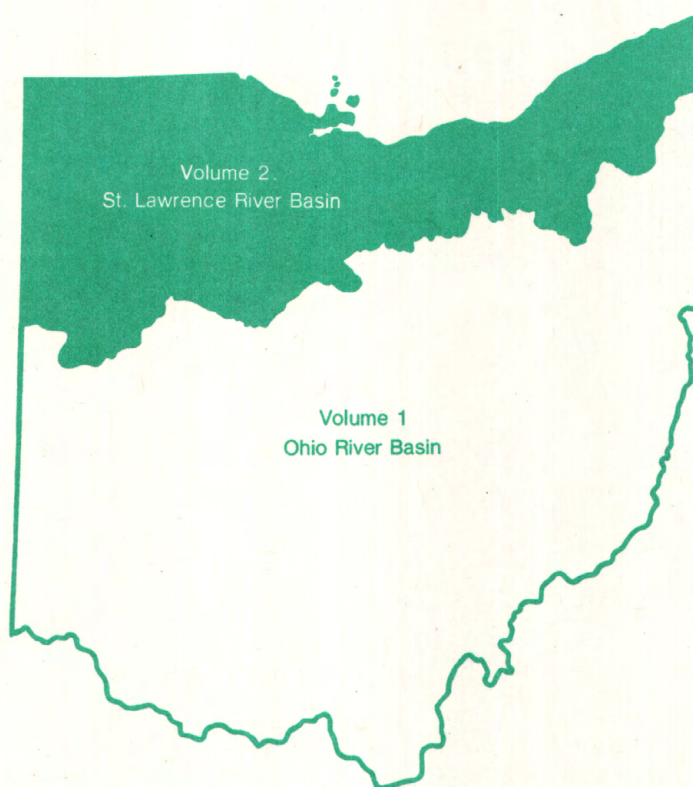
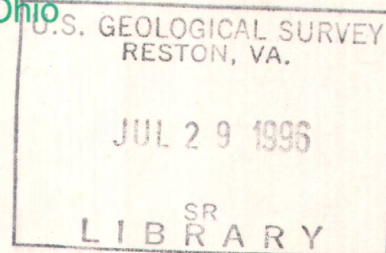


Water Resources Data Ohio Water Year 1995

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



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT OH-95-2
Prepared in cooperation with the State of Ohio
and with other agencies



CALENDAR FOR WATER YEAR 1995

1994

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1995

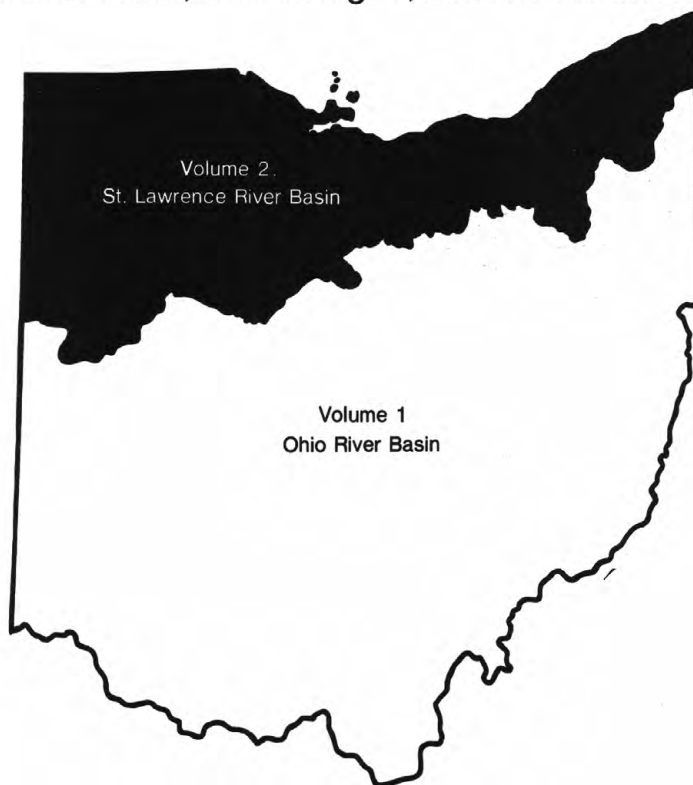
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30	31																			



Water Resources Data Ohio Water Year 1995

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-95-2
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

Gordon P. Eaton, Director

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

**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
1996**

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:

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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.

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

VII

(Letter after station name designates type of data: (c) miscellaneous chemical measurements, (C) daily chemical data, (d) discharge, (e) contents and (or) elevation, (HBM) 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		Page
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04177000	Ottawa River at Toledo University, Toledo (d)	39
04185000	Tiffin River at Stryker (d)	40
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04186500	Auglaize River near Fort Jennings (d)	42
04187100	Ottawa River at Lima (d)	43
04189000	Blanchard River near Findlay (d)	44
04191500	Auglaize River near Defiance (d)	45
04192500	Maumee River near Defiance (d)	46
04193500	Maumee River at Waterville (dS)...(NASQAN)	47
04195500	Portage River at Woodville (d)	52
04196800	Tymochtee Creek at Crawford (d)	53
04197100	Honey Creek at Melmore (d)	54
04197170	Rock Creek at Tiffin (d)	55
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04199000	Huron River at Milan (d)	60
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VIII

DISCONTINUED SURFACE-WATER STATIONS - ST. LAWRENCE RIVER BASIN

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]

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	1926-32
MAUMEE R AT ANTWERP (d)	04183500	2,129	1922-35 1939-82
MAUMEE R NR SHERWOOD (d)	04184000	2,275	1903-06
BEAN C AT POWERS (d)	04184500	206	1941-81
TIFFIN R NR BRUNERSBURG (d)	04185500	736	1928-36
MIAMI & ERIE CA AT DELPHOS (d)	04186000	--	1928-33
OTTAWA R AT ALLENTOWN (d)	04187500	160	1924-36 1943-82
OTTAWA R AT KALIDA (d)	04188000	309	1930-36
EAGLE CR NR FINDLAY (d)	04188500	55.0	1947-57
BLANCHARD R AT GLANDORF (d)	04189500	644	1921-28 1947-52
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	--	1925-29 1953-69
MIAMI & ERIE CA AT WATERVILLE (d)	04193000	--	1921-29
SWAN C AT TOLEDO (d)	04194000	199	1945-48
PORTAGE R NR PEMBERVILLE (d)	04194500	337	1930-35
N B PORTAGE R NR BOWLING GREEN (d)	04195000	45.1	1924-32
LACARPE CR NR OAK HARBOR (d)	04195825	2.95	1988-92
BAYOU DITCH NR OAK HARBOR (d)	04195830	2.82	1988-92
SANDUSKY R NR BUCYRUS (d)	04196000	88.8	1925-36 1938-52 1964-82
BROKEN SWORD C AT NEVADA (d)	04196200	83.8	1976-82
SANDUSKY R NR UPPER SANDUSKY (d)	04196500	298	1922-35 1938-82
TYMOCHTEE C NR MARSEILLES (d)	04196600	137	1970-74
SANDUSKY RIVER NR MEXICO (d)	04197000	774	1923-36 1938-83
HONEY C NR NEW WASHINGTON (d)	04197020	17	1976-90
WOLF C AT BETTSVILLE (d)	04197300	66.2	1976-82
E B WOLF C NR BETTSVILLE (d)	04197450	82.4	1976-82
HAVENS C AT HAVENS (d)	04197500	4.28	1946-49
E B HURON R NR NORWALK (d)	04198500	85.5	1924-35
OLD WOMAN'S CREEK AT BERLIN ROAD NR HURON (d)	04199155	22.1	1988-94
OLD WOMAN'S CREEK AT U.S. 6 AT HURON	04199165	26.5	1980-94
LAKE ERIE AT RUGGLES BEACH	04199175		1987-94
VERMILION R NR FITCHVILLE	04199287	112	1978-89 1991-93
VERMILION R NR VERMILION	04199500	262	1950-81
E B BLACK R AT ELYRIA (d)	04200000	217	1922-36
W B BLACK R AB LAKE ST AT ELYRIA (d)	04200430	174	1980-85
CUYAHOGA RIVER NR KENT (d)	04202500	210	1934-35
BREAKNECK C NR KENT (d)	04203000	77.6	1927-35
L CUYAHOGA R AT MOGADORE (d)	04204000	14.3	1946-79
CUYAHOGA R AT MASSILLON RD AKRON (d)	04204500	31.6	1946-74
SPRINGFIELD LAKE OUTLET AT AKRON (d)	04205000	9.72	1946-49 1961-74
L CUYAHOGA R AT AKRON (d)	04205500	44.4	1920 1928-34
L CUYAHOGA R BL OHIO CA AT AKRON (d)	04205700	59.2	1974-80
CUYAHOGA R AT IRA (d)	04206250	478	1973-80
OHIO CANAL FEEDER AT BRECKSVILLE (d)	04207000	--	1923-24
OHIO CA AT INDEPENDENCE (d)	04207500	--	1922-23 1927-36 1941 1949-81
BIG C AT CLEVELAND (d)	04208502	35.3	1973-86
EUCLID C NR EUCLID (d)	04208690	22.6	1977-80 1983-86
CHAGRIN R AT WILLOUGHBY (d)	04209000	246	1925-35 1940-84 1988-94
GRAND R NR NORTH BRISTOL (d)	04209500	85.4	1942-47

DISCONTINUED SURFACE-WATER STATIONS - ST. LAWRENCE RIVER BASIN

IX

Station Name	Station Number	Drainage Area (mi2)	Period of Record
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	1942-66
MILL C NR JEFFERSON (d)	04211500	82.0	1942-75
GRAND R NR MADISON (d)	04212000	581	1923-35 1938-74
ASHTABULA R NR ASHTABULA (d)	04212500	111	1924-36 1939-48 1950-80

-- not determined for canals.

DISCONTINUED SURFACE-WATER-QUALITY STATIONS - ST. LAWRENCE RIVER BASIN

The following stations were discontinued as continuous-record surface-water-quality stations prior to the 1995 water year. Daily records of temperature, specific conductance, pH, dissolved oxygen or sediment were collected and published for the record shown for each station.

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., pH	1966-70 1973-78
TIFFIN R AT EVANSPOET	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., D.O., pH	1969-82 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 Sed.	1966-76 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 D.O. Sed.	1950-52 1970-80 1950-53
SANDUSKY R NR UPPER SANDUSKY	04196500	298	Temp., S.C., D.O., pH	1969-79 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., D.O., pH	1969-76 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. S.C. Sed.	1962-70 1964-70 1980-81
BLACK R BL ELYRIA	04200550	412	Temp., S.C., D.O. pH	1966-82 1976-82
CUYAHOGA R AT OLD PORTAGE	04205700	59.2	Temp., S.C., D.O., pH Sed.	1970-84 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. Temp., S.C., D.O., pH	1965-72 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 STREET BRIDGE	04208506	798	Temp., S.C., D.O., pH	1966-87
CUYAHOGA R AT SUPERIOR ST BRIDGE IN CLEVELAND	04208510	808	Temp., S.C., D.O., pH	1964-66
CHAGRIN R AT WILLOUGHBY	04209000	246	Temp Sed.	1950 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 - ST. LAWRENCE RIVER BASIN XI

<u>Well Number</u>	<u>Local Number</u>	<u>Location</u>	<u>Page</u>
CRAWFORD COUNTY			
404838082563100	CR-1	Bucyrus	86
HANCOCK COUNTY			
405940083275500	HA-3	North of Vanlue	87
HARDIN COUNTY			
404648083412600	HN-2A	Southeast of Dola	88
HENRY COUNTY			
412123083574000	HY-2	Southwest of McClure	89
LUCAS COUNTY			
413704083362200	LU-1	Toledo	90
MEDINA COUNTY			
410142082005900	MD-1	Lodi	91
OTTAWA COUNTY			
413434082494000	O-2	Catawba Island	92
PUTNAM COUNTY			
405505084032900	PU-1	Columbus Grove	93
SANDUSKY COUNTY			
411914083045300	S-3	Freemont	94
412703083213600	S-2	Woodville	95
SENECA COUNTY			
410802083093900	SE-2	Tiffin	96
SUMMIT COUNTY			
410330081282000	SU-6	Akron	97
410846081271600	SU-7	Cuyahoga Falls	98
VAN WERT COUNTY			
405215084335400	VW-1	Van Wert	99

XII GROUND-WATER STATIONS FOR WHICH RECORDS ARE PUBLISHED - ST. LAWRENCE RIVER BASIN

<u>Well Number</u>	<u>Local Number</u>	<u>Location</u>	<u>Page</u>
WILLIAMS COUNTY			
412821084313600	WM-1	Bryan.....	100
412930084320900	WM-3	Bryan.....	101
413108084415300	WM-12	East of Blakeslee.....	102
WYANDOT COUNTY			
405009083172600	WY-1	Upper Sandusky	103

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 (a water year is the 12-month period from October 1 through September 30 and is identified by the calendar year in which it ends) pertaining to the water resources of Ohio. These data, accumulated during many years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the USGS, they are published annually in this report series entitled "Water Resources Data--Ohio."

This report (in two volumes) includes records on surface water and ground water in the State. Specifically, it contains: (1) Discharge records for streamflow-gaging stations, miscellaneous sites, and crest-stage stations; (2) stage and content records for streams, lakes, and reservoirs; (3) water-quality data for streamflow-gaging stations, wells, synoptic sites, and partial-record sites; and (4) water-level data for observation wells. Locations of lake- and streamflow-gaging stations, water-quality stations, and observation wells for which data are presented in this volume are shown in figures 9a through 9d. The data in this report represent that part of the National Water Data System collected by the USGS and cooperating State and Federal agencies in Ohio.

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

Prior to the introduction of this series, and for several years concurrent with it, water-resources data for Ohio were published in a series of USGS Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage through September 1960 were published annually under the title "Surface-Water Supply of the United States, Parts 3 and 4." For the 1961 through 1970 water years, the data were published in two 5-year reports. Data on 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 U.S. Geological Survey, Open-File Reports Section, Box 25286, Mail Stop 517, 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-95-2". 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.

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.

COOPERATION

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

U. S. Air Force, Air Force Materiel Command, Aeronautical Systems Center,
Environmental Management Directorate, Restoration Branch, David Lawrence, Chief;
U. S. Army Corps of Engineers,
Buffalo District, Walter C. Neitzke, Commander,
Huntington District, Richard W. Jemiola, Commander,
Louisville District, Ralph Grieco, Commander,
Pittsburgh District, Stephen B. Massey, Commander;
U. S. Bureau of Mines, Dave Hyman, Supervisory Physical Scientist/Geologist;
U. S. Environmental Protection Agency, Region V, Luanne Vanderpool;
U. S. Forest Service, Marsha Wikle, Forester;
Ohio Department of Natural Resources, Donald C. Anderson, Director;
Ohio Department of Transportation, Jerry H. Wray, Director;
Madison County, Robert Edwards, President County Board of Commissioners;
Ross County, James Kennard, Administrative Assistant;

WATER RESOURCES DATA FOR OHIO, 1995

Summit County, Jeffrey Lintern, Director and Paul G. Swanson, County Engineer;
 Washington County Board of Commissioners, Sandra Matthews, Commissioner;
 City of Akron, Linda A. Sowa, Director of Public Service;
 City of Canton, Michael L. Miller, Director of Public Service;
 City of Columbus, Water Division, John R. Doult, Administrator;
 City of Fremont, Terry M. Overmyer, Mayor;
 City of Lima, David J. Berger, Mayor and Alice Godsey, City Sanitary Engineer;
 Eastgate Development and Transportation Agency, John R. Getchey, Director and
 James T. Wells, Environment Project Manager;
 Miami Conservancy District, James L. Rozelle, General Manager and Chief Engineer;
 Northeast Ohio Regional Sewer District, Erwin J. Deal, Executive Director;
 Ohio State University Research Foundation, Silvana Famboni, Associate Director;
 University of Toledo, Ronald Gallagher.

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 Kanawha 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.

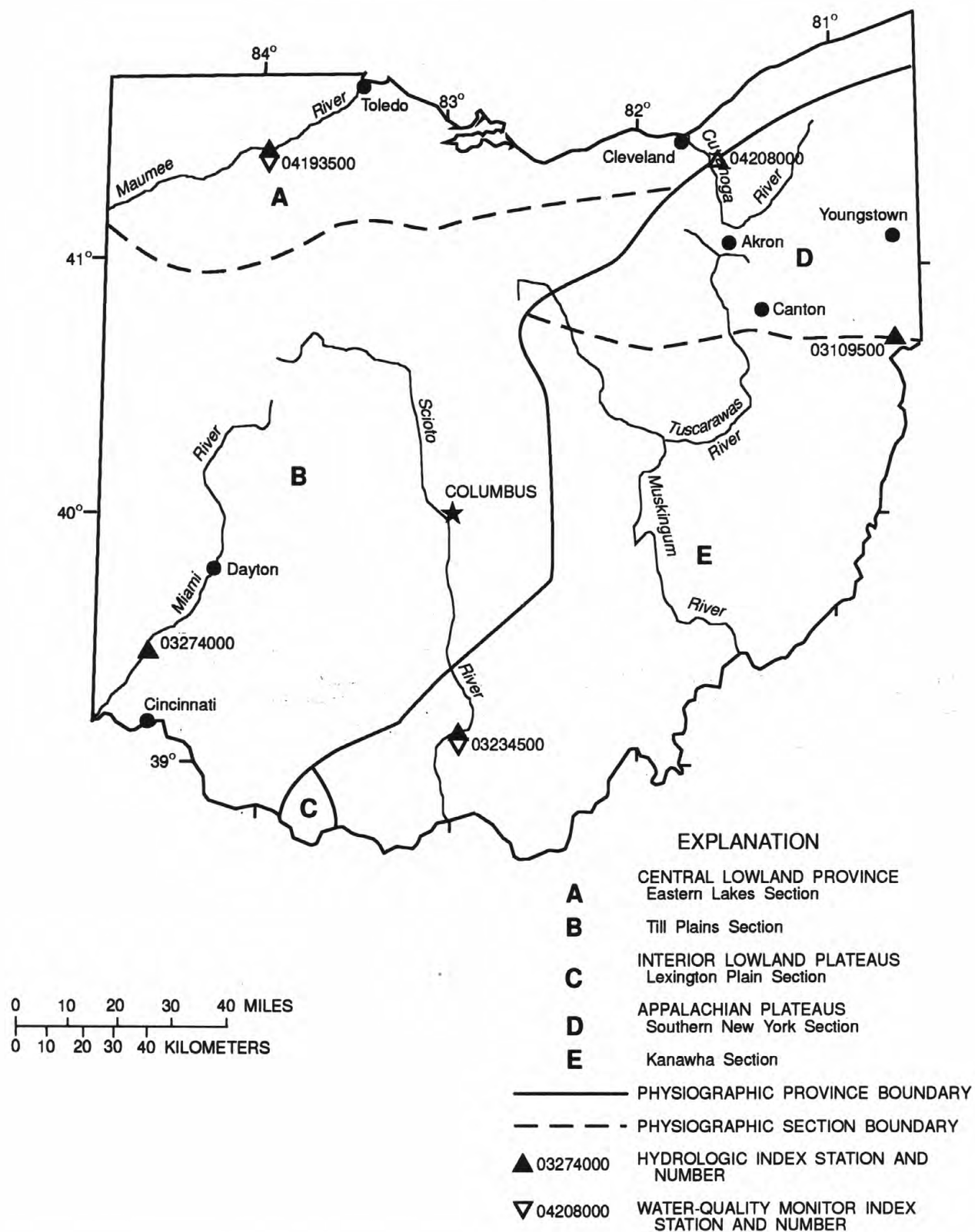


Figure 1. Physiographic divisions and location of Hydrologic Index Stations.

SURFACE WATER

Streamflow

Streamflow-data-collection stations are distributed irregularly throughout the State, and tend to be concentrated on the main river systems. The stations are used to sample a wide variety of conditions. The drainage areas range from 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 1995

At the beginning of water year 1995, streamflow was deficient in parts of western Ohio and in the normal¹ range throughout the remainder of the State. Streamflow declined statewide in response to October's below-normal precipitation, and deficient flows prevailed through November. Normal to above-normal precipitation brought streamflow back into the normal range in December and January.

Deficient flows prevailed during February and March due to below-normal precipitation statewide. Streamflow throughout much of the State returned to the normal range in response to above-normal precipitation in April.

The period May through August was characterized by above-normal flows throughout most of the State due to generally above-normal precipitation. In September, streamflow declined into the normal range in southern Ohio and into the deficient range in northern Ohio in response to below-normal precipitation statewide.

Water Quality

On a short-term basis, water-quality data in Ohio are collected in conjunction with local or regional studies. On a long-term basis, water-quality data in Ohio are collected at fixed stations. Four 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. In 1995, samples were collected quarterly at the NASQAN and Benchmark stations. Within the fixed-interval framework, sampling time is varied so that samples are collected over a range of streamflows. Samples are analyzed for major anions and cations, nutrients, trace elements, suspended sediment, selected physical properties, and fecal coliform and fecal streptococci bacteria.

Box plots of discharge and concentrations of selected constituents measured during 1985-94 are shown in figures 3 and 4 for three of the four NASQAN sampling locations: the Cuyahoga River at Independence (pasture and woodlands in the headwaters and extensive urban and industrial areas downstream), the Grand River near Painesville (orchard and nursery crops and some urban and industrial areas), and the Maumee River at Waterville (row crop/heavy agriculture upstream and urban and industrial areas downstream). For the fourth NASQAN station sampled in 1995, the Great Miami River at Hamilton, long-term data were not available. Results of analysis of samples collected in water year 1995 are superimposed on the box plots and are represented by solid circles.

The ranges of instantaneous discharge for 1995 were similar to those in the previous 10-year period for the Cuyahoga and Maumee Rivers. Two samples from the Grand River, however, were collected at extremely low flow (4 and 20 cubic feet per second).

Chloride concentrations, commonly associated with municipal or industrial point sources of wastewater, generally followed the distribution of concentrations measured during the previous 10-year period in the Cuyahoga and Grand Rivers. In the Grand River Basin, chloride concentrations seem to have declined from the high concentrations found in previous years.

None of the streams sampled had nitrate concentrations exceeding the U.S. Environmental Protection Agency maximum contaminant level for finished drinking water, 10 milligrams per liter (as N). In Ohio, fertilizers are a major source of nitrate. The highest concentrations of nitrate plus nitrite in water year 1995 were found in the Maumee River. Concentrations in the Maumee River were highly variable and ranged from 0.71 to 8.7 milligrams per liter. Concentrations in the Cuyahoga River ranged from 1.6 to 4.7 milligrams per liter. Concentrations from the Grand River did not vary greatly and were less than 1 milligram per liter.

Agricultural runoff and municipal and industrial point sources are the principal sources of phosphorus in Ohio. Increased phosphorus concentrations may lead to a high rate of production of plant materials in water and eutrophication of the receiving water. Total phosphorus concentrations were greatest and most variable in the Maumee River, ranging from 0.12 to 0.35 milligrams per liter. Concentrations in the Cuyahoga and Maumee Rivers were similar to concentrations found in the previous 10-year period.

For all streams sampled, fecal coliform concentrations for water year 1995 were similar to concentrations found in the previous 10-year period.

At the Grand River near Painesville dissolved-solids concentrations were less than the median and the extremely high concentrations found in previous years. For the other sites, however, dissolved-solids concentrations for water year 1995 were similar to those for 1985-94.

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

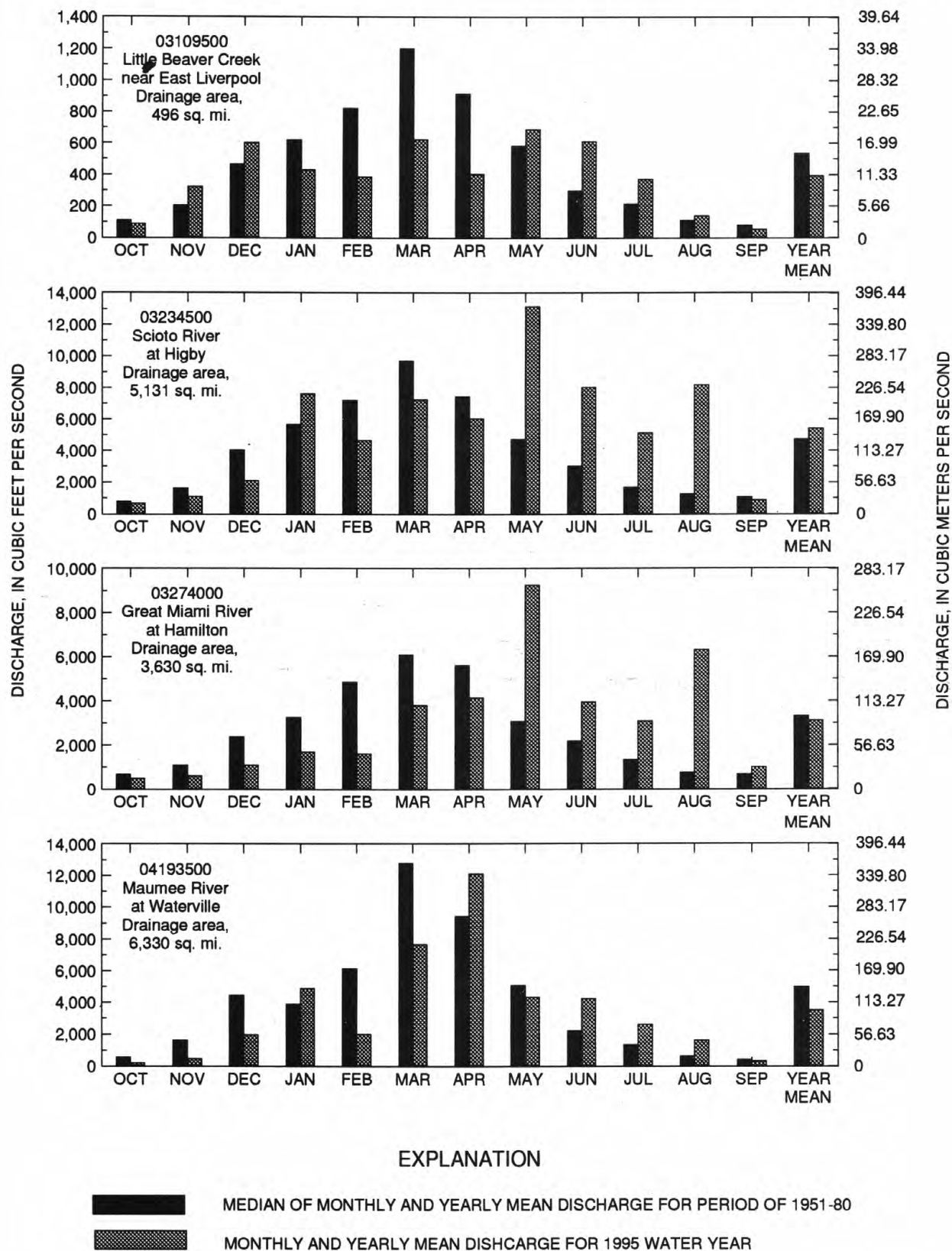


Figure 2. Discharge during 1995 water-year compared with median discharge for period 1951-80 for four representative gaging stations.

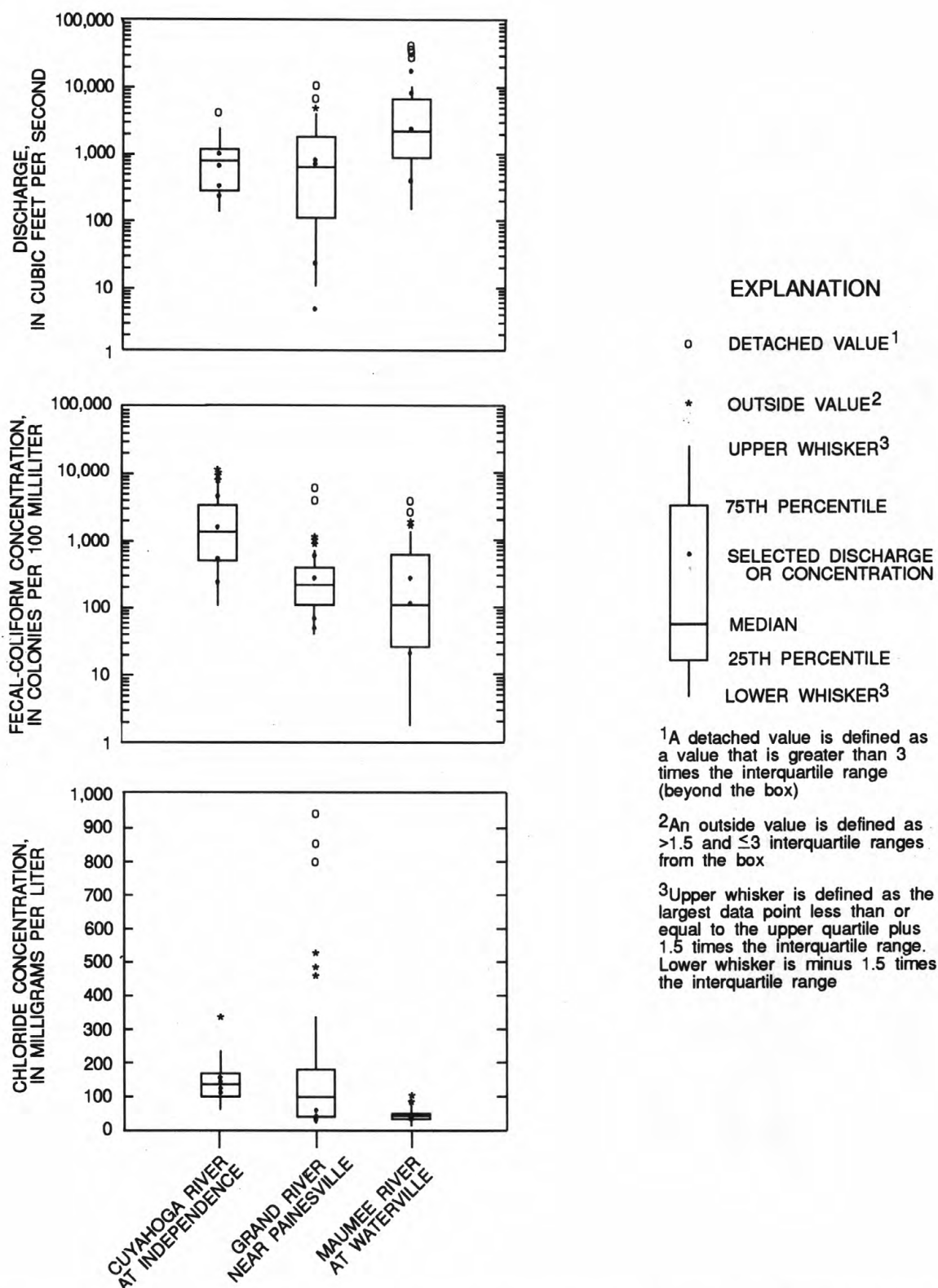


Figure 3. Discharge, fecal-coliform, and chloride concentrations measured in water year 1995 and the distribution of those constituents from measurements made during water years 1984-1994 at NASQAN stations.

GROUND WATER

Ground water serves the needs of 45 percent of Ohio's population. An estimated 658 million gallons of ground water per day is withdrawn for public supply, domestic, industrial, and agricultural purposes. Many people in Ohio depend on ground water as the only practical source of supply.

Ohio's unconsolidated aquifers are composed of either coarse- or fine-grained sediments. Both types are composed mainly of materials of glacial origin. The coarse-grained unconsolidated aquifers generally consist of highly permeable sand and gravel. Much of the sand and gravel is alluvium derived from glaciofluvial outwash along the courses of some modern streams; thus, these aquifers sometimes are referred to as "watercourse" aquifers. Coarse-grained unconsolidated aquifers in the northwestern corner of the State (fig. 5) 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. 5) that yields only small amounts of water to wells. Silurian-age limestone and dolomite and Devonian limestone comprise the carbonate aquifer system (fig. 5) 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 6. 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 7. The yearly low for most wells occurs during the winter months, especially in cold, dry years or near the end of the growing season. Highs for the year usually occur from March through June, which is the peak of the recharge season. The yearly water-level fluctuation due to climatic conditions in water-table and confined-aquifer wells is commonly 3 to 5 feet, but can be as much as 10 feet.

At the beginning of water year 1995, ground-water levels were generally below normal² throughout Ohio. Seasonal declines prevailed during October, and seasonal near-record lows were established by month's end. Ground-water levels stabilized during November and December and remained in the below-normal range.

Net rises in ground-water levels were noted throughout Ohio during January and February in response to above-normal precipitation; however, levels were generally below normal, particularly in the eastern part of the State. Net rises continued through March and April, but ground-water levels remained below normal and were at or near seasonal record lows in eastern Ohio.

Ground-water levels rose statewide in response to above-normal precipitation in May and June. Water levels were near normal in the western two-thirds of the State and below normal in eastern Ohio. The remainder of the year was characterized by seasonal declines with ground-water levels near normal in western Ohio and below normal in eastern Ohio.

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.

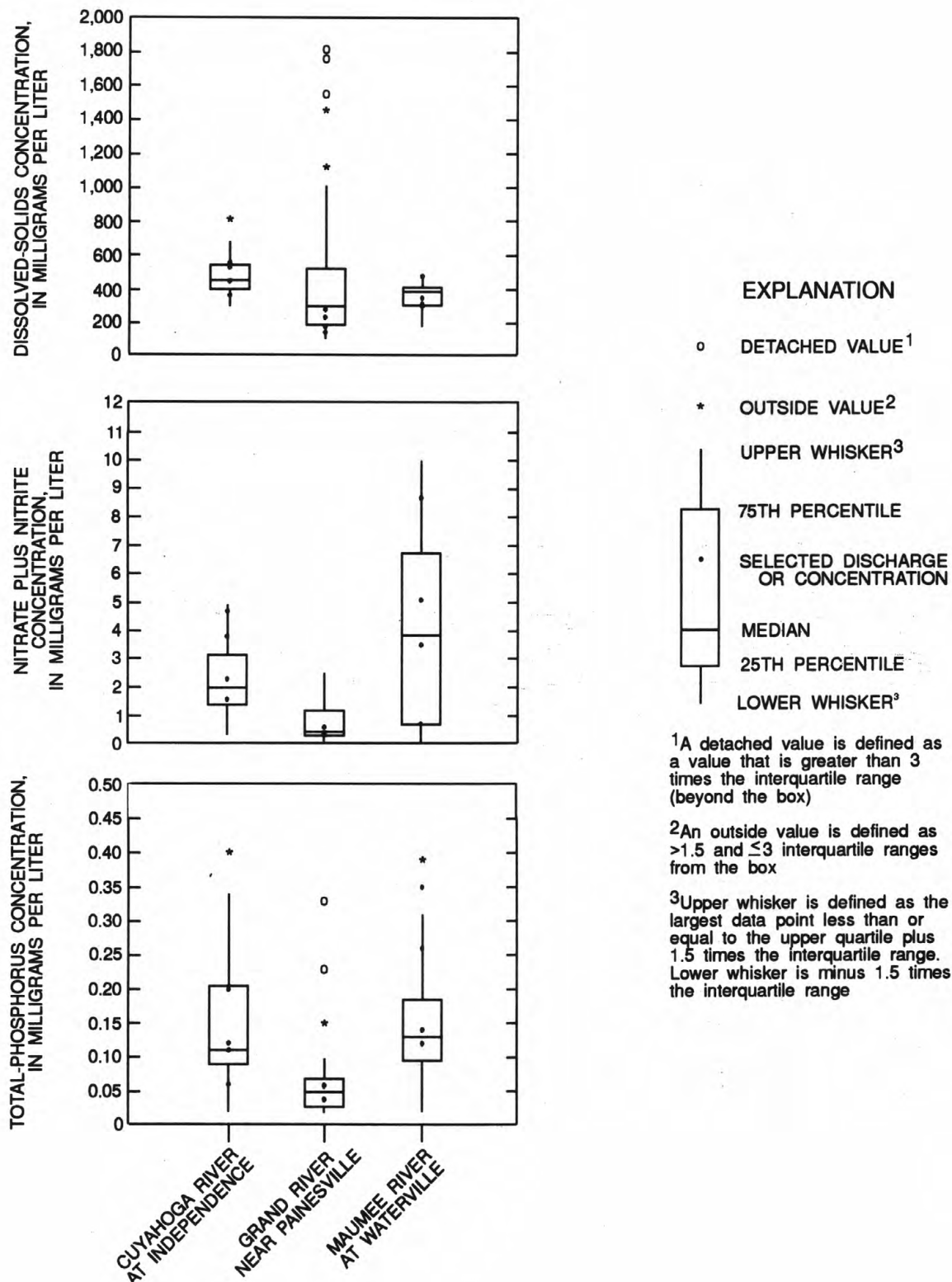


Figure 4. Dissolved-solids, nitrate plus nitrite, and total-phosphorus concentrations measured in water year 1995 and the distribution of those constituents from measurements made during waters years 1984-1994, at NASQAN stations.

SPECIAL NETWORKS AND PROGRAM

Hydrologic Bench-Mark Network is a network of 53 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

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 142 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 Water Resources Council. The objectives of NASQAN are (1) 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, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

NASQAN was redesigned in 1995 and will be known as NASQAN II beginning in 1996. NASQAN II will focus on four of the largest river basins in the Nation-- the Mississippi, the Columbia, the Colorado, and the Rio Grande. The objective of NASQAN II is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents; (2) to test findings of the National Water-Quality Assessment Program (NAWQA); (3) to characterize processes unique to large-river systems such as storage and re-mobilization of sediments and associated contaminants; and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals.

The National Trends Network (NTN) is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of wet atmospheric deposition, which includes snow, rain, sleet and hail. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP).

The National Water-Quality Assessment (NAWQA) Program of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water-quality conditions for a large, diverse, and geographically distributed part of the Nation's ground- and surface-water resources, and to identify, describe, and explain the major natural and human factors that affect these observed conditions and trends.

Assessment activities have begun in about two-thirds of the study units and ultimately will be conducted in 60 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

Radiochemical Programs 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 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 1995 water year that began October 1, 1994, and ended September 30, 1995. 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.

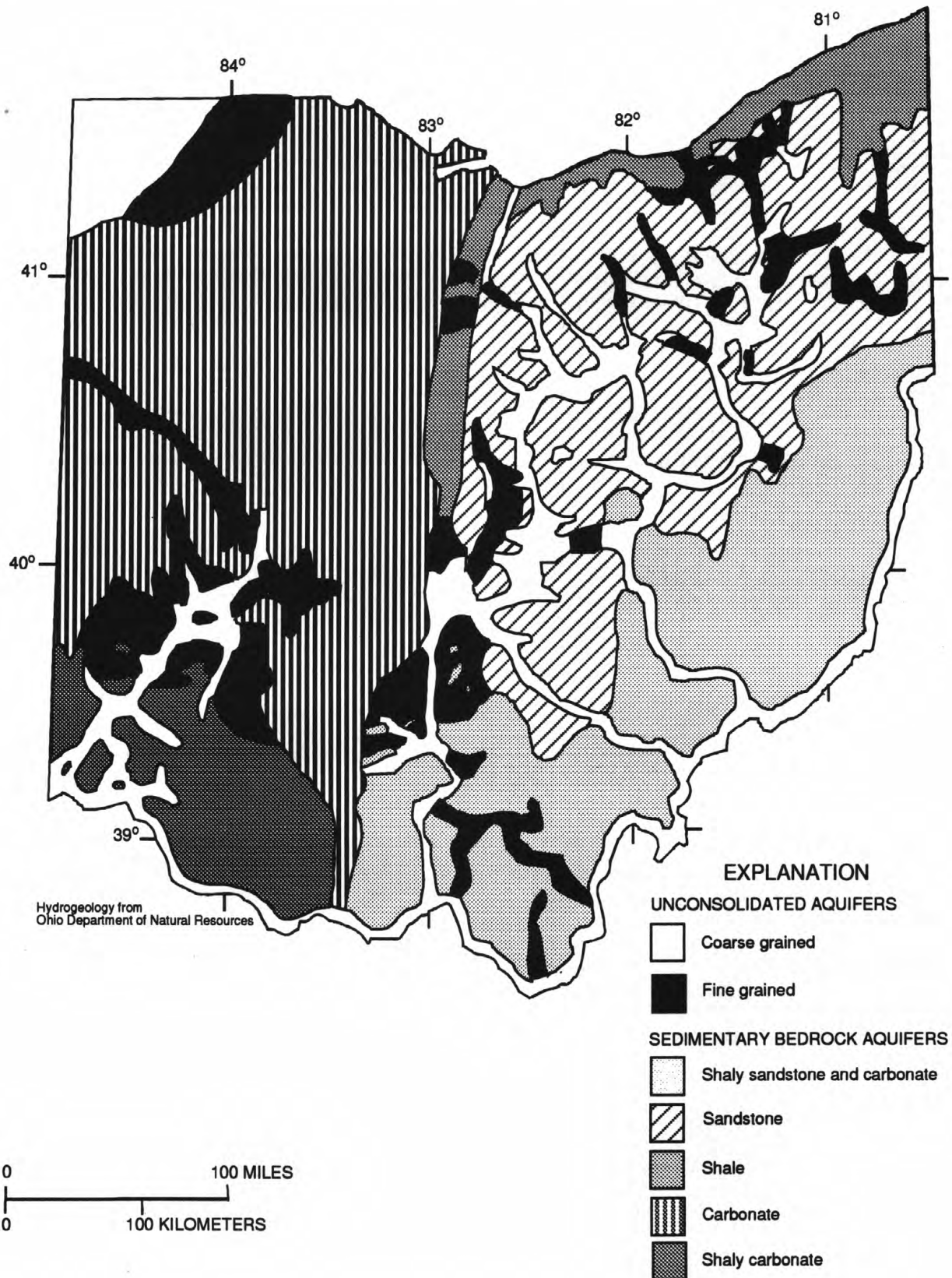


Figure 5. Geographic distribution of principal aquifers in Ohio.

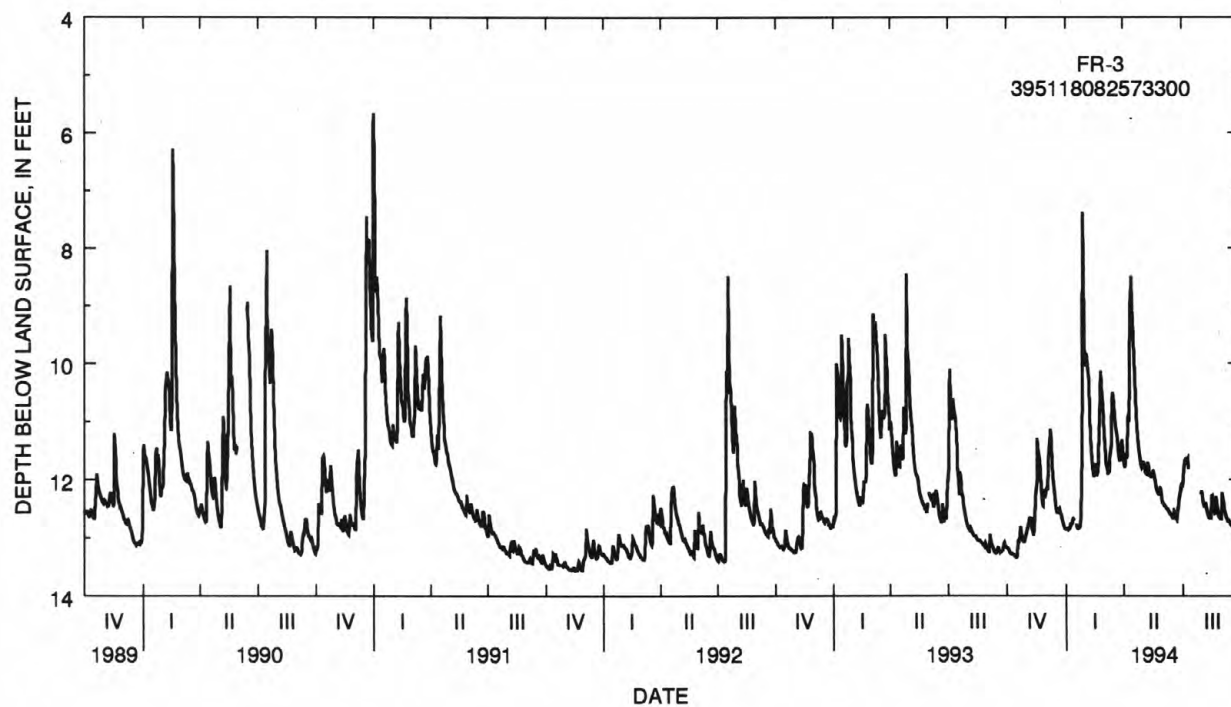
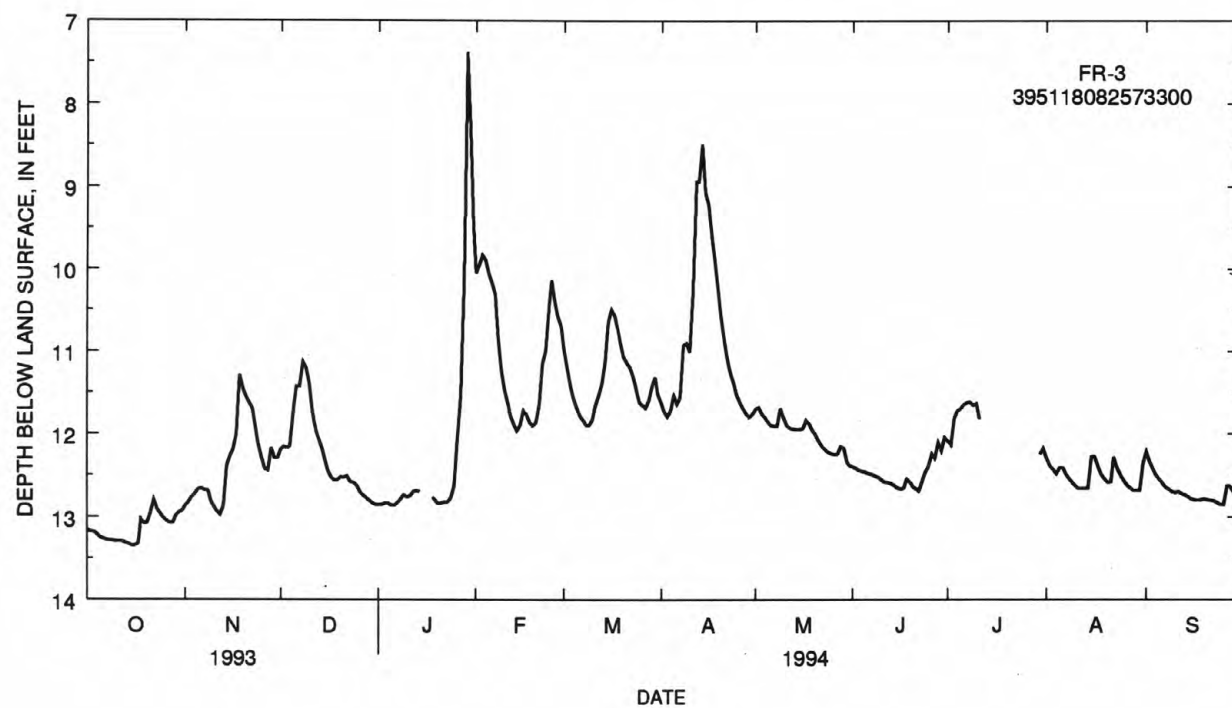


Figure 6. Sample 1-year and 5-year hydrographs of a well completed in an unconfined unconsolidated aquifer.

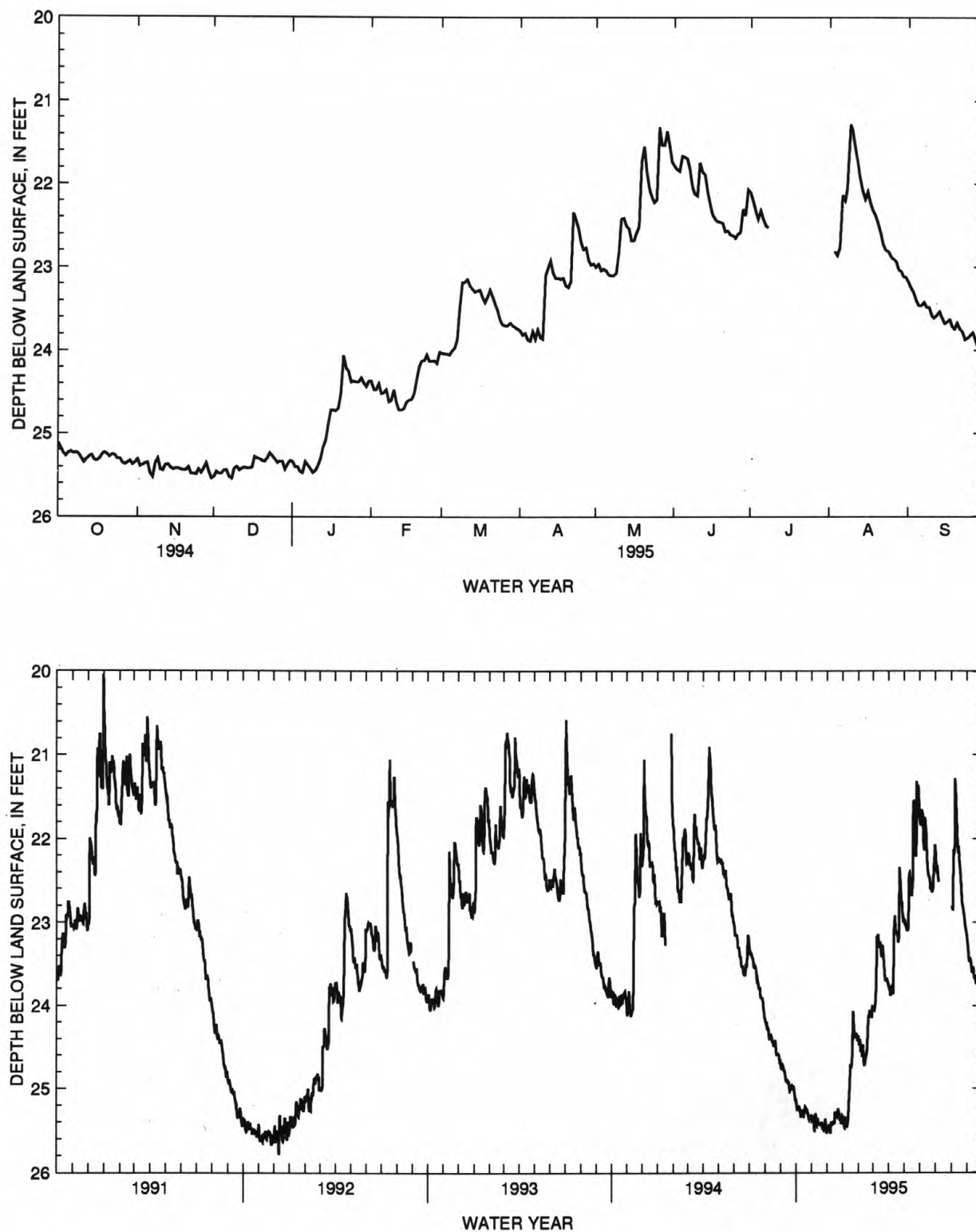


Figure 7. Sample 1-year and 5-year hydrographs of well U-4 (401826083255200), completed in an confined carbonate-rock aquifer.

STATION IDENTIFICATION NUMBERS

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

Downstream Order System

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

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

Latitude-Longitude System

The identification numbers for wells and miscellaneous surface-water sites are assigned according to the grid system of latitude and longitude. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the wells or other sites within a 1-second grid. In the rare instance where the initial determination of latitude and longitude are found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the "LOCATION" paragraph of the station description. (See figure 8.)

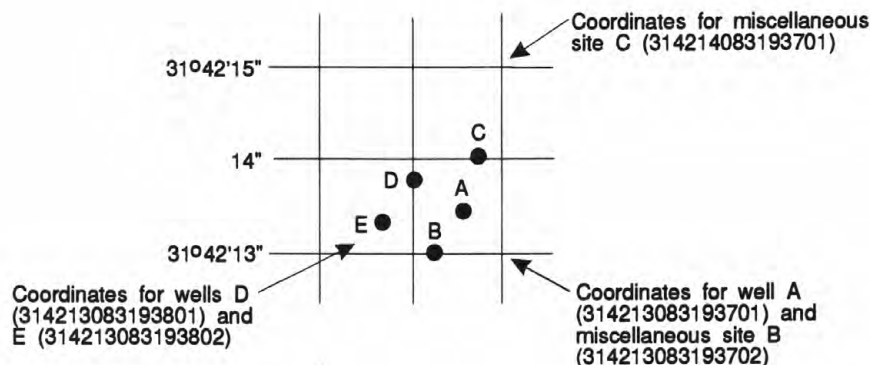


Figure 8. System for numbering wells and miscellaneous sites (latitude and longitude).

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 often without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of a partial record is indicated by table titles such as "CREST-STAGE PARTIAL RECORDS," or "LOW-FLOW PARTIAL RECORDS." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report. Location of all complete-record and crest-stage stations for which data are given in this volume are shown in figures 9a through 9d.

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 consist 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 USGS as a result of experience accumulated since 1880. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in USGS Techniques of Water-Resources Investigations, Book 3, Chapter A6.

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

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

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

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

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

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

Data Presentation

The records published for each gaging station consist of two parts--the manuscript or station description and the data table for the current water year. 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 USGS by a cooperating organization are identified here.

EXTREMES FOR PERIOD OF RECORD.--Extremes for period of record is presented as a separate paragraph where outside summary statistical period. 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 OUTSIDE PERIOD OF RECORD.--Included here is information concerning major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by USGS.

PEAK DISCHARGES ABOVE BASE FOR CURRENT YEAR.--Presented as a separate table. For stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge are presented under this heading. All peaks greater than the base discharge are listed with the maximum for the year footnoted by an asterisk (*). Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial regulation or at locations where the instantaneous peak discharge does not exceed the mean daily discharge by 10 percent. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330.

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

Although rare, occasionally the records of a discontinued 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 SEVEN-DAY MINIMUM" statistic, are calculated for the designated period using complete water years. The other statistical characteristics may be calculated using partial water years.

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

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

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

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

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

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

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

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

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

INSTANTANEOUS PEAK FLOW.--The maximum instantaneous stage occurring for the water year or for the designated period. Note that secondary instantaneous peak discharges above a selected base discharge are given in table "PEAK DISCHARGES AND STAGES AT CONTINUOUS-RECORD SURFACE DISCHARGE STATIONS."

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

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

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

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

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

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

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

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

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

Identifying Estimated Daily Discharge

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

Accuracy of the Records

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

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

Daily mean discharges in this report are given to the nearest hundredths of a cubic foot per second for values less than 1 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 of runoff, in inches, are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Records Available

Records of discharge, ground water, reservoir contents, and water quality not published by the USGS 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 USGS. 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 or recorded electronically. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recording; however, because of cost, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this volume are shown in figures 9a and 9b.

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."

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. A4, and USGS Open-File Report 93-125 "Methods of Analysis by the U.S. Geological Survey National Water Quality Laboratory--Determination of Inorganic and Organic Constituents in Water and Fluvial Sediments." The TWRI references are listed in this report. Also, detailed information on collecting, treating, and shipping samples may be obtained from the USGS 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 USGS District Office, whose address is given on the back of the title page of this report.

Water Temperatures

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

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

Sediment

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

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

collected, daily loads of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

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

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

Laboratory Measurements

Sediment samples, samples for biochemical oxygen demand (BOD), and daily samples for specific conductance are analyzed locally. All other samples are analyzed in the USGS 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 USGS laboratory are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A4, and USGS Open-File Report 93-125 "Methods of Analysis by the U.S. Geological Survey National Water Quality Laboratory--Determination of Inorganic and Organic Constituents in Water and Fluvial Sediments."

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 (1995) dissolved trace-element concentrations are reported herein for water that was collected, processed, and analyzed by using either ultraclean or other than ultraclean techniques. If ultraclean techniques were used, then those concentrations are reported in nanograms per liter. If other than ultraclean techniques were used, then those concentrations are reported in micrograms per liter and could reflect contamination introduced during some phase of the procedure.

Data Presentation

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

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

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

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

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

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

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

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

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

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the USGS computerized data system, the National Water Data Storage and Retrieval 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 USGS 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 value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptable range (non-ideal colony count)
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted)
D	Biological organism count equal to or greater than 15 percent (dominant)
&	Biological organism estimated as dominant

Dissolved Trace-Element Concentrations

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

Change in National Trends Network procedures

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

RECORDS OF GROUND-WATER LEVELS

Water-level data from a network of observation wells (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 figures 9c and 9d. Water-level data for specific projects are reported under those projects.

Data Collection and Computation

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

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

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

Data Presentation

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

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

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

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

DATUM.--This entry describes both the measuring point and the land-surface altitude at the well. The measuring point is described physically (such as top of collar, notch in top of casing, plug in pump base, and so on), and in relation to land surface (such as 1.3 ft above land-surface datum). The altitude of the land-surface datum is described in feet above (or below) 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-USGS) observers.

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

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

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

RECORDS OF GROUND-WATER QUALITY

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

Data Collection and Computation

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

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

Data Presentation

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

ACCESS TO WATSTORE DATA

The USGS 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 USGS'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. 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 USGS 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 USGS 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 USGS 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 USGS opened WATSTORE to the public for direct access. The signing of a Memorandum of Agreement with the USGS 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 incurred. 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. 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.)

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/m).

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, ft³/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

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

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

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

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

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

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

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

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

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

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

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

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

Hydrologic Bench-Mark Station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from human-induced changes in other basins 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 USGS to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated into the network design. Areal configuration of the network is based on river-basin accounting units (identified by 8-digit hydrologic-unit numbers) designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are (1) to depict areal variability of streamflow and water-quality conditions nationwide on a year-by-year basis and (2) to detect and assess long-term changes in streamflow and stream quality.

Organism is any living entity.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per unit area habitat, usually square meters (m²), 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 USGS 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 U.S. 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 classifications are as follows:

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

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

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

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

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

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

Picocurie (PCL, 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. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

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

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

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

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

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

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

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

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

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

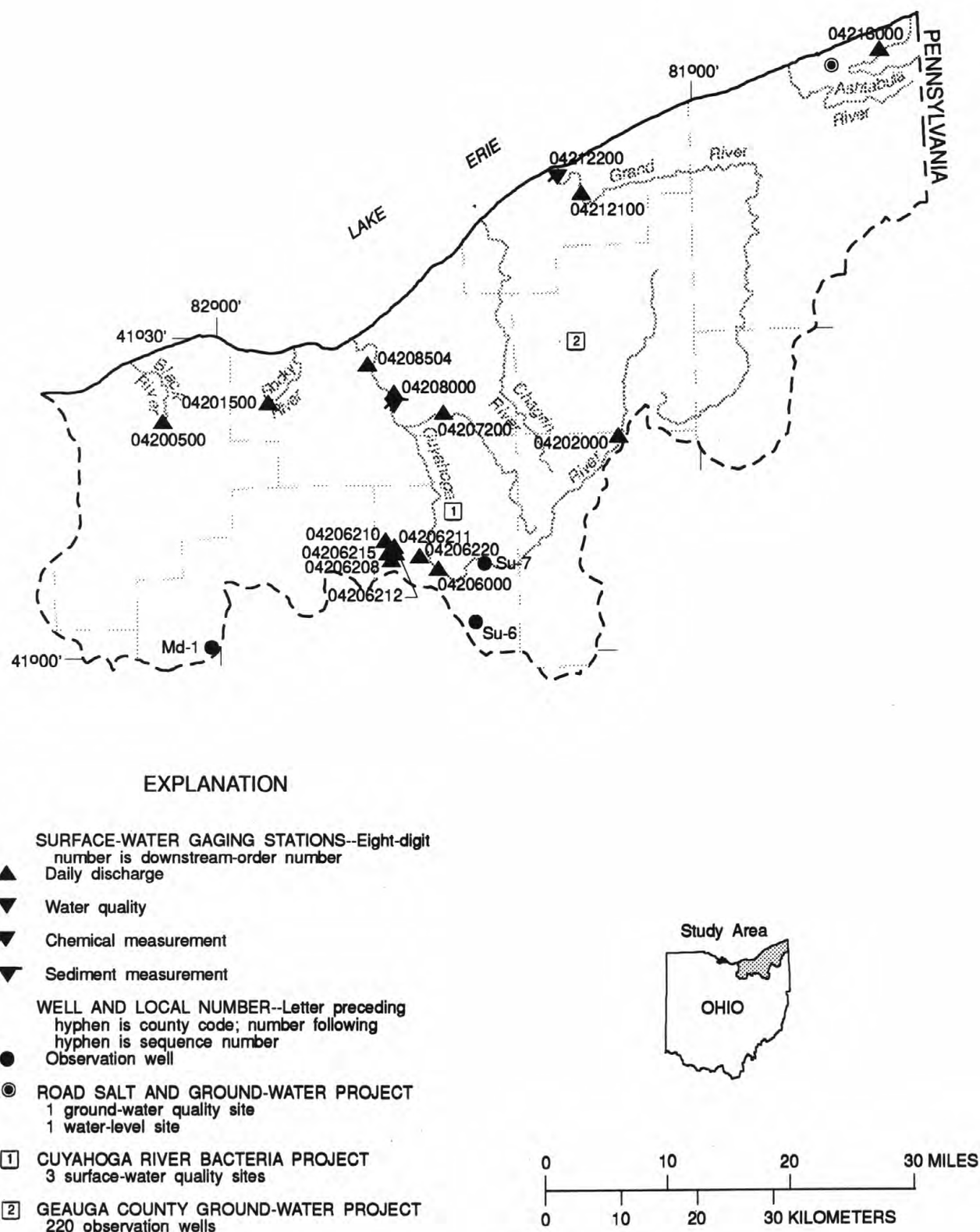


Figure 9b. Location of data-collection stations.

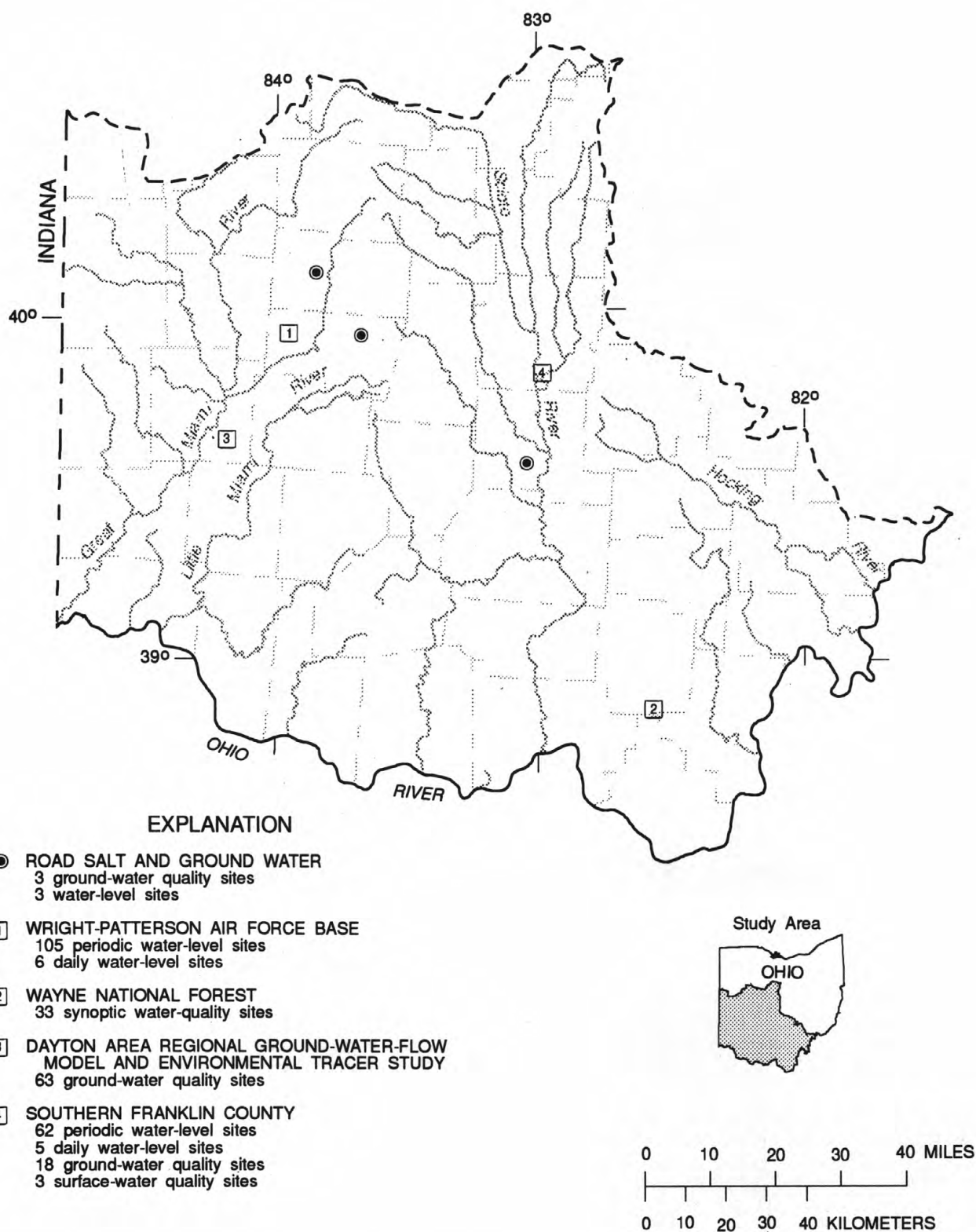


Figure 9c. Location of data-collection stations for projects, Ohio River basin.

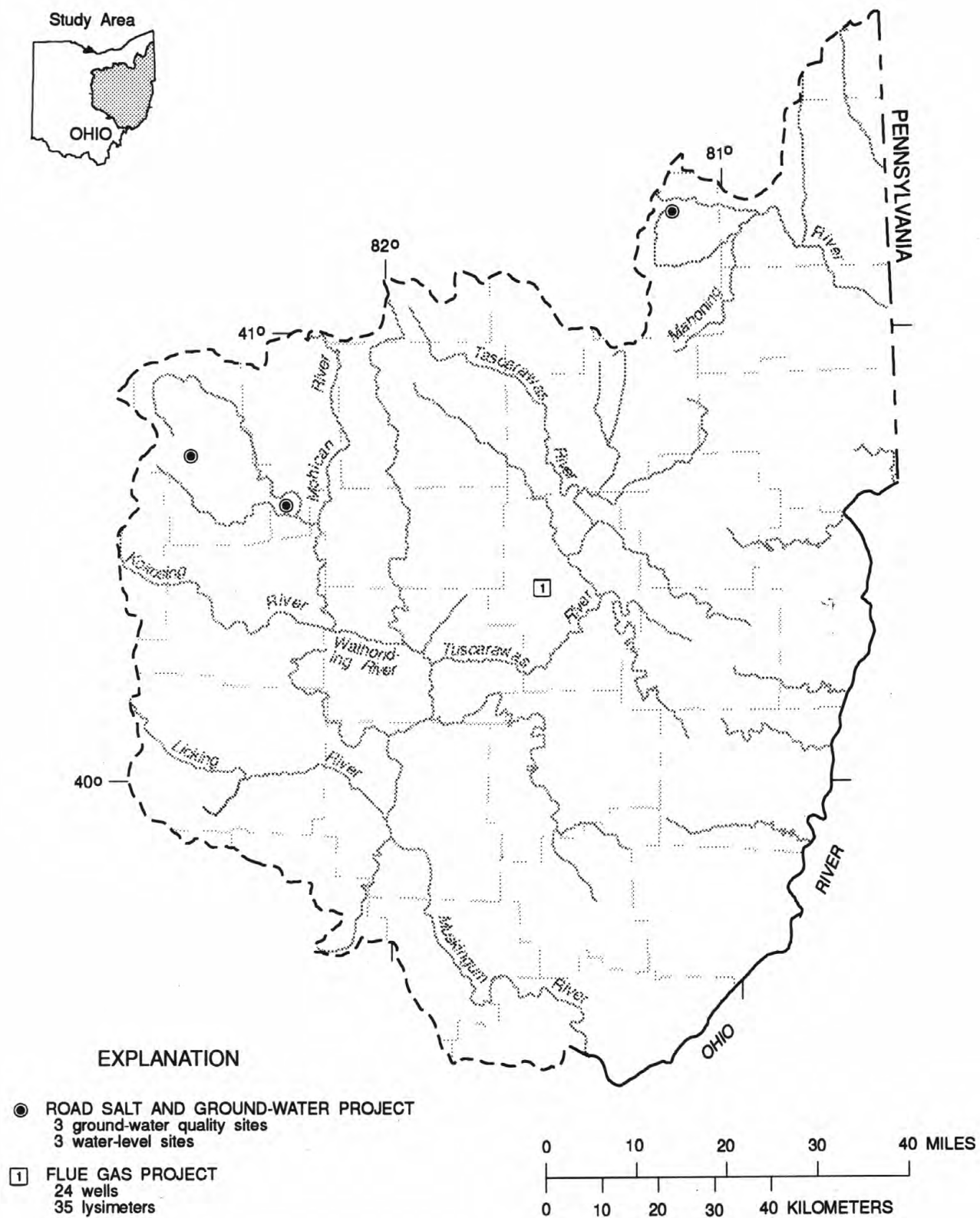


Figure 9d. Location of data-collections stations for projects, Ohio River basin.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

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

The reports listed below are for sale by the U.S. Geological Survey, Branch of Information Services, Box 25286, Federal Center, Denver, 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*, Revised, 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.
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- 3-A19. *Levels of streamflow gaging stations*, by E.J. Kennedy: USGS--TWRI Book 3, Chapter A19. 1990. 31 pages.
- 3-A20. *Simulation of soluble waste transport and buildup in surface waters using tracers*, by F. A. Kilpatrick: USGS--TWRI Book 3, Chapter A20. 1993. 38 pages.
- 3-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. 190 pages.
- 3-C1. *Fluvial sediment concepts*, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.
- 3-C2. *Field methods for measurement of fluvial sediment*, by 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. Greeson, 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 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.
- 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.--Records 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 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	e28	15	e10	e50	e70	32	52	56	90	5.0	1.3
2	7.0	e23	15	e9.4	e44	e50	31	50	59	55	8.6	1.3
3	5.0	e20	12	e8.6	e40	39	30	48	105	45	18	1.5
4	4.7	e30	12	e8.2	e36	36	29	46	82	31	15	1.2
5	5.0	e37	22	e7.4	e33	38	27	53	61	26	16	1.2
6	4.8	e39	20	e6.8	e31	43	28	48	51	21	8.8	1.5
7	6.5	e42	137	e6.6	e29	224	27	44	45	17	5.5	3.1
8	11	e50	58	e6.2	e28	902	66	40	40	14	11	17
9	34	e80	60	e6.0	e26	783	350	57	34	12	25	3.8
10	13	e74	44	e5.8	e25	329	1040	68	40	11	7.4	2.9
11	8.6	e70	42	e5.8	e23	244	927	75	46	9.5	5.4	2.6
12	7.2	e100	33	e8.0	e22	276	650	61	35	8.5	4.7	2.8
13	8.3	e80	26	e10	e21	311	682	50	32	21	4.2	9.9
14	11	e56	e23	e30	20	267	340	51	38	52	3.8	7.6
15	11	e70	e22	e60	e17	194	213	43	55	33	10	6.1
16	11	e56	e25	e110	e15	146	153	39	50	43	5.2	5.0
17	14	e64	e50	e90	e14	114	119	36	36	15	96	6.5
18	21	e60	e70	e68	e13	89	164	40	24	9.6	56	8.0
19	32	e45	e84	e54	e21	75	177	38	22	7.1	15	8.3
20	e10	e30	e60	e100	e35	75	132	36	18	6.4	7.8	24
21	e12	e22	e50	e250	e45	67	247	39	16	7.7	6.4	7.8
22	e16	e40	e40	e450	e52	57	387	31	16	26	4.0	21
23	e22	e66	e32	e300	e50	47	222	27	15	40	2.5	3.7
24	e18	e20	e26	e200	e50	49	148	237	15	9.9	2.4	2.2
25	e14	7.2	e23	e130	e52	40	121	467	20	17	2.6	2.5
26	e30	8.1	e20	e100	e45	36	95	268	205	12	2.2	2.6
27	e35	33	e18	e90	e41	34	80	133	336	12	2.4	2.2
28	e40	72	e15	e80	e100	40	71	130	312	8.2	3.1	2.0
29	e30	20	e13	e70	---	38	59	115	286	8.3	3.2	2.1
30	e19	17	e12	e60	---	37	56	85	175	6.5	2.4	2.8
31	e25	---	e11	e52	---	33	---	64	---	5.4	1.2	---
TOTAL	492.6	1359.3	1090	2392.8	978	4783	6703	2571	2325	680.1	360.8	164.5
MEAN	15.9	45.3	35.2	77.2	34.9	154	223	82.9	77.5	21.9	11.6	5.48
MAX	40	100	137	450	100	902	1040	467	336	90	96	24
MIN	4.7	7.2	11	5.8	13	33	27	27	15	5.4	1.2	1.2
CFSM	.11	.30	.23	.51	.23	1.03	1.49	.55	.52	.15	.08	.04
IN.	.12	.34	.27	.59	.24	1.19	1.66	.64	.58	.17	.09	.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1995, BY WATER YEAR (WY)

	MEAN	67.3	110	143	113	156	292	249	131	122	54.2	29.3	42.4
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 1994 CALENDAR YEAR	FOR 1995 WATER YEAR	WATER YEARS 1945 - 1995
ANNUAL TOTAL	34329.6	23900.1	
ANNUAL MEAN	94.1	65.5	126
HIGHEST ANNUAL MEAN			215
LOWEST ANNUAL MEAN			65.5
HIGHEST DAILY MEAN	1400	1040	3500
LOWEST DAILY MEAN	4.0	1.2	.00
ANNUAL SEVEN-DAY MINIMUM	5.3	1.3	.00
INSTANTANEOUS PEAK FLOW		1270	3950
INSTANTANEOUS PEAK STAGE		9.44	14.54
INSTANTANEOUS LOW FLOW		1.2	.00
ANNUAL RUNOFF (CFSM)	.63	.44	.84
ANNUAL RUNOFF (INCHES)	8.51	5.93	11.39
10 PERCENT EXCEEDS	224	141	313
50 PERCENT EXCEEDS	30	31	40
90 PERCENT EXCEEDS	8.4	5.0	7.0

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

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.--Records fair, except for periods of estimated record, which are poor. Small diversion 12.5 mi upstream from gage for municipal supply of Archbold. Diversion averaged 3.49 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 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	40	54	e40	e100	161	144	229	297	1490	36	48
2	20	43	49	e36	e90	138	e140	224	241	1390	72	44
3	19	40	45	e32	e80	116	132	210	211	788	154	39
4	18	42	43	e30	e70	108	128	193	187	346	485	37
5	17	47	43	e28	e64	114	124	215	163	237	675	36
6	17	55	45	e26	e57	126	117	228	143	191	429	34
7	17	57	107	e25	e53	355	115	219	130	157	237	34
8	17	57	174	e24	e49	1050	157	194	118	130	148	33
9	19	63	176	e23	e46	1210	711	178	102	106	114	42
10	20	69	158	e22	e43	1170	1710	186	95	92	98	40
11	20	62	140	e21	e41	799	2020	236	95	82	85	36
12	20	61	126	e25	e39	521	2140	342	97	74	73	33
13	20	59	97	e80	e37	496	2000	273	93	66	62	31
14	19	54	92	116	e36	501	1720	225	84	59	55	31
15	20	49	86	242	e35	462	1250	194	75	55	48	30
16	20	44	77	457	e47	402	699	165	67	53	62	30
17	21	45	175	421	e60	350	431	148	62	58	252	31
18	21	45	302	270	e80	302	384	140	54	48	715	28
19	23	43	308	206	e100	267	483	134	49	42	834	26
20	25	40	257	407	e120	247	447	124	48	38	751	27
21	26	38	204	985	152	242	425	114	45	37	447	28
22	25	36	161	1160	160	247	596	103	41	34	274	29
23	25	35	133	1170	155	240	533	93	37	34	192	27
24	26	33	e110	883	162	213	403	300	35	41	147	26
25	27	28	e90	535	142	190	336	785	42	36	116	24
26	28	27	e78	e350	136	173	291	935	58	47	94	22
27	28	33	e70	e270	124	163	268	816	374	69	78	21
28	28	55	e60	e200	161	159	257	568	917	54	66	20
29	28	50	e54	e170	---	156	247	674	1180	48	60	19
30	30	51	e48	e150	---	157	232	649	1370	43	60	18
31	38	---	e44	e120	---	153	---	415	---	36	53	---
TOTAL	703	1401	3606	8524	2439	10988	18640	9509	6510	5981	6972	924
MEAN	22.7	46.7	116	275	87.1	354	621	307	217	193	225	30.8
MAX	38	69	308	1170	162	1210	2140	935	1370	1490	834	48
MIN	17	27	43	21	35	108	115	93	35	34	36	18

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 1995, BY WATER YEAR (WY)

	MEAN	110	227	370	386	532	792	660	375	235	156	65.4	65.4
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 1994 CALENDAR YEAR

FOR 1995 WATER YEAR

WATER YEARS 1922 - 1995

ANNUAL TOTAL	86016	76197	
ANNUAL MEAN	236	209	
HIGHEST ANNUAL MEAN			330
LOWEST ANNUAL MEAN			671
HIGHEST DAILY MEAN	2610	Feb 23	1950
LOWEST DAILY MEAN	13	Sep 21	1964
ANNUAL SEVEN-DAY MINIMUM	14	Sep 19	59.6
INSTANTANEOUS PEAK FLOW			7640
INSTANTANEOUS PEAK STAGE			Mar 15 1982
INSTANTANEOUS LOW FLOW			2.5
10 PERCENT EXCEEDS	628		Jul 18 1988
50 PERCENT EXCEEDS	57		3.6
90 PERCENT EXCEEDS	19		Jul 7 1988
			7800
			Mar 15 1982
			18.36
			Mar 15 1982
			2.5
			Jul 18 1988
			915
			121
			23

STREAMS TRIBUTARY TO LAKE ERIE

41

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.--Records poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.05	.05	e.22	e.25	1.5	.31	.93	.93	5.0	.05	.00
2	.02	.04	.05	e.14	e.22	.68	.31	.73	.85	2.7	.07	.00
3	.01	.04	.05	e.12	e.20	.42	.31	.53	.74	1.8	.08	.00
4	.00	.04	.05	e.10	e.18	.31	.28	.49	.58	1.2	.07	.00
5	.01	.05	.05	e.10	e.17	.38	.22	.69	.52	.96	.09	.00
6	.02	.06	.06	e.10	e.15	1.4	.25	.57	.47	.75	.08	.00
7	.02	.05	14	e.09	e.14	59	.22	.46	.43	.56	.07	.02
8	.02	.04	2.8	e.09	e.13	19	5.3	.39	.40	.46	.07	.06
9	.04	.06	3.4	e.09	e.13	5.7	73	.50	.37	.40	.07	.03
10	.02	.10	3.3	e.09	e.12	3.8	68	.57	.44	.36	.07	.02
11	.02	.07	1.1	.12	e.12	3.5	17	.74	.46	.28	.06	.01
12	.03	.05	.57	.34	e.11	4.1	13	.51	.39	.23	.05	.01
13	.02	.05	.32	.80	e.11	4.1	6.5	.41	.31	.22	.04	.01
14	.03	.05	.21	7.9	e.10	3.4	4.2	.45	.24	.15	.02	.01
15	.03	.04	.16	9.9	e.10	2.7	3.1	.34	.23	.12	.01	.00
16	.03	.04	3.5	2.9	e.13	2.0	2.2	.30	.23	.12	.01	.00
17	.03	.04	13	1.4	e.15	1.5	1.7	.29	.24	.11	.04	.01
18	.03	.04	2.6	1.1	e.25	1.0	8.8	.28	.24	.10	.06	.01
19	.05	.04	1.1	2.3	e.66	.89	4.2	.27	.23	.10	.05	.00
20	.05	.04	.59	35	e.80	.84	2.3	.20	.22	.10	.04	.01
21	.04	.05	.38	17	e.50	.88	10	.17	.22	.10	.03	.03
22	.04	.04	.29	e4.0	e.43	.66	4.0	.16	.21	.10	.01	.02
23	.04	.04	.24	e2.5	e.64	.50	2.2	.18	.20	.10	.01	.01
24	.04	.04	.20	e1.4	e.45	.40	1.6	24	.30	.09	.01	.01
25	.04	.04	.17	e1.0	e.39	.33	1.1	7.9	.33	.09	.01	.01
26	.04	.04	.13	e.90	e.27	.31	.92	3.7	8.2	.10	.00	.01
27	.04	.05	.13	e.60	1.2	.32	.87	2.1	39	.09	.00	.00
28	.04	.09	.12	e.45	4.8	.41	.69	9.6	21	.08	.00	.00
29	.04	.08	.12	e.37	---	.39	.56	3.7	29	.07	.00	.00
30	.04	.06	.12	e.32	---	.38	.75	1.8	14	.06	.00	.00
31	.05	---	.12	e.28	---	.34	---	1.2	---	.06	.00	---
TOTAL	0.95	1.52	48.98	91.72	12.90	121.14	233.89	64.16	120.98	16.66	1.17	0.29
MEAN	.031	.051	1.58	2.96	.46	3.91	7.80	2.07	4.03	.54	.038	.010
MAX	.05	.10	14	35	4.8	59	73	24	39	5.0	.09	.06
MIN	.00	.04	.05	.09	.10	.31	.22	.16	.20	.06	.00	.00
CFSM	.01	.01	.37	.70	.11	.92	1.84	.49	.95	.13	.01	.00
IN.	.01	.01	.43	.81	.11	1.07	2.06	.56	1.06	.15	.01	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1995, BY WATER YEAR (WY)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
MEAN	3.67	5.60	7.28	5.42	6.80	7.13	7.52	2.91	2.14	1.92
MAX	12.6	15.6	23.9	13.9	21.2	13.9	14.1	10.9	4.83	7.75
(WY)	1987	1993	1991	1993	1990	1986	1991	1990	1989	1986
MIN	.031	.051	.11	1.68	.46	3.59	1.92	.26	.046	.011
(WY)	1995	1995	1990	1988	1995	1989	1987	1988	1988	1988

SUMMARY STATISTICS

FOR 1994 CALENDAR YEAR

FOR 1995 WATER YEAR

WATER YEARS 1986 - 1995

ANNUAL TOTAL	928.77	714.36	
ANNUAL MEAN	2.54	1.96	4.31
HIGHEST ANNUAL MEAN			5.87
LOWEST ANNUAL MEAN			1.96
HIGHEST DAILY MEAN	138	Apr 12	73
LOWEST DAILY MEAN	.00	Sep 9	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 9	.00
INSTANTANEOUS PEAK FLOW			209
INSTANTANEOUS PEAK STAGE			3.98
INSTANTANEOUS LOW FLOW			.00
ANNUAL RUNOFF (CFSM)	.60	.46	1.02
ANNUAL RUNOFF (INCHES)	8.17	6.28	13.85
10 PERCENT EXCEEDS	4.6	3.6	9.5
50 PERCENT EXCEEDS	.18	.20	.65
90 PERCENT EXCEEDS	.02	.01	.04

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

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.--Records good, except for periods of estimated record, 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 6,240 mil gal, equivalent to a mean withdrawal of 26.5 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 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	14	17	42	e120	1150	46	117	117	e300	29	e34
2	16	20	15	e35	e100	565	45	109	103	e100	21	e33
3	14	18	18	e28	e94	287	42	100	143	e60	19	e31
4	12	14	15	e25	e86	216	40	82	280	e46	63	e28
5	11	13	18	e22	e80	173	37	64	196	e42	142	e25
6	10	20	17	e20	e76	175	37	60	105	e38	921	e23
7	8.9	19	26	e19	e70	671	35	58	.70	e60	642	e22
8	7.4	14	34	e18	e66	2470	38	53	103	e70	283	e20
9	8.2	14	44	e18	e60	2920	138	51	522	e74	209	e19
10	12	19	57	e20	e56	1760	1230	69	338	e40	272	e18
11	13	24	104	e35	e54	782	3270	126	939	e22	218	e17
12	13	23	112	66	e52	626	3300	111	707	e21	186	e17
13	11	21	87	203	e50	408	2280	89	324	e19	118	e16
14	9.6	15	56	370	e48	282	1090	75	197	e18	72	e16
15	9.4	11	48	296	e45	220	493	78	111	e17	55	e15
16	6.3	8.7	44	344	e60	181	316	64	74	e17	47	e15
17	4.5	9.6	109	255	e100	143	283	52	57	e16	49	e14
18	2.8	8.5	338	147	182	134	248	62	53	e16	60	e14
19	1.3	7.1	242	113	328	114	298	899	51	e15	108	e13
20	.50	6.1	118	371	522	105	279	1870	49	e15	269	e13
21	3.0	7.5	88	1650	546	98	655	1140	55	e20	138	e12
22	9.0	12	70	1780	429	88	1990	383	60	e25	71	e12
23	11	8.2	58	e1000	314	77	1320	207	51	e30	44	e12
24	8.6	7.2	50	e700	474	69	550	197	e54	e40	32	e11
25	8.2	6.5	44	e500	477	62	362	311	e70	e60	24	e11
26	12	5.6	38	e300	292	57	268	177	e200	e100	19	e11
27	12	7.6	33	e230	275	53	214	116	e500	e200	21	e11
28	10	22	29	e190	862	51	176	140	e1000	e300	37	e10
29	8.0	26	26	e170	---	51	143	299	e1200	99	e30	e10
30	7.3	19	31	e150	---	52	127	363	e800	51	e23	e10
31	8.6	---	36	e130	---	49	---	208	---	39	e28	---
TOTAL	287.60	420.6	2022	9247	5918	14089	19350	7730	8529	1970	4250	513
MEAN	9.28	14.0	65.2	298	211	454	645	249	284	63.5	137	17.1
MAX	19	26	338	1780	862	2920	3300	1870	1200	300	921	34
MIN	.50	5.6	15	18	45	49	35	51	49	15	19	10
CFSM	.03	.04	.20	.90	.64	1.37	1.94	.75	.86	.19	.41	.05
IN.	.03	.05	.23	1.04	.66	1.58	2.17	.87	.96	.22	.48	.06

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 1995, BY WATER YEAR (WY)

	MEAN	76.1	177	305	430	470	604	512	282	242	171	74.0	88.1
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 1994 CALENDAR YEAR

FOR 1995 WATER YEAR

WATER YEARS 1921 - 1995

ANNUAL TOTAL	58021.30	74326.20	
ANNUAL MEAN	159	204	286
HIGHEST ANNUAL MEAN			537
LOWEST ANNUAL MEAN			65.3
HIGHEST DAILY MEAN	4960	Jan 29	3300
LOWEST DAILY MEAN	.50	Oct 20	.50
ANNUAL SEVEN-DAY MINIMUM	3.9	Oct 16	3.9
INSTANTANEOUS PEAK FLOW			3590
INSTANTANEOUS PEAK STAGE			12.53
INSTANTANEOUS LOW FLOW			.50
ANNUAL RUNOFF (CFSM)	.48		.61
ANNUAL RUNOFF (INCHES)	6.50		8.33
10 PERCENT EXCEEDS	333	500	682
50 PERCENT EXCEEDS	40	55	74
90 PERCENT EXCEEDS	9.6	11	18

STREAMS TRIBUTARY TO LAKE ERIE

43

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.--Records fair, except 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 1994 TO SEPTEMBER 1995 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.70	8.2	7.1	e12	e8.6	425	9.7	38	35	53	6.8	9.3
2	.68	4.1	7.0	e9.0	e7.8	107	9.6	37	46	60	10	4.9
3	2.2	2.6	9.2	e7.4	e7.0	47	11	34	66	41	8.3	3.1
4	4.2	6.9	8.9	e6.6	e6.4	34	9.2	32	187	30	27	1.9
5	.50	11	9.0	e6.2	e5.8	40	8.3	33	154	26	73	6.2
6	.86	10	8.7	e5.8	e5.4	81	10	35	64	23	31	7.9
7	6.5	3.9	32	e5.4	e5.1	633	6.8	32	50	21	23	8.8
8	5.3	5.1	22	e5.2	e4.8	1640	13	28	68	19	67	9.0
9	8.4	26	54	e5.0	e4.5	1010	160	28	43	18	50	8.0
10	3.2	19	46	e5.0	e4.3	437	1510	52	63	15	24	6.5
11	1.1	8.9	58	e4.9	e3.9	330	1500	52	56	15	17	6.9
12	.89	4.1	46	e4.8	e3.8	213	1160	75	56	14	15	8.9
13	.85	6.4	36	e6.6	e3.8	126	852	57	38	11	13	9.0
14	1.1	5.2	26	e7.4	e3.7	86	266	47	31	11	11	7.6
15	1.0	5.0	19	e70	e3.7	32	123	41	28	13	11	7.6
16	.65	4.2	33	e80	e10	26	89	37	21	9.5	16	7.8
17	.38	3.6	110	e40	e25	21	70	35	9.3	15	10	8.3
18	.80	3.4	119	e30	49	24	67	206	17	12	39	9.0
19	1.2	2.1	46	e45	134	24	114	898	24	9.8	25	11
20	1.6	1.7	43	509	232	23	67	650	28	11	13	32
21	1.2	1.3	31	833	191	23	655	177	26	13	8.5	11
22	2.1	.90	23	581	96	20	1100	72	22	56	6.3	9.8
23	4.2	1.2	14	228	127	20	455	29	18	33	6.4	6.7
24	6.9	.79	12	e76	257	15	156	37	18	13	8.2	7.7
25	3.1	.80	9.3	e40	112	12	82	45	16	56	8.6	8.2
26	2.8	1.4	7.0	e30	53	11	48	40	59	17	4.3	11
27	4.7	4.3	7.5	e22	77	12	53	37	57	13	4.1	10
28	5.4	25	10	e17	636	13	43	45	31	15	4.1	12
29	5.6	7.5	9.1	e14	---	12	37	47	42	13	9.8	11
30	5.5	7.7	8.5	e12	---	11	37	79	75	9.1	11	8.6
31	6.4	---	e11	e10	---	10	---	45	---	7.8	9.3	---
TOTAL	90.01	192.29	882.3	2728.3	2077.6	5518	8721.6	3100	1448.3	673.2	570.7	269.7
MEAN	2.90	6.41	28.5	88.0	74.2	178	291	100	48.3	21.7	18.4	8.99
MAX	8.4	26	119	833	636	1640	1510	898	187	60	73	32
MIN	.38	.79	7.0	4.8	3.7	10	6.8	28	9.3	7.8	4.1	1.9

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1995, BY WATER YEAR (WY)

	1988	1989	1990	1991	1992	1993	1994	1995
MEAN	40.5	91.4	120	131	133	131	207	83.3
MAX	192	434	586	327	425	422	291	208
(WY)	1991	1993	1991	1993	1990	1993	1995	1990
MIN	2.90	5.56	5.01	12.2	18.9	42.5	98.3	15.5
(WY)	1995	1992	1992	1992	1989	1992	1991	1994

SUMMARY STATISTICS	FOR 1994 CALENDAR YEAR	FOR 1995 WATER YEAR	WATER YEARS 1988 - 1995
ANNUAL TOTAL	24168.65	26272.00	
ANNUAL MEAN	66.2	72.0	104
HIGHEST ANNUAL MEAN			156
LOWEST ANNUAL MEAN			56.5
HIGHEST DAILY MEAN	1810	Jan 28	3860
LOWEST DAILY MEAN	.02	Sep 23	.00
ANNUAL SEVEN-DAY MINIMUM	.15	Sep 17	.15
INSTANTANEOUS PEAK FLOW			4590
INSTANTANEOUS PEAK STAGE			18.63
INSTANTANEOUS LOW FLOW			.00
10 PERCENT EXCEEDS	116	116	200
50 PERCENT EXCEEDS	14	14	24
90 PERCENT EXCEEDS	1.9	3.8	4.5

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.--Records fair, except for periods of estimated record, which are poor. 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 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	28	17	26	e96	1210	92	134	178	273	e20	18
2	18	26	19	21	e88	564	110	123	189	e200	e60	15
3	16	28	19	19	e82	323	90	106	321	e140	e90	18
4	16	32	18	18	e76	243	74	93	392	e74	e70	23
5	16	36	27	15	e70	213	68	122	442	e70	e40	e20
6	16	41	23	14	e62	288	63	111	251	e64	e130	e18
7	15	29	76	e13	e56	932	64	108	183	e50	e90	e17
8	14	24	38	e12	e52	3220	116	100	170	e35	e60	e16
9	20	46	94	e12	e48	2860	323	118	160	e30	e47	e15
10	17	47	112	e11	e43	1860	1500	216	153	e25	e54	e14
11	16	25	170	26	e40	1090	2980	374	179	e22	e50	e14
12	14	37	201	57	e37	817	3130	322	170	e20	e40	e13
13	16	37	139	87	e34	523	2560	227	135	e19	e27	e13
14	16	28	84	187	e32	407	1200	176	121	e22	e25	e12
15	17	25	59	239	e31	334	513	148	151	e24	e27	e12
16	20	22	78	314	e35	279	383	117	100	e28	e20	e12
17	21	20	167	239	e66	238	296	153	73	e32	e30	e12
18	22	18	366	140	112	199	323	207	61	e20	e44	e12
19	25	18	228	112	241	179	445	860	58	e17	e40	e15
20	26	18	112	907	467	172	371	1100	56	e15	e25	29
21	26	18	56	1750	523	161	1240	582	52	e13	e20	13
22	25	17	47	1570	365	145	2930	244	e50	e14	e14	14
23	23	16	54	786	422	134	2230	180	e45	e15	e11	13
24	26	15	46	482	687	118	626	235	160	e20	e10	11
25	27	13	39	338	439	123	375	214	107	e30	e9.0	12
26	25	14	35	299	295	126	282	142	208	e70	e8.0	13
27	25	22	32	240	489	127	232	104	240	e110	e7.8	13
28	25	50	29	e190	1590	129	188	152	174	e90	e9.0	12
29	24	23	27	e140	---	116	156	568	566	e60	e20	12
30	22	19	23	e120	---	82	149	414	441	e40	29	11
31	24	---	25	e110	---	76	---	257	---	e30	21	---
TOTAL	631	792	2460	8494	6578	17288	23109	8007	5586	1672	1147.8	442
MEAN	20.4	26.4	79.4	274	235	558	770	258	186	53.9	37.0	14.7
MAX	27	50	366	1750	1590	3220	3130	1100	566	273	130	29
MIN	14	13	17	11	31	76	63	93	45	13	7.8	11
CFSM	.06	.08	.23	.79	.68	1.61	2.23	.75	.54	.16	.11	.04
IN.	.07	.09	.26	.91	.71	1.86	2.48	.86	.60	.18	.12	.05

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 1995, BY WATER YEAR (WY)

	MEAN	64.1	161	284	368	419	560	464	261	214	128	56.0	89.6
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 1994 CALENDAR YEAR

FOR 1995 WATER YEAR

WATER YEARS 1924 - 1995

ANNUAL TOTAL	70549	76206.8	
ANNUAL MEAN	193	209	
HIGHEST ANNUAL MEAN			571
LOWEST ANNUAL MEAN			57.5
HIGHEST DAILY MEAN	4190	Jan 29	12000
LOWEST DAILY MEAN	13	Sep 18	7.8
ANNUAL SEVEN-DAY MINIMUM	16	Oct 2	9.8
INSTANTANEOUS PEAK FLOW			3480
INSTANTANEOUS PEAK STAGE			9.76
INSTANTANEOUS LOW FLOW			7.8
ANNUAL RUNOFF (CFSM)	.56	.60	.74
ANNUAL RUNOFF (INCHES)	7.59	8.19	10.03
10 PERCENT EXCEEDS	371	441	613
50 PERCENT EXCEEDS	44	59	57
90 PERCENT EXCEEDS	18	14	9.0

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

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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.--Records good, except for periods of estimated record, which are poor. Flow regulated by dam at powerplant at station; reservoir capacity, 9,800 acre-ft. Plant shut down except for occasional gate operation. Jan. 10, 1963 to Sept. 7, 1985. Some diversion by Miami and Erie Canal from Grand Lake into Jennings Creek, tributary to Audlaize 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	59	23	40	e62	751	7790	344	735	1480	3550	179	45
2	59	22	264	e56	e540	6320	225	683	1080	2630	152	46
3	641	23	40	e54	e450	4010	313	637	972	2040	122	100
4	850	24	40	e52	e330	2270	90	564	1800	1130	121	46
5	227	25	40	e48	e260	1640	416	592	1510	455	209	45
6	43	26	265	e47	e200	1290	306	550	1340	385	550	68
7	39	26	453	e45	e160	4060	88	366	1310	162	1090	60
8	31	245	659	e44	e130	14700	391	439	782	237	858	118
9	28	167	957	e43	e110	15800	1630	451	2010	238	1030	78
10	31	195	686	e42	e90	13400	12100	383	1790	215	613	75
11	32	295	859	e45	e78	10100	21200	1380	1950	180	726	73
12	31	170	925	e60	e70	7610	22800	1570	2820	163	654	74
13	31	45	738	e120	e60	5220	19500	1230	1950	154	403	72
14	32	281	626	1400	e60	3120	12600	999	1250	141	330	66
15	32	44	530	2140	e400	2150	8250	507	803	126	137	66
16	33	267	184	2430	612	1670	5090	562	260	122	159	59
17	33	45	996	2100	204	1380	2680	421	503	120	147	53
18	33	266	2340	1560	173	1080	1890	629	579	119	237	53
19	32	43	1800	1270	1040	907	1960	1070	291	115	173	52
20	29	43	1370	1920	1700	834	2260	4270	160	109	432	52
21	28	47	1280	9930	2480	777	2770	5010	378	109	533	50
22	28	290	734	9540	2640	831	7700	3110	301	110	224	49
23	29	144	273	7290	2370	670	8570	1800	227	118	249	51
24	27	41	323	5180	2250	433	6430	1410	377	163	144	52
25	25	40	209	3110	2790	463	4610	4720	344	204	52	53
26	26	40	273	2120	2400	376	2700	4310	389	420	46	54
27	27	41	351	1810	1860	340	1600	2440	2200	858	53	54
28	26	43	292	1350	4270	407	1010	1740	4500	699	110	53
29	26	312	163	1120	- - -	399	882	1800	4520	470	51	54
30	26	179	128	1040	- - -	387	797	2110	4220	310	50	56
31	27	- - -	67	921	- - -	e370	- - -	2080	- - -	227	176	- - -
TOTAL	2621	3452	17905	56949	28478	110804	151202	48568	42096	16079	10010	1827
MEAN	84.5	115	578	1837	1017	3574	5040	1567	1403	519	323	60.9
MAX	850	312	2340	9930	4270	15800	22800	5010	4520	3550	1090	118
MIN	25	22	40	42	60	340	88	366	160	109	46	45

MEAN	490	1033	1809	2509	2963	4147	3484	1884	1365	818	310	428
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

ANNUAL TOTAL	440302		489991				
ANNUAL MEAN	1206		1342		1755		
HIGHEST ANNUAL MEAN					3337		1973
LOWEST ANNUAL MEAN					342		1931
HIGHEST DAILY MEAN	28700	Apr 13	22800	Apr 12	52300	Mar 14	1982
LOWEST DAILY MEAN	22	Nov 2	22	Nov 2	.50	Oct 13	1952
ANNUAL SEVEN-DAY MINIMUM	24	Nov 1	24	Nov 1	1.1	Oct 12	1952
INSTANTANEOUS PEAK FLOW			23300	Apr 12	52500	Feb 16	1950
INSTANTANEOUS PEAK STAGE			17.98	Apr 12	27.65	Feb 13	1959
INSTANTANEOUS LOW FLOW			22	Nov 2	.50	Oct 13	1952
10 PERCENT EXCEEDS	2640		3110		4860		
50 PERCENT EXCEEDS	279		340		433		
90 PERCENT EXCEEDS	40		40		38		

e Estimated

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.--Records good, except for estimated discharges and Oct. 28 to Nov. 17, which are fair. 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 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	230	195	458	e600	e1800	9110	1210	2150	4360	13200	973	359
2	215	128	552	e500	e2000	8410	1120	e2000	e3500	9830	966	309
3	540	195	399	e425	e2300	6100	1120	1890	e2900	8100	778	326
4	1080	260	346	e400	e1500	3950	926	1710	3420	6410	e750	271
5	503	281	343	e380	e1200	3090	1120	1790	3390	4620	1270	254
6	196	287	493	e360	e1000	2680	1110	1740	e2800	e3500	2200	248
7	183	305	1920	e340	e900	6630	832	1590	2540	e2000	2860	251
8	183	588	2820	e330	e760	23800	1310	1410	2000	1530	2940	375
9	186	568	3120	e310	e680	27200	4740	1610	2950	1330	3250	595
10	176	512	2770	e300	e620	22000	22800	1530	4150	1130	2680	602
11	197	730	2700	e300	e560	16500	39400	2320	4270	930	2670	436
12	242	706	2680	e300	e520	13000	41800	2850	5680	832	2320	368
13	214	396	2180	e700	e500	10600	36700	2680	5340	752	1810	334
14	195	550	1750	2380	e450	8110	26500	2440	4480	672	1520	293
15	186	396	1580	4770	e800	6310	18100	1860	3760	555	1210	276
16	175	476	1330	5310	1170	5140	12600	1860	2770	549	922	275
17	176	394	3450	5190	758	4250	8450	1560	2340	1980	e820	251
18	174	535	4540	4070	640	3600	6410	1530	2030	1120	e1200	242
19	174	290	4040	3540	1560	e2800	6150	2050	1420	709	e1500	246
20	169	293	3330	7120	2240	e2500	5770	4850	885	611	e2000	253
21	155	374	3010	18300	3200	2460	6110	6510	977	586	e2700	247
22	167	503	2230	17300	3540	2400	10300	5000	786	566	e2400	251
23	188	461	1570	e12000	3450	2560	11500	3380	729	533	e1500	232
24	171	323	1380	e8000	3290	2090	9620	4710	677	606	e1000	224
25	160	292	1160	e6000	3780	1900	7420	9040	669	711	e700	234
26	254	281	1040	e4500	3470	1730	5510	10500	1070	1030	e580	244
27	e300	326	1040	e3500	3000	1490	4290	7890	7110	e1500	e500	261
28	e250	506	980	e3000	5240	1510	3430	7020	14300	1390	e450	238
29	128	741	771	e2500	---	e1400	2810	7050	14600	1300	e420	248
30	160	758	662	e2000	---	e1300	2430	6230	15100	1180	e370	245
31	248	---	582	e1900	---	1260	---	5690	---	998	e380	---
TOTAL	7575	12650	55226	116625	50928	205880	301588	114440	121003	70760	45639	8988
MEAN	244	422	1781	3762	1819	6641	10050	3692	4033	2283	1472	300
MAX	1080	758	4540	18300	5240	27200	41800	10500	15100	13200	3250	602
MIN	128	128	343	300	450	1260	832	1410	669	533	370	224

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1995, BY WATER YEAR (WY)

	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
MEAN	1350	2768	4537	5932	6863	9464	8595	4977	3391	2004	911	1064																			
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 1994 CALENDAR YEAR

FOR 1995 WATER YEAR

WATER YEARS 1925 - 1995

ANNUAL TOTAL	1080084	1111302	
ANNUAL MEAN	2959	3045	
HIGHEST ANNUAL MEAN			4304
LOWEST ANNUAL MEAN			8286
HIGHEST DAILY MEAN	50800	41800	849
LOWEST DAILY MEAN	128	128	1950
ANNUAL SEVEN-DAY MINIMUM	169	169	1931
INSTANTANEOUS PEAK FLOW		42400	98800
INSTANTANEOUS PEAK STAGE		7.91	Mar 15 1982
INSTANTANEOUS LOW FLOW		128	3.0
10 PERCENT EXCEEDS	7160	7070	Sep 4 1925
50 PERCENT EXCEEDS	758	1300	Aug 31 1925
90 PERCENT EXCEEDS	215	248	Mar 15 1982
			15.87
			2.0
			Sep 3 1925

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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.--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	110	433	659	762	2400	9270	1140	2360	5490	15900	927	425
2	147	245	461	786	2220	9820	1080	2370	4210	11900	913	359
3	139	145	480	666	2160	7590	1040	2130	3590	9230	897	324
4	672	254	369	e600	e2600	5040	1130	1860	3330	7510	832	312
5	872	374	376	e560	e1500	3560	702	1860	3740	5720	934	286
6	415	641	341	e520	e1200	2880	1110	1800	3530	4240	1650	244
7	157	151	770	e500	e1000	4770	816	1720	2890	2960	2450	216
8	130	353	2620	e470	e940	26000	1110	1340	2410	1740	2880	245
9	238	677	3390	e450	e880	33700	4790	1670	2060	1340	4460	410
10	116	760	3390	e430	e800	26600	24200	1750	3900	1220	3660	595
11	32	631	2860	e420	e740	20800	45900	2860	4390	1020	2660	551
12	86	862	2870	e400	e700	15700	51000	3660	5130	878	2550	457
13	153	709	2600	e840	e660	13000	45800	3170	6000	838	2020	446
14	143	534	1990	1210	e640	9980	34300	3180	5130	726	1510	290
15	115	570	1680	3960	e600	7520	23600	2150	4210	630	1270	213
16	100	403	1480	5940	1150	6010	16500	1840	3490	576	957	247
17	121	510	2660	5800	1170	4850	11300	1850	2480	975	989	261
18	120	475	5340	5210	775	4020	8070	1370	2260	1610	1440	210
19	144	421	4960	3980	969	3260	7320	2120	1800	793	1680	190
20	126	244	4150	6240	2060	3090	6630	3200	1100	637	1910	244
21	105	498	3410	20000	3160	2650	7090	6500	828	577	3210	243
22	78	314	3030	23600	3710	2200	10800	6240	901	566	2700	373
23	183	386	2060	17300	4000	2390	13200	4280	778	584	1750	177
24	142	331	1510	13100	3840	2230	12100	4820	659	486	1170	119
25	88	233	1440	9050	3830	1810	9390	11700	724	721	875	185
26	99	164	1080	6880	3870	1610	6890	13600	692	722	728	205
27	147	156	1060	5350	3680	1340	5450	10700	3130	1510	551	210
28	252	741	1030	4930	4700	1590	4250	7980	14300	1560	542	177
29	205	388	856	4280	---	1400	3280	9080	16700	1220	502	156
30	112	707	762	3750	---	1300	2850	7650	17300	1150	421	183
31	71	---	787	3330	---	1200	---	6750	---	1010	430	---
TOTAL	5618	13310	60471	151314	55954	237180	362838	133560	127152	80549	49468	8553
MEAN	181	444	1951	4881	1998	7651	12090	4308	4238	2598	1596	285
MAX	872	862	5340	23600	4700	33700	51000	13600	17300	15900	4460	595
MIN	32	145	341	400	600	1200	702	1340	659	486	421	119
CFSM	.03											

MEAN	1465	3089	5371	6828	7865	10940	9766	5795	3991	2372	1045	1089
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

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 September 1994.

