50	9.34	9.92
15	10.21	9.12	9.46	8.61	9.29	8.28	8.89	9.06	9.51	6.80	9.36	9.94
16	10.21	9.07	9.49	8.56	9.32	8.35	8.66	9.09	9.52	7.06	9.38	9.94
17	10.21	9.09	9.52	8.65	9.34	8.40	8.64	9.13	9.54	7.29	9.42	9.96
18	10.21	9.14	9.54	8.73	9.36	8.46	8.60	9.15	9.55	7.50	9.45	9.97
19	10.22	9.19	9.56	8.80	9.37	8.53	8.58	9.17	9.56	7.52	9.47	9.98
20	10.22	9.22	9.58	8.84	9.39	8.64	8.60	9.22	9.58	7.56	9.50	9.99
21	10.22	9.26	9.60	8.85	9.39	8.69	8.62	9.25	9.58	7.69	9.52	10.00
22	10.24	9.28	9.61	8.84	9.36	8.72	8.61	9.27	9.50	7.82	9.54	10.01
23	10.24	9.06	9.62	8.72	9.24	8.84	8.59	9.29	9.44	7.94	9.57	10.02
24	10.24	8.72	9.65	8.60	9.14	8.50	8.60	9.32	9.41	8.06	9.60	10.03
25	10.24	8.58	9.66	8.48	9.10	8.04	8.41	9.35	9.39	8.17	9.62	10.04
26	10.24	8.57	9.68	8.29	9.08	8.02	---	9.37	9.39	8.28	9.64	9.92
27	10.25	8.61	9.68	8.29	9.12	8.11	---	9.39	9.41	8.37	9.66	9.94
28	10.25	8.68	9.70	8.37	9.15	8.20	8.38	9.41	9.41	8.46	9.68	9.96
29	10.26	8.73	9.70	8.48	---	8.30	8.36	9.43	8.48	8.54	9.70	9.97
30	10.26	8.78	9.72	8.53	---	8.38	8.42	9.43	8.13	8.62	9.72	9.98
31	10.27	---	9.72	8.59	---	8.45	---	9.44	---	8.70	9.74	---
MAX	10.27	10.30	9.72	9.74	9.39	9.21	9.05	9.44	9.58	8.70	9.74	10.04

WTR YR 1993 LOW 10.30

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, PROBE 23.7' BLS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	785	780	782	873	867	869	909	907	908	897	897	897
2	866	780	831	872	867	870	914	908	909	897	895	896
3	867	861	864	873	867	870	914	909	909	897	892	894
4	863	862	863	873	868	869	910	909	909	897	891	893
5	868	863	864	871	870	870	912	910	910	897	892	894
6	865	863	864	871	869	871	916	910	911	897	891	895
7	870	864	865	875	870	871	915	910	911	897	891	894
8	867	865	866	873	870	871	911	910	910	895	895	895
9	867	866	866	873	872	872	915	908	910	895	894	895
10	868	867	867	873	872	873	913	908	910	895	894	894
11	869	868	868	874	873	873	913	907	910	895	893	894
12	869	868	869	874	873	874	913	907	910	894	893	893
13	871	869	870	875	874	875	913	906	910	897	892	893
14	870	870	870	875	874	874	912	906	910	893	893	893
15	871	870	871	878	873	875	912	906	910	897	892	893
16	872	866	870	876	873	875	909	906	908	898	892	895
17	873	866	869	875	874	874	909	903	908	898	892	896
18	873	868	869	875	874	875	908	906	907	898	892	895
19	872	867	869	876	874	875	907	902	905	898	894	895
20	871	869	870	881	875	877	906	900	905	899	894	897
21	870	867	868	886	878	880	907	903	905	897	895	896
22	871	868	869	887	882	884	904	901	903	898	897	898
23	873	865	869	895	888	892	906	900	902	899	895	897
24	869	868	869	903	896	899	904	902	902	899	896	898
25	874	865	869	908	901	903	904	899	901	900	897	899
26	872	866	869	908	903	905	902	896	899	901	896	899
27	872	865	869	907	905	906	904	897	899	899	896	898
28	872	866	869	907	906	907	900	898	899	900	896	898
29	871	866	871	908	906	907	899	897	898	901	898	899
30	872	867	870	908	908	908	898	896	897	902	898	900
31	872	867	870	---	---	---	897	896	896	901	899	900
MONTH	874	780	864	908	867	881	916	896	906	902	891	896

400949083480100 CH-42 NR URBANA OH

AIR TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	21.0	.6	10.1	11.0	6.5	7.7	.9	-3.3	-.4	-2.3	-5.8	-3.7
2	23.1	3.4	13.2	15.7	10.4	13.3	2.2	-.7	.7	.3	-6.2	-3.1
3	25.0	6.0	14.8	18.7	4.0	11.9	.3	-1.8	-1.0	12.0	.6	6.5
4	18.5	8.1	12.8	15.0	2.6	6.9	4.8	-4.0	1.0	14.1	10.4	11.8
5	19.6	5.6	11.5	2.6	.4	1.6	-3.0	-10.1	-5.8	9.5	.7	2.4
6	22.2	.1	10.1	6.2	-.5	1.7	-2.1	-9.8	-5.1	2.4	-4.3	-.1
7	23.3	.9	11.5	6.5	-2.3	1.5	-.2	-3.6	-1.9	3.1	-5.4	-1.1
8	19.6	5.4	12.6	6.4	-2.3	2.3	-2.7	-3.6	-3.2	.0	-2.3	-1.1
9	15.2	7.1	11.0	9.1	.0	5.0	1.0	-4.0	-1.6	-2.1	-4.1	-2.7
10	17.5	6.2	10.8	10.1	7.8	8.7	1.7	-.3	.6	.1	-4.1	-2.4
11	14.5	3.7	9.9	12.4	10.2	11.4	1.2	-.2	.5	-1.1	-4.6	-2.6
12	18.8	4.2	11.5	15.4	2.3	10.9	2.3	.2	.9	1.7	-.8	.7
13	16.9	2.5	9.6	3.7	-2.4	.5	1.8	-4.6	-.5	6.3	-3.6	.6
14	27.1	8.6	17.6	.7	-4.8	-2.2	.4	-5.5	-1.5	-2.3	-4.1	-3.2
15	17.6	13.1	15.3	2.2	-6.2	-2.6	11.1	-2.3	4.2	-2.0	-3.7	-3.1
16	15.8	4.1	11.6	4.3	-6.7	.1	12.1	-1.1	6.4	-1.0	-7.8	-3.1
17	12.1	-.5	5.1	12.2	3.5	8.9	4.7	-1.9	.9	.7	-5.3	-1.7
18	8.7	-2.2	2.9	6.5	4.2	5.1	2.7	-1.0	.2	-3.6	-9.7	-6.6
19	8.9	-5.6	.7	9.0	2.1	5.0	8.4	-.8	5.2	1.5	-10.3	-5.3
20	7.7	-3.5	2.5	16.7	4.3	10.0	5.6	-8.2	-1.6	5.9	-8.2	-.8
21	16.9	1.6	9.0	14.8	9.2	12.1	1.4	-9.0	-2.8	8.6	1.7	5.3
22	18.7	-2.1	6.9	17.0	8.7	13.5	6.1	-3.9	1.1	1.7	.3	1.1
23	22.7	1.6	11.8	8.3	4.7	6.7	7.8	-3.4	3.7	10.2	-2.4	3.8
24	21.2	3.5	14.1	7.3	4.9	6.0	-4.7	-8.8	-7.3	9.1	-3.5	1.7
25	16.5	-.8	5.5	11.7	5.4	8.1	.3	-8.5	-4.0	1.2	-8.5	-3.6
26	21.9	-1.3	10.5	8.4	.6	3.6	-2.3	-11.8	-8.1	3.0	-10.3	-3.1
27	19.7	-.1	8.1	.6	-.6	-.1	4.4	-10.5	-2.4	2.6	-3.6	.1
28	17.0	-2.6	7.6	.7	-1.1	-.2	5.8	1.1	3.5	10.2	-1.5	3.9
29	12.1	6.9	9.1	2.2	-3.0	-.9	8.0	3.6	5.9	.3	-7.6	-3.6
30	7.5	5.2	6.6	1.5	-3.4	-.5	14.5	8.0	11.9	3.4	-7.9	-2.6
31	10.7	4.4	7.4	---	---	---	14.5	-2.0	6.8	7.4	-1.5	2.6
MONTH	27.1	-5.6	9.7	18.7	-6.7	5.2	14.5	-11.8	.2	14.1	-10.3	-.4

AIR TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	1.9	-9.5	-3.3	4.7	-11.6	-2.1	11.3	1.4	8.7	22.5	6.4	15.3
2	1.8	-13.1	-6.1	6.7	.8	3.5	2.6	-.7	.5	26.2	10.5	17.3
3	8.4	-9.0	-.9	6.0	.8	3.4	6.3	-1.6	1.8	20.4	14.4	17.0
4	9.0	-7.2	-.3	2.8	-.9	1.3	8.1	-3.4	1.7	20.7	14.7	16.9
5	11.9	-7.8	1.1	-.4	-2.0	-1.0	6.1	.2	3.1	22.4	12.7	17.2
6	.7	-8.7	-2.6	5.5	-7.8	-1.0	11.0	4.7	7.2	26.2	8.1	17.6
7	7.8	-10.3	-2.4	9.5	-3.5	3.1	17.8	3.5	10.9	24.3	8.4	16.9
8	1.8	-2.1	.0	4.5	.5	2.2	22.3	6.1	14.0	26.4	9.1	18.3
9	10.0	-2.7	2.4	4.9	-1.3	1.2	13.4	10.0	11.2	32.4	11.1	20.6
10	16.6	-2.4	6.4	7.2	-2.1	1.4	14.9	3.6	8.8	32.1	13.4	21.9
11	4.0	.0	1.1	2.6	-4.5	-.9	20.0	.6	9.5	32.2	15.4	21.4
12	7.8	-.6	3.5	-1.0	-4.9	-2.6	10.7	5.5	8.0	19.3	9.4	16.1
13	-.5	-3.2	-1.7	-5.3	-10.5	-6.7	13.7	3.0	8.3	17.4	6.9	11.6
14	-.4	-3.7	-2.2	-5.2	-15.2	-10.2	13.3	3.0	8.4	20.7	3.7	13.3
15	-.8	-4.1	-2.4	2.8	-15.6	-5.2	22.2	10.3	15.2	24.9	12.0	18.6
16	-.4	-5.6	-2.2	6.4	2.2	3.8	12.2	4.8	7.7	22.7	7.5	13.7
17	-5.0	-17.0	-8.8	4.9	-8.6	-2.0	11.1	1.2	4.9	22.4	3.1	12.7
18	-14.6	-22.2	-18.4	-1.6	-10.9	-6.5	18.0	.9	9.9	14.9	8.8	12.1
19	-5.5	-21.8	-12.6	3.9	-7.7	-1.2	17.1	8.9	12.3	18.1	5.5	11.6
20	.3	-6.3	-3.3	3.9	1.5	2.7	21.9	7.6	15.5	19.1	1.4	9.8
21	6.3	-3.0	1.1	5.6	.3	2.6	7.8	.6	4.2	16.8	6.6	11.1
22	.4	-6.8	-3.0	9.5	1.6	5.5	14.0	-.8	6.6	24.4	2.0	13.5
23	-5.2	-13.0	-7.9	14.3	5.8	9.3	17.9	-.2	10.1	22.6	13.7	16.3
24	-9.5	-19.4	-13.9	13.5	3.9	7.0	16.7	9.8	13.1	19.4	15.1	18.3
25	-7.0	-20.4	-12.0	14.4	3.0	6.9	17.0	8.8	14.1	15.6	8.9	13.4
26	-2.7	-10.2	-5.8	16.8	1.3	7.7	9.6	.5	6.5	21.9	3.9	13.4
27	-3.8	-17.2	-9.3	11.8	.4	5.6	15.9	-2.4	6.7	25.3	6.7	17.1
28	-.4	-19.2	-11.0	12.0	4.5	7.6	23.1	3.3	13.8	28.7	12.9	21.6
29	---	---	---	14.9	5.9	9.4	22.6	9.7	15.6	17.7	10.2	13.3
30	---	---	---	17.2	7.6	11.1	23.6	10.3	16.1	25.0	7.4	16.7
31	---	---	---	16.3	6.7	11.5	---	---	---	18.6	7.3	14.5
MONTH	16.6	-22.2	-4.1	17.2	-15.6	2.2	23.6	-3.4	9.1	32.4	1.4	15.8

400949083480100 CH-42 NR URBANA OH

AIR TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	18.5	4.8	11.1	24.7	17.3	20.4	28.9	11.7	21.1	22.5	16.4	19.6
2	15.1	8.1	11.4	28.3	19.2	22.3	27.5	15.5	22.6	29.3	18.2	22.1
3	14.6	10.1	12.2	29.3	19.6	23.8	27.8	11.7	19.8	23.7	17.1	20.3
4	15.1	11.6	13.0	31.3	20.0	25.8	24.9	12.8	19.0	26.6	13.2	19.3
5	18.0	8.7	13.9	33.4	19.3	26.3	25.1	8.6	16.5	26.1	10.4	18.3
6	23.9	6.3	15.6	28.3	23.5	25.6	24.3	13.4	18.1	26.1	14.2	19.0
7	24.6	12.7	19.1	29.8	21.3	24.4	25.0	10.8	17.6	25.0	12.7	18.5
8	30.6	19.3	24.9	29.6	19.8	24.8	27.7	10.4	18.7	25.0	9.9	16.3
9	25.6	17.7	21.8	31.4	20.6	26.3	28.4	12.0	20.0	26.3	10.2	18.0
10	28.4	18.7	22.5	29.1	17.8	24.0	22.5	15.3	18.1	20.1	6.3	15.2
11	30.6	15.3	22.2	30.6	18.4	23.3	28.4	14.1	21.6	20.9	1.6	11.5
12	25.3	17.1	20.1	31.3	17.7	23.3	26.6	17.4	21.5	20.7	8.5	15.4
13	28.3	15.4	22.0	29.6	13.3	22.0	29.6	18.3	23.0	29.1	15.1	22.2
14	26.0	17.9	20.3	28.0	20.6	23.6	33.1	14.9	23.3	30.2	20.7	25.0
15	25.6	13.8	19.6	25.8	17.9	21.9	31.7	15.1	23.1	24.7	9.1	17.7
16	26.5	9.9	19.0	29.4	14.3	20.9	28.6	20.8	24.2	22.7	9.2	14.5
17	29.7	12.2	21.8	27.5	17.1	21.7	31.1	20.0	24.4	26.3	10.2	17.2
18	30.5	18.6	23.2	31.1	17.4	23.6	30.9	16.1	23.3	24.6	7.8	15.4
19	31.3	19.3	25.1	29.6	17.4	23.0	31.3	15.4	23.3	21.7	12.1	16.3
20	24.5	19.5	21.9	30.2	16.6	22.4	29.8	17.9	23.5	22.1	10.3	15.2
21	24.0	15.4	19.7	29.6	15.2	20.9	30.2	13.5	20.6	22.3	11.2	17.7
22	29.5	12.6	20.8	24.3	12.2	19.1	28.7	9.5	19.1	22.1	9.2	15.7
23	27.8	14.5	21.0	27.8	16.0	20.4	32.5	15.9	24.0	19.2	9.1	17.2
24	31.7	14.8	23.6	30.3	16.2	22.5	31.4	21.0	25.2	18.1	3.7	11.7
25	28.1	19.8	23.1	30.9	19.6	25.1	35.0	18.5	25.5	20.2	10.4	14.3
26	27.4	14.9	21.5	31.5	18.2	25.6	33.8	19.0	25.8	19.4	12.9	15.6
27	27.5	16.6	20.9	32.1	16.3	23.8	32.7	18.5	25.5	14.0	8.2	11.1
28	23.3	16.3	18.6	32.7	19.5	25.4	34.6	20.4	26.0	18.1	4.2	10.3
29	25.2	16.0	20.3	26.6	17.1	21.6	33.4	16.8	24.7	13.3	1.9	7.5
30	22.4	14.6	18.3	27.4	14.5	19.8	34.0	17.7	25.0	13.8	1.4	6.7
31	---	---	---	30.5	11.1	19.6	30.6	19.2	23.3	---	---	---
MONTH	31.7	4.8	19.6	33.4	11.1	23.0	35.0	8.6	22.2	30.2	1.4	16.2
YEAR	35.0	-22.2	10.0									

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	12.7	12.4	12.6	13.2	12.9	13.1	13.1	13.1	13.1	12.6	12.6	12.6
2	12.7	12.5	12.6	13.2	12.9	13.0	13.1	12.9	13.1	12.6	12.6	12.6
3	12.7	12.5	12.6	13.2	12.9	13.1	13.1	12.9	13.1	12.7	12.5	12.7
4	12.7	12.7	12.7	13.2	12.9	13.1	13.1	13.1	13.1	12.7	12.5	12.6
5	12.7	12.5	12.7	13.1	13.1	13.1	13.1	13.1	13.1	12.7	12.4	12.6
6	12.7	12.7	12.7	13.2	13.1	13.1	13.1	12.9	13.1	12.6	12.4	12.5
7	12.7	12.5	12.7	13.2	12.9	13.1	13.1	12.9	13.1	12.6	12.4	12.5
8	12.7	12.7	12.7	13.2	13.1	13.1	13.1	13.1	13.1	12.4	12.4	12.4
9	12.7	12.7	12.7	13.2	13.1	13.1	13.1	12.9	13.1	12.4	12.4	12.4
10	12.7	12.7	12.7	13.2	13.1	13.2	13.1	12.9	13.1	12.4	12.4	12.4
11	12.7	12.7	12.7	13.2	13.2	13.2	13.1	12.9	13.0	12.4	12.4	12.4
12	12.7	12.7	12.7	13.2	13.1	13.2	13.1	12.9	13.0	12.4	12.4	12.4
13	12.7	12.7	12.7	13.1	13.1	13.1	13.1	12.9	13.0	12.4	12.2	12.4
14	12.7	12.7	12.7	13.1	13.1	13.1	13.1	12.9	13.0	12.4	12.4	12.4
15	12.7	12.7	12.7	13.1	12.9	13.1	13.1	12.9	12.9	12.4	12.2	12.4
16	12.9	12.7	12.8	13.1	13.1	13.1	12.9	12.9	12.9	12.4	12.2	12.3
17	13.0	12.7	12.9	13.2	13.1	13.2	13.1	12.9	12.9	12.4	12.2	12.2
18	12.9	12.7	12.9	13.1	13.1	13.1	12.9	12.9	12.9	12.4	12.2	12.3
19	12.9	12.7	12.9	13.2	13.1	13.1	13.1	12.9	12.9	12.4	12.2	12.3
20	12.9	12.9	12.9	13.2	13.0	13.1	13.1	12.9	12.9	12.4	12.2	12.2
21	13.0	12.9	12.9	13.2	12.9	13.2	12.9	12.9	12.9	12.2	12.2	12.2
22	13.0	12.9	12.9	13.2	13.2	13.2	12.9	12.9	12.9	12.2	12.2	12.2
23	13.1	12.7	12.9	13.2	13.1	13.2	12.9	12.7	12.9	12.2	12.2	12.2
24	13.0	12.9	12.9	13.1	12.9	13.1	12.9	12.9	12.9	12.2	12.2	12.2
25	13.1	12.7	12.9	13.2	12.9	13.1	12.9	12.6	12.9	12.2	12.2	12.2
26	13.1	12.9	13.0	13.1	12.9	13.1	12.9	12.6	12.8	12.2	12.2	12.2
27	13.2	12.9	13.0	13.1	13.1	13.1	12.9	12.6	12.7	12.2	12.2	12.2
28	13.1	12.9	13.0	13.1	13.1	13.1	12.7	12.7	12.7	12.2	12.2	12.2
29	13.2	12.9	12.9	13.1	13.1	13.1	12.7	12.7	12.7	12.2	12.2	12.2
30	13.2	12.9	13.0	13.1	13.1	13.1	12.7	12.7	12.7	12.2	12.2	12.2
31	13.2	12.9	13.0	---	---	---	12.7	12.6	12.7	12.2	12.2	12.2
MONTH	13.2	12.4	12.8	13.2	12.9	13.1	13.1	12.6	12.9	12.7	12.2	12.3

400949083480100 CH-42 NR URBANA OH

SOIL TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	13.8	11.2	12.6	9.5	9.1	9.3	3.8	3.3	3.5	5.2	2.8	3.8
2	14.6	12.0	13.3	11.1	9.4	10.4	3.5	3.3	3.4	2.7	1.9	2.2
3	15.3	12.9	14.1	11.1	9.7	10.5	3.3	2.9	3.1	4.5	2.0	2.8
4	14.8	13.7	14.3	10.8	9.1	10.2	3.5	2.9	3.1	7.2	4.7	6.0
5	14.3	12.8	13.6	9.0	7.4	8.2	3.0	1.7	2.2	7.2	4.9	6.0
6	14.0	11.7	12.9	7.5	6.8	7.1	1.6	1.3	1.4	4.9	3.8	4.5
7	14.2	11.4	12.8	7.1	6.4	6.7	1.3	1.2	1.3	3.7	2.7	3.2
8	14.1	12.4	13.2	6.8	5.9	6.3	1.3	1.2	1.3	3.3	2.9	3.1
9	13.9	12.8	13.3	6.8	5.8	6.3	1.2	1.1	1.2	2.9	2.0	2.4
10	12.9	12.0	12.5	7.8	6.9	7.3	1.4	1.2	1.3	2.0	1.7	1.8
11	12.7	11.7	12.3	9.2	7.8	8.5	1.8	1.4	1.6	1.8	1.6	1.7
12	12.8	11.7	12.3	10.8	9.2	9.9	2.3	1.8	2.1	2.0	1.8	1.9
13	12.5	11.0	11.8	9.2	5.9	7.4	2.6	2.1	2.4	2.3	1.5	2.0
14	14.4	11.8	12.8	5.6	4.7	5.0	2.0	1.6	1.7	1.5	1.1	1.3
15	14.1	13.7	13.9	4.6	3.8	4.2	3.4	1.7	2.3	1.2	1.0	1.1
16	14.1	12.9	13.8	4.4	3.4	3.9	4.8	3.5	4.4	1.0	.9	1.0
17	12.7	10.9	11.6	6.3	4.4	5.3	4.1	3.3	3.7	1.0	.9	.9
18	10.9	9.5	10.1	6.5	6.3	6.4	3.4	2.8	3.1	.9	.7	.8
19	9.3	7.7	8.4	6.8	6.1	6.4	4.1	2.7	3.2	.7	.5	.6
20	8.0	7.1	7.4	8.0	6.3	7.1	4.3	2.6	3.6	.5	.4	.4
21	9.7	7.6	8.6	9.1	7.8	8.4	2.5	1.8	2.0	1.1	.3	.5
22	9.8	7.6	8.7	10.7	9.1	9.8	2.5	1.7	2.0	1.4	1.1	1.2
23	11.0	8.3	9.5	10.2	8.4	9.1	3.5	2.4	3.0	2.7	1.1	1.7
24	12.4	11.0	11.6	8.4	8.1	8.2	2.9	1.3	1.9	3.2	2.0	2.7
25	11.3	9.4	10.1	8.6	8.0	8.2	1.3	.9	1.1	1.8	1.2	1.4
26	11.0	8.5	9.7	8.6	6.4	7.5	.8	.5	.6	1.2	.8	.9
27	11.0	9.4	10.3	6.3	5.6	5.9	.4	.3	.4	.9	.8	.8
28	10.2	8.2	9.4	5.5	5.0	5.3	.5	.4	.4	2.5	.8	1.5
29	10.3	9.7	10.0	4.9	4.1	4.4	1.9	.4	.8	2.4	1.2	1.7
30	10.0	9.5	9.8	4.0	3.5	3.7	6.1	2.0	3.8	1.1	.7	.9
31	9.7	9.1	9.4	---	---	---	7.3	5.3	6.5	.7	.6	.6
MONTH	15.3	7.1	11.4	11.1	3.4	7.2	7.3	.3	2.3	7.2	.3	2.0

SOIL TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	.7	.6	.7	.4	.3	.4	9.4	8.4	9.0	14.1	11.3	12.7
2	.7	.5	.6	.4	.3	.3	8.2	5.8	6.9	14.4	12.2	13.3
3	.5	.4	.4	.8	.3	.5	6.2	4.9	5.5	13.9	13.2	13.5
4	.5	.4	.4	1.3	.8	1.1	6.9	4.7	5.8	14.1	13.0	13.5
5	.7	.5	.5	1.2	1.0	1.1	6.2	5.3	5.7	14.8	13.4	14.0
6	1.0	.7	.8	1.9	.7	1.2	7.2	5.7	6.2	15.7	13.2	14.3
7	.8	.6	.7	2.8	1.0	1.7	9.1	6.5	7.7	15.8	13.3	14.6
8	1.1	.8	.9	2.7	2.3	2.5	9.8	7.9	8.7	16.1	13.6	14.8
9	2.2	.9	1.4	2.6	2.0	2.3	9.7	9.2	9.4	16.6	14.0	15.2
10	3.7	1.5	2.5	2.3	1.8	2.1	10.1	8.3	9.2	17.4	15.1	16.2
11	3.4	2.8	3.1	2.3	1.6	2.0	10.0	8.0	9.0	18.1	16.1	17.0
12	3.7	2.8	3.2	2.1	1.5	1.8	9.6	8.6	9.0	17.1	15.5	16.3
13	3.2	2.2	2.6	1.5	.9	1.2	9.6	8.0	8.8	15.6	14.0	14.9
14	2.1	1.5	1.8	.9	.8	.8	9.2	7.9	8.6	14.9	12.9	14.0
15	1.5	1.2	1.3	.8	.7	.8	10.9	8.9	9.7	16.0	13.9	14.8
16	1.4	1.2	1.3	.8	.7	.7	10.7	8.6	9.5	15.4	14.0	14.6
17	1.6	1.4	1.5	.9	.7	.8	8.5	7.2	7.8	14.8	12.5	13.7
18	1.5	1.1	1.4	.8	.5	.6	9.3	6.8	8.0	14.2	13.3	13.6
19	1.2	1.0	1.1	.6	.5	.5	9.7	8.7	9.2	13.8	12.8	13.3
20	1.2	1.0	1.1	1.5	.5	.9	11.3	9.6	10.4	13.1	11.4	12.4
21	1.2	1.1	1.1	2.6	1.5	1.9	10.6	8.7	9.5	13.1	11.8	12.4
22	1.1	.9	1.0	3.9	2.3	3.0	9.6	7.2	8.4	13.6	11.0	12.4
23	.9	.7	.8	5.8	3.8	4.6	10.3	7.7	9.0	13.5	12.8	13.0
24	.7	.5	.6	6.7	5.2	5.8	10.4	9.5	9.8	14.3	13.5	13.8
25	.5	.3	.4	7.7	5.6	6.5	11.4	10.4	10.9	14.2	13.2	13.6
26	.4	.3	.3	8.6	5.9	7.2	11.0	9.9	10.5	14.6	11.9	13.2
27	.4	.3	.4	7.7	6.4	7.1	10.9	8.2	9.5	15.3	12.8	14.0
28	.4	.3	.4	7.7	6.6	7.2	11.4	9.1	10.1	16.8	14.3	15.4
29	---	---	---	8.3	7.1	7.6	11.6	10.4	11.1	16.4	15.0	15.6
30	---	---	---	9.6	7.8	8.5	13.4	11.3	12.1	16.5	13.7	15.1
31	---	---	---	9.4	8.1	8.9	---	---	---	16.3	15.0	15.9
MONTH	3.7	.3	1.2	9.6	.3	3.0	13.4	4.7	8.8	18.1	11.0	14.2

400949083480100 CH-42 NR URBANA OH

SOIL TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	15.3	13.3	14.4	20.4	19.1	19.6	20.4	18.4	19.4	23.4	22.0	22.6
2	14.3	13.5	13.8	22.2	19.7	20.7	21.1	19.9	20.4	22.9	21.5	22.0
3	13.6	13.1	13.3	23.2	20.7	21.7	20.1	18.7	19.5	22.1	21.3	21.7
4	13.4	13.0	13.2	24.3	21.4	22.7	19.8	19.0	19.4	22.6	20.8	21.5
5	14.1	13.3	13.6	24.4	21.8	23.1	19.4	17.9	18.6	21.7	19.5	20.7
6	15.2	12.5	13.8	23.5	22.3	22.9	19.4	18.3	18.8	21.5	19.8	20.7
7	16.0	14.3	15.0	23.8	21.9	22.8	19.1	18.0	18.6	21.1	19.8	20.4
8	18.3	15.8	16.8	24.1	21.9	22.9	19.4	17.7	18.6	20.0	18.5	19.4
9	18.1	17.5	17.9	24.4	22.4	23.3	20.1	18.1	19.1	20.5	17.9	19.2
10	20.0	17.4	18.5	23.5	22.6	23.0	19.7	19.0	19.3	20.5	18.7	19.5
11	20.9	18.0	19.4	23.6	21.8	22.6	20.4	18.4	19.3	18.6	16.2	17.5
12	20.0	18.6	19.3	23.5	21.6	22.5	20.7	19.7	20.2	17.6	16.7	17.1
13	21.4	18.2	19.7	23.1	20.8	22.1	21.9	20.0	20.8	19.6	16.8	18.0
14	20.6	19.2	19.9	22.8	21.8	22.3	22.5	20.0	21.2	20.9	18.9	19.8
15	20.9	18.0	19.3	22.4	21.6	22.0	22.7	20.4	21.6	20.7	19.2	20.1
16	21.4	17.9	19.6	22.4	20.2	21.3	22.8	21.5	22.1	19.0	17.6	18.3
17	21.6	18.5	20.0	21.9	20.4	21.2	23.3	21.7	22.4	19.3	17.0	18.1
18	21.9	19.6	20.7	22.8	20.6	21.5	23.7	21.0	22.3	18.8	16.8	17.9
19	22.2	20.0	21.1	22.3	21.5	21.9	23.7	21.2	22.4	18.4	17.1	17.8
20	21.4	20.3	20.6	22.5	20.7	21.5	23.8	22.0	22.7	17.8	16.5	17.2
21	20.5	19.4	20.0	21.6	20.5	21.1	22.9	20.8	21.9	18.7	17.4	17.9
22	21.9	18.5	20.1	20.7	19.3	20.1	22.0	19.2	20.8	18.2	16.5	17.4
23	22.3	19.5	20.9	20.8	19.4	20.1	22.8	20.3	21.5	18.0	17.5	17.8
24	22.9	19.7	21.2	21.4	19.5	20.3	23.6	21.7	22.5	17.2	15.2	16.4
25	22.3	20.8	21.5	22.1	20.3	21.1	24.3	21.6	22.9	17.1	15.7	16.1
26	22.9	20.1	21.3	22.8	21.4	22.0	24.3	22.2	23.3	17.1	16.6	16.9
27	22.0	20.1	21.0	22.3	20.6	21.5	24.7	22.3	23.5	16.5	15.4	16.1
28	20.7	18.9	19.5	22.8	21.0	21.8	24.7	22.7	23.7	15.5	14.2	14.9
29	20.6	18.9	19.6	22.1	21.1	21.6	24.8	22.1	23.5	14.7	13.2	13.9
30	20.0	18.9	19.5	21.1	20.0	20.5	24.8	22.4	23.6	13.7	12.4	13.1
31	---	---	---	20.4	18.5	19.5	24.5	22.6	23.6	---	---	---
MONTH	22.9	12.5	18.5	24.4	18.5	21.7	24.8	17.7	21.2	23.4	12.4	18.3
YEAR	24.8	.3	10.9									

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.19	.00	.00	.00	.00	.09	.00	.00	.03	.00	.01
2	.00	.35	.05	.00	.00	.00	.06	.00	.07	.10	.00	.46
3	.00	.00	.00	.18	.00	.09	.00	.03	.07	.17	.00	.20
4	.00	.18	.00	1.27	.00	.40	.00	.11	.15	.08	.00	.00
5	.00	.08	.00	.04	.00	.10	.00	.01	.00	.18	.00	.00
6	.00	.00	.00	.00	.00	.00	.03	.00	.00	.01	.00	.00
7	.00	.00	.00	.00	.00	.12	.00	.00	.00	.03	.00	.00
8	.46	.00	.00	.00	.00	.09	.00	.00	.00	.03	.00	.00
9	.03	.00	.01	.00	.00	.00	.97	.00	.16	.00	.00	.00
10	.15	.17	.32	.05	.00	.16	.00	.00	.01	.41	.00	.00
11	.02	.78	.00	.05	.23	.01	.00	.04	.01	.74	.00	.00
12	.00	1.48	.00	.52	.20	.00	.04	.35	.01	.00	.03	.04
13	.01	.00	.00	.06	.04	.00	.04	.00	.00	.00	.00	.00
14	.02	.00	.00	.00	.02	.03	.39	.00	.00	.01	.00	.00
15	.65	.01	.00	.00	.00	.00	.50	.00	.00	.00	.00	.05
16	.24	.00	.00	.01	.02	.16	.00	.00	.00	.00	.01	.00
17	.00	.00	.00	.00	.00	.08	.00	.00	.01	.00	.00	.00
18	.06	.00	.00	.00	.00	.00	.00	.05	.02	.13	.00	.00
19	.01	.03	.26	.00	.00	.00	.12	.12	.00	.48	.00	.00
20	.00	.00	.02	.00	.14	.00	.08	.00	.02	.00	.05	.00
21	.00	.30	.00	.84	.42	.00	.00	.00	.59	.00	.00	.03
22	.00	1.09	.00	.03	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.01	.00	.00	.00	.80	.00	.06	.00	.00	.00	.02
24	.00	.17	.00	.43	.00	.00	.00	.09	.00	.00	.01	.01
25	.00	.00	.00	.00	.00	.00	.29	.00	.00	.00	.00	1.21
26	.00	.00	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.03
28	.00	.01	.00	.00	.00	.03	.00	.13	.24	.13	.00	.07
29	.00	.00	.14	.00	---	.00	.00	.14	.51	.00	.00	.00
30	.08	.00	.04	.00	---	.00	.02	.16	.31	.00	.00	.00
31	.00	---	.08	.00	---	.17	---	.04	---	.00	.11	---
TOTAL	1.73	4.85	0.92	3.48	1.18	2.24	2.63	1.33	2.18	2.53	0.21	2.13

WTR YR 1993 TOTAL 25.41

GROUND-WATER RECORDS

395859083440700. Local number, CL-138.

LOCATION.--Lat 39°58'59" Long 83°44'07", Hydrologic Unit 05080001, along State Route 4 near Springfield, OH.
Owner.--USGS-U.S. Corps of Engineers.

AQUIFER.--Sand and Gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well drilled by hollow stem auger, diameter 4.0 in., depth 28.5 ft. Cased with Sch 40 PVC to 18.5 ft; .020 in. screen from 18.5 to 28.5 ft.

INSTRUMENTATION - Data logger--60 minute record. Precipitation data collected with a propane-heated, tipping-bucket rain gauge. Also collected: water level, air temperature and soil temperature, and also water temperature and specific conductance.

DATUM.--Elevation of land-surface datum is 1031.61 feet above sea level.
Measuring point: shelter floor 3.31 ft above land-surface datum.

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

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

PERIOD OF DAILY RECORD.--

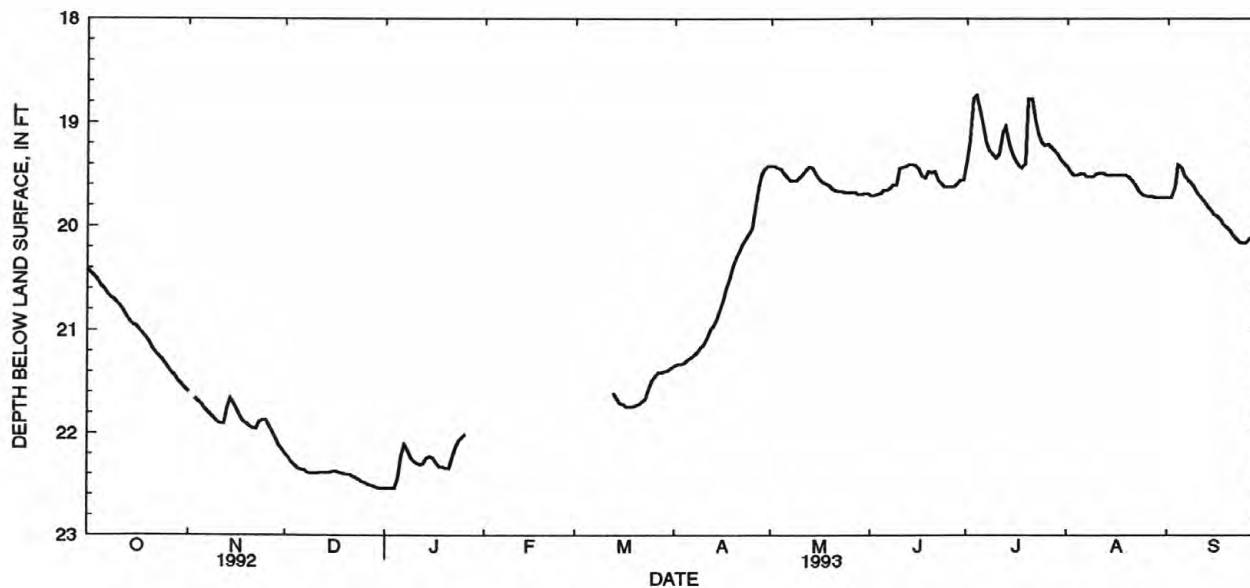
WATER LEVEL: February 1991 to current year.
AIR TEMPERATURE: February 1991 to current year.
SOIL TEMPERATURE: February 1991 to current year.
PRECIPITATION: February 1991 to current year.
WATER TEMPERATURE: July 1992 to current year.
SPECIFIC CONDUCTANCE: July 1992 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER LEVEL: Maximum daily low, 22.54 ft. below land-surface datum, December 30-31, 1992; minimum daily low, 18.61 ft. below land-surface datum, July 20-21, 1993.
WATER TEMPERATURE: Maximum, 13.4°C December 14, 1992; minimum, 7.3°C July 13, 1993.
AIR TEMPERATURE: Maximum, 37.5°C July 22, 1991; minimum, -21.2°C January 16, 1992.
SOIL TEMPERATURE: Maximum, 39.5°C July 22 and August 2, 1991; minimum, -2.7°C Dec. 27, 1992.
SPECIFIC CONDUCTANCE: Maximum, 922 microsiemens, March 18, 1993; minimum 795 microsiemens, September 22, 1993.

EXTREMES FOR CURRENT YEAR.--

WATER LEVEL: Maximum daily low, 22.54 ft. below land-surface datum, December 30-31, 1992; minimum daily low, 18.61 ft. below land-surface datum, July 20-21, 1993.
AIR TEMPERATURE: Maximum, 35.0°C August 29, 1993; minimum, -14.8°C March 14, 1993.
SOIL TEMPERATURE: Maximum, 26.9°C June 24, 1993; minimum, -2.7°C Dec. 27, 1992.
WATER TEMPERATURE: Maximum, 13.4°C December 14, 1992; minimum, 7.3°C July 13, 1993.
SPECIFIC CONDUCTANCE: Maximum, 922 microsiemens, March 18, 1993; minimum 795 microsiemens, September 22, 1993.



395859083440700 CL-138 NR SPRINGFIELD OH

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.42	21.60	22.21	22.54	---	---	21.35	19.42	19.71	19.39	19.43	19.73
2	20.45	---	22.25	22.54	---	---	21.33	19.42	19.71	19.17	19.48	19.73
3	20.48	21.66	22.29	22.54	---	---	21.33	19.44	19.70	18.77	19.51	19.63
4	20.51	21.69	22.32	22.54	---	---	21.32	19.45	19.69	18.74	19.51	19.41
5	20.57	21.72	22.35	22.45	---	---	21.29	19.49	19.66	18.87	19.50	19.44
6	20.60	21.77	22.36	22.23	---	---	21.27	19.52	19.66	19.03	19.50	19.51
7	20.64	21.80	22.37	22.12	---	---	21.24	19.56	19.64	19.20	19.52	19.56
8	20.68	21.83	22.39	22.17	---	---	21.21	19.56	19.61	19.27	19.52	19.59
9	20.70	21.86	22.40	22.24	---	---	21.17	19.56	19.61	19.31	19.52	19.63
10	20.73	21.90	22.40	22.28	---	---	21.15	19.53	19.45	19.34	19.50	19.69
11	20.77	21.91	22.40	22.30	---	---	21.08	19.50	19.44	19.31	19.49	19.73
12	20.81	21.91	22.39	22.31	---	---	21.00	19.46	19.43	19.10	19.49	19.77
13	20.87	21.76	22.39	22.30	---	21.61	20.96	19.43	19.41	19.04	19.51	19.81
14	20.91	21.67	22.39	22.25	---	21.66	20.90	19.44	19.41	19.19	19.51	19.85
15	20.95	21.72	22.39	22.23	---	21.71	20.81	19.50	19.42	19.29	19.51	19.89
16	20.96	21.78	22.38	22.25	---	21.72	20.72	19.54	19.46	19.36	19.51	19.91
17	20.99	21.84	22.38	22.29	---	21.74	20.60	19.58	19.52	19.42	19.51	19.94
18	21.03	21.89	22.39	22.33	---	21.74	20.51	19.59	19.54	19.44	19.51	19.99
19	21.07	21.91	22.40	22.33	---	21.74	20.39	19.61	19.48	19.40	19.51	20.02
20	21.11	21.94	22.41	22.34	---	21.73	20.31	19.64	19.49	18.77	19.53	20.05
21	21.17	21.96	22.41	22.34	---	21.72	20.25	19.66	19.48	18.77	19.57	20.10
22	21.21	21.97	22.43	22.24	---	21.69	20.18	19.67	19.56	18.97	19.61	20.13
23	21.25	21.90	22.44	22.14	---	21.67	20.13	19.67	19.60	19.11	19.66	20.16
24	21.28	21.88	22.46	22.08	---	21.57	20.08	19.68	19.63	19.19	19.70	20.17
25	21.33	21.88	22.48	22.04	---	21.49	20.03	19.68	19.63	19.22	19.71	20.17
26	21.37	21.94	22.49	22.02	---	21.45	19.83	19.68	19.63	19.21	19.72	20.13
27	21.41	22.00	22.51	---	---	21.41	19.63	19.68	19.63	19.24	19.72	20.11
28	21.44	22.06	22.52	---	---	21.41	19.50	19.70	19.60	19.27	19.73	20.13
29	21.49	22.13	22.53	---	---	21.40	19.45	19.70	19.56	19.31	19.73	20.13
30	21.53	22.17	22.54	---	---	21.39	19.42	19.69	19.56	19.36	19.73	20.16
31	21.56	---	22.54	---	---	21.37	---	19.69	---	19.40	19.73	---
MAX	21.56	22.17	22.54	22.54	---	21.74	21.35	19.70	19.71	19.44	19.73	20.17

WTR YR 1993 LOW 22.54

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CELCIUS, PROBE 25.2' BLS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	843	838	840	826	821	822	831	830	830	830	829	830
2	842	837	839	---	---	---	834	831	832	833	828	829
3	839	837	838	826	820	821	835	834	834	833	828	831
4	839	838	838	826	821	821	837	835	836	829	826	827
5	839	837	838	821	821	821	840	837	838	829	828	828
6	839	837	838	821	820	821	840	835	839	828	826	827
7	838	836	837	821	819	820	841	840	840	832	826	828
8	838	836	837	821	816	820	841	841	841	832	831	832
9	838	836	837	820	815	819	842	841	841	843	830	831
10	838	836	837	820	815	819	843	842	843	843	841	842
11	838	836	837	820	819	819	843	842	842	841	841	841
12	837	836	836	820	815	819	843	841	842	843	841	842
13	836	831	834	820	814	818	842	841	842	843	842	842
14	836	830	833	817	815	816	843	837	842	853	847	850
15	831	830	831	818	816	817	842	840	841	848	847	847
16	831	830	831	818	817	817	840	840	840	849	848	848
17	832	830	831	820	815	816	840	839	840	849	848	849
18	832	831	832	816	815	816	840	839	839	849	848	848
19	833	828	831	817	816	817	839	837	838	850	849	849
20	832	827	830	818	817	817	839	833	838	855	850	851
21	831	826	828	819	817	818	838	833	836	856	850	855
22	831	826	827	819	818	819	836	835	836	856	851	855
23	830	825	826	820	819	819	835	833	834	856	855	856
24	826	825	826	821	819	820	835	829	834	857	855	856
25	827	825	826	822	821	822	847	833	834	860	855	857
26	826	825	826	823	822	822	852	842	849	861	856	859
27	827	825	826	824	823	824	847	840	844	---	---	---
28	827	825	826	826	824	825	840	835	840	---	---	---
29	826	825	826	828	826	827	842	835	837	---	---	---
30	827	822	826	830	828	829	837	835	836	---	---	---
31	827	821	824	---	---	---	835	830	835	---	---	---
MONTH	843	821	832	830	814	820	852	829	838	861	826	843

395859083440700 CL-138 NR SPRINGFIELD OH

AIR TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	20.0	3.3	10.7	11.9	7.2	8.5	1.2	-3.3	-2.2	-2.1	-5.5	-3.4
2	22.1	5.5	13.4	---	---	---	2.4	-.1	1.1	.7	-6.4	-2.9
3	24.0	6.9	15.0	18.7	5.4	12.6	.4	-1.5	-.7	11.6	1.1	6.8
4	18.1	9.8	13.4	14.9	3.3	7.3	5.8	-3.7	1.8	14.1	10.2	12.1
5	17.7	6.3	11.1	3.3	.4	1.7	-3.2	-8.7	-5.7	11.5	1.0	3.0
6	20.3	2.9	10.2	5.0	-.3	1.7	-1.7	-9.3	-4.7	3.3	-3.2	.6
7	23.0	3.4	12.1	4.8	-1.8	1.5	.4	-2.9	-1.5	3.9	-4.9	-.5
8	19.3	9.6	14.0	7.3	-1.7	3.0	-2.1	-3.4	-2.9	.4	-1.9	-.7
9	15.4	8.6	12.0	9.5	.7	5.8	1.0	-3.5	-1.2	-1.8	-3.5	-2.4
10	18.0	8.2	12.0	10.9	7.5	9.1	2.6	.2	1.1	.5	-3.6	-1.5
11	14.5	4.7	10.3	13.5	11.2	12.0	1.8	.2	1.0	-.6	-3.7	-1.9
12	17.9	4.6	11.5	15.7	3.0	11.0	2.6	.4	1.4	4.4	-.4	1.3
13	17.4	4.6	10.2	4.0	-2.6	.7	2.4	-4.5	-.1	8.5	-3.2	2.0
14	27.4	10.3	18.2	1.4	-4.8	-1.8	1.1	-4.5	-.9	-1.6	-3.8	-2.9
15	20.0	14.1	16.7	1.6	-4.8	-2.3	10.5	-1.0	4.6	-1.6	-3.2	-2.7
16	16.0	4.2	11.9	5.3	-5.9	.9	12.8	-.4	7.3	-.1	-6.4	-2.2
17	11.5	-.2	5.0	13.0	6.2	9.8	5.0	-.4	1.8	1.3	-4.7	-1.2
18	9.8	-1.4	3.9	6.8	4.6	5.5	2.7	-1.0	.4	-3.6	-9.4	-6.1
19	6.7	-4.0	.5	10.4	2.8	5.8	9.5	.1	6.2	2.3	-10.4	-4.9
20	8.9	-1.5	3.9	17.2	4.8	10.3	6.7	-6.8	-.9	6.5	-7.9	-.1
21	15.8	3.4	9.6	14.9	9.2	12.0	3.1	-7.8	-1.9	8.5	2.2	5.4
22	17.3	.2	7.3	17.6	9.6	14.0	7.6	-1.4	2.4	2.4	.5	1.7
23	22.3	3.1	12.5	8.9	5.2	7.2	9.6	-2.2	4.7	10.1	-2.3	3.9
24	18.5	4.7	13.9	8.2	5.1	6.4	-3.7	-8.9	-6.7	10.5	-3.9	2.1
25	14.1	-.3	5.8	12.2	5.4	8.3	.7	-7.9	-3.3	1.9	-7.4	-3.4
26	22.3	.8	11.9	8.8	1.0	4.1	-2.4	-11.2	-7.7	2.7	-8.6	-2.6
27	17.3	2.9	9.5	1.0	-.2	.3	4.8	-9.1	-1.7	---	---	---
28	16.0	-.4	8.7	.9	-.9	.1	6.1	1.9	3.6	---	---	---
29	13.0	6.0	9.7	2.5	-2.1	-.5	9.3	3.9	6.0	---	---	---
30	7.8	6.0	6.9	1.6	-2.4	-.1	15.5	9.7	12.7	---	---	---
31	10.8	3.3	7.6	---	---	---	15.3	-1.7	7.7	---	---	---
MONTH	27.4	-4.0	10.3	18.7	-5.9	5.3	15.5	-11.2	.8	14.1	-10.4	.0