NITROGEN, NITRITE + NITRATE: October 1987 to September 1994.

NITROGEN, AMMONIA + ORGANIC: October 1987 to September 1994.

PHOSPHORUS: October 1987 to September 1994.

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

INSTRUMENTATION.--Refrigerated water-quality pumping sampler, operated by Heidelberg College Water Quality Laboratory, from October 1987 to September 1994. Sampler located at station 04193490.

REMARKS.--Sediment samples were collected by a local observer on an approximate once daily basis. Sediment loads were calculated using the mean-interval method (Porterfield, George, 1972, Computation of Fluvial-Sediment Discharge: U.S. Geological Survey, Techniques of Water Resources Investigations, Book 3, Chap. C3, 66 p.). For days with unsteady concentration, discharge, or both, the day was sub-divided into hourly intervals and the daily load was calculated by summation of hourly loads. This required interpolation between measured and estimated concentrations.

EXTREMES FOR PERIOD OF DAILY RECORD.--

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

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

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 945 mg/L, Mar. 9; minimum daily mean, 4 mg/L, on several days during the year.

SEDIMENT LOADS: Maximum daily, 89,300 tons, Apr. 11; minimum daily, 1.5 tons, Oct. 25.

STREAMS TRIBUTARY TO LAKE ERIE

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04193500 MAUMEE RIVER AT WATERVILLE, OHIO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

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 14...	1300	2010	763	8.4	-1.0	2.0	22	14.7	107	120	170	
MAR 15...	1400	7120	486	7.8	26.0	9.0	120	11.0	97	290	720	
JUN 28...	1500	16300	550	8.1	29.0	26.0	63	--	--	--	1250	
AUG 30...	1215	410	493	8.8	30.0	29.5	9.2	13.2	176	K22	40	
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 14...	270	72	22	49	6.3	172	9	156	120	74	0.60	
MAR 15...	220	62	15	12	3.1	137	--	112	53	30	0.20	
JUN 28...	240	64	20	20	4.4	173	--	141	67	38	0.40	
AUG 30...	200	53	17	22	5.5	128	24	144	58	34	0.40	
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, NITRITE DIS-SOLVED (MG/L AS N) (00613)	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 14...	4.7	479	3.50	0.050	0.020	1.0	0.140	0.050	0.050	30	44	
MAR 15...	6.8	315	8.70	0.170	0.040	1.2	0.260	0.090	0.070	30	31	
JUN 28...	2.8	350	5.10	0.150	0.070	1.0	0.350	0.030	0.030	30	44	
AUG 30...	6.4	304	0.71	<0.015	0.010	1.2	0.120	0.020	0.030	10	41	
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 14...	<3	45	12	2	30	4	<1	<1.0	1500	<6	17.5	
MAR 15...	<3	100	5	6	<10	2	2	<1.0	470	<6	104	
JUN 28...	<3	24	<4	<1	10	2	1	<1.0	810	<6	131	
AUG 30...	<3	10	9	3	10	3	<1	<1.0	740	<6	20.5	

K Non-ideal colony count

STREAMS TRIBUTARY TO LAKE ERIE

04193500 MAUMEE RIVER AT WATERVILLE, OHIO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

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	110	21	6.3	433	30	35	659	5	8.4
2	147	20	7.9	245	15	12	461	5	5.7
3	139	22	8.2	145	8	3.1	480	4	5.7
4	672	32	64	254	17	13	369	4	4.3
5	872	33	78	374	20	20	376	4	4.2
6	415	22	26	641	46	93	341	4	4.1
7	157	23	9.7	151	18	9.6	770	10	26
8	130	28	10	353	12	12	2620	10	67
9	238	31	20	677	20	38	3390	11	99
10	116	33	10	760	19	39	3390	16	143
11	32	29	2.4	631	13	22	2860	19	145
12	86	23	5.2	862	16	39	2870	56	439
13	153	18	7.5	709	19	37	2600	40	286
14	143	18	7.0	534	14	20	1990	24	133
15	115	18	5.5	570	11	17	1680	17	77
16	100	17	4.6	403	9	10	1480	17	69
17	121	18	6.0	510	8	11	2660	19	140
18	120	23	7.5	475	7	8.4	5340	32	468
19	144	24	9.6	421	7	7.5	4960	50	662
20	126	11	3.6	244	5	3.6	4150	73	821
21	105	12	3.2	498	12	23	3410	56	516
22	78	21	4.5	314	10	9.7	3030	38	310
23	183	16	7.3	386	7	7.3	2060	41	227
24	142	8	3.6	331	9	8.2	1510	40	162
25	88	6	1.5	233	9	5.8	1440	36	141
26	99	7	1.8	164	8	3.6	1080	30	89
27	147	9	3.8	156	7	3.0	1060	29	84
28	252	13	8.5	741	6	12	1030	23	64
29	205	11	5.8	388	5	5.4	856	19	43
30	112	10	3.0	707	5	9.2	762	18	37
31	71	23	4.5	---	---	---	787	19	39
TOTAL	5618	---	346.5	13310	---	537.4	60471	---	5319.4

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	762	16	32	2400	18	115	9270	37	933
2	786	15	32	2220	15	88	9820	64	1700
3	666	15	27	2160	15	87	7590	94	1910
4	e600	20	33	e2600	10	73	5040	79	1080
5	e560	15	22	e1500	10	42	3560	69	661
6	e520	11	16	e1200	9	28	2880	64	501
7	e500	19	26	e1000	8	21	4770	72	1030
8	e470	25	31	e940	6	16	26000	366	28500
9	e450	12	15	e880	5	12	33700	945	86400
10	e430	10	11	e800	5	11	26600	623	45200
11	e420	9	10	e740	7	13	20800	408	23100
12	e400	15	16	e700	8	14	15700	282	12000
13	e840	13	29	e660	5	9.7	13000	216	7580
14	1210	10	32	e640	4	7.2	9980	168	4550
15	3960	14	148	e600	4	6.6	7520	131	2670
16	5940	15	236	1150	5	15	6010	111	1810
17	5800	23	354	1170	4	14	4850	114	1500
18	5210	46	635	775	5	10	4020	87	945
19	3980	38	413	969	5	14	3260	69	611
20	6240	39	739	2060	7	41	3090	62	515
21	20000	297	18100	3160	7	56	2650	57	408
22	23600	544	35000	3710	9	91	2200	46	273
23	17300	335	15900	4000	10	108	2390	38	243
24	13100	207	7430	3840	11	110	2230	31	188
25	9050	123	3070	3830	19	198	1810	27	132
26	6880	78	1460	3870	29	301	1610	25	108
27	5350	59	854	3680	32	318	1340	27	96
28	4930	47	625	4700	35	447	1590	20	88
29	4280	28	332	---	---	---	1400	20	77
30	3750	27	270	---	---	---	1300	21	74
31	3330	23	206	---	---	---	1200	22	71
TOTAL	151314	---	86104	55954	---	2266.5	237180	---	224954

e Estimated

STREAMS TRIBUTARY TO LAKE ERIE

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04193500 MAUMEE RIVER AT WATERVILLE, OHIO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	1140	24	75	2360	49	314	5490	66	989
2	1080	29	84	2370	43	273	4210	52	588
3	1040	35	99	2130	40	230	3590	49	479
4	1130	32	99	1860	37	184	3330	49	445
5	702	24	45	1860	33	167	3740	52	522
6	1110	25	76	1800	34	164	3530	48	454
7	816	21	48	1720	45	209	2890	44	344
8	1110	28	92	1340	36	131	2410	47	308
9	4790	56	874	1670	29	132	2060	50	281
10	24200	305	22900	1750	27	129	3900	49	510
11	45900	716	89300	2860	28	222	4390	57	679
12	51000	609	83700	3660	45	440	5130	63	869
13	45800	412	51300	3170	46	396	6000	72	1160
14	34300	285	26700	3180	41	354	5130	103	1420
15	23600	213	13700	2150	32	188	4210	116	1310
16	16500	178	8000	1840	24	119	3490	122	1140
17	11300	145	4470	1850	19	95	2480	120	807
18	8070	109	2390	1370	16	59	2260	112	684
19	7320	93	1840	2120	18	105	1800	99	483
20	6630	72	1290	3200	27	248	1100	87	261
21	7090	74	1420	6500	42	749	828	76	170
22	10800	76	2200	6240	40	673	901	69	168
23	13200	110	3950	4280	32	369	778	59	124
24	12100	147	4780	4820	41	575	659	44	80
25	9390	121	3080	11700	87	2790	724	39	77
26	6890	122	2270	13600	145	5330	692	46	87
27	5450	123	1810	10700	117	3430	3130	69	639
28	4250	104	1200	7980	92	1980	14300	116	4640
29	3280	79	697	9080	99	2430	16700	247	11100
30	2850	55	426	7650	85	1760	17300	279	13000
31	---	---	---	6750	84	1540	---	---	---
TOTAL	362838	---	328915	133560	---	25785	127152	---	43818

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	15900	256	11000	927	33	83	425	23	26
2	11900	230	7440	913	27	67	359	24	23
3	9230	207	5170	897	26	64	324	22	19
4	7510	186	3780	832	23	51	312	22	18
5	5720	168	2600	934	32	85	286	23	18
6	4240	151	1730	1650	45	201	244	21	14
7	2960	136	1090	2450	42	280	216	19	11
8	1740	122	577	2880	48	379	245	22	15
9	1340	110	398	4460	62	747	410	32	36
10	1220	99	327	3660	61	600	595	43	70
11	1020	89	246	2660	57	412	551	45	67
12	878	80	190	2550	57	392	457	39	48
13	838	72	164	2020	51	280	446	38	45
14	726	65	127	1510	47	191	290	38	30
15	630	59	99.6	1270	34	117	213	35	20
16	576	53	82	957	25	65	247	38	26
17	975	62	186	989	28	79	261	35	25
18	1610	77	334	1440	44	171	210	30	17
19	793	66	141	1680	42	192	190	28	14
20	637	59	102	1910	41	212	244	29	19
21	577	50	78	3210	41	356	243	30	20
22	566	47	72	2700	41	299	373	40	41
23	584	43	68	1750	39	185	177	39	19
24	486	30	40	1170	42	131	119	37	12
25	721	35	68	875	41	96	185	37	18
26	722	40	78	728	37	73	205	32	18
27	1510	43	177	551	34	51	210	24	14
28	1560	47	197	542	31	46	177	23	11
29	1220	41	134	502	28	39	156	23	9.6
30	1150	37	115	421	26	30	183	22	11
31	1010	29	80	430	24	28	---	---	---
TOTAL	80549	---	36890.6	49468	---	6002	8553	---	734.6
YEAR	1285967		761673.4						

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.--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 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	17	29	31	e120	1430	80	139	368	277	24	9.6
2	13	19	19	28	e110	560	75	133	411	222	82	9.2
3	13	29	16	e24	e100	399	71	127	861	135	126	9.1
4	10	28	14	e21	e90	303	69	113	567	98	66	11
5	9.3	25	14	e20	e84	234	68	107	318	93	51	10
6	9.8	25	15	e19	e76	229	68	113	223	79	188	8.8
7	9.8	24	28	e18	e72	684	67	115	177	59	126	8.6
8	10	29	63	e17	e64	4000	126	105	141	45	66	8.9
9	9.9	33	92	e16	e58	4870	956	101	115	38	60	10
10	8.9	38	87	e15	e54	2200	3240	203	110	33	76	11
11	11	45	114	e14	e50	1370	4430	1350	156	28	64	10
12	10	40	92	e30	e47	1210	4280	973	159	26	45	10
13	9.4	29	68	77	e43	812	2950	486	119	25	32	9.3
14	9.2	20	54	270	e41	543	1420	318	92	28	36	8.6
15	9.4	18	43	330	e39	415	736	256	77	35	36	8.6
16	9.6	16	41	554	e50	340	497	192	69	42	26	9.0
17	9.2	15	202	352	74	280	374	172	65	33	50	9.9
18	7.7	15	507	212	99	223	413	180	57	24	55	9.2
19	11	14	283	155	166	188	1030	197	49	24	59	8.5
20	12	14	157	1060	410	180	725	446	47	19	41	12
21	14	14	104	3120	538	180	708	298	55	17	27	14
22	16	13	82	2040	537	172	1850	183	50	17	18	23
23	15	13	68	1020	422	144	1100	134	42	18	13	18
24	15	13	59	697	580	120	541	316	39	24	12	12
25	16	11	52	454	494	100	384	2080	60	43	11	10
26	14	9.9	46	e340	315	89	290	1340	82	125	11	9.1
27	22	10	42	e270	244	84	235	629	578	152	10	8.2
28	17	23	38	e200	954	89	202	442	1260	123	11	7.6
29	13	46	35	e170	---	94	162	1480	676	70	11	7.3
30	12	48	31	e160	---	89	141	1310	331	49	9.5	6.6
31	13	---	30	e140	---	84	---	664	---	31	9.8	---
TOTAL	372.2	693.9	2525	11874	5931	21815	27288	14702	7354	2032	1452.3	307.1
MEAN	12.0	23.1	81.5	383	212	704	910	474	245	65.5	46.8	10.2
MAX	22	48	507	3120	954	4870	4430	2080	1260	277	188	23
MIN	7.7	9.9	14	14	39	84	67	101	39	17	9.5	6.6
CFSM	.03	.05	.19	.89	.49	1.64	2.13	1.11	.57	.15	.11	.02
IN.	.03	.06	.22	1.03	.52	1.90	2.37	1.28	.64	.18	.13	.03
(+)	6.0	5.5	5.1	5.3	7.0	6.7	6.9	6.6	7.2	7.5	7.1	8.3
MEAN*	6.00	17.6	76.4	378	205	697	903	467	238	58.0	39.7	1.90
CFSM*	.01	.04	.18	.88	.48	1.63	2.11	1.09	.56	.14	.09	.00
IN*	.02	.05	.21	1.02	.50	1.88	2.35	1.26	.62	.16	.11	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1995, BY WATER YEAR (WY)

	MEAN	86.6	204	354	452	507	762	646	391	273	155	59.5	89.5
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	1.18	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 1994 CALENDAR YEAR

FOR 1995 WATER YEAR

WATER YEARS 1928 - 1995

ANNUAL TOTAL	79491.0	96346.5	
ANNUAL MEAN	218	264 (#257)	#329
HIGHEST ANNUAL MEAN			628
LOWEST ANNUAL MEAN			81.4
HIGHEST DAILY MEAN	7340	Apr 13	11000
LOWEST DAILY MEAN	6.6	Sep 23	.40
ANNUAL SEVEN-DAY MINIMUM	7.5	Sep 17	.93
INSTANTANEOUS PEAK FLOW		5330	Mar 9 a
INSTANTANEOUS PEAK STAGE		10.05	Mar 9
INSTANTANEOUS LOW FLOW		6.6	Sep 30
ANNUAL RUNOFF (CFSM)	.51	.62	.77
ANNUAL RUNOFF (INCHES)	6.91	8.37 (#8.18)	#10.44
10 PERCENT EXCEEDS	497	662	833
50 PERCENT EXCEEDS	33	64	67
90 PERCENT EXCEEDS	9.8	10	7.7

e Estimated

(+) 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.

STREAMS TRIBUTARY TO LAKE ERIE

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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.--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, releases totaled 153.3 mil gal, equivalent to a mean annual release of 0.65 ft³/s. There were no withdrawals. Water-quality data collected at this site 1968 to 1977. Sediment data collected 1970 to 1974.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.40	7.4	9.7	9.6	e59	1040	26	63	196	1070	17	3.0
2	.58	3.8	9.7	e10	e51	650	23	59	271	1220	16	2.1
3	.65	4.9	12	e6.0	e45	267	23	55	687	646	12	1.6
4	.68	5.2	12	e4.3	e40	148	21	51	749	201	44	1.2
5	.77	6.2	14	e3.8	e36	113	19	43	949	112	49	1.5
6	1.1	8.3	13	3.3	e33	138	19	42	492	71	255	1.9
7	1.1	6.1	19	e3.1	e30	458	18	57	220	54	552	1.7
8	1.4	5.2	20	e3.0	e28	1350	17	57	165	55	230	1.5
9	2.8	6.8	31	e2.9	e26	1760	40	51	134	42	175	1.6
10	2.8	8.9	51	e2.9	e24	2000	574	71	94	31	316	1.3
11	2.4	6.1	90	3.8	e23	1260	1450	333	244	23	190	1.0
12	2.1	6.4	126	5.6	e21	898	2070	570	272	20	108	1.4
13	1.9	13	102	18	e20	608	1750	318	148	20	60	1.8
14	1.5	15	62	88	e19	355	1160	184	94	18	39	1.5
15	1.1	16	41	321	19	249	490	123	66	15	26	.97
16	.77	20	28	725	19	185	278	90	49	18	19	.87
17	.46	19	60	716	22	145	187	71	40	305	16	1.5
18	.44	16	169	393	27	114	174	256	37	220	15	1.9
19	.33	13	171	218	63	96	210	1070	31	118	17	2.1
20	.31	11	95	567	202	82	312	1380	26	63	11	3.2
21	.29	9.9	59	1190	360	72	846	1340	23	35	8.7	3.2
22	17	9.1	54	1400	e290	58	1810	448	21	23	8.5	2.5
23	24	13	47	1040	e270	50	2870	204	22	20	6.2	1.8
24	22	18	42	470	e380	41	1520	129	23	17	5.2	1.5
25	17	16	29	313	e370	35	494	89	26	16	4.6	1.4
26	19	13	18	e200	245	29	278	75	23	27	4.3	1.4
27	20	12	15	e150	258	27	184	117	29	117	4.6	1.3
28	16	15	14	e120	765	33	132	119	177	107	4.1	1.0
29	12	14	14	e100	---	39	96	176	437	61	3.3	.98
30	9.9	12	11	e80	---	32	74	453	811	37	3.0	1.2
31	8.3	---	11	e66	---	27	---	372	---	23	3.7	---
TOTAL	189.08	330.3	1449.4	8233.3	3745	12359	17165	8466	6556	4805	2223.2	49.92
MEAN	6.10	11.0	46.8	266	134	399	572	273	219	155	71.7	1.66
MAX	24	20	171	1400	765	2000	2870	1380	949	1220	552	3.2
MIN	.29	3.8	9.7	2.9	19	27	17	42	21	15	3.0	.87

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1995, BY WATER YEAR (WY)

	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
MEAN	33.6	153	233	222	306	415	336	198	131	120	32.4	34.8																				
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 1994 CALENDAR YEAR

FOR 1995 WATER YEAR

WATER YEARS 1964 - 1995

ANNUAL TOTAL	60932.76	65571.20	
ANNUAL MEAN	167	180	184
HIGHEST ANNUAL MEAN			330
LOWEST ANNUAL MEAN			72.2
HIGHEST DAILY MEAN	3590	Jan 30	2870
LOWEST DAILY MEAN	.29	Oct 21	.29
ANNUAL SEVEN-DAY MINIMUM	.35	Sep 24	.53
INSTANTANEOUS PEAK FLOW			3190
INSTANTANEOUS PEAK STAGE			7.31
INSTANTANEOUS LOW FLOW			.29
10 PERCENT EXCEEDS	508	517	500
50 PERCENT EXCEEDS	18	30	33
90 PERCENT EXCEEDS	2.2	1.8	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.

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

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

REMARKS.--Records good except 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 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.94	1.4	6.2	e10	e52	863	25	56	77	458	4.8	1.0
2	1.4	1.6	5.1	e8.8	e46	393	24	52	60	275	4.4	1.1
3	1.1	1.6	3.3	e8.0	e40	214	23	47	150	125	3.7	1.2
4	.70	1.7	2.5	e7.2	e36	134	23	43	372	74	5.2	1.1
5	.56	3.1	2.9	e6.8	e34	95	22	40	548	51	6.9	1.0
6	.63	3.6	2.8	e6.4	e31	111	22	37	358	38	8.1	.97
7	.60	2.5	3.7	e6.0	e28	420	22	34	168	60	28	.84
8	.62	2.1	7.8	e5.8	e26	1650	23	32	130	103	28	.87
9	.99	3.3	32	e5.6	e25	1620	89	32	80	67	43	.94
10	.91	5.1	41	e5.4	e23	887	698	91	60	42	99	.82
11	.75	5.3	90	e5.6	e22	566	1420	410	53	28	68	.74
12	.85	7.9	115	e6.4	e20	423	1300	293	59	21	36	.70
13	.94	6.3	e60	e25	e19	279	975	152	47	16	23	.67
14	.94	4.5	e39	e80	e18	198	543	106	35	20	14	.61
15	.94	3.2	e30	e250	e19	144	283	86	29	30	9.1	.56
16	.78	2.3	e25	698	e21	111	182	62	24	26	7.5	.53
17	.83	2.1	104	725	e25	90	129	50	20	20	6.4	.66
18	.87	1.7	222	474	e40	73	109	58	16	72	6.6	.71
19	.85	1.6	145	291	e90	62	132	491	14	53	38	.60
20	.94	1.5	75	692	e200	57	132	687	13	31	33	.90
21	.94	1.5	49	1310	e400	53	923	387	12	22	21	.87
22	.94	1.3	37	1200	e250	49	1570	172	11	16	12	.86
23	.94	1.2	31	696	e200	45	910	100	9.9	15	6.2	.93
24	.94	1.1	27	456	e250	39	408	73	11	19	3.6	.84
25	.99	1.1	23	314	e140	34	240	71	9.7	19	2.6	1.0
26	1.1	.96	21	238	e110	30	162	53	10	22	2.1	1.0
27	1.1	1.2	19	e150	321	28	118	43	32	25	1.7	.93
28	1.1	1.6	17	e110	1020	27	93	42	123	16	1.4	.88
29	1.1	1.6	15	e84	---	27	74	233	127	11	1.3	.82
30	1.2	1.3	e13	e70	---	27	63	257	313	7.7	1.2	.64
31	1.1	---	e11	e60	---	26	---	127	---	5.4	1.1	---
TOTAL	28.59	75.26	1275.3	8005.0	3506	8775	10737	4417	2971.6	1788.1	526.9	25.29
MEAN	.92	2.51	41.1	258	125	283	358	142	99.1	57.7	17.0	.84
MAX	1.4	7.9	222	1310	1020	1650	1570	687	548	458	99	1.2
MIN	.56	.96	2.5	5.4	18	26	22	32	9.7	5.4	1.1	.53
CFSM	.01	.02	.28	1.73	.84	1.90	2.40	.96	.66	.39	.11	.01
IN.	.01	.02	.32	2.00	.88	2.19	2.68	1.10	.74	.45	.13	.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1995, BY WATER YEAR (WY)

	MEAN	34.0	120	168	136	223	283	254	102	104	74.0	31.7	38.5
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	2.51	1.98	1.31	65.6	40.4	77.5	8.69	1.05	.46	1.52	.84	
(WY)	1989	1995	1977	1977	1978	1981	1991	1988	1988	1988	1993	1995	

SUMMARY STATISTICS

FOR 1994 CALENDAR YEAR

FOR 1995 WATER YEAR

WATER YEARS 1977 - 1995

ANNUAL TOTAL	31078.03	42131.04	
ANNUAL MEAN	85.1	115	130
HIGHEST ANNUAL MEAN			189
LOWEST ANNUAL MEAN			48.1
HIGHEST DAILY MEAN	2270	1650	4000
LOWEST DAILY MEAN	.44	.53	.07
ANNUAL SEVEN-DAY MINIMUM	.56	.62	.09
INSTANTANEOUS PEAK FLOW		1850	4440
INSTANTANEOUS PEAK STAGE		7.67	11.00
INSTANTANEOUS LOW FLOW		.53	.07
ANNUAL RUNOFF (CFSM)	.57	.77	.87
ANNUAL RUNOFF (INCHES)	7.76	10.52	11.85
10 PERCENT EXCEEDS	199	317	348
50 PERCENT EXCEEDS	14	25	30
90 PERCENT EXCEEDS	.94	.94	1.8

STREAMS TRIBUTARY TO LAKE ERIE

55

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.--Records fair except those for estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	3.1	1.7	1.9	e7.6	110	7.8	10	11	28	1.7	.68
2	1.1	2.6	1.7	1.6	e7.0	36	7.6	9.6	34	11	1.5	.71
3	.94	1.9	1.7	e1.4	e6.4	25	7.6	9.0	26	6.1	1.3	.62
4	.94	1.8	1.7	e1.3	e6.0	15	7.9	8.9	25	4.4	1.6	.70
5	1.1	2.7	2.2	e1.2	e5.4	12	7.5	9.4	17	3.5	3.2	.67
6	1.1	2.8	2.1	e1.2	e5.0	16	7.5	9.0	10	3.3	2.2	.64
7	1.1	2.0	4.3	e1.1	e4.7	101	7.5	8.8	8.1	2.9	1.7	.63
8	1.1	1.8	3.5	e1.1	e4.4	708	9.0	8.1	6.7	2.7	2.1	.82
9	1.3	3.1	4.9	e1.0	e4.0	180	57	9.6	5.8	2.4	10	.84
10	1.3	3.2	6.4	e1.0	e3.8	79	351	34	6.4	2.3	5.8	.76
11	1.3	2.2	5.6	e2.0	e3.6	93	350	114	6.0	2.2	3.3	.73
12	1.4	1.9	4.8	3.5	e3.4	76	207	40	5.1	2.2	2.7	.79
13	1.5	1.9	3.7	7.7	e3.2	36	132	18	4.7	2.2	2.2	1.0
14	1.8	1.8	2.9	10	e3.0	23	42	15	4.6	2.5	1.7	1.0
15	1.6	1.7	2.5	184	e3.2	18	25	12	4.2	2.2	1.6	1.0
16	1.7	1.7	3.3	159	e3.7	15	18	11	3.9	2.1	1.9	1.1
17	2.0	2.0	17	73	e4.5	13	15	10	3.7	2.1	2.0	1.3
18	2.0	1.7	16	30	e7.0	12	22	11	3.5	1.9	1.5	1.4
19	1.8	1.6	7.7	20	e35	11	39	33	3.4	1.7	1.8	1.2
20	1.6	1.5	4.5	325	e70	11	20	28	3.2	1.7	3.0	1.5
21	1.9	1.6	3.2	323	e54	12	522	14	3.0	2.1	1.9	.79
22	1.9	1.7	2.6	110	e41	11	398	9.2	2.6	2.4	1.3	.81
23	1.7	1.7	2.3	67	e37	9.8	58	7.6	2.7	2.4	1.1	.67
24	2.2	1.9	2.2	41	e56	8.9	31	20	6.5	2.2	1.0	.70
25	2.0	2.0	2.0	e20	e23	8.5	21	90	3.5	2.1	.90	.78
26	2.1	2.0	1.8	e15	e15	8.0	16	30	3.9	2.0	1.0	.65
27	2.3	2.4	1.8	e13	112	8.1	14	13	36	2.2	.90	.63
28	2.2	2.7	1.7	e11	401	8.2	12	25	21	2.4	.78	.60
29	2.2	1.9	1.7	e10	---	7.9	11	127	35	1.7	.81	.58
30	2.2	1.7	1.6	e9.2	---	7.9	11	51	86	1.4	.80	.57
31	2.4	---	1.6	e8.4	---	7.9	---	18	---	1.4	.68	---
TOTAL	51.08	62.6	120.7	1454.6	929.9	1688.2	2434.4	813.2	392.5	109.7	63.97	24.87
MEAN	1.65	2.09	3.89	46.9	33.2	54.5	81.1	26.2	13.1	3.54	2.06	.83
MAX	2.4	3.2	17	325	401	708	522	127	86	28	10	1.5
MIN	.94	1.5	1.6	1.0	3.0	7.9	7.5	7.6	2.6	1.4	.58	.57
CFSM	.05	.06	.11	1.36	.96	1.57	2.35	.76	.38	.10	.06	.02
IN.	.05	.07	.13	1.56	1.00	1.82	2.62	.87	.42	.12	.07	.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1995, BY WATER YEAR (WY)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
MEAN	12.3	38.7	40.9	34.1	56.9	49.1	55.1	22.4	13.5	15.2	6.27	13.6
MAX	50.3	145	172	98.5	122	138	92.6	82.3	36.8	82.0	28.1	99.5
(WY)	1991	1993	1991	1993	1990	1984	1994	1989	1993	1992	1990	1992
MIN	1.28	2.09	2.09	10.2	13.0	13.6	17.9	2.29	1.12	.55	1.37	.83
(WY)	1989	1995	1992	1992	1993	1989	1988	1988	1988	1988	1991	1995

SUMMARY STATISTICS	FOR 1994 CALENDAR YEAR	FOR 1995 WATER YEAR	WATER YEARS 1984 - 1995
ANNUAL TOTAL	6695.18	8145.72	
ANNUAL MEAN	18.3	22.3	29.6
HIGHEST ANNUAL MEAN			48.2
LOWEST ANNUAL MEAN			11.6
HIGHEST DAILY MEAN	1000	708	1440
LOWEST DAILY MEAN	.94	.57	.32
ANNUAL SEVEN-DAY MINIMUM	1.1	.64	.38
INSTANTANEOUS PEAK FLOW		1090	1850
INSTANTANEOUS PEAK STAGE		7.00	8.05
INSTANTANEOUS LOW FLOW		.57	.32
ANNUAL RUNOFF (CFSM)	.53	.65	.86
ANNUAL RUNOFF (INCHES)	7.20	8.76	11.63
10 PERCENT EXCEEDS	28	39	60
50 PERCENT EXCEEDS	2.6	3.3	6.5
90 PERCENT EXCEEDS	1.5	1.0	1.4

e Estimated

STREAMS TRIBUTARY TO LAKE ERIE

04198000 SANDUSKY RIVER NEAR FREMONT, OH

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.

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

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

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

REMARKS.--Records good except for periods of estimated daily discharge which are poor, and Aug. 8-24 which are fair.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	42	65	133	e480	5770	278	558	1140	2900	165	e52
2	31	53	80	e120	e420	4050	267	504	913	2950	163	e49
3	32	53	79	e110	e390	2150	259	464	2510	2200	160	e48
4	34	48	74	e100	e360	1260	257	426	2130	1210	160	e46
5	34	53	72	e92	e340	883	253	407	2380	635	205	e44
6	34	65	73	e88	e310	797	241	383	2360	440	313	e42
7	32	68	89	e84	e300	1680	230	358	1390	338	1400	e41
8	30	68	125	e80	e280	9620	267	341	850	458	1950	40
9	30	76	190	e76	e260	10800	481	356	958	475	1830	40
10	31	95	342	e72	e250	8340	2500	543	883	355	1710	39
11	30	91	545	e70	e240	6540	9050	2650	710	270	1790	38
12	30	101	825	e160	e230	4740	8990	2210	971	221	1210	38
13	32	112	797	358	e220	3100	8920	1720	853	188	718	38
14	31	96	551	567	e215	2080	6320	1140	597	175	452	41
15	30	85	370	2420	e211	1480	3520	831	458	214	308	40
16	29	79	283	4830	e200	1130	1880	639	372	282	276	36
17	28	71	446	5010	e190	914	1290	553	323	231	272	36
18	28	60	958	3960	e330	759	1090	593	275	1230	312	37
19	28	56	1220	2240	e620	651	1370	2620	246	987	329	38
20	28	52	839	3390	e1000	587	1320	4960	229	522	309	41
21	27	52	555	7850	e1900	547	4130	4130	210	354	241	53
22	28	48	400	7240	e1300	500	11600	2640	190	262	217	51
23	29	44	325	5710	e1100	453	8590	1280	180	261	170	48
24	28	45	284	3650	e1500	410	6900	885	197	219	154	44
25	28	42	254	2110	e1400	368	3900	1480	203	310	e130	41
26	30	40	227	1510	e920	333	1780	902	193	246	e100	40
27	38	46	200	1160	e800	309	1190	641	359	238	e84	39
28	38	71	171	e900	4840	305	904	714	590	329	e68	37
29	43	70	156	e740	---	299	731	2060	871	406	e62	34
30	45	62	152	e620	---	300	630	2000	1390	276	e58	32
31	39	---	135	e540	---	292	---	1610	---	208	e56	---
TOTAL	987	1944	10882	55990	20606	71447	89138	40598	24931	19390	15372	1243
MEAN	31.8	64.8	351	1806	736	2305	2971	1310	831	625	496	41.4
MAX	45	112	1220	7850	4840	10800	11600	4960	2510	2950	1950	53
MIN	27	40	65	70	190	292	230	341	180	175	56	32
CFSM	.03	.05	.28	1.44	.59	1.84	2.38	1.05	.66	.50	.40	.03
IN.	.03	.06	.32	1.66	.61	2.12	2.65	1.21	.74	.58	.46	.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 1995, BY WATER YEAR (WY)

	MEAN	228	593	1084	1540	1923	2330	1833	1017	767	456	211	261
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 1994 CALENDAR YEAR

FOR 1995 WATER YEAR

WATER YEARS 1924 - 1995

ANNUAL TOTAL	270718		352528										
ANNUAL MEAN	742		966										
HIGHEST ANNUAL MEAN										1015			
LOWEST ANNUAL MEAN										2167			1984
HIGHEST DAILY MEAN	15700	Apr 13	11600	Apr 22	36000	Mar 15	1978			275			1934
LOWEST DAILY MEAN	27	Oct 21	27	Oct 21	5.0	Oct 20	1963			6.3			
ANNUAL SEVEN-DAY MINIMUM	28	Oct 16	28	Oct 16	6.3	Jul 9	1988			36500			Mar 16
INSTANTANEOUS PEAK FLOW			12500	Apr 22	a	Mar 16	1978			16.14			Feb 24
INSTANTANEOUS PEAK STAGE			6.85	Apr 22		Feb 24	1979			4.4			Feb 29
INSTANTANEOUS LOW FLOW			27	Oct 21		Feb 29	1964			.81			
ANNUAL RUNOFF (CFSM)	.59		.77							11.02			
ANNUAL RUNOFF (INCHES)	8.05		10.48							2710			
10 PERCENT EXCEEDS	2040		2450							270			
50 PERCENT EXCEEDS	190		300							38			
90 PERCENT EXCEEDS	36		38										

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

STREAMS TRIBUTARY TO LAKE ERIE

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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 September 1994.

NITROGEN, NITRITE + NITRATE: February 1988 to September 1994.

NITROGEN, AMMONIA + ORGANIC: February 1988 to September 1994.

PHOSPHORUS: February 1988 to September 1994.

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

INSTRUMENTATION.--Refrigerated water-quality pumping sampler, operated by Heidelberg College Water Quality Laboratory, from February 1988 to September 1994.

REMARKS.--Sediment samples were collected by a local observer on an approximate once daily basis. Sediment loads were calculated using the mean-interval method (Porterfield, George, 1972, Computation of Fluvial-Sediment Discharge: U.S. Geological Survey, Techniques of Water Resources Investigations, Book 3, Chap. C3, 66 p.). For days with unsteady concentration, discharge, or both, the day was 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.

EXTREMES FOR PERIOD OF DAILY RECORD.--

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

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

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 670 mg/L, Apr. 22; minimum daily mean, 4 mg/L, Dec. 4-6.

SEDIMENT LOADS: Maximum daily, 21,100 tons, Apr. 22; minimum daily, .40 ton, Oct. 25.

STREAMS TRIBUTARY TO LAKE ERIE

04198000 SANDUSKY RIVER NEAR FREMONT, OH—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

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	32	6	.52	42	21	2.4	65	6	1.1
2	31	6	.50	53	25	3.6	80	9	2.0
3	32	6	.51	53	29	4.1	79	5	1.1
4	34	7	.60	48	34	4.4	74	4	.80
5	34	8	.69	53	35	5.0	72	4	.78
6	34	9	.78	65	30	5.1	73	4	.79
7	32	8	.70	68	24	4.5	89	11	2.9
8	30	7	.57	68	24	4.4	125	25	8.2
9	30	6	.49	76	26	5.3	190	26	14
10	31	5	.44	95	27	6.9	342	37	35
11	30	5	.43	91	18	4.5	545	53	79
12	30	6	.47	101	11	3.0	825	56	123
13	32	6	.51	112	11	3.5	797	29	63
14	31	6	.51	96	13	3.4	551	19	29
15	30	6	.48	85	15	3.5	370	14	14
16	29	6	.46	79	17	3.7	283	11	8.1
17	28	6	.42	71	18	3.4	446	17	23
18	28	6	.49	60	17	2.8	958	63	173
19	28	8	.62	56	17	2.7	1220	116	385
20	28	7	.50	52	22	3.1	839	100	229
21	27	8	.58	52	12	1.7	555	96	144
22	28	9	.65	48	13	1.6	400	81	88
23	29	8	.63	44	13	1.6	325	64	56
24	28	6	.49	45	13	1.5	284	51	39
25	28	5	.40	42	12	1.4	254	40	27
26	30	8	.68	40	11	1.2	227	32	20
27	38	14	1.5	46	11	1.3	200	25	14
28	38	19	2.0	71	10	1.9	171	19	8.9
29	43	23	2.6	70	10	1.8	156	18	7.6
30	45	26	3.1	62	9	1.5	152	18	7.3
31	39	21	2.2	---	---	---	135	18	6.5
TOTAL	987	---	25.52	1944	---	94.8	10882	---	1611.07

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	133	18	6.3	e480	59	76	5770	237	3720
2	e120	17	5.6	e420	51	58	4050	173	1920
3	e110	17	5.1	e390	45	47	2150	112	667
4	e100	17	4.6	e360	39	38	1260	73	250
5	e92	17	4.2	e340	35	32	883	49	117
6	e88	17	4.0	e310	30	25	797	42	90
7	e84	17	3.8	e300	26	21	1680	80	462
8	e80	17	3.6	e280	23	18	9620	571	16200
9	e76	17	3.4	e260	20	14	10800	586	17200
10	e72	16	3.2	e250	18	12	8340	425	9620
11	e70	16	3.1	e240	16	10	6540	290	5170
12	e160	16	7.0	e230	14	8.5	4740	189	2450
13	358	16	16	e220	12	7.1	3100	145	1220
14	567	24	41	e215	10	6.1	2080	118	667
15	2420	162	1320	e211	9	5.2	1480	98	392
16	4830	457	5950	e200	8	4.3	1130	82	252
17	5010	299	4050	e190	8	4.0	914	71	175
18	3960	189	2050	e330	15	14	759	62	127
19	2240	121	749	e620	31	52	651	54	96
20	3390	176	1940	e1000	63	169	587	47	75
21	7850	546	11600	e1900	107	549	547	39	58
22	7240	435	8530	e1300	91	319	500	32	43
23	5710	302	4710	e1100	73	217	453	25	30
24	3650	210	2110	e1500	92	372	410	19	21
25	2110	152	871	e1400	83	315	368	19	19
26	1510	130	534	e920	69	172	333	19	17
27	1160	114	357	e800	72	155	309	18	15
28	e900	100	243	4840	215	3060	305	17	14
29	e740	87	175	---	---	---	299	18	14
30	e620	77	128	---	---	---	300	18	15
31	e540	67	98	---	---	---	292	19	15
TOTAL	55990	---	45525.9	20606	---	5780.2	71447	---	61131

e Estimated

STREAMS TRIBUTARY TO LAKE ERIE

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04198000 SANDUSKY RIVER NEAR FREMONT, OH--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	278	18	13	558	41	62	1140	186	591
2	267	16	12	504	42	57	913	153	406
3	259	15	11	464	36	45	2510	426	2890
4	257	15	10	426	40	46	2130	327	1890
5	253	18	12	407	55	60	2380	290	1870
6	241	17	11	383	73	75	2360	325	2060
7	230	16	9.9	358	70	68	1390	265	1010
8	267	16	12	341	63	58	850	182	421
9	481	25	38	356	56	53	958	151	394
10	2500	123	1020	543	81	152	883	145	348
11	9050	422	10500	2650	623	4650	710	134	257
12	8990	353	8590	2210	362	2200	971	158	414
13	8920	296	7220	1720	151	713	853	148	341
14	6320	192	3320	1140	108	334	597	133	215
15	3520	133	1290	831	95	213	458	130	161
16	1880	97	498	639	84	146	372	110	111
17	1290	71	250	553	84	127	323	89	78
18	1090	61	182	593	110	176	275	75	56
19	1370	70	259	2620	308	2780	246	66	44
20	1320	62	223	4960	477	6390	229	60	37
21	4130	296	5370	4130	303	3420	210	65	37
22	11600	670	21100	2640	190	1380	190	60	31
23	8590	448	10500	1280	121	429	180	57	27
24	6900	340	6380	885	108	263	197	73	39
25	3900	214	2330	1480	298	1210	203	78	43
26	1780	141	688	902	151	380	193	72	37
27	1190	106	342	641	87	151	359	137	146
28	904	84	206	714	95	191	590	144	228
29	731	68	135	2060	664	4230	871	184	440
30	630	47	80	2000	572	3210	1390	200	750
31	---	---	---	1610	353	1540	---	---	---
TOTAL	89138	---	80611.9	40598	---	34809	24931	---	15372

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	2900	422	3440	165	29	13	e52	19	2.6
2	2950	488	3900	163	28	12	e49	17	2.3
3	2200	376	2250	160	24	10	e48	15	2.0
4	1210	259	869	160	24	10	e46	14	1.7
5	635	193	334	205	68	41	e44	12	1.5
6	440	149	178	313	105	89	e42	12	1.3
7	338	114	105	1400	242	997	e41	16	1.7
8	458	117	147	1950	318	1690	40	22	2.4
9	475	100	129	1830	193	956	40	22	2.3
10	355	91	88	1710	133	616	39	18	1.9
11	270	86	63	1790	132	643	38	18	1.9
12	221	76	45	1210	108	356	38	20	2.1
13	188	67	34	718	93	182	38	22	2.3
14	175	58	28	452	81	99.8	41	19	2.1
15	214	54	32	308	73	61	40	16	1.7
16	282	70	54	276	89	66	36	13	1.3
17	231	50	32	272	101	74	36	11	1.0
18	1230	115	442	312	105	89	37	10	.95
19	987	203	536	329	95	85	38	15	1.5
20	522	183	260	309	69	58	41	18	2.0
21	354	161	155	241	50	33	53	21	3.0
22	262	144	102	217	48	28	51	18	2.5
23	261	111	79	170	41	19	48	14	1.8
24	219	89	53	154	34	14	44	14	1.7
25	310	140	118	e130	29	10	41	14	1.6
26	246	95	64	e100	24	6.6	40	14	1.5
27	238	71	46	e84	21	4.8	39	16	1.7
28	329	91	82	e68	19	3.5	37	19	1.8
29	406	90	101	e62	18	3.0	34	22	2.0
30	276	52	39	e58	17	2.7	32	25	2.2
31	208	38	21	e56	18	2.7	---	---	---
TOTAL	19390	---	13826	15372	---	6275.1	1243	---	56.35
YEAR	352528		265119.04						

e Estimated

STREAMS TRIBUTARY TO LAKE ERIE

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. WDR OH-89-2: 1988.

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

REMARKS.--Records fair, except for periods of estimated record, which are poor. Water-quality 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 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	25	33	e39	e160	1040	80	124	213	830	46	12
2	20	25	27	e37	e150	484	74	123	378	292	61	11
3	18	35	25	e35	e135	326	73	105	1850	160	31	9.8
4	18	26	24	e34	e125	e220	79	85	2330	109	28	9.6
5	17	28	28	e32	e120	e190	72	81	701	82	35	10
6	15	32	29	e31	e110	290	74	86	503	310	39	9.8
7	15	28	71	e30	e105	865	74	75	324	474	53	9.3
8	14	30	96	e28	e100	e3000	114	70	201	298	45	11
9	18	42	156	e27	e94	e1800	522	108	165	131	205	11
10	18	52	240	e26	e88	934	e2500	242	153	91	143	9.8
11	18	62	331	e33	e84	942	e3500	1010	248	70	74	9.8
12	17	55	309	e80	e80	854	e2500	471	181	53	50	9.7
13	15	45	175	e180	e76	490	1460	252	123	50	39	10
14	15	31	90	352	e74	353	736	246	91	69	35	11
15	14	27	e61	e2000	e70	276	495	234	86	79	50	9.0
16	14	24	84	e2500	e84	233	365	133	68	59	75	8.9
17	14	24	487	1400	e110	196	285	115	61	56	723	10
18	14	23	549	764	e160	159	277	171	51	52	849	10
19	14	22	283	549	e250	143	387	1000	44	46	345	9.2
20	14	22	174	e1600	e600	145	297	872	35	39	137	15
21	13	24	119	e3000	e450	150	e3000	363	33	42	71	16
22	13	23	92	1390	e320	138	1870	209	33	36	39	15
23	15	21	80	812	e280	131	1010	122	30	58	26	15
24	17	19	73	593	e400	118	591	268	30	98	21	12
25	18	21	65	449	e250	102	404	737	34	61	18	12
26	16	23	60	e340	e200	93	317	304	59	184	17	12
27	17	26	56	e270	364	90	240	181	360	61	15	11
28	18	36	52	e230	e2000	87	199	144	214	47	14	10
29	16	36	e47	e210	---	86	160	2220	1230	44	13	9.7
30	17	44	e44	e190	---	86	134	766	3010	37	13	9.1
31	19	---	e41	e170	---	87	---	350	---	34	12	---
TOTAL	499	931	4001	17431	7039	14108	21889	11267	12839	4052	3322	327.7
MEAN	16.1	31.0	129	562	251	455	730	363	428	131	107	10.9
MAX	20	62	549	3000	2000	3000	3500	2220	3010	830	849	16
MIN	13	19	24	26	70	86	72	70	30	34	12	8.9
CFSM	.04	.08	.35	1.52	.68	1.23	1.97	.98	1.15	.35	.29	.03
IN.	.05	.09	.40	1.75	.71	1.41	2.19	1.13	1.29	.41	.33	.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1995, BY WATER YEAR (WY)

	MEAN	54.9	174	343	459	531	694	562	299	210	181	85.4	74.4
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	11.3	5.76	
(WY)	1964	1964	1964	1977	1964	1981	1971	1962	1988	1963	1952	1955	

SUMMARY STATISTICS

FOR 1994 CALENDAR YEAR

FOR 1995 WATER YEAR

WATER YEARS 1951 - 1995

ANNUAL TOTAL	82439	97705.7	
ANNUAL MEAN	226	268	304
HIGHEST ANNUAL MEAN			528
LOWEST ANNUAL MEAN			145
HIGHEST DAILY MEAN	7000	3500	31400
LOWEST DAILY MEAN	12	8.9	3.0
ANNUAL SEVEN-DAY MINIMUM	14	9.7	3.4
INSTANTANEOUS PEAK FLOW		4750	49600
INSTANTANEOUS PEAK STAGE		14.25	31.10
INSTANTANEOUS LOW FLOW		8.9	2.2
ANNUAL RUNOFF (CFSM)	.61	.72	.82
ANNUAL RUNOFF (INCHES)	8.27	9.80	11.15
10 PERCENT EXCEEDS	468	728	695
50 PERCENT EXCEEDS	49	79	83
90 PERCENT EXCEEDS	18	14	15

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

e Estimated

b From highwater mark

STREAMS TRIBUTARY TO LAKE ERIE

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REVISION OF RECORDS FOR A DISCONTINUED STATION

041995000 VERMILION RIVER NEAR VERMILION, OH

LOCATION.--Lat 41°22'54", long 82°19'01", in T.6 N., Lorain County, Hydrologic Unit 04100012, on right bank 40 ft downstream from bridge on North Ridge Road, 3.5 mi southeast of Vermilion and 4.5 mi upstream from mouth.

DRAINAGE AREA.--262 mi².

PERIOD OF RECORD.--March 1950 to September 1981 (discontinued).

Revised Records.--WSP 1912: Drainage area. WDR-OH-70-1: 1969 (Also, see revisions below).

GAGE.--Water-stage recorders. Datum of gage is 595.14 ft National Geodetic Vertical Datum of 1929. Prior to Aug. 3, 1953, nonrecording gage at site 40 ft upstream at same datum.

REMARKS.--Water-quality data collected at this site 1969 to 1980.

AVERAGE DISCHARGE.--31 years, 210 ft³/s, 13.43 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,800 ft³/s July 6, 1969, gage height, 17.14 ft, from rating curve extended above 7,000 ft³/s on basis of contracted-opening measurement of peak flow; no flow at times in many years.

REVISIONS.--Some peak discharges and annual maximum (*) reported for water years 1976, 1977, and 1978 have been revised as shown in the following table. They supersede figures published in the reports for those years.

Water Year	Date	Discharge (ft ³ /s)	Gage Height (ft)
1976	Jan. 27, 1976	d	d
	Feb. 11, 1976	4,000	e
1977	Feb. 25, 1977	3,940	6.12
1978	Dec. 8, 1977	d	d
	Dec. 14, 1977	33,250	15.5 e
	Jan. 9, 1978	d	d
	Jan. 29, 1978	8,600	e

d Peak below base

e Estimated

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.--Records fair, except for periods of estimated record and for discharges greater than 1,000 ft³/s, which are poor. Some regulation at low flow for industrial use. Water-quality data collected at this site 1969 to 1974. Sediment data collected 1970 to 1974.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	28	18	e26	e110	1440	66	97	197	113	20	6.8
2	17	25	15	e24	e100	581	64	89	171	81	19	6.0
3	15	17	15	e23	e90	301	61	83	159	69	16	4.9
4	11	16	15	e22	e82	226	66	79	411	48	16	5.0
5	10	25	31	e21	e74	200	70	75	572	83	24	5.0
6	9.7	35	34	e20	e70	277	74	72	249	672	26	4.9
7	8.0	27	123	e20	e64	772	71	70	153	435	25	5.3
8	8.2	19	172	e19	e60	3270	182	66	114	208	47	5.4
9	14	59	168	e19	e56	2570	720	108	83	115	662	5.9
10	9.3	77	291	e18	e52	904	1900	237	76	72	173	4.9
11	9.3	47	459	e18	e48	738	2290	358	65	51	71	4.7
12	10	48	359	e30	e44	778	1870	274	61	39	46	4.8
13	7.7	37	232	e70	e41	571	2100	195	56	60	37	11
14	9.8	27	124	e180	e40	375	976	156	50	98	34	12
15	8.6	22	92	3090	e38	273	507	124	43	131	27	5.7
16	6.2	18	102	7130	e56	218	327	131	37	409	22	7.2
17	6.2	14	533	5390	e64	181	248	170	34	458	44	8.0
18	7.9	15	550	1700	e86	153	232	341	32	142	59	8.2
19	8.7	12	392	1150	e110	128	349	704	31	60	121	7.4
20	8.9	8.6	225	2310	e140	121	373	936	28	40	152	16
21	8.5	9.6	150	4860	e200	124	2000	408	26	34	87	14
22	9.0	10	109	2920	e190	124	3020	203	27	30	47	14
23	9.4	10	86	924	e170	115	950	130	26	113	31	9.3
24	10	11	72	604	e250	99	464	175	25	86	23	8.0
25	12	12	63	435	e220	87	311	347	30	69	19	7.8
26	14	12	54	338	e200	78	238	194	32	59	15	7.3
27	13	23	48	e240	e180	71	186	125	33	49	12	6.7
28	13	39	40	e190	e1100	69	152	104	47	35	11	6.2
29	13	31	34	e160	---	70	125	2170	74	28	9.5	5.8
30	13	22	e28	e140	---	73	110	797	71	27	8.2	5.4
31	13	---	e27	e130	---	69	---	364	---	23	7.5	---
TOTAL	334.4	756.2	4661	32221	3935	15056	20102	9382	3013	3937	1911.2	223.6
MEAN	10.8	25.2	150	1039	141	486	670	303	100	127	61.7	7.45
MAX	21	77	550	7130	1100	3270	3020	2170	572	672	662	16
MIN	6.2	8.6	15	18	38	69	61	66	25	23	7.5	4.7
CFSM	.03	.06	.38	2.62	.35	1.23	1.69	.76	.25	.32	.16	.02
IN.	.03	.07	.44	3.03	.37	1.41	1.89	.88	.28	.37	.18	.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1995, BY WATER YEAR (WY)

	MEAN	57.0	225	393	479	603	800	626	352	200	145	70.1	68.8
	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 1994 CALENDAR YEAR

FOR 1995 WATER YEAR

WATER YEARS 1945 - 1995

ANNUAL TOTAL	90488.3	95532.4	
ANNUAL MEAN	248	262	334
HIGHEST ANNUAL MEAN			534
LOWEST ANNUAL MEAN			130
HIGHEST DAILY MEAN	9900	7130	24900
LOWEST DAILY MEAN	6.2	4.7	.60
ANNUAL SEVEN-DAY MINIMUM	7.2	5.1	1.4
INSTANTANEOUS PEAK FLOW		8070	51700
INSTANTANEOUS PEAK STAGE		13.23	26.40
INSTANTANEOUS LOW FLOW		4.7	.00
ANNUAL RUNOFF (CFSM)	.63	.66	.84
ANNUAL RUNOFF (INCHES)	8.50	8.97	11.44
10 PERCENT EXCEEDS	500	558	812
50 PERCENT EXCEEDS	39	64	72
90 PERCENT EXCEEDS	9.8	8.8	10

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

STREAMS TRIBUTARY TO LAKE ERIE

63

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. WDR-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.--Records good except for periods of estimated record which are poor. Some regulation at low flow by small reservoirs on East Branch. Some interbasin transfer of water from Lake Erie for municipal water supply by Cleveland Metro Water District. Water-quality 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 1994 TO SEPTEMBER 1995 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	35	47	e35	e160	863	92	95	128	102	33	20
2	53	76	39	e33	e140	324	87	92	103	61	77	17
3	33	79	37	e32	e130	196	88	87	535	26	97	17
4	28	53	31	e31	e110	167	128	79	1730	16	52	15
5	25	60	115	e29	e100	155	158	77	388	308	96	14
6	22	110	152	e28	e95	281	119	80	169	1110	227	16
7	22	83	270	e28	e88	567	107	79	112	250	87	15
8	21	61	310	e27	e82	851	453	66	132	120	54	16
9	38	118	252	e26	e77	1150	966	137	102	71	152	17
10	34	241	484	e25	e72	504	1470	243	74	58	126	16
11	23	144	693	e50	e70	542	1120	203	64	50	83	e15
12	22	68	288	e170	e66	599	1110	181	51	43	54	17
13	23	49	149	e300	e62	337	1270	131	40	46	44	20
14	23	39	e100	e700	e60	235	540	114	37	143	66	45
15	20	35	e88	e2500	e70	197	309	113	30	407	40	41
16	23	32	e100	e9350	e90	173	218	93	25	916	47	36
17	19	33	720	e3500	e120	151	188	207	22	447	100	24
18	18	31	413	e1400	e150	132	203	511	19	189	152	28
19	31	32	237	e1200	e200	119	347	979	15	92	95	e23
20	35	32	169	e3000	e250	120	213	388	14	64	56	45
21	35	33	121	e5000	e300	185	890	164	38	63	40	56
22	24	33	95	e3500	e250	172	1180	97	49	53	33	e58
23	23	30	80	e900	e400	132	417	68	19	174	28	e43
24	24	31	72	e560	e280	113	249	192	17	139	24	e33
25	27	33	63	e470	e200	100	196	446	100	84	22	e32
26	33	33	54	e380	e150	87	170	201	35	96	21	e28
27	33	39	50	e340	e250	84	144	125	66	136	20	e20
28	31	151	e45	e280	1650	129	124	93	57	83	20	e18
29	32	101	e43	e240	---	125	110	1760	147	58	21	e17
30	37	65	e40	e200	---	111	100	548	89	45	21	16
31	32	---	e38	e180	---	100	---	208	---	38	23	---
TOTAL	901	1960	5395	34514	5672	9001	12766	7857	4407	5488	2011	778
MEAN	29.1	65.3	174	1113	203	290	426	253	147	177	64.9	25.9
MAX	57	241	720	9350	1650	1150	1470	1760	1730	1110	227	58
MIN	18	30	31	25	60	84	87	66	14	16	20	14
CFSM	.11	.24	.65	4.17	.76	1.09	1.59	.95	.55	.66	.24	.10
IN.	.13	.27	.75	4.81	.79	1.25	1.78	1.09	.61	.76	.28	.11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 1995, BY WATER YEAR (WY)

	MEAN	87.6	216	343	405	469	597	499	289	168	117	73.6	95.9
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 1994 CALENDAR YEAR

FOR 1995 WATER YEAR

WATER YEARS 1924 - 1995

ANNUAL TOTAL	85006	90750	
ANNUAL MEAN	233	249	279
HIGHEST ANNUAL MEAN			462
LOWEST ANNUAL MEAN			79.5
HIGHEST DAILY MEAN	7330	9350	14300
LOWEST DAILY MEAN	14	14	.20
ANNUAL SEVEN-DAY MINIMUM	18	16	.27
INSTANTANEOUS PEAK FLOW		11000	21400
INSTANTANEOUS PEAK STAGE		7.52	18.60
INSTANTANEOUS LOW FLOW		14	.20
ANNUAL RUNOFF (CFSM)	.87	.93	1.04
ANNUAL RUNOFF (INCHES)	11.84	12.64	14.20
10 PERCENT EXCEEDS	403	507	650
50 PERCENT EXCEEDS	62	87	81
90 PERCENT EXCEEDS	23	22	10

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

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.--Records good except for estimated daily discharges, which are poor. Flow regulated by East Branch Reservoir, usable capacity, 4,140 acre-ft, 14.6 mi upstream since 1939 and by LaDue Reservoir, usable capacity, 18,110 acre-ft, 9.8 mi upstream since 1961. Water-quality data collected at this site 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 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	225	46	69	64	170	587	91	100	191	173	66	109
2	233	69	64	73	126	646	88	89	157	160	102	105
3	232	67	61	67	e110	645	86	83	142	136	120	104
4	216	58	58	e60	e100	579	107	79	131	104	92	102
5	200	55	72	e56	e94	493	135	75	142	80	81	100
6	186	64	109	e54	e88	474	125	72	128	74	84	99
7	173	80	127	e52	e84	507	116	69	103	75	79	99
8	163	76	161	e51	e78	673	161	65	89	68	80	100
9	157	71	184	e51	e74	788	270	61	73	62	100	100
10	154	117	212	e50	e70	785	392	71	64	58	116	97
11	151	143	266	e50	e68	676	430	88	63	55	113	94
12	148	132	298	71	e64	591	424	91	60	52	106	92
13	146	105	286	158	e62	516	387	85	55	48	102	91
14	145	82	238	260	e58	451	350	90	50	49	136	90
15	143	70	174	579	e56	384	323	110	46	50	127	87
16	140	62	129	1120	e64	318	285	116	43	85	132	85
17	139	58	162	1520	87	265	234	112	e41	141	112	83
18	110	55	217	1380	91	227	191	126	e39	167	109	83
19	65	52	247	1030	99	201	191	175	e39	154	127	82
20	50	51	243	813	118	186	204	202	e38	112	131	83
21	46	49	213	719	149	186	213	202	e38	81	131	86
22	45	50	169	657	171	188	299	166	41	67	130	86
23	44	50	132	592	164	180	381	120	68	64	128	87
24	43	50	108	523	205	146	394	98	98	64	125	84
25	43	51	95	459	247	119	336	121	113	62	123	80
26	44	54	86	391	244	104	266	136	119	74	121	78
27	46	53	79	361	248	99	216	121	125	108	120	75
28	49	67	74	296	434	104	186	98	148	98	118	73
29	47	86	71	290	---	110	152	149	187	85	116	56
30	42	79	70	259	---	110	121	199	204	76	114	36
31	39	---	64	235	---	100	---	212	---	69	112	---
TOTAL	3664	2102	4538	12341	3623	11438	7154	3581	2835	2751	3453	2626
MEAN	118	70.1	146	398	129	369	238	116	94.5	88.7	111	87.5
MAX	233	143	298	1520	434	788	430	212	204	173	136	109
MIN	39	46	58	50	56	99	86	61	38	48	66	36
CFSM	.78	.46	.97	2.64	.86	2.44	1.58	.77	.63	.59	.74	.58
IN.	.90	.52	1.12	3.04	.89	2.82	1.76	.88	.70	.68	.85	.65

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1995, BY WATER YEAR (WY)

	MEAN	109	201	277	271	360	453	353	197	128	102	95.3	109
MAX	315	616	816	707	883	835	649	569	542	325	307	374	
(WY)	1991	1986	1978	1993	1976	1963	1961	1984	1989	1969	1992	1975	
MIN	39.0	33.5	45.2	43.5	56.6	174	134	59.8	35.2	48.4	37.1	36.6	
(WY)	1984	1992	1961	1961	1963	1989	1986	1987	1991	1991	1961	1967	

SUMMARY STATISTICS	FOR 1994 CALENDAR YEAR			FOR 1995 WATER YEAR			WATER YEARS 1961 - 1995		
ANNUAL TOTAL	83224			60106			221		
ANNUAL MEAN	228			165			301		
HIGHEST ANNUAL MEAN							131		
LOWEST ANNUAL MEAN							1962		
HIGHEST DAILY MEAN	1500	Jan 31		1520	Jan 17		3250	Feb 18	1976
LOWEST DAILY MEAN	31	Jun 11		36	Sep 30		12	Sep 19	1967
ANNUAL SEVEN-DAY MINIMUM	36	Jun 6		40	Jun 16		13	Sep 16	1967
INSTANTANEOUS PEAK FLOW				1570	Jan 17		3320	Feb 18	1976
INSTANTANEOUS PEAK STAGE				5.33	Jan 17		7.67	Feb 18	1976
INSTANTANEOUS LOW FLOW				30	Sep 30		12	Sep 19	1967
ANNUAL RUNOFF (CFSM)	1.51			1.09			1.46		
ANNUAL RUNOFF (INCHES)	20.50			14.81			19.84		
10 PERCENT EXCEEDS	562			342			514		
50 PERCENT EXCEEDS	117			106			126		
90 PERCENT EXCEEDS	54			52			44		

e Estimated

STREAMS TRIBUTARY TO LAKE ERIE

65

04206000 CUYAHOGA RIVER AT OLD PORTAGE, OH

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

DRAINAGE AREA.--404 mi².

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

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

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

REMARKS.--Records good, except those for estimated daily discharges, 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 68 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	268	191	132	172	e320	871	220	303	470	633	164	122
2	301	138	136	162	e280	859	217	300	553	482	204	125
3	266	98	128	e150	e250	830	221	302	537	337	145	119
4	243	98	123	e145	e230	814	286	296	448	264	146	108
5	236	102	255	e140	e210	755	248	294	367	262	339	117
6	229	133	182	e130	e210	736	242	298	335	499	234	119
7	218	119	296	e130	e200	756	232	278	313	227	189	134
8	200	101	242	e125	e200	1310	260	258	312	188	164	125
9	209	159	283	e125	e200	1260	440	343	265	167	629	118
10	193	279	402	e120	e195	1170	534	343	412	161	322	114
11	180	232	618	e120	e190	1200	464	302	508	150	243	113
12	171	254	577	232	e190	1110	704	200	452	163	217	113
13	171	262	521	223	e185	934	845	197	363	171	173	193
14	170	206	433	265	e180	775	758	314	228	273	177	262
15	173	160	358	1010	e230	651	628	214	183	246	188	145
16	167	144	385	2530	327	580	555	186	159	371	286	123
17	183	184	500	2440	307	534	520	223	145	365	299	119
18	194	210	440	2340	259	507	545	436	136	346	221	124
19	215	194	434	2230	259	494	520	491	135	273	188	115
20	261	187	450	2000	267	494	455	397	137	245	179	147
21	213	195	455	1710	279	508	608	409	132	235	191	135
22	191	185	378	1360	293	324	609	454	135	188	169	130
23	167	126	326	1110	353	288	562	386	120	365	191	110
24	165	108	305	979	384	235	558	411	182	193	139	104
25	174	103	294	845	428	213	535	420	460	507	125	105
26	174	102	286	752	412	207	514	377	360	645	129	114
27	201	148	277	600	474	225	444	351	435	399	131	116
28	136	246	173	557	831	244	384	332	293	271	144	113
29	82	150	156	478	---	226	342	747	384	329	149	103
30	74	137	159	432	---	220	318	591	553	207	131	94
31	89	---	146	e360	---	216	---	477	---	171	116	---
TOTAL	5914	4951	9850	23972	8143	19546	13768	10930	9512	9333	6322	3779
MEAN	191	165	318	773	291	631	459	353	317	301	204	126
MAX	301	279	618	2530	831	1310	845	747	553	645	629	262
MIN	74	98	123	120	180	207	217	186	120	150	116	94
CFSM	.47	.41	.79	1.91	.72	1.56	1.14	.87	.78	.75	.50	.31
IN.	.54	.46	.91	2.21	.75	1.80	1.27	1.01	.88	.86	.58	.35

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 1995, BY WATER YEAR (WY)

	MEAN	212	322	468	566	665	875	737	461	306	234	183	208
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	

SUMMARY STATISTICS

FOR 1994 CALENDAR YEAR

FOR 1995 WATER YEAR

WATER YEARS 1922 - 1995

ANNUAL TOTAL	169561	126020	435
ANNUAL MEAN	465	345	1927
HIGHEST ANNUAL MEAN			181
LOWEST ANNUAL MEAN			1934
HIGHEST DAILY MEAN	4070	Apr 13	2530
LOWEST DAILY MEAN	74	Oct 30	74
ANNUAL SEVEN-DAY MINIMUM	110	Jun 14	107
INSTANTANEOUS PEAK FLOW			3150
INSTANTANEOUS PEAK STAGE			8.37
INSTANTANEOUS LOW FLOW			73
ANNUAL RUNOFF (CFSM)	1.15	.85	1.08
ANNUAL RUNOFF (INCHES)	15.61	11.60	14.64
10 PERCENT EXCEEDS	1130	622	1020
50 PERCENT EXCEEDS	247	243	263
90 PERCENT EXCEEDS	127	124	76

e Estimated

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.--Records fair, except for periods of estimated record and discharges less than 3.0 ft³/s, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	7.5	6.3	6.7	e6.5	18	7.6	8.1	7.0	11	2.2	1.5
2	3.4	7.6	5.9	e5.6	e6.0	13	7.4	7.7	8.6	5.0	2.4	1.5
3	3.2	5.6	6.1	e4.6	e6.0	e9.9	6.8	7.6	42	3.8	2.4	1.3
4	2.9	4.2	5.8	e4.0	e5.6	e7.7	9.5	7.3	37	3.3	2.2	1.4
5	2.8	4.7	15	e3.7	e5.6	8.9	7.5	7.7	13	4.5	13	1.3
6	2.9	11	9.4	e3.5	e5.3	14	7.3	7.8	8.6	22	7.4	1.4
7	2.6	7.5	15	e3.2	e5.0	16	6.7	7.0	7.7	7.4	4.1	1.5
8	2.2	5.5	12	e3.0	e4.6	63	9.2	6.5	7.2	4.8	3.2	1.9
9	2.4	8.2	13	e3.0	e4.6	25	20	8.0	6.1	3.8	10	2.0
10	2.3	13	16	e2.8	e4.3	e17	25	11	6.6	3.5	7.2	1.8
11	2.3	6.0	19	e2.8	e4.3	18	19	11	6.8	3.3	4.4	1.7
12	2.7	4.3	10	e7.0	e4.0	17	28	8.6	5.8	2.9	3.7	1.6
13	2.5	4.0	8.0	11	e4.0	14	22	7.4	4.9	2.8	4.5	3.5
14	2.1	4.3	8.5	11	e3.7	12	16	8.9	4.3	5.0	2.9	6.5
15	1.9	3.6	6.0	102	e9.0	11	13	7.2	4.0	4.1	4.7	2.9
16	2.1	3.4	7.4	123	20	11	12	6.3	3.8	7.6	9.7	2.2
17	1.9	3.2	20	34	17	9.5	9.9	6.4	6.1	3.9	8.2	1.9
18	2.3	3.2	14	20	15	8.2	16	16	8.6	3.0	15	2.0
19	3.2	4.5	9.4	16	14	8.1	16	19	4.7	2.6	5.8	1.9
20	5.5	7.5	7.4	30	11	8.6	12	10	3.8	2.3	3.7	3.7
21	4.3	9.2	6.7	33	11	11	32	7.2	5.6	2.9	3.2	3.6
22	4.4	7.2	6.0	20	e9.0	9.1	21	5.8	4.9	2.7	2.9	2.7
23	4.4	5.6	6.0	16	9.9	8.7	15	5.4	4.2	6.3	2.5	2.5
24	4.5	5.8	5.8	14	12	7.7	12	5.8	4.3	3.5	2.3	2.0
25	5.3	6.7	5.6	e12	e8.0	7.3	11	6.8	7.9	6.5	2.3	2.0
26	5.1	6.0	5.4	e11	8.4	6.9	9.9	6.6	9.8	5.5	2.3	2.1
27	5.0	7.2	5.1	e11	15	6.9	9.7	5.1	6.1	4.0	2.3	2.0
28	4.3	14	5.1	e9.0	35	9.8	8.7	5.1	5.2	3.1	2.7	2.0
29	4.3	9.0	5.0	e8.5	---	8.1	7.9	33	7.2	3.5	2.4	1.9
30	4.4	7.3	5.3	e8.0	---	7.9	8.4	13	7.3	2.5	2.2	2.0
31	5.0	---	5.1	e7.3	---	7.7	---	8.6	---	2.3	1.7	---
TOTAL	105.5	196.8	275.3	546.7	263.8	401.0	406.5	281.9	259.1	149.4	143.5	66.3
MEAN	3.40	6.56	8.88	17.6	9.42	12.9	13.5	9.09	8.64	4.82	4.63	2.21
MAX	5.5	14	20	123	35	63	32	33	42	22	15	6.5
MIN	1.9	3.2	5.0	2.8	3.7	6.9	6.7	5.1	3.8	2.3	1.7	1.3
CFSM	.27	.52	.70	1.39	.74	1.02	1.07	.72	.68	.38	.36	.17
IN.	.31	.58	.81	1.60	.77	1.17	1.19	.83	.76	.44	.42	.19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1995, BY WATER YEAR (WY)

	1992	1993	1994	1995
MEAN	5.15	13.3	12.3	19.4
MAX	9.44	25.3	19.3	33.9
(WY)	1993	1993	1993	1994
MIN	3.31	4.63	6.68	7.89
(WY)	1992	1992	1992	1995

SUMMARY STATISTICS

FOR 1994 CALENDAR YEAR

FOR 1995 WATER YEAR

WATER YEARS 1992 - 1995

ANNUAL TOTAL	3919.0	3095.8	
ANNUAL MEAN	10.7	8.48	12.5
HIGHEST ANNUAL MEAN			16.7
LOWEST ANNUAL MEAN			8.48
HIGHEST DAILY MEAN	175	Jan 28	175
LOWEST DAILY MEAN	1.6	Sep 22	1.1
ANNUAL SEVEN-DAY MINIMUM	2.0	Sep 19	1.3
INSTANTANEOUS PEAK FLOW			243
INSTANTANEOUS PEAK STAGE			12.94
INSTANTANEOUS LOW FLOW			.02
ANNUAL RUNOFF (CFSM)	.85	.67	.98
ANNUAL RUNOFF (INCHES)	11.48	9.07	13.33
10 PERCENT EXCEEDS	19	16	24
50 PERCENT EXCEEDS	6.6	6.3	8.0
90 PERCENT EXCEEDS	2.6	2.3	2.7

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.--Records fair, except for periods of estimated record and discharges less than 6.0 ft³/s, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.33	.62	.40	.53	1.7	6.0	1.6	1.7	1.7	3.8	.40	.39
2	.31	.90	.39	.48	1.6	4.1	1.8	1.7	2.3	1.1	.47	.39
3	.27	.56	.38	.34	1.2	3.1	2.2	1.4	8.0	.64	.44	.40
4	.23	.48	.35	.29	e1.1	2.4	4.8	1.4	5.1	.54	.46	.46
5	.20	.53	2.8	.26	e1.1	2.8	2.8	1.4	2.3	1.7	2.2	.48
6	.19	1.0	1.2	.25	e.95	5.6	2.3	1.8	1.7	8.9	.95	.50
7	.15	.61	4.0	.39	e.95	7.7	2.1	1.3	1.5	1.5	.57	.52
8	.15	.45	1.9	.51	e.95	27	6.3	1.1	1.7	.79	.48	.58
9	.15	1.4	3.9	.48	e.79	7.4	16	1.7	1.2	.59	1.9	.60
10	.16	2.2	5.0	.44	e.79	6.9	12	2.4	1.1	.52	1.3	.58
11	.12	.62	5.8	.47	e.79	7.8	7.4	3.0	1.1	.45	.66	.54
12	.19	.42	2.8	7.0	e.79	6.2	13	2.1	.78	.43	.52	.56
13	.32	.36	1.3	4.2	e.79	3.9	8.3	1.7	.67	.42	.64	1.1
14	.32	.33	.74	4.8	.78	3.1	6.1	2.6	.60	.98	.80	1.2
15	.35	.32	.57	68	1.1	2.8	4.0	1.8	.54	.81	.68	.65
16	.34	.29	1.7	41	3.9	2.5	3.3	1.3	.48	2.9	.73	.55
17	.38	.29	7.1	7.9	2.8	2.2	2.9	2.1	.48	6.9	1.1	.61
18	.37	.29	2.3	5.9	3.5	1.9	5.1	7.2	.48	1.1	1.0	.61
19	.38	.29	2.0	5.3	5.1	1.8	4.1	6.1	.43	.56	.67	.43
20	.43	.29	1.3	18	5.4	2.0	2.7	2.8	.43	.50	.60	1.3
21	.44	.31	.81	10	5.6	2.7	12	2.0	.86	.58	.60	.98
22	.44	.35	.63	5.3	3.3	2.2	5.5	1.6	1.0	.49	.54	.67
23	.44	.35	.56	3.8	4.7	1.9	3.5	1.3	.54	4.0	.60	.51
24	.44	.32	.49	3.3	e5.2	1.8	2.8	2.8	.48	1.0	.57	.38
25	.48	.32	.47	2.8	e2.5	1.5	2.5	3.1	2.2	1.9	.59	.33
26	.48	.32	.44	2.4	2.7	1.4	2.3	2.0	12	1.5	.43	.36
27	.50	.39	.44	2.4	9.0	1.4	2.1	1.5	5.3	1.7	.40	.33
28	.51	1.2	.40	2.0	18	2.2	1.9	1.1	2.3	.70	.42	.29
29	.48	.58	.39	1.8	---	1.9	1.7	18	2.3	.54	.44	.27
30	.48	.46	.34	1.8	---	1.8	1.7	3.5	3.1	.46	.41	.24
31	.48	---	.36	1.7	---	1.7	---	2.2	---	.43	.39	---
TOTAL	10.51	16.85	51.26	203.84	87.08	127.7	144.8	85.7	62.67	48.43	21.96	16.81
MEAN	.34	.56	1.65	6.58	3.11	4.12	4.83	2.76	2.09	1.56	.71	.56
MAX	.51	2.2	7.1	68	18	27	16	18	12	8.9	2.2	1.3
MIN	.12	.29	.34	.25	.78	1.4	1.6	1.1	.43	.42	.39	.24
CFSM	.12	.20	.59	2.34	1.11	1.47	1.72	.98	.74	.56	.25	.20
IN.	.14	.22	.68	2.70	1.15	1.69	1.92	1.13	.83	.64	.29	.22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1995, BY WATER YEAR (WY)

	MEAN	4.09	3.12	7.14	4.15	6.59	6.92	2.21	1.82	3.25	1.42	1.31
MAX	1.25	7.87	5.77	12.5	5.62	13.0	10.5	3.47	3.63	9.23	3.84	3.47
(WY)	1993	1994	1993	1993	1994	1993	1994	1994	1993	1992	1992	1992
MIN	.34	.56	1.24	2.31	3.11	4.07	4.33	1.01	.38	.77	.25	.33
(WY)	1995	1995	1992	1992	1995	1992	1992	1992	1992	1993	1993	1994

SUMMARY STATISTICS	FOR 1994 CALENDAR YEAR	FOR 1995 WATER YEAR	WATER YEARS 1992 - 1995
ANNUAL TOTAL	1158.68	877.61	
ANNUAL MEAN	3.17	2.40	3.57
HIGHEST ANNUAL MEAN			4.90
LOWEST ANNUAL MEAN			2.40
HIGHEST DAILY MEAN	156	68	156
LOWEST DAILY MEAN	.03	.12	.01
ANNUAL SEVEN-DAY MINIMUM	.07	.16	.01
INSTANTANEOUS PEAK FLOW		144	635
INSTANTANEOUS PEAK STAGE		12.17	15.21
INSTANTANEOUS LOW FLOW		.03	.01
ANNUAL RUNOFF (CFSM)	1.13	.86	1.27
ANNUAL RUNOFF (INCHES)	15.34	11.62	17.25
10 PERCENT EXCEEDS	7.6	5.4	8.1
50 PERCENT EXCEEDS	.60	1.1	1.1
90 PERCENT EXCEEDS	.23	.35	.29

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.--Records poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.07	.01	.00	.05	.07	1.5	.12	.14	1.2	.60	.06	.02
2	.05	.01	.00	.05	.07	e1.0	.14	.13	1.6	.10	.03	.02
3	.05	.00	.00	.35	e.07	e.47	.14	.10	5.7	.05	.02	.01
4	.04	.00	.00	.22	.05	e.28	.86	.10	1.4	.03	.01	.01
5	.03	.00	.78	.22	e.05	.68	.29	.12	.85	2.9	1.0	.01
6	.03	.04	.06	.22	e.05	1.2	.28	.18	.44	2.7	.27	.01
7	.03	.02	1.2	.18	.05	2.9	.22	.11	.48	.56	.08	.01
8	.02	.01	.52	.10	.05	11	1.1	.10	.40	.15	.06	.01
9	.02	.53	1.1	.10	e.05	e1.8	4.2	.45	.55	.08	3.8	.00
10	.02	.31	1.4	.10	e.05	e1.5	2.6	.49	.15	.09	.36	.00
11	e.00	.02	1.3	.10	e.05	1.8	1.6	1.0	.08	.07	.08	.00
12	e.00	.01	.48	.11	e.05	1.5	5.3	.28	.04	.07	.05	.00
13	e.00	.01	e.22	.10	e.05	1.2	2.0	.18	.02	.07	.04	.99
14	e.00	.00	e.22	1.9	e.05	.89	1.4	.83	.01	.20	.03	.19
15	e.00	.00	e.28	28	e.05	.45	1.0	.26	.01	.28	.66	.09
16	.00	.00	.90	17	e.05	.34	1.0	.19	.01	.27	.09	.07
17	.00	.00	2.1	2.1	e.28	.36	1.0	.68	.00	.36	.27	.05
18	.00	.00	1.0	1.4	.91	.32	1.7	2.9	.00	.09	.07	.05
19	.00	.00	.63	1.1	1.1	.29	1.2	1.7	.00	.07	.04	.06
20	.00	.00	.18	5.5	1.1	.43	1.1	1.1	.00	.05	.03	.37
21	.00	.00	.13	2.5	.97	.37	4.1	.84	.24	.05	.03	.16
22	.00	.00	.10	1.3	1.6	.16	1.5	.43	.04	.05	.02	.11
23	.00	.00	.10	1.1	.99	.11	1.2	.28	.02	.63	.03	.08
24	.00	.00	.09	.73	1.1	.10	1.1	.52	.02	.14	.04	.07
25	.00	.00	.07	e.34	e.34	.08	1.0	.59	.68	1.4	.05	.05
26	.00	.00	.07	e.22	.60	.07	.58	.31	4.1	.64	.03	.04
27	.00	.11	.07	e.14	2.8	.13	.50	.25	1.2	.47	.03	.03
28	.00	.05	.07	e.10	6.6	.25	.29	.22	.37	.13	.03	.02
29	.00	.01	.06	e.10	---	.14	.22	10	1.8	.10	.03	.01
30	.00	.00	.05	e.07	---	.13	.21	1.7	1.2	.09	.03	.01
31	.00	---	.04	e.07	---	.10	---	1.3	---	.07	.02	---
TOTAL	0.36	1.14	13.22	65.57	19.25	31.55	37.95	27.48	22.61	12.56	7.39	2.55
MEAN	.012	.038	.43	2.12	.69	1.02	1.26	.89	.75	.41	.24	.085
MAX	.07	.53	2.1	28	6.6	11	5.3	10	5.7	2.9	3.8	.99
MIN	.00	.00	.00	.05	.05	.07	.12	.10	.00	.03	.01	.00
CFSM	.01	.05	.51	2.55	.83	1.23	1.52	1.07	.91	.49	.29	.10
IN.	.02	.05	.59	2.94	.86	1.41	1.70	1.23	1.01	.56	.33	.11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1995, BY WATER YEAR (WY)

	1992	1993	1994	1995
MEAN	.14	1.13	1.23	2.19
MAX	.27	3.46	3.95	3.45
(WY)	1993	1993	1993	1992
MIN	.012	.038	.21	1.20
(WY)	1995	1995	1992	1993

SUMMARY STATISTICS

FOR 1994 CALENDAR YEAR

FOR 1995 WATER YEAR

WATER YEARS 1992 - 1995

ANNUAL TOTAL	267.07	241.63	
ANNUAL MEAN	.73	.66	.97
HIGHEST ANNUAL MEAN			1.49
LOWEST ANNUAL MEAN			.66
HIGHEST DAILY MEAN	36	28	36
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
INSTANTANEOUS PEAK FLOW		83	162
INSTANTANEOUS PEAK STAGE		13.02	15.18
INSTANTANEOUS LOW FLOW		.00	.00
ANNUAL RUNOFF (CFSM)	.88	.80	1.16
ANNUAL RUNOFF (INCHES)	11.97	10.83	15.81
10 PERCENT EXCEEDS	1.2	1.4	2.6
50 PERCENT EXCEEDS	.31	.10	.25
90 PERCENT EXCEEDS	.00	.00	.00

STREAMS TRIBUTARY TO LAKE ERIE

69

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.--Records fair, except for periods of estimated record and discharges of less than 5 ft³/s, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.63	e1.4	e.82	1.5	3.0	10	1.7	3.0	3.0	7.0	.55	e.77
2	e.59	e1.7	e.78	1.0	2.8	5.2	2.2	3.0	4.3	2.2	.67	e.79
3	e.53	e1.1	e.73	.55	e2.6	4.1	2.6	3.0	20	1.4	.55	e.83
4	e.44	e.97	e.72	.55	e2.4	3.4	5.8	2.6	10	1.4	.79	e.88
5	e.39	e1.1	7.6	.37	e2.2	4.6	3.7	3.0	4.2	8.0	7.3	e.95
6	e.35	e1.9	2.5	.37	e2.1	8.7	3.5	3.4	3.0	20	2.3	e1.0
7	e.30	e1.3	8.3	.55	e2.1	13	2.9	2.5	3.0	3.6	1.1	e1.1
8	e.29	e.95	4.0	.61	2.0	57	11	2.0	3.4	1.7	.65	e1.1
9	e.30	e2.5	8.8	.75	2.0	14	28	3.3	3.0	1.4	9.6	e1.2
10	e.31	4.8	11	.55	2.0	11	23	4.4	2.5	1.3	2.8	e1.2
11	e.25	1.3	10	.73	1.6	14	12	5.8	1.8	.65	1.3	e1.1
12	e.40	1.0	3.8	11	1.5	10	27	4.0	1.4	.55	.89	1.4
13	.55	e.71	2.6	5.8	1.4	6.1	15	3.2	1.4	.68	.69	4.3
14	.55	e.64	1.5	10	1.3	5.0	9.3	4.7	1.2	2.1	1.3	2.5
15	.58	e.61	1.4	130	1.8	4.6	5.7	2.7	.99	1.2	2.7	.50
16	e.70	e.58	3.9	94	4.2	4.1	4.6	1.6	.83	4.5	1.1	.81
17	e.73	e.56	14	19	3.3	3.5	4.5	3.9	.69	12	1.7	1.5
18	e.74	e.56	4.6	12	3.9	3.6	9.8	16	.72	1.5	1.8	1.8
19	e.74	e.57	3.9	10	5.2	3.5	6.8	10	.55	.77	.76	1.4
20	e.83	e.59	2.5	40	5.7	3.9	4.8	4.3	.55	.63	.55	3.6
21	e.84	e.63	1.5	25	6.5	4.5	27	3.0	1.8	1.1	.68	1.5
22	e.85	e.68	1.4	12	4.5	3.7	11	1.9	2.2	.55	.99	1.4
23	e.86	e.68	1.4	7.3	7.6	3.5	6.3	1.4	1.0	7.5	1.1	e1.1
24	e.88	e.62	1.4	6.0	7.8	3.2	5.1	3.4	.95	1.5	1.0	e.81
25	e.95	e.62	1.2	5.1	4.2	3.0	4.6	4.4	8.5	5.7	1.0	e.70
26	e.96	e.68	1.0	4.3	4.5	3.0	4.4	2.8	21	3.1	.97	e.71
27	e.98	e1.3	.97	4.1	17	2.4	4.0	1.5	9.9	3.2	e.80	e.64
28	e1.0	e2.2	.90	3.6	38	3.4	3.5	1.5	4.4	1.4	e.82	e.61
29	e.95	e1.1	.57	3.2	---	2.3	3.4	43	6.9	.96	e.84	e.56
30	e.95	e.91	.55	3.1	---	2.0	3.2	6.5	5.9	.59	e.80	e.53
31	e.99	---	.66	2.9	---	1.8	---	3.8	---	.55	e.78	---
TOTAL	20.41	34.26	105.00	415.93	143.2	222.1	256.4	159.6	129.08	98.73	48.88	37.29
MEAN	.66	1.14	3.39	13.4	5.11	7.16	8.55	5.15	4.30	3.18	1.58	1.24
MAX	1.0	4.8	14	130	38	57	28	43	21	20	9.6	4.3
MIN	.25	.56	.55	.37	1.3	1.8	1.7	1.4	.55	.55	.55	.50
CFSM	.12	.20	.61	2.40	.92	1.28	1.53	.92	.77	.57	.28	.22
IN.	.14	.23	.70	2.77	.95	1.48	1.71	1.06	.86	.66	.33	.25

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1995, BY WATER YEAR (WY)

	1992	1993	1994	1995
MEAN	3.24	8.46	7.03	11.4
MAX	4.56	15.3	13.4	17.4
(WY)	1992	1993	1993	1994
MIN	.66	1.14	1.97	3.76
(WY)	1995	1995	1992	1993

SUMMARY STATISTICS

FOR 1994 CALENDAR YEAR

FOR 1995 WATER YEAR

WATER YEARS 1992 - 1995

ANNUAL TOTAL	2170.68	1670.88	
ANNUAL MEAN	5.95	4.58	6.96
HIGHEST ANNUAL MEAN			8.97
LOWEST ANNUAL MEAN			4.58
HIGHEST DAILY MEAN	190	Jan 28	190
LOWEST DAILY MEAN	.25	Jul 27	.07
ANNUAL SEVEN-DAY MINIMUM	.31	Oct 5	.10
INSTANTANEOUS PEAK FLOW			885
INSTANTANEOUS PEAK STAGE			12.93
INSTANTANEOUS LOW FLOW			.02
ANNUAL RUNOFF (CFSM)	1.07	.82	1.25
ANNUAL RUNOFF (INCHES)	14.47	11.14	16.95
10 PERCENT EXCEEDS	12	10	15
50 PERCENT EXCEEDS	2.0	1.9	3.4
90 PERCENT EXCEEDS	.59	.59	.59

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, 0.2 mi downstream from Steriner Pond, 0.6 mi west of Cleveland-Massillon Road, and 3.6 mi northwest of Akron corporate boundary.

DRAINAGE AREA.--3.52 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.--Records good, except for periods of estimated record and discharges less than 3.0 ft³/s, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.33	.82	.60	1.2	2.0	e5.2	1.8	1.6	2.1	1.2	.54	.40
2	.40	.90	.57	.92	1.9	e2.4	1.8	1.6	2.5	.51	.50	.40
3	.31	.70	.54	e.70	1.8	e1.6	1.9	1.4	9.7	.40	.51	.40
4	.32	.60	.56	e1.2	e1.8	e1.6	3.8	1.3	7.5	.33	.47	.40
5	.32	.68	2.6	e1.4	e1.6	e2.2	2.6	1.4	3.0	.95	1.8	.38
6	.32	1.2	1.5	e1.6	e1.6	4.8	2.2	1.4	2.1	4.1	1.2	.40
7	.29	.92	3.1	e1.6	e1.4	6.7	2.1	1.1	1.9	1.1	.59	.40
8	.16	.60	2.0	e1.6	e1.4	33	4.0	.82	2.2	.58	.47	.40
9	.24	1.1	3.1	e1.4	e1.2	e6.3	12	1.3	1.6	.45	.88	.49
10	.31	2.0	4.2	1.4	e1.2	e4.0	11	2.1	1.4	.45	.77	.49
11	.19	.64	5.7	1.5	e1.2	7.5	6.9	2.9	1.3	.40	.56	.40
12	.24	.48	2.3	4.8	e1.2	6.3	14	2.2	1.1	.36	.48	.41
13	.32	.47	1.5	3.7	e.82	4.3	8.7	1.7	.78	.36	.46	.95
14	.40	.51	1.3	4.4	e.82	4.0	5.6	2.2	.58	1.2	.46	1.4
15	.40	.51	.85	71	e.82	3.4	4.0	1.5	.50	.67	1.0	.56
16	.40	.50	1.6	66	2.8	3.0	3.1	1.2	.40	.82	.87	.40
17	.40	.50	7.3	15	2.9	2.5	2.6	1.5	.40	1.6	.90	.39
18	.40	.51	3.2	9.0	2.8	2.2	4.6	6.0	.40	.55	1.2	.49
19	.46	.50	2.6	7.1	3.2	2.2	4.4	5.8	.41	.54	.56	.49
20	.56	.50	1.9	20	3.5	2.4	3.0	2.6	.40	.39	.48	.63
21	.62	.57	1.6	15	3.7	2.8	16	1.6	.49	.61	.50	.60
22	.52	.58	1.4	7.1	2.9	2.3	6.7	1.1	.71	.59	.46	.49
23	.51	.50	1.3	5.2	4.0	2.0	4.0	.77	.46	2.1	.44	.44
24	.50	.47	1.2	4.3	4.3	1.8	3.0	.93	.41	.93	.43	.34
25	.61	.50	.89	3.7	2.8	1.6	2.5	1.7	1.5	1.6	.48	.32
26	.53	.52	.82	3.2	2.9	1.4	2.3	1.3	1.4	1.6	.46	.32
27	.53	1.1	.82	2.9	8.0	1.5	2.1	.82	.68	1.5	.61	.23
28	.55	1.7	.82	2.6	21	2.5	2.0	.98	.93	.80	.54	.18
29	.53	.84	.74	2.3	---	2.1	1.8	22	.77	.70	.41	.19
30	.62	.60	.64	2.3	---	2.0	1.8	4.8	.67	.61	.41	.14
31	.70	---	.65	2.1	---	1.9	---	2.6	---	.60	.44	---
TOTAL	12.99	22.02	57.90	266.22	85.56	127.5	142.3	80.22	48.29	28.60	19.88	13.53
MEAN	.42	.73	1.87	8.59	3.06	4.11	4.74	2.59	1.61	.92	.64	.45
MAX	.70	2.0	7.3	71	21	33	16	22	9.7	4.1	1.8	1.4
MIN	.16	.47	.54	.70	.82	1.4	1.8	.77	.40	.33	.41	.14
CFSM	.12	.21	.53	2.44	.87	1.17	1.35	.74	.46	.26	.18	.13
IN.	.14	.23	.61	2.81	.90	1.35	1.50	.85	.51	.30	.21	.14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1995, BY WATER YEAR (WY)

	MEAN	1.75	4.29	3.81	6.95	3.91	6.13	7.57	1.91	1.87	3.01	1.36	1.36
MAX	1.34	8.75	7.80	11.2	5.16	8.45	9.42	2.59	3.91	9.25	3.33	3.80	
(WY)	1993	1993	1993	1993	1994	1993	1994	1995	1993	1992	1992	1992	
MIN	.41	.45	.72	1.80	2.44	4.11	4.74	1.52	.81	.70	.42	.45	
(WY)	1992	1992	1992	1992	1993	1995	1995	1994	1992	1993	1993	1995	

SUMMARY STATISTICS

FOR 1994 CALENDAR YEAR

FOR 1995 WATER YEAR

WATER YEARS 1992 - 1995

ANNUAL TOTAL	1052.21	905.01	
ANNUAL MEAN	2.88	2.48	3.57
HIGHEST ANNUAL MEAN			4.67
LOWEST ANNUAL MEAN			2.48
HIGHEST DAILY MEAN	89	71	105
LOWEST DAILY MEAN	.16	.14	.00
ANNUAL SEVEN-DAY MINIMUM	.25	.25	.15
INSTANTANEOUS PEAK FLOW		123	204
INSTANTANEOUS PEAK STAGE		13.77	14.49
INSTANTANEOUS LOW FLOW		.05	.00
ANNUAL RUNOFF (CFSM)	.82	.70	1.01
ANNUAL RUNOFF (INCHES)	11.12	9.56	13.79
10 PERCENT EXCEEDS	5.5	4.5	7.3
50 PERCENT EXCEEDS	.98	1.2	1.4
90 PERCENT EXCEEDS	.40	.40	.40

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.--Records fair, except for periods of estimated record, which are poor. (Formerly named Yellow Creek at Bath Road near Botzum, Ohio)

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	14	7.7	13	e13	48	10	12	18	29	5.0	2.7
2	6.0	16	7.3	e11	e12	e23	10	11	22	13	6.3	2.6
3	5.7	11	7.8	e11	e12	e17	10	10	105	7.5	5.7	2.8
4	5.3	11	8.2	e10	e11	e14	23	9.4	89	5.4	5.2	2.6
5	5.4	11	30	e9.1	e11	16	14	10	34	8.8	43	2.4
6	5.3	20	17	e8.5	e11	33	12	12	22	73	22	2.6
7	5.1	14	33	e8.1	e10	42	10	8.7	20	19	13	2.6
8	4.8	10	22	e7.2	e10	254	26	7.4	20	10	9.0	2.8
9	6.0	21	31	e7.1	e10	71	85	12	15	6.8	144	3.6
10	5.8	32	41	e6.8	e9.7	47	89	20	16	6.3	31	3.3
11	5.4	14	48	e14	e9.3	53	57	23	16	4.8	17	2.9
12	5.4	9.7	22	e30	e9.0	49	101	17	13	5.3	11	2.9
13	5.0	8.7	e18	e28	e8.8	31	69	13	10	6.5	10	10
14	5.1	11	e18	29	e8.6	26	45	19	7.9	19	7.0	23
15	5.3	7.8	e16	500	e25	22	29	13	6.6	17	13	6.4
16	5.4	7.2	17	473	e56	20	24	8.6	5.8	25	25	4.2
17	5.2	6.7	54	99	e48	18	20	8.9	6.2	26	13	3.7
18	4.8	6.2	26	56	e42	15	43	53	14	11	29	3.8
19	6.6	6.1	21	42	e39	13	39	54	7.6	7.7	13	3.4
20	12	6.6	17	116	e31	15	24	23	5.4	6.5	7.3	13
21	7.9	8.6	15	103	e31	19	101	14	7.9	8.5	5.6	10
22	6.7	7.5	13	53	e25	15	56	8.7	9.9	7.5	4.9	5.8
23	6.7	6.0	12	36	e28	13	32	6.4	5.9	23	4.2	4.6
24	6.8	5.6	12	28	27	11	25	7.4	5.4	12	3.9	3.9
25	8.0	6.1	10	e23	e16	9.4	20	15	19	26	3.7	3.7
26	7.6	5.8	9.9	e20	15	8.5	18	11	43	20	3.5	3.7
27	7.7	8.6	9.5	e18	45	9.1	17	5.7	29	17	3.5	3.3
28	6.9	19	9.5	e17	139	17	15	6.6	18	10	4.0	3.1
29	7.1	11	9.0	e16	---	12	13	180	40	12	3.7	3.1
30	6.9	8.8	e8.1	e15	---	11	13	42	27	7.0	3.2	3.1
31	7.6	---	e8.1	e14	---	10	---	24	---	5.7	3.0	---
TOTAL	195.6	331.0	578.1	1821.8	712.4	962.0	1050	665.8	658.6	456.3	472.7	145.6
MEAN	6.31	11.0	18.6	58.8	25.4	31.0	35.0	21.5	22.0	14.7	15.2	4.85
MAX	12	32	54	500	139	254	101	180	105	73	144	23
MIN	4.8	5.6	7.3	6.8	8.6	8.5	10	5.7	5.4	4.8	3.0	2.4
CFSM	.21	.36	.61	1.91	.83	1.01	1.14	.70	.72	.48	.50	.16
IN.	.24	.40	.70	2.21	.86	1.17	1.27	.81	.80	.55	.57	.18

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1995, BY WATER YEAR (WY)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	11.5	38.1	32.4	57.5	35.7	58.1	65.1	21.9	21.9	28.4	18.8	17.6
MAX	19.3	76.2	61.5	98.2	54.0	108	95.4	23.6	34.0	74.8	41.1	48.3
(WY)	1993	1993	1993	1993	1994	1993	1994	1993	1993	1992	1992	1992
MIN	6.31	9.23	12.1	17.8	25.4	31.0	35.0	20.5	15.7	10.1	5.68	4.85
(WY)	1995	1992	1992	1992	1995	1995	1995	1992	1992	1993	1993	1995

SUMMARY STATISTICS

FOR 1994 CALENDAR YEAR

FOR 1995 WATER YEAR

WATER YEARS 1992 - 1995

ANNUAL TOTAL	10898.2	8049.9	33.9
ANNUAL MEAN	29.9	22.1	46.7
HIGHEST ANNUAL MEAN			22.1
LOWEST ANNUAL MEAN			22.1
HIGHEST DAILY MEAN	765	Jan 28	765
LOWEST DAILY MEAN	3.4	Sep 22	2.4
ANNUAL SEVEN-DAY MINIMUM	3.8	Sep 19	2.6
INSTANTANEOUS PEAK FLOW			1050
INSTANTANEOUS PEAK STAGE			14.44
INSTANTANEOUS LOW FLOW			2.4
ANNUAL RUNOFF (CFSM)	.97	.72	1.10
ANNUAL RUNOFF (INCHES)	13.21	9.75	14.99
10 PERCENT EXCEEDS	52	43	70
50 PERCENT EXCEEDS	15	11	17
90 PERCENT EXCEEDS	5.2	4.9	5.8

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.--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 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	246	87	44	65	52	418	47	42	56	357	48	22
2	73	63	41	59	53	189	45	40	58	261	83	18
3	42	44	39	e54	e44	119	42	37	117	140	46	17
4	34	38	37	e52	e43	95	98	35	65	61	32	17
5	32	69	194	e48	e43	114	85	34	48	52	181	18
6	32	114	e130	e46	e42	216	62	31	41	304	78	20
7	28	88	e230	e44	e42	256	55	29	37	66	47	20
8	26	66	e170	e42	e42	492	295	29	34	46	36	20
9	40	215	e140	e41	e41	457	394	46	33	37	218	20
10	31	186	e160	e40	e41	239	429	55	34	36	89	17
11	30	86	e270	e37	e41	203	275	55	42	34	51	18
12	29	57	e140	348	e40	183	323	50	30	33	36	19
13	28	47	e110	254	e40	133	303	39	28	33	50	24
14	28	46	87	182	e39	99	216	62	27	66	125	40
15	28	44	77	e800	e39	82	144	65	26	87	50	27
16	26	41	145	e1200	63	73	91	41	25	121	119	21
17	28	40	368	e620	56	65	69	58	23	189	64	19
18	29	38	250	e420	59	56	98	234	22	59	48	20
19	42	36	207	256	74	49	163	273	24	32	36	21
20	31	34	144	400	89	64	109	122	25	25	28	62
21	31	53	108	426	151	72	338	67	37	30	26	60
22	33	42	90	273	100	57	337	50	33	25	25	39
23	26	39	78	169	218	48	173	42	26	79	24	25
24	27	39	70	135	214	44	118	137	25	53	24	22
25	37	38	61	115	119	39	96	157	36	38	23	22
26	33	35	53	101	113	35	82	96	117	89	21	21
27	32	50	55	93	313	39	70	62	126	97	19	21
28	30	124	57	100	493	84	53	52	80	51	21	22
29	28	70	53	71	---	55	46	428	390	39	23	20
30	26	49	48	60	---	51	42	258	225	29	22	19
31	28	---	47	52	---	45	---	101	---	28	25	---
TOTAL	1214	1978	3703	6603	2704	4171	4698	2827	1890	2597	1718	731
MEAN	39.2	65.9	119	213	96.6	135	157	91.2	63.0	83.8	55.4	24.4
MAX	246	215	368	1200	493	492	429	428	390	357	218	62
MIN	26	34	37	37	39	35	42	29	22	25	19	17
CFSM	.00	.01	.01	.03	.01	.02	.02	.01	.01	.01	.01	.00
IN.	.01	.01	.02	.03	.01	.02	.02	.01	.01	.01	.01	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1995, BY WATER YEAR (WY)

	MEAN	67.5	136	176	148	200	248	188	119	82.7	81.2	64.0	72.5
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 1994 CALENDAR YEAR

FOR 1995 WATER YEAR

WATER YEARS 1963 - 1995

ANNUAL TOTAL	46511		34834									
ANNUAL MEAN	127		95.4									
HIGHEST ANNUAL MEAN										133		
LOWEST ANNUAL MEAN										185		1975
HIGHEST DAILY MEAN	2610	Aug 13	1200	Jan 16						81.7		1964
LOWEST DAILY MEAN	22	Sep 5	17	Sep 3						2920		Dec 30 1990
ANNUAL SEVEN-DAY MINIMUM	26	Aug 31	19	Sep 2						5.8		Aug 10 1964
INSTANTANEOUS PEAK FLOW			2400	Jan 16	e a					6.5		Oct 4 1963
INSTANTANEOUS PEAK STAGE			6.84	Jan 16	e					7220		Jul 20 1969
INSTANTANEOUS LOW FLOW			15	Sep 3						10.10		Jul 20 1969
ANNUAL RUNOFF (CFSM)	.015		.011							5.2		Aug 19 1963
ANNUAL RUNOFF (INCHES)	.21		.16							.016		
10 PERCENT EXCEEDS	258		236							.22		
50 PERCENT EXCEEDS	53		50							320		
90 PERCENT EXCEEDS	28		25							61		
										20		

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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.--Records good except for periods of estimated daily discharge, which are poor. Natural flow of stream affected by diversion, storage reservoirs and power plants. Some diversion in 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	641	337	271	402	e610	1920	443	533	713	1470	326	244
2	497	384	269	389	e560	1460	477	512	772	1010	634	238
3	398	245	269	341	e500	1260	447	499	997	685	351	230
4	351	209	258	e310	e470	1150	671	493	1100	504	303	217
5	330	260	718	e300	e440	1090	614	485	691	446	778	217
6	325	389	579	e290	e430	1440	525	480	562	1510	618	230
7	309	314	1050	e280	e420	1470	511	445	512	557	411	237
8	293	272	887	e280	e410	4030	1470	423	512	406	344	242
9	313	441	931	e270	e400	2470	2250	453	464	344	2780	232
10	308	945	1260	e260	e390	1950	2160	667	428	328	1470	220
11	277	518	1770	e260	e380	1900	1530	571	767	314	600	215
12	264	412	1150	1020	e380	1870	1820	471	611	302	473	216
13	259	402	884	973	e380	1520	1970	390	548	319	389	244
14	258	380	752	749	e370	1260	1610	524	432	578	534	474
15	260	315	643	7360	e370	1050	1220	494	347	406	372	302
16	255	284	675	9270	e620	917	981	377	310	926	579	242
17	250	285	1680	4870	620	840	875	439	286	993	556	224
18	288	304	1070	3640	595	770	1010	1210	275	627	506	230
19	314	329	1010	3100	629	737	1250	1570	267	474	403	222
20	366	303	826	3540	697	746	915	865	281	398	345	293
21	324	329	782	3290	815	877	2060	653	295	426	337	369
22	303	332	693	2340	648	674	1650	641	362	362	326	275
23	267	280	614	1840	869	548	1180	618	280	690	307	251
24	250	231	562	1560	1080	491	1020	781	251	490	285	218
25	276	215	533	1370	796	441	909	1050	416	392	271	236
26	274	205	498	1190	771	418	870	732	1140	1220	260	244
27	282	211	495	1010	1400	412	771	579	989	868	258	238
28	268	608	453	906	3080	602	690	532	1090	512	258	206
29	198	396	371	786	---	495	596	2380	1510	518	283	201
30	155	293	345	712	---	469	560	1360	1160	394	272	185
31	150	---	347	e660	---	453	---	867	---	336	252	---
TOTAL	9303	10428	22645	53568	19130	35730	33055	22094	18368	18805	15881	7392
MEAN	300	348	730	1728	683	1153	1102	713	612	607	512	246
MAX	641	945	1770	9270	3080	4030	2250	2380	1510	1510	2780	474
MIN	150	205	258	260	370	412	443	377	251	302	252	185

MEAN	363	632	933	1110	1306	1667	1451	922	606	459	358	362
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

ANNUAL TOTAL	302482		266399			
ANNUAL MEAN	829		730		848	
HIGHEST ANNUAL MEAN					1393	1975
LOWEST ANNUAL MEAN					278	1934
HIGHEST DAILY MEAN	7220	Apr 13	9270	Jan 16	16700	Jan 22 1959
LOWEST DAILY MEAN	150	Oct 31	150	Oct 31	21	Aug 28 1933
ANNUAL SEVEN-DAY MINIMUM	229	Oct 25	218	Sep 24	37	Aug 26 1933
INSTANTANEOUS PEAK FLOW			10500	Jan 16	24800	Jan 22 1959
INSTANTANEOUS PEAK STAGE			18.61	Jan 16	22.41	Jan 22 1959
INSTANTANEOUS LOW FLOW			131	Oct 30	21	Aug 28 1933
10 PERCENT EXCEEDS	1830		1470		2000	
50 PERCENT EXCEEDS	500		480		476	
90 PERCENT EXCEEDS	258		251		127	

e Estimated

STREAMS TRIBUTARY TO LAKE ERIE

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 September 1994.

NITROGEN, NITRITE + NITRATE: October 1987 to September 1994.

NITROGEN, AMMONIA + ORGANIC: October 1987 to September 1994.

PHOSPHORUS: October 1987 to September 1994.

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

INSTRUMENTATION.--Alcohol-actuated thermograph October 1956 to June 1965, water-quality monitor from July 1965 to September 1991, and a refrigerated water-quality pumping sampler, operated by Heidelberg College Water Quality Laboratory, from October 1987 to September 1994.

REMARKS.--Sediment samples were collected by a local observer on an approximate once daily basis. Sediment loads were calculated using the mean-interval method (Porterfield, George, 1972, Computation of Fluvial-Sediment Discharge: U.S. Geological Survey, Techniques of Water Resources Investigations, Book 3, Chap. C3, 66 p.). For days with unsteady concentration, discharge, or both, the day was 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.

EXTREMES FOR PERIOD OF DAILY RECORD.--

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

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

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,600 mg/L, Aug. 9; minimum daily mean, 4 mg/L, Nov. 26.

SEDIMENT LOADS: Maximum daily, 24,400 tons, Jan. 16; minimum daily, 2.3 tons, Nov. 26.

STREAMS TRIBUTARY TO LAKE ERIE

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04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

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- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
DEC 15...	1100	620	752	7.9	1.0	2.5	6.6	13.2	98	1600	540
MAR 16...	1130	910	687	7.8	24.0	9.0	17	10.9	96	540	110
JUN 22...	1245	350	897	8.1	32.0	25.0	76	8.9	110	4600	2300
AUG 31...	1030	260	956	8.2	30.0	24.0	2.7	8.6	105	240	K66

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 15...	220	64	14	62	5.1	159	--	130	73	110	0.20
MAR 16...	180	52	11	62	3.5	121	--	99	59	100	0.20
JUN 22...	240	68	16	82	5.9	163	--	132	94	130	0.40
AUG 31...	260	74	18	90	6.4	184	--	151	94	140	0.50

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, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN,AM- MONIA + DIS- ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHOS- PHOS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)
DEC 15...	6.2	450	2.30	0.100	0.010	0.70	0.110	0.030	0.030	20	37
MAR 16...	5.3	367	1.60	0.080	0.030	0.60	0.120	0.050	0.040	40	33
JUN 22...	5.7	534	3.80	0.020	0.080	0.50	0.060	0.040	0.030	30	41
AUG 31...	6.4	564	4.70	<0.015	0.030	0.70	0.200	0.120	0.110	<10	45

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- PENDE (MG/L) (80154)
DEC 15...	<3	100	11	54	<10	1	<1	<1.0	160	<6	13.1
MAR 16...	<3	110	8	56	<10	2	<1	<1.0	140	<6	47.5
JUN 22...	<3	330	17	25	20	3	<1	<1.0	210	<6	147
AUG 31...	<3	29	13	26	<10	3	<1	<1.0	220	<6	16.5

K Non-ideal colony count

STREAMS TRIBUTARY TO LAKE ERIE

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

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	641	295	634	337	34	36	271	8	5.8
2	497	78	113	384	29	31	269	9	6.3
3	398	25	27	245	10	6.9	269	8	6.1
4	351	24	22	209	7	3.9	258	12	8.2
5	330	22	20	260	16	12	718	110	261
6	325	20	18	389	31	34	579	72	115
7	309	19	15	314	17	15	1050	163	522
8	293	20	16	272	11	8.1	887	75	195
9	313	22	19	441	30	55	931	84	288
10	308	16	13	945	105	288	1260	141	548
11	277	10	7.3	518	30	44	1770	273	1390
12	264	10	7.0	412	13	14	1150	72	231
13	259	11	7.4	402	14	15	884	39	93
14	258	9	6.4	380	19	19	752	30	61
15	260	8	5.7	315	16	14	643	24	41
16	255	7	5.0	284	12	9.2	675	31	68
17	250	8	5.3	285	9	6.8	1680	305	1460
18	288	11	8.7	304	12	9.9	1070	81	240
19	314	13	11	329	15	14	1010	50	137
20	366	15	14	303	11	9.3	826	32	71
21	324	15	13	329	15	13	782	25	54
22	303	16	13	332	13	12	693	25	47
23	267	14	10	280	9	6.9	614	24	40
24	250	11	7.3	231	6	3.9	562	22	34
25	276	10	7.8	215	5	2.9	533	19	27
26	274	8	6.3	205	4	2.3	498	16	22
27	282	8	6.0	211	6	3.5	495	18	24
28	268	6	4.6	608	75	134	453	16	19
29	198	6	3.3	396	27	30	371	38	38
30	155	7	2.8	293	10	8.0	345	25	23
31	150	6	2.5	---	---	---	347	11	10
TOTAL	9303	---	1051.4	10428	---	861.6	22645	---	6085.4

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	402	13	15	e610.	44	72	1920	164	860
2	389	9	9.5	e560	39	60	1460	98	391
3	341	7	6.2	e500	35	48	1260	61	210
4	e310	8	6.6	e470	32	40	1150	48	150
5	e300	15	12	e440	28	34	1090	43	128
6	e290	14	11	e430	25	29	1440	67	261
7	e280	9	7.1	e420	23	26	1470	75	323
8	e280	7	5.1	e410	20	23	4030	401	4610
9	e270	6	4.7	e400	18	20	2470	199	1350
10	e260	7	4.6	e390	16	17	1950	118	624
11	e260	21	15	e380	15	15	1900	101	520
12	1020	222	711	e380	13	14	1870	91	459
13	973	132	358	e380	12	12	1520	81	332
14	749	59	123	e370	11	11	1260	72	245
15	7360	991	21700	e370	9	9.5	1050	64	183
16	9270	955	24400	e620	14	24	917	58	143
17	4870	450	5990	620	18	30	840	51	117
18	3640	330	3260	595	16	26	770	46	95
19	3100	283	2370	629	20	34	737	41	82
20	3540	320	3180	697	24	46	746	40	82
21	3290	283	2550	815	31	68	877	53	127
22	2340	212	1350	648	21	38	674	35	65
23	1840	164	815	869	35	100	548	28	41
24	1560	126	532	1080	52	157	491	23	31
25	1370	97	359	796	34	74	441	19	23
26	1190	85	273	771	28	59	418	16	18
27	1010	76	206	1400	96	495	412	14	16
28	906	68	167	3080	373	3190	602	28	47
29	786	61	130	---	---	---	495	19	26
30	712	55	105	---	---	---	469	13	17
31	e660	49	87	---	---	---	453	12	15
TOTAL	53568	---	68762.8	19130	---	4771.5	35730	---	11591

e Estimated

STREAMS TRIBUTARY TO LAKE ERIE

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04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	443	13	15	533	21	30	713	82	158
2	477	16	20	512	18	25	772	111	259
3	447	14	17	499	19	25	997	237	675
4	671	30	56	493	19	26	1100	272	875
5	614	23	38	485	22	28	691	83	159
6	525	20	29	480	19	24	562	53	81
7	511	13	18	445	20	24	512	51	71
8	1470	179	1030	423	22	25	512	59	83
9	2250	360	3230	453	27	34	464	49	61
10	2160	302	1890	667	46	85	428	48	57
11	1530	155	653	571	30	47	767	101	215
12	1820	204	1190	471	22	28	611	60	99
13	1970	164	891	390	17	18	548	57	85
14	1610	96	422	524	28	45	432	46	53
15	1220	70	231	494	27	36	347	44	42
16	981	51	136	377	22	22	310	41	34
17	875	39	93	439	39	71	286	33	25
18	1010	75	260	1210	242	1030	275	33	24
19	1250	141	489	1570	250	1150	267	35	25
20	915	54	135	865	51	125	281	34	26
21	2060	350	2650	653	31	55	295	50	42
22	1650	121	559	641	30	52	362	184	189
23	1180	82	264	618	42	69	280	72	55
24	1020	63	173	781	162	531	251	51	34
25	909	47	114	1050	206	690	416	142	187
26	870	38	89	732	54	109	1140	577	2120
27	771	38	79	579	41	65	989	499	1580
28	690	28	53	532	46	67	1090	551	2170
29	596	25	41	2380	1590	12500	1510	476	2090
30	560	24	36	1360	224	845	1160	268	854
31	---	---	---	867	121	286	---	---	---
TOTAL	33055	---	14901	22094	---	18167	18368	---	12428

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	1470	408	1720	326	49	47	244	10	6.7
2	1010	191	531	634	486	1010	238	11	7.4
3	685	119	223	351	77	76	230	10	6.5
4	504	81	111	303	49	40	217	12	6.8
5	446	86	123	778	299	1060	217	10	6.1
6	1510	949	4800	618	155	289	230	12	7.4
7	557	114	180	411	65	73	237	14	9.2
8	406	61	67	344	55	51	242	15	9.5
9	344	52	49	2780	1600	21000	232	21	13
10	328	42	37	1470	574	3090	220	20	12
11	314	39	33	600	164	273	215	22	13
12	302	36	30	473	73	95	216	20	12
13	319	32	28	389	52	55	244	26	17
14	578	138	231	534	135	217	474	147	231
15	406	55	75	372	51	51	302	53	44
16	926	476	1390	579	178	281	242	39	25
17	993	535	1730	556	77	117	224	32	19
18	627	163	280	506	49	66	230	34	21
19	474	101	130	403	39	43	222	31	18
20	398	72	78	345	29	27	293	64	59
21	426	55	63	337	22	20	369	86	88
22	362	58	57	326	21	19	275	48	36
23	690	220	481	307	13	11	251	40	28
24	490	90	123	285	11	8.4	218	24	14
25	392	61	67	271	10	7.3	236	41	27
26	1220	510	1930	260	9	6.5	244	38	25
27	868	524	1310	258	7	5.1	238	29	19
28	512	121	173	258	6	4.4	206	25	14
29	518	90	135	283	8	6.3	201	25	14
30	394	64	68	272	8	6.1	185	20	10
31	336	48	44	252	10	6.5	---	---	---
TOTAL	18805	---	16297	15881	---	28061.6	7392	---	818.6
YEAR	266399		183796.9						

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 current year.

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

REMARKS.--Estimated daily discharges are marked in table. Records fair, except for periods of estimated record, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,500 ft³/s Aug. 13, 1994; minimum daily discharge, 310 ft³/s Aug. 29, 1993.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,600 ft³/s Jan. 15; minimum daily discharge, 310 ft³/s Oct. 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1300	710	543	617	e950	e2410	e750	e850	e1100	1700	462	e470
2	890	770	560	566	e885	e1960	e800	e830	e1160	1170	994	e460
3	700	547	463	472	e810	e1730	e755	e820	e1410	985	564	e445
4	614	449	454	434	e775	e1550	e1100	e815	e1560	852	501	e425
5	581	572	1090	445	e735	e1470	e990	e805	e1030	832	1340	e430
6	720	759	e950	403	e725	e1940	e860	e800	e890	2520	1040	e450
7	570	624	e1600	563	e715	e1960	e850	e750	e820	870	674	e460
8	526	525	1230	488	e705	e4920	e2210	e720	e810	650	542	e470
9	654	1100	1370	505	e690	e2950	e2990	e770	e750	548	2010	e455
10	815	1480	1820	489	e680	e2450	e2810	981	e720	493	4030	e430
11	510	874	2410	470	e665	e2410	e2070	1150	e1240	479	e910	e425
12	485	744	1460	1580	e660	e2330	e2430	1880	e850	464	e790	e430
13	476	704	1170	1380	e670	e1900	e2480	1710	711	466	e650	e480
14	350	675	996	1070	e650	e1650	e2030	1180	591	968	e840	e870
15	660	617	866	9500	e650	e1430	e1610	1160	466	1040	e610	e550
16	477	549	961	8670	e1050	e1280	e1360	865	445	1710	e970	e465
17	466	554	2270	4740	e1010	e1200	e1230	1170	416	1600	e910	e440
18	835	578	1460	3310	e975	e1130	e1420	2110	390	898	e840	e445
19	1290	608	1340	2880	e1030	e1100	e1730	2450	382	657	e690	e425
20	590	566	1090	3680	e1110	e1120	e1300	1440	396	574	e610	e560
21	560	622	1010	e3100	e1250	e1310	e2800	1230	405	623	e590	e680
22	670	560	925	e2660	e1010	e1020	e2160	1100	517	502	e580	e510
23	700	567	861	e2220	e1340	e870	e1600	960	391	1100	e550	e480
24	463	548	790	e1940	e1590	e800	e1440	1470	362	718	e525	e425
25	488	477	742	e1740	e1180	e725	e1300	2000	566	632	e505	e455
26	750	481	679	e1560	e1170	e700	e1230	1230	1160	e1200	e490	e470
27	585	591	682	e1380	e2020	e700	e1120	1140	1220	e1600	e490	e460
28	476	1220	634	e1280	e3910	e1000	e1040	1330	1340	727	e490	e410
29	407	664	573	e1140	---	e820	e925	e3320	1860	659	e535	e400
30	380	516	528	e1060	---	e790	e885	e1800	1440	564	e515	e370
31	310	---	540	e1000	---	e770	---	e1260	---	500	e480	---
TOTAL	19298	20251	32067	61342	29610	48395	46275	40096	25398	28301	25727	14245
MEAN	623	675	1034	1979	1057	1561	1542	1293	847	913	830	475
MAX	1300	1480	2410	9500	3910	4920	2990	3320	1860	2520	4030	870
MIN	310	449	454	403	650	700	750	720	362	464	462	370

CAL YR 1994 TOTAL 453502 MEAN 1242 MAX 10000 MIN 310
WTR YR 1995 TOTAL 391005 MEAN 1071 MAX 9500 MIN 310

e Estimated

STREAMS TRIBUTARY TO LAKE ERIE

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04212100 GRAND RIVER NEAR PAINESVILLE, OH
National Stream Quality Accounting Network Station

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.--Records fair except periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	273	108	383	212	e320	4570	253	312	890	e390	70	11
2	454	138	281	215	e300	2850	255	276	e620	e500	58	11
3	536	195	214	e210	e290	1920	269	260	e700	e300	53	11
4	334	213	171	e200	e280	1590	298	238	e900	e170	44	8.8
5	248	199	246	e190	e270	1210	355	216	e1100	e120	146	9.4
6	198	210	719	e180	e260	1680	458	200	e800	e350	273	10
7	171	286	1380	e170	e250	2750	499	193	e300	e150	224	8.2
8	150	375	2100	e170	e250	5640	1210	181	e190	90	142	7.7
9	137	414	1740	e160	e240	4880	3820	169	e160	73	98	7.7
10	132	1210	2310	e150	e240	2750	5230	230	e150	67	87	7.7
11	121	1400	3930	e150	e230	2070	3430	449	e140	59	53	7.7
12	115	822	3370	e1000	e230	2190	e2400	439	e190	49	43	7.1
13	114	524	1950	2850	e220	1810	e1800	519	e160	42	40	7.1
14	112	373	1460	2680	e220	1450	2200	477	e120	125	150	13
15	108	268	1050	6620	e210	1130	1850	527	e100	66	73	11
16	104	205	723	12100	e210	859	1450	910	e94	e250	53	12
17	100	166	2100	8530	e350	647	1110	653	e88	e130	39	17
18	97	135	2640	5370	455	533	881	460	e82	e56	36	15
19	79	124	2060	3880	664	459	842	456	e76	43	41	13
20	48	156	1610	3690	1100	408	855	898	e70	48	39	e12
21	35	163	1260	4150	2360	428	2590	1010	e66	69	32	14
22	33	169	919	2610	1260	408	2750	749	e86	58	28	15
23	33	159	660	1800	1170	404	1670	474	e74	55	25	18
24	40	162	517	1510	1760	376	1170	450	e64	50	23	13
25	102	177	435	1110	1720	328	861	608	e82	59	20	11
26	109	177	394	806	1230	291	582	486	e300	79	18	10
27	80	175	349	600	1340	260	467	463	e260	795	15	10
28	52	220	310	520	4180	252	420	441	e280	506	14	9.4
29	43	374	269	437	---	257	385	882	e400	246	12	10
30	39	446	218	e380	---	253	344	1330	e520	161	12	11
31	38	---	209	e350	---	253	---	1090	---	109	12	---
TOTAL	4235	9743	35977	63000	21609	44906	40704	16046	9062	5265	1973	328.8
MEAN	137	325	1161	2032	772	1449	1357	518	302	170	63.6	11.0
MAX	536	1400	3930	12100	4180	5640	5230	1330	1100	795	273	18
CFSM	.20	.47	1.69	2.97	1.13	2.11	1.98	.76	.44	.25	.09	.02
IN.	.23	.53	1.95	3.42	1.17	2.44	2.21	.87	.49	.29	.11	.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1995, BY WATER YEAR (WY)

MEAN	499	1224	1608	1368	1849	2044	1451	750	605	299	301	432
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

SUMMARY STATISTICS

FOR 1994 CALENDAR YEAR

FOR 1995 WATER YEAR

WATER YEARS 1975 - 1995

ANNUAL TOTAL	319221	252848.8	1031
ANNUAL MEAN	875	693	1375
HIGHEST ANNUAL MEAN			1986
HIGHEST DAILY MEAN	8720	Feb 21	15300
LOWEST DAILY MEAN	17	Sep 24	5.1
ANNUAL SEVEN-DAY MINIMUM	21	Sep 19	5.3
INSTANTANEOUS PEAK FLOW			18700
INSTANTANEOUS PEAK STAGE		11.54	13.16
INSTANTANEOUS LOW FLOW		7.1	5.1
ANNUAL RUNOFF (CFSM)	1.28	1.01	1.50
ANNUAL RUNOFF (INCHES)	17.34	13.73	20.45
10 PERCENT EXCEEDS	2800	1880	2800
50 PERCENT EXCEEDS	268	252	410
90 PERCENT EXCEEDS	41	19	41

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

STREAMS TRIBUTARY TO LAKE ERIE

04212100 GRAND RIVER NEAR PAINESVILLE, OH—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

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- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	
DEC 16...	0945	730	272	7.6	8.0	1.0	17	13.5	96	280	590	
MAR 17...	0930	660	253	7.4	6.0	8.0	20	10.7	91	50	62	
JUN 23...	0900	35.1	390	7.7	27.0	25.5	5.0	6.8	85	K70	310	
SEP 01...	0930	12.3	498	7.9	23.0	24.0	7.2	7.9	96	K610	110	
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 16...	95	26	7.2	15	3.6	64	--	52	37	27	<0.10	
MAR 17...	83	23	6.1	16	2.2	69	--	57	30	26	0.20	
JUN 23...	140	40	10	24	3.5	120	--	98	38	35	0.20	
SEP 01...	160	44	13	33	4.5	134	--	108	51	52	0.30	
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, NITRITE DIS- SOLVED (MG/L AS N) (00613)	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 16...	7.5	179	0.600	0.030	<0.010	0.60	0.060	0.050	0.030	240	22	
MAR 17...	4.7	146	0.330	0.020	0.010	0.50	0.040	<0.010	0.010	80	19	
JUN 23...	2.6	236	0.350	0.040	<0.010	0.50	0.040	0.040	0.020	20	33	
SEP 01...	3.1	281	0.400	0.030	<0.010	0.40	0.060	0.030	0.030	<10	38	
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 16...	<3	450	<4	30	<10	2	<1	<1.0	75	<6	17.2	
MAR 17...	<3	220	<4	21	<10	2	<1	<1.0	68	<6	18.5	
JUN 23...	<3	75	5	51	<10	1	<1	<1.0	120	<6	8.5	
SEP 01...	<3	26	5	68	10	2	<1	<1.0	150	<6	16.2	

K Non-ideal colony count

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REMARKS.--Records fair, except for periods of estimated record and discharges below 45 cfs, which are poor. Water-quality data collected at this site 1965 to 1977. Sediment data collected 1970 to 1974.

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

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or flood-flow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at crest-stage partial-record stations are presented in the following table. Discharge measurements made at low-flow partial-record sites and at miscellaneous sites and for special studies are given in separate tables.

CREST-STAGE PARTIAL-RECORD STATIONS

The following table contains annual maximum discharge for crest-stage stations. A crest-stage gage is a device that will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Maximum discharge at crest-stage partial-record stations

Station name and number	Location and drainage area	Period of record	Water year 1995 maximum			Period of record maximum		
			Date	Gage height (ft)	Dis- charge (ft ³ / s)	Date	Gage height (ft)	Dis- charge (ft ³ s)
LAKE ERIE BASIN								
Astabula River nr Astabula, Oh. (04212500)	Lat 41°51'20", long 80°45'44", Astabula County, Hydrologic Unit 04110003, on left bank at downstream side of State Road bridge, 1.1 mi upstream from Hubbard Run, 1.3 mi southeast of Astabula, and 5.5 mi upstream from mouth. Drainage area is 121 mi ² .	1924-35 ≠ 1950-80 ≠ 1994-95	1-16-95	4.22	2,910	1-22-59	11.03	11,600

≠ Operated as a continuous-record station

SPECIAL STUDY AND MISCELLANEOUS SITES

Discharge measurements in the following table were made at special study and miscellaneous sites throughout the State.

Discharge measurements made at special study and miscellaneous sites during water year 1995

Stream	Tributary to	Location	Date	Discharge (ft ³ /s)
Mill Creek	Cuyahoga River	Lat 41°26'45", long 81°31'52", Warrensville Heights, Cuyahoga County, Hydrologic Unit 04110002, at culvert on Northfield Road, 10.6 mi upstream from the Cuyahoga River.	4-14-95	2.89
			4-21-95	10.3
			4-24-95	1.68
			4-27-95	1.18
			5- 1-95	.503
			5- 9-95	10.7
			5-10-95	.621
			5-16-95	.433
			5-23-95	.689
			5-24-95	12.9
			5-31-95	1.33
			7- 6-95	3.25
			7-13-95	.372
			7-19-95	.778
			7-20-95	.848
Mill Creek	Cuyahoga River	Lat 41°25'24", long 81°33'58", Maple Heights, Cuyahoga County, Hydrologic Unit 04110002, 200 ft downstream from bridge on Lee Road, 7.1 mi upstream from the Cuyahoga River.	4-21-95	32.0
			4-24-95	1.58
			4-27-95	1.24
			5- 1-95	1.21
			5- 9-95	26.8
			5- 9-95	13.3
			5-10-95	1.04
			5-16-95	.971
			5-23-95	1.33
			5-24-95	63.5
			5-25-95	1.44
			5-31-95	1.32
			6-28-95	1.93
			7- 6-95	6.19
			7-13-95	.722
			7-17-95	9.86
Mill Creek	Cuyahoga River	Lat 41°26'34", long 81°37'22", Cleveland, Cuyahoga County, Hydrologic Unit 04110002, at abandoned bridge, 150 ft southeast of Broadway, 3.0 mi upstream from the Cuyahoga River.	4-21-95	115
			4-24-95	4.79
			5- 1-95	2.94
			5- 9-95	4.36
			5- 9-95	34.8
			5-10-95	3.64
			5-16-95	2.44
			5-23-95	3.07
			5-24-95	11.0
			5-24-95	228
			5-24-95	347
			5-25-95	5.60
			5-31-95	5.53
			6-28-95	4.23
			7- 6-95	12.8
			7-13-95	2.01
			7-17-95	18.8
Mill Creek	Cuyahoga River	Lat 41°25'30", long 81°38'17", Garfield Heights, Cuyahoga County, Hydrologic Unit 04110002, on railroad spur trestle, 0.25 mi west of Warner Road, 0.75 mi upstream from the Cuyahoga River.	4-13-95	19.1
			4-18-95	74.6
			4-21-95	315
			4-21-95	244
			4-24-95	6.79
			5- 1-95	4.24
			5- 9-95	3.51
			5-10-95	5.33
			5-16-95	3.89
			5-19-95	83.9
			5-23-95	5.06
			5-25-95	9.15
			5-31-95	6.20
			6-28-95	6.22
			7- 6-95	16.1
			7-13-95	2.88
			7-17-95	28.1
			9- 7-95	2.34

84 PEAK DISCHARGES AND STAGES AT CONTINUOUS-RECORD SURFACE DISCHARGE STATIONS

For continuous-record surface-water-discharge stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge are presented in this table. The peaks greater than the base discharge, excluding the highest one are referred to as secondary peaks. The peaks are listed in chronological order. Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by 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 (*). Note - a = From Highwater Mark, b = Ice Jam, c = Observed, e = Estimated.

Peak discharges equal to or greater than base discharges, water year October 1994 to September 1995

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 ft ³ /s)							
Mar. 8	2300	1,160	9.10	Apr. 10	1930	*1,270	*9.44
04185000 TIFFIN RIVER AT STRYKER, OH (Base discharge: 1,850 ft ³ /s)							
Apr. 12	1400	*2,170	*12.44				
04185440 UNNAMED TRIBUTARY TO LOST CREEK NR FARMER, OH (Base discharge: 120 ft ³ /s)							
Mar. 7	1845	132	3.51	Apr. 10	1315	170	3.76
Apr. 9	1300	*209	*3.98				
04186500 AUGLAIZE RIVER NEAR FORT JENNINGS, OH (Base discharge: 2,700 ft ³ /s)							
May 9	0500	3,070	11.67	Apr. 11	2100	*3,590	*12.53
04187100 OTTAWA RIVER AT LIMA, OH (Base discharge: 1,300 ft ³ /s)							
Mar. 8	0430	1,860	13.85	Apr. 10	1600	*2,380	*14.68
04189000 BLANCHARD RIVER NEAR FINDLAY, OH (Base discharge: 2,800 ft ³ /s)							
Mar. 8	1730	3,410	9.63	Apr. 22	0900	3,210	9.25
Apr. 12	2000	*3,480	*9.76				
4192500 MAUMEE RIVER NEAR DEFIANCE, OH (Base discharge: 23,000 ft ³ /s)							
Mar. 9	0030	29,700	6.64	Apr. 12	0430	*42,400	*7.91
04195500 PORTAGE RIVER AT WOODVILLE, OH (Base discharge: 3,500 ft ³ /s)							
Mar. 9	0930	*5,330	*10.05	Apr. 11	2100	4,770	9.56
04196800 TYMOCHTEE CREEK AT CRAWFORD, OH (Base discharge: 1,800 ft ³ /s)							
Mar. 10	0500	2,140	6.30	Apr. 23	1000	*3,190	*7.31
Apr. 12	1930	2,400	6.57				
04197100 HONEY CREEK AT MELMORE, OH (Base discharge: 1,500 ft ³ /s)							
Mar. 9	0130	*1,850	*7.67	Apr. 22	0130	1,780	7.55
04198000 SANDUSKY RIVER NEAR FREMONT, OH (Base discharge: 10,000 ft ³ /s)							
Mar. 8	2230	12,200	6.78	Apr. 22	1130	*12,500	*6.85
04199000 HURON RIVER AT MILAN, OH (Base discharge: 4,700 ft ³ /s)							
Apr. 11	Unknown	*4,750	*14.25a				
04200500 BLACK RIVER AT ELYRIA, OH (Base discharge: 3,200 ft ³ /s)							
Jan. 16	1830	*8,070	*13.23	Mar. 8	1900	3,670	8.81
Jan. 21	1800	5,060	10.40	Apr. 21	2130	3,960	9.16
04201500 ROCKY RIVER NEAR BEREA, OH (Base discharge: 4,000 ft ³ /s)							
Jan. 16	Unknown	*11,000	*7.52e				
04206208 YELLOW CREEK AT GHENT, OH (Base discharge: 120 ft ³ /s)							
Jan. 16	0420	*198	*12.71				
04206210 NORTH FORK AT BATH, OH (Base discharge: 80.0 ft ³ /s)							
Jan. 15	0530	140	12.14	Jun. 26	1630	89	11.69
Jan. 16	0135	*144	*12.17				

PEAK DISCHARGES AND STAGES AT CONTINUOUS-RECORD SURFACE DISCHARGE STATIONS

85

Peak discharges equal to or greater than base discharges, water year October 1994 to September 1995 (Continued)

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
04206211 PARK CREEK AT BATH CENTER, OH (Base discharge: 30 ft³/s)							
Jan. 15	0015	53	12.07	Jun. 3	1515	31	11.32
Jan. 16	0045	*83	*13.02	Jun. 26	1535	52	12.05
Mar. 8	0055	42	11.70	Jul. 5	2210	40	11.62
May 29	0140	71	12.65	Aug. 9	1110	41	11.67
04206212 NORTH FORK AT BATH CENTER, OH (Base discharge: 140 ft³/s)							
Jan. 15	0540	236	11.62	May 29	0245	207	11.51
Jan. 16	0140	*313	*11.86	Jun. 26	1705	147	11.26
Mar. 8	0125	153	11.29				
04206215 BATH CREEK AT BATH CENTER, OH (Base discharge: 60.0 ft³/s)							
Jan. 15	0715	111	13.66	Mar. 8	0435	61	13.09
Jan. 16	0345	*123	*13.77				
04206220 YELLOW CREEK AT BOTZUM, OH (Base discharge: 555 ft³/s)							
Jan. 15	0625	789	13.80	May 29	0310	559	13.24
Jan. 16	0140	1,020	14.36	Aug. 9	1140	*1,050	*14.44
04207200 TINKERS CREEK AT BEDFORD, OH (Base discharge: 1,500 ft³/s)							
Jan. 16	Unknown	*2,400e	Unknown				
04212100 GRAND RIVER NEAR PAINESVILLE, OH (Base discharge: 6,500 ft³/s)							
Jan. 16	0800	*15,300	*11.54	Apr. 9	1900	6,580	7.15
04213000 CONNEAUT CREEK AT CONNEAUT, OH (Base discharge: 2,900 ft³/s)							
Jan. 17	0300	*2,320	*5.45				

GROUND-WATER RECORDS

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.

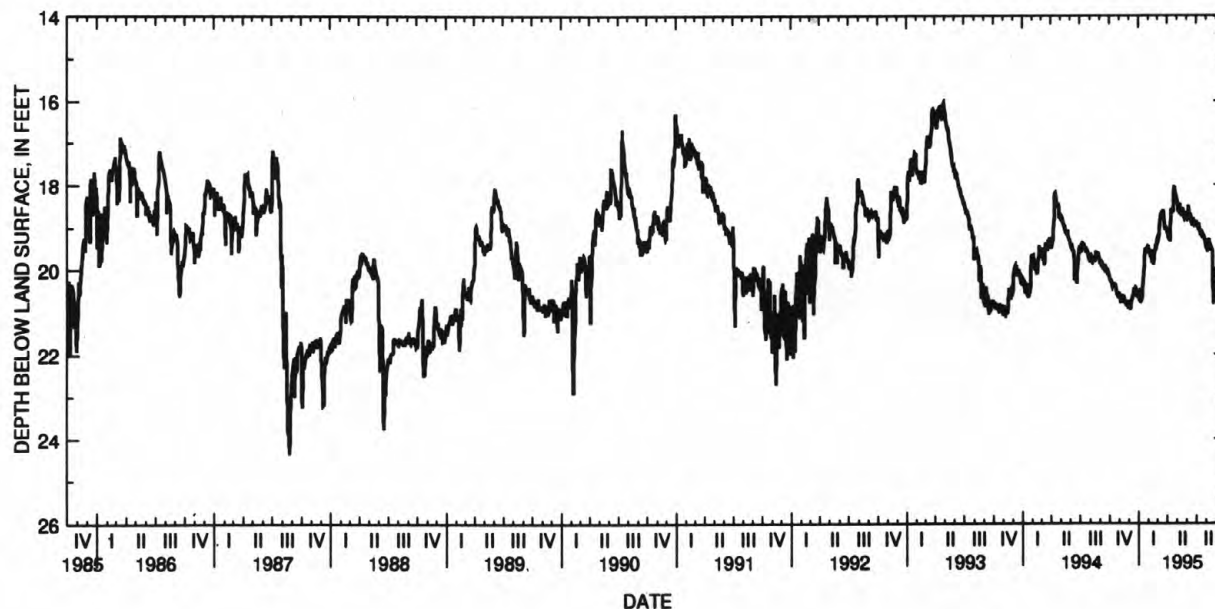
Measuring point: Floor of instrument shelter 3.50 ft above land-surface datum.

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 1994 TO SEPTEMBER 1995
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.13	20.59	20.91	20.53	19.47	19.28	19.09	18.34	18.74	18.89	19.48	20.08
2	20.17	20.70	20.81	20.65	19.61	19.30	19.17	18.41	18.74	18.91	19.47	20.12
3	20.24	20.64	20.84	20.64	19.61	19.26	19.12	18.48	18.74	18.91	19.52	20.11
4	20.26	20.63	20.88	20.72	19.53	19.28	19.28	18.49	18.77	18.97	19.59	20.15
5	20.23	20.65	20.80	20.73	19.64	19.17	19.27	18.53	18.67	18.99	19.51	20.21
6	20.26	20.78	20.83	20.56	19.60	19.23	19.18	18.62	18.60	18.95	19.38	20.15
7	20.27	20.80	20.92	20.66	19.59	19.06	19.27	18.63	18.48	18.99	19.40	20.10
8	20.26	20.61	20.91	20.69	19.72	19.00	19.18	18.64	18.79	19.01	19.38	20.13
9	20.33	20.65	20.76	20.76	19.67	18.90	19.31	18.54	18.68	18.99	19.27	20.19
10	20.38	20.74	20.74	20.75	19.58	18.81	19.35	18.44	18.79	19.03	19.52	20.25
11	20.40	20.74	20.73	20.65	19.77	18.68	19.00	18.53	18.80	19.08	19.57	20.52
12	20.37	20.64	20.69	20.54	19.82	18.72	18.82	18.60	18.69	19.11	19.44	20.36
13	20.36	20.64	20.65	20.55	19.82	18.72	18.58	18.62	18.72	19.20	19.43	20.24
14	20.37	20.66	20.64	20.44	19.85	18.72	18.61	18.68	18.80	19.14	19.44	20.34
15	20.42	20.74	20.62	20.32	19.75	18.66	18.62	18.73	18.86	19.17	19.51	20.38
16	20.45	20.69	20.60	20.22	19.85	18.66	18.58	18.71	18.90	19.19	19.51	20.28
17	20.41	20.68	20.51	20.09	19.90	18.78	18.61	18.67	18.91	19.07	19.51	20.30
18	20.36	20.75	20.52	20.04	19.80	18.81	18.59	18.68	18.89	19.12	19.53	20.37
19	20.33	20.80	20.56	19.88	19.68	18.66	18.65	18.59	18.83	19.18	19.54	20.35
20	20.41	20.77	20.54	19.69	19.53	18.60	18.64	18.55	18.83	19.17	19.56	20.34
21	20.44	20.74	20.56	19.60	19.60	18.70	18.45	18.66	18.94	19.20	20.21	20.35
22	20.40	20.84	20.49	19.52	19.58	18.79	18.14	18.73	18.92	19.20	20.71	20.42
23	20.48	20.82	20.45	19.50	19.42	18.91	18.07	18.70	18.93	19.20	20.83	20.46
24	20.53	20.83	20.46	19.61	19.56	19.01	18.04	18.75	18.89	19.23	20.41	20.41
25	20.57	20.81	20.54	19.59	19.51	19.04	18.18	18.76	18.92	19.26	20.22	20.33
26	20.61	20.86	20.59	19.58	19.46	19.03	18.19	18.80	19.01	19.28	20.11	20.64
27	20.62	20.78	20.54	19.51	19.41	18.98	18.21	18.78	18.97	19.30	20.07	20.56
28	20.59	20.74	20.59	19.50	19.32	19.04	18.26	18.66	18.96	19.34	20.08	20.57
29	20.59	20.84	20.67	19.54	---	19.04	18.29	18.73	18.91	19.40	20.13	20.57
30	20.62	20.91	20.64	19.50	---	19.07	18.34	18.78	18.85	19.43	20.09	20.54
31	20.54	---	20.54	19.44	---	19.09	---	18.79	---	19.42	20.03	---
MAX	20.62	20.91	20.92	20.76	19.90	19.30	19.35	18.80	19.01	19.43	20.83	20.64

CAL YR 1994 LOW 20.92
WTR YR 1995 LOW 20.92

GROUND-WATER RECORDS

87

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.

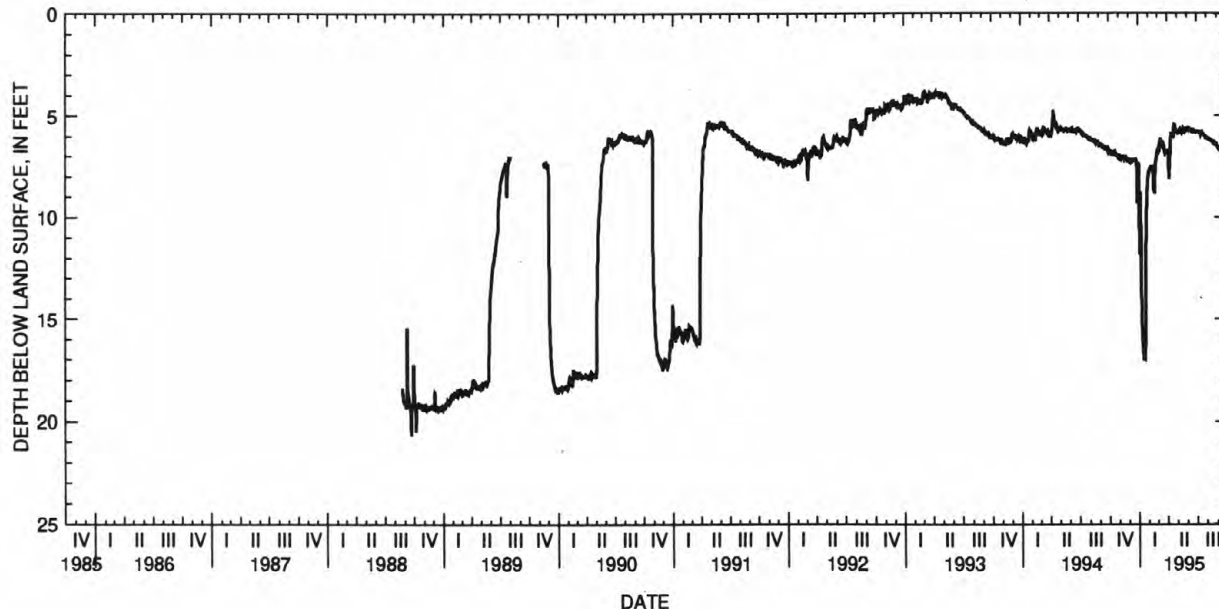
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

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 1994 TO SEPTEMBER 1995
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.71	6.98	7.29	7.33	7.76	6.75	6.73	5.80	5.63	5.82	6.10	6.45
2	6.75	7.08	7.14	7.40	7.84	6.77	6.77	5.81	5.62	5.82	6.10	6.49
3	6.80	7.00	7.19	7.38	7.84	6.73	6.73	5.84	5.64	5.80	6.13	6.51
4	6.82	6.99	7.21	10.43	7.65	6.77	6.87	5.82	5.67	5.82	6.12	6.57
5	6.76	6.98	7.18	11.49	7.70	6.70	7.40	5.81	5.59	5.82	6.10	6.59
6	6.78	7.18	7.20	11.85	7.66	6.80	7.90	5.85	5.54	5.81	6.16	6.55
7	6.77	7.19	7.35	9.80	7.60	6.67	8.12	5.84	5.65	5.84	6.17	6.55
8	6.76	6.98	7.35	8.78	7.66	6.47	7.38	5.82	5.76	5.85	6.17	6.56
9	6.87	7.04	7.20	11.94	7.64	6.25	6.97	5.70	5.73	5.82	6.16	6.64
10	6.91	7.13	7.19	13.71	7.47	6.18	6.93	5.68	5.68	5.85	6.16	6.70
11	6.91	7.12	7.28	14.59	7.65	6.11	6.31	5.76	5.69	5.87	6.18	6.70
12	6.86	7.02	7.25	15.25	7.68	6.24	6.00	5.79	5.68	5.89	6.20	6.60
13	6.83	7.01	7.22	15.73	7.64	6.26	5.81	5.76	5.70	5.93	6.20	6.57
14	6.83	7.06	7.24	16.05	7.62	6.30	5.90	5.79	5.75	5.89	6.21	6.71
15	6.87	7.13	7.20	16.40	7.46	6.31	5.98	5.82	5.79	5.88	6.23	6.74
16	6.89	7.08	7.18	16.69	7.58	6.38	5.99	5.75	5.80	5.88	6.23	6.65
17	6.85	7.05	7.12	16.86	8.45	6.50	6.06	5.73	5.77	5.85	6.24	6.68
18	6.79	7.12	7.21	16.98	8.71	6.51	6.06	5.75	5.76	5.90	6.25	6.74
19	6.78	7.17	7.22	16.99	8.81	6.43	5.99	5.72	5.72	5.91	6.26	6.71
20	6.86	7.12	7.20	16.91	8.76	6.41	5.99	5.67	5.73	5.91	6.26	6.70
21	6.87	7.11	7.21	16.95	8.87	6.51	5.84	5.71	5.79	5.92	6.31	6.70
22	6.84	7.23	7.16	16.98	7.88	6.61	5.44	5.74	5.79	5.92	6.36	6.80
23	6.90	7.18	7.14	15.00	7.49	6.73	5.45	5.67	5.79	5.94	6.34	6.83
24	6.90	7.17	7.14	12.05	7.29	6.81	5.53	5.75	5.76	5.96	6.34	6.76
25	6.97	7.13	7.21	10.83	7.18	6.84	5.68	5.70	5.77	5.99	6.36	6.69
26	6.98	7.19	7.26	9.90	7.08	6.78	5.67	5.72	5.81	6.01	6.34	6.70
27	6.99	7.10	7.42	9.26	7.03	6.70	5.74	5.68	5.80	6.02	6.38	6.80
28	6.94	7.11	8.00	8.77	6.89	6.75	5.79	5.59	5.78	6.06	6.39	6.82
29	6.94	7.23	9.33	8.50	---	6.73	5.79	5.66	5.78	6.09	6.40	6.83
30	6.97	7.29	8.20	8.25	---	6.75	5.82	5.70	5.78	6.09	6.41	6.78
31	6.89	---	7.45	8.00	---	6.75	---	5.68	---	6.08	6.40	---
MAX	6.99	7.29	9.33	16.99	8.87	6.84	8.12	5.85	5.81	6.09	6.41	6.83
CAL YR 1994	LOW 9.33											
WTR YR 1995	LOW 16.99											



GROUND-WATER RECORDS

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.

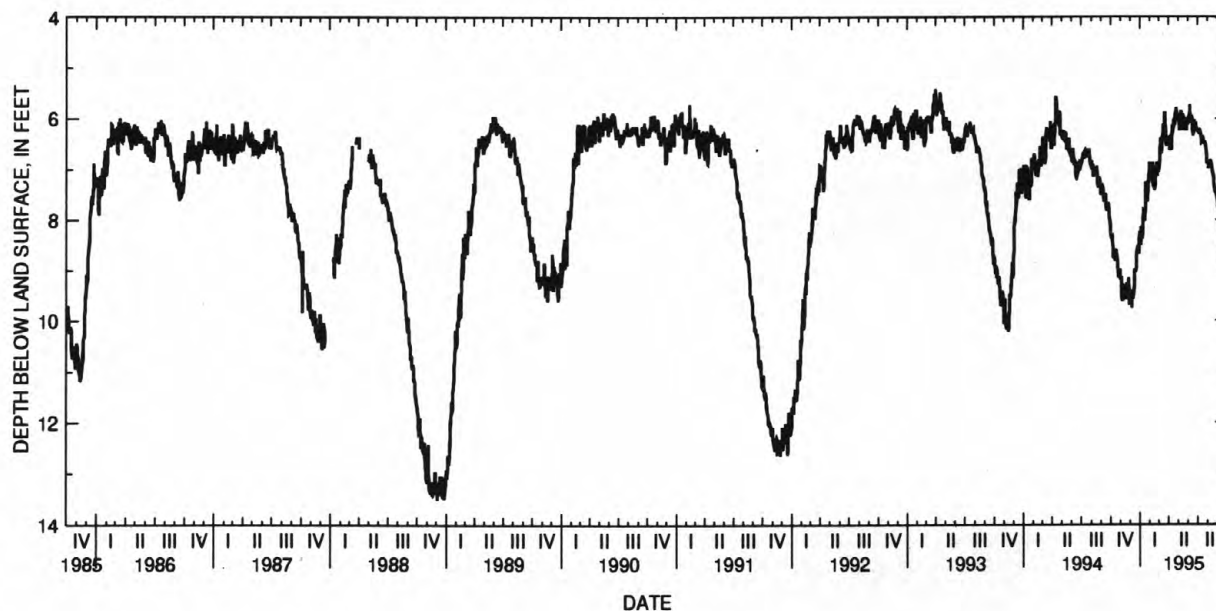
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

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 1994 TO SEPTEMBER 1995
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.04	8.97	9.68	8.23	6.87	6.98	6.38	5.95	6.00	6.24	---	7.70
2	8.12	9.18	9.50	8.36	7.10	6.99	6.44	5.99	5.96	6.25	---	7.75
3	8.30	9.15	9.49	8.36	7.10	6.92	6.43	6.08	6.01	6.20	6.95	7.83
4	8.37	9.15	9.52	8.48	6.90	6.86	6.62	6.08	6.07	6.23	6.97	7.94
5	8.33	9.15	9.40	8.48	7.08	6.65	6.63	6.11	5.98	6.23	6.89	8.01
6	8.36	9.52	9.45	8.17	7.08	6.57	6.40	6.21	5.72	6.23	6.85	8.00
7	8.37	9.62	9.70	8.13	6.99	6.38	6.50	6.21	5.86	6.28	6.90	7.88
8	8.36	9.30	9.76	8.25	7.19	6.60	6.33	6.20	6.07	6.32	6.89	7.92
9	8.50	9.30	9.49	8.36	7.18	6.70	6.55	6.02	6.07	6.24	6.87	8.10
10	8.70	9.53	9.48	8.36	6.86	6.65	6.64	5.84	6.03	6.30	6.81	8.26
11	8.76	9.60	9.54	8.14	7.20	6.38	6.43	5.95	5.95	6.35	6.85	8.30
12	8.72	9.41	9.54	7.91	7.31	6.40	6.25	6.02	5.93	6.38	6.88	8.18
13	8.66	9.36	9.45	7.97	7.32	6.38	6.13	6.03	5.97	6.46	6.90	8.17
14	8.66	9.37	9.42	7.84	7.36	6.35	6.25	6.08	6.11	6.45	6.95	8.50
15	8.76	9.49	9.37	7.85	7.08	6.22	6.23	6.20	6.22	6.43	6.99	8.55
16	8.81	9.47	9.26	8.00	7.31	6.11	6.10	6.19	6.32	6.43	7.05	8.50
17	8.78	9.38	8.97	8.00	7.42	6.24	6.04	6.00	6.32	6.34	7.07	8.45
18	8.66	9.39	9.00	7.94	7.35	6.25	6.01	5.99	6.25	6.42	7.10	8.60
19	8.57	9.52	9.03	7.70	7.17	6.03	6.12	6.02	6.11	6.47	7.13	8.60
20	8.68	9.52	8.98	7.26	6.95	5.86	6.12	6.02	6.03	6.47	7.16	8.59
21	8.73	9.25	8.97	7.35	7.03	5.91	5.89	6.10	6.16	6.48	7.30	8.63
22	8.68	9.55	8.87	7.38	7.03	6.05	6.01	6.23	6.17	6.48	7.37	8.86
23	8.78	9.55	8.63	7.40	6.87	6.29	6.01	6.22	6.18	6.44	7.43	8.95
24	8.81	9.55	8.59	7.63	7.14	6.48	5.77	6.15	6.13	6.48	7.40	8.93
25	8.96	9.43	8.61	7.63	7.06	6.54	5.95	6.18	6.06	6.52	7.43	8.80
26	9.07	9.55	8.68	7.53	6.94	6.50	5.95	6.22	6.22	6.55	7.42	8.73
27	9.15	9.52	8.60	7.41	6.88	6.39	5.86	6.22	6.23	6.58	7.44	8.90
28	9.11	9.15	8.50	7.22	6.89	6.40	5.92	6.00	6.24	6.68	7.50	9.01
29	9.10	9.44	8.68	7.25	---	6.40	5.93	6.05	6.26	6.83	7.53	9.10
30	9.13	9.66	8.62	7.21	---	6.39	5.95	6.10	6.20	6.87	7.55	9.08
31	9.05	---	8.40	7.03	---	6.40	---	6.10	---	6.90	7.54	---
MAX	9.15	9.66	9.76	8.48	7.42	6.99	6.64	6.23	6.32	6.90	---	9.10

CAL YR 1994 LOW 9.76



GROUND-WATER RECORDS

89

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.

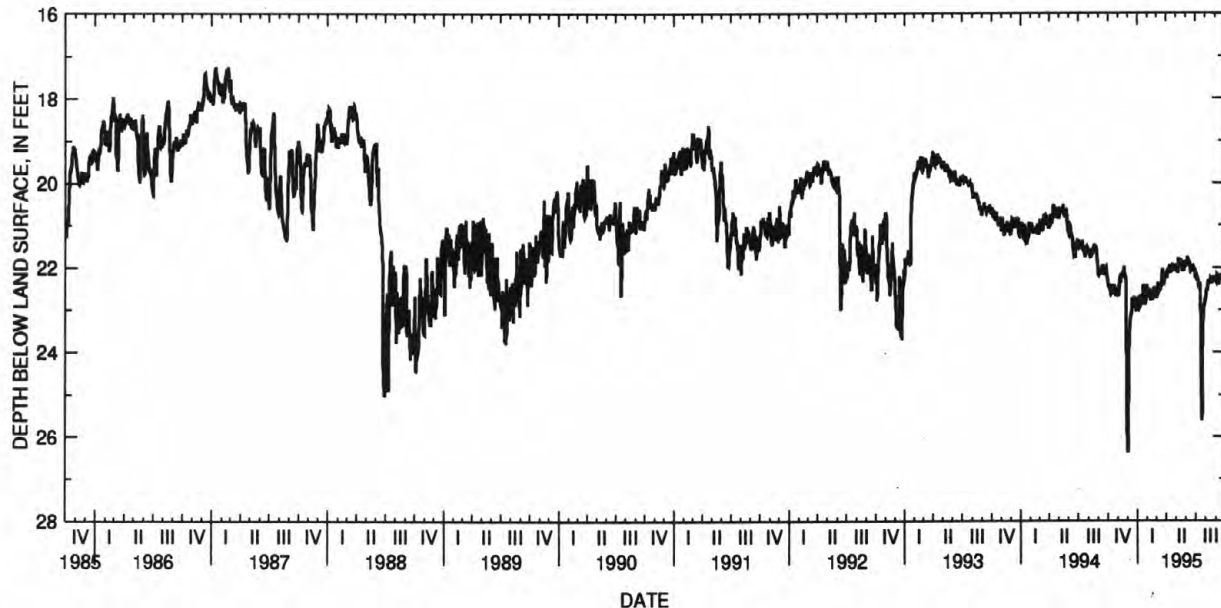
DATUM.--Elevation of land-surface datum is 680 ft above sea level, from topographic map.

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, 26.38 ft below land-surface datum, Dec. 3, 1994;
minimum daily low, 14.55 ft below land-surface datum, Mar. 22, 1978.DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.24	22.49	26.03	22.80	22.42	22.66	22.15	21.98	21.89	22.16	22.79	22.23
2	22.38	22.62	26.34	22.83	22.59	22.72	22.17	21.93	21.87	22.24	22.74	22.27
3	22.41	22.64	26.38	22.85	22.62	22.66	22.12	22.04	21.87	22.21	22.70	22.26
4	22.43	22.67	25.85	22.87	22.51	22.66	22.22	22.02	21.95	22.24	22.63	22.31
5	22.40	22.59	24.82	22.83	22.66	22.58	22.22	22.02	21.89	22.25	22.54	22.33
6	22.45	22.45	24.26	22.74	22.64	22.48	22.06	22.08	21.79	22.21	22.50	22.27
7	22.44	22.45	23.81	22.70	22.56	22.35	22.11	22.09	21.74	22.22	22.54	22.18
8	22.41	22.30	23.73	22.82	22.68	22.48	22.03	22.09	21.93	22.31	22.52	22.20
9	22.44	22.19	23.45	22.94	22.65	22.57	22.06	22.00	21.96	22.23	22.41	22.22
10	22.59	22.33	23.33	22.92	22.50	22.55	22.11	21.82	21.91	22.31	22.34	22.33
11	22.61	22.35	23.23	22.84	22.66	22.52	22.07	21.82	21.89	22.39	22.32	22.34
12	22.59	22.17	23.22	22.72	22.75	22.53	21.97	21.89	21.87	22.50	22.32	22.24
13	22.53	22.18	23.10	22.73	22.75	22.53	21.97	21.90	21.89	22.46	22.34	22.16
14	22.52	22.15	23.09	22.72	22.76	22.52	22.09	21.86	21.92	22.43	22.31	22.32
15	22.57	22.21	23.05	22.74	22.65	22.48	22.12	21.97	22.01	22.40	22.34	22.38
16	22.62	22.22	23.01	22.84	22.67	22.38	22.07	21.92	22.07	22.43	22.34	22.32
17	22.59	22.14	22.72	22.87	22.73	22.40	22.04	21.81	22.06	22.37	22.33	22.21
18	22.49	22.09	22.81	22.77	22.73	22.45	22.00	21.87	22.06	22.84	22.25	22.32
19	22.42	22.15	22.84	22.70	22.63	22.30	22.00	21.87	21.97	24.29	22.26	22.27
20	22.46	22.18	22.86	22.44	22.53	22.14	22.01	21.89	21.94	25.18	22.27	22.19
21	22.46	21.97	22.84	22.44	22.56	22.04	21.91	21.99	22.01	25.62	22.31	22.21
22	22.41	22.09	22.80	22.51	22.55	22.10	22.06	22.08	22.05	25.49	22.36	22.23
23	22.47	22.20	22.69	22.54	22.46	22.18	22.04	22.05	22.07	24.46	22.36	22.31
24	22.53	22.25	22.74	22.71	22.65	22.27	21.94	21.98	22.04	23.89	22.27	22.25
25	22.56	22.17	22.73	22.74	22.63	22.34	21.99	22.01	22.01	23.41	22.32	22.15
26	22.62	22.27	22.81	22.86	22.65	22.35	21.99	22.08	22.03	23.19	22.25	22.07
27	22.67	22.23	22.78	22.84	22.64	22.29	21.94	22.03	22.02	22.96	22.21	22.06
28	22.62	22.91	22.85	22.79	22.62	22.22	21.99	21.89	22.04	22.87	22.26	22.12
29	22.58	24.55	23.01	22.74	---	22.22	22.03	21.87	22.05	22.91	22.27	22.17
30	22.64	25.54	23.00	22.67	---	22.18	22.00	21.96	22.06	22.88	22.31	22.16
31	22.64	---	---	22.53	---	22.17	---	21.96	---	22.82	22.20	---
MAX	22.67	25.54	---	22.94	22.76	22.72	22.22	22.09	22.07	25.62	22.79	22.38



GROUND-WATER RECORDS

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;

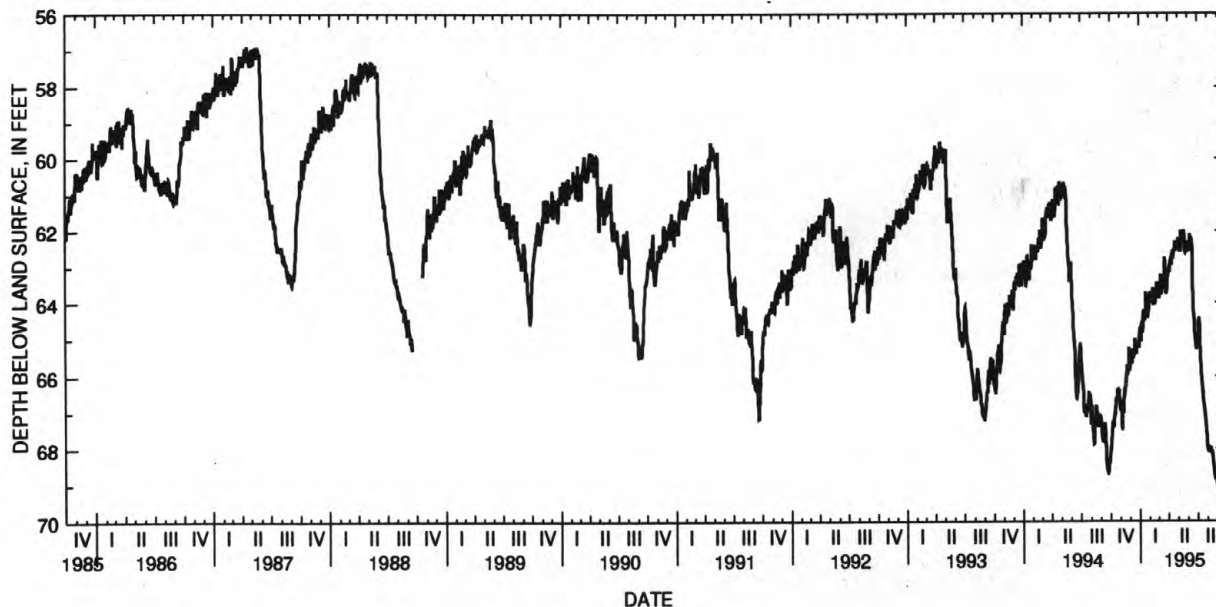
minimum daily low, 56.87 ft below land-surface datum, Apr. 16, 1987.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68.09	66.76	65.77	64.70	63.72	63.84	63.09	62.37	62.36	64.87	67.91	69.12
2	68.05	66.96	65.53	64.81	63.99	63.90	63.07	62.21	62.30	64.84	68.02	69.15
3	67.97	66.82	65.46	64.83	64.01	63.82	62.98	62.33	62.42	64.67	68.10	68.92
4	67.92	66.66	65.50	64.97	63.73	63.79	63.13	62.39	62.58	64.46	68.07	68.83
5	67.73	66.71	65.28	64.98	63.92	63.64	63.13	62.43	62.47	64.40	67.97	68.70
6	67.53	67.36	65.36	64.65	63.86	63.49	62.85	62.56	62.18	64.65	68.00	68.45
7	67.44	67.51	65.59	64.52	63.76	63.22	62.94	62.56	62.10	65.04	68.08	68.09
8	67.30	67.07	65.67	64.65	63.98	63.60	62.73	62.56	62.44	65.26	68.08	68.04
9	67.24	66.79	65.40	64.82	63.92	63.76	62.88	62.36	62.54	65.40	67.99	67.94
10	67.37	66.99	65.40	64.79	63.59	63.73	62.96	62.03	62.42	65.63	68.01	68.10
11	67.41	66.99	65.50	64.57	63.88	63.47	62.85	62.06	62.30	65.89	68.06	68.02
12	67.27	66.72	65.50	64.26	64.03	63.54	62.61	62.15	62.24	66.05	68.08	67.76
13	67.10	66.51	65.42	64.31	64.02	63.57	62.60	62.17	62.25	66.17	68.11	67.50
14	67.02	66.35	65.43	64.23	64.06	63.55	62.75	62.16	62.79	66.23	68.11	67.66
15	67.01	66.49	65.41	64.23	63.81	63.43	62.75	62.30	63.45	66.42	68.16	67.80
16	67.02	66.42	65.30	64.46	63.94	63.23	62.63	62.21	63.90	66.41	68.22	67.63
17	66.86	66.26	64.99	64.46	64.07	63.34	62.56	61.99	64.14	66.44	68.35	68.05
18	66.68	66.08	65.13	64.40	64.00	63.34	62.53	62.06	64.30	66.66	68.49	68.37
19	66.62	66.22	65.17	64.24	63.77	63.07	62.53	62.05	64.35	66.82	68.53	68.33
20	66.61	66.17	65.18	63.71	63.63	62.74	62.55	62.07	64.47	66.83	68.60	68.02
21	66.64	65.70	65.38	63.81	63.73	62.95	62.30	62.29	64.79	66.95	68.66	68.03
22	66.47	65.99	65.40	63.96	63.69	63.40	62.55	62.57	64.92	66.99	68.81	67.94
23	66.38	65.96	65.18	64.05	63.43	63.60	62.55	62.56	64.99	67.04	68.82	68.03
24	66.37	65.96	65.16	64.34	63.77	63.72	62.33	62.60	64.97	67.15	68.83	67.89
25	66.41	65.74	65.14	64.33	63.76	63.77	62.48	62.57	65.10	67.29	68.88	67.61
26	66.48	65.89	65.22	64.35	63.74	63.69	62.48	62.58	65.30	67.39	68.79	67.22
27	66.50	65.78	65.10	64.27	63.66	63.53	62.29	62.58	65.25	67.52	68.84	67.07
28	66.37	65.22	65.06	64.20	63.69	63.33	62.36	62.30	65.02	67.61	68.89	67.16
29	66.53	65.56	65.23	64.22	---	63.30	62.39	62.39	65.03	67.82	68.95	67.11
30	66.83	65.76	65.20	64.16	---	63.20	62.38	62.55	64.93	67.93	69.03	66.98
31	66.87	---	64.92	63.92	---	63.17	---	62.49	---	67.91	68.96	---
MAX	68.09	67.51	65.77	64.98	64.07	63.90	63.13	62.60	65.30	67.93	69.03	69.15

CAL YR 1994 LOW 68.67

WTR YR 1995 LOW 69.15



GROUND-WATER RECORDS

91

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.

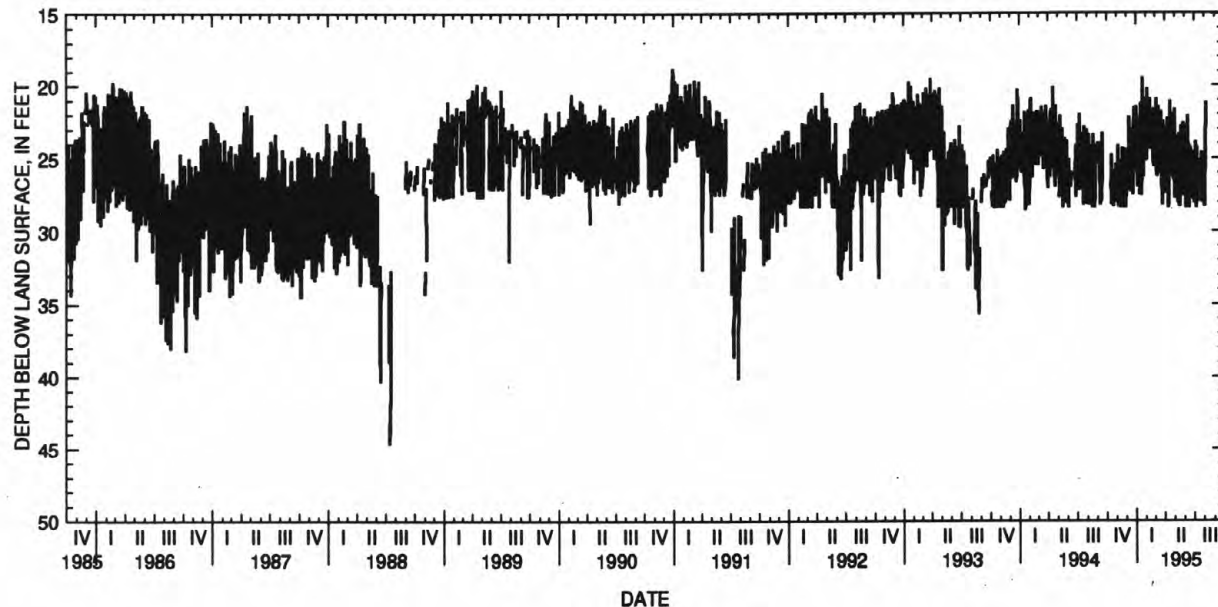
Measuring point: Floor of instrument shelter 1.90 ft above land-surface datum.

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 1994 TO SEPTEMBER 1995
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	26.50	26.42	21.44	25.20	25.54	23.68	27.72	26.94	26.92	28.28	---
2	---	---	27.58	22.98	22.24	25.42	23.04	26.44	26.34	24.92	28.12	---
3	---	27.52	24.48	24.54	25.14	25.14	24.06	26.32	26.40	25.44	24.78	---
4	---	---	24.64	25.24	21.18	23.48	26.02	26.80	23.96	23.86	25.90	---
5	---	25.74	26.62	25.12	20.20	20.92	26.34	27.02	28.40	27.54	24.44	---
6	---	24.12	25.36	26.98	24.06	26.04	23.76	25.18	28.12	26.66	21.16	---
7	---	27.98	26.74	23.70	22.94	26.26	24.16	23.54	27.78	28.40	---	---
8	---	28.16	24.62	23.54	24.34	25.60	22.28	26.22	25.50	25.78	---	---
9	---	28.12	26.76	25.22	22.76	25.20	22.92	26.98	25.98	24.22	---	---
10	---	27.32	23.18	24.52	24.04	26.04	25.30	24.62	25.06	28.00	---	---
11	---	---	22.18	---	22.30	22.88	28.40	28.02	22.08	27.12	---	---
12	28.18	25.44	25.30	27.50	20.92	21.48	26.54	27.22	26.02	---	---	---
13	---	25.18	24.76	26.72	22.92	25.02	28.24	24.36	26.82	---	---	---
14	27.16	28.40	27.28	24.94	22.98	25.58	25.36	23.34	28.40	---	---	---
15	26.06	26.42	25.84	21.22	24.38	24.56	23.96	26.10	26.32	26.80	---	---
16	24.76	---	26.04	26.72	23.16	24.66	21.08	28.30	27.46	25.12	---	---
17	28.16	---	23.74	23.60	24.32	25.90	24.80	27.04	25.10	---	---	---
18	27.36	28.30	23.04	27.54	22.68	23.26	24.96	27.72	24.20	---	---	---
19	27.72	26.10	26.22	23.54	21.74	21.76	24.10	---	27.10	---	---	---
20	27.04	24.32	25.28	26.60	24.02	25.62	25.62	24.92	---	---	---	---
21	28.32	27.54	26.32	21.58	22.60	26.04	25.78	22.78	---	---	---	---
22	25.88	26.46	27.50	19.46	23.46	25.88	23.48	26.46	---	25.94	---	---
23	---	28.40	26.16	26.32	23.78	28.22	21.96	26.96	---	24.56	---	---
24	27.04	25.30	23.26	22.46	25.60	26.48	25.98	26.20	26.50	27.98	---	---
25	---	---	21.52	23.94	24.00	24.56	24.88	27.54	24.50	---	---	---
26	---	25.68	23.12	22.70	21.60	22.46	25.54	25.90	27.82	28.24	---	---
27	---	24.38	23.40	24.90	25.00	26.02	26.10	24.38	---	---	---	---
28	---	27.02	25.96	22.48	22.66	25.72	26.48	22.58	28.38	---	---	---
29	27.98	26.32	25.00	20.92	---	27.40	24.18	22.82	---	25.84	---	---
30	25.42	28.40	24.74	24.58	---	26.10	21.60	25.72	28.02	24.66	---	---
31	27.14	---	23.92	24.10	---	26.34	---	27.10	---	28.22	---	---
MAX	---	---	27.58	---	25.60	28.22	28.40	---	---	---	---	---



GROUND-WATER RECORDS

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.

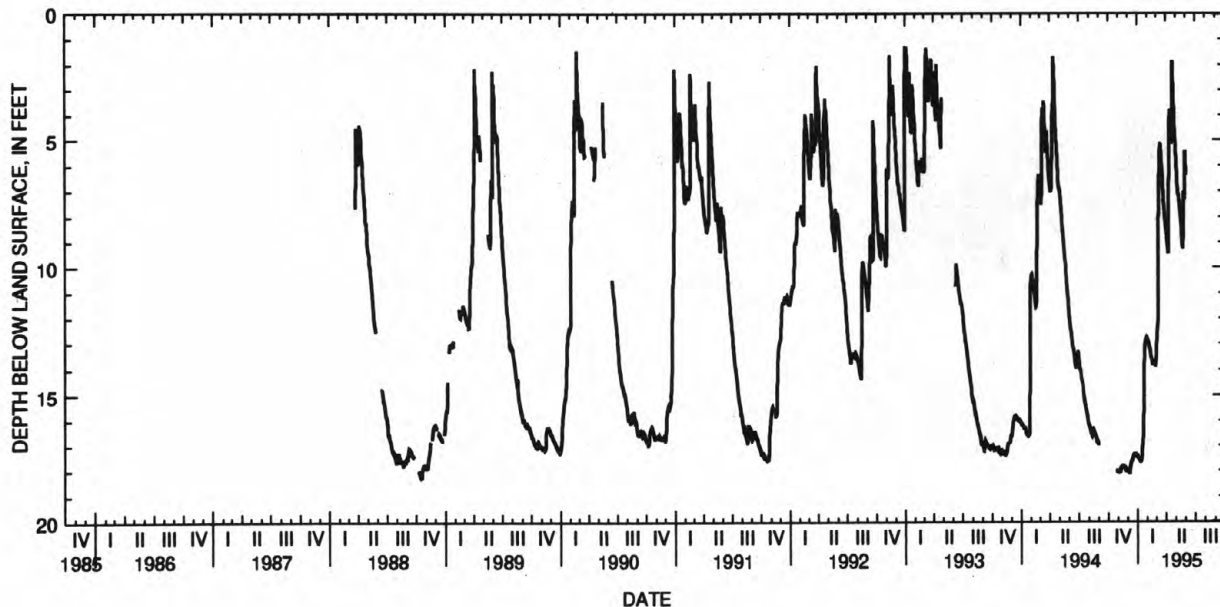
Measuring point: Floor of instrument shelter 1.60 ft above land-surface datum.

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 1994 TO SEPTEMBER 1995
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	18.01	18.02	17.42	12.81	13.25	8.59	5.32	6.01	---	---	---
2	---	18.02	18.04	17.45	12.92	12.89	8.75	5.67	6.16	---	---	---
3	---	18.03	18.05	17.47	12.93	12.63	8.79	5.98	6.39	---	---	---
4	---	18.04	18.06	17.51	12.92	12.47	9.11	6.17	---	---	---	---
5	---	18.03	18.07	17.52	13.00	12.31	9.16	6.49	---	---	---	---
6	---	18.04	18.08	17.53	13.02	12.19	9.27	6.75	---	---	---	---
7	---	18.05	18.08	17.56	13.07	12.03	9.45	6.99	---	---	---	---
8	---	18.03	17.96	17.58	13.18	8.56	9.41	7.13	---	---	---	---
9	---	17.99	17.90	17.63	13.17	6.74	8.75	7.11	---	---	---	---
10	---	17.92	17.83	17.64	13.22	6.35	4.34	7.14	---	---	---	---
11	---	17.88	17.74	17.65	13.38	6.01	4.15	7.16	---	---	---	---
12	---	17.84	17.68	17.65	13.47	5.39	4.10	7.38	---	---	---	---
13	---	17.84	17.64	17.59	13.54	5.12	3.80	7.51	---	---	---	---
14	---	17.82	17.62	17.57	13.59	5.15	4.23	7.77	---	---	---	---
15	---	17.82	17.60	17.45	13.59	5.26	4.55	7.91	---	---	---	---
16	---	17.81	17.60	17.08	13.69	5.51	4.83	7.99	---	---	---	---
17	---	17.81	17.52	16.87	13.75	5.86	5.11	8.16	---	---	---	---
18	---	17.81	17.43	16.73	13.82	5.99	5.15	8.30	---	---	---	---
19	---	17.83	17.41	16.60	13.75	6.06	4.14	8.48	---	---	---	---
20	---	17.83	17.37	16.45	13.68	6.22	4.21	8.74	---	---	---	---
21	---	17.83	17.36	14.97	13.76	6.53	4.22	8.98	---	---	---	---
22	---	17.86	17.34	13.78	13.75	6.85	1.86	9.17	---	---	---	---
23	---	17.92	17.33	13.31	13.72	7.15	2.35	9.27	---	---	---	---
24	---	17.93	17.33	13.07	13.82	7.45	2.91	9.20	---	---	---	---
25	---	17.98	17.34	13.02	13.82	7.63	3.41	7.02	---	---	---	---
26	17.99	18.01	17.37	12.92	13.85	7.76	3.70	7.12	---	---	---	---
27	18.00	18.01	17.36	12.87	13.85	7.85	4.11	7.31	---	---	---	---
28	17.99	17.96	17.38	12.82	13.67	8.05	4.52	7.35	---	---	---	---
29	18.01	17.98	17.41	12.85	---	8.19	4.84	6.08	---	---	---	---
30	18.04	18.01	17.43	12.82	---	8.32	5.16	5.41	---	---	---	---
31	18.02	---	17.42	12.78	---	8.46	---	5.72	---	---	---	---
MAX	---	18.05	18.08	17.65	13.85	13.25	9.45	9.27	---	---	---	---



GROUND-WATER RECORDS

93

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.

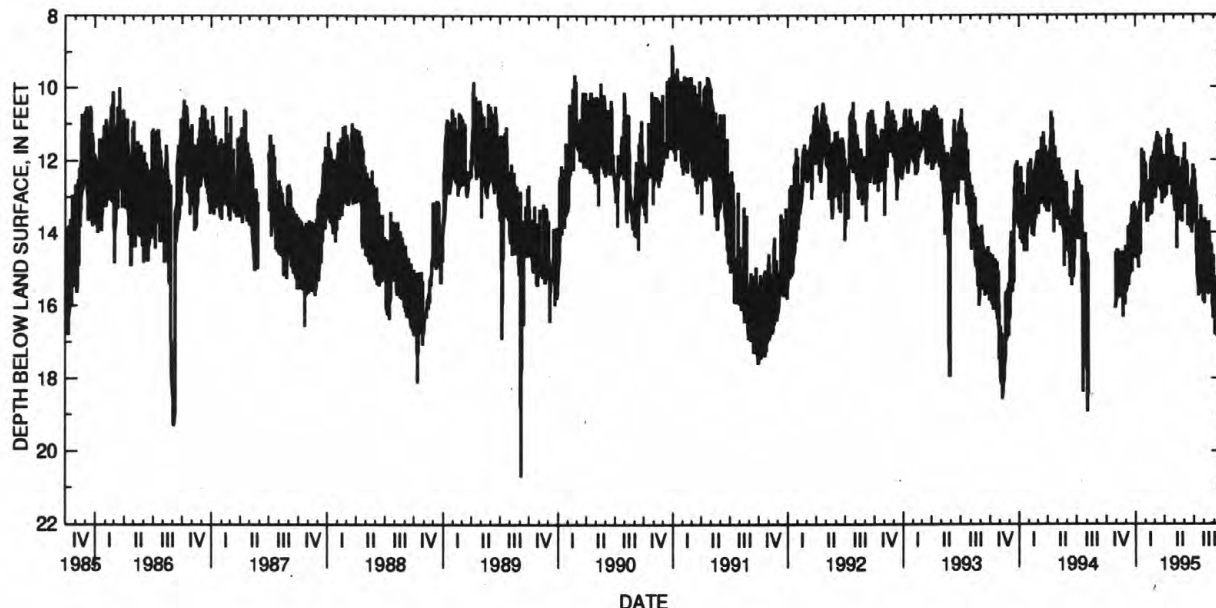
Measuring point: Floor of instrument shelter 3.00 ft above land-surface datum.

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 1994 TO SEPTEMBER 1995
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	15.82	15.28	13.29	13.19	11.83	12.55	12.14	12.14	12.14	15.90	15.16
2	---	14.55	14.38	14.70	12.43	12.49	11.91	11.90	13.09	13.05	15.07	14.63
3	---	15.74	15.52	13.42	12.10	11.60	13.06	13.25	12.09	12.70	14.65	15.81
4	---	15.86	15.63	13.65	13.08	13.05	12.39	12.53	11.55	12.26	15.95	15.57
5	---	14.47	14.49	14.47	12.90	12.58	12.17	11.92	13.21	13.47	14.34	15.36
6	---	15.37	15.57	14.31	13.26	11.53	12.89	13.41	12.42	13.34	13.60	16.81
7	---	14.87	14.66	13.57	13.25	12.79	12.87	12.36	12.15	12.50	15.59	15.59
8	---	14.46	14.58	14.72	13.71	12.37	11.96	12.25	13.06	13.80	14.69	15.20
9	---	15.78	15.35	14.02	13.15	11.35	12.99	13.11	12.22	12.88	13.80	16.23
10	---	15.15	14.40	13.43	12.90	11.84	12.05	12.30	12.03	12.97	14.99	15.48
11	---	14.57	13.84	14.97	13.26	11.94	11.33	14.44	12.83	14.63	14.52	15.44
12	---	15.79	15.46	14.02	12.61	11.25	12.33	13.68	12.43	14.04	13.72	16.87
13	---	15.56	15.11	13.39	13.55	12.72	11.92	12.55	12.12	13.88	15.11	16.21
14	---	14.65	13.85	14.52	12.57	11.56	11.17	11.93	13.82	15.41	14.36	15.35
15	---	15.78	15.13	13.91	13.12	11.34	12.58	13.68	13.19	14.28	14.12	16.43
16	---	15.49	13.83	13.16	13.33	12.23	12.70	12.82	12.85	13.71	15.71	15.77
17	---	14.82	13.76	14.60	12.83	12.17	11.39	12.38	13.79	15.74	14.41	14.99
18	---	15.76	14.47	13.37	12.52	11.55	12.46	13.34	13.60	14.78	13.70	16.78
19	---	14.81	14.10	12.82	13.24	12.35	12.33	12.42	12.99	14.76	15.17	15.82
20	---	14.53	13.50	13.16	12.07	11.95	11.37	12.21	13.83	15.69	14.58	15.32
21	---	15.78	15.09	12.67	11.92	11.41	12.23	13.40	13.54	13.90	14.03	16.45
22	---	15.04	13.79	11.70	13.51	12.85	11.94	12.87	13.11	13.68	15.40	15.53
23	---	15.02	13.24	12.94	12.96	11.96	11.32	12.38	13.89	14.36	15.05	15.21
24	---	16.33	14.52	12.44	11.95	11.72	12.63	13.48	13.24	13.86	14.30	16.21
25	---	14.96	13.28	12.19	13.02	13.20	11.94	12.58	12.79	13.26	15.53	16.44
26	---	14.59	13.42	13.17	12.25	13.15	11.63	12.36	14.01	14.96	14.65	15.43
27	---	15.67	14.57	12.75	11.79	11.95	12.96	13.72	12.69	13.95	14.34	16.87
28	---	15.18	13.16	11.80	12.93	13.04	12.03	13.09	12.51	13.64	16.01	16.44
29	---	14.76	13.21	12.95	---	12.66	11.78	11.97	13.35	15.33	15.15	15.66
30	---	15.99	14.49	12.85	---	11.87	12.81	13.05	12.46	14.95	15.01	17.10
31	16.08	---	13.82	12.07	---	12.83	---	12.51	---	14.33	16.37	---
MAX	---	16.33	15.63	14.97	13.71	13.20	13.06	14.44	14.01	15.74	16.37	17.10



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.

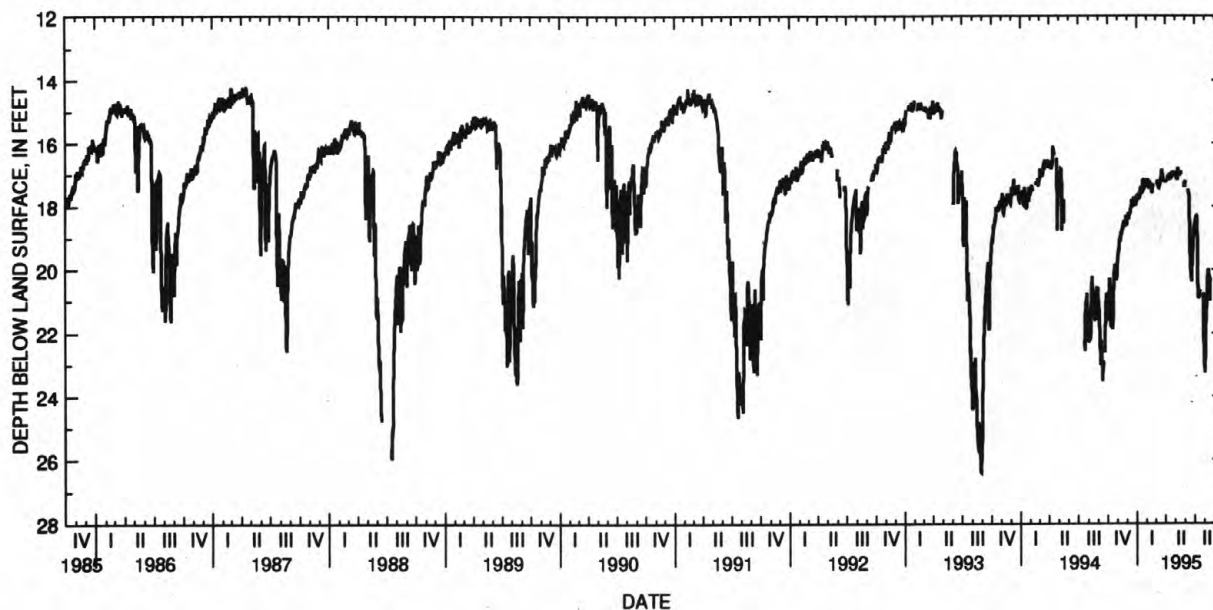
DATUM.--Elevation of land-surface datum is 627 ft above sea level, from topographic map.

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 1994 TO SEPTEMBER 1995
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.62	19.94	18.57	17.64	17.13	---	---	16.98	17.27	18.55	22.92	---
2	21.13	19.79	18.41	17.73	17.26	---	17.26	16.93	17.19	18.54	23.20	---
3	20.84	19.71	18.33	17.74	17.30	---	17.20	17.05	---	18.46	23.27	---
4	21.14	19.55	18.34	17.70	17.13	---	---	16.99	---	18.46	22.38	---
5	21.52	19.37	18.27	17.70	17.39	---	---	17.00	---	18.38	21.85	---
6	20.99	19.32	18.28	17.64	17.33	17.30	17.17	17.11	---	18.33	21.43	---
7	20.67	19.40	18.37	17.59	17.29	17.18	17.14	17.14	---	18.28	21.27	---
8	20.47	19.17	18.41	17.70	17.46	17.24	17.06	17.13	---	18.33	21.08	---
9	20.28	19.00	18.24	17.74	17.39	17.38	17.13	16.99	---	18.35	20.74	---
10	20.37	19.08	18.20	17.74	17.19	17.39	17.17	16.79	---	19.45	20.48	---
11	21.35	19.08	18.23	17.64	17.19	17.26	17.09	16.83	17.45	20.20	20.31	20.84
12	21.40	18.92	18.22	17.48	---	17.33	16.99	16.90	17.56	20.84	20.20	20.91
13	21.84	18.83	18.05	17.48	---	17.34	16.98	16.93	17.62	20.91	20.09	21.10
14	21.07	18.83	18.04	17.46	---	17.34	17.13	16.89	17.63	20.87	19.98	21.28
15	20.66	18.85	18.03	17.38	17.28	17.25	---	17.06	17.77	20.84	20.35	21.74
16	20.50	18.83	18.00	17.58	17.47	17.13	17.18	16.97	19.14	20.90	20.16	21.19
17	20.94	18.73	17.78	17.57	17.58	17.17	17.12	16.88	19.52	20.90	20.79	20.55
18	21.80	18.62	17.95	17.48	17.54	17.18	17.06	16.93	19.31	20.66	21.00	21.14
19	21.88	18.69	17.99	17.43	17.41	17.02	17.08	16.94	20.04	20.65	20.33	21.40
20	21.04	18.68	18.03	17.18	17.30	16.88	17.08	17.00	19.75	---	20.27	21.41
21	20.61	18.45	17.96	17.17	---	16.86	16.90	---	20.19	---	---	20.82
22	20.28	18.62	17.89	17.20	---	16.93	16.97	---	20.38	---	---	20.35
23	20.06	18.61	17.75	17.27	---	17.05	17.01	---	20.09	---	---	20.24
24	20.03	18.61	17.75	17.43	---	17.15	16.94	---	19.61	---	---	20.11
25	19.89	18.50	17.81	17.42	---	17.18	17.00	---	19.17	---	---	19.88
26	19.88	18.60	17.88	17.38	---	17.23	16.98	---	19.41	---	---	19.64
27	20.03	18.54	17.84	17.33	---	17.18	16.90	---	19.09	---	---	19.57
28	20.03	18.29	17.85	17.25	---	17.17	16.96	---	18.85	20.76	---	19.61
29	20.24	18.47	17.95	---	---	17.18	17.06	17.23	18.71	21.24	---	19.99
30	20.22	18.58	17.94	---	---	17.18	16.98	17.36	18.59	22.02	---	20.88
31	20.35	---	17.77	---	---	---	---	17.35	---	22.56	---	---
MAX	21.88	19.94	18.57	---	---	---	---	---	---	---	---	---



GROUND-WATER RECORDS

95

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.

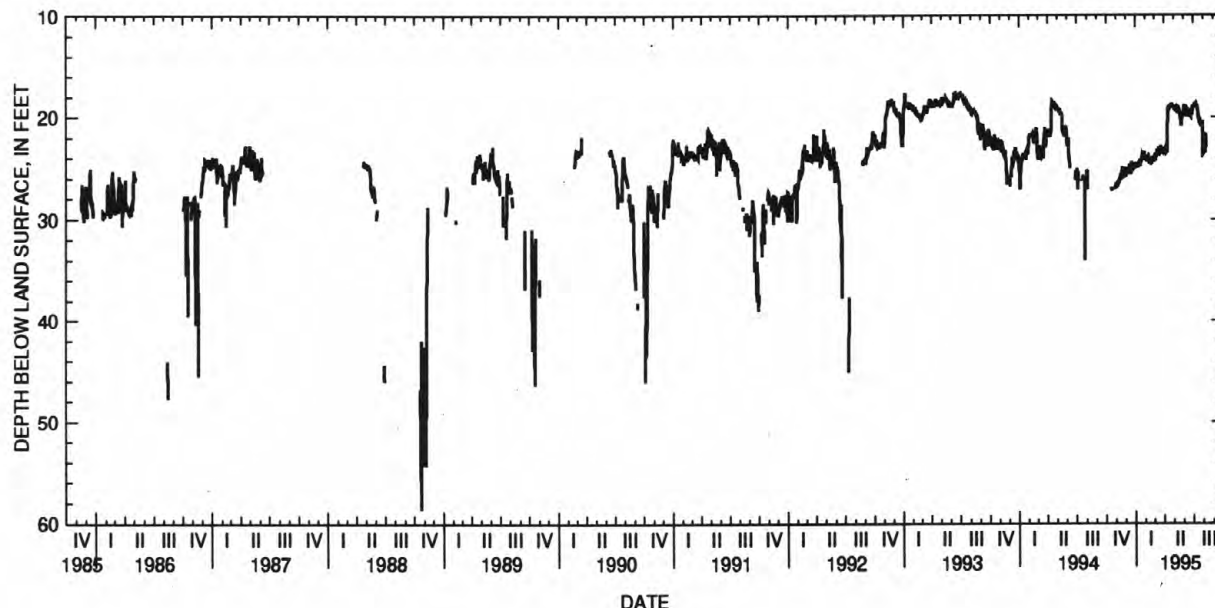
Measuring point: Top of casing at land-surface datum.