AIR TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	11.7	2.0	9.4	24.7	9.1	16.8
2	---	---	---	---	---	---	2.2	-.5	.9	25.5	11.1	17.9
3	---	---	---	---	---	---	6.3	-1.4	1.9	20.4	14.7	17.3
4	---	---	---	---	---	---	7.6	-2.6	2.2	20.3	14.8	17.0
5	---	---	---	---	---	---	6.0	.8	3.5	22.9	13.5	17.7
6	---	---	---	---	---	---	11.6	5.0	7.6	25.4	9.5	17.7
7	---	---	---	---	---	---	17.6	3.5	11.1	24.8	9.4	17.8
8	---	---	---	---	---	---	21.2	7.3	14.0	28.0	11.3	19.3
9	---	---	---	---	---	---	13.9	10.5	11.7	30.0	13.1	21.4
10	---	---	---	---	---	---	14.4	4.0	8.9	30.4	14.1	21.3
11	---	---	---	---	---	---	21.1	1.6	10.4	28.6	15.9	20.6
12	---	---	---	---	---	---	10.4	5.8	8.3	19.3	9.4	16.0
13	---	---	---	-4.7	-9.9	-6.4	14.3	3.0	8.6	17.0	7.6	11.7
14	---	---	---	-4.9	-14.8	-10.0	13.6	3.3	9.0	20.7	3.7	13.5
15	---	---	---	2.9	-13.8	-4.4	22.5	11.4	15.8	25.7	13.4	18.8
16	---	---	---	7.1	2.7	4.4	12.4	4.6	7.8	20.2	8.6	14.6
17	---	---	---	5.5	-8.3	-1.4	10.7	1.8	5.5	21.0	4.5	13.7
18	---	---	---	-1.0	-10.8	-6.2	18.1	1.4	10.6	15.3	8.5	12.6
19	---	---	---	4.1	-7.1	-.9	16.8	10.2	13.0	15.4	6.0	11.2
20	---	---	---	4.4	1.9	3.3	22.8	8.1	16.4	16.0	.8	9.8
21	---	---	---	5.2	1.0	2.9	7.9	1.6	4.6	16.2	6.5	11.3
22	---	---	---	10.0	2.2	6.4	14.2	-.1	7.1	21.6	2.8	13.6
23	---	---	---	13.4	6.3	9.4	17.7	1.6	10.8	22.6	13.7	16.9
24	---	---	---	12.1	3.1	7.3	18.4	10.6	13.8	20.7	15.4	18.9
25	---	---	---	14.8	3.2	7.8	18.5	9.5	14.7	16.9	9.2	13.8
26	---	---	---	16.9	2.5	8.5	9.2	1.5	6.8	22.4	5.0	14.5
27	---	---	---	11.2	2.2	6.0	15.7	-.9	7.0	25.1	8.0	17.1
28	---	---	---	12.0	5.2	8.0	24.3	5.5	14.5	28.4	13.8	22.0
29	---	---	---	14.4	6.9	9.5	22.0	9.3	15.7	18.3	10.3	14.0
30	---	---	---	16.9	7.8	10.9	21.8	10.5	15.4	25.6	7.8	17.1
31	---	---	---	15.6	8.9	11.7	---	---	---	19.1	6.0	14.7
MONTH	---	---	---	16.9	-14.8	3.5	24.3	-2.6	9.6	30.4	.8	16.1

395859083440700 CL-138 NR SPRINGFIELD OH

AIR TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	16.8	5.0	10.5	24.7	18.1	21.1	30.5	13.8	22.3	22.8	17.3	19.9
2	15.7	8.8	11.6	29.7	19.6	23.2	28.2	16.0	23.4	30.9	19.3	23.4
3	16.4	10.5	13.4	30.4	19.6	24.2	27.6	13.7	20.8	23.9	17.6	20.9
4	15.3	12.1	13.4	32.4	20.7	26.2	24.8	14.2	19.5	25.6	14.4	19.4
5	17.7	8.2	14.3	31.7	20.1	26.5	23.0	9.4	16.5	26.2	12.6	19.3
6	22.9	7.5	15.8	30.3	23.0	26.1	24.8	14.2	19.1	26.7	15.3	19.9
7	25.1	11.7	19.3	31.4	20.9	25.4	24.4	11.7	18.1	24.1	14.3	18.7
8	30.1	18.1	24.8	32.6	20.4	25.8	26.7	11.9	19.5	22.7	12.9	17.3
9	25.1	17.8	21.9	32.1	21.5	27.2	28.2	13.9	20.8	25.8	12.0	19.3
10	28.3	19.2	23.1	29.7	19.6	24.6	23.1	17.0	19.2	20.5	7.9	16.1
11	27.8	16.7	22.4	30.5	18.4	23.5	28.4	17.5	22.5	20.7	4.6	12.5
12	26.5	17.2	21.1	30.6	19.0	23.7	26.3	19.3	22.0	20.7	10.5	16.4
13	29.1	15.5	22.7	29.1	14.5	22.6	28.6	19.2	23.3	28.5	15.0	22.1
14	27.4	17.7	20.8	29.2	21.0	24.5	30.5	16.9	23.5	29.7	20.8	24.7
15	25.0	14.1	20.1	24.6	18.8	22.2	31.7	16.4	23.8	24.5	10.4	17.8
16	28.7	10.6	19.8	27.5	14.8	21.6	29.9	21.4	24.7	21.0	11.5	14.9
17	29.8	14.0	22.4	27.8	18.2	22.4	29.6	20.4	24.3	23.1	11.8	17.0
18	31.4	19.3	23.0	30.6	18.0	23.8	30.1	18.1	23.4	23.3	10.1	15.9
19	31.5	19.4	25.0	28.4	18.1	24.0	31.3	17.0	24.1	22.4	13.3	17.0
20	25.7	20.4	22.8	28.5	17.1	22.9	30.0	18.9	24.0	22.2	11.0	15.9
21	24.5	14.9	20.4	26.4	16.3	21.0	28.0	14.7	21.0	22.0	12.2	18.0
22	29.2	12.8	21.1	26.2	14.3	20.3	29.0	11.6	19.9	21.5	9.4	16.1
23	28.8	15.0	22.0	26.1	17.4	20.9	32.4	17.4	24.9	19.4	12.0	17.9
24	31.4	16.3	24.1	29.7	16.7	22.8	32.9	22.1	26.6	18.8	8.3	13.4
25	28.1	20.3	23.5	30.2	20.2	25.1	33.6	19.2	26.1	20.3	12.2	15.2
26	28.6	15.8	21.8	32.0	19.4	26.2	34.1	20.2	26.3	19.6	13.6	16.0
27	28.1	15.9	21.9	31.6	17.1	24.6	34.6	20.5	26.6	13.6	8.4	11.6
28	24.5	17.2	19.9	34.3	20.5	27.0	32.9	21.7	26.1	19.0	5.6	10.7
29	25.3	16.8	21.1	26.7	18.1	22.6	35.0	18.2	25.3	14.8	2.6	8.3
30	23.1	15.2	19.2	25.8	15.5	20.0	33.6	19.5	26.0	12.8	.9	7.0
31	---	---	---	27.8	12.1	19.9	33.0	21.0	24.8	---	---	---
MONTH	31.5	5.0	20.1	34.3	12.1	23.6	35.0	9.4	22.9	30.9	.9	16.8
YEAR	35.0	-14.8	12.2									

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	12.2	12.0	12.2	12.9	12.7	12.9	13.1	13.1	13.1	13.1	13.1	13.1
2	12.3	12.0	12.2	---	---	---	13.1	13.1	13.1	13.1	12.9	13.1
3	12.3	12.2	12.2	13.0	12.7	12.9	13.1	13.1	13.1	13.1	12.9	13.0
4	12.2	12.2	12.2	12.9	12.7	12.9	13.1	13.1	13.1	13.2	13.1	13.2
5	12.3	12.2	12.2	12.9	12.9	12.9	13.1	13.1	13.1	13.1	13.1	13.1
6	12.3	12.2	12.2	12.9	12.9	12.9	13.3	13.1	13.2	13.1	13.1	13.1
7	12.3	12.2	12.2	12.9	12.9	12.9	13.1	13.1	13.1	13.1	12.9	13.0
8	12.2	12.2	12.2	13.1	12.9	12.9	13.1	13.1	13.1	12.9	12.9	12.9
9	12.2	12.2	12.2	13.1	12.9	12.9	13.1	13.1	13.1	12.9	12.2	12.9
10	12.2	12.2	12.2	13.1	12.9	12.9	13.1	13.1	13.1	12.2	12.2	12.2
11	12.2	12.2	12.2	12.9	12.9	12.9	13.1	13.1	13.1	12.2	12.2	12.2
12	12.3	12.2	12.2	13.2	12.9	13.0	13.1	13.1	13.1	12.2	12.2	12.2
13	12.5	12.2	12.3	13.1	12.9	13.0	13.1	13.1	13.1	12.2	12.2	12.2
14	12.5	12.2	12.4	13.1	13.1	13.1	13.4	13.1	13.1	12.2	11.9	12.0
15	12.5	12.5	12.5	13.1	13.1	13.1	13.1	13.1	13.1	12.2	12.2	12.2
16	12.5	12.4	12.5	13.1	13.1	13.1	13.2	13.1	13.1	12.2	12.2	12.2
17	12.5	12.4	12.4	13.2	12.9	13.1	13.1	13.1	13.1	12.2	12.2	12.2
18	12.5	12.4	12.4	13.1	13.1	13.1	13.1	13.1	13.1	12.2	12.2	12.2
19	12.6	12.4	12.5	13.2	13.1	13.1	13.1	13.1	13.1	12.2	12.1	12.2
20	12.7	12.4	12.6	13.2	13.1	13.2	13.3	13.1	13.1	12.2	12.0	12.2
21	12.7	12.4	12.6	13.2	13.1	13.2	13.3	13.1	13.2	12.2	12.0	12.0
22	12.7	12.5	12.6	13.2	13.2	13.2	13.2	13.1	13.1	12.2	12.0	12.0
23	12.7	12.5	12.7	13.2	13.1	13.1	13.2	13.1	13.1	12.0	11.9	12.0
24	12.7	12.7	12.7	13.1	13.1	13.1	13.3	13.1	13.1	12.0	11.9	12.0
25	12.7	12.6	12.7	13.1	13.1	13.1	13.1	12.4	13.1	12.0	11.7	11.9
26	12.7	12.6	12.7	13.1	13.1	13.1	12.6	12.1	12.3	12.0	11.7	11.8
27	12.7	12.7	12.7	13.1	13.1	13.1	12.7	12.4	12.5	---	---	---
28	12.7	12.6	12.7	13.1	13.1	13.1	12.9	12.6	12.7	---	---	---
29	12.7	12.7	12.7	13.1	13.1	13.1	12.9	12.7	12.8	---	---	---
30	12.9	12.7	12.7	13.1	13.1	13.1	12.9	12.9	12.9	---	---	---
31	12.9	12.7	12.8	---	---	---	13.1	12.9	12.9	---	---	---
MONTH	12.9	12.0	12.4	13.2	12.7	13.0	13.4	12.1	13.0	13.2	11.7	12.4

395859083440700 CL-138 NR SPRINGFIELD OH

SOIL TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	15.9	9.4	12.2	8.2	7.2	7.6	1.2	.4	.8	3.5	.7	1.8
2	16.8	10.5	13.1	---	---	---	1.7	.5	1.0	.7	.1	.3
3	17.6	11.1	13.8	10.5	7.4	8.8	1.7	.2	.8	4.6	.0	1.7
4	15.5	12.6	13.9	9.3	6.8	8.4	2.0	.1	.9	7.4	4.7	6.1
5	15.5	10.5	12.6	6.7	4.7	5.5	.5	-.7	-.2	7.3	3.2	4.9
6	15.6	9.5	12.1	5.5	3.8	4.6	-.8	-1.1	-1.0	3.8	1.6	2.9
7	16.2	9.7	12.4	5.5	3.4	4.3	-.9	-1.0	-1.0	2.2	.6	1.3
8	14.7	11.2	12.9	5.3	3.1	3.9	-.9	-.9	-.9	1.4	.6	1.1
9	13.4	11.0	12.3	5.3	2.6	4.1	-.9	-1.1	-1.0	.5	.1	.3
10	13.0	10.1	11.5	7.0	5.2	6.1	-.9	-.9	-.9	.1	-.1	.0
11	12.3	9.5	11.1	8.9	7.0	8.1	-.7	-.9	-.8	.1	-.1	.0
12	13.0	9.5	11.2	10.7	7.4	9.3	1.1	-.6	.2	1.0	.1	.4
13	13.0	8.9	10.6	6.9	2.4	4.5	1.4	.0	.6	2.3	.3	1.4
14	15.8	10.3	12.5	2.6	1.3	2.0	-.1	-.4	-.3	.3	-.1	.0
15	14.1	12.9	13.5	2.3	1.1	1.6	2.5	-.4	.6	-.2	-.3	-.2
16	13.6	10.3	12.8	2.3	.6	1.3	4.7	2.1	3.6	-.3	-.4	-.4
17	11.1	7.9	9.4	6.0	1.9	4.2	2.6	1.2	1.9	-.4	-.4	-.4
18	8.9	6.5	8.0	5.6	4.8	5.2	1.8	.4	1.1	-.4	-.7	-.6
19	7.1	3.9	5.4	6.5	4.2	5.1	3.5	.1	1.7	-.7	-1.2	-1.0
20	5.6	3.7	4.6	7.4	4.2	5.5	3.5	.3	1.9	-1.1	-1.8	-1.4
21	10.0	5.1	7.1	8.8	6.2	7.5	.2	-.4	-.2	-.9	-1.1	-1.0
22	9.8	5.0	7.0	10.7	8.6	9.5	1.4	-.4	.0	-.6	-1.0	-.9
23	11.0	5.9	8.2	9.3	6.8	7.7	3.0	.8	1.7	1.9	-.6	.3
24	12.1	9.3	10.3	7.2	6.5	6.7	.6	-.8	-.2	2.4	.2	1.5
25	10.4	6.5	8.2	7.4	6.2	6.8	-.8	-1.3	-1.1	.1	-.5	-.2
26	10.7	5.7	8.0	6.9	4.1	5.4	-1.3	-2.3	-1.8	-.5	-.7	-.7
27	10.7	7.3	8.8	4.0	2.9	3.4	-1.5	-2.7	-2.1	---	---	---
28	9.6	5.5	7.6	2.9	2.3	2.6	-1.3	-1.5	-1.4	---	---	---
29	9.4	7.9	8.6	2.9	.9	1.8	-.5	-1.3	-1.1	---	---	---
30	8.4	7.4	8.0	1.1	.3	.7	7.1	-.1	3.9	---	---	---
31	8.5	6.3	7.4	---	---	---	7.9	3.8	6.7	---	---	---
MONTH	17.6	3.7	10.2	10.7	.3	5.2	7.9	-2.7	.4	7.4	-1.8	.7

SOIL TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	9.5	7.1	8.6	19.4	11.0	14.9
2	---	---	---	---	---	---	6.7	3.3	5.0	19.7	11.8	15.4
3	---	---	---	---	---	---	8.0	2.2	4.6	16.3	13.8	14.8
4	---	---	---	---	---	---	9.4	1.8	5.0	17.3	13.3	14.7
5	---	---	---	---	---	---	4.7	2.7	3.8	19.1	13.4	15.7
6	---	---	---	---	---	---	8.7	4.2	5.9	22.2	12.8	16.9
7	---	---	---	---	---	---	12.3	5.1	8.5	23.2	13.0	17.5
8	---	---	---	---	---	---	12.8	6.7	9.5	24.5	13.4	18.2
9	---	---	---	---	---	---	10.4	9.0	9.5	24.4	14.6	19.0
10	---	---	---	---	---	---	13.6	6.5	9.7	25.5	16.3	20.2
11	---	---	---	---	---	---	13.1	5.8	9.0	23.1	17.2	19.6
12	---	---	---	---	---	---	9.9	7.5	8.6	18.0	15.1	16.9
13	---	---	---	.0	-.6	-.4	13.0	5.9	9.0	20.0	12.4	15.5
14	---	---	---	-.6	-.7	-.6	10.5	6.4	8.5	20.2	11.4	15.3
15	---	---	---	-.7	-.8	-.7	12.9	8.5	10.6	21.5	13.5	17.0
16	---	---	---	-.4	-.7	-.7	10.9	7.3	9.0	18.5	13.8	15.9
17	---	---	---	.7	-.5	.1	11.0	5.6	7.4	21.2	11.3	15.8
18	---	---	---	-.6	-.8	-.7	13.2	4.6	8.7	15.9	13.6	14.8
19	---	---	---	-.8	-1.0	-.9	11.1	8.1	9.7	17.5	12.5	14.4
20	---	---	---	.0	-.9	-.7	14.0	9.8	11.5	16.2	9.8	13.2
21	---	---	---	3.5	-.1	1.4	10.3	6.5	8.3	17.8	11.5	14.1
22	---	---	---	5.2	1.1	3.0	12.5	3.7	7.9	22.1	10.3	15.5
23	---	---	---	7.0	3.7	5.2	15.8	5.7	10.3	16.7	14.1	15.1
24	---	---	---	8.4	4.2	6.1	11.5	9.3	10.4	16.6	14.2	15.3
25	---	---	---	11.2	4.5	7.1	12.1	10.9	11.5	16.8	12.9	14.9
26	---	---	---	12.1	4.1	7.6	12.3	8.1	9.9	21.6	11.0	15.7
27	---	---	---	8.3	4.1	6.2	15.7	5.2	9.8	22.9	12.5	17.3
28	---	---	---	8.6	5.3	6.8	16.5	7.6	11.5	24.6	15.0	19.3
29	---	---	---	10.3	6.2	7.7	15.5	10.0	12.8	21.5	15.5	18.0
30	---	---	---	11.8	7.0	8.8	18.9	11.7	14.2	23.9	12.8	17.8
31	---	---	---	9.6	6.5	8.4	---	---	---	18.8	14.6	17.3
MONTH	---	---	---	12.1	-1.0	3.4	18.9	1.8	9.0	25.5	9.8	16.3

395859083440700 CL-138 NR SPRINGFIELD OH

SOIL TEMPERATURE, DEGREES CELCIUS, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	20.6	11.6	15.4	21.7	18.6	20.0	---	---	---	---	---	---
2	14.8	13.2	14.1	25.6	17.8	20.9	---	---	---	---	---	---
3	15.9	12.7	14.2	19.6	15.0	17.1	---	---	---	---	---	---
4	14.2	13.2	13.7	23.6	13.1	15.9	---	---	---	---	---	---
5	16.3	13.4	14.5	---	---	---	---	---	---	---	---	---
6	19.7	11.4	15.4	---	---	---	---	---	---	---	---	---
7	19.5	14.1	16.8	---	---	---	---	---	---	---	---	---
8	22.9	16.3	19.3	---	---	---	---	---	---	---	---	---
9	20.4	17.7	19.1	---	---	---	---	---	---	---	---	---
10	23.5	17.6	20.1	---	---	---	---	---	---	---	---	---
11	23.9	17.9	20.8	---	---	---	---	---	---	---	---	---
12	22.0	18.2	20.0	---	---	---	---	---	---	---	---	---
13	24.4	17.9	20.9	---	---	---	---	---	---	---	---	---
14	23.0	18.9	20.5	---	---	---	---	---	---	---	---	---
15	24.4	17.0	20.4	---	---	---	---	---	---	---	---	---
16	25.8	16.8	20.9	---	---	---	---	---	---	---	---	---
17	26.8	17.8	22.0	---	---	---	---	---	---	---	---	---
18	25.8	19.6	21.9	---	---	---	---	---	---	---	---	---
19	26.5	19.4	22.5	---	---	---	---	---	---	---	---	---
20	22.2	20.1	21.2	---	---	---	---	---	---	---	---	---
21	23.2	19.1	20.8	---	---	---	---	---	---	---	---	---
22	25.9	17.2	21.2	---	---	---	---	---	---	---	---	---
23	26.0	18.8	22.0	---	---	---	---	---	---	---	---	---
24	26.9	18.7	22.5	---	---	---	---	---	---	---	---	---
25	24.3	20.4	22.2	---	---	---	---	---	---	---	---	---
26	26.7	19.1	22.3	---	---	---	---	---	---	---	---	---
27	25.9	18.8	21.9	---	---	---	---	---	---	---	---	---
28	21.5	18.9	20.0	---	---	---	---	---	---	---	---	---
29	23.4	19.1	20.8	---	---	---	---	---	---	---	---	---
30	20.5	18.2	19.4	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	26.9	11.4	19.6	25.6	13.1	18.5	---	---	---	---	---	---
YEAR	26.9	-2.7	8.6									

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.21	.00	.00	---	---	.02	.00	.00	.56	.00	.00
2	.00	---	.04	.00	---	---	.01	.00	.10	.15	.00	.03
3	.00	.00	.00	.01	---	---	.00	.04	.06	.00	.15	.00
4	.00	.13	.01	.31	---	---	.00	.13	.26	.00	.18	.00
5	.00	.12	.01	.00	---	---	.01	.00	.01	.00	.00	.00
6	.00	.00	.00	.00	---	---	.00	.01	.00	.13	.02	.00
7	.00	.00	.00	.00	---	---	.00	.00	.00	.46	.01	.00
8	.36	.00	.00	.01	---	---	.00	.00	.00	.01	.00	.00
9	.00	.00	.05	.00	---	---	.22	.00	.64	.00	.00	.00
10	.06	.11	.04	.02	---	---	.01	.12	.01	.46	.11	.00
11	.01	.21	.00	.03	---	---	.00	.05	.00	1.14	.00	.00
12	.00	.71	.00	.24	---	---	.00	.50	.00	.01	.01	.00
13	.04	.01	.00	.10	---	.02	.00	.01	.00	.00	.00	.00
14	.00	.00	.00	.00	---	.00	.25	.00	.23	.00	.00	.00
15	.35	.04	.02	.00	---	.00	.25	.00	.00	.00	.00	.00
16	.14	.00	.01	.01	---	.03	.02	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	---	.01	.00	.00	.00	.00	.00	.00
18	.02	.00	.00	.00	---	.00	.00	.06	.91	.86	.00	.00
19	.01	.01	.09	.00	---	.00	.11	.02	.00	.95	.00	.00
20	.00	.00	.04	.00	---	.05	.10	.00	.03	.00	.00	.00
21	.00	.18	.00	.40	---	.00	.02	.00	.27	.00	.00	.00
22	.00	.44	.02	.03	---	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.01	.01	---	.27	.00	.05	.00	.00	.00	.00
24	.00	.06	.03	.26	---	.01	.05	.13	.00	.00	.00	.00
25	.00	.00	.00	.00	---	.00	.60	.00	.04	.55	.00	.00
26	.00	.00	.00	.00	---	.00	.01	.00	.36	.00	.00	.00
27	.00	.00	.00	---	---	.01	.03	.00	.29	.00	.00	.00
28	.00	.01	.00	---	---	.00	.00	.20	.21	.00	.00	.00
29	.00	.00	.07	---	---	.00	.01	.18	.00	.00	.09	.00
30	.04	.01	.04	---	---	.00	.02	.02	.91	.00	.00	.00
31	.00	---	.10	---	---	.10	---	.08	---	.00	.00	---
TOTAL	1.03	2.25	0.58	1.43	---	0.50	1.74	1.60	4.33	5.28	0.57	0.03