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 1994 TO SEPTEMBER 1995
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	26.50	24.95	24.71	23.89	24.14	23.13	19.02	19.10	18.94	21.74	---
2	---	26.82	25.30	24.84	24.20	23.95	23.26	19.04	19.08	18.93	23.13	---
3	27.95	26.81	25.56	24.72	23.90	23.99	23.48	19.17	18.93	18.82	23.19	---
4	---	26.58	25.62	24.77	24.11	24.34	23.55	19.21	18.76	18.84	21.58	---
5	27.54	26.74	25.52	24.66	24.36	24.03	23.37	19.18	19.51	18.73	23.18	---
6	---	26.81	25.48	24.51	24.04	23.53	23.36	19.29	19.89	18.72	21.61	---
7	---	26.76	25.38	24.82	24.04	24.01	23.53	19.30	19.88	18.91	23.50	---
8	---	26.49	25.59	24.80	24.28	23.78	22.61	19.33	19.61	18.91	21.68	---
9	---	26.52	25.25	24.96	23.94	23.65	23.53	19.10	19.54	18.78	22.94	---
10	---	26.31	25.00	24.79	23.87	23.15	23.38	19.00	19.17	18.86	---	---
11	---	26.47	25.37	24.69	24.33	23.37	22.31	19.07	19.21	18.98	---	---
12	---	26.46	25.40	24.58	24.38	23.55	19.56	19.02	19.36	19.03	---	---
13	---	26.00	25.34	24.71	24.29	23.41	19.15	18.99	19.63	19.00	---	---
14	---	26.37	25.39	24.54	24.36	23.31	19.13	19.04	19.53	19.34	---	---
15	---	25.58	24.63	24.71	24.32	23.43	19.43	19.29	19.98	20.00	---	---
16	---	26.10	25.40	24.72	24.46	23.40	19.07	19.19	19.65	20.07	---	---
17	---	25.80	25.61	24.68	24.55	23.44	19.02	19.48	19.25	19.80	---	---
18	27.10	25.92	25.41	24.46	24.44	23.56	18.84	19.47	19.62	20.14	---	---
19	27.02	26.17	25.40	24.15	24.38	23.48	19.05	19.56	19.62	20.48	---	---
20	27.07	25.89	25.28	24.26	24.56	23.08	18.95	19.72	19.82	20.56	---	---
21	27.23	24.86	24.38	24.09	24.51	22.82	18.75	19.97	19.86	20.11	---	---
22	---	25.55	24.99	23.85	24.09	23.19	18.92	20.19	19.92	20.65	---	---
23	---	25.90	24.90	23.64	23.87	23.20	18.80	20.75	19.49	20.80	---	---
24	---	25.70	24.96	23.72	24.38	23.19	18.80	20.76	19.51	20.87	---	---
25	---	25.92	24.94	23.51	24.14	23.42	18.87	20.76	19.70	20.66	---	---
26	---	26.01	24.97	23.64	24.24	23.32	18.84	20.09	19.70	20.39	---	---
27	27.11	25.72	24.75	23.38	24.26	23.39	18.88	19.90	19.28	20.56	---	---
28	26.97	25.76	24.94	23.78	24.20	23.11	19.03	19.62	19.35	20.37	---	---
29	26.94	25.77	24.93	23.91	---	23.13	19.02	19.47	19.04	21.05	---	---
30	---	25.68	24.55	23.82	---	23.10	19.06	19.63	18.83	23.63	---	---
31	27.03	---	24.89	24.04	---	23.13	---	19.14	---	23.59	---	---
MAX	---	26.82	25.62	24.96	24.56	24.34	23.55	20.76	19.98	23.63	---	---



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.

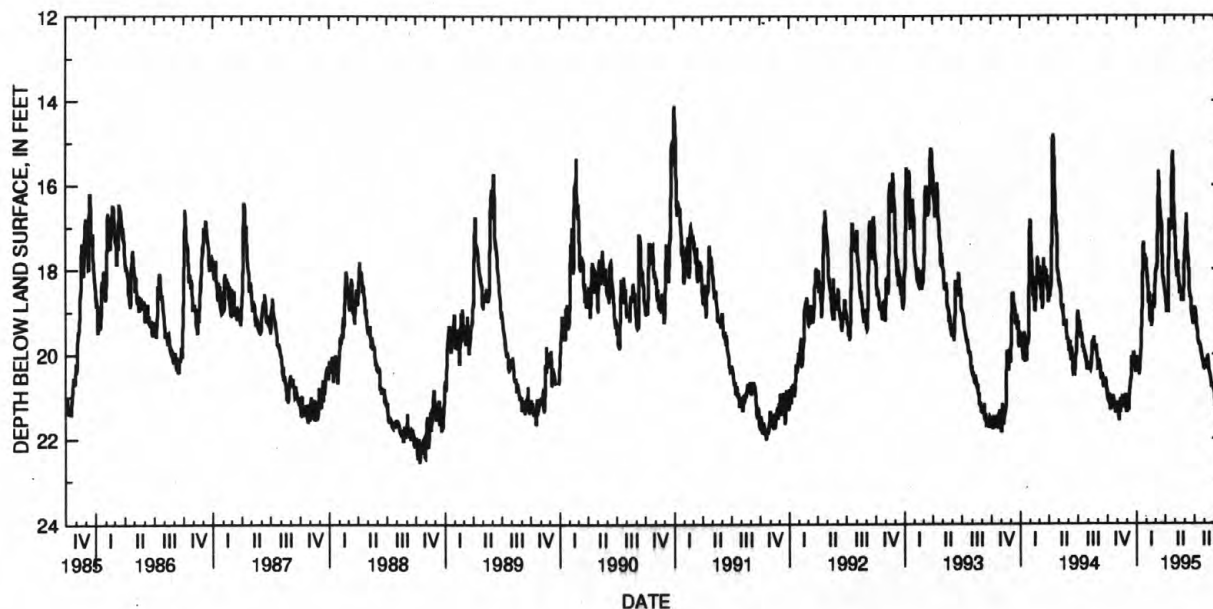
PERIOD OF RECORD.--July 1962 to current year.

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 1994 TO SEPTEMBER 1995
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.85	21.13	21.35	20.05	17.82	18.10	18.58	16.97	17.62	18.91	20.26	20.93
2	20.96	21.35	21.10	20.21	18.19	18.03	18.74	17.27	17.63	18.96	20.33	21.07
3	21.07	21.29	21.09	20.24	18.22	17.96	18.68	17.53	17.30	18.89	20.32	21.11
4	21.09	21.27	21.14	20.37	18.11	18.01	19.00	17.64	17.24	18.96	20.35	21.20
5	21.02	21.20	21.00	20.41	18.40	17.88	19.01	17.79	17.04	19.06	20.24	21.26
6	21.00	21.46	21.04	20.11	18.38	17.95	18.82	17.98	16.68	19.14	20.22	21.17
7	21.02	21.58	21.26	20.18	18.40	17.68	19.02	18.14	16.93	19.28	20.29	21.07
8	21.01	21.20	21.33	20.30	18.79	17.37	18.86	18.18	17.52	19.41	20.22	21.13
9	21.11	21.12	20.96	20.46	18.76	16.70	18.93	18.01	17.62	19.33	20.13	21.20
10	21.24	21.36	20.85	20.46	18.55	16.25	18.94	17.80	17.59	19.43	20.06	21.37
11	21.32	21.37	20.81	20.27	19.03	15.66	18.28	18.02	17.67	19.58	20.05	21.38
12	21.21	21.13	20.80	20.09	19.20	15.83	17.45	18.16	17.79	19.71	20.09	21.20
13	21.13	21.04	20.61	20.13	19.19	16.15	16.86	18.21	17.93	19.71	20.17	21.10
14	21.12	21.07	20.59	20.06	19.24	16.35	16.86	18.35	18.18	19.73	20.26	21.36
15	21.21	21.20	20.56	19.74	19.04	16.38	16.92	18.58	18.43	19.75	20.37	21.49
16	21.26	21.16	20.49	19.43	19.23	16.61	16.97	18.48	18.60	19.79	20.43	21.35
17	21.17	21.07	20.06	19.29	19.35	17.01	17.06	18.41	18.64	19.73	20.44	21.31
18	21.02	21.09	20.18	18.99	19.25	17.08	17.05	18.56	18.66	19.75	20.52	21.47
19	20.96	21.17	20.20	18.80	19.00	16.90	16.98	18.49	18.62	19.86	20.52	21.42
20	21.09	21.17	20.17	18.27	18.78	16.80	17.05	18.43	18.69	19.85	20.54	21.34
21	21.11	20.96	20.18	17.85	18.86	17.14	16.78	18.59	18.96	19.93	20.59	21.37
22	21.05	21.21	20.11	17.45	18.81	17.47	15.77	18.76	19.07	19.99	20.75	21.48
23	21.16	21.20	19.95	17.36	18.60	17.84	15.46	18.73	19.13	19.98	20.74	21.59
24	21.19	21.21	19.98	17.68	18.93	18.15	15.20	18.67	19.10	20.07	20.68	21.48
25	21.26	21.09	20.08	17.66	18.87	18.26	15.46	18.65	19.12	20.12	20.75	21.32
26	21.34	21.21	20.15	17.67	18.81	18.29	15.58	18.76	19.31	20.16	20.67	21.21
27	21.39	21.12	20.09	17.65	18.76	18.21	16.03	18.70	19.25	20.20	20.72	21.38
28	21.28	20.94	20.18	17.73	18.35	18.38	16.49	18.44	19.14	20.11	20.81	21.48
29	21.21	21.21	20.41	17.82	---	18.43	16.71	18.01	19.05	20.31	20.81	21.54
30	21.29	21.35	20.39	17.81	---	18.49	16.92	17.87	18.88	20.34	20.86	21.48
31	21.16	---	20.15	17.74	---	18.55	---	17.73	---	20.28	20.76	---
MAX	21.39	21.58	21.35	20.46	19.35	18.55	19.02	18.76	19.31	20.34	20.86	21.59

CAL YR 1994 LOW 21.58

WTR YR 1995 LOW 21.59



GROUND-WATER RECORDS

97

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.

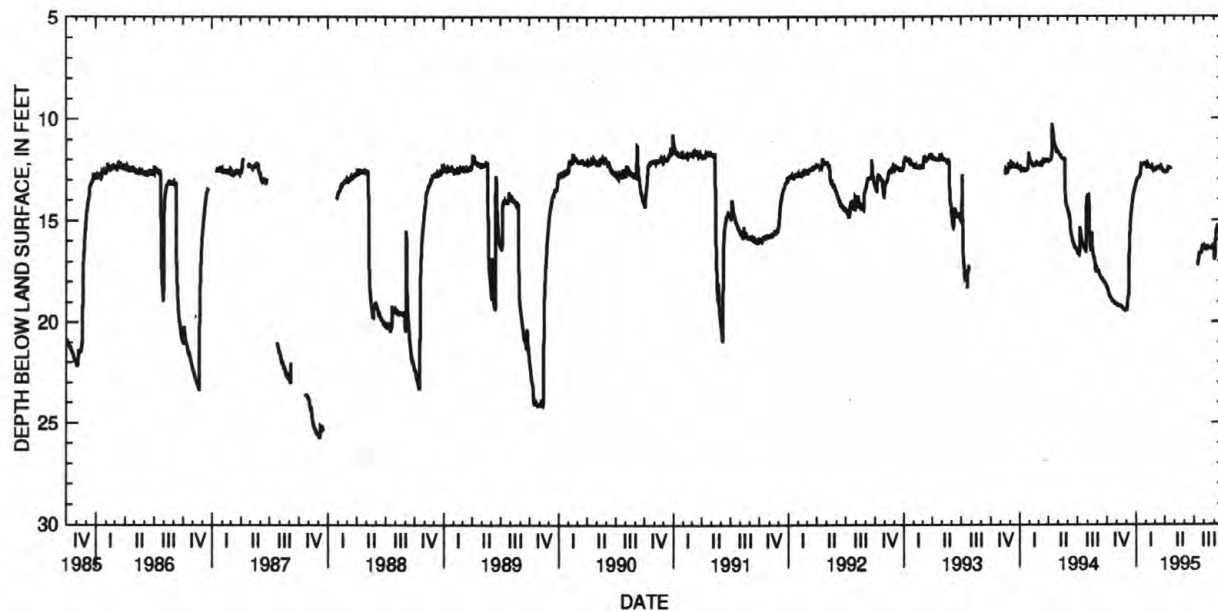
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--March 1944 to current year. Records for May 14-Sept. 30, 1980, published in USGS-WDR-OH-80-1, are unreliable and should not be used.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 59.47 ft below land-surface datum, Oct. 18, 1947;
minimum daily low, 10.26 ft below land-surface datum, Apr. 13, 1994.DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.26	19.11	19.44	13.21	12.29	12.56	12.67	---	---	---	16.28	16.33
2	18.29	19.14	19.44	13.15	12.34	12.56	12.63	---	---	---	16.32	16.76
3	18.36	19.17	19.44	13.10	12.35	12.55	12.62	---	---	---	16.38	16.99
4	18.38	19.19	19.44	13.03	12.30	12.52	12.66	---	---	---	16.39	16.99
5	18.39	19.21	19.13	13.03	12.30	12.45	12.67	---	---	---	16.44	16.59
6	18.47	19.21	18.91	12.99	12.27	12.44	12.66	---	---	---	16.45	16.06
7	18.59	19.19	18.80	12.97	12.32	12.47	12.68	---	---	---	16.42	15.81
8	18.62	19.22	18.74	12.96	12.39	12.46	12.67	---	---	---	16.43	15.73
9	18.65	19.22	18.63	12.91	12.39	12.49	12.63	---	---	---	16.43	15.59
10	18.69	19.19	18.50	12.91	12.37	12.49	12.50	---	---	---	16.26	15.50
11	18.74	19.19	16.72	12.88	12.42	12.46	12.46	---	---	17.24	16.28	15.36
12	18.77	19.21	15.96	12.87	12.43	12.42	12.48	---	---	17.19	16.28	15.37
13	18.80	19.23	15.56	12.88	12.40	12.40	12.46	---	---	17.09	16.29	15.42
14	18.82	19.23	15.27	12.87	12.41	12.43	12.48	---	---	16.97	16.31	15.48
15	18.85	19.25	15.03	12.74	12.40	12.43	12.48	---	---	16.93	16.34	15.52
16	18.87	19.25	14.83	12.45	12.44	12.44	12.47	---	---	16.82	16.37	15.58
17	18.89	19.26	14.62	12.33	12.46	12.47	12.48	---	---	16.68	16.38	15.58
18	18.93	19.28	14.44	12.35	12.45	12.46	12.48	---	---	16.63	16.38	15.52
19	18.95	19.32	14.30	12.34	12.40	12.41	12.48	---	---	16.63	16.38	15.45
20	18.97	19.32	14.17	12.32	12.38	12.39	12.49	---	---	16.62	16.35	15.43
21	18.98	19.33	14.07	12.32	12.47	12.44	12.47	---	---	16.64	16.34	15.48
22	18.99	19.36	13.95	12.29	12.48	12.46	12.46	---	---	16.64	16.39	15.53
23	19.01	19.38	13.83	12.29	12.51	12.49	---	---	---	16.62	16.41	15.53
24	19.01	19.39	13.73	12.30	12.56	12.51	---	---	---	16.56	16.41	15.30
25	19.02	19.40	13.63	12.30	12.54	12.52	---	---	---	16.57	16.42	15.15
26	19.06	19.42	13.58	12.25	12.52	12.58	---	---	---	16.28	16.41	15.10
27	19.10	19.43	13.53	12.26	12.51	12.60	---	---	---	16.28	16.36	15.12
28	19.11	19.42	13.42	12.24	12.48	12.63	---	---	---	16.29	16.33	15.13
29	19.12	19.43	13.39	12.23	---	12.66	---	---	---	16.29	16.29	15.17
30	19.12	19.44	13.36	12.22	---	12.66	---	---	---	16.29	16.26	15.13
31	19.11	---	13.31	12.23	---	12.66	---	---	---	16.25	16.28	---
MAX	19.12	19.44	19.44	13.21	12.56	12.66	---	---	---	---	16.45	16.99

CAL YR 1994 LOW 19.44



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.

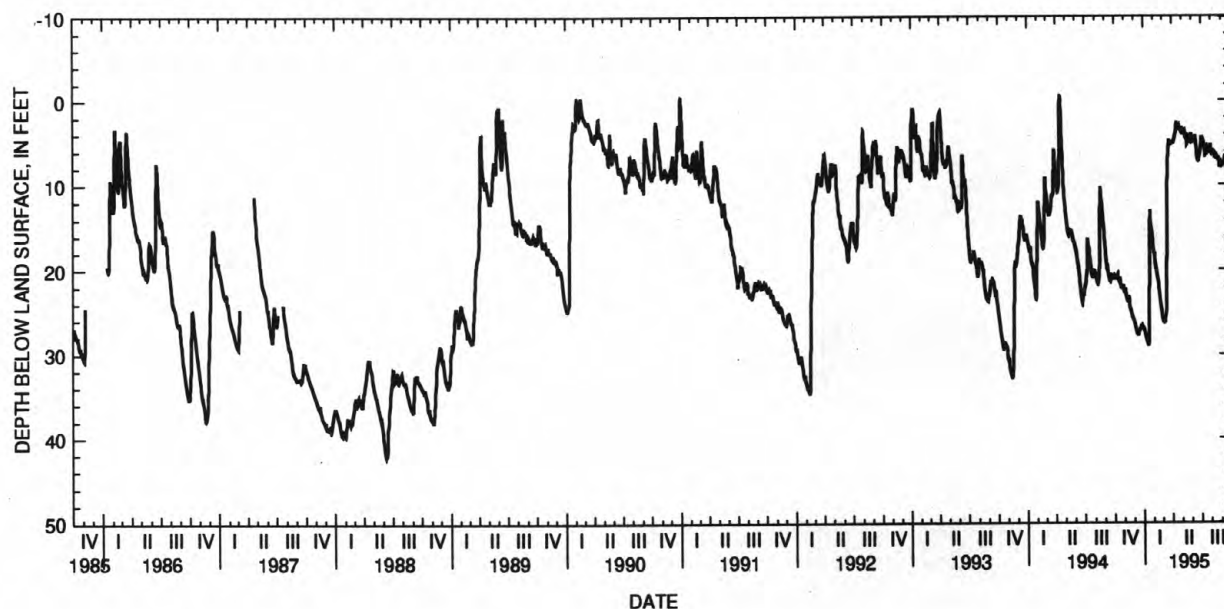
Measuring point: Floor of instrument shelter 5.00 ft above land-surface datum.

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, 0.67 ft above land-surface datum, Apr. 15, 1994.DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.93	22.63	25.99	26.95	17.91	25.80	5.01	3.31	4.56	4.64	6.20	7.47
2	20.82	22.68	26.22	27.07	18.08	25.92	5.07	3.59	4.54	4.30	6.30	7.41
3	20.90	22.71	26.05	27.20	18.08	26.08	5.09	3.58	4.84	4.50	6.12	7.57
4	20.93	22.80	26.54	27.33	18.12	26.27	5.08	4.10	4.88	4.67	6.52	7.63
5	21.02	22.17	26.66	27.57	18.56	26.32	4.86	3.87	5.16	4.91	5.98	7.80
6	21.02	22.67	26.79	27.72	19.39	26.33	4.82	4.14	4.66	4.82	5.85	7.77
7	20.93	23.18	26.99	27.83	19.54	26.33	4.81	3.74	4.85	5.05	6.01	7.74
8	20.81	23.23	27.08	27.99	19.72	26.28	4.38	3.73	4.49	4.97	6.10	7.30
9	20.74	23.44	27.20	28.14	19.91	26.07	4.37	3.76	4.76	5.37	6.15	7.46
10	20.72	23.57	27.27	28.29	20.16	25.50	4.00	3.66	4.79	5.43	6.32	7.62
11	20.73	23.64	27.50	28.44	20.40	25.47	3.98	3.98	4.78	5.84	6.07	7.41
12	20.63	23.71	27.61	28.56	20.73	25.06	3.67	4.39	4.11	6.09	6.50	6.90
13	21.20	23.69	27.69	28.72	20.96	24.99	2.86	4.60	4.76	6.62	6.96	6.77
14	21.22	23.24	27.77	28.82	21.07	21.87	2.82	4.06	5.07	6.57	6.80	6.85
15	21.25	23.24	27.77	28.99	21.27	12.17	2.56	4.83	5.47	6.49	6.55	6.61
16	21.30	23.31	27.72	28.99	21.69	9.32	3.06	4.19	5.72	5.54	6.46	6.82
17	20.95	23.47	27.32	28.29	22.13	7.66	3.14	5.22	6.47	5.36	6.29	6.91
18	21.06	24.36	27.21	23.73	22.47	6.78	2.97	5.18	6.85	5.33	6.86	7.16
19	21.61	24.54	27.19	18.71	22.82	6.09	3.36	4.49	6.80	6.04	6.67	6.77
20	21.14	24.70	27.14	14.94	23.09	5.56	3.38	4.26	7.05	6.11	6.83	6.77
21	21.95	24.72	27.04	12.94	23.47	4.92	3.40	4.31	7.34	5.55	6.71	6.65
22	21.93	24.94	26.91	14.41	23.81	4.70	3.24	4.32	7.18	6.13	7.19	6.52
23	22.14	24.84	26.91	14.64	24.10	4.97	3.13	4.03	6.57	5.90	6.75	6.28
24	22.16	25.30	26.82	15.10	24.40	5.06	3.34	4.33	6.77	6.24	6.85	6.41
25	22.16	25.47	26.55	15.11	24.58	5.15	3.38	4.43	6.60	5.97	6.92	6.53
26	21.97	25.58	26.80	15.20	24.84	5.07	3.48	4.76	6.33	5.43	7.11	6.71
27	21.98	25.58	26.79	15.78	25.10	5.09	3.43	4.84	6.11	5.85	7.64	6.48
28	21.96	25.70	26.71	16.18	25.60	4.96	3.73	4.87	5.82	5.80	8.06	7.66
29	21.82	25.81	26.82	16.32	---	5.10	3.76	4.53	5.45	5.44	7.59	7.62
30	22.15	25.83	26.87	17.37	---	5.07	3.30	3.94	5.16	5.23	7.75	7.92
31	22.37	---	26.87	17.31	---	5.09	---	4.25	---	5.73	7.00	---
MAX	22.37	25.83	27.77	28.99	25.60	26.33	5.09	5.22	7.34	6.62	8.06	7.92

CAL YR 1994 LOW 27.77
WTR YR 1995 LOW 28.99

GROUND-WATER RECORDS

99

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.

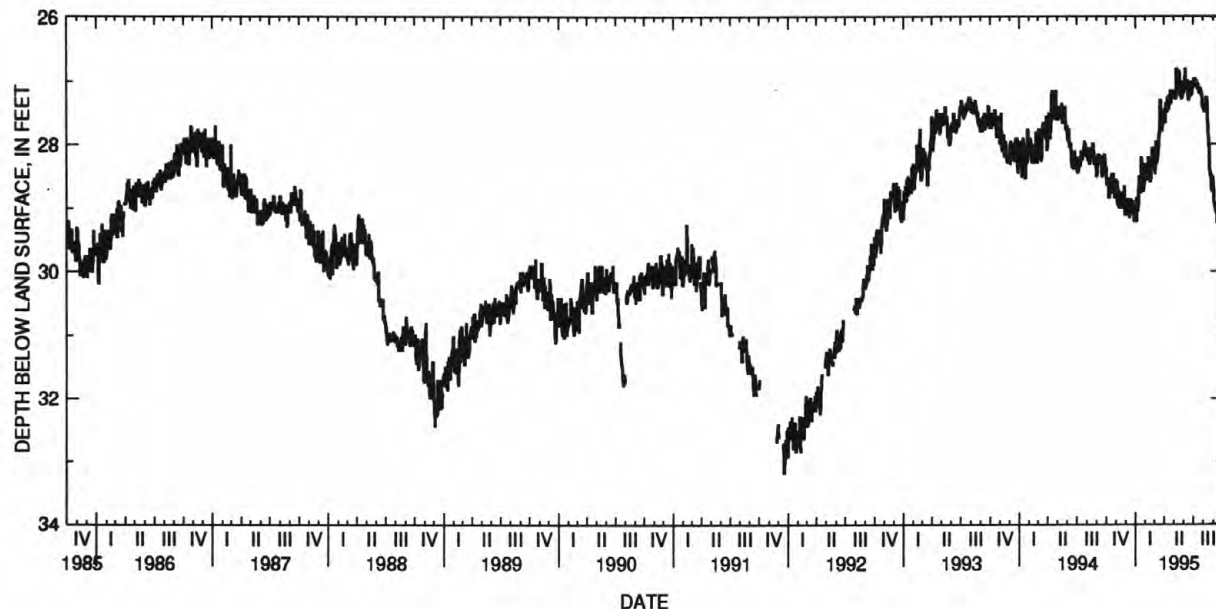
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

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 1994 TO SEPTEMBER 1995
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28.35	28.55	29.10	28.95	28.30	28.45	27.50	27.20	27.05	27.05	27.40	28.60
2	28.40	28.70	28.95	29.05	28.50	28.45	27.55	27.15	27.00	27.10	27.45	28.65
3	28.55	28.65	28.95	29.05	28.50	28.35	27.45	27.25	27.15	27.05	27.45	28.75
4	28.65	28.60	28.95	29.20	28.35	28.35	27.65	27.20	27.15	26.95	27.50	28.85
5	28.60	28.60	28.85	29.20	28.45	28.10	27.65	27.25	27.00	27.00	27.40	28.95
6	28.55	28.90	28.90	28.85	28.45	28.05	27.35	27.30	26.80	26.95	27.40	28.95
7	28.55	28.95	29.10	28.85	28.35	27.95	27.50	27.25	27.00	27.00	27.45	28.90
8	28.55	28.70	29.10	28.95	28.55	28.25	27.35	27.25	27.15	27.10	27.40	28.95
9	28.55	28.75	28.95	29.05	28.55	28.30	27.45	26.95	27.15	27.00	27.35	29.00
10	28.80	28.95	28.90	29.00	28.20	28.25	27.50	26.80	27.00	27.00	27.25	29.05
11	28.85	29.00	29.10	28.85	28.40	28.05	27.35	26.95	27.00	27.00	27.30	29.05
12	28.75	28.85	29.10	28.65	28.55	28.15	27.25	27.00	27.00	27.05	27.25	28.95
13	28.70	28.75	29.10	28.70	28.55	28.15	27.30	27.00	27.05	27.05	27.30	28.95
14	28.70	28.85	29.15	28.50	28.55	28.10	27.45	27.05	27.10	27.05	27.45	29.20
15	28.70	28.95	29.05	28.65	28.45	27.95	27.45	27.15	27.25	27.10	27.60	29.25
16	28.75	28.85	29.05	28.75	28.40	27.85	27.35	27.05	27.30	27.15	27.75	29.05
17	28.75	28.80	28.85	28.75	28.60	27.85	27.25	26.85	27.30	27.05	27.85	29.05
18	28.65	28.90	29.00	28.75	28.55	27.85	27.25	26.85	27.25	27.10	27.95	29.05
19	28.50	28.95	29.05	28.55	28.40	27.55	27.35	26.95	27.15	27.20	28.00	29.05
20	28.45	28.90	29.05	28.20	28.25	27.30	27.30	26.95	27.00	27.15	28.10	29.05
21	28.55	28.75	29.10	28.30	28.25	27.35	27.15	27.10	27.15	27.20	28.35	29.05
22	28.55	29.00	29.05	28.40	28.25	27.40	27.35	27.25	27.20	27.15	28.45	29.10
23	28.45	28.95	28.90	28.50	28.05	27.55	27.35	27.15	27.25	27.10	28.50	29.15
24	28.55	28.95	28.90	28.65	28.30	27.75	27.15	27.00	27.20	27.15	28.45	28.95
25	28.55	28.85	29.00	28.65	28.35	27.80	27.25	27.15	27.20	27.20	28.50	---
26	28.70	28.95	29.05	28.75	28.15	27.75	27.25	27.30	27.20	27.20	28.50	28.55
27	28.75	28.90	29.00	28.65	---	27.60	27.15	27.20	27.15	27.20	28.65	28.60
28	28.85	28.65	29.05	28.60	---	27.65	27.25	27.00	27.10	27.25	28.75	28.70
29	28.75	28.95	29.20	28.60	---	27.60	27.25	27.20	27.10	27.40	28.65	28.75
30	28.70	29.10	29.20	28.60	---	27.60	27.20	27.20	27.00	27.40	28.55	28.75
31	28.80	---	29.05	28.45	---	27.55	---	27.15	---	27.40	28.50	---
MAX	28.85	29.10	29.20	29.20	---	28.45	27.65	27.30	27.30	27.40	28.75	---

CAL YR 1994 LOW 29.20



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.

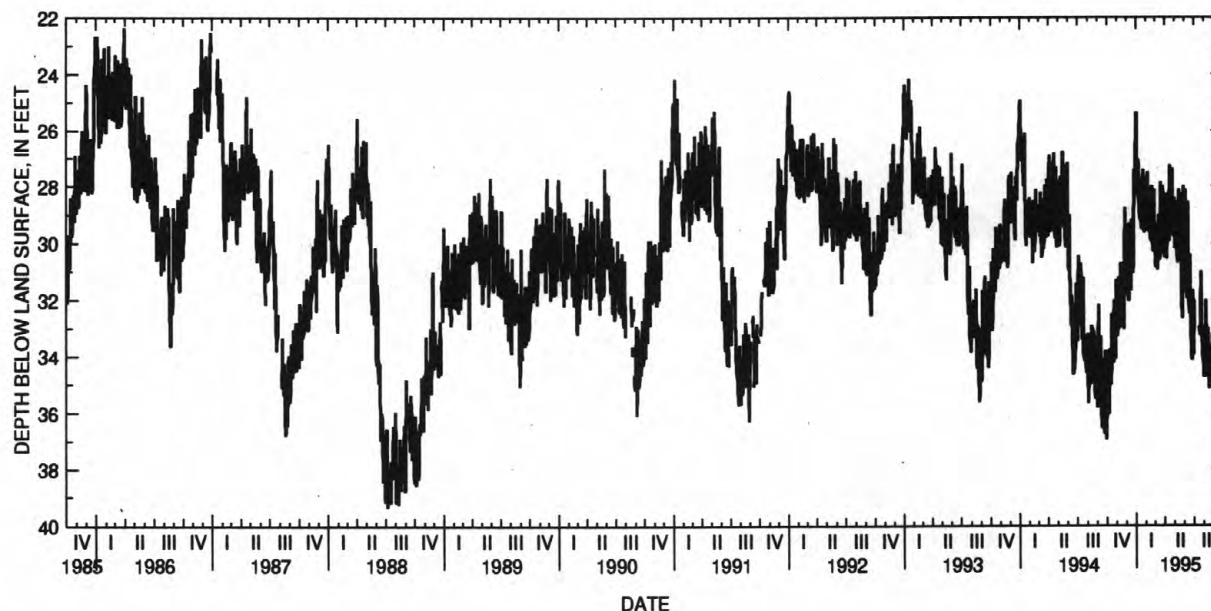
Measuring point: Floor of instrument shelter 3.30 ft above land-surface datum.

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 1994 TO SEPTEMBER 1995
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36.00	32.25	31.85	25.80	28.95	29.80	29.50	28.40	30.70	32.00	34.75	34.65
2	34.70	33.00	31.75	25.35	29.35	30.20	29.10	29.10	30.55	---	34.60	34.10
3	33.80	33.20	30.95	26.05	29.50	30.00	28.30	29.60	29.90	---	34.60	33.00
4	34.95	33.30	30.55	27.80	28.65	30.85	29.55	30.15	29.00	---	34.75	31.95
5	35.35	32.40	30.00	28.20	28.00	29.40	30.45	30.15	28.10	---	33.85	32.20
6	35.75	31.35	31.25	28.35	27.50	29.75	30.20	29.50	30.20	---	32.00	33.65
7	36.05	31.20	31.55	27.60	28.85	30.15	30.55	28.80	30.75	---	32.45	34.15
8	35.20	32.20	31.70	27.05	29.45	30.50	29.85	28.55	31.95	---	33.40	34.10
9	34.15	32.40	32.05	27.20	29.60	30.95	28.40	29.40	31.90	---	33.90	33.25
10	33.75	32.65	31.15	28.45	29.55	30.55	28.25	30.50	30.95	---	34.10	32.50
11	35.00	33.00	29.30	28.65	28.95	30.05	29.25	30.70	29.80	---	34.25	31.95
12	35.00	32.50	30.75	28.85	28.45	29.45	29.35	30.60	28.55	---	34.60	33.25
13	34.95	31.35	31.05	29.20	28.20	29.00	29.85	29.95	30.30	---	33.00	33.55
14	34.80	30.70	30.75	28.55	29.45	30.25	29.95	28.85	31.15	---	34.60	33.90
15	34.55	31.95	31.65	28.05	29.65	30.60	29.00	28.10	31.95	---	34.60	34.35
16	33.50	32.70	31.60	27.90	29.95	30.50	27.40	29.50	32.50	---	34.75	33.65
17	32.50	32.75	30.40	29.25	---	30.55	27.25	29.85	31.75	---	35.15	32.70
18	33.75	32.60	29.60	29.45	29.75	29.85	29.10	30.50	31.20	32.95	34.40	32.50
19	34.05	32.45	29.15	29.50	28.95	28.95	28.60	30.30	30.40	33.20	34.20	33.75
20	34.05	31.75	30.35	29.30	28.00	27.85	29.40	29.80	32.20	33.25	33.60	34.15
21	34.25	30.70	30.75	28.60	29.40	29.05	29.25	29.05	33.20	33.05	34.25	34.30
22	33.30	32.45	30.70	27.75	30.00	29.45	28.80	28.25	33.65	32.25	34.75	33.80
23	32.45	32.90	31.05	27.40	29.95	29.75	28.20	30.70	33.95	31.00	34.65	33.45
24	32.00	33.05	29.60	28.65	30.30	29.90	27.35	32.25	34.15	33.10	34.95	32.55
25	32.90	31.25	28.55	29.25	29.65	29.50	28.70	32.65	33.25	33.30	34.90	31.85
26	33.40	30.05	27.50	29.50	28.80	28.00	28.75	32.05	31.65	33.75	33.95	33.15
27	33.65	29.55	27.40	29.65	28.10	28.65	29.55	31.00	32.25	33.85	33.20	33.50
28	34.10	28.75	27.65	28.85	29.20	30.25	29.75	29.45	32.80	34.25	34.05	34.20
29	33.25	30.60	27.70	28.10	---	30.25	29.40	28.00	33.95	33.50	34.10	34.35
30	32.35	31.30	27.50	27.85	---	30.30	28.70	29.70	32.65	33.15	34.35	33.10
31	31.30	---	26.70	28.75	---	30.50	---	29.95	---	33.40	34.10	---
MAX	36.05	33.30	32.05	29.65	---	30.95	30.55	32.65	34.15	---	35.15	34.65



GROUND-WATER RECORDS

101

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.

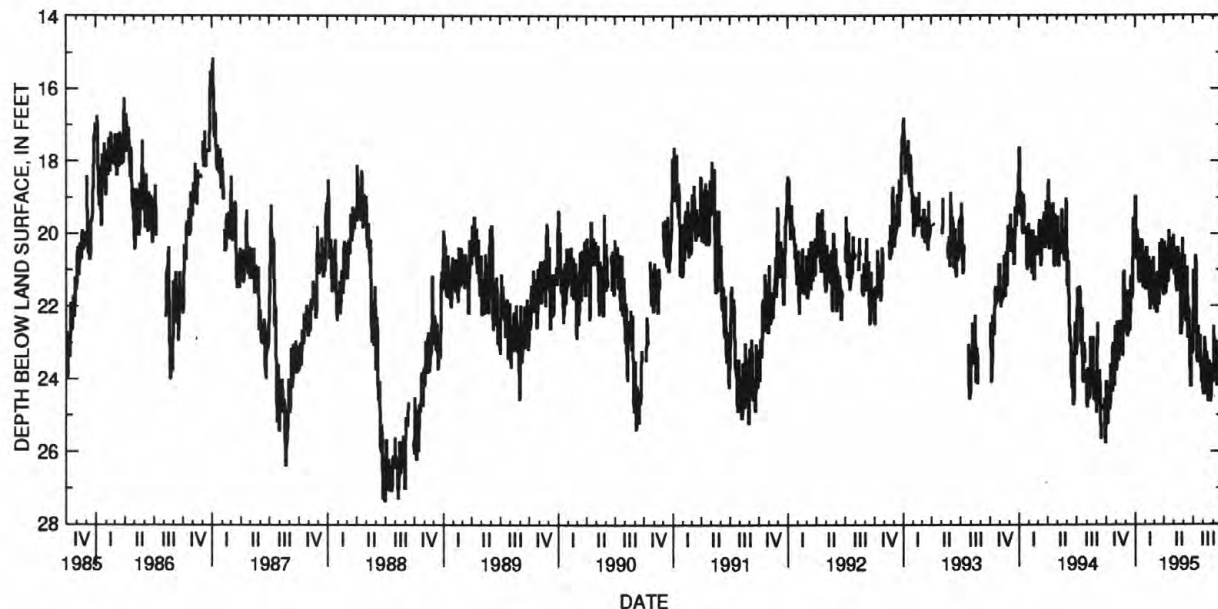
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

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 1994 TO SEPTEMBER 1995
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.20	23.10	22.65	19.15	21.15	21.65	21.25	20.05	21.75	22.90	24.30	24.10
2	24.35	23.50	22.65	18.95	21.55	21.70	20.25	20.65	21.75	22.05	24.35	24.05
3	24.05	23.75	22.50	19.65	21.45	22.00	20.25	20.85	21.55	21.15	24.45	23.30
4	24.40	23.75	21.85	20.35	21.05	22.10	21.00	21.10	20.60	21.00	24.40	22.55
5	24.75	23.50	21.85	20.65	20.40	21.55	21.25	21.15	20.80	21.15	24.05	23.00
6	25.20	22.45	22.20	20.70	20.40	21.45	21.50	21.05	21.35	21.35	22.85	23.50
7	25.25	22.45	22.65	20.50	20.90	21.65	21.65	20.40	22.10	21.30	22.95	23.85
8	25.00	22.80	22.85	19.90	21.35	21.95	21.45	20.40	22.40	21.00	23.35	23.85
9	24.25	23.10	22.80	20.25	21.40	22.15	20.45	21.10	22.40	20.60	23.70	23.60
10	24.20	23.40	22.55	20.65	21.50	22.15	20.40	21.45	22.05	20.75	23.95	23.00
11	24.50	23.50	21.60	20.95	21.35	21.95	20.70	21.60	21.10	22.00	24.20	22.95
12	24.65	23.25	21.60	21.20	20.65	21.10	21.10	21.55	20.90	23.00	24.15	23.35
13	24.80	22.50	22.05	21.35	20.85	21.05	21.35	21.35	21.55	23.15	23.25	23.70
14	24.85	22.40	22.25	21.15	21.30	21.55	21.30	20.45	22.25	23.55	23.80	24.10
15	24.65	22.85	22.65	20.40	21.55	21.75	20.75	20.35	22.85	23.50	24.15	24.20
16	23.75	23.10	22.65	20.15	21.90	21.85	19.90	20.70	22.85	23.45	24.60	24.05
17	23.60	23.20	22.30	21.10	22.10	21.95	20.10	21.20	22.70	22.55	24.60	23.30
18	23.95	23.25	21.55	21.35	21.90	21.65	20.35	21.30	22.05	23.05	24.50	23.15
19	24.00	23.25	21.15	21.25	21.10	20.65	20.85	21.40	22.20	23.40	24.35	23.60
20	24.10	22.60	21.50	21.35	20.75	20.25	20.95	21.25	23.05	23.50	23.50	23.75
21	24.35	22.40	21.70	20.95	21.35	20.65	21.00	20.55	23.50	23.50	23.70	24.05
22	24.05	23.00	21.75	20.15	21.60	21.00	20.85	20.60	23.90	23.50	24.15	24.00
23	23.10	23.35	21.75	20.35	21.80	21.25	20.25	21.50	24.20	22.80	24.35	23.90
24	23.00	23.35	21.30	20.85	21.95	21.40	20.10	22.75	24.20	23.25	24.55	23.30
25	23.45	22.45	20.55	21.25	21.75	21.15	20.35	22.75	23.50	23.55	24.65	22.80
26	23.85	21.70	19.55	21.45	20.90	20.15	20.25	22.70	22.70	23.75	24.45	23.25
27	23.90	21.05	19.70	21.50	20.65	20.45	20.65	22.30	23.05	24.05	23.70	23.55
28	24.20	21.05	19.85	21.25	21.25	21.15	20.70	21.05	23.25	24.05	23.60	24.10
29	24.00	21.80	20.00	20.55	---	21.40	20.60	20.10	23.30	23.95	23.95	24.15
30	23.10	22.35	20.00	20.50	---	21.60	20.05	20.60	23.20	23.45	23.95	23.65
31	22.55	---	19.70	20.75	---	21.70	---	21.50	---	24.05	23.95	---
MAX	25.25	23.75	22.85	21.50	22.10	22.15	21.65	22.75	24.20	24.05	24.65	24.20

WTR YR 1995 LOW 25.25



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, 10.66 ft below land-surface datum, Oct. 24, 1994; minimum daily low, 3.83 ft below land-surface datum, Mar. 17, 1982.

Date	Water Level	Date	Water Level
Oct. 24, 1994	10.66	Apr. 21, 1995	7.95

GROUND-WATER RECORDS

103

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,

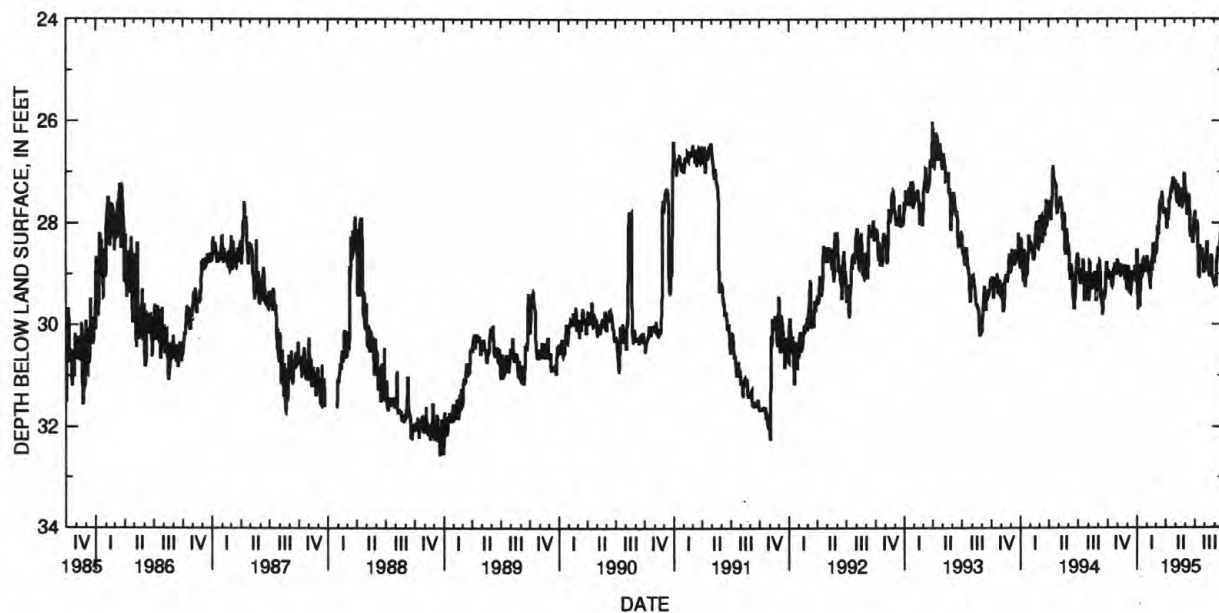
Aug. 26, 1961; minimum daily low, 25.75 ft below land-surface datum, Apr. 16, 1980.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28.99	28.79	29.29	28.81	28.77	28.39	27.82	27.27	27.31	27.83	28.95	29.18
2	29.02	28.70	29.29	28.52	28.64	28.58	27.80	27.20	27.30	27.83	28.91	29.12
3	28.91	28.80	29.17	28.96	28.78	28.61	27.83	27.17	27.32	27.76	28.88	29.05
4	28.96	28.90	29.09	29.35	28.78	28.55	27.87	27.28	27.46	27.97	28.89	29.17
5	29.07	28.91	29.00	29.69	28.91	28.40	28.11	27.39	27.55	28.14	28.84	29.19
6	29.00	28.84	28.83	29.70	28.81	28.32	28.08	27.50	27.66	28.15	28.73	29.23
7	29.09	28.86	28.91	29.51	28.84	28.22	27.81	27.58	27.81	28.11	28.64	29.22
8	29.11	28.87	29.28	29.52	28.97	28.06	27.78	27.58	27.85	27.99	28.57	29.06
9	29.06	28.80	29.34	29.59	29.03	28.14	27.73	27.45	27.78	27.98	28.36	28.74
10	29.06	28.92	29.34	29.62	29.03	28.22	27.93	27.27	27.79	28.05	28.42	28.66
11	28.97	29.04	29.28	29.62	28.89	28.23	27.94	27.25	27.77	28.22	28.65	28.66
12	29.00	29.04	29.36	29.43	29.22	27.97	27.71	27.30	27.64	28.66	28.78	28.53
13	29.03	28.97	29.37	29.08	29.30	27.77	27.52	27.42	27.44	29.02	28.86	28.48
14	29.07	28.86	29.33	28.87	29.08	27.68	27.54	27.67	27.52	29.03	28.92	28.51
15	29.23	28.89	29.24	28.80	28.95	27.60	27.57	27.67	27.66	29.02	28.95	28.59
16	29.24	28.90	29.14	28.96	28.71	27.56	27.48	27.62	27.87	29.03	29.00	28.60
17	29.19	28.86	29.10	29.05	28.81	27.57	27.49	27.50	28.03	28.95	29.04	28.58
18	29.23	28.82	28.94	29.04	28.93	27.72	27.35	27.50	28.26	28.76	29.04	28.48
19	29.14	28.94	28.96	28.94	28.80	27.72	27.32	27.40	28.29	28.44	29.02	28.37
20	28.97	28.96	29.01	28.73	28.66	27.54	27.34	27.40	28.18	28.54	29.04	28.38
21	28.89	28.91	29.04	28.72	28.40	27.41	27.35	27.38	28.15	28.53	29.04	28.24
22	28.96	28.83	29.03	28.87	28.47	27.41	27.28	27.40	28.13	28.58	28.92	28.16
23	28.90	28.97	29.10	28.89	28.42	27.55	27.22	27.51	28.05	28.61	28.61	28.04
24	28.81	28.98	29.12	28.87	28.73	27.76	27.15	27.68	28.29	28.62	28.85	28.06
25	28.81	28.82	28.91	28.91	28.79	27.81	27.10	27.67	28.37	28.62	29.01	28.02
26	28.86	29.03	28.83	28.92	28.66	27.79	27.17	27.54	28.37	28.50	29.04	27.88
27	28.92	29.12	28.94	28.90	28.55	27.75	27.11	27.53	28.34	28.56	29.06	28.07
28	28.92	29.04	29.01	28.88	28.43	27.70	27.17	27.48	28.12	28.67	29.06	28.26
29	29.00	29.02	29.11	28.89	---	27.76	27.33	27.29	28.00	28.89	29.09	28.29
30	29.03	29.24	29.15	28.85	---	27.72	27.33	27.01	27.84	28.96	29.18	28.38
31	28.98	---	29.14	28.82	---	27.79	---	27.23	---	28.96	29.20	---
MAX	29.24	29.24	29.37	29.70	29.30	28.61	28.11	27.68	28.37	29.03	29.20	29.23

CAL YR 1994 LOW 29.81

WTR YR 1995 LOW 29.70



SURFACE-WATER QUALITY OF SELECTED STREAMS

The following tables list the results of chemical and physical measurements collected at nine locations in Ohio. Samples were collected and analyzed during May 1995 as part of a regional study to investigate if recent changes in the use of herbicides has affected herbicide and nutrient concentrations in Midwestern streams.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

03157000 - CLEAR C NR ROCKBRIDGE OH

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L) AS N (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) AS N (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) AS N (00608)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) AS P (00671)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	ACETO-CHLOR, WATER, FLTRD REC, (UG/L) (49260)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)
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MAY	25...	0930	184	335	7.9	16.0	0.06	3.3	<0.015	0.02	<0.05	0.96	0.06
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DATE	TIME	DEETHYL-ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PRO-METRYN, WATER, DISS, REC (UG/L) (04036)	PROP-CHLOR, WATER, DISS, REC (UG/L) (04024)	PROP-AZINE WATER, DISS, REC (UG/L) (38535)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TER-BUTRYN WATER, DISS, REC (UG/L) (38888)
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MAY	25...	6.9	0.26	0.21	0.58	1.7	0.08	0.07	<0.05	<0.05	0.05	0.73	<0.05
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03230500 - BIG DARBY C AT DARBYVILLE OH

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L) AS N (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) AS N (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) AS N (00608)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L) AS P (00671)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	ACETO-CHLOR, WATER, FLTRD REC, (UG/L) (49260)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)
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MAY	25...	1136	1120	668	8.1	18.5	0.03	7.3	<0.015	0.03	<0.05	0.18	<0.05
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DATE	TIME	DEETHYL-ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PRO-METRYN, WATER, DISS, REC (UG/L) (04036)	PROP-CHLOR, WATER, DISS, REC (UG/L) (04024)	PROP-AZINE WATER, DISS, REC (UG/L) (38535)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TER-BUTRYN WATER, DISS, REC (UG/L) (38888)
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MAY	25...	4.1	0.44	0.30	2.3	1.1	<0.05	<0.05	<0.05	<0.05	<0.05	0.23	<0.05
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SURFACE-WATER QUALITY OF SELECTED STREAMS

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

03234500

- SCIOTO R AT HIGBY OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	ACETO- CHLOR, WATER FLTRD REC, (UG/L) (49260)	ALA- CHLOR, WATER, DISS, REC, (UG/L) (46342)
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MAY

26...	0930	16700	469	7.8	18.0	0.06	4.5	0.03	<0.01	<0.05	1.2	0.37
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DATE	TIME	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	DEISO- PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04040)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04038)	METO- LACHLOR WATER DISSOLV (UG/L) (04041)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (39415)	PRO- METON, WATER, DISS, REC (UG/L) (82630)	PRO- METRYN, WATER, DISS, REC (UG/L) (04037)	PRO- CHLOR, WATER, DISS, REC (UG/L) (04036)	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	PROP- AZINE WATER DISS, REC (UG/L) (38535)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	TER- BUTRYN WATER, DISS, REC (UG/L) (38888)
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MAY

26...	8.5	0.68	0.54	6.2	3.4	0.17	0.09	<0.05	<0.05	0.07	0.74	<0.05
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03219500

- SCIOTO R NR PROSPECT OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	ACETO- CHLOR, WATER FLTRD REC, (UG/L) (49260)	ALA- CHLOR, WATER, DISS, REC, (UG/L) (46342)
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MAY

30...	1220	1820	422	7.7	16.0	0.06	5.4	<0.015	0.06	<0.05	1.1	0.25
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DATE	TIME	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	DEISO- PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04040)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04038)	METO- LACHLOR WATER DISSOLV (UG/L) (04041)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (39415)	PRO- METON, WATER, DISS, REC (UG/L) (82630)	PRO- METRYN, WATER, DISS, REC (UG/L) (04037)	PRO- CHLOR, WATER, DISS, REC (UG/L) (04036)	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	PROP- AZINE WATER DISS, REC (UG/L) (38535)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	TER- BUTRYN WATER, DISS, REC (UG/L) (38888)
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MAY

30...	11.5	0.90	0.60	8.9	6.6	0.18	0.11	<0.05	<0.05	0.10	0.45	<0.05
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SURFACE-WATER QUALITY OF SELECTED STREAMS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

03223000

- OLENTANGY R AT CLARIDON OH

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	ACETO- CHLOR, WATER FLTRD REC, (UG/L) (49260)	ALA- CHLOR, WATER, DISS, REC, (UG/L) (46342)
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MAY

30...	1315	494	364	7.7	15.5	0.07	6.0	<0.015	0.04	<0.05	1.7	0.27
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DATE	TIME	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	DEISO- PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	PRO- METRYN, WATER, DISS, REC (UG/L) (04036)	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	PROP- AZINE WATER DISS, REC (UG/L) (38535)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	TER- BUTRYN WATER, DISS, REC (UG/L) (38888)
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MAY

30...	12.9	1.4	1.0	10	5.0	0.25	0.06	<0.05	<0.05	0.09	0.72	<0.05
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03240000

- L MIAMI R NR OLDTOWN OH

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	ACETO- CHLOR, WATER FLTRD REC, (UG/L) (49260)	ALA- CHLOR, WATER, DISS, REC, (UG/L) (46342)
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MAY

30...	0930	205	696	8.1	14.5	0.01	4.5	<0.015	0.03	<0.05	0.33	0.13
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DATE	TIME	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	DEISO- PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	PRO- METRYN, WATER, DISS, REC (UG/L) (04036)	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	PROP- AZINE WATER DISS, REC (UG/L) (38535)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	TER- BUTRYN WATER, DISS, REC (UG/L) (38888)
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MAY

30...	3.5	0.49	0.33	3.2	1.0	0.06	<0.05	<0.05	<0.05	0.05	0.13	<0.05
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SURFACE-WATER QUALITY OF SELECTED STREAMS

107

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

03267900

- MAD R AT ST PARIS PIKE AT EAGLE CITY OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	ACETO- CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA- CHLOR, WATER, DISS, REC, (UG/L) (46342)	
MAY	30...	1035	636	697	8.0	13.0	0.02	5.0	0.02	0.02	<0.05	0.09	<0.05

DATE	TIME	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	DEISO- PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	PRO- METRYN, WATER, DISS, REC (UG/L) (04036)	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	PROP- AZINE WATER, DISS, REC (UG/L) (38535)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	TER- BUTRYN WATER, DISS, REC (UG/L) (38888)
MAY	30...	1.8	0.18	0.14	1.4	0.64	<0.05	<0.05	<0.05	<0.05	0.12	<0.05

04185000

- TIFFIN R AT STRYKER OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	ACETO- CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA- CHLOR, WATER, DISS, REC, (UG/L) (46342)	
MAY	31...	1030	425	643	7.9	16.5	0.08	7.3	0.02	0.01	0.08	0.84	0.70

DATE	TIME	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	DEISO- PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	PRO- METRYN, WATER, DISS, REC (UG/L) (04036)	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	PROP- AZINE WATER, DISS, REC (UG/L) (38535)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	TER- BUTRYN WATER, DISS, REC (UG/L) (38888)	
MAY	31...	6.0	0.47	0.42	6.6	1.7	0.30	0.12	0.06	<0.05	0.06	0.18	<0.05

SURFACE-WATER QUALITY OF SELECTED STREAMS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

04186500

- AUGLAIZE R NR FORT JENNINGS OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	AMETRYN WATER, DISS, REC, (UG/L) (38401)	ACETO- CHLOR, WATER FLTRD REC, (UG/L) (49260)	ALA- CHLOR, WATER, DISS, REC, (UG/L) (46342)
MAY												
31...	1215	201	709	8.1	19.0	0.49	8.3	0.02	<0.01	<0.05	0.26	0.57
DATE		DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	DEISO- PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04040)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	PRO- METRYN, WATER, DISS, REC (UG/L) (04036)	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	PROP- AZINE WATER DISS REC (UG/L) (38535)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	TER- BUTRYN WATER, DISS, REC (UG/L) (38888)
MAY												
31...	4.0	0.42	0.33	3.1	2.5	0.26	0.14	<0.05	<0.05	0.05	0.43	<0.05

SELECTED WATER-QUALITY DATA IN THE VICINITY OF WAYNE NATIONAL FOREST

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The following table lists the results of physical and chemical analyses of surface-water samples collected from the Monday Creek basin. Past mining practices have affected many streams there. The study shall identify streams most affected by acid mine drainage. Restoration efforts can then be focused where needed most. The study began in 1995 and continues into 1996 when additional sites will be sampled in the Sunday Creek and Raccoon Creek basins, as well as several major tributaries to the Ohio River.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

392733082121000 - 051 MONDAY C (20-9) NR BUCHTEL OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
AUG 28...	1424	4.0	671	6.7	23.5	7.7	--	17

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	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)
AUG 28...	270	520	40	2600	150	1000	1000

393626082143500 - MONDAY CR BL ROCK RUN NR NEW STRAITSVILLE OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
AUG 28...	1500	1.8	1060	4.1	24.0	7.2	22	--

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	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)
AUG 28...	420	1900	1400	700	1800	3300	3100

SELECTED WATER-QUALITY DATA IN THE VICINITY OF WAYNE NATIONAL FOREST

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

392503082112300 - MONDAY CR NR DOANVILLE OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
AUG								
28...	1616	9.0	841	4.5	23.5	8.1	31	--

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	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)
AUG							
28...	420	5400	5300	590	190	2400	2400

393627082142800 - MONDAY CR AB ROCK RUN NR NEW STRAITSVILLE OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
AUG								
28...	1715	1.5	1020	5.7	23.5	7.3	17	6

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	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)
AUG							
28...	390	850	60	1700	1100	3000	2200

SELECTED WATER-QUALITY DATA IN THE VICINITY OF WAYNE NATIONAL FOREST

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

03158220 - GLEN RN NR DOANVILLE OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LILITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
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AUG								
28...	1740	0.09	2120	2.8	26.5	7.2	620	--

DATE	TIME	ALUM- SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	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)
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AUG								
28...	1100	59000	63000	53000	47000	8200	7700	

392945082100100 - BRUSH FK NR MURRAY CITY OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LILITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
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AUG								
29...	0930	1.4	1540	2.9	17.5	8.2	235	--

DATE	TIME	ALUM- SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	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)
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AUG								
29...	750	25000	26000	4300	4500	5400	5300	

SELECTED WATER-QUALITY DATA IN THE VICINITY OF WAYNE NATIONAL FOREST

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

392858082161900 - DORR RUN NR NELSONVILLE OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
AUG 29...	1000	0.09	1640	3.0	19.5	8.3	196	--

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	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)
AUG 29...	790	21000	21000	2500	2500	9900	9300

392842082183600 - UNNAMED TRIB TO HOCKING R AT HAYDENVILLE OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
AUG 29...	1135	0.07	1510	3.1	21.0	7.2	160	--

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	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)
AUG 29...	740	19000	17000	1600	1400	7900	7100

SELECTED WATER-QUALITY DATA IN THE
VICINITY OF WAYNE NATIONAL FOREST

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

392827082100100 - UNNAMED TRIB TO SNOW FK IN LANG H NR BUCHTEL OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
AUG 29...	1330	0.22	1150	3.0	15.0	6.2	105	--

DATE	TIME	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	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)
AUG 29...	420	420	7100	7300	4900	3900	2000	1900

392541082200200 - UNNAMED TRIB TO E B RACCOON CR NR HAYDENVILLE O

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
AUG 29...	1457	0.03	1690	3.9	23.5	7.2	160	--

DATE	TIME	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	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)
AUG 29...	990	990	21000	22000	490	480	25000	21000

SELECTED WATER-QUALITY DATA IN THE VICINITY OF WAYNE NATIONAL FOREST

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

392741082114200 - SNOW FK AT BUCHTEL OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY AS (MG/L CACO3) (00435)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
AUG								
29...	1530	3.8	1270	3.3	22.5	6.6	128	--

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	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)
AUG							
29...	600	15000	16000	2700	2500	3900	3800

03201535 - YOST RN NR NELSONVILLE OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY AS (MG/L CACO3) (00435)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
AUG								
29...	1710	0.01	2190	3.3	24.5	6.5	245	--

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	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)
AUG							
29...	1300	27000	28000	2100	700	26000	25000

**SELECTED WATER-QUALITY DATA IN THE
VICINITY OF WAYNE NATIONAL FOREST**

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

393628082145700 - 051 UNAM TR TO MONDAY C (20-5) NR SHAWNEE OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
AUG 30...	1030	0.29	769	6.6	21.0	6.4	--	41

DATE	TIME	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	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)
AUG 30...	300		20	<10	640	260	5200	4900

393739082140600 - 051 UNAM TR TO MONDAY C (20-2) AT MCCUNEVILLE OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
AUG 30...	1105	0.92	1290	3.6	22.0	6.9	36	--

DATE	TIME	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	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)
AUG 30...	430		4700	4600	1300	950	4300	3800

SELECTED WATER-QUALITY DATA IN THE VICINITY OF WAYNE NATIONAL FOREST

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

393819082125400 - MONDAY CR NR MCCUNEVILLE OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
AUG								
30...	1315	0.25	905	3.7	22.5	7.6	26	--

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	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)
AUG							
30...	400	4300	4500	1200	890	3800	3800

393558082140900 - ROCK RUN NR NEW STRAITSVILLE OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
AUG								
30...	1400	0.20	954	4.1	24.0	5.6	33	--

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	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)
AUG							
30...	470	2200	2200	3700	2800	7400	7100

SELECTED WATER-QUALITY DATA IN THE
VICINITY OF WAYNE NATIONAL FOREST

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

393743082183600 - 051 L MONDAY C (20-8) NR MAXVILLE OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LILITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
AUG 30...	1530	0.36	866	6.9	24.0	7.5	--	11

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	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)
AUG 30...	330	80	20	250	20	1000	1000

393603082100300 - PINE RUN NR SHAWNEE OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LILITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
AUG 31...	0920	0.28	799	4.3	20.5	7.1	30	--

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	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)
AUG 31...	380	3000	2900	2200	1600	3200	3100

SELECTED WATER-QUALITY DATA IN THE VICINITY OF WAYNE NATIONAL FOREST

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

393531082202300 - L MONDAY CR AT SR 93 NR MAXVILLE OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
AUG								
31...	1024	0.66	1040	7.7	22.5	7.1	--	134

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	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)
AUG							
31...	290	40	10	140	50	250	220

393321082125800 - UNNAMED TRIB IN SYCAMORE H NR NEW STRAITSVILLE

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
AUG								
31...	1130	0.05	846	3.8	15.5	7.9	45	--

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	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)
AUG							
31...	440	5200	5100	2700	1800	1800	1800

**SELECTED WATER-QUALITY DATA IN THE
VICINITY OF WAYNE NATIONAL FOREST**

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

393453082162800 - 051 MONDAY C (20-7) AT OREVILLE OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
AUG 31...	1212	1.7	882	4.8	23.0	6.8	12	--

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	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)
AUG 31...	390	1400	1200	640	280	3300	3200

393509082162900 - MONDAY CR AT OREVILLE OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
AUG 31...	1435	1.6	926	4.6	24.5	7.6	18	--

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	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)
AUG 31...	380	1700	1800	320	180	3400	3300

SELECTED WATER-QUALITY DATA IN THE VICINITY OF WAYNE NATIONAL FOREST

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

393502082160600 - UNNAMED TRIB TO MONDAY CR AT OREVILLE OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
AUG								
31...	1548	0.26	935	6.0	22.5	6.6	5.0	6

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, TOTAL DIS- SOLVED (UG/L AS AL) (01106)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, TOTAL DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, TOTAL DIS- SOLVED (UG/L AS MN) (01056)
AUG							
31...	440	270	90	3700	3400	3400	3300

393306082153100 - LOST RUN NR NEW STRAITSVILLE OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
SEP								
01...	0800	0.13	1300	3.2	20.0	7.1	128	--

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, TOTAL DIS- SOLVED (UG/L AS AL) (01106)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, TOTAL DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, TOTAL DIS- SOLVED (UG/L AS MN) (01056)
SEP							
01...	570	13000	13000	2600	2100	7300	7200

SELECTED WATER-QUALITY DATA IN THE VICINITY OF WAYNE NATIONAL FOREST

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

393303082154100 - MONDAY CR AB LOST RUN NR NEW STRAITSVILLE OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
SEP	05...	1230	1.5	831	5.7	19.0	6.3	6.0 5

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	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)
SEP	05...	340	100	80	780	670	2300 2500

393244082154000 - MONDAY CR BL LOST RUN NR NEW STRAITSVILLE OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
SEP	05...	1445	1.7	849	5.0	20.5	7.2 23	6

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	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)
SEP	05...	340	620	530	730	550	2700 2600

SELECTED WATER-QUALITY DATA IN THE VICINITY OF WAYNE NATIONAL FOREST

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

392539082125700 - MINKERS RUN NR DOANVILLE OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
SEP 06...	1045	0.03	783	6.2	17.5	6.3	5.0	26

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, TOTAL DIS- SOLVED (UG/L AS AL) (01106)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, TOTAL DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, TOTAL DIS- SOLVED (UG/L AS MN) (01056)
SEP 06...	270	1000	40	900	540	1200	1200

393117082100600 - MI FK SYCAMORE H NR MURRAY CITY OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
SEP 06...	1330	0.94	960	4.0	20.0	8.4	46	--

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, TOTAL DIS- SOLVED (UG/L AS AL) (01106)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, TOTAL DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, TOTAL DIS- SOLVED (UG/L AS MN) (01056)
SEP 06...	470	6300	6500	890	880	3000	3200

SELECTED WATER-QUALITY DATA IN THE
VICINITY OF WAYNE NATIONAL FOREST

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

393306082144300 - LOST RUN NR NEW STRAITSVILLE OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
SEP 06...	1630	0.06	2620	2.8	21.0	6.8	243	--

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	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)
SEP 06...	580	23000	22000	8100	8700	6900	7300

392523082072000 - BIG BAILEY RUN NR CHAUNCEY OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
SEP 07...	0830	0.04	927	7.2	17.0	5.5	--	188

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	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)
SEP 07...	260	100	<10	1500	360	240	220

SELECTED WATER-QUALITY DATA IN THE VICINITY OF WAYNE NATIONAL FOREST

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

392802082122400 - UNAM TR TO MONDAY CR IN SNAKE H NR NELSONVILLE

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
SEP								
21...	1010	0.16	1450	3.0	17.0	7.8	279	--

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, TOTAL DIS- SOLVED (UG/L AS AL) (01106)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, TOTAL DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, TOTAL DIS- SOLVED (UG/L AS MN) (01056)
SEP							
21...	810	33000	32000	9100	9300	5900	6100

393004082125900 - UNAM TR TO MONDAY CR NR CARBON HILL OH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	ACIDITY (MG/L AS CACO3) (00435)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
SEP								
21...	1145	0.03	1430	3.3	17.0	7.7	129	--

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, TOTAL DIS- SOLVED (UG/L AS AL) (01106)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, TOTAL DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, TOTAL DIS- SOLVED (UG/L AS MN) (01056)
SEP							
21...	870	15000	14000	2100	2200	760	750

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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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 for approximately 6 weeks. Wells at the sites in Pickaway, Clark, and Champaign counties were not sampled on a regular basis this water year due to lack of salt application in those areas. Sampling will resume at those sites as soon as salt enters the aquifer system. Ground-water level measurements are listed in the fourth table.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL (00940)	BROMIDE DIS- SOLVED (MG/L) AS BR (71870)
403635082152101 AS-48 NR LOUDONVILLE OH-LEVEL 1 (LAT 40 36 35N LONG 082 15 21W)					
NOV 1994					
02...	491	61	13	8.5	--
DEC					
06...	412	62	12	7.4	--
JAN 1995					
24...	564	--	--	20	--
MAR					
07...	539	70	16	13	--
APR					
14...	538	68	16	17	--
JUN					
06...	654	--	--	53	--
JUL					
14...	527	56	17	16	--
403635082152102 AS-48 NR LOUDONVILLE OH-LEVEL 2 (LAT 40 36 35N LONG 082 15 21W)					
NOV 1994					
02...	490	60	12	8.2	--
DEC					
06...	435	57	12	7.6	--
JAN 1995					
24...	500	70	21	22	--
MAR					
07...	503	64	14	10	--
APR					
14...	506	64	14	13	--
JUN					
06...	460	66	18	16	--
JUL					
14...	497	60	14	10	--
403635082152103 AS-48 NR LOUDONVILLE OH-LEVEL 3 (LAT 40 36 35N LONG 082 15 21W)					
NOV 1994					
02...	479	57	12	8.5	--
DEC					
06...	479	62	12	7.5	--
JAN 1995					
24...	556	69	24	27	--
MAR					
07...	519	65	14	12	--
APR					
14...	609	71	25	40	--
JUN					
06...	488	65	16	21	--
JUL					
14...	515	57	16	15	--
403635082152104 AS-48 NR LOUDONVILLE OH-LEVEL 4 (LAT 40 36 35N LONG 082 15 21W)					
NOV 1994					
02...	498	63	13	8.4	--
DEC					
06...	477	61	12	7.2	--
JAN 1995					
24...	535	67	19	21	--
MAR					
07...	525	67	15	15	--
APR					
14...	600	70	23	38	--
JUN					
06...	510	65	17	26	--
JUL					
14...	494	59	14	11	--

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL (00940)	BROMIDE DIS- SOLVED (MG/L) AS BR (71870)
403635082152105 AS-48 NR LOUDONVILLE OH-LEVEL 5 (LAT 40 36 35N LONG 082 15 21W)					
NOV 1994					
02...	301	--	--	5.2	--
DEC 06...	446	--	--	7.6	--
JAN 1995					
24...	496	63	11	17	--
MAR 07...	--	--	--	11	--
APR 14...	499	70	17	13	--
JUN 06...	448	62	14	--	--
JUL 14...	--	--	--	11	--
403635082152106 AS-48 NR LOUDONVILLE OH-LEVEL 6 (LAT 40 36 35N LONG 082 15 21W)					
APR 1995					
14...	520	65	17	20	--
JUN 06...	486	--	--	19	--
403635082152201 AS-47 NR LOUDONVILLE OH-LEVEL 1 (LAT 40 36 35N LONG 082 15 22W)					
NOV 1994					
02...	806	92	59	87	--
DEC 06...	777	95	59	83	--
JAN 1995					
24...	740	73	54	62	--
MAR 07...	782	76	56	97	--
APR 14...	801	80	61	110	--
JUN 06...	748	76	60	83	--
JUL 14...	922	86	68	110	--
403635082152202 AS-47 NR LOUDONVILLE OH-LEVEL 2 (LAT 40 36 35N LONG 082 15 22W)					
NOV 1994					
02...	890	92	61	85	--
DEC 06...	824	95	58	83	--
JAN 1995					
24...	637	63	45	58	--
MAR 07...	757	72	55	89	--
APR 14...	807	80	60	100	--
JUN 06...	731	69	53	74	--
JUL 14...	911	86	67	110	--
403635082152203 AS-47 NR LOUDONVILLE OH-LEVEL 3 (LAT 40 36 35N LONG 082 15 22W)					
JAN 1995					
24...	626	--	--	61	--
MAR 07...	765	73	56	93	--
APR 14...	803	77	59	100	--
JUN 06...	701	65	50	72	--
JUL 14...	897	87	65	120	--
403635082152204 AS-47 NR LOUDONVILLE OH-LEVEL 4 (LAT 40 36 35N LONG 082 15 22W)					
MAR 1995					
07...	743	--	--	82	--
APR 14...	799	--	--	97	--
JUN 06...	728	--	--	71	--
JUL 14...	--	--	--	77	--
403635082152205 AS-47 NR LOUDONVILLE OH-LEVEL 5 (LAT 40 36 35N LONG 082 15 22W)					
APR 1995					
14...	581	--	--	42	--
JUN 06...	645	--	--	44	--

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)
403635082152401 AS-46 NR LOUDONVILLE OH-LEVEL 1 (LAT 40 36 35N LONG 082 15 24W)					
NOV 1994					
02...	886	100	64	66	--
DEC					
06...	893	100	49	62	--
JAN 1995					
24...	948	120	51	56	--
MAR					
07...	850	100	45	46	--
APR					
14...	830	--	--	68	--
JUN					
06...	847	94	49	76	--
JUL					
14...	903	93	57	93	--
403635082152402 AS-46 NR LOUDONVILLE OH-LEVEL 2 (LAT 40 36 35N LONG 082 15 24W)					
NOV 1994					
02...	898	100	54	67	--
DEC					
06...	882	110	53	61	--
JAN 1995					
24...	927	120	51	56	--
MAR					
07...	844	100	48	49	--
APR					
14...	847	97	48	72	--
JUN					
06...	715	64	50	73	--
JUL					
14...	937	95	60	100	--
403635082152403 AS-46 NR LOUDONVILLE OH-LEVEL 3 (LAT 40 36 35N LONG 082 15 24W)					
NOV 1994					
02...	782	99	50	62	--
DEC					
06...	803	110	56	61	--
JAN 1995					
24...	729	85	42	30	--
MAR					
07...	872	93	50	91	--
APR					
14...	888	96	54	98	--
JUN					
06...	697	86	45	57	--
JUL					
14...	945	100	61	110	--
403635082152404 AS-46 NR LOUDONVILLE OH-LEVEL 4 (LAT 40 36 35N LONG 082 15 24W)					
JAN 1995					
24...	529	--	--	18	--
MAR					
07...	669	81	32	52	--
APR					
14...	829	93	52	90	--
JUN					
06...	703	81	42	49	--
JUL					
14...	943	97	61	110	--
403635082152405 AS-46 NR LOUDONVILLE OH-LEVEL 5 (LAT 40 36 35N LONG 082 15 24W)					
MAR 1995					
07...	643	--	--	52	--
APR					
14...	747	--	--	74	--
JUN					
06...	727	--	--	53	--
JUL					
14...	--	--	--	24	--

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)
403635082152502 AS-44 NR LOUDONVILLE OH-LEVEL 2 (LAT 40 36 35N LONG 082 15 25W)					
NOV 1994					
02...	609	76	28	20	--
DEC					
06...	471	72	20	15	--
JAN 1995					
24...	547	64	32	28	--
MAR					
07...	706	77	47	62	--
APR					
14...	697	73	45	64	--
JUN					
06...	784	74	58	86	--
JUL					
14...	921	83	80	120	--
403635082152503 AS-44 NR LOUDONVILLE OH-LEVEL 3 (LAT 40 36 35N LONG 082 15 25W)					
NOV 1994					
02...	606	73	26	18	--
DEC					
06...	564	71	19	15	--
JAN 1995					
24...	542	61	31	27	--
MAR					
07...	698	74	46	62	--
APR					
14...	688	--	--	65	--
JUN					
06...	763	77	60	80	--
JUL					
14...	1690	87	79	110	--
403635082152504 AS-44 NR LOUDONVILLE OH-LEVEL 4 (LAT 40 36 35N LONG 082 15 25W)					
NOV 1994					
02...	596	73	26	18	--
DEC					
06...	497	72	19	14	--
JAN 1995					
24...	526	61	32	26	--
MAR					
07...	683	72	44	68	--
APR					
14...	673	70	42	62	--
JUN					
06...	668	71	45	59	--
JUL					
14...	847	80	66	95	--
403635082152505 AS-44 NR LOUDONVILLE OH-LEVEL 5 (LAT 40 36 35N LONG 082 15 25W)					
NOV 1994					
02...	728	--	--	50	--
DEC					
06...	368	--	--	13	--
JAN 1995					
24...	513	--	--	23	--
MAR					
07...	607	73	30	45	--
APR					
14...	625	69	29	45	--
JUN					
06...	619	73	45	49	--
JUL					
14...	807	83	59	88	--

**EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW
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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL (00940)	BROMIDE DIS- SOLVED (MG/L) AS BR (71870)
403635082152603 AS-49 NR LOUDONVILLE OH-LEVEL 3 (LAT 40 36 35N LONG 082 15 26W)					
OCT 1994					
14...	811	--	--	--	--
NOV					
02...	807	67	33	50	--
DEC					
06...	747	84	39	45	--
JAN 1995					
24...	791	89	43	45	0.060
MAR					
07...	756	83	39	48	--
APR					
14...	781	89	44	60	0.050
MAY					
12...	800	--	--	--	--
JUN					
06...	814	89	51	71	0.060
JUL					
14...	808	83	48	66	0.050
403635082152604 AS-49 NR LOUDONVILLE OH-LEVEL 4 (LAT 40 36 35N LONG 082 15 26W)					
JAN 1995					
24...	595	67	33	41	0.030
MAR					
07...	777	84	49	91	--
APR					
14...	864	89	57	98	0.070
MAY					
12...	836	--	--	--	--
JUN					
06...	768	87	54	66	0.060
JUL					
14...	949	96	63	110	0.080
403635082152605 AS-49 NR LOUDONVILLE OH-LEVEL 5 (LAT 40 36 35N LONG 082 15 26W)					
JAN 1995					
24...	554	62	30	37	0.030
MAR					
07...	665	74	38	65	--
APR					
14...	758	78	47	80	0.060
JUN					
06...	664	81	38	51	0.040
403635082152606 AS-49 NR LOUDONVILLE OH-LEVEL 6 (LAT 40 36 35N LONG 082 15 26W)					
JAN 1995					
24...	598	45	72	21	0.020
APR					
14...	716	70	65	35	0.030
JUN					
06...	653	61	69	21	0.030
403635082152702 AS-43 NR LOUDONVILLE OH-LEVEL 2 (LAT 40 36 35N LONG 082 15 27W)					
NOV 1994					
02...	579	110	23	44	--
DEC					
06...	703	96	27	43	--
JAN 1995					
24...	393	69	11	8.6	--
MAR					
07...	648	90	24	57	--
APR					
14...	907	130	32	110	--
JUN					
06...	961	--	--	100	--
JUL					
14...	--	--	--	120	--

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)
403635082152703 AS-43 NR LOUDONVILLE OH-LEVEL 3 (LAT 40 36 35N LONG 082 15 27W)					
NOV 1994					
02...	676	110	32	56	--
DEC					
06...	429	67	8.1	4.1	--
JAN 1995					
24...	342	53	9.8	2.8	--
MAR					
07...	787	100	38	98	--
APR					
14...	827	110	31	96	--
JUN					
06...	924	120	29	96	--
JUL					
14...	1110	120	40	140	--
403635082152704 AS-43 NR LOUDONVILLE OH-LEVEL 4 (LAT 40 36 35N LONG 082 15 27W)					
NOV 1994					
02...	518	58	21	55	--
DEC					
06...	369	57	6.5	1.9	--
JAN 1995					
24...	343	51	10	3.3	--
MAR					
07...	784	100	36	98	--
APR					
14...	613	87	21	44	--
JUN					
06...	577	92	15	22	--
JUL					
14...	1050	120	37	130	--
403635082152705 AS-43 NR LOUDONVILLE OH-LEVEL 5 (LAT 40 36 35N LONG 082 15 27W)					
NOV 1994					
02...	320	--	--	8.6	--
DEC					
06...	379	--	--	2.1	--
JAN 1995					
24...	359	--	--	4.3	--
MAR					
07...	690	92	29	75	--
APR					
14...	1560	77	210	360	--
JUN					
06...	517	89	16	24	--
JUL					
14...	899	120	28	75	--
403922082325901 R-19 NR LEXINGTON OH-LEVEL 1 (LAT 40 39 22N LONG 082 32 59W)					
NOV 1994					
01...	600	82	7.7	43	--
DEC					
05...	598	80	8.0	45	--
JAN 1995					
27...	567	76	6.5	51	--
MAR					
01...	520	76	6.9	52	--
APR					
18...	570	73	6.4	49	--
MAY					
31...	560	74	7.3	45	--
JUL					
06...	542	79	7.3	40	--
AUG					
25...	509	77	8.9	42	--

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL (00940)	BROMIDE DIS- SOLVED (MG/L) AS BR (71870)
403922082325902 R-19 NR LEXINGTON OH-LEVEL 2 (LAT 40 39 22N LONG 082 32 59W)					
NOV 1994					
01...	601	83	7.9	43	--
DEC					
05...	597	79	8.0	47	--
JAN 1995					
27...	564	75	5.9	50	--
MAR					
01...	583	77	6.5	51	--
APR					
18...	561	70	6.2	49	--
MAY					
31...	564	--	--	43	--
JUL					
06...	596	76	6.8	40	--
AUG					
25...	541	77	8.8	43	--
403922082325903 R-19 NR LEXINGTON OH-LEVEL 3 (LAT 40 39 22N LONG 082 32 59W)					
NOV 1994					
01...	603	79	7.9	46	--
DEC					
05...	568	77	7.6	47	--
JAN 1995					
27...	569	73	6.2	52	--
MAR					
01...	584	76	7.0	51	--
APR					
18...	572	73	6.5	48	--
MAY					
31...	542	75	8.4	39	--
JUL					
06...	533	77	9.6	39	--
AUG					
25...	543	73	8.7	41	--
403922082325904 R-19 NR LEXINGTON OH-LEVEL 4 (LAT 40 39 22N LONG 082 32 59W)					
JAN 1995					
27...	607	--	--	50	--
MAR					
01...	564	78	7.1	52	--
APR					
18...	569	72	6.4	49	--
MAY					
31...	488	65	9.9	34	--
JUL					
06...	491	71	7.8	40	--
AUG					
25...	477	78	11	40	--
403922082325905 R-19 NR LEXINGTON OH-LEVEL 5 (LAT 40 39 22N LONG 082 32 59W)					
MAY					
31...	448	--	--	35	--
JUL					
06...	515	--	--	35	--
AUG					
25...	539	--	--	40	--
403922082330001 R-20 NR LEXINGTON OH-LEVEL 1 (LAT 40 39 22N LONG 082 33 00W)					
NOV 1994					
01...	542	74	8.5	29	--
DEC					
05...	543	72	1.6	36	--
JAN 1995					
27...	550	72	8.6	32	--
MAR					
01...	553	81	9.4	37	--
APR					
18...	611	81	9.6	38	--
MAY					
31...	566	--	--	36	--
AUG					
25...	465	81	11	25	--

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)
403922082330002 R-20 NR LEXINGTON OH-LEVEL 2 (LAT 40 39 22N LONG 082 33 00W)					
NOV 1994					
01...	507	74	9.4	26	--
DEC					
05...	474	72	8.5	31	--
JAN 1995					
27...	551	81	9.3	37	--
MAR					
01...	580	82	11	38	--
APR					
18...	617	79	9.7	38	--
MAY					
31...	563	81	9.1	36	--
JUL					
06...	519	79	10	28	--
AUG					
25...	456	85	11	23	--
403922082330003 R-20 NR LEXINGTON OH-LEVEL 3 (LAT 40 39 22N LONG 082 33 00W)					
NOV 1994					
01...	562	73	11	29	--
DEC					
05...	574	78	7.8	33	--
JAN 1995					
27...	601	82	9.5	34	--
MAR					
01...	582	84	10	38	--
APR					
18...	636	88	9.7	38	--
MAY					
31...	549	83	10	34	--
JUL					
06...	528	80	11	26	--
AUG					
25...	497	87	11	23	--
403922082330004 R-20 NR LEXINGTON OH-LEVEL 4 (LAT 40 39 22N LONG 082 33 00W)					
NOV 1994					
01...	582	83	10	30	--
DEC					
05...	492	81	10	34	--
JAN 1995					
27...	597	82	9.9	37	--
MAR					
01...	542	85	10	40	--
APR					
18...	608	85	9.7	37	--
MAY					
31...	537	83	9.8	34	--
JUL					
06...	534	78	9.6	25	--
AUG					
25...	493	72	9.5	22	--
403922082330005 R-20 NR LEXINGTON OH-LEVEL 5 (LAT 40 39 22N LONG 082 33 00W)					
NOV 1994					
01...	586	81	9.8	30	--
DEC					
05...	550	79	11	34	--
JAN 1995					
27...	569	83	9.4	37	--
MAR					
01...	579	86	10	39	--
APR					
18...	628	88	10	38	--
MAY					
31...	558	80	10	34	--
JUL					
06...	570	79	9.5	25	--
AUG					
25...	523	78	10	25	--

**EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW
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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)
403922082330006 R-20 NR LEXINGTON OH-LEVEL 6 (LAT 40 39 22N LONG 082 33 00W)					
NOV 1994					
01...	545	72	11	24	--
DEC					
05...	542	77	11	30	--
JAN 1995					
27...	590	86	10	37	--
MAR					
01...	631	76	10	39	--
APR					
18...	604	86	10	37	--
MAY					
31...	563	84	9.9	34	--
JUL					
06...	508	79	9.2	24	--
AUG					
25...	484	81	10	24	--
403923082325401 R-21 NR LEXINGTON OH-LEVEL 1 (LAT 40 39 23N LONG 082 32 54W)					
01...	466	73	12	17	--
DEC					
05...	212	27	6.1	2.3	--
JAN 1995					
27...	294	42	1.9	3.2	--
MAR					
01...	255	37	2.9	2.8	--
APR					
18...	241	33	2.5	3.1	--
MAY					
31...	277	--	--	3.1	--
JUL					
06...	342	54	2.3	3.4	--
AUG					
25...	318	63	3.2	3.9	--
403923082325402 R-21 NR LEXINGTON OH-LEVEL 2 (LAT 40 39 23N LONG 082 32 54W)					
NOV 1994					
01...	169	19	1.9	2.2	--
DEC					
05...	182	22	2.5	2.4	--
JAN 1995					
27...	299	--	--	4.1	--
MAR					
01...	248	--	--	3.2	--
APR					
18...	241	31	2.3	2.7	--
MAY					
31...	263	--	--	3.1	--
JUL					
06...	339	53	2.2	3.3	--
AUG					
25...	324	63	3.5	4.0	--
403923082325403 R-21 NR LEXINGTON OH-LEVEL 3 (LAT 40 39 23N LONG 082 32 54W)					
JAN 1995					
27...	290	--	--	3.1	--
MAR					
01...	284	40	2.5	3.3	--
APR					
18...	227	31	2.3	2.6	--
MAY					
31...	245	34	2.9	2.8	--
JUL					
06...	331	56	2.3	3.3	--
AUG					
25...	299	67	3.4	4.0	--
403923082325404 R-21 NR LEXINGTON OH-LEVEL 4 (LAT 40 39 23N LONG 082 32 54W)					
MAR 1995					
01...	269	--	--	3.6	--
APR					
18...	221	30	2.2	2.5	--
MAY					
31...	249	33	2.8	2.8	--
JUL					
06...	349	--	--	3.8	--
AUG					
25...	381	--	--	6.0	--

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL (00940)	BROMIDE DIS- SOLVED (MG/L) AS BR (71870)
403923082325405 R-21 NR LEXINGTON OH-LEVEL 5 (LAT 40 39 23N LONG 082 32 54W)					
MAY 1995					
31...	258	--	--	3.1	--
JUL					
06...	320	--	--	3.9	--
403923082325601 R-15 NR LEXINGTON OH-LEVEL 1 (LAT 40 39 23N LONG 082 32 56W)					
NOV 1994					
01...	400	40	20	26	--
DEC					
05...	424	41	5.1	25	--
JAN 1995					
27...	423	29	38	72	--
MAR					
01...	393	28	32	66	--
APR					
18...	438	29	37	70	--
MAY					
31...	--	--	--	70	--
JUL					
06...	361	27	27	46	--
AUG					
25...	331	26	28	41	--
403923082325602 R-15 NR LEXINGTON OH-LEVEL 2 (LAT 40 39 23N LONG 082 32 56W)					
NOV 1994					
01...	365	34	20	26	--
DEC					
05...	383	--	--	23	--
JAN 1995					
27...	430	27	38	72	--
MAR					
01...	399	28	32	68	--
APR					
18...	435	31	38	69	--
MAY					
31...	436	30	40	69	--
JUL					
06...	345	25	26	44	--
AUG					
25...	321	23	25	7.3	--
403923082325603 R-15 NR LEXINGTON OH-LEVEL 3 (LAT 40 39 23N LONG 082 32 56W)					
JAN 1995					
27...	433	--	--	71	--
MAR					
01...	407	27	33	71	--
APR					
18...	431	30	37	69	--
JUL					
06...	341	25	26	47	--
AUG					
25...	316	23	25	36	--
403923082325604 R-15 NR LEXINGTON OH-LEVEL 4 (LAT 40 39 23N LONG 082 32 56W)					
MAR 1995					
01...	400	29	33	68	--
APR					
18...	425	30	37	69	--
MAY					
31...	434	--	--	70	--
JUL					
06...	341	--	--	47	--
403923082325605 R-15 NR LEXINGTON OH-LEVEL 5 (LAT 40 39 23N LONG 082 32 56W)					
MAY 1995					
31...	476	--	--	70	--
JUL					
06...	381	--	--	53	--

**EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW
UNCONSOLIDATED AQUIFERS IN OHIO**

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL (00940)	BROMIDE DIS- SOLVED (MG/L) AS BR (71870)
403923082325701 R-18 NR LEXINGTON OH-LEVEL 1 (LAT 40 39 23N LONG 082 32 57W)					
NOV 1994					
01...	457	58	4.6	50	--
DEC					
05...	469	55	4.5	50	--
JAN 1995					
27...	468	55	4.9	52	0.040
MAR					
01...	417	55	4.7	44	--
APR					
18...	466	53	11	61	0.030
MAY					
31...	443	44	18	52	0.030
JUL					
06...	437	45	22	44	0.040
AUG					
25...	424	45	15	44	0.030
403923082325702 R-18 NR LEXINGTON OH-LEVEL 2 (LAT 40 39 23N LONG 082 32 57W)					
OCT 1994					
12...	466	--	--	--	--
NOV					
01...	453	50	5.2	51	--
DEC					
05...	461	53	4.9	50	--
JAN 1995					
27...	462	54	4.6	52	0.050
MAR					
01...	456	54	5.4	51	--
APR					
18...	476	54	11	61	0.040
MAY					
31...	451	40	19	55	0.040
JUL					
06...	421	42	22	43	0.050
AUG					
25...	405	42	15	44	0.030
403923082325703 R-18 NR LEXINGTON OH-LEVEL 3 (LAT 40 39 23N LONG 082 32 57W)					
OCT 1994					
12...	535	--	--	--	--
NOV					
01...	482	66	10	44	--
DEC					
05...	541	65	9.7	49	--
JAN 1995					
27...	499	65	8.0	53	0.040
MAR					
01...	509	54	5.4	49	--
APR					
18...	553	72	8.5	61	0.040
MAY					
31...	529	53	12	54	0.040
JUL					
06...	522	63	16	51	0.080
AUG					
25...	480	54	13	44	0.030
403923082325704 R-18 NR LEXINGTON OH-LEVEL 4 (LAT 40 39 23N LONG 082 32 57W)					
DEC 1994					
05...	716	99	17	47	--
JAN 1995					
27...	633	82	13	51	0.050
MAR					
01...	564	73	11	48	--
APR					
18...	595	78	11	60	0.040
MAY					
31...	550	62	13	56	0.040
JUL					
06...	594	70	19	57	0.050
AUG					
25...	558	72	22	44	0.030

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL (00940)	BROMIDE DIS- SOLVED (MG/L) AS BR (71870)
403923082325705 R-18 NR LEXINGTON OH-LEVEL 5 (LAT 40 39 23N LONG 082 32 57W)					
JAN 1995					
27...	670	93	15	44	0.050
MAR					
01...	660	87	14	50	--
APR					
18...	668	83	16	57	0.050
MAY					
31...	600	72	22	56	0.040
JUL					
06...	575	65	31	50	0.040
AUG					
25...	583	70	28	51	0.030
403923082325706 R-18 NR LEXINGTON OH-LEVEL 6 (LAT 40 39 23N LONG 082 32 57W)					
MAY 1995					
31...	609	58	31	50	0.030
JUL					
06...	543	54	32	48	0.040
403923082325901 R-17 NR LEXINGTON OH-LEVEL 1 (LAT 40 39 23N LONG 082 32 59W)					
NOV 1994					
01...	544	77	5.6	53	--
DEC					
05...	538	69	6.1	51	--
JAN 1995					
27...	526	68	5.1	51	--
MAR					
01...	276	68	5.2	51	--
APR					
18...	555	73	8.0	60	--
MAY					
31...	534	59	15	59	--
JUL					
06...	530	64	21	54	--
AUG					
25...	454	52	17	44	--
403923082325902 R-17 NR LEXINGTON OH-LEVEL 2 (LAT 40 39 23N LONG 082 32 59W)					
NOV 1994					
01...	511	67	4.8	54	--
DEC					
05...	516	66	5.9	52	--
JAN 1995					
27...	502	67	5.1	54	--
MAR					
01...	495	60	5.9	51	--
APR					
18...	515	63	9.7	62	--
MAY					
31...	498	52	18	58	--
JUL					
06...	471	50	23	48	--
AUG					
25...	435	43	16	47	--
403923082325903 R-17 NR LEXINGTON OH-LEVEL 3 (LAT 40 39 23N LONG 082 32 59W)					
NOV 1994					
01...	500	65	5.0	54	--
DEC					
05...	498	63	5.2	31	--
JAN 1995					
27...	490	59	4.5	53	--
MAR					
01...	488	57	5.6	52	--
APR					
18...	490	55	12	63	--
MAY					
31...	471	47	21	53	--
JUL					
06...	431	47	27	44	--
AUG					
25...	440	44	18	10	--

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L) AS CA) (00915)	SODIUM, DIS- SOLVED (MG/L) AS NA) (00930)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL) (00940)	BROMIDE DIS- SOLVED (MG/L) AS BR) (71870)
403923082325904 R-17 NR LEXINGTON OH-LEVEL 4 (LAT 40 39 23N LONG 082 32 59W)					
MAY 1995					
31...	503	--	--	58	--
JUL					
06...	457	45	24	48	--
AUG					
25...	373	--	--	47	--
411136081172403 PO-122 NR RAVENNA OH LEVEL-3 (LAT 41 11 36N LONG 081 17 24W)					
JAN 1995					
10...	564	51	41	60	--
JUN					
08...	556	47	30	61	--
411136081172404 PO-122 NR RAVENNA OH LEVEL-4 (LAT 41 11 36N LONG 081 17 24W)					
DEC 1994					
14...	529	49	50	52	0.020
JAN 1995					
10...	576	54	43	64	--
MAR					
02...	561	51	36	60	--
APR					
12...	531	53	36	55	--
JUN					
08...	559	54	35	62	--
JUL					
12...	538	48	30	59	--
AUG					
30...	522	54	29	58	--
411136081172405 PO-122 NR RAVENNA OH LEVEL-5 (LAT 41 11 36N LONG 081 17 24W)					
DEC 1994					
14...	536	44	46	55	0.030
JAN 1995					
10...	597	51	42	66	--
MAR					
02...	567	55	38	60	--
APR					
12...	521	56	36	53	--
JUN					
08...	571	50	33	63	--
JUL					
12...	515	48	29	54	--
AUG					
30...	492	54	29	54	--
411136081172406 PO-122 NR RAVENNA OH LEVEL-6 (LAT 41 11 36N LONG 081 17 24W)					
DEC 1994					
14...	408	--	--	41	--
411136081172407 PO-122 NR RAVENNA OH LEVEL-7 (LAT 41 11 36N LONG 081 17 24W)					
DEC 1994					
14...	503	48	48	50	0.020
AUG 1995					
30...	500	53	29	54	--
411136081172501 PO-119 NR RAVENNA OH-LEVEL 1 (LAT 41 11 36N LONG 081 17 25W)					
OCT 1994					
24...	556	62	32	41	--
DEC					
12...	639	78	36	56	--
MAR 1995					
02...	622	79	34	51	--
APR					
12...	--	71	28	35	--
JUN					
08...	545	64	30	40	--
JUL					
12...	523	63	27	36	--
AUG					
30...	535	73	25	35	--

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL (00940)	BROMIDE DIS- SOLVED (MG/L) AS BR (71870)
411136081172502 PO-119 NR RAVENNA OH-LEVEL 2 (LAT 41 11 36N LONG 081 17 25W)					
OCT 1994					
24...	499	58	25	25	--
DEC					
12...	499	71	17	22	--
MAR 1995					
02...	472	67	21	17	--
APR					
12...	461	--	--	17	--
JUN					
08...	438	57	18	16	--
JUL					
12...	435	62	15	13	--
AUG					
30...	438	71	8.4	8.8	--
411136081172503 PO-119 NR RAVENNA OH-LEVEL 3 (LAT 41 11 36N LONG 081 17 25W)					
OCT 1994					
24...	457	60	16	16	--
DEC					
12...	416	56	9.6	12	--
MAR 1995					
02...	345	48	19	3.4	--
APR					
12...	260	43	8.3	--	--
JUN					
08...	292	44	7.0	4.8	--
JUL					
12...	438	64	11	8.8	--
AUG					
30...	358	58	6.1	7.9	--
411136081172504 PO-119 NR RAVENNA OH-LEVEL 4 (LAT 41 11 36N LONG 081 17 25W)					
DEC 1994					
12...	422	--	--	14	--
MAR 1995					
02...	328	46	14	3.1	--
APR					
12...	246	37	6.7	4.3	--
JUN					
08...	285	41	6.2	4.7	--
JUL					
12...	385	57	6.7	6.3	--
AUG					
30...	341	56	5.9	8.0	--
411136081172505 PO-119 NR RAVENNA OH-LEVEL 5 (LAT 41 11 36N LONG 081 17 25W)					
MAR 1995					
02...	323	--	--	4.1	--
APR					
12...	271	--	--	5.0	--
411136081172601 PO-120 NR RAVENNA OH-LEVEL 1 (LAT 41 11 36N LONG 081 17 26W)					
OCT 1994					
24...	359	49	17	7.1	--
DEC					
12...	392	54	17	9.7	--
MAR 1995					
02...	306	39	19	7.2	--
APR					
12...	263	36	11	4.8	--
JUN					
08...	292	37	9.7	5.4	--
JUL					
12...	320	44	10	6.6	--
AUG					
30...	362	55	11	9.8	--

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)
411136081172602 PO-120 NR RAVENNA OH-LEVEL 2 (LAT 41 11 36N LONG 081 17 26W)					
OCT 1994					
24...	--	--	--	--	--
DEC					
12...	424	59	19	18	--
MAR 1995					
02...	285	31	14	5.4	--
APR					
12...	253	35	7.9	3.5	--
JUN					
08...	322	46	7.6	2.9	--
JUL					
12...	355	48	9.7	7.9	--
AUG					
30...	465	75	11	8.6	--
411136081172603 PO-120 NR RAVENNA OH-LEVEL 3 (LAT 41 11 36N LONG 081 17 26W)					
OCT 1994					
24...	390	50	17	10	--
DEC					
12...	411	59	16	11	--
MAR 1995					
02...	272	32	13	4.6	--
APR					
12...	236	--	--	4.1	--
JUN					
08...	318	49	7.5	2.9	--
JUL					
12...	408	58	7.2	2.9	--
AUG					
30...	476	80	9.5	6.1	--
411136081172604 PO-120 NR RAVENNA OH-LEVEL 4 (LAT 41 11 36N LONG 081 17 26W)					
OCT 1994					
24...	354	55	15	5.8	--
DEC					
12...	334	52	8.0	4.3	--
MAR 1995					
02...	235	--	--	4.3	--
APR					
12...	228	34	7.3	3.7	--
JUN					
08...	311	46	6.4	2.8	--
JUL					
12...	371	68	6.9	2.9	--
AUG					
30...	467	77	8.8	5.2	--
411136081172605 PO-120 NR RAVENNA OH-LEVEL 5 (LAT 41 11 36N LONG 081 17 26W)					
MAR 1995					
02...	292	30	19	3.8	--
APR					
12...	225	31	5.8	3.7	--
JUN					
08...	321	48	5.9	3.8	--
JUL					
12...	384	--	--	3.2	--
411137081172101 PO-114 NR RAVENNA OH-LEVEL 1 (LAT 41 11 37N LONG 081 17 21W)					
OCT 1994					
24...	389	75	13	5.2	--
DEC					
12...	603	--	--	6.1	--
JAN 1995					
10...	502	83	11	6.5	--
MAR					
02...	272	37	10	3.6	--
APR					
12...	268	--	--	5.9	--
JUN					
08...	335	50	11	5.5	--
JUL					
12...	369	56	5.7	4.6	--
AUG					
30...	470	87	8.4	3.6	--