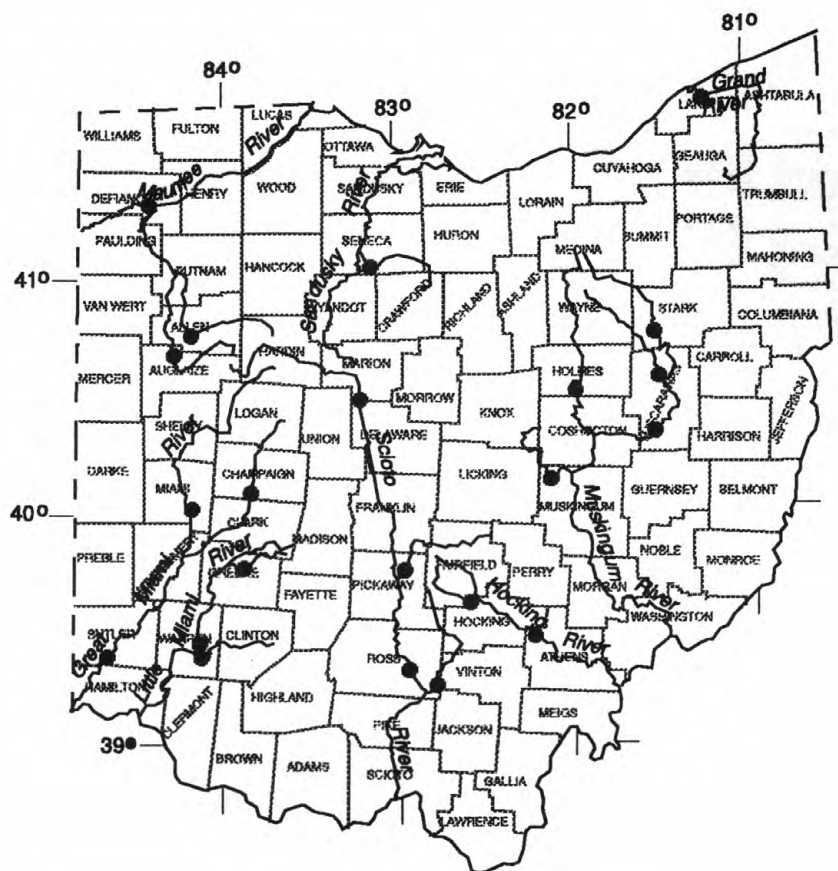
WTR YR 1993 TOTAL 19.34

The following tables list bridge-scour measurement sites and instantaneous discharge measurements collected at some of these sites. The data were collected as part of a cooperative study with the Ohio Department of Transportation. The objectives of this study are (1) to collect reliable and sufficient data during flood events to determine whether local scour, contraction scour, and general scour, are occurring at the sites; (2) to compare and evaluate published local scour-prediction equations with observed data; and (3) to compare local scour data collected using geophysical techniques with local scour data defined by physical measurements.

Bridge Scour Measurement Sites

Site Number	Name	Drainage Area (mi ²)
404037084155200	Auglaize River near Wapakoneta, Ohio	200
393549082324700	Clear Creek near Rockbridge, Ohio	91.8
414308081134101	Grand River near Painesville, Ohio	685
392340084341700	Great Miami at Hamilton, Ohio	3,630
400150084111300	Great Miami River at Troy, Ohio	927
392731082142400	Hocking River at Nelsonville, Ohio	576
410120083063501	Honey Creek at Melmore, Ohio	149
402941081591200	Killbuck Creek at Killbuck, Ohio	462
392424084060400	Little Miami River at Ft. Ancient, Ohio	675
400627083475701	Mad River near Urbana, Ohio	162
424410083561000	Massies Creek at Oldtown, Ohio	84.4
411536084331400	Maumee River near Sherwood, Ohio	2,276
404257084081500	Ottawa River at Lima, Ohio	130
391520082461200	Salt Creek near Londonderry, Ohio	286
392031082582700	Scioto River at Chillicothe, Ohio	3,849
402902083112800	Scioto River near Prospect, Ohio	528
403515081312401	Sugar Creek at Strasburg, Ohio	311
392115084074600	Todd Fork at Morrow, Ohio	262
404715081312200	Tuscarawas River at Massillon, Ohio	513
401933081304100	Tuscarawas River near Port Washington, Ohio	2,400
400710082081001	Wakatomika Creek near Frazeyburg, Ohio	140
394609082544200	Walnut Creek near Ashville, Ohio	216

Location of Bridge-Scour Measurement Sites



Instantaneous Discharge Measurements at Bridge-Scour Sites

Site Number	Name		Dis-charge (ft ³ /s)
400150084111300	Great Miami River at Troy, Ohio	11-13-92	9,540
400627083475701	Mad River near Urbana, Ohio	07-02-93	2,200
411536084331400	Maumee River near Sherwood, Ohio	01-06-93	24,100
403515081312401	Sugar Creek at Strausburg, Ohio	01-14-93	1,810
401933081304100	Tuscarawas River near Port Washington, Ohio	01-15-93	8,330
400710082081001	Wakatomika Creek near Frazeyburg, Ohio	07-02-93	2,440

BACTERIOLOGICAL AND SELECTED WATER QUALITY DATA OF THE CUYAHOGA RIVER 359

The following tables list the results of bacteriological, chemical, and physical measurements collected at nine locations in the Cuyahoga River drainage in Summit and Cuyahoga Counties, Ohio. Samples were collected and analyzed as part of a study to characterize the recreational-water quality of the Cuyahoga River during runoff periods after rainfall. These data and other data on file in the Ohio District Office will be used in a streamflow and transport model to predict concentrations of bacteria for selected streamflow conditions.

04206000 - CUYAHOGA R AT OLD PORTAGE OH

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	E. COLI WATER WHOLE TOTAL UREASE (COL / 100 ML) (31633)	CHLO- RIDE, DIS- SOLVED (MG/L) (00940)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)
SEP									
02...	2210	5.11	1400	--	--	500000	620000	45	584
02...	2320	4.70	1200	360	22.5	1000000	600000	40	305
03...	0020	4.25	1000	--	--	180000	400000	64	370
03...	0120	4.00	911	--	--	110000	100000	82	260

04206050 - MUD BK AT AKRON-PENINSULA ROAD NR AKRON OH

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	E. COLI WATER WHOLE TOTAL UREASE (COL / 100 ML) (31633)	CHLO- RIDE, DIS- SOLVED (MG/L) (00940)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)
SEP									
02...	1958	0.87	50	555	22.5	16000	17000	44	3540
02...	2359	1.01	75	550	22.0	25000	9300	--	--
03...	0510	0.92	57	550	22.0	13000	23000	38	1070

04206420 - BRANDYWINE C NR JAITE OH

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	E. COLI WATER WHOLE TOTAL UREASE (COL / 100 ML) (31633)	CHLO- RIDE, DIS- SOLVED (MG/L) (00940)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)
SEP									
03-03	0255	--	--	--	--	48000	28000	84	475
SEP									
03-03	0640	6.93	600	--	--	51000	26000	120	140
SEP									
03-03	0810	6.91	593	--	--	35000	14000	120	148
SEP									
03-03	0944	11.61	--	--	--	700000	300000	130	104

BACTERIOLOGICAL AND SELECTED WATER QUALITY DATA OF THE CUYAHOGA RIVER

04208000 - CUYAHOGA R AT INDEPENDENCE OH

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	E. COLI WATER WHOLE TOTAL UREASE (COL / 100 ML) (31633)	CHLO- RIDE, DIS- SOLVED AS CL) (MG/L (00940)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)
SEP									
03...	1201	5.39	1460	--	--	230000	--	65	542
03...	1340	4.81	1240	511	22.5	320000	88000	59	436
03...	1430	4.80	1230	500	22.5	230000	150000	59	442
03...	1515	4.61	1150	497	23.0	320000	100000	58	336
03...	1615	4.46	1080	482	23.0	530000	70000	61	300
03...	1710	4.32	1020	490	23.0	150000	98000	64	276

410817081334700 - SAND RN AT OLD PORTAGE OH

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	E. COLI WATER WHOLE TOTAL UREASE (COL / 100 ML) (31633)	CHLO- RIDE, DIS- SOLVED AS CL) (MG/L (00940)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)
SEP									
02...	2020	--	--	238	22.0	73000	120000	17	1940
02...	2345	--	--	238	22.0	31000	35000	--	--
03...	0530	--	--	--	--	7000	6000	30	102

411011081345100 - CUYAHOGA R AT BOTZUM OH

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	E. COLI WATER WHOLE TOTAL UREASE (COL / 100 ML) (31633)	CHLO- RIDE, DIS- SOLVED AS CL) (MG/L (00940)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)
SEP									
02-02	2200	8.64	1150	702	23.0	2600000	2400000	98	259
02-02	2334	9.66	1590	380	22.0	600000	480000	44	848
02...	2354	9.51	1540	350	22.5	870000	900000	45	656
03...	0022	9.17	1380	340	22.5	600000	410000	48	364
03...	0034	9.06	1330	330	22.	580000	450000	50	466
03...	0100	8.99	1290	410	22.5	610000	290000	50	338
03...	0145	8.58	1130	540	22.5	470000	590000	62	330
03...	0420	8.16	939	625	22.5	340000	480000	84	240
03...	0930	7.40	613	--	--	52000	25000	103	142

411747081341300 - CUYAHOGA R AT JAITE OH

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31616)	E. COLI WATER WHOLE TOTAL UREASE (COL / 100 ML) (31633)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)
SEP									
03...	0250	9.27	1630	806	22.5	110000	98000	100	808
03...	0630	8.58	1290	493	22.5	610000	340000	55	664
03...	0730	8.41	1200	486	22.0	700000	520000	56	572
03...	0750	8.32	1160	490	22.0	1000000	230000	57	560
03...	0810	8.25	1130	500	22.0	540000	280000	58	544
03...	0830	8.16	1090	516	22.0	530000	570000	61	440

411901081350700 - CUYAHOGA R NR BRECKSVILLE OH

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31616)	E. COLI WATER WHOLE TOTAL UREASE (COL / 100 ML) (31633)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)
SEP									
03...	2000	--	80.8	--	--	59000	--	97	236

412226081344500 - TINKERS C AT DUNHAM RD NR INDEPENDENCE OH

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	TIME	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31616)	E. COLI WATER WHOLE TOTAL UREASE (COL / 100 ML) (31633)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)
SEP									
03-03	0400	--	--	--	--	97000	73000	51	398
SEP									
03-03	1100	5.35	850	--	--	51000	11000	63	153
SEP									
03-03	1250	5.20	741	--	--	43000	31000	63	107
SEP									
03-03	1430	5.05	641	--	--	20000	15000	64	107
SEP									
03-03	1530	4.95	579	--	--	53000	10000	67	91
SEP									
03-03	1700	4.80	492	--	--	21000	16000	72	80

SURFACE WATER-QUALITY OF SELECTED RESERVOIRS

The following tables list the results of chemical and physical measurements collected at seven locations directly downstream from selected reservoirs in Ohio. Samples were collected during 1992 and 1993 and analyzed as part of a large regional study, the Midwest Continent Herbicide Initiative, designed to determine the occurrence, temporal distribution, and persistence of herbicides in discharge from reservoirs in the upper Midwestern United States.

03091500 MAHONING R AT PRICETOWN OH -- LAKE MILTON

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	SILICA, DIS- SOLVED (MG/L AS SIO2)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
OCT 21...	443	8.2	11.5	2.8	0.05	0.56	0.09	<0.01
JAN 13...	404	8.3	2.0	3.4	0.02	1.0	0.03	<0.01
APR 20...	399	8.0	11.5	2.1	0.02	1.2	0.04	<0.01
JUL 20...	388	7.0	22.5	4.0	0.03	0.17	0.66	<0.01

03147500 LICKING R BL DILLON DAM NR DILLON FALLS OH -- DILLON LAKE

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	SILICA, DIS- SOLVED (MG/L AS SIO2)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
OCT 14...	570	8.6	15.0	4.4	0.03	0.62	0.07	0.02
JAN 12...	439	8.2	4.0	7.5	0.04	2.6	0.10	0.04
MAR 24...	412	8.6	7.5	6.0	0.04	2.0	0.07	<0.01
JUL 09...	390	7.9	27.0	4.4	0.10	4.4	0.19	<0.01

DATE	ALPHA BHC DIS SOLVED (UG/L)	BEN- ATRA- ZINE, WATER, DISS, REC (UG/L)	FLUR- ALIN WAT FLD 0.7 U GF, REC (UG/L)	BRO- MACIL, WATER, DISS, REC (UG/L)	BUTYL- ATE, WATER, DISS, REC (UG/L)	CAR- BARYL WATER FLTRD 0.7 U GF, REC (UG/L)	CARBO- FURAN WATER FLTRD 0.7 U GF, REC (UG/L)	CHLOR- PYRIFOS DIS SOLVED (UG/L)	CYANA- ZINE, WATER, DISS, REC (UG/L)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L)	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L)
MAR 24...	<0.01	0.09	<0.01	--	<0.01	<0.05	<0.01	<0.00	<0.01	<0.00	<0.02
JUL 09...	<0.01	4.9	<0.01	<0.05	<0.01	<0.05	<0.01	<0.00	0.64	0.00	0.25

03147500 LICKING R BL DILLON DAM NR DILLON FALLS OH -- DILLON LAKE--Continued

DATE	DIAZ- INON		DIMETH- OATE		DISUL- FOTON		ETHAL- FLUR-		ETHO- PROP		HCH ALPHA	
	DI- AZINON,	D10 SRG WAT FLT	DI- ELDRIN	WATER FLTRD	WATER FLTRD	WATER FLTRD	WATER FLTRD	WATER FLTRD	FONOFOS WATER	D6 SRG WAT FLT	LINDANE	
	DIS- SOLVED	0.7 U GF, REC	DIS- SOLVED	0.7 U GG, REC	0.7 U GF, REC	0.7 U GF, REC	0.7 U GF, REC	0.7 U GF, REC	DISS REC	0.7 U GF, REC	DIS- SOLVED	
	(UG/L)	PERCENT	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	PERCENT	(UG/L)	
MAR	24...	<0.01	120	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	110	<0.01
JUL	09...	0.00	110	<0.02	<0.02	<0.02	<0.00	<0.01	<0.01	0.00	94	<0.01
DATE	LIN- URON		METHYL AZIN- PHOS	METHYL PARA- THION		METRI- BUZIN	MOL- INATE	NAPROP- AMIDE			PEB- ULATE	
	WATER	MALA- THION,	WAT FLT	WAT FLT	METO- LACHLOR	SENCOR	WATER	WATER		PARA- THIO	WATER	
	FLTRD	DIS-	0.7 U	0.7	WATER	WATER	FLTRD	FLTRD	P,P'	DIS-	FLTRD	
	0.7 U	DIS-	0.7 U	0.7	WATER	WATER	0.7 U	0.7 U	DDE	DIS-	0.7 U	
DATE	GF, REC	SOLVED	GF, REC	GF, REC	DISSOLV	DISSOLV	GF, REC	GF, REC	DISSOLV	SOLVED	GF, REC	
	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	
MAR	24...	<0.04	<0.01	<0.04	<0.03	0.06	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01
JUL	09...	0.04	<0.01	<0.04	<0.03	2.5	0.04	<0.01	<0.01	<0.01	<0.02	<0.01
DATE	PENDI- METH- ALIN	PER- METHRIN CIS	PHORATE WATER	PRO- METON, WATER,	PRON- AMIDE WATER	PRO- PANIL WATER	PRO- PARGITE WATER	PROP- CHLOR, WATER,		SI- MAZINE, WATER,		
	WAT FLT	WAT FLT	FLTRD	DISS,	FLTRD	FLTRD	FLTRD	DISS,	SILVEX,	DISS,		
	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	DIS-	DISS,		
	GF, REC	GF, REC	GF, REC	REC	GF, REC	GF, REC	GF, REC	REC	SOLVED	REC		
	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)		
MAR	24..	<0.02	<0.02	<0.02	0.01	<0.01	<0.02	<0.01	<0.02	--	0.02	
JUL	09..	<0.02	<0.02	<0.02	0.04	<0.01	<0.02	<0.01	<0.02	<0.05	0.59	
DATE			2,6-DI- ETHYL ANALINE	TER- BUFOS WATER	TEBU- THIURON WATER	TER- BACIL WATER	TERBUTH YLAZINE SURROGT	THIO- BENCARB WATER	TRIAL- LATE WATER	TRI- FLUR- ALIN		
			WAT FLT	FLTRD	FLTRD	FLTRD	WAT FLT	FLTRD	FLTRD	WAT FLT		
			0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U		
	DATE	SOLVED	SOLVED	GF, REC	GF, REC	GF, REC	GF, REC	GF, REC	GF, REC	GF, REC	GF, REC	
	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	PERCENT	(UG/L)	(UG/L)	(UG/L)		
MAR	24...	--	--	<0.01	<0.01	<0.02	<0.03	130	<0.01	<0.00	<0.01	
JUL	09...	<0.05	<0.05	<0.01	<0.01	<0.02	0.01	110	<0.01	<0.01	<0.01	

SURFACE WATER QUALITY OF SELECTED RESERVOIRS

03221000 SCIO TO R BL O'SHAUGHNESSY DAM NR DUBLIN OH -- O'SHAUGHNESSY RESERVOIR

				PH			NITRO-	NITRO-	NITRO-	PHOS-							
				SPE-	WATER			GEN,	GEN,	GEN,	PHORUS						
				CIFIC	WHOLE			DIS-	DIS-	DIS-	ORTHO,						
				CON-	FIELD	TEMPER-			NO2+NO3	AMMONIA	DIS-						
				DUCT-	(STAND-	ATURE			SOLVED	SOLVED	SOLVED						
DATE				ANCE	ARD	WATER			(MG/L	(MG/L	(MG/L						
				(US/CM)	UNITS)	(DEG C)			AS	AS N)	AS N)						
						SIO2)			AS N)	AS N)	AS P)						
OCT																	
07...		771		8.2		14.0		0.90		0.01		0.87		0.02		0.02	
DEC																	
30...		720		7.4		3.0		7.4		0.06		4.0		0.10		0.08	
MAR																	
22...		581		8.6		3.0		6.5		0.04		4.3		0.10		0.04	
JUN																	
29...		558		8.1		23.5		4.4		0.09		5.2		0.12		0.01	
				ATRA-	BEN-	BRO-	BUTYL-	CAR-	CARBO-			CYANA-	DCPA	DEETHYL			
				ZINE,	FLUR-	MACIL,	ATE,	BARYL	FURAN			ZINE,	WATER	ATRA-			
				WATER,	ALIN	WATER,	WATER,	WATER	WATER			WATER,	FLTRD	ZINE,			
				DISS,	WAT FLD	DISS,	DISS,	FLTRD	FLTRD			FLTRD	FLTRD	WATER,			
				REC	0.7 U	REC	REC	0.7 U	0.7 U			DIS-	DISS,	0.7 U			
DATE				SOLVED	GF, REC	REC	REC	GF, REC	GF, REC			SOLVED	REC	GF, REC			
				(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)			(UG/L)	(UG/L)	(UG/L)			
MAR																	
22...		<0.01		0.17		<0.01		--		<0.01		<0.05		<0.01		<0.00	
JUN																	
30...		<0.01		7.0		<0.01		<0.05		<0.01		<0.05		0.05		1.4	
				DIAZ-			DIMETH-	DISUL-			ETHAL-	ETHO-			HCH		
				INON			OATE	POTON			FLUR-	PROP			ALPHA		
				D10 SRG			WATER	WATER			ALIN	WATER			D6 SRG		
				WAT FLT			FLTRD	FLTRD			WAT FLT	FLTRD			WAT FLT	LINDANE	
				0.7 U			0.7 U	0.7 U			0.7 U	0.7 U			0.7 U	DIS-	
DATE				SOLVED	GF, REC	SOLVED	GG, REC	GF, REC	GF, REC	GF, REC	GF, REC	GF, REC	GF, REC	REC	GF, REC	SOLVED	
				(UG/L)	PERCENT	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	PERCENT	(UG/L)	
MAR																	
22...		0.01		110		<0.02		<0.02		<0.01		<0.01		<0.01		110	
JUN																	
30...		0.02		100		<0.02		<0.02		<0.00		<0.01		<0.01		91	
				LIN-	METHYL	METHYL			MOL-	NAPROP-					FEB-		
				URON	AZIN-	PARA-			INATE	AMIDE					ULATE		
				WATER	PHOS	THION			WATER	WATER					WATER		
				FLTRD	WAT FLT	WAT FLT			FLTRD	FLTRD					FILTRD		
				0.7 U	0.7 U	0.7 U			0.7 U	0.7 U					0.7 U		
DATE				GF, REC	GF, REC	GF, REC	DISSOLV	DISSOLV	GF, REC	GF, REC	DISSOLV	SOLVED	GF, REC	SOLVED	GF, REC		
				(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)		
MAR																	
22...		<0.04		<0.01		<0.04		<0.03		0.19		<0.01		<0.01		<0.02	
JUN																	
30...		0.05		<0.01		<0.04		<0.03		3.9		0.07		<0.01		<0.01	

SURFACE WATER QUALITY OF SELECTED RESERVOIRS

03221000 SCIOTO R BL O'SHAUGHNESSY DAM NR DUBLIN OH -- O'SHAUGHNESSY RESERVOIR--Continued

DATE	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L)	PRO- METON, WATER, DISS, REC (UG/L)	PRON- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L)	PRO- PARGITE WATER FLTRD 0.7 U GF, REC (UG/L)	PROP- CHLOR, WATER, DISS, REC (UG/L)	SILVEX, DIS- SOLVED (UG/L)	SI- MAZINE, WATER, DISS, REC (UG/L)
MAR 22...	<0.02	<0.02	<0.02	0.01	<0.01	<0.02	<0.01	<0.02	--	0.02
JUN 30...	0.02	<0.02	<0.02	0.06	<0.01	<0.02	<0.01	<0.02	<0.05	0.22
DATE	2,4-D, DIS- SOLVED (UG/L)	2,4,5-T SOLVED (UG/L)	2,6-DI- ETHYL ANALINE WAT FLT 0.7 U GF, REC (UG/L)	TER- BUFOS WATER FLTRD 0.7 U GF, REC (UG/L)	TEBU- THIURON WATER FLTRD 0.7 U GF, REC (UG/L)	TER- BACIL WATER FLTRD 0.7 U GF, REC (UG/L)	TERBUTH YLAZINE SURROGT WAT FLT 0.7 U GF, REC PERCENT	THIO- BENCARB WATER F LTRD 0.7 U GF, REC (UG/L)	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L)	TRI- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L)
MAR 22..	--	--	<0.01	<0.01	<0.02	<0.03	120	<0.01	<0.00	<0.01
JUN 30...	<0.05	<0.05	<0.01	<0.01	<0.02	<0.03	120	<0.01	<0.01	<0.01

03225500 OLENTANGY R NR DELAWARE OH -- DELAWARE LAKE

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	SILICA, DIS- SOLVED (MG/L AS SIO2)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
OCT 07...	517	7.9	17.5	0.50	0.03	0.23	0.06	<0.01
DEC 30...	570	8.1	1.5	7.1	0.04	3.0	0.12	0.03
MAR 24...	440	8.7	5.5	5.7	0.04	3.3	0.14	<0.01
JUL 06...	295	7.4	22.5	5.5	0.17	5.9	0.28	0.06

03228500 BIG WALNUT C AT CENTRAL COLLEGE OH -- HOOVER RESERVOIR

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	SILICA, DIS- SOLVED (MG/L AS SIO2)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
NOV 04...	410	8.1	12.0	3.5	0.01	0.98	0.03	<0.01
JAN 20...	405	8.7	1.0	3.7	0.03	1.4	0.03	0.01
MAR 25...	314	8.2	3.0	4.9	0.03	2.0	0.05	0.01
JUL 01...	344	7.8	17.0	2.5	0.02	1.3	0.04	<0.01

SURFACE WATER QUALITY OF SELECTED RESERVOIRS

03228500 BIG WALNUT C AT CENTRAL COLLEGE OH -- HOOVER RESERVOIR--Continued

DATE	ALPHA BHC DIS- SOLVED (UG/L)	BEN- ATRA- ZINE, WATER, DISS, REC (UG/L)	FLUR- ALIN WAT FLD 0.7 U GF, REC (UG/L)	BRO- MACIL, WATER, DISS, REC (UG/L)	CAR- BUTYL- ATE, WATER, DISS, REC (UG/L)	CARBO- BARYL WATER FLTRD 0.7 U GF, REC (UG/L)	FURAN WATER FLTRD 0.7 U GF, REC (UG/L)	CHLOR- PYRIFOS DIS- SOLVED (UG/L)	CYANA- ZINE, WATER, DISS, REC (UG/L)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L)	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L)	
MAR	25...	<0.01	0.34	<0.01	--	<0.01	<0.05	<0.01	<0.00	0.03	<0.00	0.02
JUL	01...	<0.01	0.71	<0.01	<0.05	<0.01	<0.05	<0.01	<0.00	0.03	0.00	0.05
DATE	DI- AZINON, DIS- SOLVED (UG/L)	DIAZ- INON D10 SRG WAT FLT 0.7 U GF, REC (UG/L)	DI- ELDRIN DIS- SOLVED (UG/L)	DIMETH- OATE WATER FLTRD 0.7 U GG, REC (UG/L)	DISUL- FOTON WATER FLTRD 0.7 U GF, REC (UG/L)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L)	ETHAL- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L)	ETHO- PROP WATER FLTRD 0.7 U GF, REC (UG/L)	FONOFOS WATER DISS REC (UG/L)	HCH ALPHA D6 SRG WAT FLT 0.7 U GF, REC (UG/L)	LINDANE DIS- SOLVED (UG/L)	
MAR	25...	<0.01	100	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	110	<0.01
JUL	01...	0.00	96	<0.02	<0.02	<0.02	<0.00	<0.01	<0.01	<0.01	94	<0.01
DATE	LIN- URON WATER FLTRD 0.7 U GF, REC (UG/L)	METHYL AZIN- PHOS WAT FLT 0.7 U GF, REC (UG/L)	METHYL PARA- THION WAT FLT 0.7 U GF, REC (UG/L)	METO- LACHLOR WATER DISSOLV (UG/L)	METRI- BUZIN WATER SENCOR WATER DISSOLV (UG/L)	MOL- INATE WATER FLTRD 0.7 U GF, REC (UG/L)	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L)	P, P' DDE DISSOLV (UG/L)	PARA- THION, DIS- SOLVED (UG/L)	FEB- ULATE WATER FILTRD 0.7 U GF, REC (UG/L)		
MAR	25...	<0.04	<0.01	<0.04	<0.03	0.12	<0.01	<0.01	<0.01	<0.02	<0.02	<0.01
JUL	01...	<0.01	<0.01	<0.04	<0.03	0.37	0.01	<0.01	<0.01	<0.01	<0.02	<0.01
DATE	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L)	PRO- METON, WATER, DISS, REC (UG/L)	PRON- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L)	PRO- FARGITE WATER FLTRD 0.7 U GF, REC (UG/L)	PROP- CHLOR, WATER, DISS, REC (UG/L)	SILVEX, DIS- SOLVED (UG/L)	SI- MAZINE, WATER, DISS, REC (UG/L)		
MAR	25...	<0.02	<0.02	<0.02	0.01	<0.01	<0.02	<0.01	<0.02	--	0.03	
JUL	01...	<0.02	<0.02	<0.02	0.02	<0.01	<0.02	<0.01	<0.02	<0.05	0.18	

SURFACE WATER QUALITY OF SELECTED RESERVOIRS

03228500 BIG WALNUT C AT CENTRAL COLLEGE OH -- HOOVER RESERVOIR--Continued

DATE	2,4-D, DIS- SOLVED (UG/L)	2,4,5-T DIS- SOLVED (UG/L)	2,6-DI- ETHYL ANALINE WAT FLT 0.7 U GF, REC (UG/L)	TER- BUFOS WATER FLTRD 0.7 U GF, REC (UG/L)	TEBU- THIURON WATER FLTRD 0.7 U GF, REC (UG/L)	TER- BACIL WATER FLTRD 0.7 U GF, REC (UG/L)	TERBUTH YLAZINE SURROGT WAT FLT 0.7 U GF, REC PERCENT	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (UG/L)	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L)	TRI- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L)
MAR										
25...	--	--	<0.01	<0.01	<0.02	<0.03	120	<0.01	<0.00	<0.01
JUL										
01...	<0.05	<0.05	<0.01	<0.01	<0.02	<0.03	120	<0.01	<0.01	<0.01

03228805 ALUM C AT AFRICA OH -- ALUM CREEK LAKE

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	SILICA, DIS- SOLVED AS (MG/L SIO2)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
NOV								
04...	464	8.2	12.0	4.2	0.02	1.1	0.05	<0.01
JAN								
20...	453	8.4	1.5	3.9	0.02	1.3	0.03	<0.01
MAR								
25...	368	8.1	3.5	4.0	0.03	1.6	0.03	<0.01
JUL								
01...	402	7.6	20.0	1.2	0.02	1.5	0.03	<0.01

03230900 DEER C NR PANCOASTBURG OH -- DEER CREEK LAKE

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	SILICA, DIS- SOLVED AS (MG/L SIO2)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)
OCT								
14...	477	7.8	16.5	0.90	0.07	1.4	0.02	<0.01
JAN								
12...	515	8.1	3.0	7.3	0.03	5.7	0.09	0.07
MAR								
26...	533	7.6	6.0	6.0	0.03	4.7	0.04	<0.01
JUL								
12...	470	7.5	25.5	7.3	0.13	3.6	0.27	0.01

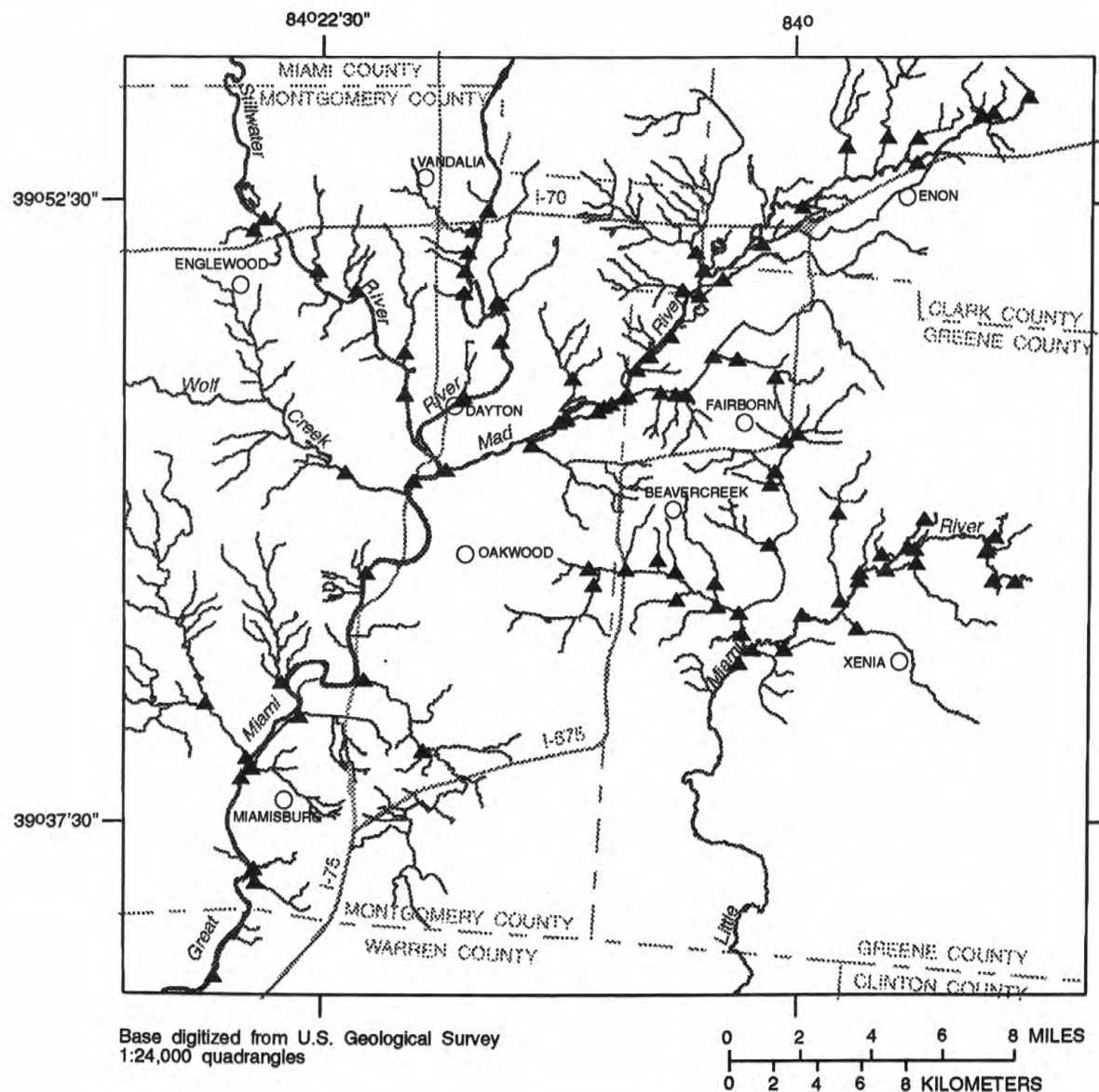
SURFACE WATER QUALITY OF SELECTED RESERVOIRS

3230900 DEER C NR PANCOASTBURG OH -- DEER CREEK LAKE--Continued

		BEN-		CAR-		CARBO-		CYANA-		DEETHYL			
		ALPHA	ATRA-	FLUR-	BRO-	BUTYL-	BARYL	PURAN	CHLOR-	ZINE,	DCPA	ATRA-	
		BHC	ZINE,	ALIN	MACIL,	ATE,	WATER	WATER	PYRIFOS	WATER,	WATER	ZINE,	
		DIS-	WATER,	WAT	WATER,	WATER,	FLTRD	FLTRD	DIS-	WATER,	FLTRD	WATER,	
		SOLVED	DISS,	0.7 U	DISS,	DISS,	0.7 U	0.7 U	DIS-	DISS,	0.7 U	DISS,	
DATE		REC	REC	GF, REC	REC	REC	GF, REC	GF, REC	SOLVED	REC	GF, REC	REC	
		(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	
MAR													
26...	--	--	--	--	--	--	--	--	--	--	--	--	
JUL													
12...	<0.01	4.3	<0.01	<0.05	0.01	<0.05	0.02	<0.00	1.7	0.00	0.13		
		DIAZ-		DIMETH-		DISUL-		ETHAL-		ETHO-		HCH	
		INON		OATE	FOTON	EPTC	FLUR-	PROP		ALPHA			
		DI-	D10 SRG	DI-	WATER	WATER	ALIN	WATER	FONOFOS	D6 SRG			
		AZINON,	WAT FLT	ELDRIN	FLTRD	FLTRD	FLTRD	WAT FLT	FLTRD	WAT FLT	LINDANE		
		DIS-	0.7 U	DIS-	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	DISS	0.7 U	DIS-	
DATE		SOLVED	GF, REC	SOLVED	GG, REC	GF, REC	GF, REC	GF, REC	GF, REC	REC	GF, REC	SOLVED	
		(UG/L)	PERCENT	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	PERCENT	(UG/L)	
MAR													
26...	--	--	--	--	--	--	--	--	--	--	--	--	
JUL													
12...	<0.01	99	<0.02	<0.02	<0.02	<0.00	<0.01	<0.01	0.00	97	<0.01		
		LIN-	METHYL		METHYL		MOL-		NAPROP-		PEB-		
		URON	AZIN-	PARA-	PARA-	METRI-	INATE	AMIDE					
		WATER	PHOS	THION	THION	BUZIN	WATER	WATER		PARA-	WATER		
		FLTRD	WAT FLT	WAT FLT	WAT FLT	LACHLOR	FLTRD	FLTRD	P, P'	THION,	FILTRD		
		0.7 U	0.7 U	0.7 U	0.7 U	WATER	WATER	0.7 U	0.7 U	DIS-	0.7 U		
DATE		GF, REC	SOLVED	GF, REC	GF, REC	DISSOLV	DISSOLV	GF, REC	GF, REC	DDE	SOLVED	GF, REC	
		(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)
MAR													
26...	--	--	--	--	--	--	--	--	--	--	--	--	
JUL													
12...	0.02	<0.01	<0.04	<0.03	2.3	0.06	<0.01	<0.01	<0.00	<0.02	<0.01		
		PENDI-	PER-	PHORATE	PRO-	PRON-	PRO-	PRO-	PROP-			SI-	
		METH-	METHRIN	WATER	METON,	AMIDE	PANIL	PARGITE	CHLOR,			MAZINE,	
		ALIN	CIS	FLTRD	WATER,	WATER	WATER	WATER	WATER,			WATER,	
		WAT FLT	WAT FLT	FLTRD	DISS,	FLTRD	FLTRD	FLTRD	DISS,	SILVEX,	DIS-	DISS,	
		0.7 U	0.7 U	0.7 U	DISS,	0.7 U	0.7 U	0.7 U	DISS,	SOLVED	REC	REC	
DATE		GF, REC	GF, REC	GF, REC	REC	GF, REC	GF, REC	GF, REC	REC	(UG/L)	(UG/L)	(UG/L)	
		(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	
MAR													
26...	--	--	--	--	--	--	--	--	--	--	--	--	
JUL													
12...	<0.02	<0.02	<0.02	0.01	<0.01	<0.02	<0.01	<0.02	<0.05	0.10			
		2,6-DI-		TER-	TEBU-	TER-	TERBUTH	THIO-	TRIAL-	TRI-			
		ETHYL	ETHYL	BUFOS	THIURON	BACIL	YLAZINE	BENCARB	LATE	FLUR-			
		ANALINE	ANALINE	WATER	WATER	WATER	SURROGT	WATER	WATER	ALIN			
		WAT FLT	WAT FLT	FLTRD	FLTRD	FLTRD	WAT FLT	FLTRD	FLTRD	WAT FLT			
		0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U			
DATE		SOLVED	SOLVED	GF, REC	GF, REC	GF, REC	GF, REC	GF, REC	GF, REC	GF, REC	GF, REC	GF, REC	
		(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	PERCENT	(UG/L)	(UG/L)	(UG/L)	(UG/L)	
MAR													
26...	--	--	--	--	--	--	--	--	--	--	--	--	
JUL													
12...	<0.05	<0.05	<0.01	<0.01	<0.02	<0.03	130	<0.01	<0.01	0.00			

Base flow discharges were measured on September 8 and 9, 1993, on the Great Miami River, its tributaries, and other inflows, from Taylorsville Dam down to Miamisburg, Ohio. The tributaries included the Stillwater River, starting at Englewood Dam, and the Mad River, starting at the gaging station at Springfield. The same was done on the Little Miami River, its tributaries, and other inflows, from the Oldtown gage to the Narrows State Park. These data were collected as part of a cooperative study with the U.S. Environmental Protection Agency, Miami Conservancy District, and numerous municipalities in the Dayton, Ohio, area. These data were collected for the purpose of providing input data for a ground-water-flow model.

The following table contains the latitude and longitude, or station number, of each discharge measurement site. They are presented in order proceeding downstream, with each tributary inserted where it enters the main stream. Outfall or withdrawal data reported by cooperators is not listed. Locations of the measurement sites are shown in the accompanying figure. Those tributaries that were ponded or wet, but no flow, are shown with a discharge of .00. Those tributaries that were dry have --- in the discharge column.



BASE FLOW DISCHARGES ON THE GREAT MIAMI RIVER

Station number	Station name	Discharge in ft ³ /s
03263000	Great Miami River at Taylorsville Dam	190.00
395154841016	Poplar Creek at Cassel Road	0.38
395122841026	Tributary to Great Miami River, at Little York Road	.00
395053841030	Tributary to Great Miami River, at B&O RR	.05
395020841037	Tributary to Great Miami River, at B&O RR	.01
395006840937	Tributary to Great Miami River, at Powell Road, west branch	.50
395006840925	Tributary to Great Miami River, at Powell Road, east branch	---
394912840922	Great Miami River at Needmore Road	208.00
394753841034	Tributary to Great Miami River, at B&O RR bridge	---
394746841037	Great Miami River at B&O RR bridge	185.00
03266000	Stillwater River at Englewood Dam gage	77.60
395053841511	Tributary to Stillwater River, at Meeker Road	.04
395024841355	Tributary to Stillwater River, at Frederick Pike	---
394854841225	Tributary to Stillwater River, at Shoup Mill Rd.	10.20
394753841225	Stillwater River at Siebenthaler	84.20
395151841714	Tributary to Stillwater River at Dreseden at SR-48	< .02
03269500	Mad River at Springfield gage	386.00
395443835342	Tributary to Mad River, east branch, near Durbin	< .10
395440835407	Tributary to Mad River, west branch, near Durbin	< .25
395331835610	Mad River at Enon	367.00
395407835606	Minich Ditch at Lower Valley Pike	.08
395407835704	Donnells Creek at Lower Valley Pike	.10
395356835823	Jackson Creek at Lower Valley Pike	.10
395226835946	Mad River at I-675	367.00
395132840105	Smith Ditch, private lane north of Johnson Road	7.60
395056840256	Mad river at SR 235	387.00
395122840311	Mud Creek at Valley Pike	3.40
395042840217	Mud Run at Medway Road	.50
395024840336	Tributary to Mad River near WWTP at SR-4	---
395017840304	Tributary to Mad River	.00
394919840358	Tributary to Mad River, Bass Lake drainage	---
394829840502	Trout Creek at Mad River	6.00
394847840148	Tributary to Hebble Creek, at Kittyhawk	---
394850840235	Hebble Creek at officers club	1.70
94753840329	Tributary to Hebble Creek	---
394756840347	Tributary to Hebble Creek	---
394756840416	Tributary to Hebble Creek	.30
394753840517	Hebble Creek at Mad River	1.72
03270000	Mad River at Huffman Dam	389.00
394742840553	Inlet to hydrobowl from Mad River	7.10
394738840604	Mad River at N end of Rohrer's Island	130.00
394818840705	Tributary to Mad River at Union Schoolhouse Road	---
394724840719	Mad River near Wright Brothers. Parkway	145.00
394731840618	Inlet to recharge lagoon at north end of Rohrer's Island	79.10
394720840719	Rohrer's Island recharge lagoon overflow	6.10
394717840719	Diversion channel at south end of Rohrer's Island	133.00
394713840730	Mad River below Harschman Road	303.00
394641840824	Tributary to Mad River at Springfield Street	---
394605841106	Mad River at Webster Street	315.00
03270500	Great Miami River at Dayton gage	630.00
03271000	Wolf Creek at Bridge Street gage	10.20
394334841334	Great Miami River at Dayton WWTP	680.00
03271300	Holes Creek at gage	1.70
394059841337	Holes Creek at Dixie Drive	.50
394055841616	Opossum Creek at Soldiers Home W.Carrollton Road	.00
394005841540	Owl Creek at Central Avenue	6.60
03271400	Bear Creek at Ellerton gage	2.90
393904841720	Bear Creek at Great Miami River	3.40
393849841710	Sycamore Creek at Dayton-Cincinnati Pike	---
03271500	Great Miami River at Miamisburg gage	738.00
393622841702	Tributary to Great Miami River, at Dayton-Cincinnati Pike	.00

Station number	Station name	Discharge in ft ³ /s
393604841702	Crains Run at Dayton-Cincinnati Pike	.00
393347841818	Great Miami River at Franklin	803.00
03240000	Little Miami River at Oldtown gage	22.60
03241500	Massies Creek at Wilberforce gage	3.00
394323835342	Tributary to Massies Creek, at Brush Row Road	0.20
394406835356	Massies Creek, near Stevenson Rd. covered bridge	3.30
394410835353	Tributary to Massies Creek, near covered bridge	0.10
394428835338	Clark Run at Stevenson Road	0.40
394348835606	Oldtown Creek at Brush Row Road	0.40
394410835610	Massies Creek at SR 68 bridge	4.00
394413835624	Tributary to Massies Creek at WTP at SR 68	0.00
394402835714	Tributary to Little Miami River, at Hilltop Road	0.00
394341835704	Tributary to Little Miami River, off Fairground Road	0.00
394334835754	Tributary to Little Miami River, near Fairground Road	0.30
394323835754	Little Miami River at Fairground Road	29.40
394504835837	Ludlow Creek at Ludlow Road	0.90
394254835830	Ludlow Creek at Hilltop Road	0.80
394214835758	Shawnee Creek us from KilKare racetrack	2.20
394232835946	Little Miami River, off of Dayton-Xenia Road	34.70
394142840018	Tributary to Little Miami River, on Valley Road	1.70
394142840119	Tributary to Little Miami River, at country club	0.07
394818840036	Beaver Creek, near Marchmont Road	0.00
394659835953	Tributary to Beaver Creek	0.20
394648840018	Tributary to Beaver Creek, at Beaver Valley Road	0.00
394601840036	Tributary to Beaver Creek, at New Germany-Trebiem Road	0.10
394543840047	Tributary to Beaver Creek, near Dayton-Yellow Springs Rd	0.00
394417840047	Tributary to Beaver Creek, Fairground Rd	0.00
394316840625	Little Beaver, near old Patterson Road bridge	3.00
394341840632	Tributary to Beaver Creek, at Founders Drive	0.60
394341840520	Tributary to Little Beaver Creek, at Hall Rd., near I-675	0.30
394355840419	Tributary to Little Beaver Creek, at Dayton Xenia Rd.	0.00
394337840347	Tributary to Little Beaver Creek, at Dayton Xenia Rd.	0.20
394258840343	Tributary to Little Beaver Creek, at Fairfield Rd	0.40
394319840231	Tributary to Little Beaver Creek, at Dayton Xenia Rd	0.10
394247840224	Tributary to Little Beaver Creek, at SR-35,	1.10
394236840144	Little Beaver Creek	16.10
394207840141	Beaver Creek, at WWTP	21.40
394124840144	Little Miami River at Narrows Park	73.40

The following table contains ground-water-level measurements from a network of domestic water wells in Clark, Greene, Miami, Montgomery, and Warren Counties, Ohio. The data was collected as part of a cooperative study with the U.S. Environmental Protection Agency, for the purpose of developing a ground-water-flow model for the Dayton, Ohio, area.