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)
411137081172102 PO-114 NR RAVENNA OH-LEVEL 2 (LAT 41 11 37N LONG 081 17 21W)					
OCT 1994					
24...	489	80	13	5.4	--
DEC					
12...	476	94	21	5.1	--
JAN 1995					
10...	452	81	11	6.8	--
MAR					
02...	254	36	11	3.6	--
APR					
12...	271	39	10	4.9	--
JUN					
08...	341	--	--	5.9	--
JUL					
12...	374	55	5.4	4.7	--
AUG					
30...	503	91	8.7	3.9	--
411137081172103 PO-114 NR RAVENNA OH-LEVEL 3 (LAT 41 11 37N LONG 081 17 21W)					
OCT 1994					
24...	467	83	12	5.5	--
DEC					
12...	383	--	--	4.4	--
JAN 1995					
10...	437	73	10	6.3	--
MAR					
02...	234	36	11	3.6	--
APR					
12...	263	39	10	5.2	--
JUN					
08...	351	53	9.4	5.5	--
JUL					
12...	408	69	5.1	4.6	--
AUG					
30...	470	93	8.9	3.5	--
411137081172104 PO-114 NR RAVENNA OH-LEVEL 4 (LAT 41 11 37N LONG 081 17 21W)					
OCT 1994					
24...	423	83	12	5.9	--
DEC					
12...	364	56	10	3.7	--
JAN 1995					
10...	431	71	12	6.7	--
MAR					
02...	258	37	10	3.5	--
APR					
12...	257	38	9.7	5.1	--
JUN					
08...	346	--	--	5.8	--
JUL					
12...	380	68	4.3	4.6	--
AUG					
30...	524	91	8.8	3.5	--
411137081172105 PO-114 NR RAVENNA OH-LEVEL 5 (LAT 41 11 37N LONG 081 17 21W)					
OCT 1994					
24...	504	83	11	5.5	--
DEC					
12...	323	50	6.7	4.2	--
JAN 1995					
10...	440	--	--	6.1	--
MAR					
02...	248	34	10	3.6	--
APR					
12...	256	38	8.4	5.0	--
JUN					
08...	344	54	8.1	5.6	--
JUL					
12...	391	69	4.8	4.6	--
AUG					
30...	496	100	7.5	4.0	--

**EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW
UNCONSOLIDATED AQUIFERS IN OHIO**

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L) AS CA) (00915)	SODIUM, DIS- SOLVED (MG/L) AS NA) (00930)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL) (00940)	BROMIDE DIS- SOLVED (MG/L) AS BR) (71870)
411137081172106 PO-114 NR RAVENNA OH-LEVEL 6 (LAT 41 11 37N LONG 081 17 21W)					
OCT 1994					
24...	276	--	--	3.7	--
MAR 1995					
02...	302	--	--	3.5	--
APR					
12...	269	39	9.9	5.1	--
JUN					
08...	332	52	4.8	5.9	--
JUL					
12...	407	87	4.9	5.0	--
411137081172301 PO-118 NR RAVENNA OH-LEVEL 1 (LAT 41 11 37N LONG 081 17 23W)					
OCT 1994					
24...	2760	77	500	700	--
DEC					
12...	2910	86	500	780	--
JAN 1995					
10...	2690	79	460	680	--
MAR					
02...	834	27	130	160	--
APR					
12...	1610	50	250	420	--
JUN					
08...	2410	97	370	660	--
JUL					
12...	3600	110	600	1000	--
AUG					
30...	2850	85	520	710	--
411137081172302 PO-118 NR RAVENNA OH-LEVEL 2 (LAT 41 11 37N LONG 081 17 23W)					
OCT 1994					
24...	2780	80	490	700	--
DEC					
12...	2850	88	480	760	--
JAN 1995					
10...	2670	--	--	670	--
MAR					
02...	891	28	130	180	--
APR					
12...	1400	48	240	340	--
JUN					
08...	2630	100	410	740	--
JUL					
12...	3630	110	620	1000	--
AUG					
30...	2900	85	510	770	--
411137081172303 PO-118 NR RAVENNA OH-LEVEL 3 (LAT 41 11 37N LONG 081 17 23W)					
OCT 1994					
24...	2750	79	500	680	--
DEC					
12...	2890	83	490	770	--
JAN 1995					
10...	2620	74	450	670	--
MAR					
02...	1010	41	160	220	--
APR					
12...	1410	47	210	340	--
JUN					
08...	2880	110	440	820	--
JUL					
12...	3590	110	620	1000	--
AUG					
30...	2910	83	520	740	--

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL (00940)	BROMIDE DIS- SOLVED (MG/L) AS BR (71870)
411137081172304 PO-118 NR RAVENNA OH-LEVEL 4 (LAT 41 11 37N LONG 081 17 23W)					
OCT 1994					
24...	2730	63	430	670	--
DEC					
12...	2880	--	--	710	--
JAN 1995					
10...	2590	71	430	680	--
MAR					
02...	1030	29	120	220	--
APR					
12...	1340	44	210	330	--
JUN					
08...	3110	120	470	890	--
JUL					
12...	3610	110	610	1000	--
AUG					
30...	2850	80	510	770	--
411137081172305 PO-118 NR RAVENNA OH-LEVEL 5 (LAT 41 11 37N LONG 081 17 23W)					
OCT 1994					
24...	2740	61	490	680	--
DEC					
12...	2360	93	380	570	--
JAN 1995					
10...	945	38	130	200	--
MAR					
02...	984	44	150	210	--
APR					
12...	1150	42	170	--	--
JUN					
08...	2710	110	410	760	--
JUL					
12...	2670	100	370	740	--
AUG					
30...	2710	110	440	690	--
411137081172306 PO-118 NR RAVENNA OH-LEVEL 6 (LAT 41 11 37N LONG 081 17 23W)					
MAR					
02...	896	33	130	190	--
APR					
12...	1100	39	150	260	--
JUN					
08...	2370	97	360	670	--
JUL					
12...	2230	86	290	570	--
AUG					
30...	1520	--	--	290	--
411137081172401 PO-117 NR RAVENNA OH-LEVEL 1 (LAT 41 11 37N LONG 081 17 24W)					
OCT 1994					
24...	1410	98	150	290	--
DEC					
12...	1490	100	170	330	--
JAN 1995					
10...	1390	97	150	300	0.070
MAR					
02...	1440	100	160	310	--
APR					
12...	1170	89	140	230	0.050
JUN					
08...	1150	88	120	220	0.050
JUL					
12...	1160	84	130	220	0.050
AUG					
30...	1360	97	160	310	--

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL (00940)	BROMIDE DIS- SOLVED (MG/L) AS BR (71870)
411137081172402 PO-117 NR RAVENNA OH-LEVEL 2 (LAT 41 11 37N LONG 081 17 24W)					
24...	1600	100	180	360	--
DEC					
12...	1600	100	190	360	--
JAN 1995					
10...	---	100	200	360	0.070
MAR					
02...	1520	98	200	340	--
APR					
12...	1500	84	190	310	0.060
JUN					
08...	1260	75	170	250	0.060
JUL					
12...	1320	68	180	270	0.070
AUG					
30...	1460	85	200	330	--
411137081172403 PO-117 NR RAVENNA OH-LEVEL 3 (LAT 41 11 37N LONG 081 17 24W)					
OCT 1994					
24...	1740	110	200	420	--
DEC					
12...	1650	100	200	400	--
JAN 1995					
10...	--	99	210	--	--
MAR					
02...	1470	83	200	300	--
APR					
12...	920	92	81	170	0.040
JUN					
08...	1340	66	180	270	0.060
JUL					
12...	1430	70	190	310	0.070
AUG					
30...	1720	100	220	410	--
411137081172404 PO-117 NR RAVENNA OH-LEVEL 4 (LAT 41 11 37N LONG 081 17 24W)					
OCT					
24...	2030	120	250	490	--
DEC					
12...	1960	120	250	480	--
JAN 1995					
10...	1950	110	240	470	0.090
MAR					
02...	1430	79	200	290	--
APR					
12...	1020	64	130	180	0.040
JUN					
08...	1360	66	180	280	0.060
JUL					
12...	1560	72	210	350	0.080
AUG					
30...	2080	110	290	530	--
411137081172405 PO-117 NR RAVENNA OH-LEVEL 5 (LAT 41 11 37N LONG 081 17 24W)					
OCT 1994					
24...	1930	110	250	460	--
DEC					
12...	2310	120	300	580	--
JAN 1995					
10...	1650	100	120	360	0.070
MAR					
02...	1090	66	140	180	--
APR					
12...	1010	63	130	190	0.040
JUN					
08...	1520	84	200	320	0.060
JUL					
12...	1880	90	260	460	0.10
AUG					
30...	1990	110	290	480	--

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)
411137081172406 PO-117 NR RAVENNA OH-LEVEL 6 (LAT 41 11 37N LONG 081 17 24W)					
DEC 1994					
12...	1810	130	210	400	--
MAR 1995					
02...	686	57	70	83	--
APR					
12...	535	47	51	63	0.020
JUN					
08...	935	67	96	180	0.040
JUL					
12...	1380	98	150	310	0.070
AUG					
30...	1170	62	160	240	--
411138081172401 PO-115 NR RAVENNA OH-LEVEL 1 (LAT 41 11 38N LONG 081 17 24W)					
OCT 1994					
24...	1820	--	--	410	--
DEC					
12...	--	62	--	430	--
JAN 1995					
10...	809	35	240	260	--
MAR					
02...	1260	47	190	270	--
APR					
12...	--	56	--	--	--
JUN					
08...	2710	90	440	750	--
JUL					
12...	2250	59	380	580	--
AUG					
30...	1420	30	270	290	--
411138081172402 PO-115 NR RAVENNA OH-LEVEL 2 (LAT 41 11 38N LONG 081 17 24W)					
OCT 1994					
24...	1810	39	340	370	--
DEC					
12...	2050	71	340	470	--
JAN 1995					
10...	1340	36	230	260	--
MAR					
02...	1280	46	180	270	--
APR					
12...	--	57	260	420	--
JUN					
08...	2570	95	400	710	--
JUL					
12...	2210	65	350	570	--
AUG					
30...	1500	26	280	290	--
411138081172403 PO-115 NR RAVENNA OH-LEVEL 3 (LAT 41 11 38N LONG 081 17 24W)					
OCT 1994					
24...	1730	35	320	370	--
DEC					
12...	1970	72	330	440	--
JAN 1995					
10...	--	38	220	250	--
MAR					
02...	1130	49	170	240	--
APR					
12...	1700	88	--	--	--
JUN					
08...	2340	84	360	650	--
JUL					
12...	2140	60	350	540	--
AUG					
30...	1220	23	250	250	--

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)
411138081172404 PO-115 NR RAVENNA OH-LEVEL 4 (LAT 41 11 38N LONG 081 17 24W)					
OCT 1994					
24...	1680	39	310	350	--
DEC					
12...	1980	72	330	440	--
JAN 1995					
10...	1190	44	200	230	--
MAR					
02...	1120	49	170	240	--
APR					
12...	1460	58	220	350	--
JUN					
08...	2270	90	350	610	--
JUL					
12...	1950	66	300	510	--
AUG					
30...	1190	25	230	230	--
411138081172405 PO-115 NR RAVENNA OH-LEVEL 5 (LAT 41 11 38N LONG 081 17 24W)					
OCT 1994					
24...	1620	31	300	330	--
DEC					
12...	1930	72	310	430	--
JAN 1995					
10...	1130	40	190	220	--
MAR					
02...	1080	--	--	230	--
APR					
12...	--	23	--	--	--
JUN					
08...	1870	88	270	480	--
JUL					
12...	1710	64	250	420	--
AUG					
30...	1110	92	200	230	--
411138081172406 PO-115 NR RAVENNA OH-LEVEL 6 (LAT 41 11 38N LONG 081 17 24W)					
JUN 1995					
08...	1180	--	--	260	--
413546083480901 LU-28 NR HOLLAND OH-LEVEL 1 (LAT 41 35 46N LONG 083 48 09W)					
OCT 1994					
27...	187	25	1.5	2.1	--
DEC					
09...	451	72	11	15	--
JAN 1995					
17...	466	73	10	18	--
MAR					
09...	467	77	11	18	--
APR					
11...	685	87	32	89	--
JUN					
01...	483	75	11	26	--
JUL					
07...	480	71	11	24	--
SEP					
01...	534	84	9.8	47	--
413546083480902 LU-28 NR HOLLAND OH-LEVEL 2 (LAT 41 35 46N LONG 083 48 09W)					
OCT 1994					
27...	766	92	43	120	--
DEC					
09...	690	86	35	98	--
JAN 1995					
17...	673	85	34	94	--
MAR					
09...	647	85	28	84	--
APR					
11...	842	77	59	130	--
JUN					
01...	655	98	19	90	--
JUL					
07...	620	91	17	73	--
SEP					
01...	574	82	18	67	--

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)
413546083480903 LU-28 NR HOLLAND OH-LEVEL 3 (LAT 41 35 46N LONG 083 48 09W)					
OCT 1994					
27...	725	77	51	110	--
DEC					
09...	643	77	41	85	--
JAN 1995					
17...	706	87	38	110	--
MAR					
09...	707	90	29	100	--
APR					
11...	800	61	78	100	--
JUN					
01...	749	98	29	120	--
JUL					
07...	676	96	31	96	--
SEP					
01...	632	73	41	90	--
413546083480904 LU-28 NR HOLLAND OH-LEVEL 4 (LAT 41 35 46N LONG 083 48 09W)					
OCT 1994					
27...	685	42	90	74	--
DEC					
09...	717	37	100	100	--
JAN 1995					
17...	1120	60	140	270	--
MAR					
09...	1650	86	210	390	--
APR					
11...	803	80	50	69	--
JUN					
01...	1140	54	160	240	--
JUL					
07...	853	41	120	150	--
SEP					
01...	914	35	150	190	--
413546083480905 LU-28 NR HOLLAND OH-LEVEL 5 (LAT 41 35 46N LONG 083 48 09W)					
OCT 1994					
27...	731	48	87	70	--
DEC					
09...	675	42	88	94	--
JAN 1995					
17...	813	71	62	120	--
MAR					
09...	1500	92	160	320	--
APR					
11...	673	81	26	17	--
JUN					
01...	450	58	15	33	--
JUL					
07...	596	52	27	68	--
SEP					
01...	614	64	27	60	--
413547083481001 LU-26 NR HOLLAND OH-LEVEL 1 (LAT 41 35 47N LONG 083 48 10W)					
OCT 1994					
27...	1020	160	49	200	--
DEC					
09...	1090	170	12	230	--
JAN 1995					
17...	957	140	17	180	0.10
MAR					
09...	759	110	20	110	--
APR					
11...	669	99	19	83	0.030
JUN					
01...	597	92	20	66	0.040
JUL					
07...	609	88	18	62	0.12
SEP					
01...	538	87	17	58	--

**EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW
UNCONSOLIDATED AQUIFERS IN OHIO**

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL (00940)	BROMIDE DIS- SOLVED (MG/L) AS BR (71870)
413547083481002 LU-26 NR HOLLAND OH-LEVEL 2 (LAT 41 35 47N LONG 083 48 10W)					
OCT 27...	774	110	12	140	--
DEC 09...	684	100	7.8	100	--
JAN 1995 17...	847	99	35	160	0.050
MAR 09...	1120	140	39	250	--
APR 11...	611	75	32	78	0.030
MAY 04...	500	--	--	--	--
JUN 01...	532	69	18	63	0.030
JUL 07...	635	95	15	93	0.090
SEP 01...	639	91	14	110	--
413547083481003 LU-26 NR HOLLAND OH-LEVEL 3 (LAT 41 35 47N LONG 083 48 10W)					
OCT 1994 27...	1620	110	150	430	--
DEC 09...	1180	110	69	280	--
JAN 1995 17...	2630	140	350	710	0.12
MAR 09...	1040	47	150	230	--
APR 11...	490	25	70	52	<0.010
JUN 01...	537	40	54	87	0.030
JUL 07...	379	33	34	24	0.040
SEP 01...	301	23	33	10	--
413547083481004 LU-26 NR HOLLAND OH-LEVEL 4 (LAT 41 35 47N LONG 083 48 10W)					
OCT 27...	1840	80	250	520	--
DEC 09...	2260	140	230	620	--
JAN 1995 17...	1930	68	270	490	0.090
MAR 09...	824	18	140	150	--
APR 11...	411	5.8	85	21	<0.010
JUN 01...	307	4.6	65	7.5	0.010
JUL 07...	295	3.5	60	8.4	0.040
SEP 01...	367	4.4	71	48	--
413547083481005 LU-26 NR HOLLAND OH-LEVEL 5 (LAT 41 35 47N LONG 083 48 10W)					
OCT 1994 27...	1410	44	230	300	--
DEC 09...	1570	57	230	380	--
JAN 1995 17...	2090	72	320	580	0.11
MAR 09...	1640	68	240	350	--
APR 11...	434	11	83	24	0.020
MAY 04...	1330	--	--	--	--
JUN 01...	1060	30	180	180	0.060
JUL 07...	768	16	140	120	0.090
SEP 01...	504	9.2	93	58	--

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM (90095)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)
413547083481006 LU-26 NR HOLLAND OH-LEVEL 6 (LAT 41 35 47N LONG 083 48 10W)					
APR 1995					
11...	207	19	7.5	16	0.020
JUN					
01...	216	20	8.3	19	0.020
JUL					
07...	215	21	9.6	13	0.050
SEP					
01...	253	23	8.9	32	--
413547083481101 LU-27 NR HOLLAND OH-LEVEL 1 (LAT 41 35 47N LONG 083 48 11W)					
OCT 1994					
27...	594	96	14	63	--
DEC					
09...	615	89	17	73	--
JAN 1995					
17...	598	90	17	66	--
MAR					
09...	596	93	11	63	--
APR					
11...	475	73	15	22	--
JUN					
01...	631	100	9.5	71	--
JUL					
07...	704	99	22	98	--
SEP					
01...	598	99	14	67	--
413547083481102 LU-27 NR HOLLAND OH-LEVEL 2 (LAT 41 35 47N LONG 083 48 11W)					
OCT 1994					
27...	758	93	41	130	--
DEC					
09...	685	62	58	110	--
JAN 1995					
17...	624	70	27	88	--
MAR					
09...	621	68	30	90	--
APR					
11...	748	89	39	120	--
JUN					
01...	1040	120	18	230	--
JUL					
07...	1160	110	80	250	--
SEP					
01...	946	110	53	200	--
413547083481103 LU-27 NR HOLLAND OH-LEVEL 3 (LAT 41 35 47N LONG 083 48 11W)					
OCT 1994					
27...	1200	95	110	280	--
DEC					
09...	1420	75	170	340	--
JAN 1995					
17...	790	56	83	160	--
MAR					
09...	787	36	110	150	--
APR					
11...	733	100	23	120	--
JUN					
01...	825	52	110	140	--
JUL					
07...	1150	63	140	250	--
SEP					
01...	1360	88	140	340	--
413547083481104 LU-27 NR HOLLAND OH-LEVEL 4 (LAT 41 35 47N LONG 083 48 11W)					
OCT 1994					
27...	999	100	51	130	--
DEC					
09...	984	85	69	110	--
JAN 1995					
17...	967	--	--	170	--
MAR					
09...	781	72	57	87	--
APR					
11...	1500	74	200	340	--
JUN					
01...	668	88	15	19	--
JUL					
07...	926	78	83	120	--
SEP					
01...	1200	78	140	260	--

**EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW
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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)
413547083481105 LU-27 NR HOLLAND OH-LEVEL 5 (LAT 41 35 47N LONG 083 48 11W)					
APR 1995					
11...	1060	70	110	210	--
JUN					
01...	613	80	19	12	--
JUL					
07...	--	--	--	11	--
SEP					
01...	789	110	6.1	14	--
413547083481201 LU-25 NR HOLLAND OH-LEVEL 1 (LAT 41 35 47N LONG 083 48 12W)					
OCT 1994					
27...	677	110	7.8	94	--
DEC					
09...	767	120	7.7	120	--
JAN 1995					
17...	756	120	9.1	120	--
MAR					
09...	669	110	10	87	--
APR					
11...	891	91	85	150	--
JUN					
01...	615	99	14	66	--
JUL					
07...	580	90	10	61	--
SEP					
01...	572	--	--	58	--
413547083481202 LU-25 NR HOLLAND OH-LEVEL 2 (LAT 41 35 47N LONG 083 48 12W)					
OCT 1994					
27...	691	100	7.3	110	--
DEC					
09...	871	120	25	160	--
JAN 1995					
17...	850	110	28	150	--
MAR					
09...	704	110	12	93	--
APR					
11...	1300	68	170	250	--
JUN					
01...	623	92	17	77	--
JUL					
07...	531	76	20	62	--
SEP					
01...	518	76	11	--	--
413547083481203 LU-25 NR HOLLAND OH-LEVEL 3 (LAT 41 35 47N LONG 083 48 12W)					
OCT 1994					
27...	639	86	8.9	100	--
DEC					
09...	987	95	71	210	--
JAN 1995					
17...	1080	96	73	250	--
MAR					
09...	1510	160	69	380	--
APR					
11...	1330	90	140	280	--
JUN					
01...	755	43	98	120	--
JUL					
07...	541	26	70	63	--
SEP					
01...	374	35	32	37	--
413547083481204 LU-25 NR HOLLAND OH-LEVEL 4 (LAT 41 35 47N LONG 083 48 12W)					
OCT 1994					
27...	604	75	20	100	--
DEC					
09...	983	91	68	210	--
JAN 1995					
17...	792	91	67	210	--
MAR					
09...	1590	150	99	410	--
APR					
11...	1430	76	190	300	--
JUN					
01...	1210	42	200	220	--
JUL					
07...	686	22	120	85	--
SEP					
01...	413	10	74	32	--

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL (00940)	BROMIDE DIS- SOLVED (MG/L) AS BR (71870)
413547083481205 LU-25 NR HOLLAND OH-LEVEL 5 (LAT 41 35 47N LONG 083 48 12W)					
OCT 1994					
27...	722	33	2.1	150	--
JAN 1995					
17...	454	--	--	93	--
MAR					
09...	1490	--	--	340	--
APR					
11...	1380	59	210	280	--
JUN					
01...	575	23	74	95	--
SEP					
01...	730	16	120	120	--
413547083481301 LU-22 NR HOLLAND OH-LEVEL 1 (LAT 41 35 47N LONG 083 48 13W)					
OCT 1994					
27...	709	96	21	100	--
DEC					
09...	571	93	9.0	57	--
JAN 1995					
17...	589	94	8.2	58	--
MAR					
09...	604	100	7.3	62	--
APR					
11...	627	97	7.3	68	--
JUN					
01...	612	110	7.2	64	--
JUL					
07...	615	100	7.1	68	--
SEP					
01...	696	110	8.8	110	--
413547083481302 LU-22 NR HOLLAND OH-LEVEL 2 (LAT 41 35 47N LONG 083 48 13W)					
OCT 1994					
27...	632	92	17	85	--
DEC					
09...	611	84	22	82	--
JAN 1995					
17...	567	92	7.7	57	--
MAR					
09...	549	86	9.9	52	--
APR					
11...	1790	56	250	460	--
JUN					
01...	563	92	11	55	--
JUL					
07...	535	96	6.3	51	--
SEP					
01...	608	98	6.4	89	--
413547083481303 LU-22 NR HOLLAND OH-LEVEL 3 (LAT 41 35 47N LONG 083 48 13W)					
OCT 1994					
27...	572	59	56	85	--
DEC					
09...	636	83	23	99	--
JAN 1995					
17...	636	90	10	94	--
MAR					
09...	453	63	16	36	--
APR					
11...	498	75	10	40	--
JUN					
01...	487	--	--	44	--
JUL					
07...	443	62	18	36	--
SEP					
01...	944	120	37	220	--

**EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW
UNCONSOLIDATED AQUIFERS IN OHIO**

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)
413547083481304 LU-22 NR HOLLAND OH-LEVEL 4 (LAT 41 35 47N LONG 083 48 13W)					
OCT 1994					
27...	1660	86	210	420	--
DEC					
09...	792	64	76	170	--
JAN 1995					
17...	620	88	11	87	--
MAR					
09...	426	43	34	32	--
APR					
11...	485	61	26	43	--
JUN					
01...	697	28	110	120	--
JUL					
07...	1230	27	210	290	--
SEP					
01...	1490	78	180	380	--
413547083481305 LU-22 NR HOLLAND OH-LEVEL 5 (LAT 41 35 47N LONG 083 48 13W)					
OCT 1994					
27...	1300	34	210	270	--
DEC					
09...	624	58	100	83	--
JAN 1995					
17...	781	20	140	130	--
MAR					
09...	311	--	--	44	--
APR					
11...	595	44	64	80	--
JUN					
01...	994	25	170	190	--
JUL					
07...	--	--	--	96	--
SEP					
01...	765	--	--	170	--
413549083481501 LU-21 NR HOLLAND OH-LEVEL 1 (LAT 41 35 49N LONG 083 48 15W)					
OCT 1994					
27...	775	130	8.2	100	--
DEC					
09...	771	130	7.9	100	--
JAN 1995					
17...	780	130	8.2	100	--
MAR					
09...	790	130	8.3	110	--
APR					
11...	827	130	8.9	110	--
JUN					
01...	806	130	8.1	110	--
JUL					
07...	845	150	7.4	120	--
SEP					
01...	792	150	8.2	110	--
413549083481502 LU-21 NR HOLLAND OH-LEVEL 2 (LAT 41 35 49N LONG 083 48 15W)					
OCT 1994					
27...	459	79	3.9	43	--
DEC					
09...	539	--	--	58	--
JAN 1995					
17...	413	65	4.3	32	--
MAR					
09...	520	82	4.8	54	--
APR					
11...	459	62	4.2	38	--
JUN					
01...	362	59	3.1	24	--
JUL					
07...	--	52	2.8	28	--
SEP					
01...	408	62	3.6	36	--

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)
413549083481503 LU-21 NR HOLLAND OH-LEVEL 3 (LAT 41 35 49N LONG 083 48 15W)					
OCT 1994					
27...	295	45	9.0	14	--
DEC					
09...	334	48	2.3	21	--
JAN 1995					
17...	293	42	3.3	13	--
MAR					
09...	267	40	2.6	8.3	--
APR					
11...	265	40	3.2	9.3	--
JUN					
01...	254	38	2.3	7.6	--
JUL					
07...	211	27	4.1	9.1	--
SEP					
01...	280	39	2.5	12	--
413549083481504 LU-21 NR HOLLAND OH-LEVEL 4 (LAT 41 35 49N LONG 083 48 15W)					
OCT 1994					
27...	244	34	1.1	7.0	--
DEC					
09...	280	39	1.2	13	--
JAN 1995					
17...	197	30	3.0	5.5	--
MAR					
09...	203	28	2.1	4.0	--
APR					
11...	197	25	3.8	5.7	--
JUN					
01...	148	16	3.8	8.1	--
JUL					
07...	164	18	3.8	8.3	--
SEP					
01...	225	31	3.0	7.0	--
413549083481505 LU-21 NR HOLLAND OH-LEVEL 5 (LAT 41 35 49N LONG 083 48 15W)					
OCT 1994					
27...	144	15	3.3	5.7	--
DEC					
09...	260	36	1.2	11	--
JAN 1995					
17...	146	16	3.9	6.9	--
MAR					
09...	179	22	2.6	5.2	--
JUN					
01...	153	17	3.6	7.4	--
JUL					
07...	148	14	4.5	9.0	--
SEP					
01...	144	16	3.8	7.8	--
415305080414201 AB-139 NR KINGSVILLE OH-LEVEL 1 (LAT 41 53 05N LONG 080 41 42W)					
NOV 1994					
03...	476	73	7.3	7.9	--
DEC					
13...	463	69	5.1	4.7	--
JAN 1995					
25...	429	64	13	4.1	--
MAR					
08...	490	73	6.9	3.8	--
APR					
13...	436	71	6.8	8.5	--
JUN					
07...	539	71	14	48	--
JUL					
13...	565	59	34	47	--
AUG					
31...	433	60	16	17	--

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL (00940)	BROMIDE DIS- SOLVED (MG/L) AS BR (71870)
415305080414202 AB-139 NR KINGSVILLE OH-LEVEL 2 (LAT 41 53 05N LONG 080 41 42W)					
NOV 1994					
03...	478	76	7.4	7.8	--
DEC					
13...	442	70	4.9	4.5	--
JAN 1995					
25...	392	52	13	4.0	--
MAR					
08...	490	74	6.3	3.6	--
APR					
13...	505	85	6.9	5.0	--
JUN					
07...	524	68	14	45	--
JUL					
13...	580	64	29	51	--
AUG					
31...	440	59	15	17	--
415305080414203 AB-139 NR KINGSVILLE OH-LEVEL 3 (LAT 41 53 05N LONG 080 41 42W)					
NOV 1994					
03...	453	75	7.5	7.7	--
DEC					
13...	448	66	4.8	4.6	--
JAN 1995					
25...	423	--	--	5.0	--
MAR					
08...	460	72	6.0	4.0	--
APR					
13...	538	87	6.7	4.3	--
JUN					
07...	519	68	14	40	--
JUL					
13...	569	65	27	46	--
AUG					
31...	445	58	15	17	--
415305080414204 AB-139 NR KINGSVILLE OH-LEVEL 4 (LAT 41 53 05N LONG 080 41 42W)					
NOV 1994					
03...	486	--	--	7.4	--
DEC					
13...	432	63	5.5	4.7	--
JAN 1995					
25...	341	49	11	4.3	--
MAR					
08...	463	69	5.8	3.4	--
APR					
13...	509	88	6.6	4.1	--
JUN					
07...	486	--	--	17	--
JUL					
13...	292	--	--	18	--
AUG					
31...	273	--	--	8.0	--
415305080414205 AB-139 NR KINGSVILLE OH-LEVEL 5 (LAT 41 53 05N LONG 080 41 42W)					
DEC					
13...	372	--	--	6.1	--
JAN 1995					
25...	336	--	--	4.9	--
MAR					
08...	--	--	--	5.8	--
APR					
13...	538	--	--	4.5	--
JUN					
07...	553	--	--	--	--
JUL					
13...	--	--	--	3.0	--

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL (00940)	BROMIDE DIS- SOLVED (MG/L) AS BR (71870)
415307080414201 AB-133 NR KINGSVILLE OH-LEVEL 1 (LAT 41 53 07N LONG 080 41 42W)					
NOV 1994					
03...	2020	130	250	480	--
DEC					
13...	1740	140	150	390	--
JAN 1995					
25...	891	38	140	180	--
MAR					
08...	1660	130	380	360	--
APR					
13...	1600	130	140	330	--
JUN					
07...	1450	120	130	300	--
JUL					
13...	2200	96	290	510	--
AUG					
31...	2760	140	400	720	--
415307080414202 AB-133 NR KINGSVILLE OH-LEVEL 2 (LAT 41 53 07N LONG 080 41 42W)					
NOV 1994					
03...	2070	72	340	500	--
DEC					
13...	2150	140	250	530	--
JAN 1995					
25...	753	31	130	150	--
MAR					
08...	2580	110	390	640	--
APR					
13...	2170	120	290	530	--
JUN					
07...	1610	--	--	390	--
JUL					
13...	2100	85	290	500	--
AUG					
31...	2520	130	360	650	--
415307080414203 AB-133 NR KINGSVILLE OH-LEVEL 3 (LAT 41 53 07N LONG 080 41 42W)					
NOV 1994					
03...	1970	65	330	470	--
DEC					
13...	2220	120	320	540	--
JAN 1995					
25...	985	36	140	200	--
MAR					
08...	2640	110	380	650	--
APR					
13...	2500	110	360	630	--
JUN					
07...	1690	50	270	400	--
JUL					
13...	1990	69	290	470	--
AUG					
31...	881	63	330	500	--
415307080414204 AB-133 NR KINGSVILLE OH-LEVEL 4 (LAT 41 53 07N LONG 080 41 42W)					
NOV 1994					
03...	1940	59	320	470	--
DEC					
13...	2220	110	320	560	--
JAN 1995					
25...	748	24	120	150	--
MAR					
08...	2490	110	350	620	--
APR					
13...	2360	110	350	610	--
JUN					
07...	1660	--	--	400	--
JUL					
13...	1980	73	290	470	--
AUG					
31...	1990	60	340	490	--

**EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW
UNCONSOLIDATED AQUIFERS IN OHIO**

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)
415307080414205 AB-133 NR KINGSVILLE OH-LEVEL 5 (LAT 41 53 07N LONG 080 41 42W)					
NOV 1994					
03...	1670	54	300	440	--
DEC					
13...	2190	110	330	530	--
JAN 1995					
25...	936	29	130	190	--
MAR					
08...	2350	96	350	580	--
APR					
13...	2360	110	340	600	--
JUN					
07...	1440	--	--	340	--
JUL					
13...	1860	55	280	440	--
AUG					
31...	1880	61	310	480	--
415307080414206 AB-133 NR KINGSVILLE OH-LEVEL 6 (LAT 41 53 07N LONG 080 41 42W)					
NOV 1994					
03...	1690	--	--	410	--
JAN 1995					
25...	778	28	120	150	--
MAR					
08...	2420	100	350	610	--
APR					
13...	2360	110	340	590	--
JUN					
07...	1200	--	--	270	--
415308080414301 AB-135 NR KINGSVILLE OH-LEVEL 1 (LAT 41 53 08N LONG 080 41 43W)					
NOV 1994					
03...	1130	100	97	230	--
DEC					
13...	1150	100	93	220	--
JAN 1995					
25...	1060	98	78	190	--
MAR					
08...	1030	94	74	180	--
APR					
13...	1040	100	71	180	--
JUN					
07...	997	110	65	170	--
JUL					
13...	980	83	66	170	--
AUG					
31...	965	100	70	180	--
415308080414302 AB-135 NR KINGSVILLE OH-LEVEL 2 (LAT 41 53 08N LONG 080 41 43W)					
NOV 1994					
03...	1130	100	98	240	--
DEC					
13...	1110	95	87	210	--
JAN 1995					
25...	997	92	73	180	--
MAR					
08...	983	90	70	170	--
APR					
13...	989	95	71	190	--
JUN					
07...	972	96	63	170	--
JUL					
13...	946	79	64	150	--
AUG					
31...	991	98	76	190	--

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L) AS CA) (00915)	SODIUM, DIS- SOLVED (MG/L) AS NA) (00930)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL) (00940)	BROMIDE DIS- SOLVED (MG/L) AS BR) (71870)
415308080414303 AB-135 NR KINGSVILLE OH-LEVEL 3 (LAT 41 53 08N LONG 080 41 43W)					
NOV 1994					
03...	1140	100	97	240	--
DEC					
13...	1040	95	85	210	--
JAN 1995					
25...	983	92	75	180	--
MAR					
08...	941	89	68	170	--
APR					
13...	1010	94	68	180	--
JUN					
07...	975	98	62	170	--
JUL					
13...	907	75	63	160	--
AUG					
31...	997	98	77	190	--
415308080414304 AB-135 NR KINGSVILLE OH-LEVEL 4 (LAT 41 53 08N LONG 080 41 43W)					
NOV 1994					
03...	1140	100	94	230	--
DEC					
13...	1050	94	82	190	--
JAN 1995					
25...	983	89	74	180	--
MAR					
08...	938	88	68	160	--
APR					
13...	992	93	67	190	--
JUN					
07...	967	--	64	170	--
JUL					
13...	912	75	64	160	--
AUG					
31...	968	96	73	190	--
415308080414305 AB-135 NR KINGSVILLE OH-LEVEL 5 (LAT 41 53 08N LONG 080 41 43W)					
NOV 1994					
03...	1130	100	90	220	--
DEC					
13...	1090	97	87	210	--
JAN 1995					
25...	986	91	72	180	--
MAR					
08...	1020	94	73	190	--
APR					
13...	1020	93	71	180	--
JUN					
07...	975	97	66	170	--
JUL					
13...	919	77	66	150	--
AUG					
31...	886	93	61	160	--
415308080414306 AB-135 NR KINGSVILLE OH-LEVEL 6 (LAT 41 53 08N LONG 080 41 43W)					
NOV 1994					
03...	1060	100	93	220	--
DEC					
13...	1080	99	90	220	--
JAN 1995					
25...	1030	92	77	200	--
MAR					
08...	1040	94	81	190	--
APR					
13...	999	96	73	190	--
JUN					
07...	957	97	67	170	--
JUL					
13...	934	81	67	160	--
AUG					
31...	914	--	--	160	--

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL (00940)	BROMIDE DIS- SOLVED (MG/L) AS BR (71870)
415309080414301 AB-136 NR KINGSVILLE OH-LEVEL 1 (LAT 41 53 09N LONG 080 41 43W)					
NOV 1994					
03...	1620	81	230	390	--
DEC					
13...	1690	79	240	390	--
JAN 1995					
25...	1600	83	210	380	--
MAR					
08...	1340	75	170	300	--
APR					
13...	1570	85	220	390	--
JUN					
07...	1390	66	190	300	--
JUL					
13...	1530	69	220	330	--
AUG					
31...	1660	80	240	390	--
415309080414302 AB-136 NR KINGSVILLE OH-LEVEL 2 (LAT 41 53 09N LONG 080 41 43W)					
NOV 1994					
03...	1630	81	230	380	--
DEC					
13...	1690	81	240	390	--
JAN 1995					
25...	1600	80	210	370	--
MAR					
08...	1400	78	180	300	--
APR					
13...	1620	80	220	380	--
JUN					
07...	1390	70	190	300	--
JUL					
13...	1510	66	220	330	--
AUG					
31...	1660	--	--	380	--
415309080414303 AB-136 NR KINGSVILLE OH-LEVEL 3 (LAT 41 53 09N LONG 080 41 43W)					
NOV 1994					
03...	1610	82	230	390	--
DEC					
13...	1690	80	230	400	--
JAN 1995					
25...	1670	81	230	400	--
MAR					
08...	1370	77	180	310	--
APR					
13...	1590	80	220	370	--
JUN					
07...	1380	64	190	290	--
JUL					
13...	1500	68	220	330	--
AUG					
31...	1580	80	240	380	--
415309080414304 AB-136 NR KINGSVILLE OH-LEVEL 4 (LAT 41 53 09N LONG 080 41 43W)					
NOV 1994					
03...	1640	82	230	380	--
DEC					
13...	1670	81	230	390	--
JAN 1995					
25...	1640	80	220	390	--
MAR					
08...	1330	76	170	300	--
APR					
13...	1590	81	220	370	--
JUN					
07...	1350	66	180	290	--
JUL					
13...	1500	67	210	320	--
AUG					
31...	1610	77	220	380	--

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED AS CA (00915)	SODIUM, DIS- SOLVED AS NA (00930)	CHLO- RIDE, DIS- SOLVED AS CL (00940)	BROMIDE DIS- SOLVED AS BR (71870)
415309080414305 AB-136 NR KINGSVILLE OH-LEVEL 5 (LAT 41 53 09N LONG 080 41 43W)					
NOV 1994					
03...	1580	77	230	380	--
DEC					
13...	1670	80	230	390	--
JAN 1995					
25...	1640	77	220	390	--
MAR					
08...	1600	79	210	380	--
JUN					
07...	1330	66	180	280	--
JUL					
13...	1450	66	200	310	--
AUG					
31...	1640	78	230	360	--
415309080414306 AB-136 NR KINGSVILLE OH-LEVEL 6 (LAT 41 53 09N LONG 080 41 43W)					
NOV 1994					
03...	1430	85	200	340	--
DEC					
13...	1450	77	190	310	--
JAN 1995					
25...	1510	86	200	340	--
MAR					
08...	1390	79	170	310	--
APR					
13...	1280	76	170	280	--
JUN					
07...	1240	82	150	260	--
JUL					
13...	1160	61	150	220	--
AUG					
31...	1260	77	170	277	--
415309080414401 AB-138 NR KINGSVILLE OH-LEVEL 1 (LAT 41 53 09N LONG 080 41 44W)					
NOV 1994					
03...	622	62	37	83	--
DEC					
13...	701	68	56	110	--
JAN 1995					
25...	675	61	59	110	0.040
MAR					
08...	622	57	46	92	--
APR					
13...	654	57	54	100	0.030
JUN					
07...	576	48	48	80	--
JUL					
13...	539	48	35	60	0.030
AUG					
31...	549	61	36	70	--
415309080414402 AB-138 NR KINGSVILLE OH-LEVEL 2 (LAT 41 53 09N LONG 080 41 44W)					
OCT 1994					
13...	605	--	--	--	--
NOV					
03...	605	63	36	79	--
DEC					
13...	664	68	42	92	--
JAN 1995					
25...	660	58	46	99	0.030
MAR					
08...	562	62	34	71	--
APR					
13...	--	60	48	86	<0.010
27...	592	--	--	--	--
JUN					
07...	555	51	36	68	--
JUL					
13...	542	53	30	57	0.030
AUG					
31...	556	66	27	64	--

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L) AS CA) (00915)	SODIUM, DIS- SOLVED (MG/L) AS NA) (00930)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL) (00940)	BROMIDE DIS- SOLVED (MG/L) AS BR) (71870)
415309080414403 AB-138 NR KINGSVILLE OH-LEVEL 3 (LAT 41 53 09N LONG 080 41 44W)					
NOV 1994					
03...	586	67	27	62	--
DEC					
13...	628	65	35	85	--
JAN 1995					
25...	685	59	50	100	0.040
MAR					
08...	548	57	27	61	--
APR					
13...	544	60	32	68	0.030
JUN					
07...	539	52	33	63	--
JUL					
13...	533	53	26	55	0.030
AUG					
31...	559	68	26	63	--
415309080414404 AB-138 NR KINGSVILLE OH-LEVEL 4 (LAT 41 53 09N LONG 080 41 44W)					
OCT 1994					
13...	573	--	--	--	--
NOV					
03...	716	110	37	65	--
DEC					
13...	684	63	50	110	--
JAN 1995					
25...	817	60	80	160	0.040
MAR					
08...	612	55	47	87	--
APR					
13...	520	49	38	74	0.030
JUN					
07...	565	48	45	76	--
JUL					
13...	488	50	28	50	0.030
AUG					
31...	439	60	22	50	--
415309080414405 AB-138 NR KINGSVILLE OH-LEVEL 5 (LAT 41 53 09N LONG 080 41 44W)					
NOV 1994					
03...	583	57	34	84	--
DEC					
13...	653	62	50	100	--
MAR 1995					
08...	584	51	46	86	--
APR					
13...	533	47	39	73	0.030
JUN					
07...	470	48	38	59	--
JUL					
13...	498	44	37	61	0.040
AUG					
31...	445	47	33	55	--
415309080414406 AB-138 NR KINGSVILLE OH-LEVEL 6 (LAT 41 53 09N LONG 080 41 44W)					
NOV 1994					
03...	717	62	58	120	--
DEC					
13...	812	67	79	150	--
JAN 1995					
25...	771	58	74	140	0.040
MAR					
08...	719	58	73	130	--
APR					
13...	741	55	72	130	0.040
JUN					
07...	609	46	57	93	--
JUL					
13...	560	42	55	76	0.040
AUG					
31...	577	50	51	89	--

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L) AS CA) (00915)	SODIUM, DIS- SOLVED (MG/L) AS NA) (00930)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL) (00940)	BROMIDE DIS- SOLVED (MG/L) AS BR) (71870)
415310080414401 AB-137 NR KINGSVILLE OH-LEVEL 1 (LAT 41 53 10N LONG 080 41 44W)					
NOV 1994					
03...	773	98	45	85	--
DEC					
13...	801	96	45	91	--
JAN 1995					
25...	763	87	49	96	--
MAR					
08...	746	81	49	90	--
APR					
13...	731	80	49	89	--
JUN					
07...	740	84	44	95	--
JUL					
13...	745	74	42	97	--
AUG					
31...	744	84	45	100	--
415310080414402 AB-137 NR KINGSVILLE OH-LEVEL 2 (LAT 41 53 10N LONG 080 41 44W)					
NOV 1994					
03...	767	95	46	92	--
DEC					
13...	807	96	44	89	--
JAN 1995					
25...	730	76	48	90	--
MAR					
08...	739	77	50	87	--
APR					
13...	739	73	49	87	--
JUN					
07...	758	87	43	100	--
JUL					
13...	743	74	44	100	--
AUG					
31...	744	81	46	100	--
415310080414403 AB-137 NR KINGSVILLE OH-LEVEL 3 (LAT 41 53 10N LONG 080 41 44W)					
NOV 1994					
03...	693	94	47	99	--
DEC					
13...	786	98	45	88	--
JAN 1995					
25...	682	--	--	88	--
MAR					
08...	746	77	49	86	--
APR					
13...	722	74	50	86	--
JUN					
07...	760	87	43	99	--
JUL					
13...	740	76	44	100	--
AUG					
31...	748	85	47	100	--
415310080414404 AB-137 NR KINGSVILLE OH-LEVEL 4 (LAT 41 53 10N LONG 080 41 44W)					
NOV 1994					
03...	767	98	47	94	--
DEC					
13...	804	94	46	87	--
JAN 1995					
25...	728	--	--	91	--
MAR					
08...	729	76	49	84	--
APR					
13...	722	77	50	85	--
JUN					
07...	732	84	42	93	--
JUL					
13...	762	78	43	100	--
AUG					
31...	734	82	45	97	--

**EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW
UNCONSOLIDATED AQUIFERS IN OHIO**

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 THROUGH SEPTEMBER 1995--Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)
415310080414405 AB-137 NR KINGSVILLE OH-LEVEL 5 (LAT 41 53 10N LONG 080 41 44W)					
NOV 1994					
03...	771	98	46	88	--
DEC					
13...	803	91	47	90	--
JAN 1995					
25...	726	73	50	91	--
MAR					
08...	747	75	51	84	--
APR					
13...	723	74	51	83	--
JUN					
07...	719	84	42	92	--
JUL					
13...	756	83	43	110	--
AUG					
31...	752	83	45	98	--
415310080414406 AB-137 NR KINGSVILLE OH-LEVEL 6 (LAT 41 53 10N LONG 080 41 44W)					
NOV 1994					
03...	762	94	47	90	--
DEC					
13...	815	94	48	85	--
JAN 1995					
25...	744	75	50	94	--
MAR					
08...	744	78	50	81	--
APR					
13...	722	77	50	79	--
JUN					
07...	700	84	42	84	--
JUL					
13...	722	80	42	100	--
AUG					
31...	741	82	45	100	--

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

SAMPLE ANALYSES FROM ONE WELL AT EACH SITE
WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STAND- ARDS) UNITS (00403)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	CYANIDE DIS- SOLVED (MG/L) AS CN (00723)
393541083000802 PK-50 NR CIRCLEVILLE OH-LEVEL 2 (LAT 39 35 41N LONG 083 00 08W)				
OCT 1994				
11....	728	7.1	429	<0.01
JAN 1995				
18....	690	7.2	399	<0.01
MAY				
03....	704	7.2	427	<0.01
393541083000804 PK-50 NR CIRCLEVILLE OH-LEVEL 4 (LAT 39 35 41N LONG 083 00 08W)				
OCT 1994				
11....	726	7.1	428	<0.01
JAN 1995				
18....	688	7.2	407	<0.01
MAY				
03....	726	7.2	446	<0.01
400947083480001 CH-44 NR URBANA OH-LEVEL 1 (LAT 40 09 47N LONG 083 48 00W)				
MAY 1995				
10....	976	7.1	595	<0.01
400947083480002 CH-44 NR URBANA OH-LEVEL 2 (LAT 40 09 47N LONG 083 48 00W)				
OCT 1994				
07....	924	7.0	558	<0.01
JAN 1995				
20....	914	7.1	545	<0.01
400947083480003 CH-44 NR URBANA OH-LEVEL 3 (LAT 40 09 47N LONG 083 48 00W)				
MAY 1995				
10....	933	7.1	572	<0.01
400947083480004 CH-44 NR URBANA OH-LEVEL 4 (LAT 40 09 47N LONG 083 48 00W)				
OCT 1994				
07....	1020	7.2	642	<0.01
JAN 1995				
20....	1180	7.2	702	<0.01
403635082152603 AS-49 NR LOUDONVILLE OH-LEVEL 3 (LAT 40 36 35N LONG 082 15 26W)				
OCT 1994				
14....	811	7.1	469	<0.01
MAY 1995				
12....	800	7.2	463	<0.01
403635082152604 AS-49 NR LOUDONVILLE OH-LEVEL 4 (LAT 40 36 35N LONG 082 15 26W)				
JAN 1995				
24....	595	7.8	339	<0.01
MAY				
12....	836	7.1	474	<0.01
403635082152606 AS-49 NR LOUDONVILLE OH-LEVEL 6 (LAT 40 36 35N LONG 082 15 26W)				
JAN 1995				
24....	598	7.7	352	<0.01

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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SAMPLE ANALYSES FROM ONE WELL AT EACH SITE--Continued
WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	CYANIDE DIS- SOLVED (MG/L) AS CN (00723)
403923082325701 R-18 NR LEXINGTON OH-LEVEL 1 (LAT 40 39 23N LONG 082 32 57W)				
JAN 1995 27...	468	7.2	274	<0.01
403923082325702 R-18 NR LEXINGTON OH-LEVEL 2 (LAT 40 39 23N LONG 082 32 57W)				
OCT 1994 12...	466	6.9	261	<0.01
JAN 1995 27...	462	7.2	268	<0.01
APR 26...	483	7.1	291	<0.01
403923082325703 R-18 NR LEXINGTON OH-LEVEL 3 (LAT 40 39 23N LONG 082 32 57W)				
OCT 1994 12...	535	7.3	301	<0.01
403923082325705 R-18 NR LEXINGTON OH-LEVEL 5 (LAT 40 39 23N LONG 082 32 57W)				
APR 1995 26...	697	7.3	424	<0.01
411137081172402 PO-117 NR RAVENNA OH-LEVEL 2 (LAT 41 11 37N LONG 081 17 24W)				
OCT 1994 13...	1540	7.2	850	<0.01
JAN 1995 10...	---	7.3	879	<0.01
APR 28...	1170	7.1	651	<0.01
411137081172404 PO-117 NR RAVENNA OH-LEVEL 4 (LAT 41 11 37N LONG 081 17 24W)				
OCT 1994 13...	1990	7.3	1110	<0.01
APR 1995 28...	1140	7.4	634	<0.01
411137081172405 PO-117 NR RAVENNA OH-LEVEL 5 (LAT 41 11 37N LONG 081 17 24W)				
JAN 1995 10...	1650	7.6	938	<0.01
413547083481001 LU-26 NR HOLLAND OH-LEVEL 1 (LAT 41 35 47N LONG 083 48 10W)				
JAN 1995 17...	957	7.7	583	<0.01
413547083481002 LU-26 NR HOLLAND OH-LEVEL 2 (LAT 41 35 47N LONG 083 48 10W)				
OCT 1994 06...	862	7.4	528	<0.01
MAY 1995 04...	500	7.5	302	<0.01
413547083481003 LU-26 NR HOLLAND OH-LEVEL 3 (LAT 41 35 47N LONG 083 48 10W)				
JAN 1995 17...	2630	7.9	1480	<0.01

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

SAMPLE ANALYSES FROM ONE WELL AT EACH SITE--Continued
WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	CYANIDE DIS- SOLVED (MG/L AS CN) (00723)
413547083481004 LU-26 NR HOLLAND OH-LEVEL 4 (LAT 41 35 47N LONG 083 48 10W)				
OCT 1994 06...	1760	7.8	978	<0.01
413547083481005 LU-26 NR HOLLAND OH-LEVEL 5 (LAT 41 35 47N LONG 083 48 10W)				
MAY 1995 04...	1330	7.7	726	<0.01
415309080414402 AB-138 NR KINGSVILLE OH-LEVEL 2 (LAT 41 53 09N LONG 080 41 44W)				
OCT 1994 13...	605	7.5	332	<0.01
JAN 1995 25...	660	7.6	363	<0.01
APR 27...	592	7.6	365	<0.01
415309080414403 AB-138 NR KINGSVILLE OH-LEVEL 3 (LAT 41 53 09N LONG 080 41 44W)				
JAN 1995 25...	685	7.7	376	<0.01
415309080414404 AB-138 NR KINGSVILLE OH-LEVEL 4 (LAT 41 53 09N LONG 080 41 44W)				
OCT 1994 13...	573	7.5	320	<0.01
APR 1995 27...	588	7.6	356	<0.01

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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ADDITIONAL SAMPLE ANALYSES WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

COMPREHENSIVE SAMPLE ANALYSIS FROM 2 WELLS PER SITE, 1 UPGRADIENT (UG), 1 DOWNGRADIENT (DG) OF HIGHWAY

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY, CARBON- ATE IT-FLD (MG/L CAC03) (99430)
393541083001200 PK-53 NR CIRCLEVILLE OH (LAT 39 35 41N LONG 083 00 12W) (UG)											
MAY 1995 03...	10.66	662	671	7.1	7.2	11.5	360	94	30	2.4	0.90 261
393541083001000 PK-47 NR CIRCLEVILLE OH (LAT 39 35 41N LONG 083 00 10W) (DG)											
OCT 1994 11...	11.08	645	679	--	7.1	14.5	370	95	31	2.4	2.2 --
MAY 1995 03...	11.01	649	692	7.6	7.2	12.0	370	97	32	3.0	2.0 285
DATE	ALKA- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (00955)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
393541083001200 PK-53 NR CIRCLEVILLE OH (LAT 39 35 41N LONG 083 00 12W) (UG)											
MAY 1995 03...	250	52	14	0.20	0.040	8.5	414	387	0.010	6.50	<0.015
393541083001000 PK-47 NR CIRCLEVILLE OH (LAT 39 35 41N LONG 083 00 10W) (DG)											
OCT 1994 11...	292	63	13	0.10	0.030	9.1	400	393	0.020	0.490	<0.015
MAY 1995 03...	274	67	15	0.20	0.040	8.5	410	398	0.020	0.300	0.020
DATE	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTH- DIS- SOLVED (MG/L AS P) (00671)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)
393541083001200 PK-53 NR CIRCLEVILLE OH (LAT 39 35 41N LONG 083 00 12W) (UG)											
MAY 1995 03...	<0.20	<0.010	<0.010	<1	66	<0.5	30	<1.0	<1	<3	<10
393541083001000 PK-47 NR CIRCLEVILLE OH (LAT 39 35 41N LONG 083 00 10W) (DG)											
OCT 1994 11...	<0.20	0.010	<0.010	<1	78	<0.5	30	<1.0	<1	<3	<10
MAY 1995 03...	<0.20	<0.010	0.010	<1	77	<0.5	30	<1.0	<1	<3	<10
DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	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)	CYANIDE DIS- SOLVED (MG/L AS CN) (00723)
393541083001200 PK-53 NR CIRCLEVILLE OH (LAT 39 35 41N LONG 083 00 12W) (UG)											
MAY 1995 03...	<3	<10	<4	5	<0.1	<10	82	<6	<3	2.3	<0.01
393541083001000 PK-47 NR CIRCLEVILLE OH (LAT 39 35 41N LONG 083 00 10W) (DG)											
OCT 1994 11...	6	20	<4	22	0.1	<10	130	<6	25	0.7	<0.01
MAY 1995 03...	6	<10	<4	19	<0.1	10	140	<6	3	2.9	<0.01

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

ADDITIONAL SAMPLE ANALYSES--Continued
WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

COMPREHENSIVE SAMPLE ANALYSIS FROM 2 WELLS PER SITE, 1 UPGRADIENT (UG), 1 DOWNGRADIENT (DG) OF HIGHWAY

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (90095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY, CARBON- ATE IT-FLD (MG/L CAC03) (99430)
395901083440700 CL-136 NR SPRINGFIELD OH (LAT 39 59 01N LONG 083 44 07W) (UG)												
MAY 1995 05...	20.11	692	728	7.3	7.1	11.0	380	91	37	5.6	0.90	355
395859083440600 CL-137 NR SPRINGFIELD OH (LAT 39 58 59N LONG 083 44 06W) (DG)												
OCT 1994 18...	21.00	810	824	7.0	6.9	14.5	440	110	40	5.7	1.8	360
MAY 1995 05...	20.24	832	865	7.2	7.1	12.0	440	110	41	12	2.4	357
DATE	ALKA- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	
395901083440700 CL-136 NR SPRINGFIELD OH (LAT 39 59 01N LONG 083 44 07W) (UG)												
MAY 1995 05...	314	37	9.0	0.30	0.060	14	416	418	<0.010	2.20	<0.015	
395859083440600 CL-137 NR SPRINGFIELD OH (LAT 39 58 59N LONG 083 44 06W) (DG)												
OCT 1994 18...	376	34	14	0.20	0.090	14	475	489	<0.010	9.70	<0.015	
MAY 1995 05...	375	33	29	0.20	0.070	13	515	496	<0.010	9.20	<0.015	
DATE	NITRO- GEN,AM- MONIA + ORGANIC DIS- (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	
395901083440700 CL-136 NR SPRINGFIELD OH (LAT 39 59 01N LONG 083 44 07W) (UG)												
MAY 1995 05...	<0.20	0.010	<0.010	<1	110	<0.5	10	<1.0	<1	4	<10	
395859083440600 CL-137 NR SPRINGFIELD OH (LAT 39 58 59N LONG 083 44 06W) (DG)												
OCT 1994 18...	<0.20	0.020	<0.010	<1	130	<0.5	20	<1.0	<1	<3	<10	
MAY 1995 05...	<0.20	<0.010	<0.010	<1	140	<0.5	<10	1.0	<1	<3	<10	
DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	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)	CYANIDE DIS- SOLVED (MG/L AS CN) (00723)	
395901083440700 CL-136 NR SPRINGFIELD OH (LAT 39 59 01N LONG 083 44 07W) (UG)												
MAY 1995 05...	<3	<10	<4	120	<0.1	10	590	<6	<3	0.6	<0.01	
395859083440600 CL-137 NR SPRINGFIELD OH (LAT 39 58 59N LONG 083 44 06W) (DG)												
OCT 1994 18...	4	<10	<4	<1	<0.1	<10	200	<6	4	0.6	<0.01	
MAY 1995 05...	<3	<10	<4	<1	<0.1	<10	200	<6	3	0.6	<0.01	

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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ADDITIONAL SAMPLE ANALYSES--Continued WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

COMPREHENSIVE SAMPLE ANALYSIS FROM 2 WELLS PER SITE, 1 UPGRADIENT (UG), 1 DOWNGRADIENT (DG) OF HIGHWAY

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY, CARBON- ATE IT-FLD (MG/L CAC03) (99430)
400952083480800 CH-40 NR URBANA OH (LAT 40 09 52N LONG 083 48 08W) (UG)												
MAY 1995 15....	7.14	764	700	7.1	6.7	11.0	290	80	23	22	0.60	--
400948083480200 CH-41 NR URBANA OH (LAT 40 09 48N LONG 083 48 02W) (DG)												
OCT 1994 07....	10.48	871	909	8.0	7.6	14.0	430	110	37	37	4.2	--
MAY 1995 15....	9.17	821	741	7.0	6.9	11.0	260	73	20	46	0.70	--
DATE	ALKA- LITY LAB (MG/L AS CAC03) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	
400952083480800 CH-40 NR URBANA OH (LAT 40 09 52N LONG 083 48 08W) (UG)												
MAY 1995 15....	250	8.1	67	0.10	0.050	5.8	374	359	<0.010	0.090	0.700	
400948083480200 CH-41 NR URBANA OH (LAT 40 09 48N LONG 083 48 02W) (DG)												
OCT 1994 07....	126	99	27	0.30	0.40	9.9	562	416	0.020	3.40	<0.015	
MAY 1995 15....	217	44	77	0.20	0.050	8.7	413	401	<0.010	0.160	0.040	
DATE	NITRO- GEN,AM- MONIA + ORGANIC DIS- (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO- PHOS- PHATE DIS- SOLVED (MG/L AS P) (00671)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	
400952083480800 CH-40 NR URBANA OH (LAT 40 09 52N LONG 083 48 08W) (UG)												
MAY 1995 15....	0.90	<0.010	<0.010	<1	71	<0.5	10	<1.0	<1	<3	<10	
400948083480200 CH-41 NR URBANA OH (LAT 40 09 48N LONG 083 48 02W) (DG)												
OCT 1994 07....	<0.20	<0.010	<0.010	1	85	<0.5	90	<1.0	<1	<3	<10	
MAY 1995 15....	<0.20	0.010	<0.010	<1	52	<0.5	40	<1.0	<1	<3	<10	
DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	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)	CYANIDE DIS- SOLVED (MG/L AS CN) (00723)	
400952083480800 CH-40 NR URBANA OH (LAT 40 09 52N LONG 083 48 08W) (UG)												
MAY 1995 15....	4	<10	<4	1200	<0.1	10	180	<6	5	3.0	<0.01	
400948083480200 CH-41 NR URBANA OH (LAT 40 09 48N LONG 083 48 02W) (DG)												
OCT 1994 07....	84	<10	<4	130	<0.1	<10	390	<6	10	1.0	<0.01	
MAY 1995 15....	<3	<10	<4	490	<0.1	<10	170	<6	<3	1.1	<0.01	

COMPREHENSIVE SAMPLE ANALYSIS FROM 2 WELLS PER SITE, 1 UPGRADIENT (UG), 1 DOWNGRAIDENT (DG) OF HIGHWAY

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (90095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY, CARBON- ATE IT-FLD (MG/L - CAC03) (99430)
403635082152700 AS-43 NR LOUDONVILLE OH (LAT 40 36 35N LONG 082 15 27W) (UG)												
MAY 1995 12...	3.05	675	804	6.8	7.1	10.5	440	110	39	6.2	2.3	--
403635082152500 AS-44 NR LOUDONVILLE OH (LAT 40 36 35N LONG 082 15 25W) (DG)												
OCT 1994 14... MAY 1995 12...	6.59 3.78	551 720	572 864	6.8 7.2	6.7 7.0	16.5 10.0	240 440	63 110	19 39	24 14	1.3 4.1	206 --
DATE	ALKA- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	
403635082152700 AS-43 NR LOUDONVILLE OH (LAT 40 36 35N LONG 082 15 27W) (UG)												
MAY 1995 12...	302	110	21	0.40	0.040	11	501	483	<0.010	0.130	0.020	
403635082152500 AS-44 NR LOUDONVILLE OH (LAT 40 36 35N LONG 082 15 25W) (DG)												
OCT 1994 14... MAY 1995 12...	219 327	53 100	21 31	0.20 0.30	0.070 0.040	12 8.8	327 521	327 505	<0.010 <0.010	<0.050 0.220	0.080 0.030	
DATE	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS ORTHOPHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHOPHOS- PHORUS DIS- SOLVED (MG/L AS P) (00671)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	
403635082152700 AS-43 NR LOUDONVILLE OH (LAT 40 36 35N LONG 082 15 27W) (UG)												
MAY 1995 12...	<0.20	<0.010	<0.010	<1	92	<0.5	20	<1.0	<1	<3	<10	
403635082152500 AS-44 NR LOUDONVILLE OH (LAT 40 36 35N LONG 082 15 25W) (DG)												
OCT 1994 14... MAY 1995 12...	<0.20 <0.20	0.010 <0.010	0.010 <0.010	<1 <1	63 80	<0.5 <0.5	60 30	<1.0 1.0	<1 <1	<3 3	<10 <10	
DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	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)	CYANIDE DIS- SOLVED (MG/L AS CN) (00723)	
403635082152700 AS-43 NR LOUDONVILLE OH (LAT 40 36 35N LONG 082 15 27W) (UG)												
MAY 1995 12...	170	<10	6	120	<0.1	<10	590	<6	<3	0.6	<0.01	
403635082152500 AS-44 NR LOUDONVILLE OH (LAT 40 36 35N LONG 082 15 25W) (DG)												
OCT 1994 14... MAY 1995 12...	<3 74	<10 <10	4 4	1800 130	<0.1 <0.1	<10 20	140 400	<6 <6	14 <3	0.7 0.9	<0.01 <0.01	

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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ADDITIONAL SAMPLE ANALYSES--Continued WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

COMPREHENSIVE SAMPLE ANALYSIS FROM 2 WELLS PER SITE, 1 UPGRADIENT (UG), 1 DOWNGRADIENT (DG) OF HIGHWAY

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (90095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY, CARBON- ATE IT-FLD (MG/L CAC03) (99430)
403923082325400 R-21 NR LEXINGTON OH (LAT 40 39 23N LONG 082 32 54W) (UG)												
APR 1995 26...	9.64	198	212	6.5	7.2	11.0	94	27	6.4	1.9	1.1	66
403923082325600 R-15 NR LEXINGTON OH (LAT 40 39 23N LONG 082 32 56W) (DG)												
OCT 1994 12...	17.38	316	317	6.9	6.7	--	110	30	9.1	16	1.1	78
APR 1995 26...	10.71	409	436	6.4	6.7	12.5	110	29	8.8	38	1.2	58
DATE	ALKA- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	
403923082325400 R-21 NR LEXINGTON OH (LAT 40 39 23N LONG 082 32 54W) (UG)												
APR 1995 26...	73	21	2.3	<0.10	0.050	8.6	126	116	0.020	1.40	<0.015	
403923082325600 R-15 NR LEXINGTON OH (LAT 40 39 23N LONG 082 32 56W) (DG)												
OCT 1994 12...	78	23	30	<0.10	0.030	9.5	189	175	<0.010	2.20	0.020	
APR 1995 26...	58	26	72	<0.10	0.030	8.1	237	225	0.010	1.30	<0.015	
DATE	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	
403923082325400 R-21 NR LEXINGTON OH (LAT 40 39 23N LONG 082 32 54W) (UG)												
APR 1995 26...	<0.20	<0.010	<0.010	1	18	<0.5	20	<1.0	<1	<3	<10	
403923082325600 R-15 NR LEXINGTON OH (LAT 40 39 23N LONG 082 32 56W) (DG)												
OCT 1994 12...	<0.20	0.010	<0.010	1	22	<0.5	10	2.0	<1	<3	<10	
APR 1995 26...	<0.20	<0.010	<0.010	<1	26	<0.5	20	<1.0	<1	<3	<10	
DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	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)	CYANIDE DIS- SOLVED (MG/L AS CN) (00723)	
403923082325400 R-21 NR LEXINGTON OH (LAT 40 39 23N LONG 082 32 54W) (UG)												
APR 1995 26...	72	<10	<4	160	<0.1	<10	42	<6	<3	0.6	<0.01	
403923082325600 R-15 NR LEXINGTON OH (LAT 40 39 23N LONG 082 32 56W) (DG)												
OCT 1994 12...	4	<10	<4	9	<0.1	<10	58	<6	10	1.0	<0.01	
APR 1995 26...	5	10	<4	<1	<0.1	<10	57	<6	4	42	<0.01	

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

ADDITIONAL SAMPLE ANALYSES--Continued
WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

COMPREHENSIVE SAMPLE ANALYSIS FROM 2 WELLS PER SITE, 1 UPGRADIENT (UG), 1 DOWNGRADIENT (DG) OF HIGHWAY

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD (00400)	PH WATER WHOLE LAB (STAND- ARD (00403)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKAL- LITY, CARBON- ATE IT-FLD (MG/L CACO3) (99430)
411137081172100 PO-114 NR RAVENNA OH (LAT 41 11 37N LONG 081 17 21W) (UG)											
APR 1995											
28...	1.81	246	274	7.2	7.4	8.0	110	40	3.5	8.2	0.80 87
411138081172400 PO-115 NR RAVENNA OH (LAT 41 11 38N LONG 081 17 24W) (DG)											
OCT 1994											
13...	8.79	1880	1960	7.1	7.0	14.5	150	51	5.6	330	2.0 214
APR 1995											
28...	6.88	1930	2090	6.7	7.0	7.5	210	71	8.3	320	2.9 112
DATE	ALKAL- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
411137081172100 PO-114 NR RAVENNA OH (LAT 41 11 37N LONG 081 17 21W) (UG)											
APR 1995											
28...	94	31	5.5	<0.10	<0.010	4.8	157	149	0.020	0.370	<0.015
411138081172400 PO-115 NR RAVENNA OH (LAT 41 11 38N LONG 081 17 24W) (DG)											
OCT 1994											
13...	223	58	440	0.30	0.070	6.1	1040	1030	<0.010	0.800	<0.015
APR 1995											
28...	117	32	550	<0.10	0.10	4.2	1160	1060	0.020	0.720	<0.015
DATE	NITRO- GEN,AM- MONIA + ORGANIC DIS- (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)
411137081172100 PO-114 NR RAVENNA OH (LAT 41 11 37N LONG 081 17 21W) (UG)											
APR 1995											
28...	<0.20	<0.010	<0.010	<1	15	<0.5	30	<1.0	<1	<3	<10
411138081172400 PO-115 NR RAVENNA OH (LAT 41 11 38N LONG 081 17 24W) (DG)											
OCT 1994											
13...	<0.20	0.040	0.020	<1	38	<0.5	80	<1.0	<1	<3	<10
APR 1995											
28...	<0.20	0.040	0.020	<1	50	<2	40	<3.0	<1	<9	<30
DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	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)	CYANIDE DIS- SOLVED (MG/L AS CN) (00723)
411137081172100 PO-114 NR RAVENNA OH (LAT 41 11 37N LONG 081 17 21W) (UG)											
APR 1995											
28...	10	10	<4	2	<0.1	<10	74	<6	<3	1.4	<0.01
411138081172400 PO-115 NR RAVENNA OH (LAT 41 11 38N LONG 081 17 24W) (DG)											
OCT 1994											
13...	15	<10	<4	9	<0.1	<10	170	<6	12	3.0	0.02
APR 1995											
28...	<9	<30	<12	<3	0.1	<30	250	<18	<9	35	<0.01

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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ADDITIONAL SAMPLE ANALYSES--Continued WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

COMPREHENSIVE SAMPLE ANALYSIS FROM 2 WELLS PER SITE, 1 UPGRADIENT (UG), 1 DOWNGRADIENT (DG) OF HIGHWAY

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY, CARBON- ATE IT-FLD (MG/L CACO3) (99430)
413549083481500 LU-21 NR HOLLAND OH (LAT 41 35 49N LONG 083 48 15W) (UG)											
MAY 1995 04...	4.87	254	290	7.5	7.4	9.5	120	38	5.5	3.9	1.2 59
413547083481300 LU-22 NR HOLLAND OH (LAT 41 35 47N LONG 083 48 13W) (DG)											
OCT 1994 06...	7.44	1630	1680	--	7.0	16.0	290	92	15	220	4.3 --
MAY 1995 04...	5.37	599	592	7.7	7.5	10.5	110	36	4.4	80	1.8 98
DATE	ALKA- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
413549083481500 LU-21 NR HOLLAND OH (LAT 41 35 49N LONG 083 48 15W) (UG)											
MAY 1995 04...	64	34	19	<0.10	0.020	8.2	159	146	<0.010	0.090	0.040
413547083481300 LU-22 NR HOLLAND OH (LAT 41 35 47N LONG 083 48 13W) (DG)											
OCT 1994 06...	354	55	420	<0.10	0.70	9.3	914	1040	<0.010	1.80	0.050
MAY 1995 04...	101	40	94	0.10	0.050	7.3	338	330	0.010	1.40	0.050
DATE	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS ORTHOS- PHOS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHOS- PHOS DIS- SOLVED (MG/L AS P) (00671)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)
413549083481500 LU-21 NR HOLLAND OH (LAT 41 35 49N LONG 083 48 15W) (UG)											
MAY 1995 04...	<0.20	<0.010	0.010	1	35	<0.5	20	<1.0	<1	<3	<10
413547083481300 LU-22 NR HOLLAND OH (LAT 41 35 47N LONG 083 48 13W) (DG)											
OCT 1994 06...	0.20	0.010	0.010	2	80	<0.5	20	<1.0	<1	<3	<10
MAY 1995 04...	<0.20	0.030	0.030	2	35	<0.5	10	3.0	<1	<3	<10
DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	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)	CYANIDE DIS- SOLVED (MG/L AS CN) (00723)
413549083481500 LU-21 NR HOLLAND OH (LAT 41 35 49N LONG 083 48 15W) (UG)											
MAY 1995 04...	490	<10	<4	54	<0.1	<10	81	<6	<3	1.6	<0.01
413547083481300 LU-22 NR HOLLAND OH (LAT 41 35 47N LONG 083 48 13W) (DG)											
OCT 1994 06...	280	<10	<4	73	0.1	<10	580	<6	10	1.7	<0.01
MAY 1995 04...	380	20	<4	67	<0.1	10	120	<6	<3	2.0	<0.01

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

ADDITIONAL SAMPLE ANALYSES--Continued
WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

COMPREHENSIVE SAMPLE ANALYSIS FROM 2 WELLS PER SITE, 1 UPGRADIENT (UG), 1 DOWNGRADIENT (DG) OF HIGHWAY

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY, CARBON- ATE IT-FLD (MG/L CACO3) (99430)
415305080414200 AB-139 NR KINGSVILLE OH (LAT 41 53 05N LONG 080 41 42W) (UG)												
APR 1995 27...	8.73	447	502	7.2	7.3	13.0	230	73	12	9.6	0.80	--
415307080414200 AB-133 NR KINGSVILLE OH (LAT 41 53 07N LONG 080 41 42W) (DG)												
OCT 1994 13...	7.77	2300	2440	7.3	7.1	14.0	290	92	15	370	2.3	210
APR 1995 27...	5.99	1870	2070	7.0	7.2	10.5	260	80	15	310	1.8	164
DATE	ALKA- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	
415305080414200 AB-139 NR KINGSVILLE OH (LAT 41 53 05N LONG 080 41 42W) (UG)												
APR 1995 27...	128	91	14	0.20	0.030	10	305	302	0.010	0.090	<0.015	
415307080414200 AB-133 NR KINGSVILLE OH (LAT 41 53 07N LONG 080 41 42W) (DG)												
OCT 1994 13...	222	65	600	<0.10	0.13	8.6	1300	1290	0.010	0.330	0.030	
APR 1995 27...	173	47	520	<0.10	0.10	6.6	1110	1080	<0.010	0.190	<0.015	
DATE	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	
415305080414200 AB-139 NR KINGSVILLE OH (LAT 41 53 05N LONG 080 41 42W) (UG)												
APR 1995 27...	<0.20	<0.010	<0.010	1	28	<0.5	30	<1.0	<1	<3	<10	
415307080414200 AB-133 NR KINGSVILLE OH (LAT 41 53 07N LONG 080 41 42W) (DG)												
OCT 1994 13...	0.20	<0.010	<0.010	<1	94	<2	50	<3.0	<1	<9	<30	
APR 1995 27...	<0.20	<0.010	<0.010	<1	79	<2	30	<3.0	<1	<9	<30	
DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	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)	CYANIDE DIS- SOLVED (MG/L AS CN) (00723)	
415305080414200 AB-139 NR KINGSVILLE OH (LAT 41 53 05N LONG 080 41 42W) (UG)												
APR 1995 27...	4	20	<4	300	<0.1	<10	100	<6	<3	0.6	<0.01	
415307080414200 AB-133 NR KINGSVILLE OH (LAT 41 53 07N LONG 080 41 42W) (DG)												
OCT 1994 13...	11	<30	<12	16	0.4	<30	210	<18	<9	1.6	<0.01	
APR 1995 27...	<9	<30	<12	<3	0.2	<30	180	<18	<9	1.3	<0.01	

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The following table lists ground-water level measurements from wells located throughout the eight sites in the "Effects of Highway Deicing Chemicals" study area. The water level in these wells is measured periodically, however, they are not part of the routine water-quality network.

GROUND-WATER LEVELS

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
393540083001200	PK-46 NR CIRCLEVILLE OH	34.6	112OTSH	10-31-94	11.66	679.16
				12-08-94	12.16	
				01-18-95	11.84	
				03-07-95	11.59	
				04-19-95	11.31	
				05-24-95	10.43	
				06-27-95	10.33	
				08-29-95	11.20	
393541083000700	PK-44 NR CIRCLEVILLE OH	38	112OTSH	10-31-94	13.13	679.54
				12-08-94	13.58	
				01-18-95	13.33	
				03-07-95	12.95	
				04-19-95	12.69	
				06-27-95	11.80	
				08-29-95	12.76	
393541083000800	PK-50 NR CIRCLEVILLE OH	34.3	112OTSH	10-11-94	12.59	679.62
				10-31-94	12.87	
				12-08-94	13.34	
				01-18-95	13.09	
				03-07-95	12.74	
				04-19-95	12.49	
				05-03-95	12.54	
				05-24-95	11.61	
393541083000900	PK-49 NR CIRCLEVILLE OH	35.6	112OTSH	06-27-95	11.56	679.51
				08-29-95	12.47	
				10-31-94	12.56	
				12-08-94	13.01	
				01-18-95	12.74	
				03-07-95	12.43	
				04-19-95	12.16	
				05-24-95	11.24	
393541083001000	PK-47 NR CIRCLEVILLE OH	36.1	112OTSH	06-27-95	11.23	678.37
				08-29-95	12.17	
				10-11-94	11.08	
				10-31-94	11.52	
				12-08-94	11.95	
				01-18-95	11.57	
				03-07-95	11.26	
				04-19-95	10.96	
393541083001100	PK-48 NR CIRCLEVILLE OH	28.0	112OTSH	05-03-95	11.01	678.50
				05-24-95	10.21	
				06-27-95	10.09	
				08-29-95	11.01	
				10-31-94	11.72	
				12-08-94	12.20	
				01-18-95	11.94	
				03-07-95	11.62	
				04-19-95	11.34	
				05-24-95	10.44	
				06-27-95	10.42	
				08-29-95	11.32	

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

GROUND-WATER LEVELS—Continued

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
393541083001200	PK-53 NR CIRCLEVILLE OH	35.6	112OTSH	10-31-94	10.98	678.50
				12-08-94	11.47	
				01-18-95	11.15	
				03-07-95	10.94	
				04-19-95	10.60	
				05-03-95	10.66	
				05-24-95	9.72	
				06-27-95	9.64	
				08-29-95	10.51	
393542083000500	PK-52 NR CIRCLEVILLE OH	36.2	112OTSH	10-31-94	12.98	679.58
				12-08-94	13.43	
				01-18-95	13.70	
				03-07-95	12.82	
				04-19-95	12.55	
				05-24-95	11.66	
				08-29-95	12.55	
393542083000700	PK-51 NR CIRCLEVILLE OH	35.5	112OTSH	10-31-94	12.73	679.63
				12-08-94	13.19	
				01-18-95	12.92	
				03-07-95	12.62	
				04-19-95	12.33	
				05-24-95	11.38	
				06-27-95	11.42	
				08-29-95	12.37	
395854083440500	CL-132 NR SPRINGFIELD OH	27.3	112OTSH	10-26-94	12.76	1022.59
				01-20-95	13.49	
				03-10-95	13.27	
				04-10-95	12.72	
				05-25-95	10.43	
395858083440100	CL-133 NR SPRINGFIELD OH	22.3	112OTSH	10-26-94	14.27	1024.24
				01-20-95	15.03	
				03-10-95	14.82	
				04-10-95	14.27	
				05-25-95	11.99	
395859083440200	CL-141 NR SPRINGFIELD OH	37.5	112OTSH	10-26-94	20.73	1030.70
				12-08-94	21.58	
				01-20-95	21.48	
				03-10-95	21.29	
				04-10-95	20.74	
				05-25-95	18.23	
				06-28-95	18.64	
				08-24-95	18.79	
395859083440300	CL-143 NR SPRINGFIELD OH	40.0	112OTSH	10-26-94	19.51	1029.45
				12-08-94	20.37	
				01-20-95	20.27	
				03-10-95	22.05	
				04-10-95	19.50	
				05-25-95	17.23	
395859083440400	CL-142 NR SPRINGFIELD OH	35.9	112OTSH	10-26-94	20.04	1030.00
				12-08-94	20.89	
				01-20-95	20.79	
				03-10-95	20.58	
				04-10-95	20.04	
				05-25-95	17.75	

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GROUND-WATER LEVELS--Continued

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
395859083440500	CL-140 NR SPRINGFIELD OH	36.7	1120TSH	10-18-94	20.22	1030.49
				10-26-94	20.56	
				12-08-94	21.46	
				01-20-95	21.34	
				03-10-95	21.14	
				04-10-95	20.59	
				05-05-95	19.44	
				05-25-95	18.31	
				06-28-95	18.47	
				08-24-95	18.62	
395859083440600	CL-137 NR SPRINGFIELD OH	38.0	1120TSH	10-18-94	21.00	1031.34
				10-26-94	21.37	
				12-08-94	22.22	
				01-20-95	22.12	
				03-10-95	21.92	
				04-10-95	21.36	
				05-05-95	20.24	
				05-25-95	18.83	
				06-28-95	19.28	
				08-24-95	19.40	
395859083440700	CL-138 NR SPRINGFIELD OH	28.5	1120TSH	10-26-94	21.61	1031.61
				12-08-94	22.46	
				01-20-95	22.40	
				03-10-95	22.19	
				04-10-95	21.66	
				05-25-95	19.36	
				06-28-95	19.53	
				08-24-95	19.67	
395859083440800	CL-139 NR SPRINGFIELD OH	36.9	1120TSH	10-26-94	20.96	1031.33
				12-08-94	21.72	
				01-20-95	21.73	
				03-10-95	21.51	
				04-10-95	20.97	
				05-25-95	18.69	
				06-28-95	18.86	
				08-24-95	18.99	
395901083440600	CL-135 NR SPRINGFIELD OH	37.2	1120TSH	10-26-94	19.76	1031.89
				12-08-94	20.23	
				01-20-95	20.24	
				03-10-95	20.20	
				04-10-95	19.83	
				05-25-95	18.44	
				06-28-95	18.41	
				08-24-95	18.47	
395901083440700	CL-136 NR SPRINGFIELD OH	37.5	1120TSH	10-26-94	20.02	1032.08
				12-08-94	20.48	
				01-20-95	20.51	
				03-10-95	21.46	
				04-10-95	20.20	
				05-05-95	20.11	
				05-25-95	18.68	
				06-28-95	18.69	
				08-24-95	18.74	

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

GROUND-WATER LEVELS—Continued

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
400947083480000	CH-44 NR URBANA OH	31.0	112OTSH	10-07-94	9.95	1029.71
				10-26-94	10.36	
				12-08-94	10.39	
				01-20-95	10.00	
				03-10-95	9.05	
				04-10-95	9.56	
				05-10-95	8.91	
				05-25-95	7.90	
				06-28-95	8.73	
				08-24-95	7.99	
400948083475800	CH-46 NR URBANA OH	34.8	112OTSH	10-26-94	9.19	1028.56
				12-08-94	9.25	
				01-20-95	8.94	
				03-10-95	7.88	
				04-10-95	8.48	
				05-25-95	6.85	
				06-28-95	7.74	
				08-24-95	7.01	
400948083480000	CH-45 NR URBANA OH	34.4	112OTSH	10-26-94	9.84	1029.26
				12-08-94	9.89	
				01-20-95	9.58	
				03-10-95	8.50	
				04-10-95	9.11	
				05-25-95	7.49	
				06-28-95	8.37	
				08-24-95	7.63	
400948083480100	CH-43 NR URBANA OH	32.2	112OTSH	10-26-94	10.12	1029.48
				12-08-94	10.17	
				01-20-95	9.86	
				03-10-95	8.80	
				04-10-95	9.39	
				05-25-95	7.73	
				06-28-95	8.61	
				08-24-95	7.87	
400948083480200	CH-41 NR URBANA OH	34.3	112OTSH	10-07-94	10.48	1029.98
				10-26-94	10.55	
				12-08-94	10.59	
				01-20-95	10.30	
				03-10-95	9.20	
				04-10-95	9.78	
				05-10-95	9.23	
				05-15-95	9.17	
				05-25-95	8.15	
				06-28-95	9.04	
				08-24-95	8.27	
400949083480100	CH-42 NR URBANA OH	28.7	112OTSH	10-26-94	10.51	1029.89
				12-08-94	10.56	
				01-20-95	10.26	
				03-10-95	9.17	
				04-10-95	9.77	
				05-25-95	8.11	
				06-28-95	9.00	
				08-24-95	8.23	
400950083480600	CH-38 NR URBANA OH	19.2	112OTSH	10-26-94	7.89	1027.30
				12-08-94	7.94	
				01-20-95	7.62	
				03-10-95	6.46	
				05-25-95	5.34	
				06-28-95	6.28	

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GROUND-WATER LEVELS--Continued

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
400952083480800	CH-40 NR URBANA OH	34.7	112OTSH	10-26-94	8.54	1028.95
				12-08-94	8.62	
				01-20-95	8.36	
				03-10-95	7.27	
				05-15-95	7.14	
				05-25-95	6.11	
				06-28-95	6.85	
403631082152100	AS-9 NR LOUDONVILLE OH	12.3	111ALVM	11-02-94	7.30	928.36
				12-06-94	7.00	
				03-07-95	4.14	
				04-14-95	3.50	
				06-06-95	2.41	
403631082152200	AS-6 NR LOUDONVILLE OH	19.9	111ALVM	11-02-94	6.80	928.27
				12-06-94	6.45	
				03-07-95	3.79	
				04-14-95	3.13	
				06-06-95	2.40	
403633082152400	AS-10 NR LOUDONVILLE OH	12.7	111ALVM	11-02-94	7.26	931.00
				12-06-94	6.95	
				03-07-95	4.07	
				04-14-95	3.34	
403634082152300	AS-7 NR LOUDONVILLE OH	23.1	111ALVM	11-01-94	7.11	930.97
				12-06-94	6.78	
				01-24-95	2.74	
				03-07-95	3.99	
				04-14-95	3.27	
403635082152100	AS-48 NR LOUDONVILLE OH	16.0	111ALVM	11-02-94	7.26	931.00
				12-06-94	7.53	
				01-24-95	2.69	
				03-07-95	4.04	
				04-14-95	3.35	
				06-06-95	2.29	
				07-14-95	5.49	
403635082152200	AS-47 NR LOUDONVILLE OH	11.2	111ALVM	11-02-94	7.94	930.99
				12-06-94	7.67	
				01-24-95	2.35	
				04-14-95	3.03	
				06-06-95	1.96	
				07-14-95	5.25	
403635082152300	AS-45 NR LOUDONVILLE OH	15.7	111ALVM	11-02-94	6.93	931.74
				12-06-94	6.71	
				01-24-95	2.37	
				03-07-95	3.65	
				04-14-95	2.91	
				06-06-95	1.80	
				07-14-95	4.27	
403635082152400	AS-46 NR LOUDONVILLE OH	11.6	111ALVM	11-02-94	7.39	931.19
				12-06-94	7.19	
				01-24-95	2.00	
				03-07-95	3.49	
				04-14-95	2.67	
				06-06-95	1.55	
				07-14-95	4.58	

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

GROUND-WATER LEVELS--Continued

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
403635082152500	AS-44 NR LOUDONVILLE OH	18.0	1111ALVM	10-14-94	6.59	931.50
				11-02-94	6.66	
				12-06-94	6.38	
				01-24-95	2.17	
				03-07-95	3.45	
				04-14-95	2.72	
				05-12-95	3.78	
				06-06-95	1.61	
				07-14-95	4.13	
403635082152600	AS-49 NR LOUDONVILLE OH	11.0	1111ALVM	10-14-94	6.98	931.23
				11-02-94	7.11	
				12-06-94	6.90	
				01-24-95	2.53	
				03-07-95	3.98	
				04-14-95	3.21	
				05-12-95	4.42	
				06-06-95	2.06	
				07-14-95	5.09	
403635082152700	AS-43 NR LOUDONVILLE OH	16.2	1111ALVM	11-02-94	6.35	933.40
				12-06-94	4.97	
				01-24-95	2.84	
				03-07-95	2.85	
				04-14-95	2.78	
				05-12-95	3.05	
				06-06-95	2.53	
				07-14-95	3.50	
403635082152800	AS-8 NR LOUDONVILLE OH	16.2	1111ALVM	11-02-94	6.27	933.24
				12-06-94	4.72	
				01-24-95	2.64	
				03-07-95	2.66	
				04-14-95	2.55	
				06-06-95	2.25	
				07-14-95	3.50	
403636082152600	AS-5 NR LOUDONVILLE OH	12.7	1111ALVM	11-02-94	5.18	931.60
				12-06-94	4.42	
				01-24-95	1.14	
				03-07-95	1.46	
				04-14-95	1.04	
403922082325900	R-19 NR LEXINGTON OH	30.0	1120TSH	11-01-94	14.11	1164.90
				12-05-94	13.94	
				01-27-95	12.40	
				03-01-95	12.26	
				04-18-95	11.53	
				05-31-95	10.59	
				07-06-95	11.26	
				08-25-95	11.58	
403922082330000	R-20 NR LEXINGTON OH	34.2	1120TSH	11-01-94	10.08	1161.26
				12-05-94	10.83	
				01-27-95	9.16	
				03-01-95	8.98	
				04-18-95	8.41	
				05-31-95	7.39	
				07-06-95	7.93	
				08-25-95	8.25	

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UNCONSOLIDATED AQUIFERS IN OHIO**

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GROUND-WATER LEVELS—Continued

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
403923082325400	R-21 NR LEXINGTON OH	25.0	112OTSH	11-01-94	19.43	1185.19
				12-05-94	20.56	
				01-27-95	14.52	
				03-01-95	12.61	
				04-18-95	10.01	
				04-26-95	9.64	
				05-31-95	7.98	
				07-06-95	13.22	
				08-25-95	15.05	
403923082325500	R-16 NR LEXINGTON OH	18.9	112OTSH	11-01-94	17.52	1168.37
				12-05-94	17.59	
				01-27-95	15.27	
				03-01-95	14.47	
				04-18-95	12.41	
				05-31-95	11.97	
				07-06-95	13.44	
				08-25-95	14.27	
403923082325600	R-15 NR LEXINGTON OH	23.0	112OTSH	10-12-94	17.38	1168.39
				11-01-94	18.23	
				12-05-94	18.18	
				01-27-95	11.45	
				03-01-95	11.88	
				04-18-95	10.70	
				04-26-95	10.71	
				05-11-95	12.26	
				05-31-95	10.90	
403923082325700	R-18 NR LEXINGTON OH	23.0	112OTSH	07-06-95	11.40	1167.10
				08-25-95	13.29	
				10-12-94	15.76	
				11-01-94	15.93	
				12-05-94	15.99	
				01-27-95	14.23	
				03-01-95	14.09	
				04-18-95	13.22	
				05-31-95	12.19	
403923082325800	R-12 NR LEXINGTON OH	22.0	112OTSH	07-06-95	13.01	1167.02
				08-25-95	13.41	
				11-01-94	16.14	
				12-05-94	16.19	
				01-27-95	14.41	
				03-01-95	14.27	
				04-18-95	13.38	
				05-31-95	12.35	
				07-06-95	13.16	
403923082325900	R-17 NR LEXINGTON OH	23.2	112OTSH	08-25-95	13.56	1166.89
				11-01-94	15.56	
				12-05-94	15.65	
				01-27-95	13.83	
				03-01-95	13.70	
				04-18-95	12.80	
				05-31-95	11.76	
				07-06-95	12.64	
				08-25-95	13.07	

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

GROUND-WATER LEVELS—Continued

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
403923082330000	R-13 NR LEXINGTON OH	30	112OTSH	11-01-94	11.86	1162.27
				12-05-94	11.89	
				01-27-95	10.29	
				03-01-95	10.13	
				04-18-95	9.59	
				05-31-95	8.79	
				07-06-95	9.25	
				08-25-95	9.56	
403925082325600	R-14 NR LEXINGTON OH	30	112OTSH	11-01-94	27.79	1185.01
				12-05-94	28.23	
				03-01-95	15.42	
				04-18-95	12.85	
				05-31-95	10.82	
				07-06-95	16.03	
				08-25-95	17.87	
411135081172600	PO-113 NR RAVENNA OH	9.2	112OTSH	10-24-94	1.96	1061.12
				12-12-94	0.70	
				01-10-95	1.26	
				03-02-95	0.48	
				04-12-95	0.15	
411136081172400	PO-122 NR RAVENNA OH	24	112OTSH	11-02-94	4.51	1065.22
				12-12-94	4.39	
				01-10-95	4.70	
				03-02-95	3.56	
				04-12-95	3.45	
				06-08-95	3.88	
				07-12-95	4.66	
				08-30-95	5.12	
411136081172500	PO-119 NR RAVENNA OH	11.0	112OTSH	10-24-94	6.13	1064.91
				12-12-94	4.42	
				01-10-95	4.90	
				04-12-95	3.08	
				06-08-95	3.60	
				07-12-95	4.66	
				08-30-95	5.16	
411136081172600	PO-120 NR RAVENNA OH	10.4	112OTSH	10-24-94	5.01	1063.89
				12-12-94	3.40	
				01-10-95	3.67	
				03-02-95	2.89	
				04-12-95	2.63	
				06-08-95	2.97	
				07-12-95	3.67	
				08-30-95	4.21	
411137081172100	PO-114 NR RAVENNA OH	12.3	112OTSH	10-24-94	4.74	1064.40
				12-12-94	3.85	
				01-10-95	3.49	
				03-02-95	1.89	
				04-12-95	1.60	
				04-28-95	1.81	
				06-08-95	2.13	
				07-12-95	3.18	
				08-30-95	3.90	

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UNCONSOLIDATED AQUIFERS IN OHIO**

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GROUND-WATER LEVELS--Continued

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
411137081172300	PO-118 NR RAVENNA OH	19.0	112OTSH	10-24-94	7.44	1067.14
				12-12-94	6.29	
				01-10-95	6.60	
				03-02-95	5.41	
				04-12-95	5.29	
				06-08-95	5.74	
				07-12-95	6.55	
				08-30-95	7.01	
411137081172400	PO-117 NR RAVENNA OH	18.5	112OTSH	10-13-94	7.09	1066.86
				10-24-94	7.79	
				12-12-94	5.98	
				01-10-95	6.31	
				03-02-95	5.14	
				04-12-95	5.03	
				04-28-95	5.17	
				06-08-95	5.49	
411137081172500	PO-112 NR RAVENNA OH	8.5	112OTSH	10-24-94	4.78	1064.50
				12-12-94	3.56	
				01-10-95	3.93	
				03-02-95	2.75	
				04-12-95	2.61	
				06-08-95	3.07	
				07-12-95	3.86	
				07-27-95	3.50	
411138081172100	PO-111 NR RAVENNA OH	10.0	112OTSH	10-24-94	3.88	1069.92
				12-12-94	3.04	
				01-10-95	2.94	
				03-02-95	1.36	
				04-12-95	1.14	
				06-08-95	1.69	
				07-12-95	2.59	
				08-30-95	3.32	
411138081172400	PO-115 NR RAVENNA OH	17.5	112OTSH	10-13-94	8.79	1068.59
				10-24-94	8.87	
				12-12-94	7.75	
				01-10-95	7.99	
				03-02-95	6.84	
				04-12-95	6.73	
				04-28-95	6.88	
				05-11-95	7.21	
411138081172500	PO-116 NR RAVENNA OH	17.5	112OTSH	06-08-95	7.17	1068.39
				07-12-95	7.96	
				08-30-95	8.45	
				10-24-94	8.71	
				12-12-94	7.61	
				01-10-95	7.87	
				03-02-95	6.69	
				04-12-95	6.56	
				06-08-95	7.02	
				07-12-95	7.79	
				08-30-95	8.26	

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

GROUND-WATER LEVELS--Continued

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
411138081172600	PO-121 NR RAVENNA OH	18.4	112OTSH	12-12-94	7.42	1068.24
				01-10-95	7.72	
				03-02-95	6.56	
				04-12-95	6.43	
				06-08-95	6.88	
				07-12-95	7.68	
				07-27-95	7.37	
				08-30-95	8.14	
413546083480900	LU-28 NR HOLLAND OH	28.2	112LAKE	10-27-94	7.97	676.61
				12-09-94	7.73	
				01-18-95	7.14	
				03-09-95	6.08	
				04-11-95	5.50	
				06-01-95	5.98	
				07-07-95	5.81	
				09-01-95	7.15	
413547083481000	LU-26 NR HOLLAND OH	29.6	112LAKE	10-06-94	7.21	676.75
				10-27-94	7.45	
				12-09-94	7.19	
				01-17-95	6.61	
				03-09-95	5.92	
				04-11-95	5.36	
				05-04-95	5.09	
				06-01-95	5.39	
413547083481100	LU-27 NR HOLLAND OH	28.4	112LAKE	10-27-94	7.25	676.39
				12-09-94	6.98	
				01-18-95	6.41	
				03-09-95	6.12	
				04-11-95	5.54	
				06-01-95	5.22	
				07-07-95	5.07	
				09-01-95	6.44	
413547083481200	LU-25 NR HOLLAND OH	29.4	112LAKE	10-27-94	7.40	676.68
				12-09-94	7.13	
				01-17-95	6.55	
				03-09-95	5.88	
				04-11-95	5.28	
				06-01-95	5.36	
				07-07-95	5.23	
				09-01-95	6.57	
413547083481300	LU-22 NR HOLLAND OH	28.3	112LAKE	10-06-94	7.44	677.08
				10-27-94	7.71	
				12-09-94	7.47	
				01-17-95	6.88	
				03-09-95	6.21	
				04-11-95	5.61	
				05-04-95	5.37	
				06-01-95	5.65	
				07-07-95	5.55	
				09-01-95	6.78	

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GROUND-WATER LEVELS--Continued

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
413547083481400	LU-23 NR HOLLAND OH	29.4	112LAKE	10-27-94	7.61	676.97
				12-09-94	7.37	
				01-17-95	6.78	
				03-09-95	6.10	
				04-11-95	5.52	
				06-01-95	5.57	
				07-07-95	5.45	
				09-01-95	6.80	
413547083481500	LU-24 NR HOLLAND OH	18.7	112LAKE	10-27-94	7.86	677.21
				12-09-94	7.61	
				01-17-95	7.03	
				03-09-95	6.35	
				04-11-95	5.76	
				06-01-95	5.80	
				07-07-95	5.68	
				09-01-95	7.04	
413548083480400	LU-17 NR HOLLAND OH	29.2	112LAKE	10-27-94	7.94	676.23
				12-09-94	7.60	
				01-18-95	7.00	
				03-09-95	6.28	
				04-11-95	5.77	
				06-01-95	5.88	
				07-07-95	5.78	
				09-01-95	7.13	
413549083481500	LU-21 NR HOLLAND OH	29.1	112LAKE	10-27-94	7.16	677.07
				12-09-94	7.01	
				01-17-95	7.18	
				03-09-95	7.14	
				04-11-95	7.21	
				05-04-95	4.87	
				06-01-95	5.09	
				07-07-95	5.04	
413551083481200	LU-20 NR HOLLAND OH	31.0	112LAKE	10-27-94	6.39	676.13
				12-09-94	5.97	
				01-17-95	5.48	
				03-09-95	4.53	
				04-11-95	3.95	
				06-01-95	4.27	
				07-07-95	4.32	
				09-01-95	5.65	
413553083480600	LU-18 NR HOLLAND OH	29.0	112LAKE	10-27-94	6.47	675.75
				12-09-94	5.69	
				01-17-95	5.28	
				03-09-95	4.39	
				04-11-95	3.92	
				06-01-95	4.37	
				07-07-95	4.54	
				09-01-95	5.86	
413553083480900	LU-19 NR HOLLAND OH	31.3	112LAKE	10-27-94	5.91	675.75
				12-09-94	5.32	
				01-17-95	4.88	
				03-09-95	3.95	
				04-11-95	3.41	
				06-01-95	3.83	
				07-07-95	3.98	
				09-01-95	5.27	

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

GROUND-WATER LEVELS—Continued

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
415305080414200	AB-139 NR KINGSVILLE OH	20.2	111TRRC	11-03-94	11.37	777.51
				12-13-94	8.14	
				01-25-95	6.77	
				03-08-95	7.97	
				04-13-95	8.78	
				04-27-95	8.73	
				06-07-95	11.10	
				07-13-95	11.61	
				08-31-95	12.26	
415305080414300	AB-132 NR KINGSVILLE OH	14.5	111TRRC	11-03-94	12.26	778.47
				12-13-94	8.90	
				01-25-95	7.51	
				03-08-95	8.81	
				04-13-95	9.69	
				06-07-95	12.00	
				07-13-95	12.50	
				08-31-95	13.17	
415307080414200	AB-133 NR KINGSVILLE OH	20.0	111TRRC	10-13-94	7.77	772.10
				11-03-94	8.31	
				12-13-94	6.04	
				01-25-95	4.76	
				03-08-95	5.66	
				04-13-95	6.16	
				04-27-95	5.99	
				06-07-95	7.94	
				07-13-95	8.73	
				08-31-95	9.56	
415307080414300	AB-129 NR KINGSVILLE OH	18.0	111TRRC	11-03-94	8.62	772.50
				12-13-94	6.13	
				01-17-95	6.52	
				01-25-95	5.25	
				03-08-95	5.86	
				04-13-95	6.23	
				06-07-95	8.31	
				07-13-95	9.07	
				08-31-95	9.81	
415307080414400	AB-130 NR KINGSVILLE OH	10.0	111TRRC	11-03-94	7.74	770.95
				12-13-94	6.08	
				01-25-95	4.63	
				03-08-95	5.91	
				04-13-95	6.11	
				06-07-95	7.40	
				07-13-95	8.41	
				08-31-95	9.46	
415307080414500	AB-134 NR KINGSVILLE OH	17.4	111TRRC	11-03-94	8.32	772.10
				12-13-94	6.03	
				01-25-95	4.79	
				03-08-95	5.63	
				04-13-95	6.16	
				06-07-95	7.94	
				07-13-95	8.72	
				08-31-95	9.57	

**EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW
UNCONSOLIDATED AQUIFERS IN OHIO**

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GROUND-WATER LEVELS—Continued

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
415307080414600	AB-140 NR KINGSVILLE OH	20.8	111TRRC	11-03-94	8.46	772.22
				12-13-94	6.19	
				01-25-95	4.91	
				03-08-95	5.81	
				04-13-95	6.29	
				06-07-95	8.08	
				07-13-95	8.87	
				08-31-95	9.72	
415308080414300	AB-135 NR KINGSVILLE OH	19.5	111TRRC	11-03-94	8.31	771.36
				12-13-94	6.17	
				01-25-95	5.07	
				03-08-95	6.11	
				04-13-95	6.29	
				06-07-95	7.90	
				07-13-95	8.84	
				08-31-95	9.70	
415308080414400	AB-131 NR KINGSVILLE OH	21	111TRRC	11-03-94	6.08	765.00
				12-13-94	4.65	
				01-25-95	3.84	
				03-08-95	4.31	
				04-13-95	4.45	
				06-07-95	6.26	
				07-13-95	6.94	
				08-31-95	7.72	
415309080414300	AB-136 NR KINGSVILLE OH	20.1	111TRRC	11-03-94	6.68	767.66
				12-13-94	5.18	
				01-25-95	4.19	
				03-08-95	5.12	
				04-13-95	5.12	
				06-07-95	6.44	
				07-13-95	7.29	
				08-31-95	8.20	
415309080414400	AB-138 NR KINGSVILLE OH	19.5	111TRRC	10-13-94	6.60	767.87
				11-03-94	6.93	
				12-13-94	5.41	
				01-25-95	4.41	
				03-08-95	5.34	
				04-13-95	5.37	
				04-27-95	5.35	
				06-07-95	6.69	
415310080414400	AB-137 NR KINGSVILLE OH	19.5	111TRRC	07-13-95	7.54	763.76
				08-31-95	8.46	
				11-03-94	4.84	
				12-13-94	3.38	
				01-25-95	2.53	
				03-08-95	3.04	
				04-13-95	3.16	
				06-07-95	5.01	
				07-13-95	5.69	
				08-31-95	6.47	

AQUIFER CODE (Geologic Unit)

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

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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 was set at 10.0 feet below land surface; probe removed July, 1992.