SITE-ID	WELL NUMBER	LEVEL DATE	LEVEL (FEET)	ALTITUDE SURFACE (FEET)
393507084200500	W-21	09-14-93	21.01	695
393513084210200	W-22	09-14-93	14.56	700
393526084245200	MT-1168	09-15-93	89.09	890
393527084243100	MT-1169	09-15-93	136.62	840
393608084183500	MT-1117	09-16-93	50.91	760
393609084210100	MT-1167	09-15-93	15.63	695
393610084170200	MT-1119	09-14-93	13.26	690
393619084154300	MT-1118	09-14-93	23.35	900
393649084193500	MT-1115	09-14-93	19.39	765
393649084214400	MT-1166	09-14-93	15.09	715
393705084234100	MT-1165	09-15-93	38.15	810
393709084174100	MT-1114	09-14-93	12.44	690
393722084241600	MT-1163	09-15-93	107.30	865
393742084192700	MT-1113	09-14-93	12.19	815
393745084213700	MT-1162	09-14-93	72.62	760
393747084244200	MT-1161	09-15-93	21.01	875
393754084194600	MT-1164	09-14-93	66.14	795
393839084202900	MT-1159	09-14-93	53.17	780
393856084190000	MT-1116	09-14-93	32.72	845
393904084194500	MT-1160	09-14-93	86.81	815
393914084015500	GR-623	09-14-93	36.49	800
393923084010000	GR-624	09-14-93	41.24	920
393928084192000	MT-1112	09-16-93	86.75	825
393938084004800	GR-625	09-14-93	88.19	910
393940084030500	GR-629	09-14-93	25.00	890
393948084020700	GR-622	09-14-93	21.09	825
393959084094000	MT-1108	09-15-93	6.14	970
394006084001400	GR-626	09-14-93	77.49	915
394006084172100	MT-1111	09-14-93	17.46	710
394009084120200	MT-1106	09-15-93	37.03	780
394010084031000	GR-628	09-14-93	21.19	895
394014084013400	GR-627	09-14-93	75.24	895
394017084165200	MT-1109	09-14-93	22.11	720
394021084204700	MT-1144	09-15-93	12.2	760
394022084241200	MT-1151	09-15-93	43.9	805
394023084224700	MT-1153	09-15-93	46.8	815
394025084101500	MT-1107	09-15-93	71.	1000
394031084104600	MT-1100	09-15-93	14.38	940
394047084162400	MT-1143	09-14-93	26.2	720
394051084135600	MT-1110	09-15-93	20.42	720

SITE-ID	WELL NUMBER	LEVEL DATE	LEVEL (FEET)	ALTITUDE SURFACE (FEET)
394058084183600	MT-1142	09-14-93	33.49	760
394059084205300	MT-1140	09-15-93	27.4	485
394102083575900	GR-608	09-15-93	58.44	935
394104084231500	MT-1152	09-15-93	33.9	835
394105084241800	MT-1150	09-15-93	42.7	830
394111084253200	MT-1147	09-15-93	73.3	870
394112084193900	MT-1141	09-15-93	38.47	780
394118084163400	MT-1138	09-14-93	36.55	790
394122083571300	GR-606	09-15-93	45.00	935
394123083590500	GR-614	09-15-93	88.76	940
394123084220300	MT-1149	09-15-93	9.7	830
394147084233900	MT-1148	09-15-93	5.8	775
394151084260000	MT-1146	09-15-93	20.45	900
394152084205000	MT-1136	09-15-93	12.8	800
394204084161300	MT-1139	09-14-93	28.94	800
394204084190600	MT-1137	09-15-93	37.5	790
394208084202200	MT-1133	09-15-93	37.5	800
394214083590800	GR-613	09-15-93	1.09	800
394217084172100	MT-1134	09-15-93	22.0	845
394236084165400	MT-1135	09-14-93	35.1	815
394241083574700	GR-601	09-15-93	12.47	820
394248084034600	GR-632	09-16-93	23.84	850
394254083595200	GR-639	09-15-93	29.73	830
394254084015700	GR-610	09-15-93	46.66	840
394307084013400	GR-633	09-15-93	35.34	835
394310084004600	GR-630	09-15-93	55.00	805
394311084050300	GR-611	09-16-93	7.62	860
394317084190200	MT-1131	09-14-93	12.87	840
394328084253200	MT-1145	09-15-93	39.41	950
394330084204800	MT-1130	09-14-93	26.56	840
394331084164800	MT-1132	09-15-93	14.14	870
394332084111600	MT-1101	09-15-93	46.46	860
394334084021900	GR-607	09-15-93	55.50	890
394344084034000	GR-612	09-16-93	24.88	870
394347083555200	GR-605	09-15-93	40.79	875
394351083592700	GR-621	09-14-93	85.5	910
394405084040900	GR-609	09-16-93	44.7	915
394411084061800	MT-1126	09-15-93	99.33	930
394413083592300	GR-640	09-14-93	52.10	915
394413084045100	GR-634	09-16-93	33.07	925

374 GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL

SITE-ID	WELL NUMBER	LEVEL DATE	LEVEL (FEET)	ALTITUDE SURFACE (FEET)
394420084063400	MT-1125	09-14-93	35.9	895
394422083560800	GR-602	09-15-93	22.64	790
394442084212400	MT-1129	09-14-93	56.79	890
394450083544300	GR-604	09-15-93	61.07	805
394453084005300	GR-636	09-16-93	12.4	830
394456084012000	GR-635	09-14-93	119.14	965
394520084020000	GR-637	09-14-93	76.68	955
394546083540600	GR-603	09-15-93	16.54	860
394556084021800	GR-638	09-14-93	43.40	945
394600084110800	MT-1158	09-15-93	51.37	750
394641084023700	GR-616	09-15-93	92.05	920
394643084132700	MT-1157	09-15-93	11.22	885
394709084044200	GR-615	09-14-93	27.97	945
394715084161900	MT-1128	09-15-93	12.2	795
394723084010800	GR-618	09-14-93	98.55	870
394750084020700	GR-617	09-15-93	29.38	890
394806084040800	GR-620	09-15-93	7.27	800
394815084082100	MT-1123	09-15-93	38.03	795
394817084204800	MT-1127	09-15-93	30.09	890
394819084123300	MT-1156	09-15-93	18.48	760
394829084075200	MT-1124	09-15-93	46.16	845
394920084095800	MT-1155	09-15-93	31.8	775
394925084071000	MT-1120	09-15-93	46.25	870
394942084132900	MT-1154	09-15-93	8.04	755
395033084150800	MT-1122	09-15-93	10.82	775
395043084100200	MT-1105	09-15-93	18.19	770
395055084012800	GR-619	09-14-93	16.62	830
395104084154100	MT-1171	09-15-93	7.41	775
395130084035400	MT-1104	09-14-93	22.69	840
395130084154600	MT-1172	09-15-93	55.62	825
395134084150500	MT-1173	09-15-93	31.88	870
395142084194500	MT-1121	09-15-93	15.05	955
395149084105600	MT-1174	09-14-93	12.48	810
395156084093500	MT-1103	09-15-93	24.28	830
395223084053300	MT-1102	09-14-93	2.49	910
395251084035500	MI-1076	09-14-93	21.65	900
395306084013400	CL-236	09-14-93	15.43	840
395329083594600	CL-237	09-15-93	11.21	860
395356084011200	CL-239	09-14-93	22.50	865
395407084040800	MI-1077	09-14-93	24.69	935
395408083552200	CL-240	09-15-93	4.43	870
395423084002700	CL-238	09-14-93	31.97	880
395442083580600	CL-241	09-15-93	33.11	910
395444084013000	CL-245	09-14-93	27.64	880
395445084002700	CL-244	09-15-93	9.82	885

SITE-ID	WELL NUMBER	LEVEL DATE	LEVEL (FEET)	ALTITUDE SURFACE (FEET)
395447083590600	CL-243	09-15-93	12.08	885
395447084030900	MI-1078	09-14-93	15.04	865
395449083580000	CL-242	09-15-93	38.15	915
395459084100600	MT-1170	09-15-93	35.75	800
395508084031600	MI-1079	09-14-93	27.26	875
395520084003400	CL-247	09-15-93	25.45	895
395534084115800	MI-1072	09-14-93	54.75	945
395544084112900	MI-1074	09-14-93	25.3	910
395546083570300	CL-246	9-15-93	87.75	950
395551084030800	MI-1080	09-14-93	28.00	870
395611084104700	MI-1073	09-14-93	27.65	875
395619084111000	MI-1075	09-14-93	39.28	895
395630084025900	MI-1081	09-14-93	10.52	860
395630084032400	MI-1082	09-14-93	49.11	870
395707084032800	MI-1083	09-14-93	41.07	900

GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO

Ground-Water-Quality Data

The following tables contain chemical analyses of wells located in Montgomery and Greene counties. Also reported are static ground-water levels measured prior to sampling. The data were collected as part of a cooperative study with the Miami Conservancy District, the City of Dayton, and over 20 other municipal, federal, industrial, and educational entities located in the Dayton area. The study began in 1993 and is funded through 1996. The objective of the study is to develop a regional ground-water-flow model of the Great Miami buried-valley aquifer system. The model is expected to have implications for the evaluation, management, and protection of this sole-source aquifer. To assist in calibration of the model, an environmental tracer study is being conducted in which wells located along regional flow paths are being sampled for various environmental tracer compounds (chlorofluorocarbons, tritium-He). These environmental tracers are being used to estimate the age of the ground water at various locations in the aquifer. Knowledge of the age distribution of water in the aquifer helps investigators to refine and calibrate the ground-water-flow model. Results of the environmental tracer sampling will be presented in a separate USGS Water Resources Investigations Report. The chemical and water-level data presented below were collected to characterize geochemical and hydrologic conditions in the aquifer at the time the environmental tracer samples were collected.

395032084023101. Local number, GR-316

LOCATION.--Lat 39°50'32", long 84°02'31", Hydrologic Unit 05080001, at Wright-Patterson Air Force Base, Ohio.

OWNER.--Wright-Patterson Air Force Base

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well drilled by air-rotary method, 52.8 feet deep, 4 inch diameter stainless steel casing with 5 feet stainless steel continuous 0.01 inch slot screen.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land surface datum is 812.2 ft. above sea level. Measuring point: Top of casing 2.14 ft. above land surface datum.

PERIOD OF RECORD.--August 1989 to current year. (See section on Ground-Water Records for the Basewide-Monitoring Program for complete listing of water-level data collected during current year).

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
JUNE 21...	9.11	601	7.5	281	12.5	6.0	270	58	31	13	3.6
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L AS CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
JUNE 21...	232	187	78	24	0.3	0.05	6.6	333	<0.01	0.99	0.02
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
JUNE 21...	<0.01	50	20	7	<10	<1	0.6				

**GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODE
AND ENVIROMENTAL TRACER STUDY, DAYTON, OHIO**

377

395032084023102. Local number, GR-317

LOCATION.--Lat 39°50'32", long 84°02'31", Hydrologic Unit 05080001, at Wright-Patterson Air Force Base, Ohio.

OWNER.--Wright-Patterson Air Force Base

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well drilled by air-rotary method, 131.5 feet deep, 4 inch diameter stainless steel casing with 5 feet stainless steel continuous 0.01 inch slot screen.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land surface datum is 812.2 ft. above sea level. Measuring point: Top of casing

1.91 ft. above land surface datum.

PERIOD OF RECORD.--August 1989 to current year. (See section on Ground-Water Records for the Basewide-Monitoring Program for complete listing of water-level data collected during current year).

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
JUNE 21...	15.50	609	7.3	-69	14.0	0.2	330	79	32	4.3	1.1
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LITY WAT-WH DIS- SOLVED (MG/L CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
JUNE 21...	334	270	36	4.8	0.5	0.04	17	340	<0.01	<0.05	0.06
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
JUNE 21...	<0.01	20	800	650	220	210	0.4				

378 GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL
AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO

394831084042701. Local number, GR-323
LOCATION.--Lat 39°48'31", long 84°04'27", Hydrologic Unit 05080001, at Wright-Patterson Air Force Base, Ohio.
OWNER.--Wright-Patterson Air Force Base
AQUIFER.--Sand and gravel of Pleistocene age.
WELL CHARACTERISTICS.--Observation well drilled by air-rotary method, 50.6 feet deep, 4 inch diameter stainless steel casing with 5 feet stainless steel continuous 0.01 inch slot screen.
INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.
DATUM.--Elevation of land surface datum is 798.1 ft. above sea level. Measuring point: Top of casing 0.25 ft. above land surface datum.
PERIOD OF RECORD.--August 1989 to current year. (See section on Ground-Water Records for the Basewide-Monitoring Program for complete listing of water-level data collected during current year).

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
JUNE 22...	8.95	875	7.1	-63	13.5	0.2	390	100	34	25	2.1
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LITY WAT-WH DIS- SOLVED (MG/L CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
JUNE 22...	364	294	90	50	0.2	0.07	13	494	<0.01	<0.05	0.07
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
JUNE 22...	<0.01	40	530	570	70	56	0.8				

**GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODE
AND ENVIROMENTAL TRACER STUDY, DAYTON, OHIO**

379

394831084042702. Local number, GR-324

LOCATION.--Lat 39°48'31", long 84°04'27", Hydrologic Unit 05080001, at Wright-Patterson Air Force Base, Ohio.

OWNER.--Wright-Patterson Air Force Base

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well drilled by air-rotary method, 127.7 feet deep, 4 inch diameter stainless steel casing with 10 feet stainless steel continuous 0.01 inch slot screen.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land surface datum is 798.1 ft. above sea level. Measuring point: Top of casing

0.03 ft. above land surface datum.

PERIOD OF RECORD.--September 1989 to current year. (See section on Ground-Water Records for the Basewide-Monitoring Program for complete listing of water-level data collected during current year).

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
JUNE 22...	7.92	635	7.4	-125	13.5	0.2	340	81	32	5.7	1.1
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
JUNE 22...	354	296	28	10	0.4	0.05	17	352	<0.01	<0.05	0.13
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
JUNE 22...	<0.01	30	1400	1400	130	120	0.4				

380 GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL
AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO

394852084023101. Local number, GR-333

LOCATION.--Lat 39°48'52", long 84°02'31", Hydrologic Unit 05080001, at Wright-Patterson Air Force Base, Ohio.

OWNER.--Wright-Patterson Air Force Base

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well drilled by cable-tool method, 35.1 feet deep, 4 inch diameter stainless steel casing with 10 feet stainless steel continuous 0.01 inch slot screen.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land surface datum is 812.1 ft. above sea level. Measuring point: Top of casing

2.45 ft. above land surface datum.

PERIOD OF RECORD.--April 1990 to current year. (See section on Ground-Water Records for the Basewide-Monitoring Program for complete listing of water-level data collected during current year).

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CAO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
JUNE 22...	15.06	896	7.2	258	15.5	4.3	340	86	30	50	0.9
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L CAO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
JUNE 22...	344	276	56	79	0.2	0.08	9.9	494	<0.01	2.9	0.02
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
JUNE 22...	<0.01	80	180	36	20	7	0.7				

**GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODE
AND ENVIROMENTAL TRACER STUDY, DAYTON, OHIO**

381

394852084023102. Local number, GR-334

LOCATION.--Lat 39°48'52", long 84°02'31", Hydrologic Unit 05080001, at Wright-Patterson Air Force Base, Ohio.

OWNER.--Wright-Patterson Air Force Base

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well drilled by cable-tool method, 155.0 feet deep, 4 inch diameter stainless steel casing with 10 feet stainless steel continuous 0.01 inch slot screen.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land surface datum is 812.1 ft. above sea level. Measuring point: Top of casing 1.87 ft. above land surface datum.

PERIOD OF RECORD.--April 1990 to current year. (See section on Ground-Water Records for the Basewide-Monitoring Program for complete listing of water-level data collected during current year).

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
JUNE 22...	14.46	749	7.3	-106	15.5	0.3	400	96	38	6.6	1.0
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
JUNE 22...	360	291	75	26	0.3	0.07	17	440	<0.01	<0.05	0.12
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
JUNE 22...	<0.01	20	2400	2300	100	86	0.5				

382 GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL
AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO

394759084053601. Local number, GR-540, Miami Conservancy District name, HAI
LOCATION.--Lat 39°47'59", long 84°05'36", Hydrologic Unit 05080001, at downstream side of Huffman Dam, near Fairborn Ohio.

OWNER.--Miami Conservancy District

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well drilled by hollow stem auger, 17.4 feet deep, 2 inch diameter polyvinyl-chloride casing with 3 feet polyvinyl-chloride screen.

INSTRUMENTATION.--Periodic measurement with steel tape or electric tape by Miami Conservancy District personnel.

DATUM.--Elevation of land surface datum is 784.96 ft. above National GVD of 1909. Measuring point: Top of casing 2.90 ft. above land surface datum (Levels by Miami Conservancy District).

PERIOD OF RECORD.--February 1978 to current year. Data can be obtained from the Miami Conservancy District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
JUNE 23...	13.40	717	7.5	115	11.5	2.4	340	81	33	15	2.4
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
JUNE 23...	325	261	64	30	0.2	0.03	7.1	406	<0.01	3.0	0.02
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
JUNE 23...	0.12	50	60	11	<10	<1	0.9				

**GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODE
AND ENVIROMENTAL TRACER STUDY, DAYTON, OHIO**

383

394759084053602. Local number, GR-541, Miami Conservancy District name, HAH
 LOCATION.--Lat 39°47'59", long 84°05'36", Hydrologic Unit 05080001, at downstream side of Huffman Dam, near Fairborn Ohio.
 OWNER.--Miami Conservancy District
 AQUIFER.--Sand and gravel of Pleistocene age.
 WELL CHARACTERISTICS.--Observation well drilled by hollow stem auger, 59.0 feet deep, 2 inch diameter polyvinyl-chloride casing with 3 feet polyvinyl-chloride screen.
 INSTRUMENTATION.--Periodic measurement with steel tape or electric tape by Miami Conservancy District personnel.
 DATUM.--Elevation of land surface datum is 785.04 ft. above National GVD of 1909. Measuring point: Top of casing 2.30 ft. above land surface datum (Levels by Miami Conservancy District).
 PERIOD OF RECORD.--February 1978 to current year. Data can be obtained from the Miami Conservancy District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
JUNE 23...	14.58	683	7.4	-48	14.5	0.2	320	80	28	15	2.2
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
JUNE 23...	298	238	64	28	0.3	0.03	8.9	385	<0.01	2.8	0.02
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
JUNE 23...	<0.01	40	40	15	70	51	0.9				

**GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL
AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO**

394025084162800. Local number, MT-49, Miami Conservancy District name, MT49
 LOCATION.--Lat 39°40'25", long 84°16'28", Hydrologic Unit 05080002, 1.2 mi west of city hall in West Carrollton, Ohio.
 OWNER.--Metal Shredders, Inc.
 AQUIFER.--Shale of Ordovician Age.
 WELL CHARACTERISTICS.--Drilled test water table well, diameter 6 in., depth 220 ft, cased.
 INSTRUMENTATION.--Digital recorder -- 60 minute punch.
 DATUM.--Elevation of land surface datum is 714.61 ft. above National Geodetic Vertical Datum of 1909. (Levels by Miami Conservancy District).
 Measuring point: Floor of Shelter 2.50 feet above land-surface datum.
 PERIOD OF RECORD.--November 1947 to current year (see volume 1 for complete ground-water level records for water year 1993).

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CA CO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
AUG 12...	19.30	1230	7.3	-121	12.5	0.1	380	92	37	100	5.9
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LITY WAT-WH DIS- SOLVED (MG/L AS CA CO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
AUG 12...	397	321	120	140	0.4	0.89	13	707	<0.01	<0.05	0.86
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
AUG 12...	<0.01	290	1100	1100	170	160	0.6				

**GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODE
AND ENVIROMENTAL TRACER STUDY, DAYTON, OHIO**

385

394626084093400. Local number, MT-65, Miami Conservancy District name, MT65

LOCATION.--Lat 39°46'26", long 84°09'34", Hydrologic Unit 05080002, located in northeast corner of intersection of Findlay Street and Monument Avenue approximately 300 feet south of the Mad River, Dayton, Ohio.

OWNER.--Miami Conservancy District

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well, diameter 8 in., depth 180 ft, steel cased, no screen.

INSTRUMENTATION.--Periodic measurement by steel or electric tape by Miami Conservancy District personnel.

DATUM.--Elevation of land surface datum is 760.00 ft. above National Geodetic Vertical Datum of 1909. (Levels by Miami Conservancy District).

Measuring point: Top of 1 1/2 inch nipple welded to top of casing, 3.91 feet above land-surface datum.

PERIOD OF RECORD.--1970 to current year. Available data can be obtained from the Miami Conservancy District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
AUG 17...	27.90	720	7.6	-98	13.5	0.1	348	86	35	13	1.6
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
AUG 17...	348	274	84	27	0.2	0.09	14	nd	<0.01	<0.05	0.06
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
AUG 17...	<0.01	36	4300	1800	120	62	0.6				

386 GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL
AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO

394123084124900. Local number, MT-68, Miami Conservancy District name, MT68
LOCATION.--Lat 39°41'23", long 84°12'49", Hydrologic Unit 05080002, 160 feet northwest and 20 feet north of fence at west side of Montgomery County Sanitary Department Maintenance Building on Lamme Road, City of Moraine, Ohio.
OWNER.--Montgomery County Sanitary Department
AQUIFER.--Sand and gravel of Pleistocene age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 135 ft, cased.
INSTRUMENTATION.--None. Was previously equipped with Stevens Type E recorder from March 27, 1954 to January 11, 1973 operated by Montgomery County personnel. The Type E recorder was replaced by a Stevens Type F recorder that was operated by the Miami Conservancy District until July 27, 1978. Periodic measurement by steel tape since 1978 by Miami Conservancy District personnel.
DATUM.--Elevation of land surface datum is 743.68 ft. above National Geodetic Vertical Datum of 1909. (Levels by Miami Conservancy District).
Measuring point: Floor of shelter, 2.86 feet above land surface datum.
PERIOD OF RECORD.--1954 to current year with gaps. Available data can be obtained from the Miami Conservancy District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
AUG 13...	39.45	925	7.1	-59	13.0	0.1	440	110	41	15	1.6
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
AUG 13...	421	340	76	69	0.2	0.09	15	536	<0.01	<0.05	0.01
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
AUG 13...	<0.01	30	1500	580	290	270	0.4				

**GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODE
AND ENVIROMENTAL TRACER STUDY, DAYTON, OHIO**

387

395217084165901. Local number, MT-281, Miami Conservancy District name, ECN

LOCATION.--Lat 39°52'17", long 84°16'49", Hydrologic Unit 05080001, downstream side of Englewood Dam, near City of Englewood, Ohio.

OWNER.--Miami Conservancy District

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well, diameter 2 inches, depth 43.5 feet, polyvinyl-chloride casing with 1.6 feet of 0.02 inch continuously slotted polyvinyl-chloride screen.

INSTRUMENTATION.--Periodic measurement with steel tape or electric tape by Miami Conservancy District personnel.

DATUM.--Elevation of land surface datum is 808.69 ft. above National Geodetic Vertical Datum of 1909. (Levels by Miami Conservancy District).

Measuring point: Top of casing, 2.21 feet above land surface datum.