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

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

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

PERIOD OF DAILY RECORD.--

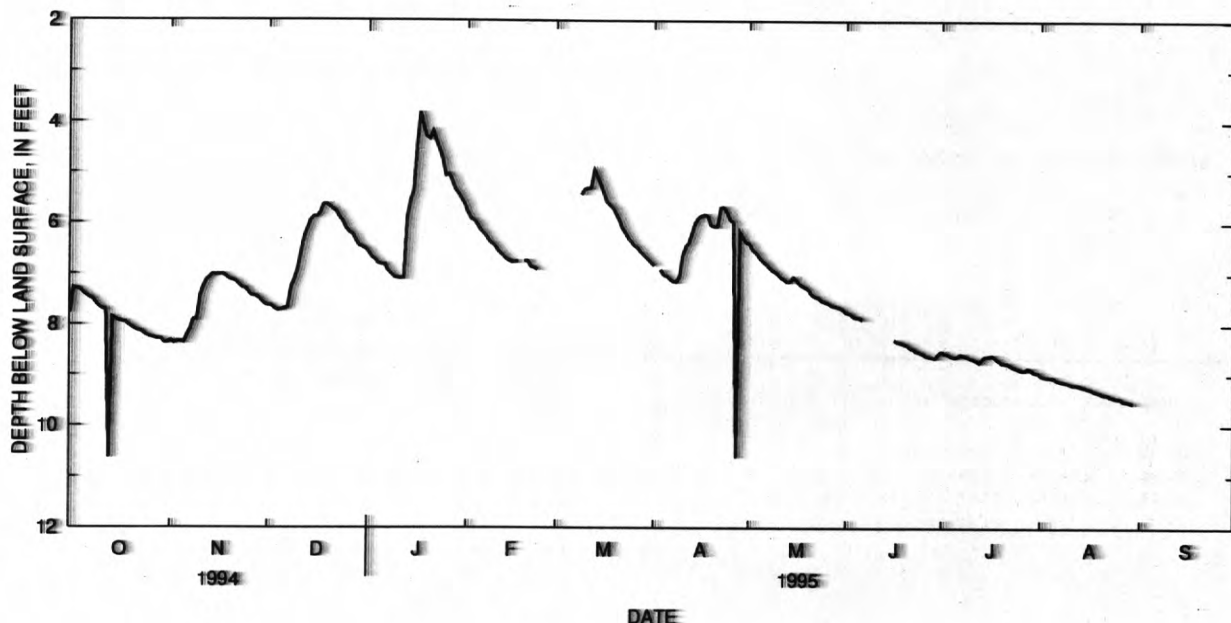
WATER LEVEL: February 1991 to current year
SPECIFIC CONDUCTANCE: February 1991 to July 1992
AIR TEMPERATURE: February 1991 to current year
WATER TEMPERATURE: February 1991 to July 1992
SOIL TEMPERATURE: July 1992 to current year
PRECIPITATION: February 1991 to current year

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER LEVEL: Maximum daily low, 10.64 ft. below land-surface datum, June 28, 1994 (this represents an artificial low due to pumping of well AB-133, 4 ft. away); maximum daily high, 2.11 ft. below land-surface datum, March 23, 1991.
SPECIFIC CONDUCTANCE: Maximum, 2560 microsiemens March 27, 1991; minimum, 948 microsiemens August 8, 1991.
AIR TEMPERATURE: Maximum, 33.1°C July 13, 1995; minimum, -29.6°C January 19, 1994.
WATER TEMPERATURE: Maximum, 15.5°C many days in 1991; minimum, 6.6°C March 26-28, April 1-7 1992.
SOIL TEMPERATURE: Maximum, 31.8°C July 11, 1993; minimum, -0.7°C February 2, 1993.

EXTREMES FOR CURRENT YEAR.--

WATER LEVEL: Maximum daily low, 10.63 ft. below land-surface datum, October 13, 1994 (this represents an artificial low due to pumping of well AB-133, 4 ft. away); maximum daily high, 3.51 ft. below land-surface datum, January 16, 1995.
AIR TEMPERATURE: Maximum, 33.1°C July 13, 1995; minimum, -17.0°C March 10, 1995.
SOIL TEMPERATURE: Maximum, 27.9°C August 16, 1995; minimum, 17.4°C July 9, 1995 (soil temperature probe was not functioning properly during the winter months).



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DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

[illegible]

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

415307080414500 AB-134 NR KINGSVILLE OH--Continued

TEMPERATURE, AIR, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	14.9	11.2	12.9	14.8	4.8	9.5	4.1	-1.0	1.5	4.4	-1.2	2.3
2	14.2	2.9	9.4	10.2	1.5	7.1	12.6	1.1	6.1	-1.2	-8.5	-6.9
3	11.5	2.1	6.8	17.1	5.1	11.8	13.7	4.6	9.0	-3.8	-8.4	-6.5
4	11.4	3.7	8.8	19.2	14.9	17.3	14.4	9.2	11.9	-8.4	-11.4	-10.6
5	11.4	4.9	8.6	18.3	13.2	15.0	12.0	8.8	10.1	-7.9	-14.9	-11.0
6	17.2	3.6	9.3	16.9	7.0	12.0	10.1	2.3	6.3	-1.0	-11.5	-5.1
7	22.2	6.8	14.4	11.2	4.1	7.8	2.4	-1.8	.6	-.9	-5.0	-2.4
8	22.9	13.0	17.8	16.3	6.6	12.0	-.6	-5.8	-2.6	-3.4	-6.5	-4.7
9	17.3	10.0	13.5	16.0	4.9	9.2	4.3	-5.4	.2	-4.1	-8.1	-6.4
10	10.3	7.0	9.0	9.5	.4	5.8	1.8	-.6	.7	-4.0	-10.1	-6.6
11	13.2	1.5	8.0	6.8	-3.5	1.7	.7	-4.9	-1.7	3.8	-4.0	.4
12	18.7	3.1	9.7	11.0	-.2	7.0	-3.8	-8.6	-5.3	13.9	3.8	9.5
13	16.6	7.2	11.0	14.1	9.9	11.5	.9	-10.6	-5.8	18.1	8.8	13.6
14	17.1	9.0	12.5	21.8	11.2	15.3	2.3	-9.8	-4.0	19.2	11.1	15.0
15	16.4	2.2	10.5	15.0	4.7	8.7	4.3	-6.6	.9	15.0	1.1	6.0
16	17.1	3.9	10.3	10.9	4.1	7.1	7.6	.9	3.6	1.1	-.3	.4
17	21.6	1.8	10.5	14.0	3.3	8.7	6.6	-.3	3.6	1.8	-.5	.5
18	24.0	8.4	15.3	17.0	9.6	11.9	3.2	-.7	1.4	7.2	.8	3.2
19	17.2	13.3	15.1	9.9	.5	6.0	2.7	.4	1.5	12.4	-2.0	6.4
20	17.2	9.1	14.5	11.6	.8	7.2	6.4	-.3	1.8	7.9	2.1	4.2
21	16.7	5.5	10.6	15.6	8.1	11.2	11.4	-4.0	1.8	2.1	-3.8	-1.2
22	17.3	5.7	10.6	8.1	1.4	3.7	9.3	-3.9	.6	-3.7	-6.5	-5.1
23	15.7	5.3	11.0	2.3	-1.7	.1	7.2	-1.5	2.4	-3.0	-6.2	-4.7
24	12.5	3.8	8.4	6.8	-5.0	1.4	3.6	1.2	2.3	-.1	-4.4	-1.9
25	8.2	4.1	5.5	7.2	3.8	5.7	4.5	-3.7	1.5	-1.8	-6.1	-4.1
26	8.9	3.9	6.5	3.8	-3.1	1.0	3.0	-1.3	1.0	-2.8	-5.2	-3.6
27	9.5	1.9	6.9	6.1	-3.6	1.5	4.7	-1.8	.5	-1.5	-7.8	-4.6
28	15.8	2.4	9.1	12.5	4.3	7.2	4.3	-1.6	1.6	-2.4	-7.6	-5.6
29	18.4	8.5	13.1	6.0	-2.5	3.2	1.4	-7.5	-2.0	-2.3	-11.0	-7.1
30	14.2	8.8	11.5	3.6	-.9	1.4	4.0	-8.0	-2.6	-1.5	-12.4	-5.0
31	12.8	6.5	10.2	---	---	---	5.6	.7	2.6	.3	-6.6	-3.1
MONTH	24.0	1.5	10.7	21.8	-5.0	7.6	14.4	-10.6	1.6	19.2	-14.9	-1.4

TEMPERATURE, AIR, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	1.6	-.7	.1	---	---	---	4.8	-7.4	-1.0	12.3	3.4	8.5
2	-.7	-12.0	-4.8	---	---	---	---	---	---	12.2	2.8	9.2
3	-2.0	-12.8	-7.5	16.8	-.5	8.0	18.5	-3.0	6.9	16.0	.2	8.7
4	-3.3	-9.4	-5.2	---	---	---	9.5	-5.7	.2	16.5	3.5	10.0
5	-9.4	-15.0	-13.3	---	---	---	-.8	-7.4	-4.1	14.9	6.6	10.9
6	-8.1	-12.6	-10.3	---	---	---	11.7	-2.0	4.1	14.2	1.7	9.1
7	-7.6	-12.0	-9.5	---	---	---	2.8	-4.4	.6	16.6	1.1	9.3
8	-9.1	-13.3	-10.9	---	---	---	8.7	.1	3.8	11.8	1.8	8.4
9	-2.2	-12.8	-7.6	-6.8	-15.3	-8.5	3.6	-1.1	1.2	13.3	9.2	11.5
10	1.7	-3.0	-1.1	.1	-17.0	-6.8	3.5	-1.8	.2	25.5	11.4	15.8
11	-2.4	-15.8	-9.2	14.8	-2.0	6.0	24.3	-1.4	11.3	14.2	10.1	12.1
12	-11.3	-16.0	-13.9	19.2	3.3	9.7	15.3	6.0	11.7	17.7	7.6	12.8
13	-3.3	-14.4	-8.8	20.1	2.7	10.2	6.0	2.9	4.3	22.4	5.2	14.6
14	-5.3	-13.1	-9.3	19.2	.4	9.0	3.8	-2.1	2.2	25.9	14.5	18.3
15	6.1	-8.9	-.1	16.0	-.2	7.4	6.6	-5.2	1.4	18.3	6.9	14.6
16	.9	-7.2	-1.6	14.6	1.9	7.8	10.5	-4.3	3.0	23.4	6.9	16.2
17	1.5	-9.9	-4.2	5.1	-.8	1.7	11.9	1.0	5.7	22.1	11.8	16.2
18	---	---	---	4.9	-5.9	.0	17.7	3.1	11.0	11.8	7.8	9.2
19	---	---	---	14.3	-4.2	7.4	18.7	6.1	12.0	17.8	7.3	12.6
20	7.0	-5.5	.1	21.6	10.1	14.4	8.7	3.1	5.7	22.9	4.7	15.3
21	---	---	---	11.8	3.6	5.8	20.7	4.5	12.9	20.1	5.8	15.5
22	---	---	---	3.9	1.0	2.6	10.5	-.9	6.0	16.9	3.0	10.6
23	5.6	-5.2	-.9	2.9	-1.2	1.1	7.2	-2.7	2.7	26.0	4.6	17.6
24	---	---	---	5.7	-2.6	1.0	7.5	-1.6	3.9	20.5	10.6	14.7
25	---	---	---	7.1	-1.6	2.2	11.1	-2.1	5.0	15.2	9.9	12.1
26	---	---	---	8.7	-2.7	2.8	17.2	-1.1	8.3	18.5	7.7	13.2
27	---	---	---	5.4	-1.8	2.3	20.2	8.3	13.2	20.2	5.1	13.9
28	---	---	---	8.7	-.3	3.8	12.9	5.6	9.2	19.2	15.8	17.6
29	---	---	---	8.0	-3.3	2.9	13.1	4.7	9.1	18.8	13.4	15.9
30	---	---	---	3.8	.6	2.8	9.7	3.9	6.7	19.2	10.7	14.0
31	---	---	---	3.4	-5.6	.5	---	---	---	22.3	8.6	16.2
MONTH	7.0	-16.0	-6.2	21.6	-17.0	3.9	24.3	-7.4	5.4	26.0	.2	13.1

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TEMPERATURE, AIR, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

TEMPERATURE, SOIL DEG. C), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

[illegible]

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RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY SUM VALUES

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY.	JUN.	JUL.	AUG.	SEP.
1	.37	.52	.00	.14	.09	.00	.00	.00	.01	.00	.09	---
2	.00	.02	.00	.21	.08	.29	---	.00	.23	.00	.07	---
3	.00	.00	.00	.18	.13	.11	.10	.00	.00	.00	.06	---
4	.00	.08	.02	.19	.07	---	.03	.00	.00	.00	.00	---
5	.01	.38	.57	.12	.00	---	.00	.00	.00	.64	.16	---
6	.00	.39	.16	.00	.00	---	.13	.00	.00	.15	.00	---
7	.00	.00	.45	.01	.20	---	.00	.00	---	.00	.00	---
8	.00	.00	.00	.00	.11	---	.63	.00	---	.00	.00	---
9	.14	.88	.31	.00	.14	.00	.71	.39	---	.01	.00	---
10	.00	.00	.64	.00	.05	.03	.01	.29	---	.00	.00	---
11	.00	.00	.02	.13	.08	.01	.00	.01	---	.00	.00	---
12	.00	.00	.00	.04	.10	.00	.53	.05	---	.00	.25	---
13	.00	.00	.01	.00	.11	.00	.15	.00	---	.98	.15	---
14	.00	.00	.06	.38	.07	.00	.00	.56	---	.00	.02	---
15	.00	.00	.10	1.08	.17	.00	.00	.00	---	.19	.00	---
16	.00	.00	.39	.62	.00	.00	.00	.00	.00	.18	.00	---
17	.00	.00	.30	.00	.00	.00	.00	.06	.00	.00	.00	---
18	.00	.00	.15	.00	---	.00	.12	.14	.00	.00	.00	---
19	.14	.00	.09	.00	---	.00	.00	.17	.00	.00	.00	---
20	.02	.00	.08	.52	.05	.10	.00	.00	.00	.05	.00	---
21	.00	.15	.09	.06	.00	.00	.77	.00	.00	.01	.00	---
22	.00	.00	.08	.00	.17	.00	.00	.00	.00	.00	.00	---
23	.00	.00	.08	.00	.03	.00	.00	.00	.00	.15	.00	---
24	.04	.00	.08	.01	---	.00	.00	.75	.00	.00	.00	---
25	.21	.00	.08	.02	---	.00	.04	.00	.00	.08	.00	---
26	.15	.00	.09	.06	.02	.00	.00	.00	.15	.00	.00	---
27	.00	.34	.07	.09	---	.00	.05	.00	.02	.54	.00	---
28	.00	.16	.08	.13	---	.02	.00	.04	.00	.00	.00	---
29	.00	.00	.07	.13	---	.03	.00	.45	11.24	.00	.00	---
30	.00	.00	.07	.11	---	.01	.00	.02	.11	.00	.00	---
31	.16	---	.10	.10	---	.00	---	.00	---	.00	---	---
TOTAL	1.24	2.92	4.24	4.33	1.67	0.60	3.27	2.93	11.76	2.98	0.80	---

WTR YR 1995 TOTAL 26.74

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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, 3460 microsiemens October 28, 1993; minimum, 837 microsiemens January 30-31, 1995.

LEVEL 2- Maximum, 3190 microsiemens November 5-6, 1993; minimum, 363 microsiemens January 18, 1995.

LEVEL 3- Maximum, 2790 microsiemens November 5, 1993; minimum, 322 microsiemens March 13, 1995.

LEVEL 4- Maximum, 2740 microsiemens November 17-18, 1993; 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, and 1994.

LEVEL 3- Maximum, 14.2°C October 13, 1994; minimum, 5.7°C March 22, 1994.

LEVEL 4- Maximum, 17.8°C August 12, 1994; minimum, 3.8°C March 23-24, 1993.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE:

LEVEL 1-Maximum, 2210 microsiemens October 13-15, 1994; minimum, 837 microsiemens January 30-31, 1995.

LEVEL 2-Maximum, 2330 microsiemens October 13, 1994; minimum, 363 microsiemens January 18, 1995.

LEVEL 3-Maximum, 2240 microsiemens October 13, 1994; minimum, 322 microsiemens March 13, 1995.

LEVEL 4-Maximum, 2290 microsiemens October 13, 1994; minimum, 317 microsiemens March 12, 1995.

WATER TEMPERATURE:

LEVEL 1-Maximum, 12.3°C many days in November and December, 1994; minimum, 8.8°C February 17, 1995.

LEVEL 2-Maximum, 13.0°C October 27-28, 1994; minimum, 7.6°C March 15, 1995.

LEVEL 3-Maximum, 14.2°C October 13, 1994; minimum, 6.6°C March 13, 1995.

LEVEL 4-Maximum, 15.3°C October 2, 1994; minimum, 5.8°C March 11-12, 1995.

**EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW
UNCONSOLIDATED AQUIFERS IN OHIO**

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415307080414600 AB-140 NR KINGSVILLE OH--Continued

#1 (22.0' BLS) SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	2040	2010	2020	2180	2170	2180	2170	2160	2160	2090	2090	2090
2	2070	2040	2050	2180	2170	2180	2170	2160	2160	2090	2080	2090
3	2070	2060	2070	2170	2170	2170	2170	2150	2160	2080	2080	2080
4	2080	2070	2080	2170	2170	2170	2170	2150	2160	2080	2070	2080
5	2080	2080	2080	2170	2160	2170	2160	2150	2160	2070	2060	2070
6	2080	2080	2080	2170	2160	2160	2160	2150	2150	2070	2060	2060
7	2090	2080	2090	2160	2150	2160	2150	2140	2140	2070	2050	2060
8	2100	2090	2090	2160	2140	2150	2140	2140	2140	2060	2040	2050
9	2100	2100	2100	2150	2130	2140	2140	2130	2140	2050	2020	2040
10	2100	2100	2100	2170	2140	2160	2130	2130	2130	2030	2020	2030
11	2110	2090	2100	2180	2160	2170	2130	2110	2120	2020	2010	2020
12	2110	2090	2100	2190	2170	2180	2130	2120	2130	2020	2010	2010
13	2210	2100	2140	2200	2180	2190	2140	2130	2130	2010	1980	2000
14	2210	2200	2200	2200	2190	2200	2140	2120	2130	1990	1950	1970
15	2210	2190	2200	2200	2190	2200	2130	2120	2130	1950	1910	1940
16	2200	2190	2200	2200	2190	2190	2130	2120	2130	1910	1830	1870
17	2200	2190	2200	2200	2190	2190	2130	2120	2130	1830	1780	1800
18	2200	2190	2200	2200	2180	2200	2130	2120	2130	1780	1760	1770
19	2200	2200	2200	2200	2180	2190	2130	2130	2130	1760	1750	1760
20	2200	2200	2200	2200	2180	2190	2130	2120	2130	1760	1740	1750
21	2200	2190	2200	2200	2180	2190	2130	2120	2130	1740	1660	1710
22	2200	2190	2200	2200	2180	2190	2130	2120	2120	1660	1470	1570
23	2200	2190	2190	2190	2180	2190	2120	2120	2120	1470	1270	1370
24	2200	2180	2190	2200	2180	2190	2120	2110	2120	1270	1100	1180
25	2190	2180	2190	2190	2180	2180	2110	2110	2110	1100	951	1020
26	2190	2180	2180	2180	2180	2180	2110	2110	2110	951	900	923
27	2180	2180	2180	2180	2180	2180	2110	2100	2100	900	870	884
28	2190	2180	2180	2180	2170	2170	2100	2100	2100	870	851	860
29	2180	2180	2180	2170	2170	2170	2100	2100	2100	851	841	845
30	2180	2180	2180	2170	2170	2170	2100	2090	2100	841	837	838
31	2180	2180	2180	---	---	---	2090	2090	2090	841	837	839
MONTH	2210	2010	2150	2200	2130	2180	2170	2090	2130	2090	837	1660

#1 (22.0' BLS) SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	848	841	844	1870	1730	1760	1800	1800	1800	1950	1930	1940
2	857	848	852	1740	1730	1730	1800	1790	1800	1940	1930	1940
3	909	855	878	1770	1740	1750	1800	1790	1800	1940	1930	1940
4	973	909	942	1850	1770	1820	1800	1790	1800	1940	1930	1930
5	1050	973	1010	---	---	---	1800	1790	1790	1940	1930	1930
6	1130	1050	1090	---	---	---	1800	1790	1790	1930	1930	1930
7	1210	1130	1170	---	---	---	1800	1790	1800	1930	1930	1930
8	1280	1210	1250	---	---	---	1800	1790	1790	1930	1930	1930
9	1330	1280	1310	1890	1860	1880	1860	1790	1820	1930	1930	1930
10	1370	1330	1350	1900	1890	1890	1890	1860	1870	1930	1920	1930
11	1370	1360	1370	1910	1890	1900	1900	1880	1890	1930	1920	1920
12	1380	1370	1370	1920	1910	1920	1900	1900	1900	1920	1910	1920
13	1380	1370	1380	1920	1910	1920	1920	1900	1910	1910	1910	1910
14	1370	1360	1370	1930	1920	1920	1950	1920	1930	1910	1900	1900
15	1360	1350	1350	1930	1920	1920	1960	1950	1950	1910	1900	1900
16	1350	1320	1340	1930	1910	1920	1970	1960	1960	1910	1900	1910
17	1370	1300	1320	1920	1920	1920	1980	1970	1970	1920	1910	1920
18	1410	1280	1300	1920	1910	1910	1980	1970	1980	1930	1920	1920
19	1340	1280	1310	1920	1910	1910	1990	1980	1980	1930	1920	1930
20	1450	1340	1380	1910	1900	1910	2000	1990	2000	1940	1930	1940
21	1450	1380	1410	1900	1870	1880	2010	1990	2000	1940	1940	1940
22	1460	1450	1450	1870	1840	1860	2010	2000	2010	1940	1930	1940
23	1540	1460	1490	1840	1820	1830	2010	2000	2010	1940	1930	1940
24	---	---	---	1820	1810	1820	2020	2000	2010	1940	1940	1940
25	1690	1550	1600	1810	1790	1800	2020	2010	2020	1940	1930	1940
26	1800	1590	1670	1800	1790	1790	2030	2010	2020	1930	1930	1930
27	---	---	---	1790	1790	1790	2030	1970	2010	1930	1920	1930
28	---	---	---	1790	1790	1790	1970	1950	1960	1930	1920	1920
29	---	---	---	1800	1790	1800	1950	1940	1940	1920	1920	1920
30	---	---	---	1800	1800	1800	1950	1930	1940	1920	1920	1920
31	---	---	---	1800	1800	1800	---	---	---	1920	1910	1920
MONTH	1800	841	1270	1930	1730	1850	2030	1790	1910	1950	1900	1930

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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#1 (22.0' BLS) SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	1920	1920	1920	1860	1850	1860	2030	2020	2030	---	---	---
2	1920	1910	1920	1870	1860	1870	2030	2020	2030	---	---	---
3	1920	1920	1920	1880	1870	1870	2030	2030	2030	---	---	---
4	1920	1920	1920	1880	1880	1880	2030	2030	2030	---	---	---
5	1920	1920	1920	1880	1880	1880	2040	2030	2040	---	---	---
6	1920	1920	1920	1890	1880	1880	2040	2040	2040	---	---	---
7	---	---	---	1900	1890	1890	2050	2040	2050	---	---	---
8	---	---	---	1900	1890	1900	2060	2050	2050	---	---	---
9	---	---	---	1910	1900	1900	2060	2050	2060	---	---	---
10	---	---	---	1910	1900	1910	2070	2060	2070	---	---	---
11	---	---	---	1910	1900	1910	2070	2070	2070	---	---	---
12	---	---	---	1920	1910	1910	2070	2060	2070	---	---	---
13	---	---	---	1920	1910	1910	2080	2060	2070	---	---	---
14	---	---	---	1930	1910	1920	2080	2070	2070	---	---	---
15	1890	1880	1890	1940	1920	1930	2090	2070	2080	---	---	---
16	1890	1880	1880	1940	1930	1930	2080	2080	2080	---	---	---
17	1880	1880	1880	1950	1940	1940	2090	2080	2080	---	---	---
18	1880	1870	1880	1960	1950	1950	2090	2090	2090	---	---	---
19	1880	1870	1870	1970	1960	1960	2100	2090	2090	---	---	---
20	1870	1870	1870	1970	1960	1970	2100	2100	2100	---	---	---
21	1870	1870	1870	1980	1960	1970	2100	2090	2100	---	---	---
22	1870	1870	1870	1980	1970	1970	2100	2090	2100	---	---	---
23	1870	1860	1870	1980	1970	1980	2100	2090	2100	---	---	---
24	1870	1870	1870	1990	1970	1980	2100	2090	2100	---	---	---
25	1870	1860	1870	1990	1980	1980	2100	2100	2100	---	---	---
26	1870	1860	1860	1990	1980	1980	2100	2090	2100	---	---	---
27	1860	1860	1860	1990	1990	1990	2110	2090	2100	---	---	---
28	1860	1850	1860	2000	1990	1990	2110	2100	2100	---	---	---
29	1860	1850	1850	2010	1990	2010	2110	2100	2100	---	---	---
30	1860	1850	1850	2020	2000	2010	2100	2100	2100	---	---	---
31	---	---	---	2030	2010	2020	---	---	---	---	---	---
MONTH	1920	1850	1880	2030	1850	1940	2110	2020	2070	---	---	---
YEAR	2210	837	1920									

#2 (18.0' BLS) SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	2100	2050	2070	2160	2150	2150	1990	1970	1980	1720	1700	1710
2	2120	2100	2120	2160	2150	2160	1980	1970	1980	1700	1670	1690
3	2140	2120	2140	2170	2160	2170	1970	1960	1970	1680	1660	1670
4	2140	2130	2140	2180	2170	2170	1960	1950	1960	1660	1650	1660
5	2150	2130	2140	2180	2180	2180	1960	1950	1950	1650	1630	1630
6	2160	2140	2150	2190	2180	2180	1980	1960	1970	1640	1630	1640
7	2170	2150	2160	2200	2190	2190	2030	1980	1990	1660	1640	1650
8	2180	2160	2170	2200	2200	2200	2080	2030	2060	1660	1610	1630
9	2180	2170	2180	2220	2200	2210	2110	2080	2100	1610	1560	1590
10	2180	2170	2180	2250	2210	2230	2150	2110	2130	1560	1550	1550
11	2190	2170	2180	2270	2250	2260	2210	2150	2180	1570	1550	1560
12	2180	2170	2180	2280	2270	2270	2220	2210	2220	1760	1570	1650
13	2330	2170	2240	2280	2270	2280	2230	2200	2220	1790	1750	1780
14	2290	2250	2270	2280	2280	2280	2210	2130	2170	1790	1780	1780
15	2250	2230	2240	2280	2270	2270	2130	2080	2090	1810	1780	1790
16	2230	2210	2220	2270	2260	2260	2080	2070	2080	1820	423	1520
17	2210	2200	2210	2260	2240	2250	2090	2070	2080	423	365	383
18	2200	2190	2200	2240	2230	2240	2100	2090	2090	401	363	372
19	2190	2190	2190	2230	2200	2210	2090	1990	2030	516	401	463
20	2190	2180	2180	2200	2180	2190	2000	1960	1980	655	516	579
21	2180	2180	2180	2180	2170	2170	1970	1960	1960	750	655	706
22	2180	2170	2170	2170	2130	2150	1970	1910	1940	765	750	761
23	2170	2160	2170	2130	2110	2120	1910	1860	1880	764	752	759
24	2170	2160	2160	2110	2090	2100	1860	1840	1850	752	736	746
25	2160	2160	2160	2090	2070	2080	1840	1820	1830	736	715	726
26	2160	2150	2160	2070	2050	2060	1830	1810	1820	715	691	702
27	2150	2140	2150	2050	2030	2040	1810	1780	1790	691	671	680
28	2150	2140	2150	2040	2020	2030	1780	1760	1780	673	659	664
29	2150	2150	2150	2020	2010	2020	1760	1710	1730	675	659	664
30	2150	2150	2150	2010	1990	2000	1710	1690	1700	714	675	692
31	2150	2150	2150	---	---	---	1710	1700	1710	774	714	745
MONTH	2330	2050	2170	2280	1990	2170	2230	1690	1970	1820	363	1170

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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#3 (14.0' BLS) SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	1630	1520	1570	2080	2080	2080	1960	1940	1950	712	590	641
2	1690	1630	1660	2090	2080	2080	1940	1930	1940	708	685	697
3	1700	1690	1690	2090	2080	2090	1930	1920	1930	757	703	726
4	1700	1700	1700	2090	2080	2090	1920	1910	1920	737	712	723
5	1700	1680	1690	2090	2090	2090	1910	1910	1910	767	737	752
6	1680	1660	1670	2100	2090	2100	1910	1900	1900	790	767	779
7	1660	1640	1650	2100	2100	2100	1900	1890	1900	814	790	801
8	1640	1620	1630	2110	2100	2100	1960	1890	1920	846	814	830
9	1620	1590	1610	2130	2110	2110	2020	1960	1990	873	846	861
10	1590	1590	1590	2180	2130	2160	2080	2020	2060	892	872	883
11	1590	1590	1590	2200	2180	2190	2100	2080	2090	915	892	903
12	1600	1590	1600	2200	2180	2190	2110	2100	2100	1750	912	1280
13	2240	1540	1930	2200	2180	2190	2110	2100	2110	1790	1750	1770
14	2210	2170	2190	2190	2180	2190	2100	2090	2100	1790	1780	1780
15	2170	2130	2150	2180	2180	2180	2090	2080	2090	1810	1780	1790
16	2130	2100	2120	2180	2170	2180	2080	2070	2080	1820	422	1090
17	2100	2080	2090	2180	2170	2170	2070	2040	2060	422	365	383
18	2080	2070	2070	2170	2160	2160	2040	2010	2030	410	364	375
19	2070	2050	2060	2160	2150	2150	2020	1990	2000	521	410	470
20	2050	2040	2040	2150	2120	2140	1990	1970	1980	642	521	571
21	2040	2030	2030	2130	2100	2120	1970	1820	1900	741	642	693
22	2040	2030	2030	2110	2090	2100	1820	1680	1750	763	741	755
23	2050	2040	2040	2100	2070	2090	1680	1110	1480	763	750	757
24	2050	2040	2040	2080	2060	2070	1130	403	958	753	733	744
25	2050	2050	2050	2060	2040	2050	406	395	399	735	714	725
26	2070	2050	2060	2040	2020	2030	431	406	417	714	689	701
27	2070	2060	2060	2020	2000	2010	456	431	444	689	670	679
28	2080	2060	2070	2000	1990	2000	477	456	465	670	657	664
29	2080	2060	2080	1990	1980	1980	510	476	493	673	657	663
30	2080	2080	2080	1980	1960	1970	554	510	533	709	673	689
31	2080	2080	2080	---	---	---	590	554	573	767	709	738
MONTH	2240	1520	1900	2200	1960	2110	2110	395	1600	1820	364	836

#3 (14.0' BLS) SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	827	766	797	1940	1820	1860	877	852	865	1530	1520	1520
2	878	821	846	1840	1820	1830	900	877	888	1530	1520	1530
3	939	878	907	1860	1830	1850	919	900	910	1530	1520	1530
4	1020	939	981	1960	1860	1920	940	919	930	1530	1520	1530
5	1060	826	996	---	---	---	955	940	947	1530	1530	1530
6	877	826	850	---	---	---	970	955	962	1530	1530	1530
7	915	874	897	---	---	---	987	970	979	1530	1440	1480
8	950	915	933	---	---	---	997	987	992	1440	1390	1410
9	963	915	949	2000	1960	1980	1010	997	1000	1390	1380	1380
10	961	918	940	2000	1970	1990	1380	1000	1210	1390	1380	1390
11	1000	961	981	1970	1590	1700	2010	1380	1750	1400	1390	1390
12	1040	1000	1020	1730	1280	1540	2020	2000	2010	1400	1390	1400
13	1080	1040	1060	1280	322	629	2020	2010	2020	1400	1400	1400
14	1120	1080	1100	394	346	371	2060	2020	2040	1410	1400	1400
15	1260	1120	1190	425	394	410	2070	2050	2060	1420	1400	1400
16	1320	1260	1290	460	424	442	2080	2060	2070	1420	1410	1410
17	1390	1320	1360	536	460	494	2090	2070	2080	1410	1390	1400
18	1550	1370	1420	672	536	605	2100	2060	2090	1400	1390	1400
19	1480	1430	1460	812	672	744	2060	1760	1890	1400	1350	1380
20	1570	1480	1520	952	812	881	1760	1690	1720	1350	1260	1300
21	1570	1530	1550	1020	636	882	2130	1680	1820	1260	1250	1250
22	1580	1560	1570	636	592	605	2130	2120	2120	1260	1250	1250
23	1650	1570	1600	648	618	635	2130	2030	2120	1260	1250	1260
24	---	---	---	669	648	657	2030	1750	1900	1270	1250	1260
25	1760	1630	1680	699	669	683	1750	1600	1680	1270	1260	1270
26	1970	1680	1790	729	699	714	1600	1540	1560	1280	1270	1270
27	---	---	---	755	729	742	1900	1190	1680	1280	1270	1280
28	---	---	---	778	755	767	1920	1680	1800	1300	1280	1290
29	---	---	---	800	778	789	1680	1580	1620	1330	1290	1310
30	---	---	---	826	800	812	1580	1520	1550	1360	1320	1340
31	---	---	---	852	826	839	---	---	---	1370	1350	1360
MONTH	1970	766	1190	2000	322	1010	2130	852	1580	1530	1250	1380

**EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW
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#3 (14.0' BLS) SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	1390	1370	1380	1650	1640	1650	1710	1690	1700	---	---	---
2	1410	1390	1400	1660	1650	1660	1700	1690	1700	---	---	---
3	1420	1410	1410	1660	1650	1660	1700	1700	1700	---	---	---
4	1430	1420	1430	1660	1650	1650	1700	1700	1700	---	---	---
5	1450	1430	1440	1650	1640	1650	1700	1690	1700	---	---	---
6	1460	1440	1450	1670	1640	1660	1690	1690	1690	---	---	---
7	---	---	---	1690	1670	1680	1690	1690	1690	---	---	---
8	---	---	---	1690	1680	1690	1700	1690	1690	---	---	---
9	---	---	---	1690	1680	1690	1700	1700	1700	---	---	---
10	---	---	---	1690	1680	1690	1700	1700	1700	---	---	---
11	---	---	---	1680	1680	1680	1700	1690	1700	---	---	---
12	---	---	---	1680	1670	1680	1710	1700	1700	---	---	---
13	---	---	---	1680	1630	1670	1710	1700	1700	---	---	---
14	---	---	---	1680	1630	1660	1710	1700	1710	---	---	---
15	1510	1510	1510	1690	1670	1680	1710	1700	1710	---	---	---
16	1520	1510	1520	1700	1690	1700	1710	1700	1700	---	---	---
17	1530	1520	1530	1710	1700	1710	1710	1700	1710	---	---	---
18	1540	1530	1540	1720	1710	1710	1710	1710	1710	---	---	---
19	1550	1540	1540	1710	1710	1710	1710	1710	1710	---	---	---
20	1550	1550	1550	1710	1700	1710	1710	1700	1710	---	---	---
21	1560	1550	1560	1710	1700	1710	1710	1700	1710	---	---	---
22	1570	1550	1560	1710	1700	1700	1710	1710	1710	---	---	---
23	1570	1560	1570	1710	1700	1700	1710	1710	1710	---	---	---
24	1580	1570	1580	1700	1690	1700	1720	1710	1710	---	---	---
25	1590	1580	1590	1700	1690	1700	1720	1720	1720	---	---	---
26	1600	1590	1590	1700	1690	1690	1720	1720	1720	---	---	---
27	1600	1590	1600	1700	1690	1690	1720	1720	1720	---	---	---
28	1610	1600	1600	1710	1700	1710	1730	1720	1720	---	---	---
29	1610	1590	1600	1710	1700	1710	1730	1720	1730	---	---	---
30	1640	1610	1630	1710	1700	1700	1740	1720	1730	---	---	---
31	---	---	---	1710	1700	1700	---	---	---	---	---	---
MONTH	1640	1370	1530	1720	1630	1690	1740	1690	1710	---	---	---
YEAR	2240	322	1510									

#4 (10.0' BLS) SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	1400	1310	1350	1750	938	1630	1360	1310	1330	636	615	625
2	1440	1400	1430	938	819	839	1370	1340	1360	672	636	653
3	1440	1440	1440	895	714	804	1370	1350	1360	742	672	697
4	1440	1430	1440	724	705	714	1390	1350	1370	770	742	755
5	1430	1410	1420	1530	704	1050	1400	1340	1370	797	770	783
6	1410	1400	1410	1630	1440	1550	1400	1380	1390	825	797	811
7	1400	1390	1400	1820	1570	1710	1530	1330	1420	851	825	836
8	1400	1400	1400	1820	1790	1800	1660	1530	1590	881	851	866
9	1410	1400	1400	2010	1650	1810	1810	1660	1730	909	881	895
10	1410	1400	1410	2150	2010	2080	2000	1810	1930	930	905	919
11	1420	1410	1420	2200	2150	2190	2180	1990	2110	952	930	941
12	1430	1420	1430	2230	2200	2220	2200	2180	2190	961	948	957
13	2290	1360	1850	2230	2230	2230	2210	2200	2200	1860	958	1630
14	2270	2150	2220	2230	2210	2220	2200	2190	2200	1870	1140	1670
15	2150	2000	2060	2220	2200	2210	2190	1910	2140	1890	1140	1760
16	2000	1950	1970	2210	2190	2200	1920	1660	1820	1900	426	941
17	1950	1930	1940	2190	2110	2140	1980	1650	1820	426	379	394
18	1940	1920	1930	2110	2030	2080	2120	1870	2020	432	375	391
19	1920	1900	1910	2030	1960	1990	1870	1340	1630	547	432	494
20	1900	1880	1890	1960	1930	1940	1340	397	828	659	547	591
21	1880	1860	1880	1930	1890	1920	398	395	396	762	659	713
22	1870	1860	1870	1890	1800	1840	400	397	398	789	762	780
23	1870	1810	1840	1810	1660	1760	400	398	399	789	777	785
24	1810	1800	1810	1660	1610	1640	411	400	406	780	763	772
25	1800	1770	1780	1610	1460	1530	423	411	416	763	741	752
26	1770	1750	1760	1460	1420	1430	451	422	437	741	714	728
27	1760	1710	1740	1440	1420	1430	478	451	466	716	695	705
28	1750	1600	1700	1440	1330	1400	499	478	488	695	684	689
29	1680	865	1220	1340	1300	1310	536	499	516	698	684	689
30	869	860	864	1320	1300	1310	582	536	559	736	697	714
31	1680	856	1010	---	---	---	615	582	599	794	736	764
MONTH	2290	856	1620	2230	704	1700	2210	395	1250	1900	375	829

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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415307080414600 AB-140 NR KINGSVILLE OH--Continued

#1 (22.0' BLS) WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	11.6	11.6	11.6	12.1	12.0	12.1	12.3	12.2	12.3	12.0	12.0	12.0
2	11.6	11.4	11.6	12.1	12.0	12.1	12.3	12.1	12.2	12.0	12.0	12.0
3	11.6	11.6	11.6	12.1	12.0	12.1	12.3	12.1	12.2	12.0	12.0	12.0
4	11.6	11.6	11.6	12.1	12.1	12.1	12.3	12.1	12.2	12.0	12.0	12.0
5	11.6	11.6	11.6	12.1	12.1	12.1	12.3	12.0	12.2	12.0	12.0	12.0
6	11.6	11.6	11.6	12.1	12.0	12.1	12.3	12.0	12.3	12.0	11.8	12.0
7	11.7	11.6	11.6	12.3	12.0	12.1	12.3	12.2	12.3	12.0	11.8	11.9
8	11.7	11.6	11.6	12.3	12.0	12.1	12.3	12.2	12.2	12.0	11.8	11.9
9	11.6	11.6	11.6	12.3	12.0	12.1	12.3	12.2	12.2	12.0	11.8	11.8
10	11.6	11.6	11.6	12.3	12.0	12.1	12.3	12.2	12.3	12.0	11.8	11.8
11	11.8	11.6	11.7	12.3	12.0	12.2	12.3	12.2	12.3	11.8	11.8	11.8
12	11.8	11.6	11.7	12.3	12.0	12.1	12.2	12.2	12.2	11.8	11.4	11.7
13	11.9	11.6	11.8	12.3	12.0	12.1	12.3	12.0	12.2	11.4	11.2	11.4
14	11.9	11.6	11.8	12.1	12.1	12.1	12.3	12.0	12.2	11.4	11.2	11.2
15	11.9	11.6	11.8	12.3	12.0	12.1	12.3	12.0	12.2	11.2	11.1	11.2
16	11.9	11.8	11.8	12.3	12.0	12.2	12.3	12.0	12.1	11.6	11.1	11.3
17	11.9	11.8	11.8	12.3	12.0	12.1	12.3	12.0	12.1	11.6	11.6	11.6
18	11.9	11.8	11.9	12.3	12.0	12.1	12.3	12.0	12.1	11.6	11.4	11.5
19	11.9	11.8	11.8	12.3	12.0	12.2	12.0	12.0	12.0	11.4	11.0	11.2
20	11.9	11.8	11.8	12.3	12.0	12.2	12.2	12.0	12.1	11.0	10.9	10.9
21	12.0	11.8	11.8	12.3	12.0	12.1	12.3	12.0	12.1	10.9	10.7	10.7
22	12.1	11.8	11.9	12.3	12.0	12.3	12.2	12.0	12.0	10.7	10.5	10.5
23	12.1	11.8	11.9	12.3	12.2	12.3	12.0	12.0	12.0	10.5	10.3	10.4
24	12.1	11.8	12.0	12.3	12.0	12.3	12.0	12.0	12.0	10.3	10.3	10.3
25	12.0	12.0	12.0	12.3	12.0	12.3	12.0	12.0	12.0	10.3	10.3	10.3
26	12.1	12.0	12.0	12.3	12.2	12.3	12.0	12.0	12.0	10.3	10.3	10.3
27	12.1	12.0	12.1	12.3	12.2	12.3	12.0	12.0	12.0	10.3	10.3	10.3
28	12.1	11.9	12.0	12.3	12.1	12.3	12.0	12.0	12.0	10.3	10.3	10.3
29	12.1	12.0	12.1	12.3	12.2	12.3	12.0	12.0	12.0	10.3	10.2	10.3
30	12.1	12.1	12.1	12.3	12.2	12.3	12.0	12.0	12.0	10.3	10.2	10.3
31	12.1	12.0	12.1	---	---	---	12.0	12.0	12.0	10.3	10.3	10.3
MONTH	12.1	11.4	11.8	12.3	12.0	12.2	12.3	12.0	12.1	12.0	10.2	11.2

#1 (22.0' BLS) WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	10.3	10.3	10.3	---	---	---	9.7	9.6	9.7	9.5	9.3	9.3
2	10.5	10.3	10.3	9.7	9.5	9.7	---	---	---	9.5	9.3	9.3
3	10.5	10.5	10.5	9.7	9.5	9.6	9.7	9.5	9.6	9.5	9.3	9.3
4	10.5	10.5	10.5	---	---	---	9.7	9.5	9.6	9.5	9.3	9.4
5	10.7	10.5	10.6	---	---	---	9.7	9.5	9.6	9.5	9.3	9.5
6	10.7	10.7	10.7	---	---	---	9.7	9.5	9.6	9.5	9.5	9.5
7	10.7	10.7	10.7	---	---	---	9.5	9.5	9.5	9.5	9.5	9.5
8	10.9	10.7	10.7	---	---	---	9.5	9.5	9.5	9.5	9.5	9.5
9	10.9	10.7	10.7	9.5	9.4	9.4	9.5	9.5	9.5	9.5	9.5	9.5
10	10.7	10.7	10.7	9.7	9.4	9.5	9.5	9.3	9.4	9.5	9.5	9.5
11	10.7	10.7	10.7	9.9	9.7	9.9	9.5	9.3	9.3	9.5	9.3	9.4
12	10.7	10.5	10.7	10.3	9.9	10.0	9.3	9.3	9.3	9.3	9.3	9.3
13	10.7	10.5	10.6	10.5	10.3	10.4	9.3	9.1	9.2	9.4	9.3	9.3
14	10.7	10.5	10.5	10.5	10.3	10.5	9.1	8.9	9.0	9.3	9.1	9.3
15	10.5	10.1	10.3	10.5	10.3	10.5	8.9	8.9	8.9	9.3	9.1	9.2
16	10.1	10.0	10.1	10.5	10.3	10.4	8.9	8.9	8.9	9.3	9.1	9.2
17	10.1	8.8	9.9	10.3	10.3	10.3	8.9	8.9	8.9	9.3	9.1	9.2
18	---	---	---	10.3	10.1	10.3	9.1	8.9	9.1	9.3	9.3	9.3
19	10.1	9.9	10.0	10.3	9.9	10.1	9.3	9.1	9.2	9.3	9.3	9.3
20	---	---	---	9.9	9.9	9.9	9.5	9.3	9.3	9.4	9.3	9.3
21	---	---	---	10.1	9.9	10.0	9.5	9.1	9.3	9.3	9.3	9.3
22	10.1	9.9	9.9	10.1	10.1	10.1	9.1	9.1	9.1	9.5	9.3	9.4
23	---	---	---	10.1	9.9	10.1	9.3	9.1	9.1	9.6	9.5	9.5
24	---	---	---	10.1	9.9	9.9	9.3	9.1	9.3	9.5	9.5	9.5
25	---	---	---	9.9	9.7	9.9	9.3	9.3	9.3	9.5	9.5	9.5
26	---	---	---	9.9	9.7	9.7	9.5	9.3	9.3	9.5	9.5	9.5
27	---	---	---	9.7	9.7	9.7	9.5	9.3	9.4	9.5	9.3	9.4
28	---	---	---	9.7	9.7	9.7	9.5	9.3	9.5	9.3	9.3	9.3
29	---	---	---	9.7	9.7	9.7	9.5	9.3	9.4	9.3	9.3	9.3
30	---	---	---	9.7	9.7	9.7	9.5	9.3	9.3	9.3	9.3	9.3
31	---	---	---	9.7	9.7	9.7	---	---	---	9.4	9.3	9.3
MONTH	10.9	8.8	10.4	10.5	9.4	9.9	9.7	8.9	9.3	9.6	9.1	9.4

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

415307080414600 AB-140 NR KINGSVILLE OH--Continued

#1 (22.0' BLS)												
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	9.3	9.3	9.3	9.7	9.7	9.7	10.4	10.2	10.3	---	---	---
2	9.4	9.3	9.3	9.7	9.7	9.7	10.4	10.2	10.3	---	---	---
3	9.4	9.3	9.3	9.7	9.7	9.7	10.4	10.3	10.4	---	---	---
4	9.4	9.3	9.3	9.8	9.7	9.7	10.4	10.4	10.4	---	---	---
5	9.4	9.3	9.3	9.8	9.7	9.7	10.4	10.4	10.4	---	---	---
6	9.4	9.3	9.3	9.8	9.7	9.7	10.4	10.3	10.4	---	---	---
7	---	---	---	9.7	9.7	9.7	10.4	10.3	10.4	---	---	---
8	---	---	---	9.9	9.7	9.7	10.4	10.3	10.4	---	---	---
9	---	---	---	9.9	9.7	9.8	10.4	10.3	10.4	---	---	---
10	---	---	---	9.9	9.7	9.8	10.4	10.3	10.4	---	---	---
11	---	---	---	10.0	9.7	9.9	10.4	10.4	10.4	---	---	---
12	---	---	---	10.0	9.7	9.9	10.6	10.4	10.4	---	---	---
13	---	---	---	10.0	9.8	9.9	10.6	10.4	10.5	---	---	---
14	---	---	---	10.0	9.8	9.9	10.6	10.4	10.5	---	---	---
15	---	---	---	10.0	9.8	9.9	10.6	10.4	10.5	---	---	---
16	9.6	9.5	9.5	10.0	9.9	10.0	10.6	10.6	10.6	---	---	---
17	9.6	9.5	9.5	10.0	9.9	9.9	10.6	10.5	10.6	---	---	---
18	9.6	9.4	9.5	10.0	9.9	9.9	10.6	10.5	10.6	---	---	---
19	9.6	9.5	9.5	10.0	9.9	9.9	10.6	10.5	10.6	---	---	---
20	9.6	9.5	9.5	10.0	9.9	9.9	10.6	10.6	10.6	---	---	---
21	9.6	9.5	9.5	10.1	9.9	10.0	10.8	10.5	10.6	---	---	---
22	9.6	9.5	9.5	10.1	9.9	10.0	10.8	10.6	10.7	---	---	---
23	9.6	9.5	9.5	10.2	9.9	10.0	10.8	10.6	10.7	---	---	---
24	9.5	9.5	9.5	10.2	9.9	10.1	10.8	10.8	10.8	---	---	---
25	9.6	9.5	9.5	10.2	9.9	10.1	10.8	10.7	10.8	---	---	---
26	9.6	9.5	9.5	10.2	10.0	10.1	11.0	10.7	10.8	---	---	---
27	9.6	9.5	9.5	10.2	10.1	10.2	11.0	10.8	10.9	---	---	---
28	9.7	9.5	9.6	10.2	10.1	10.2	11.0	10.8	10.9	---	---	---
29	9.7	9.5	9.6	10.4	10.1	10.2	11.0	10.8	11.0	---	---	---
30	9.7	9.5	9.7	10.4	10.1	10.2	11.0	11.0	11.0	---	---	---
31	---	---	---	10.4	10.1	10.2	---	---	---	---	---	---
MONTH	9.7	9.3	9.5	10.4	9.7	9.9	11.0	10.2	10.6	---	---	---
YEAR	12.3	8.8	10.6									

#2 (18.0' BLS)												
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	12.5	12.5	12.5	12.8	12.7	12.7	12.7	12.5	12.7	12.0	11.8	12.0
2	12.7	12.5	12.5	12.8	12.7	12.7	12.7	12.5	12.6	12.0	11.8	11.9
3	12.5	12.5	12.5	12.8	12.7	12.7	12.7	12.5	12.5	12.0	11.8	11.8
4	12.7	12.5	12.5	12.8	12.8	12.8	12.5	12.5	12.5	12.0	11.8	11.8
5	12.7	12.5	12.6	12.8	12.8	12.8	12.5	12.5	12.5	11.8	11.8	11.8
6	12.7	12.5	12.6	12.8	12.7	12.8	12.5	12.5	12.5	11.8	11.8	11.8
7	12.8	12.5	12.6	12.8	12.7	12.8	12.5	12.5	12.5	11.8	11.6	11.7
8	12.8	12.5	12.6	12.8	12.7	12.8	12.5	12.5	12.5	11.8	11.6	11.6
9	12.8	12.5	12.6	12.8	12.7	12.7	12.5	12.5	12.5	11.6	11.6	11.6
10	12.8	12.7	12.7	12.8	12.7	12.7	12.5	12.5	12.5	11.6	11.5	11.6
11	12.8	12.5	12.7	12.8	12.7	12.7	12.5	12.5	12.5	11.6	11.6	11.6
12	12.8	12.6	12.7	12.8	12.7	12.7	12.5	12.5	12.5	11.6	11.4	11.4
13	12.8	12.5	12.7	12.8	12.7	12.8	12.5	12.2	12.4	11.4	11.2	11.2
14	12.8	12.7	12.8	12.8	12.7	12.8	12.3	12.2	12.2	11.2	11.2	11.2
15	12.8	12.7	12.8	12.8	12.7	12.7	12.3	12.2	12.3	11.2	11.1	11.2
16	12.8	12.7	12.8	12.8	12.7	12.7	12.3	12.3	12.3	11.4	9.5	10.9
17	12.8	12.7	12.8	12.8	12.7	12.7	12.3	12.3	12.3	10.1	9.7	9.8
18	12.8	12.7	12.8	12.8	12.7	12.8	12.3	12.2	12.3	10.3	10.1	10.1
19	12.8	12.8	12.8	12.8	12.7	12.7	12.3	12.0	12.1	10.3	10.1	10.3
20	12.8	12.8	12.8	12.7	12.7	12.7	12.3	12.0	12.2	10.3	10.3	10.3
21	12.8	12.7	12.8	12.8	12.7	12.8	12.3	12.2	12.3	10.3	10.3	10.3
22	12.8	12.7	12.8	12.7	12.7	12.7	12.3	12.2	12.3	10.3	10.3	10.3
23	12.8	12.7	12.8	12.7	12.7	12.7	12.3	12.2	12.3	10.3	10.3	10.3
24	12.8	12.7	12.7	12.7	12.7	12.7	12.3	12.3	12.3	10.3	10.3	10.3
25	12.7	12.7	12.7	12.7	12.7	12.7	12.3	12.0	12.2	10.3	10.3	10.3
26	12.8	12.7	12.7	12.7	12.7	12.7	12.3	12.0	12.1	10.3	10.3	10.3
27	13.0	12.7	12.8	12.7	12.7	12.7	12.2	12.0	12.0	10.3	10.1	10.2
28	13.0	12.7	12.8	12.7	12.5	12.7	12.0	12.0	12.0	10.3	10.1	10.3
29	12.8	12.7	12.8	12.7	12.7	12.7	12.0	12.0	12.0	10.3	10.1	10.3
30	12.8	12.7	12.8	12.7	12.5	12.7	12.0	12.0	12.0	10.3	10.0	10.3
31	12.8	12.7	12.7	---	---	---	12.0	12.0	12.0	10.3	10.1	10.3
MONTH	13.0	12.5	12.7	12.8	12.5	12.7	12.7	12.0	12.3	12.0	9.5	10.9

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

415307080414600 AB-140 NR KINGSVILLE OH--Continued

#3 (14.0' BLS) WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
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	13.7	13.7	13.0	13.0	13.0	10.7	10.5	10.5
2	14.0	13.9	14.0	13.7	13.5	13.7	13.0	12.7	12.9	10.7	10.5	10.6
3	14.0	13.9	13.9	13.7	13.5	13.7	13.0	12.7	12.8	10.7	10.5	10.5
4	14.0	13.9	13.9	13.7	13.5	13.5	12.8	12.7	12.8	10.7	10.7	10.7
5	14.0	13.9	14.0	13.5	13.5	13.5	12.7	12.7	12.7	10.7	10.5	10.6
6	14.0	13.9	14.0	13.5	13.5	13.5	12.7	12.7	12.7	10.5	10.5	10.5
7	14.0	14.0	14.0	13.5	13.5	13.5	12.7	12.7	12.7	10.5	10.5	10.5
8	14.0	14.0	14.0	13.5	13.5	13.5	12.7	12.5	12.7	10.5	10.5	10.5
9	14.0	14.0	14.0	13.5	13.5	13.5	12.7	12.7	12.7	10.5	10.5	10.5
10	14.0	14.0	14.0	13.5	13.4	13.5	12.7	12.7	12.7	10.5	10.5	10.5
11	14.0	13.9	14.0	13.5	13.2	13.4	12.7	12.2	12.4	10.5	10.3	10.5
12	14.0	13.9	14.0	13.5	13.2	13.4	12.2	12.2	12.2	11.4	10.1	10.7
13	14.2	13.2	13.8	13.5	13.2	13.2	12.3	12.2	12.2	11.2	11.0	11.0
14	14.0	14.0	14.0	13.3	13.2	13.2	12.3	12.2	12.2	11.0	11.0	11.0
15	14.0	13.9	14.0	13.2	13.2	13.2	12.3	12.2	12.3	11.0	10.9	10.9
16	14.0	13.9	14.0	13.2	13.2	13.2	12.3	12.3	12.3	11.1	8.9	10.1
17	14.0	13.9	14.0	13.2	13.2	13.2	12.3	12.3	12.3	9.7	9.5	9.6
18	14.0	14.0	14.0	13.2	13.2	13.2	12.3	12.0	12.1	9.9	9.5	9.7
19	14.0	14.0	14.0	13.2	13.2	13.2	12.3	12.0	12.3	9.9	9.7	9.8
20	14.0	14.0	14.0	13.2	13.2	13.2	12.3	12.2	12.3	9.9	9.7	9.9
21	14.0	14.0	14.0	13.2	13.0	13.1	12.3	12.0	12.1	9.9	9.9	9.9
22	14.0	13.9	14.0	13.2	13.0	13.1	12.1	12.0	12.0	9.9	9.6	9.8
23	14.0	13.7	13.9	13.2	13.0	13.1	12.0	11.6	11.8	9.9	9.6	9.8
24	14.0	13.9	14.0	13.2	12.9	13.0	11.6	10.9	11.3	9.9	9.7	9.8
25	14.0	13.9	13.9	13.0	13.0	13.0	10.9	10.9	10.9	9.9	9.6	9.8
26	14.0	13.7	13.9	13.0	13.0	13.0	10.9	10.9	10.9	9.9	9.6	9.8
27	14.0	13.7	13.9	13.0	13.0	13.0	10.9	10.9	10.9	9.9	9.6	9.8
28	13.9	13.7	13.8	13.0	13.0	13.0	10.9	10.7	10.9	9.9	9.6	9.8
29	14.0	13.7	13.7	13.0	13.0	13.0	10.9	10.7	10.8	9.9	9.7	9.8
30	13.7	13.7	13.7	13.0	13.0	13.0	10.9	10.7	10.8	9.9	9.7	9.8
31	13.7	13.7	13.7	---	---	---	10.7	10.5	10.6	9.9	9.7	9.8
MONTH	14.2	13.2	13.9	13.7	12.9	13.3	13.0	10.5	12.0	11.4	8.9	10.2

#3 (14.0' BLS) WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	10.1	9.7	9.9	---	---	---	7.9	7.9	7.9	8.0	7.9	7.9
2	10.1	9.9	9.9	9.3	9.1	9.3	---	---	---	8.1	7.9	8.0
3	10.3	9.8	10.1	9.3	9.1	9.2	8.0	7.8	7.9	8.2	8.1	8.1
4	10.3	10.1	10.2	---	---	---	7.9	7.9	7.9	8.3	8.1	8.2
5	10.5	9.4	10.0	---	---	---	7.9	7.9	7.9	8.4	8.1	8.3
6	9.6	9.4	9.5	---	---	---	7.9	7.9	7.9	8.4	8.3	8.3
7	9.7	9.4	9.6	---	---	---	7.9	7.9	7.9	8.3	8.1	8.2
8	9.6	9.6	9.6	---	---	---	7.9	7.9	7.9	8.1	8.1	8.1
9	9.6	9.2	9.5	8.9	8.8	8.8	7.9	7.7	7.9	8.1	7.9	8.1
10	9.5	9.2	9.3	9.5	8.8	9.2	8.1	7.5	8.0	8.2	8.0	8.1
11	9.5	9.2	9.3	9.1	8.5	8.8	9.1	8.1	8.5	8.3	8.1	8.1
12	9.4	9.4	9.4	8.9	8.3	8.5	9.1	8.9	9.1	8.4	8.1	8.3
13	9.5	9.2	9.3	8.3	6.6	7.2	9.1	8.9	8.9	8.4	8.3	8.3
14	9.5	9.2	9.3	7.6	7.2	7.4	8.9	8.5	8.7	8.4	8.3	8.3
15	9.7	9.2	9.4	8.0	7.6	7.7	8.7	8.3	8.5	8.3	8.1	8.2
16	9.7	9.5	9.6	8.0	7.7	7.9	8.7	8.3	8.5	8.3	8.1	8.2
17	9.7	8.1	9.4	8.1	7.9	8.0	8.9	8.5	8.7	8.4	8.1	8.2
18	---	---	---	8.5	7.9	8.1	8.9	8.5	8.9	8.5	8.3	8.3
19	9.7	9.5	9.5	8.7	8.1	8.4	8.5	8.1	8.3	8.5	8.3	8.4
20	---	---	---	8.9	8.5	8.8	8.1	8.1	8.1	8.5	8.3	8.4
21	---	---	---	9.1	7.9	8.7	8.9	8.1	8.3	8.5	8.3	8.4
22	9.7	9.5	9.5	7.9	7.7	7.9	8.9	8.9	8.9	8.5	8.4	8.5
23	---	---	---	7.9	7.9	7.9	8.9	8.5	8.8	8.6	8.5	8.5
24	---	---	---	7.9	7.9	7.9	8.5	8.1	8.3	8.7	8.5	8.6
25	---	---	---	7.9	7.9	7.9	8.1	7.9	8.1	8.7	8.5	8.7
26	---	---	---	7.9	7.9	7.9	8.1	7.9	8.0	8.7	8.6	8.7
27	---	---	---	7.9	7.9	7.9	8.7	7.6	8.1	8.7	8.7	8.7
28	---	---	---	7.9	7.8	7.9	8.7	7.9	8.2	8.7	8.7	8.7
29	---	---	---	7.9	7.7	7.9	8.0	7.9	7.9	8.9	8.7	8.8
30	---	---	---	7.9	7.9	7.9	8.1	7.9	7.9	9.0	8.7	8.9
31	---	---	---	7.9	7.9	7.9	---	---	---	9.0	8.9	8.9
MONTH	10.5	8.1	9.6	9.5	6.6	8.2	9.1	7.5	8.3	9.0	7.9	8.4

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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415307080414600 AB-140 NR KINGSVILLE OH--Continued

#3 (14.0' BLS)												
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	8.9	8.9	8.9	10.4	10.3	10.4	12.1	11.9	12.0	---	---	---
2	9.0	8.9	8.9	10.5	10.3	10.3	12.1	11.9	12.1	---	---	---
3	9.0	8.9	8.9	10.6	10.4	10.5	12.1	12.1	12.1	---	---	---
4	9.0	8.9	8.9	10.6	10.4	10.5	12.1	12.1	12.1	---	---	---
5	9.1	8.9	9.0	10.6	10.6	10.6	12.3	12.1	12.2	---	---	---
6	9.2	9.0	9.1	10.6	10.6	10.6	12.3	12.3	12.3	---	---	---
7	---	---	---	10.8	10.5	10.6	12.4	12.3	12.3	---	---	---
8	---	---	---	10.8	10.7	10.8	12.3	12.3	12.3	---	---	---
9	---	---	---	11.0	10.7	10.8	12.4	12.3	12.3	---	---	---
10	---	---	---	11.0	10.8	10.9	12.4	12.3	12.3	---	---	---
11	---	---	---	11.0	11.0	11.0	12.6	12.3	12.4	---	---	---
12	---	---	---	11.0	11.0	11.0	12.6	12.3	12.5	---	---	---
13	---	---	---	11.2	11.0	11.0	12.6	12.4	12.5	---	---	---
14	---	---	---	11.2	11.0	11.1	12.8	12.5	12.6	---	---	---
15	---	---	---	11.2	11.0	11.2	12.8	12.6	12.6	---	---	---
16	9.6	9.5	9.5	11.2	11.2	11.2	12.8	12.6	12.8	---	---	---
17	9.6	9.5	9.5	11.2	11.2	11.2	12.8	12.8	12.8	---	---	---
18	9.7	9.5	9.6	11.5	11.2	11.3	12.8	12.8	12.8	---	---	---
19	9.8	9.6	9.7	11.5	11.4	11.4	12.8	12.8	12.8	---	---	---
20	9.8	9.7	9.7	11.5	11.4	11.4	13.0	12.8	12.8	---	---	---
21	9.9	9.7	9.8	11.5	11.4	11.4	13.0	12.8	13.0	---	---	---
22	10.0	9.7	9.9	11.5	11.4	11.4	13.0	13.0	13.0	---	---	---
23	10.0	9.9	9.9	11.5	11.4	11.4	13.0	13.0	13.0	---	---	---
24	10.0	9.9	9.9	11.7	11.4	11.5	13.0	13.0	13.0	---	---	---
25	10.2	9.9	10.0	11.7	11.5	11.6	13.0	13.0	13.0	---	---	---
26	10.2	10.0	10.1	11.7	11.6	11.7	13.1	13.0	13.0	---	---	---
27	10.2	10.1	10.1	11.7	11.6	11.7	13.0	13.0	13.0	---	---	---
28	10.4	10.1	10.2	11.7	11.6	11.7	13.2	13.0	13.1	---	---	---
29	10.4	10.3	10.4	11.9	11.6	11.8	13.3	13.0	13.2	---	---	---
30	10.4	10.3	10.4	11.9	11.9	11.9	13.3	13.0	13.3	---	---	---
31	---	---	---	11.9	11.9	11.9	---	---	---	---	---	---
MONTH	10.4	8.9	9.6	11.9	10.3	11.2	13.3	11.9	12.6	---	---	---
YEAR	14.2	6.6	10.8									

#4 (10.0' BLS)												
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	15.2	15.2	15.2	14.0	13.7	13.9	12.3	12.2	12.3	10.3	10.3	10.3
2	15.3	15.2	15.2	14.0	13.7	13.8	12.3	12.1	12.3	10.3	10.3	10.3
3	15.2	15.2	15.2	13.7	13.7	13.7	12.3	12.0	12.1	10.3	10.3	10.3
4	15.2	15.2	15.2	13.7	13.7	13.7	12.1	12.0	12.1	10.3	10.2	10.3
5	15.2	15.0	15.2	13.7	13.5	13.6	12.1	12.0	12.1	10.3	10.2	10.3
6	15.2	15.0	15.1	13.7	13.5	13.5	12.0	11.8	11.9	10.3	10.1	10.2
7	15.2	15.0	15.0	13.5	13.5	13.5	11.8	11.8	11.8	10.3	10.1	10.1
8	15.0	15.0	15.0	13.5	13.5	13.5	11.8	11.8	11.8	10.3	10.0	10.1
9	15.0	15.0	15.0	13.5	13.5	13.5	11.8	11.6	11.8	10.3	10.0	10.1
10	15.0	15.0	15.0	13.5	13.4	13.5	11.8	11.8	11.8	10.3	10.0	10.1
11	15.0	15.0	15.0	13.5	13.2	13.4	12.2	11.6	11.9	10.1	9.9	10.0
12	15.0	14.7	14.9	13.4	13.2	13.3	12.0	12.0	12.0	10.1	9.1	9.7
13	15.0	14.0	14.7	13.2	13.2	13.2	12.0	11.8	12.0	10.6	9.1	10.1
14	14.7	14.7	14.7	13.3	13.0	13.2	12.0	11.8	11.9	10.5	8.9	9.8
15	14.7	14.7	14.7	13.2	13.0	13.2	12.0	11.4	11.8	10.5	8.9	10.0
16	14.7	14.7	14.7	13.2	13.0	13.1	11.6	11.1	11.4	10.5	8.3	9.2
17	14.8	14.5	14.6	13.0	13.0	13.0	11.4	11.1	11.3	9.1	8.9	8.9
18	14.7	14.5	14.5	13.0	13.0	13.0	11.8	11.4	11.5	9.1	8.9	9.0
19	14.5	14.5	14.5	13.0	13.0	13.0	11.4	10.9	11.0	9.3	9.1	9.2
20	14.5	14.2	14.5	13.0	13.0	13.0	10.9	10.1	10.4	9.5	9.3	9.3
21	14.5	14.2	14.3	13.0	12.7	12.9	10.3	10.1	10.2	9.5	9.3	9.3
22	14.5	14.2	14.2	13.0	12.7	12.8	10.5	10.3	10.3	9.5	9.2	9.3
23	14.2	14.2	14.2	13.0	12.7	12.7	10.5	10.5	10.5	9.5	9.2	9.3
24	14.2	14.2	14.2	12.7	12.7	12.7	10.5	10.5	10.5	9.3	9.2	9.3
25	14.2	14.2	14.2	12.7	12.7	12.7	10.7	10.5	10.5	9.3	9.2	9.3
26	14.2	14.0	14.2	12.7	12.5	12.7	10.7	10.5	10.6	9.5	9.2	9.3
27	14.2	13.9	14.1	12.7	12.5	12.6	10.7	10.5	10.5	9.3	9.1	9.2
28	14.0	13.9	14.0	12.5	12.5	12.5	10.5	10.5	10.5	9.3	9.2	9.3
29	14.0	14.0	14.0	12.5	12.2	12.4	10.5	10.5	10.5	9.3	9.2	9.3
30	14.0	14.0	14.0	12.3	12.2	12.3	10.5	10.3	10.4	9.3	9.2	9.3
31	14.0	14.0	14.0	---	---	---	10.5	10.3	10.3	9.3	9.1	9.2
MONTH	15.3	13.9	14.6	14.0	12.2	13.1	12.3	10.1	11.3	10.6	8.3	9.7

**EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW
UNCONSOLIDATED AQUIFERS IN OHIO**

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GROUND-WATER RECORDS

413551083481200. Local number, LU-20.

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

AQUIFER.--Sand of Quaternary age.

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

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

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

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

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, 634 microsiemens January 29, 1994; minimum, 82 microsiemens May 22-23, 26, 1994.

AIR TEMPERATURE: Maximum, 38.2°C July 14, 1995; minimum, -28.1°C January 19, 1994.

WATER TEMPERATURE:

LEVEL 1- Maximum, 12.7°C several days in November, December 1991; minimum, 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, 31.3°C June 19, 1994; minimum, -4.7°C February 6, 1994.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE:

LEVEL 1- Maximum, 850 microsiemens January 9, 1995; minimum, 357 microsiemens April 15, 1995.

LEVEL 2- Maximum, 833 microsiemens January 9, 1995; minimum, 349 microsiemens April 14-15, 1995.

LEVEL 3- Maximum, 500 microsiemens May 29-30, 1995; minimum, 150 microsiemens July 18-19, 1995.

LEVEL 4- Maximum, 407 microsiemens February 25-26, 1995; minimum, 94 microsiemens October 30, 1994, and June 21-26, 1995.

AIR TEMPERATURE: Maximum, 38.2°C July 14, 1995; minimum, -18.6°C February 12, 1995.

WATER TEMPERATURE:

LEVEL 1- Maximum, 12.4°C many days in December, 1994, January, 1995; minimum, 10.2°C many days in May, and June, 1995.

LEVEL 2- Maximum, 12.9°C many days in November, December, 1994; minimum, 9.8°C many days in April, 1995.

LEVEL 3- Maximum, 14.9°C September 13-19, 1995; minimum, 8.8°C several days in March, April, 1995.

LEVEL 4- Maximum, 17.4°C September 1-7, 9-18, 1995; minimum, 7.6°C March 10-17, 1995.

SOIL TEMPERATURE: Maximum, 29.2°C August 14, 1995; minimum, -4.3°C February 14, 1995.

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

413551083481200 LU-20 NR HOLLAND OH--Continued

#1 (26.6' BLS) SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	830	828	829	841	835	839	835	833	834	834	832	833
2	831	826	828	840	835	837	835	833	834	835	834	834
3	833	826	829	840	835	838	835	832	834	835	833	834
4	832	827	829	841	835	839	835	833	834	836	834	835
5	833	828	829	841	835	837	834	833	833	836	834	835
6	834	829	830	837	835	835	835	833	834	835	834	835
7	834	829	831	836	835	836	835	828	833	836	834	835
8	831	829	830	840	835	836	835	828	831	836	835	835
9	833	827	831	837	834	836	---	---	---	850	834	836
10	833	828	831	836	835	835	837	831	833	836	835	835
11	834	828	831	837	835	836	836	831	832	835	834	835
12	834	829	832	837	835	836	836	831	832	840	834	837
13	835	830	832	836	834	835	833	831	832	840	835	839
14	835	830	832	836	834	835	833	832	832	840	835	839
15	836	831	832	836	834	835	837	832	833	840	834	836
16	836	831	832	837	831	836	836	830	832	835	834	835
17	836	831	833	837	830	835	836	830	832	839	833	834
18	836	832	833	---	---	---	835	829	830	839	833	836
19	834	833	833	---	---	---	831	828	830	839	833	836
20	835	833	834	837	831	836	834	829	831	838	831	835
21	835	834	834	838	833	837	835	829	831	836	828	831
22	836	834	835	837	833	834	834	830	831	834	828	829
23	837	834	836	839	833	834	831	830	830	834	829	830
24	837	836	837	839	833	834	831	830	830	835	830	832
25	838	837	837	839	834	835	832	830	831	835	830	833
26	838	837	838	835	834	835	832	830	831	835	830	832
27	839	837	838	836	833	835	832	831	831	835	829	832
28	840	838	839	834	833	834	832	831	832	835	830	834
29	840	838	839	835	833	834	833	831	832	836	831	835
30	840	838	839	835	833	834	833	832	832	837	831	835
31	841	839	840	---	---	---	833	832	832	836	835	836
MONTH	841	826	833	841	830	836	837	828	832	850	828	834

#1 (26.6' BLS) SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	836	835	836	438	436	437	392	390	391	386	376	381
2	837	835	836	439	438	439	---	---	---	397	386	392
3	837	832	836	441	437	438	394	391	392	409	397	404
4	836	834	835	438	435	437	392	390	391	422	409	416
5	835	834	835	437	432	435	392	390	391	436	422	430
6	835	833	834	432	429	430	393	389	392	449	436	443
7	834	832	833	437	428	431	390	388	389	459	448	454
8	837	831	833	448	437	445	398	389	393	466	458	462
9	831	823	828	442	425	432	433	397	409	475	466	471
10	824	822	823	425	409	417	433	409	422	486	475	480
11	822	816	820	409	392	401	409	382	396	494	484	489
12	821	815	818	392	381	387	382	372	376	499	492	496
13	817	811	814	383	374	378	373	361	366	503	497	500
14	811	805	808	374	369	371	361	358	360	506	502	504
15	805	789	798	369	365	367	360	357	359	511	503	508
16	789	770	781	365	363	364	361	358	360	517	509	513
17	770	752	762	364	363	363	362	361	361	519	514	517
18	756	739	747	366	363	365	370	361	365	524	519	521
19	739	717	727	366	364	365	372	368	371	529	521	525
20	717	694	706	366	364	365	371	369	370	533	528	530
21	694	671	682	366	364	365	379	368	372	537	531	534
22	671	647	659	369	366	367	383	379	381	540	534	538
23	647	622	635	371	369	369	380	376	378	543	539	541
24	622	591	608	374	371	373	377	373	375	551	542	546
25	591	457	517	378	374	376	373	370	372	552	550	552
26	457	445	451	380	378	379	372	369	370	555	551	553
27	445	438	441	381	379	380	370	368	369	557	552	554
28	442	437	439	383	381	382	370	368	369	559	554	556
29	---	---	---	386	382	384	371	368	369	561	557	560
30	---	---	---	389	386	387	376	369	372	567	561	563
31	---	---	---	391	389	390	---	---	---	568	563	566
MONTH	837	437	734	448	363	394	433	357	379	568	376	500

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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<div style="text-align: center;">#1 (26.6' BLS)</div> <div style="text-align: center;">SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995</div>												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	651	647	648	721	715	718	785	783	784
2	576	570	572	654	648	650	724	718	720	787	781	785
3	579	573	576	657	651	653	726	721	723	788	783	787
4	582	577	579	659	655	656	727	724	725	790	786	789
5	584	580	582	662	657	658	731	727	729	791	786	789
6	586	582	584	662	659	660	733	731	731	793	787	791
7	589	584	587	663	660	662	735	733	734	794	789	791
8	591	586	588	667	663	665	739	735	737	793	791	792
9	593	587	590	670	667	668	742	739	740	798	793	794
10	595	591	592	672	670	671	744	742	743	796	795	795
11	598	593	596	674	672	673	746	744	745	798	796	797
12	601	597	599	676	674	675	749	746	748	798	797	798
13	605	600	603	678	676	677	752	749	751	799	798	798
14	607	603	604	680	678	679	754	752	753	801	799	800
15	609	602	606	682	680	680	756	754	755	803	801	802
16	610	604	608	684	682	682	758	756	757	804	799	803
17	612	607	609	685	683	684	762	758	760	805	801	804
18	614	609	611	687	685	686	764	761	763	807	801	804
19	615	611	612	689	685	688	766	764	765	809	803	805
20	617	612	614	692	689	690	767	766	766	---	---	---
21	618	612	615	694	691	693	770	767	768	---	---	---
22	619	614	617	696	691	694	771	769	770	---	---	---
23	619	617	618	698	696	697	773	768	771	---	---	---
24	621	617	620	701	695	699	774	773	773	---	---	---
25	623	621	622	703	698	701	776	770	773	---	---	---
26	631	620	625	706	700	703	778	772	775	---	---	---
27	650	627	644	708	702	705	779	774	776	---	---	---
28	651	646	649	711	705	708	781	775	778	---	---	---
29	650	646	647	713	707	710	783	777	780	---	---	---
30	650	646	647	716	710	713	784	779	781	---	---	---
31	---	---	---	719	713	716	786	781	782	---	---	---
MONTH	651	570	607	719	647	682	786	715	755	809	781	795
YEAR	850	357	678									

<div style="text-align: center;">#2 (21.6' BLS)</div> <div style="text-align: center;">SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995</div>												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	803	802	803	828	826	827	827	826	826	823	823	823
2	805	803	804	828	827	828	826	825	826	824	823	823
3	806	801	805	829	827	828	826	825	825	824	823	823
4	807	802	804	828	827	827	825	824	825	824	823	823
5	809	803	806	828	827	828	825	825	825	824	822	823
6	811	805	807	829	828	829	825	825	825	823	822	822
7	811	807	808	830	825	828	827	825	826	823	821	822
8	813	807	809	830	829	829	827	824	826	822	821	822
9	811	809	810	831	829	830	---	---	---	833	821	822
10	812	811	811	831	826	830	820	816	818	821	820	821
11	813	812	812	831	826	828	821	820	820	821	819	820
12	814	810	814	832	826	829	823	821	822	824	819	821
13	816	814	815	832	826	829	823	823	823	824	823	823
14	816	815	816	831	830	830	824	823	824	823	819	823
15	817	812	816	831	826	828	824	823	824	824	819	823
16	818	812	817	831	826	827	824	823	824	826	820	825
17	819	814	817	831	826	827	830	824	825	827	821	826
18	820	815	818	---	---	---	831	825	826	827	826	827
19	821	816	818	---	---	---	831	826	827	827	826	827
20	822	816	818	826	826	826	831	825	828	827	826	827
21	819	818	818	830	825	826	829	824	827	827	825	826
22	823	818	819	826	826	826	829	824	826	826	823	824
23	821	819	820	827	826	827	828	823	827	823	805	818
24	822	820	821	827	826	826	828	827	827	805	799	801
25	822	821	822	826	825	826	827	822	826	803	797	800
26	823	822	822	827	826	826	827	825	826	800	793	797
27	824	823	823	827	826	826	826	825	825	797	791	794
28	824	823	823	827	825	826	825	824	824	791	784	788
29	824	823	824	827	826	826	824	823	824	784	770	779
30	825	824	824	827	826	826	824	823	824	772	757	765
31	826	825	825	---	---	---	824	823	823	757	736	747
MONTH	826	801	815	832	825	827	831	816	825	833	736	813

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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#3 (13.6' BLS) SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	314	311	313	351	334	343	344	342	343	175	172	173
2	313	311	311	353	351	353	344	341	343	173	171	172
3	313	312	312	352	339	346	343	341	342	174	172	174
4	315	311	313	339	334	336	341	339	340	174	172	173
5	316	314	315	342	332	334	339	337	339	174	172	173
6	316	314	315	360	342	357	337	331	334	174	172	173
7	318	314	316	360	353	356	361	332	351	172	169	170
8	320	317	318	353	347	349	362	330	352	170	169	170
9	320	317	319	376	346	357	---	---	---	171	169	169
10	318	317	318	379	371	377	299	246	273	170	168	169
11	321	318	319	371	358	364	322	287	300	170	169	169
12	323	319	321	358	355	357	320	307	313	170	168	169
13	323	321	322	360	355	358	323	285	302	169	167	168
14	323	320	322	360	360	360	285	209	251	169	168	168
15	323	321	322	360	358	359	308	228	290	172	169	170
16	324	321	323	359	358	359	286	174	231	177	171	174
17	327	323	325	361	359	359	356	213	299	180	175	178
18	328	325	326	---	---	---	422	342	371	195	180	182
19	328	326	328	---	---	---	448	421	432	191	189	190
20	328	325	327	355	352	354	439	397	419	194	189	192
21	330	325	327	356	350	354	397	345	376	458	194	335
22	331	328	330	350	347	348	345	209	311	427	253	382
23	331	329	331	348	347	348	209	191	197	253	237	244
24	332	328	330	350	348	349	192	184	188	237	224	230
25	332	331	331	349	348	349	188	181	183	241	223	228
26	331	329	331	349	348	349	182	177	180	229	221	224
27	332	331	332	360	349	352	178	173	175	221	214	217
28	332	331	332	371	360	368	174	170	172	224	211	214
29	332	330	331	369	352	360	170	168	169	217	211	214
30	330	329	329	352	344	348	170	169	169	212	206	209
31	334	329	331	---	---	---	179	170	174	207	201	204
MONTH	334	311	323	379	332	354	448	168	284	458	167	199

#3 (13.6' BLS) SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	202	199	200	391	384	388	345	338	343	339	328	333
2	210	198	205	392	386	390	---	---	---	351	339	345
3	207	202	205	393	387	391	346	340	344	363	351	358
4	204	200	202	391	384	387	345	339	341	375	362	369
5	201	198	200	388	380	385	344	338	342	389	375	382
6	200	197	199	384	374	380	344	339	342	401	389	395
7	200	196	198	388	375	381	343	337	340	410	401	405
8	207	196	199	398	385	393	351	340	345	418	409	414
9	215	207	211	393	375	383	373	347	356	427	417	421
10	209	203	207	376	359	369	374	359	369	432	425	429
11	204	201	203	361	343	353	362	329	345	442	432	437
12	203	200	202	347	332	339	329	321	325	447	440	444
13	204	201	203	335	326	331	324	309	316	449	445	448
14	205	202	203	330	320	325	312	307	311	453	449	451
15	227	203	218	325	317	322	313	305	310	458	452	455
16	223	220	222	320	315	318	315	307	310	461	456	459
17	223	220	222	319	313	316	316	308	311	464	459	461
18	227	221	224	320	315	318	319	311	314	467	463	465
19	234	226	230	322	314	318	326	316	321	471	467	469
20	240	232	237	322	315	318	323	318	320	476	470	473
21	248	238	243	320	316	318	328	316	320	478	474	476
22	254	246	250	323	318	320	334	327	331	481	478	479
23	265	251	259	325	319	323	331	323	327	484	481	482
24	286	262	270	330	322	326	327	320	324	488	481	484
25	407	286	376	332	324	329	325	317	320	494	488	491
26	404	392	398	334	327	331	323	317	320	493	491	492
27	395	388	391	335	330	333	322	316	318	495	492	494
28	391	385	389	337	330	334	322	317	319	493	486	490
29	---	---	---	340	333	336	322	317	319	500	492	498
30	---	---	---	342	335	340	328	320	324	500	494	497
31	---	---	---	343	338	340	---	---	---	495	465	488
MONTH	407	196	242	398	313	346	374	305	329	500	328	445

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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#3 (13.6' BLS) SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	191	182	186	215	213	214	252	250	251
2	385	367	375	183	182	183	218	215	216	251	249	250
3	450	379	420	184	182	183	220	217	219	250	250	250
4	474	450	465	186	183	184	225	219	222	250	249	250
5	459	380	425	190	186	189	231	225	228	251	250	251
6	380	321	347	196	190	193	231	229	230	253	250	252
7	321	240	281	202	195	198	231	228	230	254	251	253
8	241	222	229	205	197	203	236	230	233	253	251	252
9	229	220	224	205	204	205	239	236	238	254	253	254
10	246	215	220	206	204	205	240	238	239	254	253	253
11	421	246	354	205	202	204	241	239	240	255	253	254
12	429	416	425	202	196	201	242	241	242	255	254	255
13	416	384	404	196	185	193	246	241	244	255	254	255
14	384	310	347	187	179	185	245	244	245	255	253	254
15	310	267	289	179	167	174	246	244	245	254	253	253
16	267	236	251	169	161	167	246	243	245	256	254	255
17	236	215	225	163	156	161	251	244	247	256	255	256
18	215	199	206	156	150	154	255	251	253	255	254	255
19	199	188	194	155	150	152	256	255	255	257	255	256
20	188	174	182	157	154	156	257	256	256	---	---	---
21	174	170	173	162	156	159	258	256	257	---	---	---
22	172	169	171	174	159	168	256	255	255	---	---	---
23	173	169	171	176	171	174	255	254	255	---	---	---
24	175	171	173	181	175	178	255	254	254	---	---	---
25	177	173	175	187	179	184	254	253	253	---	---	---
26	262	176	197	192	186	189	254	253	253	---	---	---
27	477	262	439	198	191	195	253	252	253	---	---	---
28	447	254	328	201	198	200	253	250	252	---	---	---
29	254	215	234	204	199	201	252	250	251	---	---	---
30	215	191	202	209	203	206	252	251	251	---	---	---
31	---	---	---	213	209	211	252	251	252	---	---	---
MONTH	477	169	280	213	150	185	258	213	243	257	249	253
YEAR	500	150	291									

#4 (8.6' BLS) SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	100	99	100	96	96	96	114	112	113	173	171	172
2	100	99	99	97	96	96	115	114	115	172	171	171
3	99	99	99	97	96	97	116	115	115	173	171	172
4	100	99	99	97	97	97	116	115	116	173	171	172
5	100	99	99	97	96	97	116	115	116	173	171	172
6	100	99	100	97	96	97	118	116	117	172	171	172
7	100	99	99	97	97	97	124	118	120	172	169	170
8	100	99	100	98	97	97	145	124	133	170	169	169
9	100	99	99	97	97	97	---	---	---	172	169	169
10	100	99	99	99	97	98	137	135	136	170	169	169
11	99	99	99	99	99	99	135	134	134	170	169	170
12	99	99	99	99	99	99	145	134	136	170	168	169
13	99	99	99	100	99	99	150	145	149	168	167	167
14	99	99	99	101	99	100	174	149	159	169	167	168
15	99	98	99	102	100	101	171	163	167	172	169	170
16	99	98	99	104	102	104	173	162	167	176	172	174
17	99	98	99	103	102	103	172	170	171	180	176	178
18	99	98	99	---	---	---	186	172	183	189	180	182
19	99	98	98	---	---	---	203	185	196	191	189	190
20	99	98	98	102	101	101	223	198	208	195	189	192
21	99	98	98	102	101	102	210	194	202	215	194	208
22	99	98	99	102	101	102	197	187	190	256	214	222
23	99	98	99	102	102	102	201	189	195	252	235	244
24	98	98	98	103	102	102	190	182	185	235	223	229
25	98	98	98	103	103	103	182	179	181	232	222	227
26	98	98	98	104	103	104	180	176	177	229	220	224
27	98	97	97	105	104	104	176	172	174	221	214	217
28	98	96	97	108	105	106	173	169	171	218	210	213
29	97	95	96	112	108	110	169	168	168	218	211	215
30	95	94	95	113	111	112	169	168	169	212	206	209
31	96	95	96	---	---	---	174	169	173	206	203	205
MONTH	100	94	98	113	96	101	223	112	158	256	167	190

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

413551083481200 LU-20 NR HOLLAND OH--Continued

TEMPERATURE, AIR, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	16.4	10.2	14.4	8.8	2.8	6.3	7.5	-5.6	1.7	1.8	-8.0	-4.4
2	16.8	4.9	11.0	14.3	-5	6.4	13.3	2.1	6.6	-5.5	-10.9	-8.1
3	15.4	3.9	9.9	18.7	5.3	13.5	14.8	3.1	10.0	-6.0	-10.9	-8.1
4	15.4	3.9	9.5	17.3	15.8	16.6	14.6	8.0	11.1	-10.8	-15.9	-12.9
5	14.0	3.9	9.3	16.1	13.5	14.4	13.4	9.4	10.8	-6.6	-16.9	-12.0
6	20.8	2.5	10.9	16.2	4.2	10.5	10.9	1.5	6.3	-2.0	-9.9	-4.4
7	27.6	7.6	17.4	13.1	-7	6.2	1.5	-4.3	-6	-2.9	-9.2	-5.3
8	26.1	13.6	20.1	17.2	5.1	11.8	2.2	-8.0	-3.2	-4.3	-13.0	-7.2
9	15.2	4.0	11.3	12.7	4.9	8.1	---	---	---	-6.2	-15.6	-10.0
10	13.5	-.2	6.5	11.7	.8	4.9	.5	-2.6	-.6	-2.6	-7.9	-5.4
11	16.6	-1.3	6.9	11.2	-2.7	3.9	-1.7	-6.6	-3.5	3.8	-2.6	.7
12	19.8	1.1	10.5	13.0	-2.2	6.4	-1.8	-10.3	-5.6	16.5	3.8	11.1
13	22.0	5.0	12.5	20.5	4.6	12.5	-1.3	-11.9	-4.5	17.5	10.2	13.8
14	20.2	9.1	13.6	16.4	11.3	15.2	-1.3	-2.9	-2.1	16.8	8.9	11.9
15	20.7	9.4	14.0	11.3	4.9	7.9	2.6	-3.2	-.4	9.0	-.6	3.0
16	23.4	9.4	14.9	10.2	3.0	6.3	8.0	-.4	3.3	-.6	-1.5	-1.0
17	26.3	4.3	14.9	15.1	2.8	8.6	7.8	1.4	3.8	2.6	-1.7	.5
18	24.5	10.7	16.9	---	---	---	3.5	-2.6	1.5	6.4	1.8	3.9
19	18.6	14.5	16.1	---	---	---	3.2	-4.7	-.6	4.6	.4	2.4
20	18.9	8.3	13.5	13.2	4.1	9.0	7.5	-2.7	1.2	4.7	.2	2.2
21	18.4	4.2	10.3	15.2	4.5	10.9	10.9	-4.7	1.6	.3	-5.5	-2.4
22	21.4	3.8	12.0	4.5	-2.1	1.7	11.0	-3.8	1.6	-5.3	-7.0	-6.3
23	17.7	4.0	11.8	5.1	-6.9	-.5	5.0	-1.1	2.6	-2.7	-7.0	-5.1
24	13.3	2.4	6.8	9.9	-7.5	1.9	5.1	-2.3	2.5	-1.1	-7.6	-3.7
25	8.3	4.2	5.7	9.0	-1.4	3.8	6.2	-4.4	-.3	-2.4	-8.2	-6.2
26	9.9	.2	6.0	4.5	-4.3	-.5	-.2	-1.4	-.7	-1.3	-10.0	-5.2
27	13.5	-.1	6.7	13.3	.7	5.3	1.3	-1.9	-.5	1.3	-12.9	-6.0
28	17.3	2.7	10.2	13.3	3.0	5.0	5.6	.5	3.0	-2.0	-9.1	-5.3
29	20.1	9.7	14.9	4.8	-2.4	1.5	1.5	-3.9	-.7	-2.2	-11.3	-6.0
30	16.5	11.2	13.5	2.2	-2.7	-.6	4.6	-4.1	.2	-1.3	-14.2	-7.8
31	13.5	7.7	10.8	---	---	---	3.1	-.7	1.9	1.7	-6.1	-1.8
MONTH	27.6	-1.3	11.7	20.5	-7.5	7.0	14.8	-11.9	1.5	17.5	-16.9	-2.6

TEMPERATURE, AIR, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	3.6	.5	1.6	-2.5	-7.9	-4.3	7.5	-1.4	2.7	---	---	---
2	.5	-9.1	-2.3	-3.7	-10.4	-7.3	---	---	---	---	---	---
3	-2.7	-10.6	-6.3	.6	-12.1	-5.9	16.9	1.3	8.7	---	---	---
4	-3.2	-10.9	-5.3	4.9	-10.3	-2.8	9.4	-7.9	.3	---	---	---
5	-10.9	-16.3	-14.1	6.0	-2.9	2.0	5.3	-10.9	-1.9	---	---	---
6	-7.8	-13.6	-10.6	4.3	-.3	1.6	19.1	2.4	9.4	---	---	---
7	-6.6	-13.4	-10.0	16.9	-2.1	4.5	9.8	.3	4.6	---	---	---
8	-6.7	-14.2	-10.3	-2.0	-5.0	-3.3	8.8	2.0	5.2	---	---	---
9	-.9	-12.1	-6.0	-2.1	-9.9	-6.2	5.4	-.7	1.6	---	---	---
10	2.5	-6.4	-1.1	6.3	-7.8	-.3	3.0	-.7	1.7	---	---	---
11	-6.4	-17.2	-11.7	17.5	1.8	9.2	18.2	2.3	10.0	---	---	---
12	-9.9	-18.6	-14.6	20.9	.3	10.4	18.2	5.5	10.1	---	---	---
13	-3.1	-14.1	-8.2	22.9	.6	12.7	8.4	3.6	5.6	---	---	---
14	-3.0	-12.7	-8.0	23.4	2.0	12.2	12.5	.3	6.0	---	---	---
15	4.6	-6.4	.4	22.2	2.2	12.3	12.2	-.5	6.3	---	---	---
16	1.0	-5.2	-1.0	20.8	5.3	12.7	12.5	5.6	8.2	---	---	---
17	4.7	-8.1	-1.8	11.2	-.7	5.0	15.9	4.6	9.6	---	---	---
18	8.6	-4.3	1.7	10.2	-2.5	3.2	25.2	5.7	13.9	---	---	---
19	10.5	-2.8	3.4	16.7	.5	8.7	20.5	3.3	10.1	---	---	---
20	4.7	-3.6	.5	19.1	4.5	11.1	7.1	2.6	5.2	---	---	---
21	1.8	-6.6	-2.8	8.5	3.2	5.8	20.5	6.9	13.2	---	---	---
22	7.6	-5.7	.2	11.2	2.2	5.6	13.9	5.6	8.9	---	---	---
23	9.5	-1.1	3.0	4.0	-2.8	1.9	10.4	.4	6.0	---	---	---
24	1.0	-5.4	-2.5	11.7	-4.1	3.2	---	---	---	---	---	---
25	4.4	-5.4	-.8	14.3	-5.3	4.7	---	---	---	---	---	---
26	-2.4	-4.2	-3.6	13.0	-3.2	5.1	---	---	---	---	---	---
27	.7	-2.4	-.3	6.9	.3	2.8	---	---	---	---	---	---
28	.4	-4.2	-1.0	6.0	1.0	3.3	---	---	---	---	---	---
29	---	---	---	7.6	3.5	5.2	---	---	---	---	---	---
30	---	---	---	7.2	-.5	4.1	---	---	---	---	---	---
31	---	---	---	5.9	-3.2	2.1	---	---	---	---	---	---
MONTH	10.5	-18.6	-4.0	23.4	-12.1	3.8	25.2	-10.9	6.6	---	---	---

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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413551083481200 LU-20 NR HOLLAND OH—Continued

TEMPERATURE, AIR, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	24.4	13.8	19.1	33.9	20.9	25.5	26.5	11.4	19.8
2	23.9	17.3	19.4	23.1	8.0	16.0	32.9	20.3	25.3	26.5	8.8	18.0
3	23.1	15.2	19.0	27.2	8.3	18.4	33.2	21.2	24.8	25.5	13.2	18.6
4	24.4	13.0	18.7	28.8	15.0	22.8	28.7	20.7	24.2	31.0	13.0	21.1
5	27.1	10.6	19.8	30.1	21.2	25.1	26.5	20.0	22.5	31.4	12.2	21.4
6	30.1	15.0	23.1	28.2	20.0	24.6	29.3	18.8	23.1	32.0	14.4	23.6
7	30.2	18.8	24.5	25.4	15.2	20.8	28.5	18.4	23.2	26.0	11.2	20.0
8	21.2	13.3	16.2	24.7	10.8	18.1	24.3	20.2	22.2	13.8	9.7	11.9
9	20.0	12.7	16.6	26.9	13.9	20.5	26.5	20.2	22.8	22.9	12.6	16.4
10	26.9	15.3	19.9	28.1	13.8	21.2	29.4	20.4	24.0	20.1	6.8	13.5
11	20.1	14.0	17.7	30.4	16.9	23.4	32.8	22.2	27.4	22.8	2.6	12.6
12	20.1	10.6	15.4	33.5	16.0	25.1	33.2	23.8	27.4	27.8	8.2	18.3
13	25.8	7.2	17.6	35.9	22.0	27.9	34.9	22.2	27.9	27.7	19.5	22.6
14	27.7	12.4	19.8	38.2	22.3	30.7	34.4	23.6	28.9	24.9	13.8	19.7
15	29.0	10.4	20.3	36.0	21.7	29.1	34.2	21.7	27.1	21.3	9.1	15.1
16	31.4	12.5	22.5	33.9	20.9	26.4	34.3	20.3	26.8	28.2	8.5	18.0
17	32.8	15.1	24.0	31.6	21.5	26.1	30.4	22.0	24.8	18.2	11.9	15.7
18	32.9	15.9	24.6	28.4	17.0	23.0	30.6	21.7	25.5	19.9	7.5	13.2
19	34.7	17.2	26.9	29.6	14.8	22.7	31.8	20.9	25.8	23.6	5.3	14.5
20	33.1	21.5	27.4	26.8	18.6	22.2	32.8	19.6	25.7	---	---	---
21	29.1	21.3	24.7	28.8	19.6	23.7	30.2	19.6	24.6	---	---	---
22	31.2	17.1	24.1	32.6	18.5	24.3	25.5	14.3	20.2	---	---	---
23	32.0	16.5	24.1	30.6	20.5	25.0	28.2	12.4	20.7	---	---	---
24	26.0	18.6	22.5	31.2	19.9	24.1	27.0	18.0	22.2	---	---	---
25	30.4	17.7	22.7	29.2	20.3	23.3	25.9	15.4	20.0	---	---	---
26	29.2	17.7	22.5	30.3	19.2	23.2	30.8	12.7	21.7	---	---	---
27	29.6	17.7	23.0	33.1	17.9	25.3	29.0	16.7	22.4	---	---	---
28	28.1	19.7	22.9	31.4	21.5	25.8	28.0	19.3	23.1	---	---	---
29	24.7	18.2	21.1	34.7	19.0	26.4	29.3	20.1	24.2	---	---	---
30	28.4	17.9	22.9	32.5	16.4	24.7	31.6	16.7	24.7	---	---	---
31	---	---	---	35.2	17.0	26.6	32.2	18.4	26.1	---	---	---
MONTH	34.7	7.2	21.5	38.2	8.0	23.7	34.9	12.4	24.3	32.0	2.6	17.6
YEAR	38.2	-18.6	10.1									