PERIOD OF RECORD.--1990 to current year. Available data can be obtained from the Miami Conservancy District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
JUNE 24...	33.92	717	7.2	-66	17.5	3.3	350	91	30	10	1.5
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L AS CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
JUNE 24...	356	288	41	25	0.2	0.06	9.5	390	<0.01	1.6	<0.01
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
JUNE 24...	<0.01	40	60	32	<10	<1	0.6				

**GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL
AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO**

395217084165902. Local number, MT-282, Miami Conservancy District name, ECO

LOCATION.--Lat 39°52'17", long 84°16'49", Hydrologic Unit 05080001, downstream side of Englewood Dam, near City of Englewood, Ohio.

OWNER.--Miami Conservancy District

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well, diameter 2 inches, depth 59.8 feet, polyvinyl-chloride casing with 1.6 feet of 0.02 inch continuously slotted polyvinyl-chloride screen.

INSTRUMENTATION.--Periodic measurement with steel tape or electric tape by Miami Conservancy District personnel.

DATUM.--Elevation of land surface datum is 808.40 ft. above National Geodetic Vertical Datum of 1909. (Levels by Miami Conservancy District).

Measuring point: Top of casing, 2.65 feet above land surface datum.

PERIOD OF RECORD.--1990 to current year. Available data can be obtained from the Miami Conservancy District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
JUNE 24...	34.10	706	7.2	-21	14.0	1.1	350	89	30	9.3	1.5
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
JUNE 24...	354	283	44	23	0.2	0.05	10	384	0.01	0.68	0.01
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
JUNE 24...	0.01	30	70	41	10	6	0.5				

**GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODE
AND ENVIROMENTAL TRACER STUDY, DAYTON, OHIO**

389

395217084165903. Local number, MT-283, Miami Conservancy District name, ECP
 LOCATION.--Lat 39°52'17", long 84°16'49", Hydrologic Unit 05080001, downstream side of Englewood Dam, near City of Englewood, Ohio.
 OWNER.--Miami Conservancy District
 AQUIFER.--Sand and gravel of Pleistocene age.
 WELL CHARACTERISTICS.--Observation well, diameter 2 inches, depth 73.8 feet, polyvinyl-chloride casing with 2.8 feet of 0.02 inch continuously slotted screen.
 INSTRUMENTATION.--Periodic measurement with steel tape or electric tape by Miami Conservancy District personnel.
 DATUM.--Elevation of land surface datum is 808.11 ft. above National Geodetic Vertical Datum of 1909. (Levels by Miami Conservancy District).
 Measuring point: Top of casing, 3.01 feet above land surface datum.
 PERIOD OF RECORD.--1990 to current year. Available data can be obtained from the Miami Conservancy District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CAO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
JUNE 23...	34.24	715	7.2	-77	14.0	0.5	350	90	31	9.6	1.7
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L CAO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
JUNE 23...	376	304	47	23	0.3	0.05	10.0	399	<0.01	0.33	0.02
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
JUNE 23...	<0.01	30	1500	30	50	18	0.5				

390 GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL
AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO

39522608410000. Local number, MT-284, Miami Conservancy District name, TU
LOCATION.--Lat 39°52'26", long 84°10'00", Hydrologic Unit 05080001, downstream side of Taylorsville Dam, near City of
Vandalia, Ohio, under US Route 40.
OWNER.--Miami Conservancy District
AQUIFER.--Sand and gravel of Pleistocene age.
WELL CHARACTERISTICS.--Observation well, diameter 2 inches, depth 14.5 feet, galvanized steel casing with 2.5 feet
of polyvinyl-chloride screen.
INSTRUMENTATION.--Periodic measurement with steel tape or electric tape by Miami Conservancy District personnel.
DATUM.--Elevation of land surface datum is 769.9 ft. above National Geodetic Vertical Datum of 1909. (Levels by Miami
Conservancy District).
Measuring point: Top of casing, 3.41 feet above land surface datum.
PERIOD OF RECORD.-- 1966 to current year. Available data can be obtained from the Miami Conservancy District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
AUG 16...	12.30	829	7.1	49	16.5	4.7	380	98	32	24	2.2
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
AUG 16...	384	306	69	48	0.2	0.05	7.2	nd	<0.01	2.5	0.03
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
AUG 16...	<0.01	60	270	<3	<10	1	0.6				

**GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODE
AND ENVIROMENTAL TRACER STUDY, DAYTON, OHIO**

391

395229084095703. Local number, MT-286, Miami Conservancy District name, TAC
 LOCATION.--Lat 39°52'29", long 84°09'57", Hydrologic Unit 05080001, downstream side of Taylorsville Dam, near City of
 Vandalia, Ohio, under US Route 40.
 OWNER.--Miami Conservancy District
 AQUIFER.--Sand and gravel of Pleistocene age.
 WELL CHARACTERISTICS.--Observation well, diameter 2 inches, depth 56.9 feet, steel casing with 2 foot steel drive
 point, 30 mesh screen.
 INSTRUMENTATION.--Periodic measurement with steel tape or electric tape by Miami Conservancy District personnel.
 DATUM.--Elevation of land surface datum is 789.0 ft. above National Geodetic Vertical Datum of 1909. (Levels by Miami
 Conservancy District).
 Measuring point: Top of casing, 2.52 feet above land surface datum.
 PERIOD OF RECORD.-- March 1978 to current year. Available data can be obtained from the Miami Conservancy District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
JUNE 25...	28.17	694	7.3	67	13.0	0.5	300	73	28	25	2.4
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LITY WAT-WH DIS- SOLVED (MG/L CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
JUNE 25...	323	258	56	33	0.2	0.04	8.9	390	<0.01	1.10	0.01
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
JUNE 25...	<0.01	40	3100	170	40	13	0.4				

**GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL
AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO**

395229084095704. Local number, MT-287, Miami Conservancy District name, TAB

LOCATION.--Lat 39°52'29", long 84°09'57", Hydrologic Unit 05080001, downstream side of Taylorsville Dam, near City of Vandalia, Ohio, under US Route 40.

OWNER.--Miami Conservancy District

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well, diameter 2 inches, depth 88.4 feet, steel casing with 2 foot steel drive point, 30 mesh screen.

INSTRUMENTATION.--Periodic measurement with steel tape or electric tape by Miami Conservancy District personnel.

DATUM.--Elevation of land surface datum is 788.0 ft. above National Geodetic Vertical Datum of 1909. (Levels by Miami Conservancy District).

Measuring point: Top of casing, 2.99 feet above land surface datum.

PERIOD OF RECORD.-- March 1978 to current year. Available data can be obtained from the Miami Conservancy District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
JUNE 25...	25.98	709	7.3	90	12.5	0.8	330	81	32	12	2.4
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
JUNE 25...	354	285	46	22	0.1	0.04	9.3	398	<0.01	4.2	0.01
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
JUNE 25...	<0.01	50	6300	59	40	5	0.4				

**GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODE
AND ENVIROMENTAL TRACER STUDY, DAYTON, OHIO**

393

395310084094600. Local number, MT-288, Miami Conservancy District name, VANTW5
LOCATION.--Lat 39°53'10", long 84°09'46", Hydrologic Unit 05080001, located approximately 4000 feet north of Taylorsville Dam, approximately 10 feet northeast of the pump building for Vandalia production well #5. The pump building is located on mounded ground in the center of agricultural fields of the North Regional sludge farm, near Vandalia, Ohio.

OWNER.--City of Vandalia

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Abandoned test well, diameter 6 inches, depth 68.8 feet, steel cased.

INSTRUMENTATION.--Periodic measurement with steel tape or electric tape by Miami Conservancy District personnel.

DATUM.--Elevation of land surface datum is 783.48 ft. above National Geodetic Vertical Datum of 1909. (Levels by Miami Conservancy District).

Measuring point: Top of casing, 2.93 feet above land surface datum.

PERIOD OF RECORD.-- 1986 to current year with gaps. Available data can be obtained from the Miami Conservancy District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
AUG 16...	19.60	1100	7.2	33	12.0	0.1	370	97	31	75	2.9
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LITY WAT-WH DIS- SOLVED (MG/L AS CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
AUG 16...	384	302	66	140	0.1	0.09	8.7	nd	0.04	0.91	0.04
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
AUG 16...	<0.01	48	190	140	120	120	0.6				

394 GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL
AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO

395307084094400. Local number, MT-289, Miami Conservancy District name, NRSF 3
LOCATION.--Lat 39°53'07", long 84°09'44", Hydrologic Unit 05080001, located approximately 4000 feet north of Taylorsville Dam, approximately 10 feet southwest of the pump building for Vandalia production well #5. The pump building is located on mounded ground in the center of agricultural fields of the North Regional sludge farm, near Vandalia, Ohio.

OWNER.--Miami Conservancy District

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Monitoring well installed by hollow auger, diameter 4 inches, depth 30.3 feet, polyvinyl-chloride casing with 9.5 foot 0.020 slot polyvinyl-chloride screen.

INSTRUMENTATION.--Periodic measurement with steel tape or electric tape by Miami Conservancy District personnel.

DATUM.--Elevation of land surface datum is 784.64 ft. above National Geodetic Vertical Datum of 1909. (Levels by Miami Conservancy District).

Measuring point: Top of 8 inch diameter steel guard casing, 2.46 feet above land surface datum.

PERIOD OF RECORD.-- Water-level data 1986 to current year with gaps. Water-quality data obtained on a quarterly basis from 1986 to current year. Available data can be obtained from the Miami Conservancy District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
AUG 16...	22.00	632	7.2	118	11.5	11.4	300	80	24	10	1.2
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
AUG 16...	287	234	33	20	0.1	0.03	6.5	nd	<0.01	12.0	0.07
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
AUG 16...	<0.01	33	<10	<1	<10	<1	0.7				

**GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODE
AND ENVIROMENTAL TRACER STUDY, DAYTON, OHIO**

395

394924084091000. Local number, MT-290, Miami Conservancy District name, OWSC10
 LOCATION.--Lat 39°49'24", long 84°09'10", Hydrologic Unit 05080001, at North Regional waste-water treatment plant,
 well located within turn around circle in front of chlorine building. Approximately 52 feet west-southwest of
 southwest corner of the chlorine building on 6x6 foot concrete pad. About 100 feet east of the Great Miami River
 about 1500 feet upstream of where the river crosses Needmore Road, Dayton, Ohio.
 OWNER.--Miami Conservancy District
 AQUIFER.--Sand and gravel of Pleistocene age.
 WELL CHARACTERISTICS.--Monitoring well installed by hollow auger, diameter 4 inches, depth 39.1 feet, polyvinyl-
 chloride casing with 10 feet of 0.020 inch slotted polyvinyl-chloride screen.
 INSTRUMENTATION.--Periodic measurement with steel tape or electric tape by Miami Conservancy District personnel.
 DATUM.--Elevation of land surface datum is 761.55 ft. above National Geodetic Vertical Datum of 1909. (Levels by Miami
 Conservancy District).
 Measuring point: Top of 8 inch steel security casing, 2.18 feet above land surface datum.
 PERIOD OF RECORD.-- Water-level data 1986 to current year with gaps. Water-quality data obtained on a biannual basis
 from 1986 to current year. Available data can be obtained from the Miami Conservancy District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
JUNE 25...	21.72	653	7.6	66	13.5	0.1	290	73	27	15	3.2
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
JUNE 25...	293	232	59	29	0.3	0.02	6.0	368	0.26	2.5	0.02
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
JUNE 25...	0.14	60	40	9	90	71	2.4				

396 GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL
AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO

394624084094300. Local number, MT-291, Miami Conservancy District name, DY213
LOCATION.--Lat 39°46'24", long 84°09'43", Hydrologic Unit 05080001, Well is downstream of Findlay Street bridge over the Mad River on left bank. Well is 18 feet west of City of Dayton production well number 49 and is 616 feet west of Findlay Street and 98 feet north of Monument Avenue, Dayton, Ohio.
OWNER.--City of Dayton
AQUIFER.--Sand and gravel of Pleistocene age.
WELL CHARACTERISTICS.--Test well, diameter 8 inches, depth 74.5 feet, steel-cased.
INSTRUMENTATION.--Periodic measurement with steel tape or electric tape by Miami Conservancy District personnel. A Stevens Type F recorder for water-levels was maintained through 1974.
DATUM.--Elevation of land surface datum is 746.79 ft. above National Geodetic Vertical Datum of 1909. (Levels by Miami Conservancy District).
Measuring point: Floor of instrument shelter, 3.46 feet above land surface datum.
PERIOD OF RECORD.-- 1969 to current year with gaps. Available data can be obtained from the Miami Conservancy District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
AUG 17...	16.30	752	7.5	-126	15.0	<0.1	310	75	29	30	4.2
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
AUG 17...	317	246	83	53	0.4	0.08	8.5	nd	0.04	0.70	0.07
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
AUG 17...	<0.01	118	4800	670	170	100	0.8				

**GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODE
AND ENVIROMENTAL TRACER STUDY, DAYTON, OHIO**

397

394913084093100. Local number, MT-296

LOCATION.--Lat 39°49'13", long 84°09'31", Hydrologic Unit 05080001, located at Sunny Acres trailer park, on Needmore Road, approximately 500 feet west of Great Miami River and 50 feet north of Needmore road, Dayton, Ohio.

OWNER.--Harrison Barger

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Abandoned domestic well, diameter 6 inches, depth 78.0 feet, steel-cased, no screen reported.

INSTRUMENTATION.--Periodic measurement with steel tape or electric tape by Miami Conservancy District or Ohio Environmental Protection Agency personnel.

DATUM.--Elevation of land surface datum is 764 feet above sea level. (Altitude from USGS topographic map.

Measuring point: Top of casing, 1.50 feet above land surface datum.

PERIOD OF RECORD.-- 1983 to current year with gaps. Available data can be obtained from the Miami Conservancy District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
JUNE 24...	21.62	845	7.4	-249	13.0	0.1	360	95	31	26	2.2
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L AS CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
JUNE 24...	403	317	71	49	0.5	0.08	12	489	<0.01	<0.05	0.21
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
JUNE 24...	0.02	90	5700	3800	60	42	1.2				

398 GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL
AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO

395130084160600. Local number, MT-297, Miami Conservancy District name, ENGLTW3
LOCATION.--Lat 39°51'30", long 84°16'06", Hydrologic Unit 05080001, City of Englewood's Heathcliff wellfield located between I-70 and Heathcliff Road. Well is approximately 1500 feet north of Heathcliff road and 150 feet west of the Stillwater River, near City of Englewood, Ohio.
OWNER.--City of Englewood
AQUIFER.--Sand and gravel of Pleistocene age.
WELL CHARACTERISTICS.--Test well, 8 inches, depth 95.8 feet, steel-cased, 10 foot screen.
INSTRUMENTATION.--None.
DATUM.--Elevation of land surface datum is 776 feet above sea level. (Altitude from USGS topographic map).
Measuring point: Top of casing, 2.90 feet above land surface datum.
PERIOD OF RECORD.--Current year only.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
JUNE 24...	9.29	951	7.3	-125	13.5	0.1	400	100	37	29	2.4
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
JUNE 24...	403	323	64	81	0.2	0.07	11	500	<0.01	0.28	0.08
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
JUNE 24...	0.01	40	4000	2700	60	43	0.9				

**GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODE
AND ENVIROMENTAL TRACER STUDY, DAYTON, OHIO**

399

394317084135400. Local number, MT-299, Miami Conservancy District name, DY 84
 LOCATION.--Lat 39°43'17", long 84°13'54", Hydrologic Unit 05080002, Located at the City of Dayton waste-water treatment plant off Guthrie Road west of the Great Miami River. Well is located approximately 500 feet south of the plant maintenance building and is approximately 50 feet west of the railroad tracks that border the eastern boundary of the plant, Dayton, Ohio.
 OWNER.--City of Dayton
 AQUIFER.--Sand and gravel of Pleistocene age.
 WELL CHARACTERISTICS.--Abandoned supply well, diameter 16 inches, depth 51.5 feet, steel-cased.
 INSTRUMENTATION.--None.
 DATUM.--Elevation of land surface datum is 732.75 ft. above National Geodetic Vertical Datum of 1909. (Levels by City of Dayton).
 Measuring point: Top of casing, 1.33 feet above land surface datum.
 PERIOD OF RECORD.-- 1971 to 1973, current year (1971-1973 data available from Miami Conservancy District).

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
AUG 19...	27.00	1140	6.8	65	15.5	0.2	510	130	44	45	4.8
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L AS CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
AUG 19...	543	439	94	68	0.3	0.18	14	681	<0.01	2.7	1.2
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
AUG 19...	0.03	170	480	11	90	66	2.1				

**400 GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL
AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO**

394347084120500. Local number, MT-300, Miami Conservancy District name, MCD 1
 LOCATION.--Lat 39°43'47", long 84°12'05", Hydrologic Unit 05080002, located approximately 216 feet southwest of entrance gate to Carillon Park from Carillon Boulevard, 40 feet southeast of Carillon Boulevard in 30 inch square well pit, Dayton, Ohio.
 OWNER.--Miami Conservancy District
 AQUIFER.--Sand and gravel of Pleistocene age.
 WELL CHARACTERISTICS.--Drill observation well, diameter 6 inches, depth 36.0 feet, steel-cased, with 8 feet of red brass 0.125 inch slotted screen.
 INSTRUMENTATION.--Stevens Type F recorder from May 1957 to June 25, 1970. Periodic measurement with steel tape or electric tape by Miami Conservancy District personnel after June 1970.
 DATUM.--Elevation of land surface datum is 724.33 feet. Reference datum is unknown.
 Measuring point: Top of casing, 1.04 feet below land surface datum.
 PERIOD OF RECORD.-- May 1957 to current year with gaps. Available data can be obtained from the Miami Conservancy District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
AUG 12...	12.90	872	7.2	32	14.0	0.4	340	83	32	43	3.3
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LITY WAT-WH DIS- SOLVED (MG/L CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
AUG 12...	348	276	64	78	0.2	0.10	10	491	<0.01	1.4	<0.01
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
AUG 12...	<0.01	110	150	44	10	10	0.7				

**GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODE 401
AND ENVIROMENTAL TRACER STUDY, DAYTON, OHIO**

394147084134400. Local number, MT-301, Miami Conservancy District name, MT66

LOCATION.--Lat 39°41'47", long 84°13'44", Hydrologic Unit 05080002, located 10 feet north of north wall of main warehouse building, 216 feet west of chain-link fence, 25 feet east of west fire control valve, 120 feet south of East River Road and 200 feet east of I-75, City of Moraine, Ohio.

OWNER.--Cooper Tire Company

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Abandoned supply well, diameter 5.63 inches, depth 80 feet, steel-cased, no screen.

INSTRUMENTATION.--Periodic measurement with steel tape or electric tape by Miami Conservancy District.

DATUM.--Elevation of land surface datum is 727.1 ft. above National Geodetic Vertical Datum of 1909. (Levels by Miami Conservancy District).

Measuring point: Top of casing, 3.09 feet above land surface datum.

PERIOD OF RECORD.-- 1969 to current year with gaps. Available data can be obtained from the Miami Conservancy District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
AUG 17...	24.96	1020	7.3	-152	15.0	0.1	320	78	30	56	22
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L AS CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE, DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
AUG 17...	458	365	61	80	0.4	0.16	11	nd	<0.01	<0.05	11.0
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
AUG 17...	<0.01	260	6000	2700	140	110	1.8				

**GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL
AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO**

394059084134400. Local number, MT-302, Miami Conservancy District name, MT69

LOCATION.--Lat 39°40'59", long 84°13'44", Hydrologic Unit 05080002, 275 feet north of the Dixie Highway and 175 feet east of I-75. Approximately 80 south of left bank of Holes Creek and approximately 400 feet above mouth of Holes Creek and Great Miami River, City of Moraine, Ohio.

OWNER.--Montgomery County Sanitary Department

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well, diameter 8 inches, depth 157.6 feet, steel-cased, no screen.

INSTRUMENTATION.--The Miami Conservancy District operated a continuous recorder from July 21, 1972 to July 27, 1978.

Periodic measurement with steel tape or electric tape by Miami Conservancy District since 1978

DATUM.--Elevation of land surface datum is 719.84 ft. above National Geodetic Vertical Datum of 1909. (Levels by Miami Conservancy District).

Measuring point: Floor of instrument shelter, 3.10 feet above land surface datum.

PERIOD OF RECORD.-- 1972 to current year with gaps. Available data can be obtained from the Miami Conservancy District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
AUG 11...	19.50	950	7.1	-22	13.5	0.1	450	110	42	21	2.1
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LITY WAT-WH DIS- SOLVED (MG/L CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
AUG 11...	403	328	91	57	0.2	0.12	13	536	<0.01	0.11	0.02
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
AUG 11...	<0.01	50	1600	880	60	46	0.4				

**GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODE
AND ENVIROMENTAL TRACER STUDY, DAYTON, OHIO**

403

394055084141500. Local number, MT-303, Miami Conservancy District name, MT71
LOCATION.--Lat 39°40'55", long 84°14'15", Hydrologic Unit 05080002, in center of old hydraulic, 40 feet south of Hydraulic Road, 1000 feet west of headgates, City of West Carrollton, Ohio.
OWNER.--Appleton Papers Inc.
AQUIFER.--Sand and gravel of Pleistocene age.
WELL CHARACTERISTICS.--Drilled test well, diameter 5.63 inches, depth 75.3 feet, steel-cased, no screen.
INSTRUMENTATION.--The Miami Conservancy District operated a continuous recorder from March 14, 1973 to July 27, 1978.
Periodic measurement with steel tape or electric tape by Miami Conservancy District since 1978
DATUM.--Elevation of land surface datum is 713.87 ft. above sea level. (Levels by Kimberly Clark Corporation).
Measuring point: Top of 1 inch coupling welded onto plate over casing, 1.78 feet above land surface datum.
PERIOD OF RECORD.-- November 1971 to current year with gaps. Available data can be obtained from the Miami Conservancy District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
AUG 11...	19.50	877	7.4	-183	14.0	0.1	260	71	20	81	2.2
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
AUG 11...	336	270	76	72	0.3	0.14	14	504	<0.01	<0.05	0.13
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
AUG 11...	<0.01	100	2400	2100	210	210	1.5				

**404 GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL
AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO**

LOCATION.--Lat 39°45'22", long 84°09'37", Hydrologic Unit 05080002, Located adjacent to US 35 onramp off McClain street. Approximately 150 feet south of McClain Street and 45 feet east of Tato Street, Dayton, Ohio.

OWNER.--City of Dayton, Department of Highways

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well drilled by cable tool method, diameter 8 inches, depth 42.75 feet, with 10 foot screen.

INSTRUMENTATION.--Periodic measurement with steel tape or electric tape by Miami Conservancy District since 1978

DATUM.--Elevation of land surface datum is 764.25 ft. above National Geodetic Vertical Datum of 1909. (Levels by Miami Conservancy District).

Measuring point: Top of 1 inch coupling welded onto plate covering casing, 5.08 feet above land surface datum.

PERIOD OF RECORD.-- 1971 to current year with gaps. Available data can be obtained from the Miami Conservancy District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L) AS CA (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L) AS MG (00925)	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	POTAS- SIUM, DIS- SOLVED (MG/L) AS K (00935)
AUG 12...	20.40	1850	7.0	-125	14.0	0.1	510	130	46	160	5.7
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L) CACO3) (00410)	SULFATE DIS- SOLVED (MG/L) AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L) AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L) AS BR) (71870)	SILICA, DIS- SOLVED (MG/L) AS SIO2) (00955)	SOLIDS, DISSOLVED DIS- CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS N) (00608)
AUG 12...	464	370	110	300	0.3	0.18	10	993	<0.01	<0.05	0.05
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L) AS P) (00671)	BORON, DIS- SOLVED (UG/L) AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L) AS FE) (01045)	IRON, DIS- SOLVED (UG/L) AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L) AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L) AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L) AS C) (00681)				
AUG 12...	<0.01	130	3900	2700	140	130	1.1				

GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODE 405
AND ENVIROMENTAL TRACER STUDY, DAYTON, OHIO

394448084120200. Local number, MT-306, Miami Conservancy District number MT386
 LOCATION.--Lat 39°44'48", long 84°12'02", Hydrologic Unit 05080002, located approximately 200 feet north of Albany Street and 50 feet east of Cincinnati Street in hospital parking lot, Dayton, Ohio.
 OWNER.--St. Elizabeth Medical Center
 AQUIFER.--Sand and gravel of Pleistocene age.
 WELL CHARACTERISTICS.--Observation well, diameter 8 inches, depth 122.5 feet, steel-cased, 5 foot polyvinyl-chloride slotted screen.
 INSTRUMENTATION.--A water-level recorder operated by the St. Elizabeth Medical Center was installed in 1986 however, details regarding instrument type and period of record are unavailable.
 DATUM.--Elevation of land surface datum is 735 feet above sea level. (Altitude from USGS topographic map).
 Measuring point: Floor of instrument shelter, 1.96 feet above land surface datum.
 PERIOD OF RECORD.--Current year only.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CaCO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS Ca) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS Mg) (00925)	SODIUM, DIS- SOLVED (MG/L AS Na) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
AUG 18...	47.44	1040	7.1	-76	14.5	0.1	460	110	45	34	2.4
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L AS CaCO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE, DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
AUG 18...	439	348	100	80	0.2	0.18	15	604	<0.01	<0.05	0.08
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS Fe) (01045)	IRON, DIS- SOLVED (UG/L AS Fe) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS Mn) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS Mn) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
AUG 18...	<0.01	80	930	220	490	480	0.6				

**GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL
AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO**

393819084173900. Local number, MT-307, Miami Conservancy District number MT968

LOCATION.--Lat 39°38'19", long 84°17'39", Hydrologic Unit 05080002, City of Miamisburg wellfield, approximately 400 feet north of production well PW-8 (USGS local identifier MT928), and 200 feet east of railroad tracks, and about 500 feet west of the Great Miami River, Miamisburg, Ohio.

OWNER.--City of Miamisburg

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well, diameter 4 inches, depth 44.3 feet, polyvinyl-chloride casing with 10 feet of 0.01 inch polyvinyl-chloride slotted screen.

INSTRUMENTATION.--None.

DATUM.--Elevation of land surface datum is 689.5 feet above sea level. (Levels by City of Miamisburg).

Measuring point: Top of casing, 2.67 feet above land surface datum.

PERIOD OF RECORD.--Current year only.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CA CO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
AUG 10...	11.18	805	7.4	176	12.0	176	340	83	32	31	3.1
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LITY WAT-WH DIS- SOLVED (MG/L AS CA CO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
AUG 10...	354	285	61	53	0.3	0.07	7.8	454	0.01	1.8	0.03
DATE	PHOSPHORUS DISSOLVED ORTHOPHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
AUG 10...	<0.01	80	10	<3	310	280	1.3				

**GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODE
AND ENVIROMENTAL TRACER STUDY, DAYTON, OHIO**

407

393808084174500. Local number, MT-308, Miami Conservancy District number MT969
 LOCATION.--Lat 39°38'08", long 84°17'45", Hydrologic Unit 05080002, City of Miamisburg wellfield, approximately 200 feet southwest of production well PW-9, and 150 feet east of railroad tracks, and about 600 feet west of the Great Miami River, Miamisburg, Ohio.
 OWNER.--City of Miamisburg
 AQUIFER.--Sand and gravel of Pleistocene age.
 WELL CHARACTERISTICS.--Observation well, diameter 4 inches, depth 32.8 feet, polyvinyl-chloride casing with 10 feet of 0.01 inch polyvinyl-chloride slotted screen.
 INSTRUMENTATION.--None.
 DATUM.--Elevation of land surface datum is 694.10 feet above sea level. (Levels by City of Miamisburg).
 Measuring point: Top of casing, 2.91 feet above land surface datum.
 PERIOD OF RECORD.--Current year only.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
AUG 10...	17.10	662	7.0	149	13.5	4.0	310	86	22	17	1.7
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
AUG 10...	342	275	34	19	0.4	0.05	8.2	369	<0.01	2.7	0.01
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
AUG 10...	<0.01	90	<10	<3	<10	<1	0.8				

408 GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL
AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO

393813084174700. Local number, MT-309, Miami Conservancy District number 970
LOCATION.--Lat 39°38'13", long 84°17'47", Hydrologic Unit 05080002, City of Miamisburg Water Treatment Plant, off of
Riverview Avenue, approximately 150 feet northeast of the northeast corner of the water treatment building about
20 feet west of chainlink fence, Miamisburg, Ohio.
OWNER.--City of Miamisburg
AQUIFER.--Sand and gravel of Pleistocene age.
WELL CHARACTERISTICS.--Observation well, diameter 4 inches, depth 91.0 feet, polyvinyl-chloride casing with 10 feet
of 0.01 inch polyvinyl-chloride slotted screen.
INSTRUMENTATION.--None.
DATUM.--Elevation of land surface datum is 698.30 feet above sea level. (Levels by City of Miamisburg).
Measuring point: Top of casing, 2.98 feet above land surface datum.
PERIOD OF RECORD.--Current year only.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
AUG 10...	21.06	886	7.1	119	13.5	0.3	370	100	30	35	2.9
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L AS CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
AUG 10...	372	301	67	60	0.3	0.12	8.4	495	<0.01	1.9	0.02
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
AUG 10...	<0.01	90	<10	<3	<10	<1	0.9				

**GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODE
AND ENVIROMENTAL TRACER STUDY, DAYTON, OHIO**

409

395332084094700. Local number, MT-310, Miami Conservancy District name, VANTW3
 LOCATION.--Lat 39°53'32", long 84°09'47", Hydrologic Unit 05080001, north of Taylorsville Dam in old Vandalia municipal wellfield. Approximately 740 feet northeast of Vandalia production well #2, in center of agricultural fields of the North Regional Sludge Farm, near Vandalia, Ohio.
 OWNER.--Miami Conservancy District
 AQUIFER.--Sand and gravel of Pleistocene age.
 WELL CHARACTERISTICS.--Abandoned test well, diameter 6 inches, depth 238 feet, steel cased, no screen.
 INSTRUMENTATION.--None.
 DATUM.--Elevation of land surface datum is 778.47 feet above National Geodetic Vertical Datum of 1909. (Levels by Miami Conservancy District).
 Measuring point: Top of casing, 4.80 feet above land surface datum.
 PERIOD OF RECORD.--1971 to current year with gaps. Available data can be obtained from the Miami Conservancy District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
AUG 16...	15.83	567	7.5	-83	11.5	0.1	290	70	27	7.2	1.5
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
AUG 16...	342	271	7.6	13	0.7	0.12	14	nd	<0.01	1.80	0.12
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
AUG 16...	<0.01	27	1700	1400	30	21	0.7				

410 GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL
AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO

394340084061400. Local number, MT-311, Miami Conservancy District name, MT70
LOCATION.--Lat 39°43'40", long 84°06'14", Hydrologic Unit 05080002, Eastern Regional Wastewater Treatment Plant,
12 feet west of southwest corner of maintenance shop in northeast corner of the plant, Kettering, Ohio.
OWNER.--Montgomery County Sanitary Department
AQUIFER.--Sand and gravel of Pleistocene age.
WELL CHARACTERISTICS.--Observation well, diameter 5.63 inches, depth 47.2 feet, steel cased, 8 feet of red brass
screen.
INSTRUMENTATION.--None.
DATUM.--Elevation of land surface datum is 867.00 feet above National Geodetic Vertical Datum of 1909. (Levels by
Miami Conservancy District).
Measuring point: Top of casing, 3.96 feet above land surface datum.
PERIOD OF RECORD.--1973 to current year with gaps. Available data can be obtained from the Miami Conservancy District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
AUG 13...	11.90	904	7.2	-108	14.0	0.1	440	110	39	18	1.2
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
AUG 13...	427	346	78	40	0.4	0.08	15	516	<0.01	<0.05	0.12
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
AUG 13...	<0.01	50	8700	4600	60	48	0.7				

GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODE 411
AND ENVIROMENTAL TRACER STUDY, DAYTON, OHIO

394442084111600. Local number, MT-426, Miami Conservancy District name, MT426
 LOCATION.--Lat 39°44'42", long 84°11'16", Hydrologic Unit 05080002, Miami Valley Hospital emergency-trauma parking lot, northeast corner of Wyoming and South Main Street, 30 feet west of emergency patient entrance doors and 30 feet east of S. Main Street, Dayton, Ohio.
 OWNER.--Miami Valley Hospital
 AQUIFER.--Sand and gravel of Pleistocene age.
 WELL CHARACTERISTICS.--Observation well, diameter 8 inches, depth 193 feet, steel cased, 5 foot screen.
 INSTRUMENTATION.--Stevens recorder operated by Miami Conservancy District. Periodic measurements by steel or electric tape by Miami Conservancy District personnel.
 DATUM.--Elevation of land surface datum is 778.83 feet above National Geodetic Vertical Datum of 1909. (Levels by Miami Conservancy District).
 Measuring point: Top of casing, 2.85 feet above land surface datum.
 PERIOD OF RECORD.--July 1985 to current year with gaps. Available data can be obtained from the Miami Conservancy District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CaCO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS Ca) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS Mg) (00925)	SODIUM, DIS- SOLVED (MG/L AS Na) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
AUG 18...	80.40	1190	6.9	-69	16.0	0.2	470	120	42	59	4.7
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L AS CaCO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, DISSOLVED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
AUG 18...	397	319	130	100	0.3	0.15	13.0	671	<0.01	1.30	0.05
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS Fe) (01045)	IRON, DIS- SOLVED (UG/L AS Fe) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS Mn) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS Mn) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
AUG 18...	<0.01	160	10,000	810	480	64	0.6				

**412 GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL
AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO**

393851084171100. Local number, MT-944, Miami Conservancy District name, MT944

LOCATION.--Lat 39°38'51", long 84°17'11", Hydrologic Unit 05080002, approximately 230 feet northwest of north end of Route 25 bridge over Sycamore Creek, 42 feet west of toe of levee, southwest of maintenance building for City of Miamisburg, Ohio.

OWNER.--Miami Conservancy District

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well, diameter 2 inches, depth 22.4 feet, steel cased, 3 feet of 0.01 inch slotted plastic screen.

INSTRUMENTATION.--Periodic measurement by steel or electric tape by Miami Conservancy District personnel.

DATUM.--Elevation of land surface datum is 692.45 feet above National Geodetic Vertical Datum of 1909. (Levels by Miami Conservancy District).

Measuring point: Top of casing, 1.90 feet above land surface datum.

PERIOD OF RECORD.--1977 to current year with gaps. Available data can be obtained from the Miami Conservancy District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
AUG 10...	9.70	1090	6.9	140	13.5	1.6	430	110	37	46	4.4
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF UNITS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
AUG 10...	415	329	70	100	0.2	0.10	9.3	600	<0.01	3.2	0.01
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
AUG 10...	<0.01	150	20	<3	<10	<1	1.3				

GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODE 413
AND ENVIROMENTAL TRACER STUDY, DAYTON, OHIO

393853084170701. Local number, MT-946, Miami Conservancy District name, MT946
 LOCATION.--Lat 39°38'53", long 84°17'07", Hydrologic Unit 05080002, approximately 15 feet east of levee, approximately 250 feet northwest of north end of Dayton-Cincinnati Pike bridge over Sycamore Creek, southwest of maintenance building for City of Miamisburg, Ohio.
 OWNER.--Miami Conservancy District
 AQUIFER.--Sand and gravel of Pleistocene age.
 WELL CHARACTERISTICS.--Abandoned test well, diameter 6 inches, depth 65 feet.
 INSTRUMENTATION.--None.
 DATUM.--Elevation of land surface datum is 702.74 feet above National Geodetic Vertical Datum of 1909. (Levels by Miami Conservancy District).
 Measuring point: Top of 1 inch nipple welded onto well cap, 0.35 feet above land surface datum.
 PERIOD OF RECORD.--Current year only.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CAO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
AUG 11...	18.30	1120	7.1	79	14.0	0.1	430	110	37	57	3.8
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LINITY WAT-WH DIS- SOLVED (MG/L CAO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
AUG 11...	397	319	57	130	0.2	0.10	8.3	608	0.02	1.7	0.04
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
AUG 11...	<0.01	110	2000	1600	30	22	1.0				

414 GROUND-WATER DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL
AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO

WELL CHARACTERISTICS.--Observation well, diameter 5 inches, depth 145 feet, steel cased, no screen reported.
INSTRUMENTATION.--Periodic measurement by steel or electric tape by Miami Conservancy District personnel.
DATUM.--Elevation of land surface datum is 779.06 feet above National Geodetic Vertical Datum of 1909. (Levels by Miami Conservancy District).
Measuring point: Top of casing, 1.95 feet below land surface datum.
PERIOD OF RECORD.--1958 to current year with gaps. Available data can be obtained from the Miami Conservancy District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1992 TO SEPTEMBER 1993

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	OXIDA- TION-RE- DUCTION POTENT- IAL (MILLI- VOLTS) (00090)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
AUG 09...	30.68	847	7.3	-140	13.5	0.1	410	100	39	15	1.5
DATE	BICAR- BONATE TOT-FET FIELD (MG/L AS HCO3) (99440)	ALKA- LITY WAT-WH DIS- SOLVED (MG/L CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE DIS- SOLVED (MG/L AS F) (00950)	BROM- IDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, DISSOLVED CALCULATED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
AUG 09...	427	342	51	47	0.3	0.15	17	484	<0.01	<0.05	0.21
DATE	PHOSPHORUS DISSOLVED ORTHO- PHOSPHATE (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)				
AUG 09...	<0.01	20	4100	2200	210	180	0.4				

Page	Page
Access to WATSTORE	24
Accuracy of the records	19
Acre-foot, definition of	24
Adenosine triphosphate	25
Adenosine triphosphate, definition of	25
Algae, definition of	25
Algal growth, definition of	25
Aquifer, definition of	25
Artesian, definition of	25
Artificial substrate, definition of	30
Ash mass, definition of	25
Auglaize River near Defiance	47
near Fort Jennings	44
Bacteria, definition of	25
Bacteriological and Selected Water Quality Data of the Cuyahoga River	359
Base Flow Discharges on the Great Miami River project	369
Bath Center, Bath Creek at	92
North Fork at	91
Park Creek at	90
Bath Creek at Bath Center	92
Bath, North Fork at	89
Bed load, definition of	29
Bed material, definition of	25
Bedford, Tinkers Creek at	94
Bed-load discharge, definition of	29
Berea, Rocky River near	85
Biochemical oxygen demand, definition of	25
Biomass, definition of	25
Black River at Elyria	84
Blanchard River near Findlay	46
Blue-green algae, definition of	28
Bottom material (See bed material)	25
Botzum, Yellow Creek at	93
Bridge-scour data	357
Cells/volume. definition of	25
Cfs-day, definition of	26
Chagrin River at Willoughby	109
Chemical oxygen demand, definition of	26
Chlorophyll, definition of	26
Cleveland, Cuyahoga River at	108
Color unit, definition of	26
Conneaut Creek at Conneaut	112
Conneaut, Conneaut Creek at	112
Contents, definition of	26
Continuous-record surface discharge stations, peak discharges and stages at	113
Control structure, definition of	26
Crawford, Tymochtee Creek at	63
Cubic feet per square mile, definition of	26
Cubic foot per second, definition of	26
Cuyahoga River at Hiram Rapids	86
at Independence	95
at LTV Steel at Cleveland	108
at Old Portage	87
Data presentation	16
Data table of daily mean values	17
Defiance, Auglaize River near	47
Maumee River near	48
Definition of terms	24
Diatoms	28
Discontinued stations	VII
Dissolved solids concentrations, definition of	26
Dissolved, definition of	26
Drainage area, definition of	26
Drainage basin, definition of	26
Dry mass, definition of	25
Elyria, Black River at	84
Escherichia coli, definition of	26
Farmer, Unnamed Tributary to Lost Creek near	43
Fecal coliform bacteria, definition of	25
Fecal streptococcal bacteria, definition of	25
Findlay, Blanchard River near	46
Fitchville, Vermilion River near	83
Fort Jennings, Auglaize River near	44
Fremont, Sandusky River near	66
Gage height, definition of	26
Gaging station, definition of	26
Gaging stations, in downstream order, for which records are published	VI
Ghent, Yellow Creek at	88
Grand River near Painesville	110
Green algae, definition of	29
Ground water Records, network stations	115
Ground-Water Records for	
Dayton Area Regional Ground-Water-Flow Model and Environmental	
Tracer Study, Dayton, Ohio, project	376
Dayton Area Regional Ground-Water-Flow Model project	372
Southern Franklin County project	150
Wright-Patterson Air Force Base project	134
Ground-water stations for which records are published	IX
Hardness of water, definition of	27
Highway Deicing Chemicals project	173
Hiram Rapids, Cuyahoga River at	86
Honey Creek at Melmore	64
Huron River at Milan	79
Huron, Old Woman's Creek at Berlin Road near	80
Old Woman's Creek at U.S. 6 at	81
Hydrologic bench-mark stations, definition of	27
Hydrologic conditions for 1992 water year	3
Hydrologic Index stations, definition of	27
Hydrologic unit, definition of	27
Independence, Cuyahoga River at	95
Instantaneous discharge, definition of	26
Introduction	1
Laboratory measurements	21
Lake Erie at Ruggles Beach	82
Latitude-longitude system	14
Lima, Ottawa River at	45
Maumee River at Waterville	49
near Defiance	48
Mean concentration, definition of	30
Mean discharge, definition of	26
Measuring point, definition of	27
Melmore, Honey Creek at	64
Metamorphic stage, definition of	27
Methylene blue active substance, definition of	27
Microgram per kilogram, definition of	27
Micrograms per gram, definition of	27
Micrograms per liter, definition of	27
Milan, Huron River at	79
Milligrams of carbon per area or volume per unit time, definition of	29
Milligrams of oxygen per area or volume per unit time, definition of	29
Milligrams per liter, definition of	27
National Stream-Quality Accounting Network, definition of	27
Natural substrate, definition of	30
North Fork at Bath	89
North Fork at Bath Center	91
Numbering system for wells and miscellaneous sites	14
Old Portage, Cuyahoga River at	87
Old Woman's Creek at Berlin Road near Huron	80
at U.S. 6 at Huron	81
On-site measurements and sample collection	20
Organic mass, definition of	25

	Page		Page
Organism count/area, definition of	27	Summary statistics	17
Organism, count/volume, definition of	27	Surface area, definition of	30
Organism, definition of	27	Surface Water-Quality of selected reservoirs	362
Ottawa River (tributary to Lake Erie) at Lima	45	Surface Water-Quality Records	
at Toledo University, Toledo	41	Arrangement of records	20
Painesville, Grand River near	110	Data Presentation	21
Parameter code, definition of	28	Laboratory Measurements	21
Park Creek at Bath Center	90	Sediment	21
Partial-record station, definition of	28	Water temperature	20
Particle size classification, definition of	28	Surficial bed material, definition of	30
Particle size, definition of	28	Suspended recoverable, definition of	30
Peak discharges and stages at continuous-record surface discharge stations	113	Suspended sediment, definition of	29
Percent composition, definition of	28	Suspended, definition of	30
Periphyton, definition of	28	Suspended, total	31
Pesticides, definition of	28	Suspended, total, definition of	31
Phytoplankton, definition of	28	Suspended-sediment concentration, definition of	29
Picocurie, definition of	28	Suspended-sediment discharge	30
Plankton, definition of	28	Suspended-sediment load	30
Portage River at Woodville	62	Taxonomy, definition of	31
Primary productivity, definition of	29	Terms, definition of	24
Projects		Thermograph, definition of	31
Base Flow Discharges on the Great Miami River	369	Tiffin River at Stryker	42
Bridge-scour data	357	Tiffin, Rock Creek at	65
Fecal indicator studies in the Cuyahoga River	359	Time-weighted average, definition of	31
Ground-Water Data for the Dayton Area Regional Ground-Water-Flow		Tinker Creek at Bedford	94
Model	372	Toledo, Ottawa River at Toledo University	41
Ground-Water Data for the Dayton Area Regional Ground-Water-Flow		Tons per acre-foot, definition of	31
Model and Environmental Tracer Study, Dayton, Ohio	376	Tons per day, definition of	31
Highway Deicing Chemicals	173	Total coliform bacteria, definition of	25
Southern Franklin County	150	Total discharge, definition of	31
Wright-Patterson Air Force Base	134	Total in bottom material, definition of	31
Publications on Techniques of Water-Resources Investigations	37	Total load, definition of	31
Radiochemical program, definition of	29	Total organism count, definition of	28
Records of ground-water quality	23	Total recoverable, definition of	32
Recoverable from bottom material, definition of	29	Total sediment discharge, definition of	30
Reservoirs, Selected, water-quality data	362	Total, definition of	31
Return period, definition of	29	Tymochtee Creek at Crawford	63
Rock Creek at Tiffin	65	Unnamed Tributary to Lost Creek near Farmer	43
Rocky River near Berea	85	Vermilion River near Fitchville	83
Ruggles Beach, Lake Erie at	82	Water year, definition of	32
Runoff in inches, definition of	29	Waterville, Maumee River at	49
Sandusky River near Fremont	66	WDR, definition of	32
Sediment, definition of	29	Weighted average, definition of	32
Seven-day, 10-year low flow, definition of	30	Wet mass, definition of	25
Sodium-adsorption-ratio, definition of	30	Willoughby, Chagrin River at	109
Solute, definition of	30	Woodville, Portage River at	62
Special networks and programs	12	WRD, definition of	32
Specific Conductance, definition of	30	Wright-Patterson Air Force Base, project	134
Stage discharge, definition of	30	WSP, definition of	32
Station identification numbers	12	Yellow Creek at Botzum	93
Statistics of monthly mean data	17	at Ghent	88
Streamflow, definition of	30	Zooplankton, definition of	29
Stryker, Tiffin River at	42		
Substrate, definition of	30		
Summary of hydrologic conditions	3		

CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
<i>Length</i>		
inch (in.)	2.54×10^1	millimeter
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter
mile (mi)	1.609×10^0	kilometer
<i>Area</i>		
acre	4.047×10^3	square meter
	4.047×10^{-1}	square hectometer
	4.047×10^{-3}	square kilometer
square mile (mi ²)	2.590×10^0	square kilometer
<i>Volume</i>		
gallon (gal)	3.785×10^0	liter
	3.785×10^0	cubic decimeter
	3.785×10^{-3}	cubic meter
million gallons (Mgal)	3.785×10^3	cubic meter
	3.785×10^{-3}	cubic hectometer
cubic foot (ft ³)	2.832×10^1	cubic decimeter
	2.832×10^{-2}	cubic meter
cubic-foot-per-second day [(ft ³ /s) d]	2.447×10^3	cubic meter
	2.447×10^{-3}	cubic hectometer
acre-foot (acre-ft)	1.233×10^3	cubic meter
	1.233×10^{-3}	cubic hectometer
	1.233×10^{-6}	cubic kilometer
<i>Flow</i>		
cubic foot per second (ft ³ /s)	2.832×10^1	liter per second
	2.832×10^1	cubic decimeter per second
	2.832×10^{-2}	cubic meter per second
gallon per minute (gal/min)	6.309×10^{-2}	liter per second
	6.309×10^{-2}	cubic decimeter per second
	6.309×10^{-5}	cubic meter per second
million gallons per day (Mgal/d)	4.381×10^1	cubic decimeter per second
	4.381×10^{-2}	cubic meter per second
<i>Mass</i>		
ton (short)	9.072×10^{-1}	megagram or metric ton

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

USGS LIBRARY - RESTON



3 1818 00154601 7

U.S. DEPARTMENT OF THE INTERIOR
U.S. Geological Survey
975 West Third Avenue
Columbus, OH 43212