#1 (26.6' BLS) WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	11.3	11.3	11.3	11.9	11.7	11.8	12.2	12.1	12.1	12.4	12.4	12.4
2	11.5	11.3	11.4	11.9	11.7	11.8	12.2	12.1	12.2	12.4	12.3	12.3
3	11.5	11.3	11.4	11.9	11.7	11.8	12.2	12.1	12.2	12.4	12.3	12.3
4	11.5	11.3	11.5	12.0	11.7	11.8	12.2	12.2	12.2	12.3	12.3	12.3
5	11.5	11.3	11.5	12.0	11.7	11.9	12.2	12.2	12.2	12.4	12.3	12.3
6	11.5	11.3	11.5	12.0	11.9	11.9	12.2	12.1	12.2	12.4	12.3	12.4
7	11.5	11.3	11.5	12.0	11.9	11.9	12.4	12.1	12.2	12.4	12.3	12.4
8	11.5	11.5	11.5	12.0	11.7	11.9	12.4	12.1	12.3	12.4	12.3	12.4
9	11.7	11.5	11.5	12.0	11.9	11.9	---	---	---	12.4	11.6	12.3
10	11.7	11.5	11.6	12.0	11.9	11.9	12.4	12.1	12.3	12.4	12.3	12.4
11	11.7	11.5	11.6	12.0	11.9	11.9	12.4	12.1	12.4	12.4	12.4	12.4
12	11.7	11.5	11.6	12.0	11.9	11.9	12.4	12.1	12.3	12.4	12.1	12.3
13	11.7	11.5	11.6	12.0	11.9	11.9	12.4	12.3	12.4	12.4	12.2	12.2
14	11.7	11.5	11.7	12.0	12.0	12.0	12.4	12.4	12.4	12.4	12.2	12.2
15	11.8	11.5	11.7	12.0	11.9	11.9	12.4	12.1	12.4	12.4	12.1	12.3
16	11.8	11.5	11.7	12.1	11.9	11.9	12.4	12.2	12.4	12.4	12.4	12.4
17	11.8	11.5	11.7	12.1	11.9	12.0	12.4	12.1	12.4	12.4	12.1	12.4
18	11.8	11.5	11.7	---	---	---	12.4	12.1	12.4	12.4	12.1	12.3
19	11.7	11.7	11.7	---	---	---	12.4	12.4	12.4	12.4	12.1	12.3
20	11.7	11.7	11.7	12.2	11.9	12.0	12.4	12.2	12.3	12.4	12.1	12.2
21	11.7	11.7	11.7	12.2	11.9	12.0	12.4	12.2	12.3	12.4	12.1	12.3
22	11.8	11.7	11.7	12.2	11.9	12.1	12.4	12.2	12.3	12.4	12.1	12.3
23	11.7	11.7	11.7	12.2	11.9	12.1	12.4	12.4	12.4	12.4	12.1	12.3
24	11.7	11.7	11.7	12.2	12.0	12.1	12.4	12.4	12.4	12.4	12.1	12.3
25	11.7	11.7	11.7	12.2	11.9	12.1	12.4	12.4	12.4	12.4	12.1	12.3
26	11.7	11.7	11.7	12.2	12.1	12.1	12.4	12.4	12.4	12.4	12.1	12.2
27	11.7	11.7	11.7	12.2	12.1	12.2	12.4	12.4	12.4	12.4	12.1	12.2
28	11.7	11.7	11.7	12.2	12.1	12.2	12.4	12.4	12.4	12.4	12.1	12.2
29	11.7	11.7	11.7	12.2	12.1	12.1	12.4	12.4	12.4	12.4	12.1	12.2
30	11.7	11.7	11.7	12.2	12.1	12.1	12.4	12.4	12.4	12.3	12.1	12.2
31	11.7	11.7	11.7	---	---	---	12.4	12.4	12.4	12.1	12.1	12.1
MONTH	11.8	11.3	11.6	12.2	11.7	12.0	12.4	12.1	12.3	12.4	11.6	12.3

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

413551083481200 LU-20 NR HOLLAND OH--Continued

#1 (26.6' BLS)												
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	12.2	12.1	12.1	11.2	11.2	11.2	10.8	10.8	10.8	10.6	10.4	10.6
2	12.1	12.1	12.1	11.2	11.2	11.2	---	---	---	10.6	10.4	10.6
3	12.3	12.1	12.1	11.3	11.0	11.2	10.9	10.6	10.8	10.7	10.4	10.6
4	12.1	12.1	12.1	11.3	11.0	11.2	10.8	10.8	10.8	10.6	10.4	10.6
5	12.1	12.1	12.1	11.2	11.0	11.1	10.8	10.8	10.8	10.6	10.4	10.6
6	12.1	12.1	12.1	11.0	11.0	11.0	10.9	10.6	10.8	10.7	10.5	10.6
7	12.1	12.1	12.1	11.1	11.0	11.0	10.9	10.6	10.8	10.6	10.4	10.5
8	12.1	11.9	12.1	11.2	11.0	11.0	10.8	10.6	10.8	10.6	10.6	10.6
9	12.1	11.9	12.0	11.0	11.0	11.0	10.8	10.6	10.8	10.7	10.4	10.6
10	11.9	11.9	11.9	11.0	11.0	11.0	10.8	10.6	10.8	10.6	10.4	10.6
11	12.1	11.9	11.9	11.0	10.8	11.0	10.8	10.6	10.7	10.6	10.4	10.6
12	12.1	11.9	11.9	11.0	10.8	10.9	10.8	10.6	10.6	10.6	10.4	10.5
13	11.9	11.9	11.9	11.0	10.8	10.9	10.8	10.6	10.6	10.6	10.4	10.5
14	11.9	11.9	11.9	10.9	10.8	10.9	10.8	10.6	10.6	10.6	10.4	10.5
15	11.9	11.9	11.9	10.9	10.8	10.9	10.8	10.6	10.7	10.6	10.4	10.5
16	11.9	11.7	11.8	10.9	10.8	10.9	10.8	10.6	10.6	10.6	10.2	10.5
17	11.9	11.7	11.8	10.9	10.8	10.8	10.7	10.6	10.6	10.5	10.4	10.4
18	11.9	11.7	11.7	10.9	10.8	10.8	10.7	10.4	10.6	10.6	10.4	10.4
19	11.7	11.7	11.7	10.9	10.8	10.8	10.6	10.4	10.6	10.6	10.3	10.4
20	11.7	11.7	11.7	10.9	10.8	10.8	10.6	10.6	10.6	10.5	10.2	10.4
21	11.7	11.7	11.7	10.8	10.8	10.8	10.7	10.5	10.6	10.6	10.2	10.4
22	11.7	11.7	11.7	10.9	10.8	10.8	10.6	10.4	10.6	10.6	10.2	10.4
23	11.7	11.7	11.7	10.8	10.8	10.8	10.6	10.6	10.6	10.5	10.2	10.4
24	11.7	11.7	11.7	10.9	10.8	10.8	10.7	10.6	10.6	10.6	10.2	10.4
25	11.7	11.2	11.4	10.9	10.8	10.8	10.6	10.4	10.6	10.4	10.4	10.4
26	11.2	11.2	11.2	10.9	10.8	10.8	10.6	10.4	10.6	10.5	10.2	10.4
27	11.2	11.2	11.2	10.8	10.8	10.8	10.6	10.4	10.6	10.5	10.2	10.4
28	11.2	11.2	11.2	10.8	10.8	10.8	10.6	10.4	10.6	10.5	10.2	10.4
29	---	---	---	10.8	10.8	10.8	10.6	10.4	10.5	10.4	10.4	10.4
30	---	---	---	10.8	10.8	10.8	10.6	10.4	10.6	10.5	10.2	10.4
31	---	---	---	10.8	10.8	10.8	---	---	---	10.5	10.2	10.4
MONTH	12.3	11.2	11.8	11.3	10.8	10.9	10.9	10.4	10.7	10.7	10.2	10.5

[illegible]

**EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW
UNCONSOLIDATED AQUIFERS IN OHIO**

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413551083481200 LU-20 NR HOLLAND OH--Continued

#2 (21.6' BLS) WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	12.2	12.2	12.2	12.6	12.6	12.6	12.9	12.8	12.8	12.6	12.6	12.6
2	12.2	12.1	12.2	12.7	12.6	12.6	12.9	12.8	12.9	12.6	12.6	12.6
3	12.4	12.1	12.2	12.7	12.6	12.6	12.9	12.8	12.9	12.6	12.6	12.6
4	12.4	12.2	12.3	12.6	12.6	12.6	12.9	12.9	12.9	12.6	12.6	12.6
5	12.4	12.2	12.3	12.6	12.6	12.6	12.9	12.9	12.9	12.6	12.5	12.6
6	12.4	12.2	12.3	12.6	12.6	12.6	12.9	12.8	12.9	12.6	12.6	12.6
7	12.4	12.2	12.4	12.8	12.6	12.7	12.8	12.8	12.8	12.6	12.6	12.6
8	12.5	12.2	12.4	12.7	12.6	12.6	12.9	12.8	12.8	12.6	12.6	12.6
9	12.4	12.4	12.4	12.6	12.6	12.6	---	---	---	12.6	12.1	12.5
10	12.4	12.4	12.4	12.9	12.6	12.7	12.8	12.8	12.8	12.6	12.6	12.6
11	12.4	12.4	12.4	12.9	12.6	12.8	12.8	12.8	12.8	12.6	12.6	12.6
12	12.6	12.4	12.4	12.9	12.6	12.7	12.8	12.8	12.8	12.6	12.4	12.5
13	12.5	12.4	12.4	12.9	12.6	12.7	12.8	12.8	12.8	12.4	12.4	12.4
14	12.4	12.4	12.4	12.6	12.6	12.6	12.8	12.8	12.8	12.6	12.4	12.4
15	12.6	12.4	12.4	12.9	12.6	12.8	12.9	12.8	12.8	12.6	12.4	12.4
16	12.6	12.4	12.4	12.9	12.6	12.8	12.9	12.8	12.8	12.6	12.4	12.4
17	12.6	12.4	12.5	12.9	12.6	12.8	12.9	12.6	12.8	12.6	12.4	12.4
18	12.6	12.4	12.5	---	---	---	12.9	12.6	12.8	12.4	12.4	12.4
19	12.7	12.4	12.5	---	---	---	12.9	12.6	12.8	12.4	12.4	12.4
20	12.7	12.4	12.6	12.9	12.9	12.9	12.8	12.6	12.7	12.4	12.4	12.4
21	12.7	12.6	12.6	12.9	12.6	12.9	12.8	12.6	12.8	12.4	12.4	12.4
22	12.7	12.4	12.6	12.9	12.8	12.8	12.8	12.6	12.7	12.4	12.4	12.4
23	12.7	12.6	12.6	12.9	12.8	12.8	12.8	12.6	12.6	12.4	12.4	12.4
24	12.6	12.6	12.6	12.9	12.8	12.8	12.6	12.6	12.6	12.4	12.4	12.4
25	12.6	12.6	12.6	12.9	12.8	12.9	12.8	12.6	12.6	12.4	12.1	12.3
26	12.6	12.6	12.6	12.9	12.8	12.8	12.6	12.6	12.6	12.4	12.1	12.2
27	12.7	12.6	12.6	12.9	12.8	12.8	12.6	12.6	12.6	12.4	12.1	12.2
28	12.7	12.6	12.6	12.9	12.8	12.9	12.6	12.6	12.6	12.1	12.1	12.1
29	12.7	12.6	12.6	12.9	12.8	12.8	12.6	12.6	12.6	12.1	11.9	12.0
30	12.7	12.6	12.6	12.9	12.8	12.8	12.6	12.6	12.6	12.1	11.9	12.0
31	12.6	12.6	12.6	---	---	---	12.6	12.6	12.6	11.9	11.9	11.9
MONTH	12.7	12.1	12.5	12.9	12.6	12.7	12.9	12.6	12.7	12.6	11.9	12.4

#2 (21.6' BLS) WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	11.9	11.9	11.9	10.8	10.6	10.7	10.2	10.0	10.2	10.0	10.0	10.0
2	11.9	11.7	11.8	10.8	10.6	10.6	---	---	---	10.2	10.0	10.0
3	11.9	11.9	11.9	10.8	10.5	10.6	10.2	10.0	10.2	10.2	10.0	10.0
4	11.9	11.9	11.9	10.6	10.6	10.6	10.2	10.0	10.1	10.2	10.0	10.0
5	11.9	11.9	11.9	10.6	10.4	10.6	10.2	10.0	10.1	10.2	10.0	10.1
6	11.9	11.7	11.9	10.6	10.4	10.6	10.2	9.8	10.1	10.2	10.0	10.1
7	11.9	11.6	11.7	10.6	10.4	10.5	10.2	10.0	10.1	10.2	10.0	10.1
8	11.7	11.6	11.7	10.6	10.4	10.5	10.2	10.0	10.1	10.2	10.0	10.1
9	11.7	11.5	11.6	10.6	10.4	10.4	10.2	10.0	10.1	10.2	10.0	10.1
10	11.7	11.5	11.5	10.6	10.2	10.4	10.2	10.0	10.1	10.2	10.0	10.1
11	11.7	11.4	11.6	10.4	10.2	10.3	10.2	10.0	10.0	10.2	10.0	10.1
12	11.9	11.6	11.8	10.4	10.2	10.2	10.2	10.0	10.0	10.2	10.0	10.1
13	11.9	11.7	11.9	10.4	10.2	10.2	10.2	10.0	10.0	10.2	10.0	10.1
14	11.9	11.6	11.8	10.4	10.2	10.2	10.2	9.8	10.0	10.2	10.0	10.1
15	11.9	11.7	11.7	10.4	10.2	10.2	10.2	9.8	10.0	10.2	10.0	10.1
16	11.7	11.7	11.7	10.2	10.0	10.2	10.0	10.0	10.0	10.2	10.0	10.2
17	11.7	11.5	11.7	10.2	10.2	10.2	10.0	9.8	10.0	10.2	10.0	10.1
18	11.7	11.5	11.6	10.2	10.2	10.2	10.0	9.8	9.9	10.2	10.2	10.2
19	11.7	11.3	11.5	10.2	10.2	10.2	10.0	9.8	10.0	10.2	10.0	10.1
20	11.5	11.2	11.4	10.2	10.2	10.2	10.2	9.8	10.0	10.2	10.0	10.1
21	11.5	11.2	11.3	10.2	10.2	10.2	10.0	9.8	10.0	10.2	10.0	10.1
22	11.5	11.2	11.3	10.2	10.0	10.2	10.0	9.8	10.0	10.3	10.0	10.1
23	11.3	11.2	11.3	10.2	10.2	10.2	10.2	10.0	10.0	10.2	10.0	10.2
24	11.2	11.0	11.2	10.2	10.0	10.2	10.0	9.8	10.0	10.2	10.0	10.2
25	11.2	10.8	10.9	10.4	10.0	10.2	10.2	9.8	10.0	10.2	10.0	10.2
26	10.8	10.8	10.8	10.2	10.0	10.2	10.0	9.8	10.0	10.2	10.0	10.1
27	10.8	10.6	10.8	10.2	10.2	10.2	10.0	9.8	10.0	10.2	10.0	10.2
28	10.8	10.6	10.7	10.2	10.2	10.2	10.2	9.8	10.0	10.3	10.0	10.2
29	---	---	---	10.2	10.2	10.2	10.0	9.8	9.9	10.2	10.2	10.2
30	---	---	---	10.2	10.0	10.2	10.0	10.0	10.0	10.3	10.0	10.2
31	---	---	---	10.2	10.0	10.1	---	---	---	10.3	10.0	10.2
MONTH	11.9	10.6	11.5	10.8	10.0	10.3	10.2	9.8	10.0	10.3	10.0	10.1

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

413551083481200 LU-20 NR HOLLAND OH--Continued

#2 (21.6' BLS)												
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	10.7	10.5	10.6	10.9	10.9	10.9	11.8	11.7	11.8
2	10.3	10.2	10.2	10.7	10.5	10.6	10.9	10.9	10.9	11.8	11.7	11.7
3	10.3	10.2	10.2	10.7	10.5	10.6	10.9	10.9	10.9	11.8	11.7	11.7
4	10.3	10.2	10.2	10.7	10.5	10.6	10.9	10.9	10.9	11.8	11.7	11.8
5	10.3	10.2	10.2	10.7	10.5	10.6	11.1	10.9	10.9	12.0	11.7	11.8
6	10.3	10.2	10.3	10.7	10.5	10.7	11.1	10.9	11.0	12.0	11.7	11.9
7	10.3	10.2	10.2	10.7	10.6	10.7	11.1	10.9	11.1	12.0	12.0	12.0
8	10.2	10.2	10.2	10.7	10.6	10.7	11.1	11.1	11.1	12.0	11.9	11.9
9	10.2	10.2	10.2	10.7	10.6	10.7	11.1	11.1	11.1	12.0	12.0	12.0
10	10.3	10.2	10.2	10.7	10.5	10.6	11.1	11.1	11.1	12.0	11.9	12.0
11	10.2	10.2	10.2	10.7	10.5	10.7	11.1	11.1	11.1	12.2	11.9	12.0
12	10.2	10.2	10.2	10.7	10.5	10.7	11.3	11.1	11.1	12.2	11.9	12.0
13	10.4	10.2	10.2	10.7	10.7	10.7	11.3	11.1	11.2	12.2	12.0	12.0
14	10.3	10.2	10.2	10.7	10.5	10.7	11.4	11.1	11.3	12.2	12.0	12.1
15	10.4	10.2	10.2	10.7	10.7	10.7	11.4	11.1	11.3	12.2	12.0	12.2
16	10.4	10.2	10.3	10.7	10.6	10.7	11.4	11.3	11.3	12.2	12.0	12.2
17	10.3	10.2	10.3	10.7	10.7	10.7	11.4	11.3	11.3	12.2	12.2	12.2
18	10.4	10.2	10.3	10.9	10.6	10.7	11.4	11.3	11.3	12.4	12.2	12.2
19	10.4	10.2	10.3	10.9	10.6	10.7	11.4	11.3	11.3	12.4	12.2	12.3
20	10.4	10.2	10.3	10.9	10.6	10.7	11.5	11.3	11.4	---	---	---
21	10.5	10.2	10.3	10.9	10.6	10.7	11.5	11.3	11.4	---	---	---
22	10.5	10.2	10.3	10.9	10.6	10.7	11.6	11.3	11.5	---	---	---
23	10.5	10.2	10.3	10.9	10.6	10.8	11.7	11.5	11.6	---	---	---
24	10.5	10.2	10.4	10.9	10.7	10.8	11.7	11.5	11.5	---	---	---
25	10.5	10.3	10.4	10.9	10.7	10.9	11.7	11.5	11.6	---	---	---
26	10.5	10.3	10.4	10.9	10.9	10.9	11.8	11.5	11.6	---	---	---
27	10.6	10.4	10.5	10.9	10.9	10.9	11.8	11.5	11.7	---	---	---
28	10.6	10.4	10.5	10.9	10.9	10.9	11.8	11.6	11.7	---	---	---
29	10.7	10.4	10.5	10.9	10.9	10.9	11.8	11.7	11.8	---	---	---
30	10.7	10.4	10.6	10.9	10.9	10.9	11.8	11.7	11.8	---	---	---
31	---	---	---	10.9	10.9	10.9	11.8	11.7	11.8	---	---	---
MONTH	10.7	10.2	10.3	10.9	10.5	10.7	11.8	10.9	11.3	12.4	11.7	12.0
YEAR	12.9	9.8	11.4									

#3 (13.6' BLS)												
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	14.4	14.4	14.4	14.3	14.3	14.3	13.8	13.6	13.7	11.7	11.5	11.6
2	14.4	14.3	14.4	14.4	14.3	14.3	13.8	13.6	13.6	11.7	11.4	11.5
3	14.4	14.3	14.3	14.4	14.3	14.3	13.6	13.6	13.6	11.7	11.4	11.5
4	14.6	14.3	14.4	14.4	14.4	14.4	13.6	13.6	13.6	11.4	11.4	11.4
5	14.4	14.3	14.3	14.4	14.4	14.4	13.6	13.6	13.6	11.5	11.2	11.3
6	14.6	14.3	14.4	14.4	14.3	14.3	13.6	13.6	13.6	11.2	11.2	11.2
7	14.6	14.3	14.4	14.4	14.3	14.3	13.6	13.5	13.6	11.2	11.0	11.2
8	14.4	14.4	14.4	14.4	14.1	14.3	13.5	13.3	13.4	11.2	11.0	11.2
9	14.6	14.3	14.4	14.4	14.3	14.3	---	---	---	11.2	10.8	11.2
10	14.6	14.3	14.5	14.3	14.1	14.3	13.1	12.8	13.0	11.2	11.0	11.1
11	14.6	14.3	14.5	14.4	14.1	14.3	13.1	13.1	13.1	11.0	10.8	11.0
12	14.6	14.3	14.5	14.3	14.1	14.2	13.1	13.0	13.1	11.0	10.8	10.9
13	14.6	14.3	14.5	14.3	14.1	14.1	13.0	12.8	12.9	11.1	10.8	10.9
14	14.6	14.3	14.4	14.1	14.1	14.1	12.8	12.4	12.6	10.9	10.8	10.8
15	14.6	14.3	14.4	14.1	14.1	14.1	12.6	12.4	12.6	10.8	10.8	10.8
16	14.6	14.3	14.4	14.1	14.1	14.1	12.6	12.2	12.5	10.8	10.6	10.8
17	14.6	14.3	14.5	14.1	13.9	14.0	12.6	12.2	12.6	10.8	10.6	10.7
18	14.6	14.3	14.4	---	---	---	12.6	12.6	12.6	10.6	10.4	10.6
19	14.6	14.4	14.4	---	---	---	12.8	12.6	12.7	10.6	10.4	10.6
20	14.6	14.3	14.4	14.1	13.8	13.9	12.6	12.4	12.5	10.6	10.2	10.3
21	14.6	14.3	14.4	13.9	13.8	13.8	12.6	12.4	12.4	11.0	10.2	10.5
22	14.6	14.3	14.4	13.8	13.8	13.8	12.4	11.9	12.1	10.8	10.1	10.7
23	14.6	14.3	14.4	13.8	13.8	13.8	11.9	11.7	11.9	10.2	10.1	10.2
24	14.6	14.3	14.3	13.8	13.8	13.8	11.9	11.7	11.7	10.2	10.1	10.2
25	14.3	14.3	14.3	13.8	13.8	13.8	11.9	11.7	11.7	10.4	10.1	10.3
26	14.6	14.3	14.4	13.8	13.8	13.8	11.9	11.7	11.7	10.4	10.4	10.4
27	14.6	14.3	14.3	13.8	13.8	13.8	11.7	11.7	11.7	10.5	10.2	10.3
28	14.6	14.3	14.4	13.8	13.8	13.8	11.7	11.7	11.7	10.6	10.2	10.3
29	14.4	14.3	14.4	13.8	13.8	13.8	11.7	11.7	11.7	10.4	10.1	10.3
30	14.4	14.3	14.4	13.8	13.8	13.8	11.7	11.7	11.7	10.4	10.1	10.2
31	14.4	14.3	14.3	---	---	---	11.7	11.7	11.7	10.4	10.1	10.2
MONTH	14.6	14.3	14.4	14.4	13.8	14.1	13.8	11.7	12.6	11.7	10.1	10.8

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

413551083481200 LU-20 NR HOLLAND OH--Continued

#4 (8.6' BLS) WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	16.5	16.2	16.2	14.9	14.8	14.8	13.1	12.8	12.9	10.8	10.8	10.8
2	16.5	16.2	16.2	14.9	14.8	14.8	12.9	12.8	12.9	10.8	10.8	10.8
3	16.2	16.2	16.2	14.9	14.6	14.7	12.9	12.6	12.8	10.8	10.8	10.8
4	16.2	16.0	16.1	14.6	14.6	14.6	12.6	12.6	12.6	10.8	10.8	10.8
5	16.2	15.9	16.1	14.6	14.6	14.6	12.6	12.6	12.6	10.8	10.5	10.7
6	16.2	15.9	16.0	14.6	14.6	14.6	12.6	12.6	12.6	10.8	10.6	10.6
7	16.0	15.9	15.9	14.6	14.3	14.5	12.6	12.4	12.5	10.6	10.6	10.6
8	16.0	15.9	16.0	14.6	14.3	14.4	12.6	12.3	12.4	10.6	10.4	10.5
9	16.0	15.7	15.9	14.4	14.3	14.3	---	---	---	10.6	9.9	10.4
10	15.9	15.6	15.8	14.4	14.3	14.3	12.4	12.4	12.4	10.6	10.4	10.4
11	15.9	15.6	15.7	14.4	14.1	14.3	12.4	12.1	12.2	10.4	10.2	10.2
12	15.7	15.6	15.7	14.3	14.1	14.2	12.1	11.9	12.1	10.2	10.2	10.2
13	15.7	15.6	15.7	14.3	14.1	14.1	12.1	11.9	12.0	10.2	10.2	10.2
14	15.7	15.6	15.7	14.1	13.9	14.0	11.9	11.9	11.9	10.2	10.0	10.2
15	15.7	15.6	15.7	14.1	13.8	13.9	11.9	11.7	11.9	10.2	10.0	10.1
16	15.7	15.4	15.6	14.1	13.8	13.9	11.9	11.7	11.7	10.2	10.0	10.0
17	15.7	15.4	15.5	13.9	13.8	13.8	11.7	11.7	11.7	10.0	9.8	9.9
18	15.6	15.4	15.4	---	---	---	11.7	11.5	11.7	10.0	9.8	9.8
19	15.4	15.4	15.4	---	---	---	11.7	11.5	11.5	10.0	9.6	9.8
20	15.4	15.1	15.3	13.8	13.6	13.8	11.5	11.2	11.4	9.8	9.5	9.6
21	15.4	15.1	15.3	13.8	13.6	13.6	11.5	11.2	11.3	9.5	9.3	9.5
22	15.4	15.1	15.2	13.8	13.6	13.6	11.5	11.2	11.3	9.3	9.1	9.3
23	15.1	15.1	15.1	13.6	13.5	13.6	11.3	11.2	11.2	9.5	9.3	9.4
24	15.1	15.1	15.1	13.6	13.3	13.5	11.3	11.2	11.3	9.5	9.3	9.3
25	15.1	15.1	15.1	13.6	13.3	13.4	11.3	11.0	11.2	9.5	9.3	9.3
26	15.1	15.1	15.1	13.6	13.3	13.4	11.2	11.0	11.1	9.5	9.3	9.4
27	15.1	14.9	15.1	13.4	13.1	13.3	11.0	11.0	11.0	9.4	9.3	9.3
28	15.1	14.9	15.0	13.1	13.1	13.1	11.0	10.8	11.0	9.4	9.3	9.3
29	14.9	14.9	14.9	13.1	13.1	13.1	11.0	10.8	10.9	9.4	9.3	9.3
30	14.9	14.9	14.9	13.1	12.8	13.0	11.0	10.8	10.8	9.4	9.3	9.3
31	14.9	14.9	14.9	---	---	---	10.8	10.8	10.8	9.4	9.1	9.3
MONTH	16.5	14.9	15.5	14.9	12.8	14.0	13.1	10.8	11.8	10.8	9.1	10.0

#4 (8.6' BLS) WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	9.4	9.1	9.2	8.4	8.4	8.4	8.4	8.2	8.2	9.0	8.6	8.8
2	9.4	9.1	9.2	8.4	8.3	8.4	---	---	---	8.6	8.2	8.4
3	9.3	9.1	9.2	8.4	8.2	8.3	8.4	8.2	8.2	8.4	8.2	8.3
4	9.1	9.1	9.1	8.4	8.2	8.3	8.4	8.2	8.3	8.4	8.2	8.3
5	9.1	9.1	9.1	8.4	8.2	8.2	8.4	8.2	8.3	8.4	8.2	8.4
6	9.1	8.9	9.0	8.4	8.2	8.2	8.4	8.2	8.2	8.4	8.2	8.4
7	9.1	8.9	9.0	8.4	8.0	8.2	8.4	8.2	8.3	8.5	8.4	8.4
8	9.1	8.9	8.9	8.2	8.0	8.1	8.4	8.2	8.4	8.4	8.4	8.4
9	9.0	8.9	8.9	8.2	7.8	8.0	8.4	8.2	8.4	8.4	8.4	8.4
10	9.0	8.8	8.9	8.0	7.6	7.9	8.4	8.2	8.3	8.6	8.4	8.5
11	8.9	8.7	8.9	8.0	7.6	7.8	8.4	8.0	8.2	8.6	8.6	8.6
12	8.9	8.7	8.8	7.9	7.6	7.7	8.2	8.0	8.1	8.7	8.6	8.6
13	8.9	8.5	8.8	7.9	7.6	7.7	8.2	8.0	8.1	8.8	8.6	8.7
14	8.7	8.5	8.7	7.8	7.6	7.7	8.4	8.0	8.2	8.8	8.8	8.8
15	8.8	8.5	8.6	7.9	7.6	7.7	8.4	8.0	8.2	9.0	8.8	8.9
16	8.7	8.5	8.6	7.8	7.6	7.7	8.4	8.2	8.2	9.0	9.0	9.0
17	8.7	8.5	8.6	7.9	7.6	7.7	8.4	8.2	8.2	9.0	9.0	9.0
18	8.6	8.4	8.5	7.9	7.7	7.8	8.4	8.2	8.2	9.2	9.0	9.1
19	8.6	8.4	8.4	8.0	7.8	7.8	8.4	8.2	8.3	9.2	9.2	9.2
20	8.4	8.4	8.4	8.0	7.8	7.9	8.4	8.4	8.4	9.4	9.2	9.3
21	8.4	8.4	8.4	8.0	7.8	8.0	8.4	8.4	8.4	9.4	9.4	9.4
22	8.4	8.2	8.4	8.0	7.8	8.0	8.4	8.4	8.4	9.5	9.4	9.4
23	8.4	8.2	8.3	8.0	8.0	8.0	8.4	8.4	8.4	9.6	9.4	9.5
24	8.4	8.2	8.2	8.2	8.0	8.0	8.6	8.4	8.4	9.6	9.6	9.6
25	8.4	8.2	8.3	8.2	8.0	8.1	8.6	8.4	8.5	9.8	9.6	9.6
26	8.4	8.4	8.4	8.2	8.0	8.1	8.6	8.4	8.5	10.0	9.8	9.8
27	8.5	8.4	8.4	8.2	8.0	8.2	8.6	8.4	8.6	10.0	10.0	10.0
28	8.4	8.4	8.4	8.2	8.0	8.2	8.6	8.6	8.6	10.0	10.0	10.0
29	---	---	---	8.2	8.2	8.2	8.8	8.6	8.6	10.2	10.0	10.1
30	---	---	---	8.4	8.2	8.2	9.0	8.6	8.8	10.3	10.2	10.2
31	---	---	---	8.4	8.2	8.2	---	---	---	10.3	10.2	10.2
MONTH	9.4	8.2	8.7	8.4	7.6	8.0	9.0	8.0	8.3	10.3	8.2	9.1

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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413551083481200 LU-20 NR HOLLAND OH--Continued

#4 (8.6' BLS)												
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	13.4	13.1	13.2	15.7	15.7	15.7	17.4	17.1	17.2
2	10.5	10.2	10.4	13.6	13.3	13.4	15.7	15.7	15.7	17.4	17.1	17.2
3	10.7	10.4	10.5	13.7	13.4	13.5	16.0	15.7	15.7	17.4	17.1	17.3
4	10.7	10.6	10.7	13.7	13.6	13.6	16.0	15.7	15.9	17.4	17.1	17.3
5	10.7	10.6	10.7	13.9	13.6	13.6	16.0	16.0	16.0	17.4	17.3	17.4
6	10.9	10.6	10.8	13.9	13.6	13.9	16.0	16.0	16.0	17.4	17.3	17.4
7	10.9	10.9	10.9	14.1	13.9	13.9	16.0	16.0	16.0	17.4	17.3	17.4
8	10.9	10.9	10.9	13.9	13.8	13.9	16.2	16.0	16.1	17.3	17.3	17.3
9	11.1	10.8	10.9	14.1	13.9	13.9	16.3	16.0	16.2	17.4	17.3	17.4
10	11.1	11.1	11.1	14.2	13.9	14.1	16.3	16.2	16.2	17.4	17.3	17.3
11	11.3	11.1	11.1	14.2	14.1	14.1	16.5	16.2	16.3	17.4	17.3	17.3
12	11.3	11.3	11.3	14.4	14.1	14.3	16.5	16.2	16.3	17.4	17.3	17.4
13	11.5	11.3	11.4	14.4	14.4	14.4	16.5	16.2	16.3	17.4	17.3	17.4
14	11.7	11.5	11.5	14.4	14.4	14.4	16.6	16.3	16.4	17.4	17.3	17.4
15	11.8	11.5	11.7	14.6	14.4	14.4	16.6	16.3	16.5	17.4	17.3	17.4
16	11.8	11.7	11.8	14.7	14.4	14.6	16.6	16.5	16.5	17.4	17.1	17.3
17	11.8	11.7	11.8	14.7	14.6	14.7	16.5	16.5	16.5	17.4	17.3	17.4
18	12.0	11.7	11.8	14.9	14.6	14.7	16.5	16.5	16.5	17.4	17.1	17.3
19	12.0	11.8	11.9	14.9	14.9	14.9	16.8	16.5	16.5	17.3	17.0	17.2
20	12.0	12.0	12.0	14.9	14.9	14.9	16.8	16.5	16.7	---	---	---
21	12.2	12.0	12.1	14.9	14.9	14.9	16.8	16.8	16.8	---	---	---
22	12.5	12.2	12.2	15.2	14.9	15.0	16.8	16.8	16.8	---	---	---
23	12.5	12.2	12.4	15.2	15.1	15.2	17.1	16.8	16.9	---	---	---
24	12.7	12.4	12.5	15.2	15.1	15.2	17.1	16.8	17.0	---	---	---
25	12.7	12.5	12.7	15.4	15.1	15.2	17.1	17.1	17.1	---	---	---
26	12.7	12.4	12.6	15.5	15.2	15.4	17.1	17.0	17.1	---	---	---
27	12.9	12.0	12.4	15.5	15.4	15.4	17.1	17.1	17.1	---	---	---
28	12.9	12.9	12.9	15.7	15.4	15.5	17.1	17.1	17.1	---	---	---
29	13.1	12.9	13.1	15.7	15.5	15.6	17.1	17.1	17.1	---	---	---
30	13.2	13.1	13.1	15.7	15.7	15.7	17.1	17.1	17.1	---	---	---
31	---	---	---	15.7	15.7	15.7	17.1	17.1	17.1	---	---	---
MONTH	13.2	10.2	11.7	15.7	13.1	14.6	17.1	15.7	16.5	17.4	17.0	17.3
YEAR	17.4	7.6	12.0									

(6 IN. BLS)												
TEMPERATURE, SOIL DEG. C), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	16.9	15.5	16.2	12.3	9.4	11.0	4.4	2.7	3.6	3.5	2.6	3.3
2	17.2	13.4	15.4	10.6	7.3	9.0	6.0	3.5	4.6	2.6	1.5	1.9
3	16.6	12.9	14.8	11.9	8.4	9.9	7.5	5.1	6.1	1.5	1.0	1.2
4	15.8	12.8	14.3	13.7	11.9	12.9	9.0	7.5	8.2	1.0	.3	.6
5	16.0	13.6	14.7	14.1	13.5	13.8	10.2	8.9	9.5	.3	-.4	-.1
6	16.4	12.0	14.1	14.1	11.2	13.2	9.9	8.0	9.3	.2	-.4	-.1
7	17.7	13.3	15.3	11.2	8.7	10.1	8.0	4.2	5.7	.3	.2	.3
8	18.8	16.0	17.3	11.2	8.7	9.9	4.2	3.1	3.5	.4	.3	.3
9	18.5	15.2	16.9	11.3	9.6	10.7	---	---	---	.3	.2	.3
10	15.8	11.7	13.9	10.6	7.8	9.2	3.2	2.9	3.1	.4	.3	.3
11	14.8	10.6	12.7	9.2	6.3	7.8	3.1	3.1	3.1	.4	.4	.4
12	14.9	10.5	12.7	9.0	6.1	7.6	3.1	2.8	2.9	.5	.4	.5
13	15.5	12.0	13.7	11.4	8.2	9.6	2.8	2.5	2.6	5.6	.5	3.3
14	16.5	13.3	14.7	12.3	10.6	11.5	2.7	2.6	2.7	7.7	5.1	6.2
15	16.7	13.6	15.0	12.2	10.4	11.3	2.7	2.6	2.6	7.7	5.0	6.5
16	17.3	14.2	15.7	10.6	9.0	9.8	4.4	2.5	3.0	5.0	3.3	3.9
17	17.3	13.5	15.4	10.6	8.6	9.4	4.8	3.9	4.6	3.4	2.7	3.0
18	17.4	14.6	16.0	---	---	---	4.5	3.2	3.9	4.7	3.3	4.0
19	17.0	16.2	16.6	---	---	---	3.2	2.2	2.7	4.6	3.9	4.3
20	16.5	14.6	15.7	9.6	8.5	9.0	3.8	2.0	2.7	4.6	3.2	4.1
21	15.5	12.4	14.2	10.7	9.4	10.0	4.0	2.0	2.8	3.2	2.4	2.8
22	15.6	12.1	13.9	9.7	6.8	8.2	4.1	2.1	2.9	2.4	1.8	2.0
23	15.4	13.1	14.1	6.8	5.0	5.8	4.0	2.5	3.2	1.8	1.6	1.7
24	13.8	11.4	12.1	5.9	3.6	4.7	4.1	3.2	3.6	1.7	1.6	1.6
25	11.4	10.2	10.6	7.0	5.0	5.9	3.5	2.2	2.7	1.7	1.5	1.6
26	11.0	9.0	10.0	5.4	3.7	4.6	3.1	2.4	2.7	1.5	1.4	1.4
27	11.6	8.7	10.2	6.7	4.0	4.7	3.2	2.4	2.8	1.4	1.2	1.3
28	11.7	8.7	10.2	7.4	4.6	6.0	3.6	2.3	2.9	1.3	1.2	1.3
29	13.4	10.7	11.9	5.4	3.6	4.4	3.9	2.7	3.2	1.2	1.2	1.2
30	13.7	12.7	13.2	4.5	3.2	3.8	2.7	1.9	2.3	1.2	1.1	1.2
31	13.2	12.3	12.8	---	---	---	3.5	2.3	2.9	1.1	1.1	1.1
MONTH	18.8	8.7	14.0	14.1	3.2	8.7	10.2	1.9	3.9	7.7	-.4	2.0

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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413551083481200 LU-20 NR HOLLAND OH--Continued

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	---	.00	.02	.00
2	.00	.00	.00	.00	.00	.00	---	.00	.19	.00	.04	.00
3	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.08	.00
4	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00	.06	.01
5	.00	.00	.00	.00	.10	.09	.00	.00	.00	.00	.07	.00
6	.00	.00	.00	.00	.06	.00	.00	.00	.00	.00	.05	.00
7	.00	.00	.00	.00	.06	.37	.00	.00	.00	.00	.00	.15
8	.00	.00	.00	.00	.05	.00	.36	.00	.00	.00	.07	.10
9	.00	.00	---	.00	.01	.01	.46	.00	.00	.01	.01	.00
10	.00	.00	.00	.00	.00	.00	.12	.00	.75	.00	.01	.00
11	.00	.00	.00	.00	.00	.00	.16	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.17	.00	.00	.00	.03	.04
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.08	.02	.03
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00
15	.00	.00	.00	.00	.04	.00	.00	.00	.00	.05	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00	.19	.00
18	.00	---	.00	.00	.00	.00	.17	.00	.00	.00	.06	.00
19	.00	---	.00	.22	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.17	.00	.03	.01	.00	.00	.02	.00	---
21	.00	.00	.00	.02	.00	.00	.24	.00	.00	.00	.00	---
22	.00	.00	.00	.05	.00	.00	.00	.00	.00	.06	.00	---
23	.00	.00	.00	.04	.02	.00	.00	.00	.00	.00	.00	---
24	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	---
25	.00	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00	---
26	.00	.00	.00	.01	.00	.00	.00	.00	2.50	.07	.00	---
27	.00	.00	.00	.04	.15	.07	.00	.00	.05	.00	.00	---
28	.00	.00	.00	.04	.02	.00	.00	.00	.17	.01	.00	---
29	.00	.00	.00	.03	---	.01	.00	.00	.03	.00	.00	---
30	.00	.00	.00	.02	---	.00	.00	.00	.00	.00	.00	---
31	.00	---	.00	.02	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.70	0.54	0.58	1.71	0.00	3.69	0.30	0.72	0.33

WTR YR 1995 TOTAL 8.57

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW
UNCONSOLIDATED AQUIFERS IN OHIO

GROUND-WATER RECORDS

413547083481400. Local number, LU-23.

LOCATION.--Lat 41°35'47" Long 83°48'14", Hydrologic Unit 04100009, along State Route 2 near Holland, OH.
Owner.--USGS-Toledo Express Airport.

AQUIFER.--Sand of Quaternary age.

WELL CHARACTERISTICS.--Observation well drilled by hollow stem auger, diameter 4.0 in., depth 29.4 ft. Cased with Sch 40 PVC to 4.4 ft; .010 in. screen from 4.4 to 29.4 ft.

INSTRUMENTATION - Data logger--60 minute record. At this well there are 4 conductivity/water temperature probes at increasing depths within the well to better document vertical movement of high conductivity water on an hourly basis. Conductivity/water temperature probes are set at 6.9 (level 4), 10.4 (level 3), 16.9 (level 2), and 25.4 (level 1) feet below land surface.

DATUM.--Elevation of land-surface datum is 676.97 feet above sea level.
Measuring point: top of PVC casing 0.58 ft above land-surface datum.

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

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (FOUR LEVELS): February 1991 to current year.

WATER TEMPERATURE (FOUR LEVELS): February 1991 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE:

LEVEL 1- Maximum, 1630 microsiemens July 16 and 17, 1991; minimum, 441 microsiemens March 2-3, 1992.

LEVEL 2- Maximum, 1790 microsiemens July 15, 1991; minimum, 439 microsiemens June 14-15, 1995.

LEVEL 3- Maximum, 1530 microsiemens July 22 and 23, 1991; minimum, 413 microsiemens October 8, 1991.

LEVEL 4- Maximum, 1180 microsiemens August 17-18, 1994; 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, and May, 1994.

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, 898 microsiemens September 30, 1995; minimum, 497 microsiemens June 15, 1995.

LEVEL 2- Maximum, 775 microsiemens October 7, 1994; minimum, 439 microsiemens June 14-15, 1995.

LEVEL 3- Maximum, 1010 microsiemens October 6, 1994; minimum, 516 microsiemens June 10-11, 13, 1995.

LEVEL 4- Maximum, 997 microsiemens October 6, 1994; minimum, 501 microsiemens June 10, 12, 1995.

WATER TEMPERATURE:

LEVEL 1- Maximum, 13.7°C December 21, 1994; minimum, 11.4°C many days in May, June, 1995.

LEVEL 2- Maximum, 14.7°C several days in October, November, 1994, and September, 1995; minimum, 10.5°C many days in March, April, and May, 1995.

LEVEL 3- Maximum, 16.3°C several days in October, 1994, and September, 1995; minimum, 8.9°C March 18, 1995.

LEVEL 4- Maximum, 18.0°C many days in September, 1995; minimum, 9.1°C several days in March, 1995.

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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<div style="text-align: center;">#1 (25.4' BLS)</div> <div style="text-align: center;">SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995</div>												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	722	716	718	725	714	719	656	651	654	660	659	660
2	719	710	715	716	704	709	659	652	655	659	655	657
3	717	710	714	707	696	702	658	653	656	657	655	656
4	717	709	714	705	694	699	660	655	658	657	652	655
5	720	713	716	697	686	692	660	654	656	654	650	653
6	749	712	717	687	679	683	659	654	656	655	649	652
7	765	747	756	684	674	678	663	653	657	657	655	656
8	759	739	750	680	672	675	663	657	660	657	654	656
9	748	736	742	678	663	671	682	662	666	656	653	654
10	746	733	740	671	665	668	696	675	687	656	653	655
11	736	713	726	672	665	668	688	679	682	654	652	653
12	718	708	713	669	664	666	683	676	679	658	652	654
13	708	701	704	667	657	664	677	670	673	657	652	655
14	710	700	707	663	660	662	671	667	669	657	654	656
15	708	703	706	661	657	659	667	664	666	657	652	654
16	712	705	709	660	655	657	665	660	664	655	651	653
17	715	704	712	657	654	656	661	658	659	656	650	652
18	717	702	710	657	649	654	662	658	660	654	651	653
19	708	703	706	656	651	654	663	658	660	656	654	655
20	710	702	707	656	653	654	659	658	658	656	655	655
21	711	702	707	655	652	654	660	654	658	656	654	655
22	714	707	709	656	654	655	659	657	659	655	654	655
23	716	710	712	656	651	654	660	659	660	655	654	655
24	715	709	712	656	652	654	662	660	660	654	653	654
25	715	709	712	657	653	655	662	660	661	656	651	653
26	714	708	711	657	652	654	661	660	661	655	651	653
27	737	712	720	658	652	655	661	659	660	653	649	651
28	740	731	737	656	649	652	660	659	659	653	648	651
29	740	721	729	656	651	653	660	659	659	651	647	650
30	729	724	726	657	652	654	660	659	660	650	646	648
31	728	723	726	---	---	---	660	659	659	649	646	647
MONTH	765	700	719	725	649	668	696	651	662	660	646	654

<div style="text-align: center;">#1 (25.4' BLS)</div> <div style="text-align: center;">SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995</div>												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	646	645	645	609	607	608	569	565	567	547	543	546
2	645	643	644	608	606	607	---	---	---	549	543	545
3	644	641	643	606	604	605	568	564	566	546	543	545
4	641	640	640	604	602	603	567	563	565	548	541	545
5	640	639	640	602	600	601	566	563	564	543	539	540
6	639	637	638	601	599	600	565	561	564	540	536	538
7	637	636	637	601	597	599	565	564	564	538	534	535
8	636	634	635	598	597	598	564	563	564	535	531	533
9	635	632	634	597	593	596	566	562	564	537	531	532
10	635	631	632	594	586	591	565	562	564	538	532	535
11	631	630	630	589	582	586	564	557	561	539	534	536
12	631	628	629	586	580	583	558	550	554	536	530	533
13	631	627	629	584	578	582	550	545	548	535	530	532
14	630	626	628	582	577	580	545	541	544	533	524	527
15	628	626	627	581	578	579	544	543	544	529	525	526
16	626	625	625	580	578	579	547	543	544	529	523	525
17	627	623	625	581	578	579	547	544	544	527	521	524
18	626	621	623	580	576	578	545	544	544	525	520	522
19	624	620	621	579	575	577	548	544	546	523	519	520
20	623	619	621	578	575	576	548	544	545	523	518	520
21	621	617	619	577	573	575	548	544	546	523	517	519
22	620	616	618	576	572	574	547	544	546	521	517	518
23	619	615	617	576	571	574	548	544	546	521	517	518
24	617	615	616	574	571	572	548	544	546	522	518	520
25	616	613	614	573	569	572	549	544	547	519	515	517
26	614	612	613	573	569	572	548	544	547	518	514	515
27	612	610	611	572	570	571	548	547	547	518	514	516
28	611	609	610	571	569	570	548	546	547	518	514	516
29	---	---	---	569	568	568	547	543	546	518	513	517
30	---	---	---	569	567	568	547	546	546	517	513	514
31	---	---	---	570	566	567	---	---	---	516	511	513
MONTH	646	609	627	609	566	584	569	541	552	549	511	527

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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#1 (25.4' BLS)
SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	516	511	514	536	528	532	602	597	599	---	---	---
2	513	504	508	531	527	529	603	599	600	---	---	---
3	507	503	504	531	525	528	604	599	602	---	---	---
4	507	503	504	532	527	529	605	601	603	---	---	---
5	506	502	503	533	529	531	605	602	604	---	---	---
6	505	501	502	534	529	531	607	602	604	---	---	---
7	504	500	501	534	527	531	609	604	605	---	---	---
8	503	499	501	533	527	528	614	608	611	---	---	---
9	502	499	500	543	530	535	619	611	614	---	---	---
10	502	498	499	550	540	545	622	616	618	827	814	822
11	503	499	500	553	549	551	647	619	633	826	818	822
12	502	499	500	560	553	556	647	637	641	831	823	826
13	502	499	500	566	560	562	639	634	638	840	828	832
14	503	499	500	571	565	568	645	636	642	845	838	840
15	500	497	500	573	568	571	655	642	648	847	839	844
16	503	500	500	575	570	573	673	655	669	849	843	846
17	502	500	501	577	572	575	681	671	676	854	848	852
18	502	501	501	579	575	578	687	680	683	858	850	854
19	503	500	502	582	577	580	693	685	689	859	851	854
20	505	500	503	584	579	582	699	690	693	863	858	861
21	503	500	502	586	581	584	702	695	698	866	858	862
22	502	499	501	588	583	586	707	700	703	869	861	863
23	504	501	502	590	586	588	713	706	709	872	861	865
24	504	500	502	592	587	590	720	711	715	873	865	869
25	503	501	502	594	589	591	725	718	721	879	870	873
26	508	501	504	594	590	593	731	723	727	879	872	876
27	542	504	524	596	592	594	736	728	733	883	875	880
28	546	542	545	597	593	595	743	736	739	888	880	884
29	546	540	544	598	594	596	749	742	745	894	887	890
30	542	533	539	599	595	598	758	749	753	898	889	893
31	---	---	---	600	596	599	766	754	759	---	---	---
MONTH	546	497	507	600	525	565	766	597	667	898	814	858
YEAR	898	497	627									

#2 (16.9' BLS)
SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	739	732	735	720	719	720	671	669	670	637	632	634
2	732	721	728	720	714	719	676	670	673	634	629	632
3	725	714	721	719	712	717	679	672	676	632	629	631
4	719	711	716	718	717	718	681	677	679	630	629	629
5	714	706	711	717	715	716	682	678	680	629	627	628
6	773	701	722	715	706	710	679	677	678	627	625	626
7	775	760	769	707	702	704	678	675	676	628	624	626
8	766	757	761	703	696	699	676	673	674	627	622	625
9	760	748	753	698	688	694	686	673	679	625	621	624
10	748	737	742	688	681	686	685	683	684	624	622	623
11	738	730	734	686	681	683	686	681	683	623	621	622
12	732	725	729	684	679	681	687	682	684	624	620	622
13	726	719	723	682	676	679	687	682	685	623	619	622
14	720	713	717	680	678	678	686	684	685	623	621	622
15	713	706	709	678	674	676	686	681	683	622	620	621
16	710	706	707	675	672	673	683	679	682	621	619	620
17	708	703	705	672	667	671	682	676	680	620	618	619
18	703	698	700	671	665	669	676	673	675	625	619	622
19	699	697	698	670	667	668	673	669	671	627	622	623
20	701	697	698	668	667	667	670	664	667	627	622	624
21	698	692	697	668	667	667	665	660	662	627	622	625
22	697	692	697	668	666	667	662	657	659	625	622	624
23	699	693	697	666	666	666	660	656	658	623	622	622
24	700	699	700	667	663	666	657	653	655	622	620	622
25	701	699	700	668	667	667	653	650	651	622	618	620
26	702	701	701	671	668	669	650	647	648	621	617	619
27	714	702	707	671	668	668	647	643	645	620	615	618
28	711	706	709	672	667	670	643	641	642	619	613	615
29	713	708	711	670	668	669	641	638	640	617	612	615
30	718	710	714	670	669	669	639	635	637	615	611	613
31	720	718	719	---	---	---	638	633	635	612	609	611
MONTH	775	692	717	720	663	684	687	633	668	637	609	623

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

413547083481400 LU-23 NR HOLLAND OH--Continued

#3 (10.4' BLS) SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	767	757	762	749	748	749	718	713	715	688	685	686
2	757	747	752	749	743	748	718	713	717	686	683	685
3	751	744	747	752	747	748	722	717	719	685	681	683
4	745	738	741	752	747	749	722	717	720	684	679	681
5	742	734	739	752	747	751	722	721	722	682	679	681
6	1010	730	810	752	751	751	723	721	722	683	679	681
7	895	806	821	751	747	750	722	720	721	683	677	680
8	813	793	803	750	748	749	720	718	719	682	677	680
9	798	778	789	748	746	747	737	717	726	681	678	679
10	778	767	774	749	742	745	734	729	733	680	676	678
11	769	761	765	745	741	743	733	732	733	680	675	677
12	762	752	755	743	738	740	734	733	734	679	677	678
13	753	747	750	738	729	735	735	733	734	681	674	677
14	749	743	746	733	729	731	734	731	733	680	676	678
15	747	741	743	733	726	728	735	730	733	680	675	677
16	746	740	743	729	724	727	733	729	731	679	674	677
17	747	740	743	727	720	725	730	724	727	678	674	676
18	745	739	742	726	721	723	727	721	725	681	677	679
19	744	743	744	725	719	722	724	718	721	683	680	681
20	743	737	742	724	719	722	718	714	716	681	680	681
21	742	736	740	722	720	721	715	709	712	681	679	680
22	741	738	740	720	719	719	713	708	710	682	678	680
23	739	737	738	719	718	718	709	705	707	681	676	680
24	738	736	737	721	716	719	706	700	704	680	677	679
25	737	736	736	720	715	718	704	699	702	681	676	678
26	740	736	738	719	715	717	701	698	699	680	676	678
27	769	735	749	718	716	717	698	695	696	681	674	677
28	753	745	749	716	715	715	695	691	693	679	674	676
29	750	745	748	715	714	715	693	689	691	677	672	675
30	749	744	748	715	714	714	692	687	690	676	671	673
31	749	748	749	---	---	---	691	687	689	674	670	672
MONTH	1010	730	754	752	714	732	737	687	716	688	670	679

#3 (10.4' BLS) SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	674	668	670	632	628	630	585	581	583	557	554	555
2	672	666	668	631	626	628	---	---	---	557	553	554
3	670	665	667	628	624	626	584	579	581	556	550	553
4	668	663	666	627	622	624	583	579	580	555	553	556
5	666	662	665	625	620	622	582	578	580	555	551	553
6	664	661	663	625	618	621	582	578	579	554	548	551
7	663	659	661	622	617	620	581	578	579	551	544	547
8	661	657	659	621	616	619	580	576	578	547	542	544
9	659	653	656	619	611	616	579	572	576	543	537	541
10	658	653	656	612	602	608	579	574	576	540	536	539
11	656	651	653	606	600	603	579	571	576	539	537	538
12	655	650	653	604	598	601	573	562	568	540	536	538
13	654	649	651	603	597	599	563	557	560	542	538	539
14	653	648	650	601	596	599	560	555	558	544	539	541
15	652	648	650	601	594	598	560	555	558	545	541	543
16	651	647	648	599	593	596	560	557	559	545	538	542
17	650	645	647	597	593	596	561	556	559	541	537	539
18	648	643	646	598	594	595	561	556	559	541	537	538
19	646	641	644	596	593	594	562	557	560	540	537	538
20	647	640	643	595	592	593	562	558	559	538	535	537
21	643	639	642	594	591	593	561	557	558	538	534	536
22	643	639	640	593	588	592	560	556	558	538	534	536
23	641	637	639	593	589	591	558	557	558	538	534	535
24	641	635	637	592	587	591	560	557	558	537	531	533
25	638	633	636	591	585	588	561	557	558	533	532	533
26	637	633	635	591	587	589	559	555	558	533	530	532
27	634	631	633	590	585	588	559	555	558	533	530	533
28	634	629	632	589	584	587	558	555	557	533	529	532
29	---	---	---	587	583	585	558	553	555	533	530	532
30	---	---	---	587	583	585	557	554	555	533	530	530
31	---	---	---	586	581	583	---	---	---	531	530	530
MONTH	674	629	650	632	581	602	585	553	566	565	529	540

**EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW
UNCONSOLIDATED AQUIFERS IN OHIO**

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413547083481400 LU-23 NR HOLLAND OH--Continued

#3 (10.4' BLS) SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	533	527	530	567	561	564	577	572	573	---	---	---
2	528	519	524	563	556	559	577	574	576	---	---	---
3	522	519	520	560	555	558	581	576	579	---	---	---
4	524	520	521	560	557	558	584	579	581	---	---	---
5	522	518	521	562	558	560	588	583	585	---	---	---
6	522	518	521	563	556	560	590	585	586	---	---	---
7	521	517	519	572	558	564	590	587	589	---	---	---
8	521	517	520	569	554	560	595	590	592	---	---	---
9	521	518	520	555	545	550	597	593	594	---	---	---
10	521	516	518	548	541	544	600	595	597	711	706	707
11	519	516	518	544	540	541	604	595	600	713	707	711
12	521	517	519	540	537	540	606	599	603	719	712	715
13	520	516	519	541	538	540	610	605	607	725	715	720
14	521	517	519	542	539	541	613	607	610	730	721	726
15	523	518	520	543	539	540	617	610	613	736	726	730
16	522	518	520	542	538	541	621	614	617	739	731	736
17	525	521	523	543	539	541	623	617	619	745	739	742
18	526	523	523	545	541	543	621	617	620	748	740	743
19	525	522	524	547	543	544	624	618	622	752	744	747
20	527	523	525	549	544	546	627	621	624	757	752	755
21	530	526	527	549	545	547	629	623	626	761	753	758
22	531	527	528	552	547	550	634	627	629	763	756	759
23	529	526	528	555	551	552	637	631	633	769	759	763
24	529	525	527	557	553	554	642	635	639	774	765	768
25	529	527	527	558	553	555	647	641	643	780	770	774
26	528	523	526	561	556	558	653	646	649	785	776	781
27	565	526	553	561	558	559	657	650	653	792	783	788
28	555	549	552	564	558	561	661	655	657	798	788	794
29	574	554	567	567	562	565	665	660	661	804	798	801
30	577	566	571	570	565	567	670	663	665	813	804	807
31	---	---	---	574	568	570	672	668	670	---	---	---
MONTH	577	516	528	574	537	553	672	572	617	813	706	754
YEAR	1010	516	638									

#4 (6.9' BLS) SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	758	751	754	730	727	728	699	695	698	669	667	668
2	753	739	746	732	727	729	699	698	698	667	665	666
3	743	737	741	733	727	731	698	698	698	667	663	665
4	740	730	736	733	732	732	699	698	698	667	661	663
5	732	725	730	733	732	732	703	698	700	665	661	664
6	997	723	791	732	730	731	703	698	702	663	660	662
7	818	788	798	730	728	729	702	700	701	663	659	660
8	792	778	784	732	727	729	700	698	699	662	658	660
9	783	772	777	732	725	727	720	698	708	661	656	659
10	772	757	765	729	722	726	714	712	713	662	656	659
11	762	751	757	726	721	723	714	713	713	662	657	660
12	753	737	744	723	718	721	715	714	714	661	656	660
13	741	731	737	720	713	716	719	714	716	662	658	659
14	736	730	734	717	713	715	718	716	717	662	657	659
15	732	725	729	713	706	710	717	713	715	661	657	659
16	732	726	728	710	707	709	714	710	712	660	656	659
17	731	724	727	707	701	705	710	705	708	660	656	658
18	729	722	727	704	698	703	708	701	705	662	658	660
19	726	724	725	705	700	701	704	699	702	663	661	662
20	727	723	724	703	699	701	701	694	697	665	661	662
21	727	721	723	702	701	701	696	691	694	666	661	664
22	726	720	722	701	697	700	694	689	691	665	662	663
23	725	719	722	700	696	699	690	686	688	662	660	661
24	724	719	722	701	697	699	687	682	684	665	660	662
25	723	718	722	701	696	698	684	680	682	663	660	662
26	722	721	722	700	695	698	683	679	681	662	659	661
27	759	721	735	699	697	698	680	676	678	661	657	659
28	734	728	731	697	695	696	679	674	677	660	655	657
29	732	727	730	699	695	696	677	674	675	659	654	657
30	731	727	731	699	695	697	675	671	673	658	654	656
31	731	730	731	---	---	---	672	669	671	657	652	654
MONTH	997	718	740	733	695	713	720	669	697	669	652	661

**EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW
UNCONSOLIDATED AQUIFERS IN OHIO**

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413547083481400 LU-23 NR HOLLAND OH-Continued

#1 (25.4' BLS) WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	12.5	12.5	12.5	12.9	12.9	12.9	13.4	13.2	13.4	13.4	13.4	13.4
2	12.7	12.5	12.5	13.0	12.9	12.9	13.4	13.2	13.3	13.4	13.4	13.4
3	12.7	12.5	12.5	13.2	12.9	12.9	13.4	13.2	13.3	13.4	13.4	13.4
4	12.7	12.5	12.5	13.0	13.0	12.9	13.4	13.2	13.3	13.4	13.3	13.3
5	12.7	12.5	12.5	13.0	13.0	12.9	13.4	13.2	13.3	13.4	13.3	13.3
6	12.8	12.5	12.7	13.0	12.9	12.9	13.4	13.4	13.4	13.4	13.4	13.4
7	12.8	12.5	12.7	13.2	12.9	13.0	13.4	13.4	13.4	13.4	13.4	13.4
8	12.8	12.5	12.6	13.2	12.9	13.0	13.4	13.4	13.4	13.4	13.3	13.4
9	12.7	12.5	12.6	13.2	12.9	13.1	13.4	13.4	13.4	13.4	13.3	13.4
10	12.7	12.5	12.6	13.2	12.9	13.1	13.4	13.4	13.4	13.4	13.4	13.4
11	12.7	12.5	12.7	13.2	12.9	13.1	13.4	13.4	13.4	13.4	13.4	13.4
12	12.7	12.5	12.7	13.2	13.0	13.1	13.4	13.4	13.4	13.4	13.2	13.3
13	12.8	12.5	12.7	13.4	13.0	13.2	13.4	13.3	13.4	13.4	13.2	13.2
14	13.0	12.7	12.7	13.2	13.2	13.2	13.4	13.4	13.4	13.2	13.2	13.2
15	13.0	12.7	12.7	13.2	13.1	13.2	13.4	13.4	13.4	13.4	13.1	13.2
16	13.0	12.7	12.7	13.2	13.1	13.2	13.4	13.4	13.4	13.4	13.1	13.2
17	13.0	12.7	12.8	13.2	13.1	13.2	13.4	13.4	13.4	13.4	13.1	13.2
18	13.0	12.7	12.8	13.4	13.2	13.2	13.4	13.4	13.4	13.2	13.1	13.2
19	12.7	12.7	12.7	13.4	13.1	13.2	13.4	13.4	13.4	13.1	13.1	13.1
20	13.0	12.7	12.8	13.2	13.1	13.2	13.4	13.4	13.4	13.1	13.1	13.1
21	13.0	12.7	12.9	13.2	13.2	13.2	13.7	13.4	13.4	13.1	13.1	13.1
22	13.0	12.7	12.9	13.2	13.1	13.2	13.4	13.4	13.4	13.1	13.1	13.1
23	13.0	12.7	12.9	13.4	13.1	13.2	13.4	13.4	13.4	13.1	13.1	13.1
24	13.0	12.9	12.9	13.4	13.1	13.2	13.4	13.4	13.4	13.1	13.1	13.1
25	12.9	12.9	12.9	13.4	13.1	13.2	13.4	13.4	13.4	13.1	12.9	13.1
26	12.9	12.9	12.9	13.4	13.1	13.3	13.4	13.4	13.4	13.1	12.9	13.0
27	13.0	12.7	12.9	13.4	13.1	13.3	13.4	13.4	13.4	13.1	12.9	13.0
28	13.2	12.9	12.9	13.4	13.1	13.3	13.4	13.4	13.4	13.1	12.9	13.0
29	13.2	12.9	13.0	13.4	13.2	13.3	13.4	13.4	13.4	13.1	12.9	12.9
30	13.2	12.9	13.0	13.4	13.2	13.4	13.4	13.4	13.4	13.1	12.9	13.0
31	13.0	12.9	12.9	---	---	---	13.4	13.4	13.4	12.9	12.9	12.9
MONTH	13.2	12.5	12.7	13.4	12.9	13.1	13.7	13.2	13.4	13.4	12.9	13.2

#1 (25.4' BLS) WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	12.9	12.9	12.9	12.5	12.4	12.4	12.0	11.8	11.9	11.8	11.5	11.6
2	12.9	12.9	12.9	12.5	12.4	12.4	---	---	---	11.8	11.4	11.6
3	12.9	12.9	12.9	12.5	12.4	12.4	12.0	11.8	11.9	11.8	11.6	11.6
4	12.9	12.9	12.9	12.5	12.4	12.4	12.0	11.8	11.9	11.6	11.4	11.6
5	12.9	12.9	12.9	12.5	12.4	12.4	12.0	11.8	11.9	11.6	11.4	11.6
6	12.9	12.9	12.9	12.5	12.4	12.4	12.0	11.8	11.8	11.6	11.4	11.6
7	12.9	12.9	12.9	12.5	12.2	12.4	11.8	11.8	11.8	11.6	11.4	11.6
8	12.9	12.9	12.9	12.5	12.4	12.4	11.8	11.8	11.8	11.6	11.4	11.5
9	12.9	12.9	12.9	12.5	12.4	12.4	12.0	11.8	11.8	11.6	11.4	11.5
10	12.9	12.7	12.9	12.5	12.2	12.4	12.0	11.8	11.8	11.6	11.4	11.4
11	12.9	12.9	12.9	12.5	12.2	12.3	12.0	11.8	11.8	11.6	11.4	11.5
12	12.9	12.7	12.9	12.5	12.2	12.3	11.8	11.8	11.8	11.6	11.4	11.6
13	12.9	12.6	12.8	12.5	12.2	12.3	11.8	11.8	11.8	11.6	11.4	11.5
14	12.9	12.6	12.7	12.5	12.2	12.3	12.0	11.8	11.8	11.6	11.4	11.5
15	12.7	12.6	12.7	12.3	12.2	12.3	11.8	11.8	11.8	11.6	11.4	11.6
16	12.7	12.7	12.7	12.3	12.2	12.3	11.8	11.6	11.8	11.6	11.4	11.6
17	12.7	12.5	12.6	12.2	12.0	12.2	11.8	11.6	11.8	11.6	11.4	11.5
18	12.7	12.5	12.6	12.3	12.0	12.2	11.8	11.8	11.8	11.6	11.4	11.5
19	12.7	12.5	12.6	12.2	12.0	12.1	11.8	11.6	11.7	11.6	11.4	11.5
20	12.7	12.5	12.6	12.2	12.0	12.1	11.8	11.6	11.8	11.6	11.4	11.6
21	12.7	12.4	12.6	12.2	12.0	12.1	11.8	11.6	11.7	11.6	11.4	11.5
22	12.7	12.4	12.5	12.2	12.0	12.1	11.8	11.6	11.7	11.6	11.4	11.6
23	12.7	12.4	12.5	12.2	12.0	12.1	11.8	11.5	11.7	11.6	11.4	11.6
24	12.5	12.4	12.4	12.2	12.0	12.1	11.8	11.6	11.7	11.6	11.4	11.5
25	12.5	12.4	12.4	12.3	12.0	12.1	11.8	11.5	11.6	11.6	11.4	11.5
26	12.4	12.4	12.4	12.2	12.0	12.1	11.8	11.5	11.6	11.6	11.4	11.5
27	12.5	12.4	12.4	12.0	12.0	12.0	11.6	11.6	11.6	11.6	11.4	11.5
28	12.5	12.4	12.4	12.0	12.0	12.0	11.6	11.5	11.6	11.6	11.4	11.5
29	---	---	---	12.0	12.0	12.0	11.8	11.6	11.6	11.6	11.4	11.4
30	---	---	---	12.0	12.0	12.0	11.6	11.6	11.6	11.6	11.4	11.6
31	---	---	---	12.0	11.8	12.0	---	---	---	11.6	11.4	11.6
MONTH	12.9	12.4	12.7	12.5	11.8	12.2	12.0	11.5	11.8	11.8	11.4	11.5

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

413547083481400 LU-23 NR HOLLAND OH—Continued

#1 (25.4' BLS) WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	11.6	11.4	11.5	11.9	11.6	11.7	12.1	11.8	11.9	---	---	---
2	11.6	11.4	11.5	11.9	11.6	11.7	12.1	11.8	12.0	---	---	---
3	11.6	11.4	11.6	11.9	11.6	11.7	12.1	11.8	11.9	---	---	---
4	11.6	11.4	11.6	11.9	11.6	11.7	12.1	11.8	11.9	---	---	---
5	11.6	11.4	11.6	11.9	11.6	11.8	12.1	11.8	11.9	---	---	---
6	11.7	11.4	11.6	11.9	11.6	11.7	12.1	11.8	12.0	---	---	---
7	11.6	11.4	11.6	11.9	11.6	11.7	12.1	11.8	12.0	---	---	---
8	11.6	11.4	11.5	11.9	11.6	11.8	12.1	11.8	11.9	---	---	---
9	11.6	11.4	11.5	11.9	11.6	11.8	12.1	11.8	12.0	---	---	---
10	11.6	11.4	11.6	11.9	11.6	11.8	12.1	11.8	12.1	12.7	12.5	12.6
11	11.6	11.4	11.6	11.9	11.8	11.8	12.3	12.0	12.1	12.8	12.5	12.5
12	11.6	11.4	11.5	11.9	11.8	11.8	12.3	12.1	12.1	12.8	12.5	12.6
13	11.6	11.4	11.6	11.9	11.6	11.8	12.3	12.0	12.1	12.8	12.5	12.6
14	11.6	11.4	11.6	12.1	11.7	11.9	12.3	12.1	12.1	12.8	12.5	12.6
15	11.8	11.6	11.6	12.1	11.6	11.9	12.3	12.1	12.1	12.7	12.5	12.6
16	11.7	11.4	11.6	12.1	11.8	11.9	12.3	12.0	12.1	12.8	12.5	12.6
17	11.7	11.6	11.6	12.1	11.8	11.9	12.3	12.1	12.2	12.5	12.5	12.5
18	11.7	11.6	11.6	12.1	11.8	11.9	12.3	12.0	12.2	12.8	12.5	12.6
19	11.8	11.6	11.6	12.1	11.8	11.9	12.3	12.0	12.1	12.8	12.5	12.6
20	11.8	11.4	11.6	12.1	11.8	11.9	12.3	12.0	12.2	12.5	12.5	12.5
21	11.8	11.6	11.6	12.1	11.8	11.9	12.3	12.1	12.3	12.7	12.5	12.6
22	11.8	11.6	11.6	12.1	11.8	11.9	12.5	12.3	12.3	12.7	12.5	12.6
23	11.7	11.6	11.6	12.1	11.8	11.9	12.3	12.2	12.3	12.9	12.5	12.7
24	11.9	11.6	11.7	12.1	11.8	11.9	12.5	12.3	12.3	12.7	12.5	12.7
25	11.7	11.6	11.6	12.1	11.8	12.0	12.5	12.3	12.3	12.7	12.5	12.7
26	11.9	11.6	11.7	12.1	11.8	11.9	12.5	12.2	12.3	13.0	12.7	12.7
27	11.9	11.6	11.7	12.1	11.8	11.9	12.5	12.3	12.3	13.0	12.7	12.7
28	11.9	11.6	11.7	12.1	11.8	12.0	12.5	12.3	12.3	13.0	12.7	12.8
29	11.8	11.6	11.7	12.1	11.8	11.9	12.5	12.3	12.4	13.0	12.7	12.8
30	11.9	11.6	11.6	12.1	11.8	11.9	12.5	12.3	12.4	13.0	12.7	12.8
31	---	---	---	12.1	11.8	11.9	12.5	12.3	12.4	---	---	---
MONTH	11.9	11.4	11.6	12.1	11.6	11.8	12.5	11.8	12.1	13.0	12.5	12.6
YEAR	13.7	11.4	12.4									

#2 (16.9' BLS) WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	14.2	14.1	14.2	14.4	14.4	14.4	14.4	14.3	14.4	13.4	13.1	13.2
2	14.4	14.1	14.2	14.7	14.4	14.4	14.4	14.1	14.3	13.4	13.1	13.2
3	14.4	14.1	14.2	14.7	14.4	14.4	14.4	14.1	14.2	13.4	13.1	13.2
4	14.4	14.1	14.2	14.4	14.4	14.4	14.1	14.1	14.1	13.1	13.1	13.1
5	14.4	14.1	14.2	14.4	14.4	14.4	14.1	14.1	14.1	13.1	13.1	13.1
6	14.7	14.1	14.2	14.4	14.4	14.4	14.1	14.1	14.1	13.1	13.1	13.1
7	14.5	14.1	14.3	14.6	14.4	14.4	14.1	14.1	14.1	13.1	12.9	13.1
8	14.5	14.1	14.3	14.4	14.4	14.4	14.1	14.1	14.1	13.1	12.9	13.0
9	14.2	14.1	14.2	14.4	14.4	14.4	14.1	14.1	14.1	13.1	12.9	12.9
10	14.4	14.1	14.3	14.7	14.4	14.4	14.1	14.1	14.1	12.9	12.9	12.9
11	14.4	14.1	14.3	14.6	14.4	14.4	14.1	13.9	14.1	12.9	12.9	12.9
12	14.4	14.1	14.3	14.6	14.4	14.4	14.1	13.8	14.0	12.9	12.7	12.8
13	14.5	14.1	14.4	14.7	14.4	14.4	14.1	13.8	13.9	13.0	12.7	12.7
14	14.4	14.2	14.4	14.4	14.4	14.4	13.9	13.9	13.9	12.7	12.7	12.7
15	14.4	14.2	14.4	14.4	14.4	14.4	13.9	13.6	13.8	12.7	12.7	12.7
16	14.5	14.2	14.4	14.4	14.4	14.4	13.9	13.6	13.7	12.7	12.7	12.7
17	14.5	14.2	14.4	14.7	14.4	14.4	13.6	13.6	13.6	12.7	12.7	12.7
18	14.4	14.2	14.4	14.7	14.4	14.4	13.6	13.6	13.6	12.7	12.5	12.7
19	14.4	14.4	14.4	14.4	14.4	14.4	13.6	13.6	13.6	12.7	12.5	12.7
20	14.4	14.2	14.4	14.4	14.4	14.4	13.7	13.4	13.6	12.7	12.5	12.6
21	14.7	14.4	14.4	14.4	14.4	14.4	13.7	13.4	13.6	12.7	12.4	12.5
22	14.7	14.4	14.4	14.4	14.4	14.4	13.7	13.4	13.5	12.7	12.4	12.4
23	14.7	14.4	14.4	14.4	14.4	14.4	13.6	13.4	13.4	12.4	12.4	12.4
24	14.4	14.4	14.4	14.6	14.3	14.4	13.4	13.4	13.4	12.5	12.4	12.4
25	14.4	14.4	14.4	14.4	14.4	14.4	13.4	13.4	13.4	12.5	12.2	12.4
26	14.4	14.4	14.4	14.4	14.4	14.4	13.4	13.4	13.4	12.5	12.2	12.4
27	14.4	14.2	14.4	14.4	14.4	14.4	13.4	13.4	13.4	12.4	12.2	12.3
28	14.7	14.4	14.4	14.4	14.4	14.4	13.4	13.4	13.4	12.4	12.2	12.3
29	14.7	14.4	14.5	14.4	14.4	14.4	13.4	13.4	13.4	12.4	12.2	12.3
30	14.7	14.4	14.4	14.4	14.4	14.4	13.4	13.2	13.4	12.4	12.2	12.2
31	14.4	14.4	14.4	---	---	---	13.4	13.1	13.3	12.2	12.2	12.2
MONTH	14.7	14.1	14.3	14.7	14.3	14.4	14.4	13.1	13.8	13.4	12.2	12.7

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

413547083481400 LU-23 NR HOLLAND OH--Continued

#3 (10.4' BLS) WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	16.2	16.0	16.1	15.4	15.4	15.4	14.1	13.9	14.0	12.2	12.2	12.2
2	16.3	16.0	16.2	15.7	15.4	15.4	14.2	13.9	13.9	12.2	12.2	12.2
3	16.3	16.0	16.2	15.5	15.2	15.4	13.9	13.7	13.8	12.2	12.0	12.2
4	16.2	16.0	16.2	15.4	15.2	15.3	13.9	13.6	13.7	12.2	12.0	12.1
5	16.2	16.0	16.2	15.4	15.2	15.2	13.7	13.6	13.7	12.2	11.9	12.1
6	16.3	16.0	16.2	15.2	15.1	15.2	13.6	13.6	13.6	12.0	11.8	12.0
7	16.3	16.0	16.2	15.4	15.1	15.2	13.6	13.6	13.6	12.0	11.7	11.9
8	16.3	16.0	16.1	15.2	15.1	15.2	13.6	13.6	13.6	12.0	11.7	11.8
9	16.2	16.0	16.1	15.2	15.1	15.2	13.6	13.4	13.6	12.0	11.7	11.7
10	16.3	15.9	16.1	15.2	14.9	15.1	13.6	13.4	13.4	11.8	11.7	11.7
11	16.3	15.9	16.1	15.1	14.9	15.0	13.4	13.4	13.4	11.8	11.5	11.7
12	16.2	15.7	16.0	15.1	14.9	14.9	13.4	13.4	13.4	11.6	11.5	11.6
13	16.0	15.7	16.0	15.2	14.9	14.9	13.4	13.3	13.4	11.8	11.4	11.6
14	16.0	16.0	16.0	14.9	14.7	14.9	13.4	13.4	13.4	11.6	11.4	11.5
15	16.0	15.7	15.9	14.9	14.7	14.9	13.4	13.1	13.2	11.6	11.3	11.5
16	16.0	15.7	15.9	14.9	14.6	14.7	13.2	13.1	13.1	11.5	11.3	11.4
17	16.0	15.7	15.9	14.9	14.6	14.7	13.2	13.1	13.2	11.5	11.3	11.3
18	16.0	15.7	15.8	14.7	14.4	14.6	13.1	12.9	13.0	11.3	11.3	11.3
19	15.7	15.7	15.7	14.6	14.4	14.5	13.1	12.9	12.9	11.3	11.3	11.3
20	16.0	15.7	15.7	14.6	14.4	14.4	12.9	12.9	12.9	11.3	11.3	11.3
21	16.0	15.7	15.8	14.4	14.4	14.4	13.0	12.7	12.9	11.3	11.3	11.3
22	15.7	15.7	15.7	14.4	14.4	14.4	12.9	12.5	12.8	11.3	11.1	11.2
23	15.7	15.7	15.7	14.4	14.4	14.4	12.7	12.7	12.7	11.3	11.1	11.1
24	15.7	15.7	15.7	14.4	14.1	14.3	12.7	12.4	12.6	11.1	11.1	11.1
25	15.7	15.7	15.7	14.4	14.1	14.2	12.7	12.4	12.5	11.1	10.9	11.0
26	15.7	15.4	15.5	14.4	14.1	14.2	12.5	12.4	12.4	11.1	10.9	11.0
27	15.7	15.4	15.5	14.1	14.1	14.1	12.5	12.4	12.4	11.1	10.7	10.9
28	15.7	15.4	15.5	14.1	14.1	14.1	12.5	12.4	12.4	10.9	10.7	10.9
29	15.7	15.4	15.5	14.1	14.1	14.1	12.5	12.2	12.4	10.9	10.6	10.8
30	15.7	15.4	15.5	14.1	14.1	14.1	12.4	12.2	12.3	10.9	10.6	10.7
31	15.4	15.4	15.4	---	---	---	12.4	12.2	12.2	10.7	10.7	10.7
MONTH	16.3	15.4	15.9	15.7	14.1	14.7	14.2	12.2	13.1	12.2	10.6	11.5

#3 (10.4' BLS) WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	10.7	10.5	10.7	9.6	9.6	9.6	9.3	9.1	9.2	9.5	9.3	9.4
2	10.7	10.5	10.6	9.7	9.6	9.6	---	---	---	9.5	9.3	9.5
3	10.7	10.4	10.6	9.7	9.6	9.6	9.3	9.1	9.2	9.7	9.3	9.5
4	10.7	10.4	10.5	9.7	9.5	9.6	9.3	9.1	9.2	9.5	9.5	9.5
5	10.6	10.4	10.4	9.7	9.4	9.6	9.4	9.1	9.2	9.7	9.5	9.5
6	10.5	10.4	10.4	9.7	9.5	9.5	9.3	9.1	9.2	9.7	9.5	9.6
7	10.5	10.4	10.4	9.6	9.5	9.5	9.3	9.1	9.2	9.7	9.5	9.6
8	10.5	10.4	10.4	9.6	9.4	9.5	9.3	9.1	9.2	9.7	9.5	9.6
9	10.5	10.4	10.4	9.5	9.4	9.4	9.5	9.1	9.3	9.9	9.5	9.7
10	10.5	10.2	10.3	9.5	9.3	9.4	9.3	9.1	9.2	9.9	9.7	9.7
11	10.5	10.2	10.4	9.5	9.1	9.3	9.3	9.1	9.2	9.7	9.7	9.7
12	10.5	10.2	10.3	9.3	9.1	9.2	9.3	9.1	9.1	9.9	9.7	9.7
13	10.4	10.2	10.3	9.3	9.1	9.2	9.3	9.1	9.2	9.9	9.7	9.8
14	10.3	10.1	10.2	9.3	9.1	9.2	9.3	9.0	9.1	9.9	9.7	9.8
15	10.2	10.0	10.1	9.3	9.1	9.1	9.3	9.0	9.1	9.9	9.7	9.8
16	10.3	10.0	10.1	9.3	9.1	9.1	9.3	9.1	9.1	9.9	9.7	9.8
17	10.1	9.9	10.0	9.3	9.1	9.1	9.3	9.1	9.2	9.9	9.7	9.8
18	10.1	9.9	10.0	9.1	8.9	9.1	9.3	9.1	9.2	9.9	9.7	9.8
19	10.1	9.9	10.0	9.1	9.1	9.1	9.3	9.1	9.1	9.9	9.7	9.9
20	10.1	9.8	9.9	9.1	9.1	9.1	9.3	9.1	9.2	10.1	9.9	9.9
21	10.1	9.8	9.9	9.1	9.1	9.1	9.3	9.1	9.3	10.1	9.9	10.0
22	10.0	9.7	9.8	9.3	9.1	9.1	9.3	9.1	9.2	10.1	9.9	10.0
23	9.9	9.6	9.8	9.2	9.0	9.1	9.3	9.2	9.3	10.1	9.9	10.1
24	9.9	9.6	9.8	9.3	9.0	9.1	9.3	9.1	9.3	10.1	9.9	10.1
25	9.8	9.6	9.7	9.3	9.0	9.2	9.3	9.1	9.3	10.1	10.1	10.1
26	9.8	9.6	9.7	9.3	9.0	9.1	9.5	9.3	9.3	10.3	10.1	10.2
27	9.6	9.6	9.6	9.3	9.1	9.2	9.5	9.3	9.3	10.3	10.1	10.1
28	9.6	9.6	9.6	9.3	9.1	9.1	9.5	9.3	9.4	10.4	10.1	10.2
29	---	---	---	9.3	9.1	9.2	9.5	9.3	9.4	10.3	10.1	10.1
30	---	---	---	9.3	9.1	9.2	9.5	9.3	9.4	10.4	10.1	10.3
31	---	---	---	9.3	9.1	9.2	---	---	---	10.4	10.3	10.3
MONTH	10.7	9.6	10.1	9.7	8.9	9.3	9.5	9.0	9.2	10.4	9.3	9.8

**EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW
UNCONSOLIDATED AQUIFERS IN OHIO**

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413547083481400 LU-23 NR HOLLAND OH--Continued

#3 (10.4' BLS) WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	10.5	10.1	10.3	12.5	12.2	12.3	14.5	14.2	14.3	---	---	---
2	10.5	10.3	10.4	12.5	12.2	12.4	14.5	14.4	14.4	---	---	---
3	10.6	10.3	10.4	12.8	12.5	12.5	14.7	14.4	14.5	---	---	---
4	10.6	10.3	10.5	12.8	12.5	12.6	14.7	14.4	14.6	---	---	---
5	10.8	10.5	10.5	12.8	12.5	12.7	14.7	14.4	14.5	---	---	---
6	10.8	10.5	10.6	13.0	12.5	12.7	14.7	14.4	14.6	---	---	---
7	10.8	10.5	10.7	13.0	12.7	12.8	14.9	14.4	14.7	---	---	---
8	10.8	10.5	10.5	13.0	12.7	12.9	15.0	14.7	14.7	---	---	---
9	10.7	10.5	10.6	13.2	12.9	13.1	15.0	14.7	14.8	---	---	---
10	11.0	10.5	10.7	13.2	13.0	13.1	15.0	14.7	14.9	16.0	15.7	16.0
11	11.0	10.7	10.8	13.3	13.0	13.2	15.2	14.7	15.0	16.2	15.9	16.0
12	11.0	10.7	10.8	13.5	13.2	13.2	15.2	14.9	15.0	16.3	16.0	16.0
13	11.2	10.9	11.0	13.5	13.2	13.3	15.2	14.9	15.0	16.3	16.0	16.0
14	11.2	10.9	11.0	13.5	13.2	13.3	15.2	14.9	15.1	16.3	16.0	16.0
15	11.2	11.0	11.2	13.5	13.2	13.4	15.3	14.9	15.1	16.3	16.0	16.1
16	11.4	11.1	11.2	13.7	13.4	13.5	15.3	14.9	15.1	16.3	16.0	16.1
17	11.4	11.1	11.3	13.7	13.5	13.6	15.2	14.9	15.2	16.2	16.0	16.0
18	11.4	11.2	11.4	13.7	13.4	13.6	15.5	15.2	15.2	16.3	16.0	16.2
19	11.6	11.4	11.5	13.7	13.4	13.6	15.5	15.2	15.3	16.3	16.0	16.2
20	11.7	11.4	11.5	13.7	13.4	13.6	15.5	15.2	15.3	16.0	16.0	16.0
21	11.6	11.4	11.5	14.0	13.7	13.7	15.5	15.2	15.4	16.2	16.0	16.0
22	11.7	11.4	11.6	14.0	13.7	13.8	15.5	15.2	15.4	16.2	16.0	16.1
23	11.9	11.6	11.6	14.0	13.7	13.8	15.5	15.2	15.5	16.3	16.0	16.1
24	11.9	11.6	11.7	14.0	13.7	13.9	15.7	15.4	15.5	16.3	16.0	16.2
25	11.9	11.6	11.8	14.2	13.9	14.0	15.8	15.4	15.5	16.3	15.9	16.1
26	12.1	11.8	11.9	14.2	13.9	14.1	15.8	15.4	15.5	16.3	16.0	16.0
27	12.3	11.8	12.0	14.5	14.2	14.2	15.8	15.4	15.6	16.3	16.0	16.0
28	12.3	12.0	12.1	14.5	14.2	14.3	15.8	15.5	15.6	16.2	15.9	16.0
29	12.3	12.0	12.1	14.5	14.2	14.3	15.8	15.5	15.6	16.0	16.0	16.0
30	12.3	12.0	12.2	14.5	14.2	14.3	15.8	15.4	15.6	16.0	15.7	16.0
31	---	---	---	14.5	14.2	14.3	15.8	15.5	15.6	---	---	---
MONTH	12.3	10.1	11.2	14.5	12.2	13.4	15.8	14.2	15.1	16.3	15.7	16.1
YEAR	16.3	8.9	12.4									

#4 (6.9' BLS) WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	16.8	16.8	16.8	15.7	15.7	15.7	14.4	14.1	14.1	12.5	12.4	12.4
2	17.1	16.8	16.9	15.7	15.4	15.6	14.2	14.1	14.1	12.4	12.4	12.4
3	17.1	16.8	16.8	15.7	15.4	15.5	14.1	14.1	14.1	12.4	12.2	12.4
4	16.8	16.5	16.8	15.4	15.4	15.4	14.1	14.1	14.1	12.4	12.2	12.3
5	17.1	16.5	16.8	15.4	15.4	15.4	14.1	13.9	14.0	12.4	12.2	12.2
6	16.8	16.5	16.7	15.4	15.4	15.4	14.1	13.9	13.9	12.2	12.2	12.2
7	16.8	16.5	16.7	15.4	15.4	15.4	13.9	13.9	13.9	12.2	12.0	12.2
8	16.8	16.5	16.7	15.4	15.2	15.3	13.9	13.8	13.9	12.2	12.0	12.1
9	16.5	16.5	16.5	15.4	15.1	15.4	13.9	13.6	13.7	12.2	12.0	12.1
10	16.8	16.5	16.6	15.4	15.1	15.3	13.6	13.6	13.6	12.2	11.7	12.0
11	16.8	16.5	16.5	15.4	15.1	15.2	13.6	13.6	13.6	12.0	11.7	11.8
12	16.8	16.5	16.6	15.2	15.1	15.1	13.6	13.6	13.6	12.0	11.8	11.8
13	16.8	16.5	16.5	15.2	14.9	15.1	13.6	13.4	13.5	11.8	11.6	11.8
14	16.8	16.3	16.5	15.2	14.9	14.9	13.4	13.4	13.4	11.8	11.6	11.7
15	16.8	16.2	16.5	15.2	14.9	15.0	13.4	13.4	13.4	11.8	11.5	11.7
16	16.6	16.2	16.4	14.9	14.9	14.9	13.4	13.4	13.4	11.8	11.5	11.6
17	16.6	16.2	16.4	15.2	14.9	14.9	13.4	13.4	13.4	11.5	11.5	11.5
18	16.5	16.2	16.3	15.2	14.9	14.9	13.4	13.1	13.2	11.6	11.5	11.6
19	16.2	16.2	16.2	14.9	14.7	14.9	13.4	13.1	13.2	11.5	11.5	11.5
20	16.3	16.0	16.2	14.9	14.6	14.8	13.2	12.9	13.1	11.5	11.3	11.5
21	16.3	16.0	16.2	14.7	14.6	14.6	13.2	12.9	13.0	11.5	11.3	11.4
22	16.3	16.0	16.2	14.9	14.6	14.6	13.1	12.9	12.9	11.3	11.3	11.3
23	16.3	15.9	16.1	14.9	14.6	14.6	12.9	12.9	12.9	11.3	11.3	11.3
24	16.2	15.9	16.0	14.6	14.4	14.5	12.9	12.7	12.9	11.3	11.1	11.2
25	16.2	15.9	16.0	14.6	14.4	14.5	12.9	12.7	12.8	11.3	11.1	11.1
26	16.0	15.9	15.9	14.6	14.4	14.4	12.7	12.7	12.7	11.1	11.1	11.1
27	16.0	15.7	15.9	14.4	14.4	14.4	12.7	12.4	12.6	11.1	10.9	11.1
28	16.0	15.7	15.8	14.4	14.4	14.4	12.7	12.4	12.5	11.1	10.9	11.1
29	16.0	15.7	15.8	14.4	14.1	14.3	12.5	12.4	12.4	11.1	10.9	11.0
30	16.0	15.7	15.7	14.4	14.1	14.2	12.5	12.4	12.4	11.1	10.7	10.9
31	15.7	15.7	15.7	---	---	---	12.5	12.4	12.4	10.9	10.7	10.9
MONTH	17.1	15.7	16.3	15.7	14.1	15.0	14.4	12.4	13.3	12.5	10.7	11.7

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

413547083481400 LU-23 NR HOLLAND OH-Continued

#4 (6.9' BLS)												
WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	10.9	10.7	10.8	9.9	9.8	9.8	9.6	9.4	9.5	9.9	9.7	9.7
2	10.9	10.7	10.7	9.9	9.7	9.8	---	---	---	9.9	9.7	9.7
3	10.9	10.6	10.7	9.8	9.6	9.7	9.7	9.5	9.6	9.9	9.7	9.8
4	10.9	10.6	10.7	9.9	9.6	9.7	9.7	9.5	9.6	9.9	9.7	9.8
5	10.6	10.6	10.6	9.7	9.6	9.6	9.7	9.5	9.6	9.9	9.7	9.9
6	10.7	10.5	10.6	9.7	9.6	9.7	9.7	9.5	9.6	9.9	9.9	9.9
7	10.7	10.5	10.6	9.7	9.6	9.7	9.7	9.5	9.6	10.1	9.9	9.9
8	10.7	10.4	10.5	9.7	9.6	9.6	9.7	9.5	9.6	10.1	9.9	9.9
9	10.6	10.4	10.5	9.7	9.6	9.6	9.7	9.5	9.6	10.1	9.9	10.0
10	10.5	10.5	10.5	9.7	9.5	9.6	9.7	9.5	9.6	10.3	9.9	10.1
11	10.5	10.4	10.4	9.7	9.3	9.5	9.7	9.5	9.6	10.1	10.1	10.1
12	10.5	10.4	10.4	9.7	9.3	9.5	9.5	9.5	9.5	10.3	10.1	10.1
13	10.5	10.4	10.4	9.5	9.3	9.4	9.7	9.5	9.5	10.3	10.1	10.2
14	10.5	10.3	10.4	9.5	9.3	9.3	9.7	9.5	9.5	10.3	10.1	10.2
15	10.5	10.2	10.4	9.5	9.1	9.3	9.7	9.4	9.5	10.4	10.1	10.3
16	10.5	10.2	10.3	9.3	9.1	9.3	9.5	9.5	9.5	10.4	10.1	10.3
17	10.5	10.1	10.3	9.5	9.1	9.3	9.7	9.5	9.5	10.5	10.3	10.4
18	10.3	10.1	10.2	9.5	9.2	9.3	9.7	9.5	9.5	10.5	10.3	10.4
19	10.3	10.0	10.2	9.5	9.1	9.3	9.7	9.5	9.5	10.6	10.3	10.5
20	10.3	10.0	10.1	9.5	9.1	9.3	9.7	9.5	9.6	10.7	10.5	10.6
21	10.1	10.0	10.1	9.5	9.3	9.3	9.9	9.5	9.7	10.8	10.5	10.6
22	10.2	9.9	10.1	9.5	9.3	9.3	9.7	9.5	9.6	10.8	10.5	10.6
23	10.1	9.9	10.0	9.5	9.3	9.4	9.7	9.6	9.7	10.8	10.5	10.6
24	10.1	9.9	10.0	9.5	9.3	9.4	9.7	9.5	9.7	10.7	10.5	10.5
25	10.1	9.9	10.0	9.7	9.3	9.5	9.7	9.7	9.7	10.7	10.5	10.7
26	10.0	9.8	9.9	9.5	9.3	9.5	9.7	9.7	9.7	10.8	10.5	10.7
27	10.1	9.8	9.9	9.5	9.5	9.5	9.7	9.7	9.7	11.0	10.7	10.8
28	9.9	9.8	9.8	9.6	9.5	9.5	9.9	9.7	9.7	11.0	10.7	10.8
29	---	---	---	9.5	9.5	9.5	9.9	9.7	9.8	10.9	10.7	10.9
30	---	---	---	9.7	9.5	9.5	9.7	9.7	9.7	11.2	10.9	11.0
31	---	---	---	9.7	9.4	9.5	---	---	---	11.2	10.9	11.2
MONTH	10.9	9.8	10.3	9.9	9.1	9.5	9.9	9.4	9.6	11.2	9.7	10.3

[illegible]

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW
UNCONSOLIDATED AQUIFERS IN OHIO

235

GROUND-WATER RECORDS

413547083481500. Local number, LU-24.

LOCATION.--Lat 41°35'47" Long 83°48'15", Hydrologic Unit 04100009, along State Route 2 near Holland, OH.
Owner.--USGS-Toledo Express Airport.

AQUIFER.--Sand of Quaternary age.

WELL CHARACTERISTICS.--Observation well drilled by hollow stem auger, diameter 4.0 in., depth 18.7 ft. Cased with Sch 40 PVC to 8.7 ft; .010 in. screen from 8.7 to 18.7 ft.

INSTRUMENTATION - Data logger--60 minute record. Water-level data only was collected at this well.

DATUM.--Elevation of land-surface datum is 677.21 feet above sea level.
Measuring point: shelter floor 2.12 ft above land-surface datum.

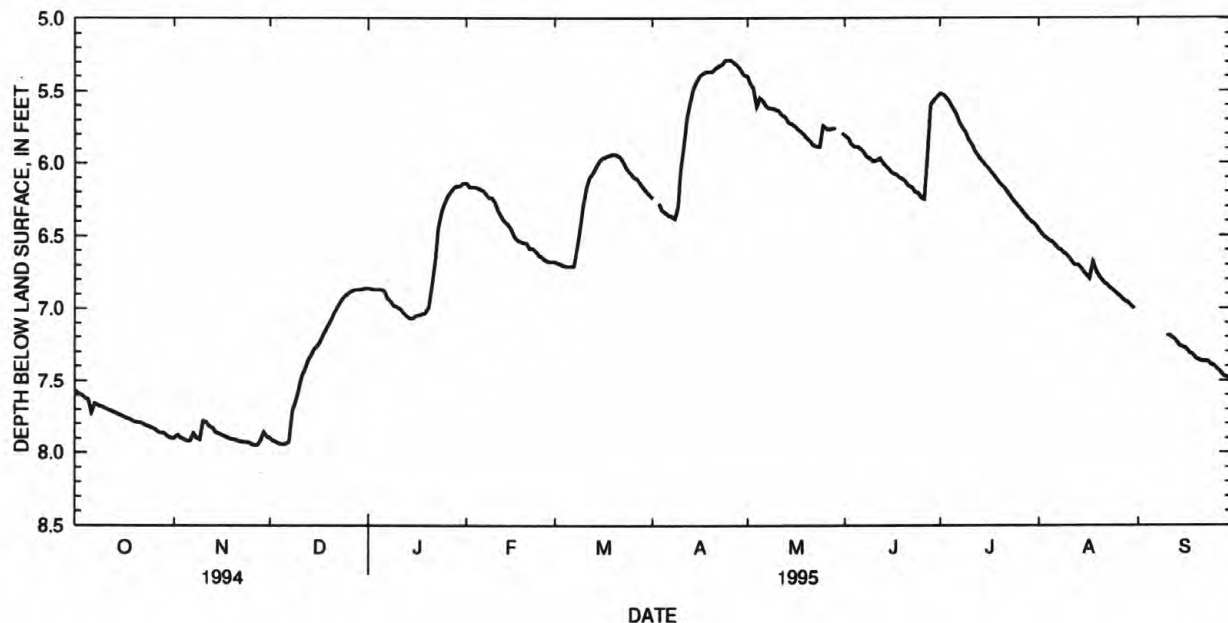
REMARKS.--This station is part of an eight-site network to collect data for the Ohio Department of Transportation concerning road salt application and its effect(s) on shallow ground-water quality. Water-quality data for nearby wells is available in adjacent tables.

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

PERIOD OF DAILY RECORD.--
WATER LEVEL: February 1991 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER LEVEL: Maximum daily low, 8.10 ft. below land-surface datum, October 24, 1991; maximum daily high, 3.70 ft. below land-surface data, April 2, 1993.

EXTREMES FOR CURRENT YEAR.--
WATER LEVEL: Maximum daily low, 7.95 ft. below land-surface datum, November 26-27, 1994; maximum daily high, 5.27 ft. below land-surface data, April 24-27, 1995.



EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

413547083481500 LU-24 NR HOLLAND OH--Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.57	7.56	7.90	7.88	7.90	7.89	6.86	6.86	6.14	6.13	6.68	6.68
2	7.59	7.57	7.88	7.87	7.92	7.90	6.87	6.86	6.17	6.14	6.69	6.68
3	7.60	7.59	7.90	7.88	7.93	7.92	6.87	6.87	6.17	6.16	6.70	6.69
4	7.62	7.60	7.91	7.90	7.94	7.93	6.87	6.87	6.17	6.15	6.71	6.70
5	7.63	7.62	7.92	7.91	7.94	7.94	6.87	6.87	6.18	6.17	6.71	6.68
6	7.72	7.63	7.92	7.86	7.94	7.93	6.88	6.87	6.19	6.18	6.71	6.69
7	7.66	7.65	7.87	7.86	7.93	7.71	6.93	6.88	6.21	6.19	6.71	6.59
8	7.67	7.66	7.90	7.87	7.71	7.65	6.95	6.93	6.24	6.21	6.59	6.45
9	7.68	7.67	7.91	7.77	7.65	7.56	6.98	6.95	6.24	6.24	6.45	6.29
10	7.69	7.68	7.78	7.76	7.56	7.47	6.99	6.98	6.27	6.24	6.29	6.17
11	7.70	7.69	7.79	7.78	7.47	7.42	7.00	6.99	6.33	6.27	6.17	6.10
12	7.71	7.70	7.82	7.79	7.42	7.36	7.03	7.00	6.37	6.33	6.10	6.07
13	7.72	7.71	7.83	7.82	7.36	7.32	7.05	7.03	6.40	6.37	6.07	6.03
14	7.73	7.72	7.86	7.83	7.32	7.28	7.07	7.05	6.42	6.40	6.03	5.99
15	7.74	7.73	7.87	7.86	7.28	7.26	7.07	7.05	6.45	6.40	5.99	5.97
16	7.75	7.74	7.88	7.87	7.26	7.22	7.05	7.05	6.50	6.45	5.97	5.96
17	7.76	7.75	7.89	7.88	7.22	7.17	7.05	7.04	6.53	6.50	5.96	5.95
18	7.77	7.76	7.90	7.89	7.17	7.13	7.04	7.03	6.54	6.53	5.95	5.94
19	7.78	7.77	7.91	7.90	7.13	7.09	7.03	6.99	6.55	6.54	5.94	5.93
20	7.79	7.78	7.91	7.91	7.09	7.04	6.99	6.85	6.55	6.53	5.94	5.92
21	7.79	7.79	7.92	7.91	7.04	7.00	6.85	6.68	6.59	6.55	5.95	5.94
22	7.80	7.79	7.93	7.92	7.00	6.96	6.68	6.45	6.59	6.58	5.97	5.94
23	7.81	7.80	7.93	7.93	6.96	6.93	6.45	6.34	6.61	6.59	6.01	5.97
24	7.82	7.81	7.93	7.93	6.93	6.91	6.34	6.28	6.64	6.61	6.05	6.01
25	7.83	7.82	7.94	7.93	6.91	6.89	6.28	6.23	6.65	6.64	6.07	6.05
26	7.84	7.83	7.95	7.94	6.89	6.88	6.23	6.20	6.67	6.65	6.10	6.07
27	7.86	7.84	7.95	7.92	6.88	6.87	6.20	6.17	6.68	6.67	6.11	6.09
28	7.86	7.86	7.92	7.84	6.87	6.86	6.17	6.16	6.68	6.68	6.14	6.11
29	7.87	7.86	7.86	7.84	6.87	6.87	6.16	6.16	---	---	6.17	6.14
30	7.89	7.87	7.89	7.86	6.87	6.86	6.16	6.14	---	---	6.20	6.16
31	7.90	7.89	---	---	6.86	6.86	6.14	6.13	---	---	6.22	6.20
MONTH	7.90	7.56	7.95	7.76	7.94	6.86	7.07	6.13	6.68	6.13	6.71	5.92

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

[illegible]

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW
UNCONSOLIDATED AQUIFERS IN OHIO

237

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 11.8 feet below land surface.

DATUM.--Elevation of land-surface datum is 931.74 feet above sea level.
Measuring point: shelter shelf 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.--

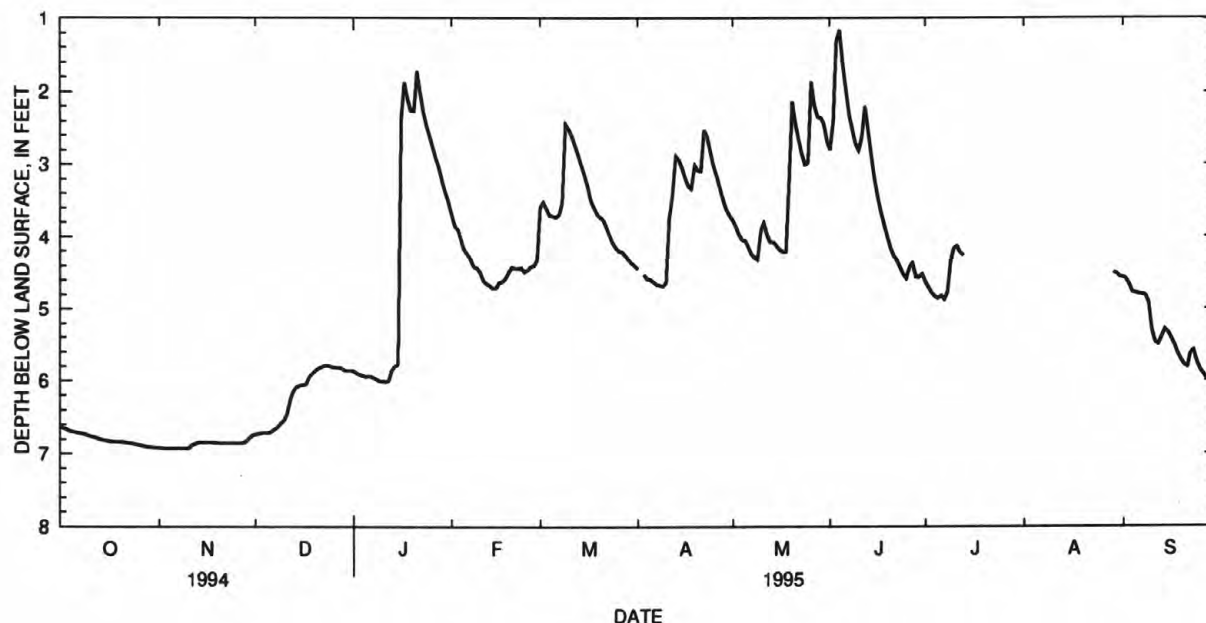
WATER LEVEL: February 1991 to current year.
SPECIFIC CONDUCTANCE: February 1991 to current year.
AIR TEMPERATURE: February 1991 to current year.
WATER TEMPERATURE: February 1991 to current year.
SOIL TEMPERATURE: February 1991 to current year.
PRECIPITATION: February 1991 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER LEVEL: Maximum daily low, 7.18 ft. below land-surface datum, October 7-11, 1991; maximum daily high, 0.55 ft. below land-surface datum, June 3, 1995.
SPECIFIC CONDUCTANCE: Maximum, 907 microsiemens March 26, 1993; minimum, 688 microsiemens January 16,21, 1995.
AIR TEMPERATURE: Maximum, 35.5°C July 3, 1991; minimum, -35.6°C January 19, 1994.
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, -0.4°C February 14, 1995.

EXTREMES FOR CURRENT YEAR.--

WATER LEVEL: Maximum daily low, 6.93 ft. below land-surface datum, November 2-10, 1994; maximum daily high, 0.55 ft. below land-surface datum, June 3, 1995.
SPECIFIC CONDUCTANCE: Maximum, 791 microsiemens September 24, 1995; minimum, 688 microsiemens January 16,21, 1995.
AIR TEMPERATURE: Maximum, 33.1°C June 20, 1995; minimum, -23.0°C February 5-6, 1995.
WATER TEMPERATURE: Maximum, 15.6°C September 24, 1995; minimum, 8.0°C March 9,11,13, 1995.
SOIL TEMPERATURE: Maximum, 27.7°C June 19, July 13, 1995; minimum, -0.4°C February 14, 1995.



EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

403635082152300 AS-45 NR LOUDONVILLE OH--Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	6.64	6.61	6.92	6.92	6.74	6.73	5.87	5.86	3.71	3.54	3.60	3.46
2	6.65	6.64	6.93	6.92	6.73	6.72	5.90	5.87	3.87	3.71	3.53	3.47
3	6.67	6.65	6.93	6.93	6.72	6.72	5.92	5.90	3.91	3.87	3.62	3.53
4	6.69	6.67	6.93	6.93	6.72	6.72	5.94	5.92	4.06	3.91	3.71	3.62
5	6.70	6.69	6.93	6.93	6.72	6.70	5.95	5.94	4.19	4.06	3.72	3.70
6	6.71	6.70	6.93	6.93	6.70	6.67	5.94	5.91	4.25	4.19	3.74	3.70
7	6.72	6.71	6.93	6.93	6.67	6.64	5.96	5.91	4.32	4.25	3.70	3.54
8	6.73	6.72	6.93	6.93	6.64	6.59	5.98	5.96	4.42	4.32	3.54	2.38
9	6.74	6.73	6.93	6.93	6.59	6.55	6.01	5.98	4.44	4.41	2.45	2.38
10	6.76	6.74	6.93	6.89	6.55	6.46	6.01	6.01	4.50	4.44	2.52	2.44
11	6.77	6.76	6.89	6.87	6.46	6.26	6.02	6.01	4.61	4.50	2.61	2.52
12	6.78	6.77	6.87	6.85	6.26	6.14	6.01	5.86	4.66	4.61	2.74	2.61
13	6.80	6.78	6.85	6.85	6.14	6.09	5.86	5.80	4.68	4.66	2.87	2.74
14	6.81	6.80	6.85	6.85	6.09	6.07	5.80	5.78	4.72	4.68	3.01	2.87
15	6.82	6.81	6.85	6.85	6.07	6.06	5.78	2.37	4.72	4.59	3.15	3.01
16	6.83	6.82	6.85	6.85	6.06	6.05	2.37	1.43	4.64	4.59	3.30	3.15
17	6.84	6.83	6.85	6.85	6.05	5.95	1.87	1.62	4.63	4.58	3.50	3.30
18	6.84	6.84	6.85	6.85	5.95	5.90	2.10	1.87	4.58	4.50	3.60	3.50
19	6.84	6.84	6.86	6.85	5.90	5.86	2.26	2.10	4.50	4.43	3.69	3.60
20	6.84	6.84	6.86	6.86	5.86	5.83	2.27	1.54	4.43	4.35	3.74	3.69
21	6.85	6.84	6.86	6.86	5.83	5.81	1.72	1.51	4.45	4.35	3.77	3.72
22	6.86	6.85	6.86	6.86	5.81	5.79	2.03	1.72	4.45	4.40	3.88	3.77
23	6.86	6.86	6.86	6.86	5.79	5.78	2.28	2.03	4.44	4.41	3.99	3.88
24	6.87	6.86	6.86	6.86	5.79	5.78	2.48	2.28	4.49	4.44	4.09	3.99
25	6.88	6.87	6.86	6.86	5.81	5.79	2.62	2.48	4.47	4.40	4.16	4.09
26	6.89	6.88	6.86	6.86	5.82	5.81	2.78	2.62	4.42	4.40	4.21	4.16
27	6.90	6.89	6.86	6.84	5.82	5.82	2.93	2.78	4.41	4.33	4.22	4.20
28	6.91	6.90	6.84	6.79	5.83	5.81	3.07	2.93	4.33	3.60	4.27	4.22
29	6.91	6.91	6.79	6.75	5.86	5.83	3.25	3.07	---	---	4.32	4.27
30	6.92	6.91	6.75	6.74	5.86	5.86	3.41	3.25	---	---	4.37	4.32
31	6.92	6.92	---	---	5.86	5.86	3.54	3.41	---	---	4.41	4.37
MONTH	6.92	6.61	6.93	6.74	6.74	5.78	6.02	1.43	4.72	3.54	4.41	2.38

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

[illegible]

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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403635082152300 AS-45 NR LOUDONVILLE OH--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	787	781	784	770	769	769	747	743	745	740	734	738
2	786	781	783	770	765	768	746	741	744	740	734	738
3	785	780	783	769	765	767	745	740	743	740	734	737
4	785	780	782	766	763	765	745	740	743	740	733	737
5	784	779	781	764	763	764	745	740	744	740	734	736
6	784	779	781	765	764	764	745	741	744	737	733	735
7	783	778	781	767	763	765	745	744	744	737	732	734
8	783	777	780	765	762	763	745	740	743	737	733	735
9	782	777	781	764	760	761	744	742	743	736	733	735
10	781	777	779	761	755	758	743	742	742	736	733	734
11	784	776	779	758	752	755	743	742	742	737	732	734
12	784	776	779	756	752	755	745	741	743	734	730	733
13	780	776	778	755	751	753	746	740	742	733	729	731
14	782	777	779	755	751	753	746	740	743	734	729	731
15	782	775	778	753	752	752	744	740	743	730	697	711
16	781	776	779	752	751	752	744	740	743	697	688	692
17	781	773	777	753	748	751	743	741	741	694	691	692
18	780	775	778	752	748	750	742	739	741	694	691	692
19	779	778	779	751	747	750	741	738	740	695	690	692
20	779	773	777	751	746	749	741	736	739	695	690	692
21	778	774	776	750	748	749	740	736	738	692	688	691
22	778	772	775	750	745	749	741	736	738	694	691	692
23	777	773	775	750	745	747	740	735	738	694	691	692
24	777	772	774	750	745	747	740	735	738	694	691	693
25	776	773	774	749	745	747	740	735	737	695	691	694
26	774	771	773	749	745	747	740	736	738	695	691	693
27	775	770	772	748	744	747	741	737	739	695	691	694
28	774	769	772	747	746	746	741	736	738	697	692	694
29	773	769	771	747	745	746	739	737	738	697	691	694
30	772	767	770	748	743	745	740	736	738	697	691	694
31	772	767	770	---	---	---	740	734	738	697	691	694
MONTH	787	767	777	770	743	754	747	734	741	740	688	712

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	695	694	695	709	702	706	713	711	712	722	718	720
2	697	692	694	709	702	707	---	---	---	722	718	720
3	698	692	695	709	705	707	715	709	712	722	718	720
4	697	694	695	709	705	707	715	711	713	722	719	719
5	698	694	696	709	705	707	713	709	712	720	719	719
6	701	694	697	709	705	707	715	711	712	722	718	720
7	698	694	696	712	706	707	715	711	712	722	718	720
8	699	692	696	715	708	711	715	709	712	722	718	720
9	698	694	696	715	709	713	715	711	712	723	718	721
10	698	692	695	715	711	713	715	712	714	725	719	723
11	697	692	695	715	711	712	720	713	716	722	722	722
12	701	694	697	715	711	713	720	713	717	725	722	722
13	698	694	696	715	711	712	719	715	716	723	722	723
14	698	694	696	716	711	713	719	715	717	725	722	723
15	698	694	696	715	709	712	719	715	717	725	725	725
16	698	694	696	716	709	713	720	716	717	726	725	725
17	699	694	696	715	709	712	720	715	717	726	725	725
18	699	694	697	715	711	712	719	715	718	726	722	725
19	702	694	698	715	711	712	719	715	718	732	726	730
20	702	698	699	715	711	712	719	716	717	733	729	731
21	701	698	700	715	709	713	722	716	719	734	730	731
22	701	698	699	715	709	712	720	718	719	734	727	730
23	702	697	699	715	712	712	722	720	721	732	727	729
24	702	697	699	715	711	712	722	719	720	732	727	730
25	702	698	700	716	709	712	723	719	721	732	727	727
26	704	697	700	715	711	712	723	720	721	734	729	731
27	704	699	701	715	711	713	723	720	722	734	730	731
28	706	701	703	715	711	712	723	719	722	732	730	730
29	---	---	---	715	711	712	723	719	721	733	730	732
30	---	---	---	716	711	713	722	719	720	733	729	733
31	---	---	---	715	711	712	---	---	---	734	729	732
MONTH	706	692	697	716	702	711	723	709	717	734	718	725

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

403635082152300 AS-45 NR LOUDONVILLE OH--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	734	730	731	741	736	738	---	---	---	779	778	778
2	736	730	733	739	737	738	---	---	---	781	779	780
3	737	733	736	740	734	737	---	---	---	783	781	782
4	739	734	738	741	736	738	---	---	---	785	782	783
5	740	734	738	739	736	737	---	---	---	785	780	783
6	741	736	738	740	733	738	---	---	---	785	779	782
7	739	737	737	740	734	736	---	---	---	785	779	781
8	737	737	737	739	736	737	---	---	---	783	781	782
9	739	737	738	741	736	739	---	---	---	784	783	783
10	739	737	739	754	737	749	---	---	---	785	783	784
11	740	734	738	753	748	750	---	---	---	785	782	784
12	741	737	738	757	751	754	---	---	---	783	782	783
13	739	739	739	758	754	755	---	---	---	783	782	782
14	740	736	739	---	---	---	---	---	---	784	782	783
15	741	736	738	---	---	---	---	---	---	785	784	784
16	743	736	739	---	---	---	---	---	---	786	785	785
17	743	737	738	---	---	---	---	---	---	786	785	786
18	741	734	738	---	---	---	---	---	---	786	781	783
19	743	736	738	---	---	---	---	---	---	786	781	783
20	743	736	737	---	---	---	---	---	---	785	780	781
21	739	737	737	---	---	---	---	---	---	785	780	782
22	740	733	737	---	---	---	---	---	---	785	780	782
23	741	734	736	---	---	---	---	---	---	790	785	787
24	737	736	736	---	---	---	---	---	---	791	784	788
25	737	733	737	---	---	---	---	---	---	788	785	787
26	739	733	734	---	---	---	---	---	---	786	783	785
27	737	734	735	---	---	---	---	---	---	788	783	785
28	739	736	737	---	---	---	---	---	---	788	782	784
29	740	730	738	---	---	---	782	776	779	787	781	783
30	740	739	740	---	---	---	782	776	778	787	781	782
31	---	---	---	---	---	---	783	776	778	---	---	---
MONTH	743	730	737	758	733	742	783	776	778	791	778	783
YEAR	791	688	737									

TEMPERATURE, AIR, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	26.3	9.3	15.9	12.9	3.2	6.6	6.3	-7.5	-2	6.6	-4.5	2.8
2	17.9	4.0	10.9	14.5	-3.2	3.8	13.4	-5.8	2.3	-4.5	-12.4	-8.2
3	16.3	.7	7.1	17.8	-1.3	9.8	16.9	-3.3	6.7	-3.0	-13.5	-7.6
4	15.6	.1	6.4	21.4	10.9	16.8	16.7	7.4	12.0	-9.8	-14.9	-12.3
5	13.7	.9	7.2	20.3	10.5	15.6	14.5	9.8	12.0	-5.7	-18.6	-12.4
6	19.7	-1.0	7.3	17.1	5.9	11.5	11.4	7.3	10.0	.6	-15.6	-4.2
7	24.8	-.1	10.8	13.9	-2.7	4.2	12.0	-.4	4.9	.3	-12.1	-3.7
8	25.0	6.3	14.2	20.4	.3	9.6	2.5	-5.7	-1.6	-1.5	-12.0	-4.3
9	17.9	2.2	12.6	13.8	5.1	11.1	6.9	-3.3	1.2	-2.1	-9.8	-5.8
10	13.7	-1.6	4.8	12.6	-3.4	4.4	2.2	-.4	1.1	-2.4	-8.7	-4.9
11	17.2	-4.1	4.5	10.7	-5.9	.1	-.4	-4.0	-2.3	7.5	-2.4	2.7
12	20.8	-3.5	6.4	13.2	-6.8	3.6	.3	-8.8	-4.5	15.5	7.4	11.4
13	17.4	-.4	8.3	20.6	-1.5	7.3	.8	-10.9	-5.9	19.1	1.0	11.2
14	19.5	3.3	11.4	21.9	2.5	13.0	2.5	-10.2	-5.6	18.7	3.1	13.9
15	22.1	.8	9.2	13.3	6.7	9.8	7.1	-9.2	-1.4	13.7	.2	5.8
16	23.3	-.9	8.8	9.2	5.0	6.9	8.2	-1.7	3.5	.3	-1.3	-.7
17	25.3	-3.0	7.8	15.4	-1.0	6.3	8.3	-2.9	3.9	.8	-1.7	-.4
18	25.8	.9	12.4	16.8	-1.1	8.2	2.6	-4.3	-.2	2.4	-.5	.9
19	17.2	14.3	15.8	15.4	-4.2	3.6	1.7	-7.3	-2.7	9.9	-.7	4.0
20	18.7	4.1	12.6	16.6	2.2	8.2	8.2	-7.7	-2.1	6.5	.2	1.8
21	18.7	.7	8.9	16.6	7.0	12.3	14.7	-8.3	-1.1	.4	-5.7	-2.9
22	20.1	.7	7.9	7.0	-2.5	1.8	12.1	-8.0	-1.1	-4.1	-9.7	-6.1
23	19.3	-.8	7.5	4.6	-6.0	-.9	9.2	-6.3	1.3	-3.7	-10.1	-6.3
24	17.4	-3.2	4.9	8.8	-9.4	.2	4.3	-.3	2.8	-3.1	-7.8	-5.0
25	7.8	-1.6	3.3	11.0	-8.0	3.2	6.4	-4.8	.1	-2.4	-14.7	-9.4
26	10.5	-.5	5.3	6.9	-9.4	-3.5	8.7	-7.4	1.0	-1.8	-13.9	-7.3
27	13.1	-2.3	5.4	11.9	-6.0	4.9	2.5	-7.4	-1.8	.0	-15.6	-7.6
28	18.9	-5.2	4.7	15.4	4.2	8.5	8.0	-2.7	1.9	-.1	-10.8	-3.3
29	19.6	-1.5	7.5	10.4	-5.5	3.4	4.1	-7.1	.0	.8	-15.0	-7.6
30	19.5	-1.1	7.7	6.6	-7.4	-1.7	8.2	-9.3	-2.8	.9	-12.1	-6.0
31	12.3	2.7	9.0	---	---	---	5.8	-6.6	2.6	-1.8	-13.0	-5.4
MONTH	26.3	-5.2	8.6	21.9	-9.4	6.3	16.9	-10.9	1.1	19.1	-18.6	-2.5

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

403635082152300 AS-45 NR LOUDONVILLE OH--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	14.9	14.6	14.7	14.1	14.1	14.1	13.1	13.1	13.1	11.7	11.5	11.5
2	14.9	14.6	14.7	14.3	14.0	14.1	13.1	13.1	13.1	11.7	11.5	11.5
3	14.8	14.6	14.8	14.1	14.0	14.1	13.1	12.9	13.1	11.7	11.5	11.5
4	14.9	14.6	14.8	14.1	14.1	14.1	13.1	12.9	13.0	11.7	11.4	11.5
5	14.9	14.6	14.8	14.1	14.1	14.1	13.1	12.9	12.9	11.6	11.4	11.5
6	14.8	14.6	14.7	14.1	14.1	14.1	13.1	12.9	12.9	11.5	11.3	11.5
7	14.9	14.6	14.7	14.1	13.8	14.0	12.9	12.9	12.9	11.5	11.2	11.4
8	14.9	14.6	14.7	14.1	13.8	13.9	13.1	12.8	12.9	11.5	11.2	11.3
9	14.9	14.6	14.6	13.8	13.8	13.8	12.9	12.8	12.8	11.3	11.2	11.3
10	14.8	14.6	14.7	14.1	13.6	13.8	12.9	12.9	12.8	11.3	11.2	11.3
11	14.8	14.4	14.7	14.0	13.6	13.8	12.9	12.8	12.8	11.3	11.0	11.2
12	14.8	14.4	14.7	14.0	13.6	13.7	12.8	12.6	12.7	11.1	10.9	11.0
13	14.8	14.6	14.7	13.8	13.6	13.7	12.8	12.4	12.7	11.1	10.9	11.0
14	14.6	14.4	14.6	13.8	13.6	13.6	12.8	12.4	12.6	11.1	10.7	10.9
15	14.8	14.4	14.6	13.6	13.6	13.6	12.6	12.4	12.5	10.9	10.4	10.6
16	14.6	14.4	14.5	13.6	13.6	13.6	12.6	12.4	12.4	10.4	10.0	10.1
17	14.8	14.3	14.6	13.6	13.4	13.6	12.4	12.4	12.4	10.0	10.0	10.0
18	14.6	14.3	14.5	13.6	13.4	13.5	12.4	12.4	12.4	10.0	10.0	10.0
19	14.4	14.3	14.3	13.6	13.4	13.5	12.4	12.4	12.4	10.0	9.8	9.9
20	14.6	14.3	14.4	13.6	13.3	13.5	12.4	12.2	12.3	10.0	9.8	9.9
21	14.6	14.3	14.4	13.4	13.3	13.4	12.4	12.1	12.3	10.0	9.8	9.8
22	14.6	14.3	14.4	13.6	13.3	13.4	12.4	12.0	12.2	9.8	9.8	9.8
23	14.6	14.3	14.3	13.5	13.3	13.4	12.2	12.0	12.1	10.0	9.8	9.8
24	14.5	14.3	14.4	13.5	13.1	13.4	12.2	11.9	12.1	9.8	9.8	9.8
25	14.3	14.3	14.3	13.4	13.1	13.3	12.2	11.9	12.0	9.8	9.6	9.7
26	14.4	14.3	14.3	13.3	13.1	13.3	12.0	11.7	11.9	9.8	9.6	9.7
27	14.3	14.1	14.3	13.3	13.1	13.2	11.9	11.7	11.9	9.8	9.6	9.7
28	14.3	14.1	14.2	13.1	13.1	13.1	11.9	11.7	11.8	9.8	9.6	9.6
29	14.3	14.1	14.2	13.1	13.1	13.1	11.7	11.7	11.7	9.8	9.6	9.7
30	14.3	14.1	14.2	13.3	13.1	13.2	11.9	11.5	11.7	9.8	9.6	9.6
31	14.3	14.1	14.1	---	---	---	11.7	11.5	11.6	9.8	9.6	9.6
MONTH	14.9	14.1	14.5	14.3	13.1	13.6	13.1	11.5	12.5	11.7	9.6	10.5

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	9.6	9.6	9.6	8.8	8.4	8.6	8.8	8.6	8.6	9.4	9.2	9.2
2	9.6	9.6	9.6	8.8	8.4	8.6	---	---	---	9.4	9.2	9.3
3	9.8	9.5	9.6	8.6	8.4	8.5	8.8	8.5	8.7	9.4	9.2	9.3
4	9.6	9.6	9.6	8.6	8.3	8.5	8.8	8.6	8.7	9.4	9.2	9.4
5	9.7	9.5	9.6	8.6	8.2	8.5	8.8	8.6	8.8	9.4	9.4	9.4
6	9.7	9.5	9.6	8.4	8.4	8.4	8.8	8.6	8.7	9.6	9.4	9.4
7	9.7	9.5	9.6	8.5	8.2	8.4	8.8	8.6	8.7	9.6	9.4	9.5
8	9.6	9.5	9.6	8.4	8.2	8.3	8.9	8.6	8.8	9.6	9.4	9.5
9	9.6	9.4	9.5	8.4	8.0	8.2	8.8	8.6	8.8	9.6	9.4	9.5
10	9.6	9.4	9.5	8.4	8.1	8.2	8.8	8.8	8.8	9.6	9.4	9.5
11	9.6	9.4	9.5	8.3	8.0	8.2	8.8	8.5	8.7	9.6	9.6	9.6
12	9.6	9.3	9.5	8.2	8.1	8.2	8.8	8.4	8.7	9.7	9.5	9.6
13	9.6	9.4	9.5	8.2	8.0	8.2	8.8	8.6	8.8	9.7	9.6	9.6
14	9.5	9.2	9.4	8.2	8.1	8.2	8.8	8.6	8.8	9.7	9.6	9.7
15	9.4	9.2	9.4	8.3	8.1	8.2	9.0	8.7	8.8	9.7	9.6	9.6
16	9.4	9.2	9.3	8.4	8.1	8.2	8.9	8.7	8.8	9.7	9.6	9.6
17	9.4	9.0	9.3	8.4	8.1	8.3	9.0	8.7	8.8	9.7	9.6	9.6
18	9.4	9.0	9.2	8.4	8.1	8.3	9.0	8.8	8.8	9.8	9.6	9.7
19	9.4	9.0	9.1	8.4	8.1	8.3	9.0	8.8	8.9	9.8	9.6	9.7
20	9.2	9.0	9.0	8.4	8.2	8.3	9.0	8.8	9.0	9.9	9.6	9.8
21	9.2	9.0	9.0	8.4	8.2	8.3	9.1	8.9	9.0	9.9	9.7	9.8
22	9.2	9.0	9.0	8.4	8.2	8.4	9.0	8.8	9.0	10.0	9.7	9.8
23	9.0	8.8	9.0	8.4	8.4	8.4	9.0	9.0	9.0	10.0	9.8	9.9
24	9.0	9.0	9.0	8.6	8.3	8.5	9.1	9.0	9.0	10.0	9.8	9.9
25	9.0	8.8	9.0	8.6	8.3	8.5	9.2	9.0	9.0	10.0	9.8	10.0
26	9.0	8.8	8.9	8.6	8.4	8.5	9.2	9.0	9.0	10.0	9.8	10.0
27	9.0	8.8	8.8	8.6	8.4	8.5	9.0	9.0	9.0	10.1	9.9	10.0
28	8.8	8.6	8.8	8.6	8.4	8.6	9.2	9.0	9.1	10.1	10.0	10.0
29	---	---	---	8.6	8.4	8.6	9.2	9.0	9.1	10.0	10.0	10.0
30	---	---	---	8.6	8.4	8.6	9.2	9.0	9.2	10.2	10.0	10.0
31	---	---	---	8.6	8.4	8.6	---	---	---	10.2	10.0	10.1
MONTH	9.8	8.6	9.3	8.8	8.0	8.4	9.2	8.4	8.9	10.2	9.2	9.7

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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403635082152300 AS-45 NR LOUDONVILLE OH--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	10.3	10.0	10.2	11.8	11.5	11.7	---	---	---	14.9	14.8	14.9
2	10.3	10.1	10.2	11.8	11.7	11.8	---	---	---	14.9	14.8	14.9
3	10.3	10.2	10.3	12.0	11.7	11.8	---	---	---	14.9	14.8	14.9
4	10.5	10.2	10.3	12.0	11.7	11.9	---	---	---	14.9	14.8	14.9
5	10.5	10.3	10.4	12.0	12.0	12.0	---	---	---	15.1	14.8	14.9
6	10.5	10.3	10.4	12.2	12.0	12.0	---	---	---	15.1	14.9	15.0
7	10.5	10.5	10.5	12.2	12.0	12.2	---	---	---	15.1	14.9	15.1
8	10.5	10.5	10.5	12.2	12.2	12.2	---	---	---	15.1	15.1	15.1
9	10.5	10.5	10.5	12.4	12.2	12.3	---	---	---	15.1	15.1	15.1
10	10.5	10.5	10.5	12.5	12.2	12.4	---	---	---	15.1	15.1	15.1
11	10.7	10.5	10.5	12.5	12.4	12.4	---	---	---	15.2	15.1	15.1
12	10.7	10.5	10.7	12.5	12.4	12.5	---	---	---	15.1	15.1	15.1
13	10.7	10.6	10.7	12.5	12.4	12.5	---	---	---	15.2	15.1	15.1
14	10.9	10.6	10.7	---	---	---	---	---	---	15.2	15.1	15.1
15	10.9	10.7	10.8	---	---	---	---	---	---	15.1	15.1	15.1
16	10.9	10.7	10.8	---	---	---	---	---	---	15.1	15.1	15.1
17	10.9	10.7	10.9	---	---	---	---	---	---	15.1	15.1	15.1
18	11.1	10.9	11.0	---	---	---	---	---	---	15.4	15.1	15.2
19	11.1	10.9	11.0	---	---	---	---	---	---	15.4	15.1	15.3
20	11.2	11.0	11.1	---	---	---	---	---	---	15.4	15.1	15.3
21	11.1	11.1	11.1	---	---	---	---	---	---	15.4	15.1	15.3
22	11.3	11.1	11.2	---	---	---	---	---	---	15.4	15.3	15.4
23	11.4	11.1	11.3	---	---	---	---	---	---	15.4	15.1	15.3
24	11.4	11.3	11.3	---	---	---	---	---	---	15.6	15.1	15.3
25	11.5	11.3	11.3	---	---	---	---	---	---	15.4	15.3	15.4
26	11.6	11.4	11.5	---	---	---	---	---	---	15.4	15.3	15.4
27	11.6	11.5	11.6	---	---	---	---	---	---	15.4	15.2	15.3
28	11.6	11.5	11.6	---	---	---	---	---	---	15.4	15.2	15.3
29	12.2	11.5	11.6	---	---	---	14.9	14.6	14.7	15.4	15.2	15.3
30	11.6	11.5	11.6	---	---	---	14.9	14.6	14.8	15.4	15.2	15.3
31	---	---	---	---	---	---	14.9	14.6	14.8	---	---	---
MONTH	12.2	10.0	10.9	12.5	11.5	12.1	14.9	14.6	14.8	15.6	14.8	15.2
YEAR	15.6	8.0	11.4									

TEMPERATURE, SOIL DEG. C), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	18.2	14.9	16.4	11.4	9.4	10.7	3.6	2.7	3.1	3.8	1.9	3.1
2	17.5	15.2	16.2	9.8	7.4	8.7	3.7	2.5	3.0	3.2	1.8	2.3
3	15.4	13.1	14.2	10.7	7.0	8.8	5.8	2.6	3.7	1.8	1.4	1.6
4	14.9	12.1	13.4	13.4	10.5	11.9	8.5	5.8	7.1	1.4	1.0	1.2
5	14.6	12.3	13.4	14.1	12.3	13.1	10.2	8.5	9.5	1.0	.3	.7
6	14.1	11.1	12.5	13.8	11.9	13.2	10.0	9.5	9.7	.5	.0	.2
7	14.9	10.8	12.7	11.9	9.2	10.4	9.6	7.7	9.1	.7	.5	.6
8	16.0	12.6	14.2	11.5	8.2	9.7	7.7	4.9	5.9	.7	.6	.7
9	15.8	14.0	15.0	11.8	10.3	11.1	5.7	4.5	5.0	.7	.7	.7
10	14.0	11.2	12.4	11.0	8.7	10.0	5.4	4.8	5.2	.7	.6	.7
11	12.4	9.4	10.9	8.7	6.6	7.6	4.8	3.8	4.3	.7	.7	.7
12	12.5	8.9	10.7	8.4	5.3	6.8	3.8	2.8	3.2	.8	.7	.7
13	13.0	9.7	11.3	10.0	6.8	8.3	2.8	2.2	2.4	1.6	.8	1.0
14	15.4	12.0	13.4	11.6	7.9	9.6	2.2	1.9	2.0	7.6	1.4	3.5
15	14.5	11.4	12.9	11.7	10.6	11.2	1.9	1.8	1.8	8.9	5.3	7.8
16	14.0	10.7	12.3	10.6	9.8	10.2	3.3	1.8	2.0	5.3	3.8	4.2
17	13.2	9.5	11.4	10.2	8.4	9.4	5.1	3.3	4.4	3.9	3.7	3.8
18	14.1	10.1	12.0	10.8	8.4	9.3	3.9	2.9	3.3	4.8	3.4	4.0
19	15.1	13.6	14.4	8.8	6.6	7.8	3.2	2.3	2.5	5.6	3.7	4.6
20	15.3	13.5	14.5	9.6	7.6	8.4	2.3	2.0	2.1	5.5	3.8	4.6
21	14.2	11.3	12.9	10.7	8.6	9.6	2.0	1.8	1.8	3.8	3.2	3.5
22	13.9	11.1	12.5	9.5	6.0	7.7	1.8	1.6	1.7	3.2	3.0	3.1
23	13.0	10.3	11.7	6.0	4.2	4.9	1.7	1.6	1.6	3.0	2.9	3.0
24	11.5	8.9	10.4	4.7	3.4	4.0	2.4	1.6	1.9	2.9	2.4	2.8
25	10.7	8.5	9.5	6.1	4.0	4.9	2.4	1.9	2.1	2.4	1.8	2.0
26	10.6	8.7	9.6	4.4	3.0	3.5	4.2	2.3	3.1	1.8	1.6	1.7
27	11.0	9.2	9.9	5.7	2.8	3.8	2.9	2.1	2.5	1.6	1.4	1.5
28	10.1	7.1	8.6	7.4	5.7	6.8	3.4	2.2	2.7	1.4	1.3	1.4
29	10.6	7.4	8.9	5.7	4.2	4.8	3.7	2.6	3.2	1.3	1.1	1.2
30	11.5	7.7	9.5	4.2	3.0	3.6	2.6	1.7	2.0	1.1	.9	1.0
31	11.4	9.4	10.4	---	---	---	1.9	1.6	1.7	.9	.8	.8
MONTH	18.2	7.1	12.2	14.1	2.8	8.3	10.2	1.6	3.7	8.9	.0	2.2

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403635082152300 AS-45 NR LOUDONVILLE OH--Continued

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY SUM VALUES

[illegible]

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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 shelf 2.36 ft above land-surface datum.

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

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

PERIOD OF DAILY RECORD.--

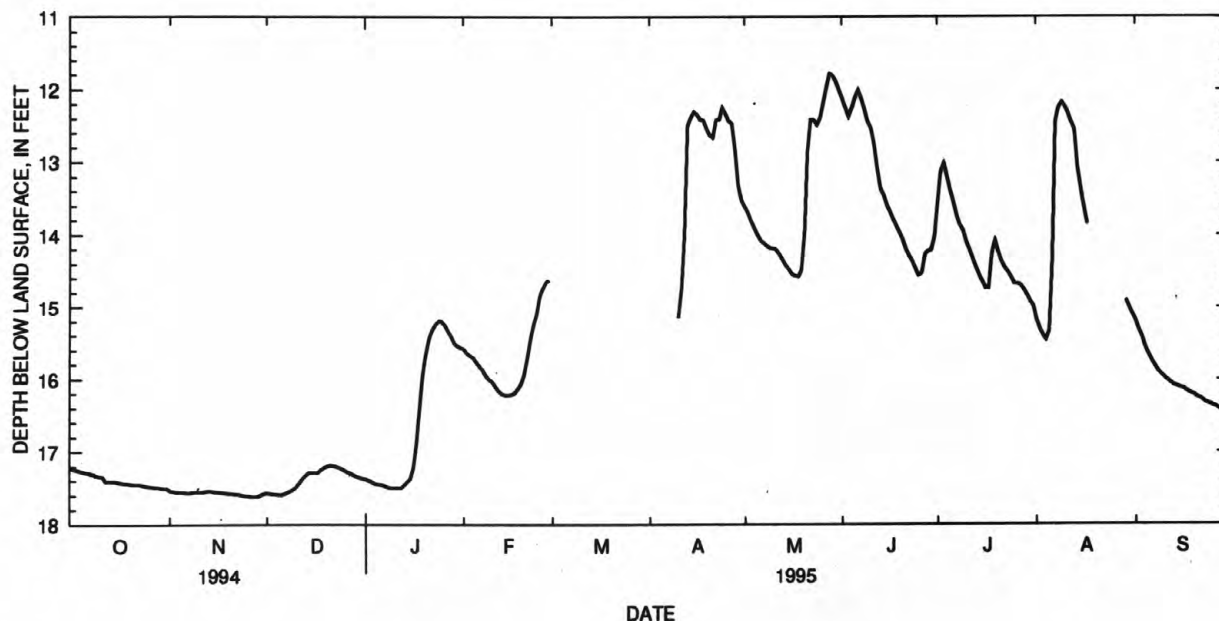
WATER LEVEL: February 1991 to current year.
SPECIFIC CONDUCTANCE: February 1991 to current year.
AIR TEMPERATURE: February 1991 to current year.
WATER TEMPERATURE: February 1991 to current year.
SOIL TEMPERATURE: February 1991 to current year.
PRECIPITATION: February 1991 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER LEVEL: Maximum daily low, 17.62 ft. below land-surface datum, November 30-December 3, 1991, November 26-28, 1994; maximum daily high, 10.56 ft. below land-surface datum, March 27, 1993.
SPECIFIC CONDUCTANCE: Maximum, 774 microsiemens August 9, 1995; minimum, 157 microsiemens March 6, 1991.
AIR TEMPERATURE: Maximum, 36.0°C August 1, 1991; minimum, -26.1°C January 19, 1992.
WATER TEMPERATURE: Maximum, 12.3°C several days in September, 1995; minimum, 7.7°C April 16-17, 1994.
SOIL TEMPERATURE: Maximum, 29.3°C August 29, 1993, and June 19, 1994; minimum, 1.0°C February 27 & 28, 1991.

EXTREMES FOR CURRENT YEAR.--

WATER LEVEL: Maximum daily low, 17.62 ft below land-surface datum, November 26-28, 1994; maximum daily high, 11.73 ft below land-surface datum, May 29, 1995.
SPECIFIC CONDUCTANCE: Maximum, 774 microsiemens August 9, 1995; minimum, 206 microsiemens October 10, 1994.
AIR TEMPERATURE: Maximum, 34.4°C July 15, 1995; minimum, -23.0°C February 7, 1995.
WATER TEMPERATURE: Maximum, 12.3°C several days in September, 1995; minimum, 8.6°C April 15, 23, 25-26, 1995.
SOIL TEMPERATURE: Maximum, 27.6°C August 14, 16, 1995; minimum, 2.0°C February 14-16, 1995.



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DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	13.61	13.52	12.12	12.01	13.57	13.13	15.17	14.98	15.19	15.08
2	---	---	13.69	13.61	12.25	12.12	13.13	12.99	15.29	15.17	15.29	15.19
3	---	---	13.80	13.69	12.37	12.25	13.02	12.99	15.39	15.29	15.42	15.29
4	---	---	13.90	13.80	12.25	12.12	13.19	13.02	15.45	15.33	15.54	15.42
5	---	---	13.99	13.90	12.12	12.01	13.39	13.19	15.33	14.31	15.64	15.54
6	---	---	14.07	13.99	12.01	11.98	13.54	13.39	14.31	12.45	15.73	15.64
7	---	---	14.11	14.07	12.12	12.00	13.73	13.54	12.45	12.25	15.81	15.73
8	---	---	14.14	14.11	12.27	12.12	13.86	13.73	12.25	12.12	15.88	15.81
9	---	---	14.18	14.14	12.44	12.27	13.94	13.86	12.18	12.14	15.92	15.88
10	15.14	14.72	14.18	14.18	12.53	12.44	14.09	13.93	12.23	12.18	15.97	15.92
11	14.72	13.96	14.20	14.18	12.75	12.48	14.20	14.09	12.32	12.23	16.01	15.97
12	13.96	12.49	14.26	14.20	13.09	12.75	14.32	14.20	12.45	12.32	16.05	16.01
13	12.49	12.39	14.33	14.26	13.36	13.09	14.44	14.32	12.55	12.44	16.08	16.05
14	12.39	12.29	14.41	14.33	13.45	13.36	14.55	14.44	13.07	12.55	16.09	16.07
15	12.31	12.26	14.47	14.41	13.59	13.45	14.64	14.55	13.38	13.07	16.12	16.09
16	12.34	12.26	14.54	14.47	13.68	13.59	14.73	14.64	13.63	13.38	16.13	16.12
17	12.41	12.34	14.56	14.53	13.79	13.68	14.73	14.26	13.85	13.63	16.16	16.13
18	12.42	12.35	14.57	14.49	13.88	13.79	14.26	14.04	---	---	16.19	16.16
19	12.54	12.38	14.49	13.96	13.97	13.88	14.08	14.04	---	---	16.21	16.19
20	12.63	12.54	13.96	12.85	14.07	13.97	14.23	14.08	---	---	16.24	16.21
21	12.66	12.28	12.85	12.41	14.20	14.07	14.36	14.23	---	---	16.26	16.24
22	12.42	12.36	12.41	12.39	14.29	14.20	14.45	14.36	---	---	16.29	16.26
23	12.41	12.22	12.42	12.39	14.36	14.29	14.51	14.45	---	---	16.32	16.29
24	12.25	12.21	12.48	12.40	14.47	14.36	14.58	14.51	---	---	16.34	16.32
25	12.34	12.25	12.40	12.18	14.56	14.47	14.67	14.58	---	---	16.36	16.34
26	12.43	12.33	12.18	11.97	14.52	14.26	14.67	14.67	---	---	16.38	16.36
27	12.47	12.35	11.97	11.78	14.26	14.21	14.69	14.67	---	---	16.40	16.38
28	12.83	12.47	11.78	11.74	14.22	14.21	14.75	14.69	---	---	16.43	16.40
29	13.33	12.83	11.81	11.73	14.21	14.02	14.83	14.75	14.89	14.76	16.45	16.43
30	13.52	13.33	11.89	11.81	14.02	13.57	14.91	14.83	15.00	14.89	16.48	16.45
31	---	---	12.01	11.89	---	---	14.98	14.91	15.08	15.00	---	---
MONTH	15.14	12.21	14.57	11.73	14.56	11.98	14.98	12.99	15.45	12.12	16.48	15.08
YEAR	17.62	11.73										

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

403923082325500 R-16 NR LEXINGTON OH--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	480	471	477	---	---	---	448	441	445	475	470	472
2	479	457	468	456	448	453	443	437	439	475	472	473
3	457	350	417	459	454	456	439	434	436	476	473	474
4	354	228	251	461	457	458	434	431	432	473	471	472
5	229	226	228	458	457	458	440	430	434	471	468	470
6	230	227	229	457	455	456	436	433	434	469	467	468
7	257	229	241	458	453	455	435	432	433	468	465	467
8	255	244	250	455	451	453	434	430	432	467	464	466
9	244	212	233	452	450	451	433	430	432	466	461	464
10	335	206	288	452	448	450	433	433	433	465	462	463
11	---	---	---	451	447	449	434	433	433	463	458	460
12	---	---	---	450	446	448	435	431	434	460	458	459
13	---	---	---	450	446	448	435	431	434	459	457	458
14	---	---	---	450	447	448	436	431	434	458	455	456
15	---	---	---	450	448	449	436	432	434	455	452	454
16	---	---	---	450	449	450	436	433	435	454	446	450
17	---	---	---	454	450	451	440	434	436	448	437	442
18	---	---	---	453	451	452	442	439	441	438	430	434
19	---	---	---	456	452	454	444	440	443	437	431	434
20	---	---	---	456	453	454	446	441	444	447	437	443
21	---	---	---	455	454	454	448	444	446	455	443	450
22	---	---	---	459	455	457	451	446	449	462	455	459
23	---	---	---	459	455	457	453	449	451	469	462	466
24	---	---	---	457	452	454	456	451	453	477	469	473
25	---	---	---	454	451	452	459	455	457	480	475	477
26	---	---	---	455	449	452	462	457	460	484	478	480
27	---	---	---	453	448	450	464	460	462	485	479	482
28	---	---	---	451	448	448	468	462	465	487	482	485
29	---	---	---	451	448	449	468	464	467	489	484	487
30	---	---	---	450	445	448	471	468	469	491	485	489
31	---	---	---	---	---	---	472	470	470	492	487	490
MONTH	480	206	308	461	445	452	472	430	444	492	430	465

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	495	489	492	---	---	---	---	---	---	682	672	677
2	496	489	493	---	---	---	---	---	---	672	657	666
3	496	493	495	---	---	---	---	---	---	660	654	657
4	497	494	495	---	---	---	---	---	---	655	631	640
5	498	495	496	---	---	---	---	---	---	634	615	623
6	498	496	497	---	---	---	---	---	---	616	596	609
7	500	497	498	---	---	---	---	---	---	599	584	594
8	501	497	499	---	---	---	---	---	---	584	567	572
9	500	497	499	---	---	---	---	---	---	567	537	555
10	501	500	500	---	---	---	496	462	471	537	530	533
11	502	499	501	---	---	---	567	496	533	530	522	526
12	502	498	500	---	---	---	648	567	603	523	518	521
13	503	499	500	---	---	---	722	648	690	521	515	519
14	502	497	500	---	---	---	740	722	733	518	513	515
15	501	497	499	---	---	---	740	729	735	515	506	512
16	498	495	497	---	---	---	733	725	729	507	502	505
17	499	495	497	---	---	---	725	717	722	502	497	500
18	498	494	496	---	---	---	717	712	715	497	491	494
19	498	493	495	---	---	---	717	711	714	533	492	507
20	496	491	494	---	---	---	716	709	711	624	533	576
21	496	428	459	---	---	---	722	708	712	681	624	659
22	428	411	419	---	---	---	765	720	743	691	681	687
23	411	393	403	---	---	---	771	765	769	692	685	688
24	396	375	380	---	---	---	771	761	767	685	679	683
25	375	371	373	---	---	---	765	744	755	708	672	683
26	375	372	374	---	---	---	747	725	738	761	708	741
27	374	369	371	---	---	---	725	712	719	765	761	764
28	379	369	372	---	---	---	712	695	703	763	759	761
29	---	---	---	---	---	---	698	688	692	761	757	759
30	---	---	---	---	---	---	688	681	685	757	734	745
31	---	---	---	---	---	---	---	---	---	748	718	733
MONTH	503	369	468	---	---	---	771	462	697	765	491	619

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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403923082325500 R-16 NR LEXINGTON OH--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	721	717	718	545	523	535	496	492	494	314	311	312
2	718	694	708	567	545	557	499	493	496	314	311	313
3	694	687	692	574	565	571	505	497	501	315	312	314
4	696	681	686	573	570	572	511	503	507	318	314	316
5	714	696	706	570	567	570	513	511	512	322	317	319
6	713	708	711	571	566	567	645	513	574	326	321	323
7	713	708	711	566	557	563	743	645	706	331	325	328
8	710	705	708	557	539	548	773	743	762	339	331	334
9	706	683	691	539	531	534	774	770	772	349	339	343
10	683	655	671	531	524	528	770	763	767	361	349	355
11	655	636	645	526	520	523	767	762	765	367	361	364
12	636	627	631	521	514	518	764	728	745	373	367	370
13	627	626	626	517	510	514	728	688	706	378	373	376
14	628	625	627	510	506	508	688	664	676	383	378	381
15	628	623	626	508	503	505	664	646	655	389	383	386
16	627	623	625	503	498	501	646	633	641	394	389	392
17	627	623	624	500	497	498	633	626	629	399	394	397
18	626	622	623	498	487	492	---	---	---	401	397	399
19	622	616	621	488	483	485	---	---	---	404	400	402
20	616	576	599	491	485	488	---	---	---	406	401	403
21	576	544	558	493	490	492	---	---	---	408	405	406
22	544	527	535	499	493	495	---	---	---	410	407	409
23	527	515	520	500	496	497	---	---	---	415	410	412
24	515	505	510	498	495	497	---	---	---	419	414	416
25	507	502	505	498	497	497	---	---	---	423	416	419
26	507	502	505	500	496	498	---	---	---	426	421	424
27	506	502	504	498	495	497	---	---	---	430	425	428
28	505	499	502	497	495	497	---	---	---	436	428	431
29	505	500	502	497	494	496	342	333	335	437	432	435
30	523	505	513	497	494	495	334	320	326	440	436	438
31	---	---	---	497	493	494	320	313	316	---	---	---
MONTH	721	499	613	574	483	517	774	313	594	440	311	378
YEAR	774	206	510									

TEMPERATURE, AIR, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	24.3	11.7	17.3	14.1	2.4	6.5	5.0	-5.9	.3	6.5	-6.2	2.0
2	18.9	4.9	12.1	12.9	-1.4	6.2	12.4	-.6	5.8	-6.2	-10.6	-8.8
3	15.1	2.9	8.9	17.5	6.8	13.0	15.4	.3	9.3	-4.2	-11.1	-7.4
4	13.5	.7	6.8	20.7	15.8	18.1	15.8	7.4	12.1	-10.2	-16.0	-13.1
5	13.0	1.7	7.9	19.6	12.3	15.7	12.9	10.2	11.5	-6.9	-18.0	-12.7
6	18.4	-.6	8.0	17.7	5.1	10.9	10.9	7.0	9.2	.2	-11.4	-3.7
7	24.3	2.0	13.5	13.1	-2.2	6.2	11.6	-.7	4.6	.0	-14.2	-5.1
8	23.0	13.0	17.9	19.1	6.8	12.9	1.6	-5.1	-1.1	-2.6	-10.7	-4.6
9	19.6	6.1	12.9	15.5	5.1	11.4	6.6	-1.9	.9	-2.6	-10.2	-7.3
10	12.9	.5	6.3	11.8	-1.7	5.2	1.4	-1.9	.4	-2.2	-8.5	-5.4
11	17.2	-2.4	5.8	11.0	-4.9	2.2	-1.9	-5.3	-3.7	7.1	-2.2	2.6
12	21.6	-1.3	9.3	13.4	-2.9	6.4	-1.0	-10.0	-5.6	14.9	7.1	11.8
13	16.3	4.7	11.0	19.5	.8	10.9	-.4	-11.2	-5.7	17.3	7.8	13.8
14	18.7	6.4	12.5	20.3	6.0	15.1	1.9	-9.3	-4.4	17.4	11.9	14.3
15	22.2	3.9	11.3	14.3	6.5	9.2	4.4	-6.9	-.5	12.4	-.2	5.1
16	23.3	1.9	11.2	9.6	5.4	7.1	8.2	-.1	4.3	-.2	-2.2	-1.5
17	23.5	-1.3	9.7	14.1	1.3	8.1	8.2	.6	3.9	.6	-2.1	-.7
18	24.1	2.9	13.8	15.0	6.7	10.2	2.1	-1.5	.9	3.6	-.9	.7
19	17.5	14.4	15.5	13.6	-2.1	5.4	.7	-4.0	-1.0	9.3	-.8	4.8
20	18.9	5.4	14.1	16.3	3.8	10.0	6.0	-3.8	-.6	6.0	-.4	1.5
21	18.9	2.4	9.2	15.1	5.6	11.8	12.6	-6.4	.4	-.4	-6.5	-3.9
22	18.7	1.9	8.7	5.6	-3.6	.9	12.1	-6.4	.0	-5.8	-9.9	-7.3
23	18.4	1.4	9.7	2.6	-4.8	-1.4	7.0	-3.8	2.2	-5.5	-9.9	-7.3
24	13.5	-1.6	5.2	7.7	-8.6	.8	3.0	-.4	1.9	-4.9	-11.0	-6.3
25	6.4	.9	4.4	9.0	-6.0	3.5	2.0	-2.9	-.7	-3.4	-18.8	-11.2
26	9.5	2.4	5.6	6.8	-9.3	-2.0	6.8	-5.1	.6	-2.8	-16.9	-9.2
27	12.9	-1.3	5.9	12.2	.0	5.1	5.5	-5.0	-1.8	-1.7	-19.5	-9.5
28	16.5	-3.2	6.8	14.7	4.1	7.5	5.2	-2.1	1.5	-.6	-9.2	-3.9
29	18.5	7.6	12.7	8.7	.3	3.9	3.4	-5.1	-.6	1.1	-11.8	-6.5
30	18.8	1.7	9.3	4.6	-5.5	-.6	7.6	-7.2	-1.2	-1.4	-15.4	-7.2
31	14.1	4.7	9.9	---	---	---	4.8	-4.0	3.5	-2.0	-15.1	-5.8
MONTH	24.3	-3.2	10.1	20.7	-9.3	7.3	15.8	-11.2	1.5	17.4	-19.5	-3.0

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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403923082325500 R-16 NR LEXINGTON OH--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	11.6	11.4	11.6	12.0	11.6	11.8	11.8	11.5	11.6	11.6	11.3	11.5
2	11.6	11.4	11.6	11.8	11.6	11.7	11.8	11.6	11.7	11.5	11.3	11.5
3	11.8	11.4	11.6	11.8	11.6	11.8	11.8	11.6	11.7	11.5	11.3	11.5
4	11.8	11.6	11.6	11.8	11.6	11.8	11.8	11.8	11.8	11.5	11.5	11.5
5	11.8	11.6	11.7	11.8	11.8	11.8	11.8	11.8	11.8	11.5	11.3	11.5
6	11.8	11.6	11.6	11.8	11.8	11.8	11.8	11.8	11.8	11.5	11.3	11.4
7	11.9	11.6	11.6	11.8	11.6	11.7	11.8	11.6	11.7	11.5	11.3	11.4
8	11.8	11.6	11.6	11.8	11.6	11.8	11.8	11.5	11.6	11.5	11.3	11.4
9	11.8	11.6	11.7	11.8	11.8	11.8	11.8	11.6	11.6	11.6	11.3	11.4
10	11.8	11.6	11.7	11.8	11.6	11.7	11.6	11.6	11.6	11.3	11.3	11.3
11	11.9	11.5	11.7	11.9	11.5	11.7	11.6	11.5	11.6	11.6	11.3	11.4
12	11.9	11.6	11.7	11.8	11.5	11.7	11.8	11.5	11.6	11.4	11.4	11.4
13	11.8	11.8	11.8	11.9	11.6	11.7	11.8	11.5	11.6	11.4	11.2	11.4
14	11.9	11.6	11.8	11.9	11.6	11.8	11.8	11.5	11.6	11.4	11.2	11.4
15	11.9	11.6	11.7	11.8	11.8	11.8	11.8	11.5	11.6	11.4	11.1	11.3
16	11.9	11.6	11.8	11.8	11.8	11.8	11.8	11.6	11.7	11.3	11.1	11.2
17	11.9	11.6	11.7	11.8	11.6	11.8	11.8	11.6	11.8	11.3	11.1	11.2
18	11.9	11.6	11.8	11.8	11.8	11.8	11.8	11.6	11.6	11.4	11.1	11.2
19	11.8	11.8	11.8	11.9	11.6	11.7	11.8	11.5	11.6	11.4	11.1	11.2
20	11.9	11.8	11.8	11.8	11.6	11.8	11.8	11.5	11.6	11.4	10.9	11.1
21	11.9	11.6	11.8	11.8	11.8	11.8	11.8	11.5	11.6	11.3	10.9	11.0
22	11.9	11.6	11.8	11.8	11.5	11.7	11.8	11.5	11.6	10.9	10.9	10.9
23	11.9	11.6	11.8	11.8	11.5	11.6	11.8	11.5	11.6	10.9	10.7	10.9
24	11.8	11.6	11.8	11.8	11.5	11.7	11.8	11.6	11.6	10.9	10.7	10.8
25	12.0	11.6	11.8	11.8	11.5	11.7	11.8	11.5	11.6	10.9	10.7	10.9
26	12.0	11.6	11.8	11.8	11.5	11.7	11.8	11.5	11.6	10.9	10.7	10.8
27	12.0	11.6	11.8	11.8	11.5	11.7	11.8	11.5	11.6	10.9	10.7	10.8
28	12.0	11.8	11.8	11.8	11.6	11.8	11.8	11.3	11.5	10.9	10.7	10.7
29	12.0	11.8	11.8	11.8	11.6	11.7	11.8	11.3	11.6	10.9	10.6	10.7
30	12.0	11.6	11.8	11.8	11.5	11.6	11.6	11.3	11.5	10.9	10.6	10.7
31	12.0	11.8	11.9	---	---	---	11.6	11.3	11.5	10.9	10.6	10.7
MONTH	12.0	11.4	11.7	12.0	11.5	11.7	11.8	11.3	11.6	11.6	10.6	11.2

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	10.9	10.5	10.7	---	---	---	---	---	---	9.0	8.7	8.9
2	10.9	10.5	10.7	---	---	---	---	---	---	9.1	8.9	8.9
3	10.7	10.5	10.6	---	---	---	---	---	---	9.1	8.9	8.9
4	10.7	10.5	10.6	---	---	---	---	---	---	9.1	8.9	8.9
5	10.7	10.5	10.6	---	---	---	---	---	---	9.1	8.9	8.9
6	10.7	10.5	10.6	---	---	---	---	---	---	9.1	8.9	9.0
7	10.7	10.5	10.6	---	---	---	---	---	---	9.1	8.9	9.0
8	10.7	10.5	10.6	---	---	---	---	---	---	9.1	8.9	9.0
9	10.7	10.5	10.6	---	---	---	---	---	---	9.1	8.9	9.0
10	10.5	10.5	10.5	---	---	---	9.1	8.9	9.1	9.1	8.9	8.9
11	10.6	10.4	10.5	---	---	---	9.1	8.9	9.0	9.1	8.9	9.0
12	10.7	10.4	10.6	---	---	---	9.1	8.9	9.0	9.1	8.9	9.0
13	10.6	10.3	10.5	---	---	---	8.9	8.9	8.9	9.1	8.9	9.0
14	10.5	10.4	10.5	---	---	---	8.9	8.7	8.8	9.1	8.9	9.0
15	10.5	10.3	10.5	---	---	---	8.9	8.6	8.8	9.1	8.9	9.0
16	10.7	10.5	10.5	---	---	---	8.9	8.7	8.8	9.1	8.9	9.0
17	10.5	10.3	10.5	---	---	---	8.9	8.7	8.8	9.1	8.9	9.1
18	10.5	10.3	10.5	---	---	---	8.9	8.7	8.8	9.1	9.1	9.1
19	10.5	10.3	10.5	---	---	---	8.9	8.7	8.8	9.1	8.9	9.1
20	10.7	10.3	10.5	---	---	---	8.9	8.7	8.8	9.1	8.9	9.0
21	10.5	10.2	10.3	---	---	---	8.9	8.7	8.8	9.1	8.9	9.0
22	10.5	10.2	10.4	---	---	---	8.9	8.7	8.9	9.1	8.9	9.0
23	10.5	10.1	10.3	---	---	---	8.9	8.6	8.7	9.3	8.9	9.1
24	10.1	9.8	9.9	---	---	---	8.9	8.7	8.8	9.3	9.1	9.1
25	10.1	9.8	9.9	---	---	---	8.9	8.6	8.7	9.1	9.1	9.1
26	10.1	9.6	9.9	---	---	---	8.9	8.6	8.7	9.3	9.1	9.1
27	9.9	9.6	9.8	---	---	---	8.9	8.7	8.9	9.1	9.1	9.1
28	9.9	9.6	9.7	---	---	---	8.9	8.7	8.8	9.1	9.1	9.1
29	---	---	---	---	---	---	8.9	8.7	8.8	9.3	9.1	9.1
30	---	---	---	---	---	---	8.9	8.9	8.9	9.3	9.1	9.2
31	---	---	---	---	---	---	---	---	---	9.3	9.1	9.2
MONTH	10.9	9.6	10.4	---	---	---	9.1	8.6	8.8	9.3	8.7	9.0

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

403923082325500 R-16 NR LEXINGTON OH--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	9.3	9.1	9.3	9.9	9.9	9.9	10.8	10.5	10.7	11.8	11.6	11.7
2	9.3	9.1	9.2	9.9	9.9	9.9	10.8	10.6	10.7	11.8	11.6	11.7
3	9.3	9.3	9.3	10.1	9.9	10.0	10.8	10.6	10.7	11.8	11.6	11.8
4	9.3	9.3	9.3	10.1	9.9	9.9	10.7	10.7	10.7	11.9	11.6	11.8
5	9.5	9.1	9.3	10.1	9.9	9.9	10.7	10.7	10.7	11.9	11.6	11.8
6	9.5	9.3	9.4	10.1	9.9	10.1	11.0	10.7	10.8	11.9	11.6	11.8
7	9.5	9.3	9.4	10.1	10.1	10.1	11.0	10.8	10.9	11.8	11.8	11.8
8	9.5	9.3	9.3	10.4	10.1	10.1	11.0	11.0	11.0	11.8	11.8	11.8
9	9.5	9.3	9.4	10.4	10.1	10.2	11.0	11.0	11.0	11.9	11.8	11.8
10	9.5	9.3	9.4	10.4	10.1	10.2	11.2	10.8	11.0	11.9	11.6	11.8
11	9.5	9.5	9.5	10.4	10.1	10.3	11.2	11.0	11.1	12.1	11.6	11.8
12	9.5	9.5	9.5	10.4	10.1	10.3	11.2	11.0	11.2	11.8	11.8	11.8
13	9.5	9.5	9.5	10.4	10.1	10.3	11.5	11.2	11.3	12.1	11.8	11.9
14	9.7	9.5	9.5	10.4	10.1	10.3	11.5	11.2	11.3	11.9	11.8	11.8
15	9.7	9.5	9.6	10.4	10.1	10.3	11.5	11.2	11.3	12.0	11.8	11.8
16	9.7	9.5	9.6	10.6	10.1	10.3	11.5	11.2	11.4	12.0	11.8	11.9
17	9.7	9.5	9.6	10.6	10.3	10.4	11.5	11.2	11.4	12.0	11.8	11.9
18	9.7	9.5	9.7	10.6	10.3	10.4	---	---	---	12.1	11.8	12.0
19	9.8	9.5	9.7	10.6	10.3	10.4	---	---	---	12.1	11.8	11.9
20	9.8	9.5	9.7	10.5	10.3	10.5	---	---	---	12.1	11.8	12.0
21	9.7	9.5	9.7	10.5	10.5	10.5	---	---	---	12.1	11.8	12.0
22	10.0	9.7	9.7	10.8	10.4	10.5	---	---	---	12.1	12.0	12.0
23	10.0	9.7	9.8	10.6	10.4	10.5	---	---	---	12.3	11.9	12.0
24	9.9	9.7	9.7	10.8	10.5	10.5	---	---	---	12.3	11.9	12.0
25	9.9	9.7	9.7	10.6	10.5	10.5	---	---	---	12.3	12.0	12.2
26	9.9	9.7	9.8	10.8	10.5	10.6	---	---	---	12.3	12.0	12.1
27	9.9	9.7	9.8	10.8	10.5	10.6	---	---	---	12.3	12.0	12.1
28	10.1	9.7	9.9	10.8	10.5	10.6	---	---	---	12.3	11.9	12.2
29	10.1	9.9	9.9	10.8	10.5	10.6	11.8	11.6	11.7	12.3	12.1	12.2
30	10.1	9.9	9.9	10.8	10.5	10.7	11.9	11.6	11.7	12.3	12.1	12.2
31	---	---	---	10.8	10.5	10.7	11.9	11.6	11.7	---	---	---
MONTH	10.1	9.1	9.6	10.8	9.9	10.3	11.9	10.5	11.1	12.3	11.6	11.9
YEAR	12.3	8.6	10.7									

TEMPERATURE, SOIL DEG. C), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	19.4	16.8	18.0	13.5	10.7	12.4	5.9	4.9	5.4	5.2	4.4	4.9
2	19.5	16.6	18.0	11.5	9.6	10.6	6.6	4.9	5.7	4.6	3.2	3.7
3	18.4	15.7	17.1	12.4	10.1	11.0	8.2	5.9	6.7	3.2	2.9	3.0
4	16.9	14.8	15.6	14.4	12.4	13.5	10.4	8.2	9.2	2.9	2.6	2.7
5	15.7	14.6	15.1	14.9	14.0	14.4	11.3	10.4	10.9	2.6	2.2	2.4
6	16.9	13.2	14.9	14.9	13.0	14.2	11.2	11.0	11.1	2.2	2.1	2.1
7	18.0	14.0	15.9	13.0	10.9	11.9	11.0	8.9	10.4	2.2	2.1	2.1
8	19.2	16.7	17.8	13.0	10.7	11.8	8.9	6.8	7.7	2.2	2.2	2.2
9	18.6	16.8	17.8	13.3	12.5	13.1	6.8	6.0	6.3	2.3	2.2	2.2
10	16.8	14.2	15.4	12.5	10.9	11.7	6.2	5.8	6.0	2.3	2.2	2.2
11	15.9	12.7	14.3	10.9	9.0	9.9	5.8	5.4	5.5	2.2	2.2	2.2
12	14.7	12.6	13.7	10.0	8.2	9.1	5.4	4.9	5.1	2.7	2.2	2.2
13	14.7	13.2	14.0	11.7	9.2	10.4	4.9	4.1	4.4	7.5	2.7	5.7
14	16.2	14.4	15.1	13.5	11.1	12.2	4.3	3.7	4.0	10.0	7.2	8.2
15	16.4	13.6	15.0	13.5	12.3	13.0	4.4	3.5	3.8	10.3	7.2	9.4
16	16.6	13.8	15.2	12.3	11.4	11.8	6.0	4.3	4.9	7.2	5.2	5.9
17	16.3	13.2	14.7	11.8	10.3	11.1	6.6	5.9	6.4	5.2	4.8	4.9
18	16.7	13.8	15.2	12.3	10.9	11.4	5.9	5.2	5.4	5.5	4.6	5.0
19	16.7	16.4	16.5	11.3	9.6	10.4	5.2	4.4	4.7	6.2	4.8	5.4
20	17.0	15.9	16.5	11.0	10.0	10.4	4.7	3.8	4.2	6.3	5.0	5.7
21	16.3	14.1	15.2	11.9	10.5	11.2	4.7	3.5	4.0	5.0	4.3	4.6
22	15.6	13.6	14.6	11.1	8.0	9.5	4.6	3.5	4.0	4.3	4.0	4.1
23	15.1	13.1	14.1	8.0	6.2	6.8	5.1	3.8	4.4	4.0	3.8	3.9
24	14.2	12.2	12.9	6.6	5.1	5.9	5.0	4.8	4.9	3.8	3.7	3.7
25	12.6	11.4	11.8	8.0	6.4	7.0	4.8	4.0	4.4	3.7	3.6	3.6
26	11.8	11.0	11.4	6.7	5.0	5.8	5.6	4.5	4.9	3.6	3.5	3.6
27	12.7	11.1	11.7	7.5	5.5	6.1	4.8	3.9	4.3	3.5	3.4	3.5
28	12.2	9.8	11.1	9.0	7.5	8.4	4.7	3.8	4.3	3.4	3.3	3.3
29	13.3	11.2	12.1	7.6	6.4	6.9	5.0	4.1	4.6	3.3	3.0	3.1
30	13.1	11.6	12.4	6.6	5.3	5.9	4.1	3.3	3.5	3.0	2.9	2.9
31	13.3	12.1	12.7	---	---	---	4.4	3.2	3.6	2.9	2.8	2.8
MONTH	19.5	9.8	14.7	14.9	5.0	10.3	11.3	3.2	5.6	10.3	2.1	3.9

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.46	.00	.23	.01	---	---	.01	.34	.00	.35	.00
2	.00	.00	.00	.17	.00	---	---	.15	.20	.00	.00	.00
3	.00	.00	.00	.18	.01	---	---	.00	1.49	.00	.00	.00
4	.00	.00	.19	.13	.00	---	---	.04	.00	.01	1.41	.00
5	.00	.28	.34	.03	.02	---	---	.24	.00	.49	2.17	.00
6	.00	.01	.07	.09	.02	---	---	.00	.00	.01	.00	.00
7	.00	.00	.37	.00	.01	---	---	.00	.08	.00	.00	.00
8	.00	.00	.00	.01	.00	---	---	.00	.20	.00	.70	.02
9	.15	.66	.38	.02	.03	---	---	.55	.00	.01	.03	.00
10	.00	.09	.45	.00	.00	---	.98	.04	1.02	.00	.12	.00
11	.00	.00	.00	.35	.00	---	.01	.19	.03	.00	.00	.00
12	.00	.00	.05	.11	.09	---	.56	.00	.15	.00	.00	.26
13	.02	.00	.01	.00	.00	---	.02	.00	.00	.25	.00	.90
14	.00	.00	.05	.73	.00	---	.00	.27	.02	.00	.00	.01
15	.00	.00	.17	1.51	.29	---	.00	.00	.00	.15	.01	.00
16	.00	.01	.72	.03	.00	---	.00	.00	.00	3.14	.00	.00
17	.00	.00	.16	.13	.00	---	.10	.18	.00	.20	.30	.00
18	.00	.00	.14	.01	.00	---	.42	.00	.00	.00	---	.00
19	.23	.00	.16	.16	.00	---	.00	.00	.00	.00	---	.00
20	.00	.00	.15	.24	.00	---	.10	.00	.00	.00	---	.49
21	.00	.02	.14	.00	.00	---	.88	.00	1.92	.20	---	.00
22	.00	.00	.13	.00	.00	---	.00	.00	.00	.36	---	.01
23	.00	.00	.14	.01	.02	---	.00	.00	.00	.22	---	.00
24	.07	.00	.11	.00	.00	---	.00	.28	.00	.00	---	.00
25	.00	.00	.14	.00	.00	---	.02	.00	1.44	.85	---	.00
26	.00	.00	.15	.00	.02	---	.00	.00	.08	.35	---	.00
27	.00	.63	.16	.32	.43	---	.00	.00	.74	.00	---	.00
28	.00	.14	.16	.00	.13	---	.00	.00	.83	.05	---	.00
29	.00	.00	.16	.00	---	---	.00	.38	.78	.01	.00	.00
30	.00	.00	.17	.00	---	---	.12	.00	.29	.00	.00	.00
31	.10	---	.19	.00	---	---	---	.00	---	.00	.00	---
TOTAL	0.58	2.30	5.06	4.46	1.08	---	3.21	2.33	9.61	6.30	5.09	1.69

WTR YR 1995 TOTAL 41.71

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW
UNCONSOLIDATED AQUIFERS IN OHIO

255

GROUND-WATER RECORDS

411138081172500. Local number, PO-116.

LOCATION.--Lat 41°11'38" Long 81°17'25", Hydrologic Unit 04110002, along State Route 14 near Ravenna, OH.
Owner.--USGS-City of Akron, OH.

AQUIFER.--Sand and Gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well drilled by hollow stem auger, diameter 4.0 in., depth 17.5 ft. Cased with Sch 40 PVC to 5.2 ft; .010 in. screen from 5.2 to 17.5 ft.

INSTRUMENTATION - Data logger--60 minute record. Precipitation data collected with a propane-heated, tipping-bucket rain gauge. Also collected: water level, air temperature, soil temperature, water temperature and specific conductance. Conductivity/water temperature probe set at 10.8 feet below land surface from February, 1991, through July, 1992, when removed; probe reinstalled August, 1994, through current year at at depth of 13.4 feet below land surface.

DATUM.--Elevation of land-surface datum is 1068.39 feet above sea level.
Measuring point: shelter shelf 2.20 ft above land-surface datum.

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

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

PERIOD OF DAILY RECORD.--

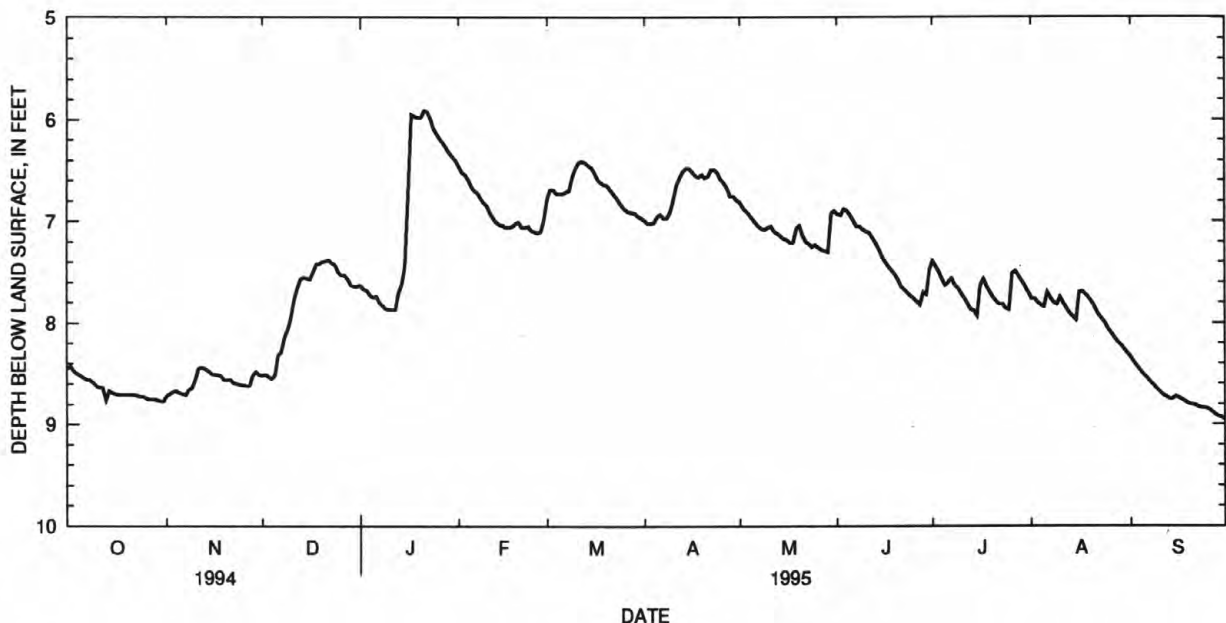
WATER LEVEL: February 1991 to current year.
SPECIFIC CONDUCTANCE: February 1991 to July 1992; September, 1994 to current year.
AIR TEMPERATURE: February 1991 to current year.
SOIL TEMPERATURE: July 1992 to current year.
PRECIPITATION: February 1991 to current year.
WATER TEMPERATURE: February 1991 to July 1992; September, 1994, to current year.

EXTREMES FOR PERIOD OF DAILY RECORD:

WATER LEVEL: Maximum daily low, 9.45 ft. below land-surface datum, October 9-10, 1991; maximum daily high, 4.35 ft. below land-surface datum, April 13, 1994.
SPECIFIC CONDUCTANCE: Maximum, 2540 microsiemens December 19-20, 22-28, 1991; minimum, 242 microsiemens April 10, 1992.
AIR TEMPERATURE: Maximum, 36.0°C August 2, 1991; minimum, -32.2°C January 19, 1994.
WATER TEMPERATURE: Maximum, 14.8°C October 1, 1991; minimum, 6.5°C many days in March, 1991.
SOIL TEMPERATURE: Maximum, 28.5°C August 11, 1992; minimum, -0.4°C February 10-14, 1994.

EXTREMES FOR CURRENT YEAR:

WATER LEVEL: Maximum daily low, 8.95 ft. below land-surface datum, September 30, 1995; maximum daily high, 5.87 ft. below land-surface datum, January 21-22, 1995.
SPECIFIC CONDUCTANCE: Maximum, 1520 microsiemens October, 1994; minimum, 1060 microsiemens July 28-30, 1995; (part of year deleted due to probe malfunction).
AIR TEMPERATURE: Maximum, 35.7°C July 15, 1995; minimum, -19.7°C February 12, 1995.
WATER TEMPERATURE: Maximum, 14.0°C several days in September, 1995; minimum, 7.0°C March 24-26, 1995.
SOIL TEMPERATURE: Maximum, 28.4°C July 30, 1995; minimum, 0.1°C January 6, 1995



EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

411138081172500 PO-116 NR RAVENNA OH--Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.45	8.42	8.72	8.66	8.52	8.50	7.63	7.62	6.46	6.40	6.78	6.67
2	8.43	8.42	8.70	8.68	8.51	8.50	7.67	7.63	6.52	6.46	6.69	6.66
3	8.48	8.43	8.68	8.67	8.53	8.51	7.68	7.67	6.54	6.52	6.69	6.68
4	8.50	8.48	8.67	8.67	8.55	8.52	7.73	7.68	6.59	6.54	6.73	6.69
5	8.52	8.50	8.69	8.67	8.52	8.32	7.75	7.73	6.66	6.59	6.73	6.71
6	8.54	8.52	8.70	8.64	8.32	8.29	7.74	7.67	6.70	6.66	6.73	6.71
7	8.56	8.54	8.71	8.66	8.29	8.14	7.80	7.68	6.72	6.70	6.71	6.67
8	8.56	8.56	8.66	8.64	8.14	8.07	7.83	7.80	6.78	6.72	6.70	6.56
9	8.59	8.56	8.64	8.56	8.07	7.95	7.86	7.83	6.82	6.78	6.56	6.48
10	8.62	8.59	8.56	8.45	7.95	7.78	7.87	7.86	6.85	6.82	6.48	6.42
11	8.64	8.62	8.45	8.44	7.78	7.66	7.87	7.87	6.92	6.85	6.42	6.40
12	8.64	8.64	8.44	8.44	7.66	7.57	7.87	7.70	6.97	6.92	6.41	6.40
13	8.76	8.64	8.45	8.44	7.57	7.55	7.70	7.62	7.01	6.97	6.42	6.40
14	8.67	8.65	8.47	8.45	7.55	7.55	7.62	7.44	7.03	7.01	6.45	6.42
15	8.69	8.67	8.50	8.47	7.56	7.55	7.44	6.72	7.04	7.00	6.47	6.44
16	8.70	8.69	8.51	8.50	7.57	7.50	6.72	5.93	7.06	7.04	6.52	6.47
17	8.71	8.70	8.51	8.50	7.50	7.42	5.95	5.93	7.06	7.05	6.59	6.52
18	8.71	8.70	8.52	8.50	7.42	7.41	5.97	5.94	7.05	7.02	6.62	6.59
19	8.71	8.71	8.56	8.52	7.42	7.39	5.98	5.97	7.02	7.01	6.64	6.62
20	8.71	8.70	8.56	8.52	7.39	7.38	5.98	5.91	7.01	6.97	6.65	6.62
21	8.71	8.71	8.56	8.50	7.39	7.38	5.91	5.87	7.06	6.97	6.69	6.65
22	8.71	8.70	8.59	8.56	7.38	7.38	5.92	5.87	7.06	7.03	6.73	6.68
23	8.72	8.70	8.60	8.58	7.41	7.38	5.99	5.92	7.05	7.03	6.77	6.72
24	8.73	8.72	8.61	8.57	7.43	7.41	6.09	5.99	7.09	7.05	6.82	6.77
25	8.73	8.72	8.61	8.57	7.50	7.43	6.14	6.09	7.10	7.09	6.86	6.82
26	8.75	8.73	8.62	8.61	7.53	7.50	6.19	6.14	7.11	7.10	6.89	6.86
27	8.75	8.75	8.62	8.52	7.53	7.51	6.23	6.19	7.10	6.98	6.91	6.88
28	8.75	8.74	8.52	8.46	7.57	7.51	6.28	6.23	6.98	6.78	6.91	6.90
29	8.76	8.74	8.48	8.47	7.63	7.57	6.33	6.28	---	---	6.92	6.91
30	8.77	8.76	8.51	8.48	7.64	7.62	6.37	6.33	---	---	6.95	6.92
31	8.77	8.72	---	---	7.64	7.62	6.40	6.37	---	---	6.97	6.95
MONTH	8.77	8.42	8.72	8.44	8.55	7.38	7.87	5.87	7.11	6.40	6.97	6.40

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

[illegible]

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SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE. WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

[illegible]

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

411138081172500 PO-116 NR RAVENNA OH--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	---	---	---	1090	1070	1080	1310	1300	1310
2	---	---	---	---	---	---	1100	1070	1080	1320	1310	1310
3	---	---	---	---	---	---	1100	1080	1090	1320	1310	1320
4	---	---	---	---	---	---	1100	1090	1090	1320	1310	1320
5	---	---	---	---	---	---	1110	1100	1100	1330	1320	1320
6	---	---	---	---	---	---	1120	1110	1110	1330	1310	1320
7	---	---	---	---	---	---	1130	1110	1120	1320	1310	1320
8	---	---	---	---	---	---	1130	1120	1120	1320	1310	1310
9	---	---	---	---	---	---	1140	1130	1130	1310	1300	1310
10	---	---	---	---	---	---	1150	1130	1140	1300	1290	1300
11	---	---	---	---	---	---	1160	1140	1150	1300	1290	1290
12	---	---	---	---	---	---	1160	1150	1160	1290	1280	1290
13	---	---	---	---	---	---	1180	1160	1170	1290	1280	1290
14	---	---	---	---	---	---	1190	1160	1180	1290	1280	1290
15	---	---	---	---	---	---	1200	1170	1180	1300	1280	1290
16	---	---	---	---	---	---	1220	1190	1200	1290	1280	1290
17	---	---	---	---	---	---	1220	1190	1210	1290	1290	1290
18	---	---	---	---	---	---	1230	1210	1220	1300	1290	1290
19	---	---	---	---	---	---	1250	1220	1230	1300	1290	1290
20	---	---	---	---	---	---	1250	1230	1240	1300	1290	1300
21	---	---	---	---	---	---	1260	1240	1250	1300	1290	1300
22	---	---	---	---	---	---	1260	1250	1250	1310	1300	1310
23	---	---	---	---	---	---	1280	1250	1260	1310	1300	1300
24	---	---	---	---	---	---	1270	1260	1260	1310	1300	1310
25	---	---	---	---	---	---	1280	1260	1270	1320	1310	1310
26	---	---	---	---	---	---	1300	1270	1280	1320	1310	1310
27	---	---	---	---	---	---	1300	1280	1290	1320	1310	1320
28	---	---	---	1070	1060	1070	1290	1290	1290	1330	1310	1320
29	---	---	---	1070	1060	1060	1300	1290	1300	1330	1320	1320
30	---	---	---	1070	1060	1060	1310	1290	1300	1330	1320	1320
31	---	---	---	---	---	---	1310	1300	1310	---	---	---
MONTH	---	---	---	1070	1060	1060	1310	1070	1200	1330	1280	1310
YEAR	1520	1060	1380									

TEMPERATURE, AIR, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	19.3	11.1	14.0	13.8	3.4	8.2	5.4	-1.9	1.0	6.2	-2.3	3.1
2	17.3	2.8	9.5	13.1	.3	6.0	12.9	-.3	6.5	-2.3	-8.9	-7.5
3	14.7	1.2	7.5	16.6	.1	10.5	14.9	-1.4	7.7	-3.8	-9.6	-6.7
4	12.3	.5	7.7	21.3	14.4	18.4	15.4	7.5	12.0	-9.4	-14.2	-12.1
5	12.5	1.3	8.2	18.5	12.7	15.0	13.0	9.7	11.4	-6.4	-16.6	-11.7
6	18.6	-.7	7.8	17.4	6.8	11.6	11.1	4.0	8.7	.1	-10.6	-3.9
7	23.9	1.8	12.3	12.2	-1.9	6.1	4.0	-.6	1.8	.1	-7.4	-3.0
8	24.0	10.2	16.8	18.7	2.5	12.2	.5	-4.1	-1.8	-2.8	-9.4	-4.8
9	18.5	8.7	13.8	14.6	4.5	10.4	6.7	-4.0	.6	-3.6	-14.9	-8.3
10	13.0	.6	7.2	11.8	-2.0	4.6	1.8	-.9	.6	-4.2	-14.9	-6.9
11	16.4	-1.7	5.9	10.5	-4.6	1.1	.5	-4.6	-2.4	6.7	-4.2	.9
12	19.6	.6	9.2	12.2	-4.2	5.6	-2.0	-10.3	-5.3	14.6	6.7	11.5
13	16.7	3.1	9.6	17.7	.8	8.6	.9	-12.5	-6.8	18.5	5.6	12.9
14	20.4	7.9	12.8	21.2	3.2	13.8	2.7	-11.6	-5.1	18.3	7.3	13.1
15	21.0	5.0	11.4	14.6	4.7	9.4	6.1	-7.0	-1.0	14.3	1.1	6.7
16	22.1	2.6	10.7	9.3	4.7	6.6	6.4	-2.5	2.4	1.3	-1.2	-.3
17	23.3	-1.3	9.4	14.0	2.3	8.3	7.3	-1.1	4.3	.4	-1.6	-.6
18	24.2	2.8	12.8	17.5	7.2	11.2	2.3	-3.3	-.1	3.5	-.3	1.4
19	17.1	14.3	15.3	12.5	-1.2	5.7	2.4	-3.6	.1	12.2	-.6	6.5
20	19.1	10.1	15.1	15.0	2.5	8.4	7.1	-4.3	.4	6.8	.3	2.8
21	18.6	6.7	11.7	16.6	6.6	11.3	12.4	-6.3	.6	.3	-5.1	-2.2
22	19.5	3.6	9.6	7.4	-1.9	2.2	11.8	-6.2	.7	-4.8	-7.3	-6.0
23	18.2	1.2	9.1	.1	-4.0	-1.8	10.6	-3.9	2.8	-4.0	-7.7	-5.9
24	12.9	-1.2	5.9	7.4	-7.6	.7	4.5	1.3	2.4	-1.6	-5.4	-3.7
25	8.4	2.5	5.5	9.0	-.1	5.2	5.3	.2	2.3	-3.7	-8.1	-5.8
26	11.2	4.1	6.4	5.8	-7.4	-.7	8.4	-2.1	2.1	-3.1	-8.1	-5.2
27	13.0	-1.0	6.5	8.4	-2.9	2.5	3.8	-3.0	-1.1	.5	-14.7	-6.0
28	16.7	-2.9	6.3	15.1	4.9	8.8	4.3	-2.8	1.4	-.3	-9.0	-4.1
29	19.1	2.0	11.7	8.7	-3.3	3.6	3.3	-7.1	-.5	2.6	-11.9	-6.1
30	13.8	2.5	9.5	3.7	-4.6	.1	5.9	-8.3	-2.2	1.8	-13.5	-5.7
31	12.5	3.3	9.1	---	---	---	6.7	-3.8	2.4	-1.0	-9.7	-4.6
MONTH	24.2	-2.9	9.9	21.3	-7.6	7.1	15.4	-12.5	1.5	18.5	-16.6	-2.0

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

411138081172500 PO-116 NR RAVENNA OH--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	13.4	13.4	13.4	12.9	12.9	12.9	12.2	12.0	12.0	10.5	10.4	10.4
2	13.6	13.4	13.4	13.2	12.9	12.9	12.0	12.0	12.0	10.4	10.4	10.4
3	13.7	13.4	13.5	12.9	12.9	12.9	12.0	12.0	12.0	10.4	10.4	10.4
4	13.6	13.4	13.5	13.2	12.9	13.0	12.2	12.0	12.0	10.4	10.4	10.4
5	13.6	13.4	13.4	12.9	12.9	12.9	12.0	12.0	12.0	10.4	10.4	10.4
6	13.7	13.4	13.5	12.9	12.9	12.9	12.0	12.0	12.0	10.4	10.2	10.3
7	13.7	13.4	13.5	12.9	12.9	12.9	12.0	12.0	12.0	10.2	10.2	10.2
8	13.7	13.4	13.4	13.2	12.7	12.9	12.0	11.7	11.9	10.2	10.2	10.2
9	13.7	13.4	13.5	12.9	12.9	12.9	12.0	11.7	11.8	10.2	10.0	10.2
10	13.7	13.4	13.4	12.9	12.7	12.8	11.7	11.7	11.7	10.2	10.0	10.1
11	13.7	13.4	13.5	12.9	12.7	12.8	11.7	11.7	11.7	10.0	10.0	10.0
12	13.6	13.4	13.5	12.9	12.7	12.8	11.7	11.5	11.7	10.0	9.8	9.9
13	13.4	13.2	13.4	12.9	12.7	12.7	11.7	11.5	11.6	9.9	9.6	9.8
14	13.5	13.2	13.4	12.7	12.5	12.7	11.7	11.3	11.6	9.9	9.6	9.7
15	13.5	13.2	13.4	12.7	12.5	12.7	11.5	11.3	11.4	9.6	9.6	9.6
16	13.5	13.2	13.4	12.7	12.4	12.6	11.5	11.3	11.3	9.6	9.4	9.5
17	13.5	13.2	13.4	12.7	12.4	12.5	11.3	11.3	11.3	10.0	9.4	9.8
18	13.5	13.2	13.4	12.7	12.4	12.5	11.3	11.3	11.3	10.2	10.0	10.0
19	13.2	13.2	13.2	12.5	12.2	12.4	11.3	11.3	11.3	10.2	10.0	10.1
20	13.4	13.2	13.2	12.5	12.4	12.4	11.3	11.1	11.2	10.2	10.0	10.0
21	13.4	13.1	13.2	12.5	12.2	12.4	11.4	11.1	11.2	10.0	10.0	10.0
22	13.4	13.1	13.2	12.4	12.4	12.4	11.1	10.9	11.0	10.0	9.6	9.9
23	13.4	13.1	13.2	12.4	12.4	12.4	11.1	10.9	11.0	9.6	9.0	9.3
24	13.4	13.1	13.2	12.4	12.2	12.3	11.1	10.9	11.0	9.0	8.6	8.7
25	13.2	13.1	13.1	12.2	12.2	12.2	11.1	10.9	10.9	8.6	8.6	8.6
26	13.2	13.1	13.1	12.4	12.2	12.3	10.9	10.9	10.9	8.6	8.6	8.6
27	13.2	12.9	13.1	12.2	12.2	12.2	10.9	10.7	10.8	8.6	8.4	8.6
28	13.2	12.9	13.1	12.2	12.0	12.1	10.9	10.6	10.7	8.6	8.4	8.5
29	13.2	12.9	13.1	12.2	12.0	12.1	10.7	10.6	10.6	8.6	8.4	8.5
30	13.1	12.9	13.0	12.2	12.0	12.1	10.6	10.4	10.6	8.6	8.4	8.5
31	13.1	12.9	13.0	---	---	---	10.6	10.4	10.5	8.6	8.4	8.4
MONTH	13.7	12.9	13.3	13.2	12.0	12.6	12.2	10.4	11.4	10.5	8.4	9.6

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	8.4	8.4	8.4	7.7	7.5	7.6	7.1	7.1	7.1	7.5	7.3	7.5
2	8.4	8.2	8.4	7.6	7.3	7.5	---	---	---	7.5	7.5	7.5
3	8.4	8.4	8.4	7.5	7.3	7.4	7.4	7.1	7.2	7.7	7.5	7.6
4	8.4	8.4	8.4	7.5	7.1	7.4	7.3	7.1	7.1	7.7	7.5	7.5
5	8.4	8.2	8.4	7.3	7.3	7.3	7.3	7.1	7.2	7.7	7.5	7.6
6	8.4	8.2	8.4	7.3	7.1	7.3	7.4	7.1	7.1	7.7	7.5	7.6
7	8.4	8.2	8.3	7.3	7.1	7.2	7.3	7.1	7.2	7.7	7.5	7.7
8	8.4	8.2	8.4	7.3	7.1	7.2	7.2	7.1	7.1	7.9	7.7	7.8
9	8.4	8.2	8.3	7.3	7.1	7.2	7.1	7.1	7.1	7.7	7.7	7.7
10	8.2	8.2	8.2	7.4	7.1	7.2	7.3	7.1	7.1	7.9	7.7	7.8
11	8.4	8.2	8.2	7.4	7.1	7.3	7.4	7.1	7.2	7.9	7.9	7.9
12	8.4	8.2	8.2	7.6	7.3	7.4	7.4	7.1	7.2	8.1	7.9	7.9
13	8.2	8.0	8.1	7.7	7.5	7.6	7.3	7.1	7.3	8.1	7.9	8.0
14	8.2	8.0	8.1	7.9	7.7	7.8	7.5	7.3	7.3	8.1	7.9	8.0
15	8.2	8.0	8.1	7.9	7.7	7.8	7.5	7.5	7.5	8.1	7.9	8.0
16	8.1	8.0	8.0	7.9	7.5	7.7	7.7	7.5	7.6	8.1	7.9	8.1
17	8.1	8.0	8.0	7.9	7.7	7.7	7.7	7.5	7.7	8.3	8.1	8.1
18	8.1	7.9	8.0	7.8	7.5	7.7	7.7	7.5	7.6	8.1	8.1	8.1
19	8.0	7.9	8.0	7.8	7.5	7.7	7.7	7.5	7.6	8.3	8.0	8.1
20	8.0	7.9	7.9	7.7	7.3	7.5	7.7	7.5	7.6	8.3	8.0	8.2
21	8.0	7.8	7.9	7.5	7.3	7.4	7.7	7.5	7.7	8.3	8.1	8.2
22	8.0	7.8	7.9	7.3	7.1	7.2	7.7	7.5	7.7	8.3	8.1	8.2
23	7.9	7.8	7.9	7.1	7.1	7.1	7.8	7.5	7.7	8.3	8.1	8.3
24	7.9	7.8	7.8	7.1	7.0	7.1	7.7	7.5	7.7	8.5	8.1	8.3
25	7.9	7.7	7.8	7.1	7.0	7.1	7.7	7.5	7.6	8.3	8.2	8.3
26	7.9	7.7	7.8	7.2	7.0	7.1	7.7	7.5	7.6	8.5	8.3	8.4
27	7.8	7.7	7.7	7.2	7.1	7.1	7.7	7.5	7.5	8.5	8.3	8.5
28	7.7	7.6	7.7	7.2	7.1	7.1	7.7	7.5	7.5	8.7	8.5	8.5
29	---	---	---	7.1	7.1	7.1	7.7	7.5	7.6	8.7	8.5	8.5
30	---	---	---	7.1	7.1	7.1	7.5	7.3	7.4	8.7	8.5	8.5
31	---	---	---	7.1	7.1	7.1	---	---	---	8.7	8.5	8.6
MONTH	8.4	7.6	8.1	7.9	7.0	7.4	7.8	7.1	7.4	8.7	7.3	8.0

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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411138081172500 PO-116 NR RAVENNA OH--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	8.7	8.5	8.6	10.5	10.1	10.2	11.8	11.6	11.6	13.4	13.2	13.2
2	8.9	8.7	8.7	10.5	10.2	10.3	11.9	11.6	11.7	13.5	13.1	13.2
3	8.9	8.6	8.8	10.5	10.2	10.3	12.0	11.8	11.9	13.5	13.1	13.3
4	8.9	8.6	8.8	10.5	10.2	10.4	12.0	11.8	12.0	13.5	13.1	13.3
5	8.9	8.6	8.8	10.7	10.3	10.5	12.0	11.8	12.0	13.5	13.4	13.4
6	8.9	8.6	8.8	10.7	10.5	10.6	12.1	11.8	12.0	13.7	13.4	13.5
7	8.9	8.6	8.8	10.7	10.5	10.6	12.3	12.0	12.1	13.7	13.4	13.5
8	9.1	8.7	8.9	10.7	10.5	10.6	12.3	12.0	12.2	13.7	13.4	13.5
9	9.1	8.8	8.9	10.9	10.5	10.7	12.3	12.0	12.1	13.7	13.4	13.5
10	9.1	8.9	9.0	10.9	10.7	10.7	12.3	12.0	12.2	13.7	13.4	13.6
11	9.3	8.9	9.0	11.0	10.7	10.8	12.3	12.0	12.2	13.7	13.6	13.7
12	9.3	9.0	9.1	11.0	10.7	10.8	12.3	12.0	12.3	13.9	13.6	13.7
13	9.3	9.0	9.2	11.0	10.7	10.9	12.3	12.0	12.3	13.9	13.7	13.8
14	9.3	9.0	9.2	11.2	10.9	11.0	12.5	12.2	12.3	13.9	13.6	13.7
15	9.5	9.2	9.3	11.4	11.0	11.1	12.5	12.2	12.4	14.0	13.6	13.7
16	9.5	9.2	9.3	11.4	11.1	11.2	12.5	12.2	12.4	14.0	13.6	13.8
17	9.5	9.2	9.4	11.4	11.1	11.2	12.7	12.5	12.6	13.9	13.6	13.7
18	9.7	9.4	9.5	11.4	11.1	11.3	12.7	12.5	12.6	13.9	13.6	13.7
19	9.7	9.4	9.5	11.6	11.1	11.3	12.8	12.5	12.6	14.0	13.6	13.8
20	9.7	9.5	9.6	11.6	11.3	11.4	12.8	12.5	12.6	13.9	13.6	13.7
21	9.7	9.5	9.6	11.6	11.3	11.5	12.8	12.5	12.7	13.9	13.6	13.8
22	9.9	9.5	9.7	11.6	11.3	11.5	13.0	12.7	12.7	13.9	13.6	13.7
23	9.9	9.6	9.7	11.6	11.4	11.5	13.0	12.7	12.8	13.9	13.6	13.8
24	9.9	9.6	9.8	11.6	11.4	11.5	13.2	12.7	12.9	13.9	13.6	13.8
25	9.9	9.6	9.8	11.8	11.4	11.6	13.2	12.9	13.0	13.9	13.6	13.8
26	10.1	9.9	9.9	11.8	11.6	11.7	13.2	12.9	13.0	13.9	13.6	13.9
27	10.1	9.9	10.0	---	---	---	13.2	12.9	13.0	14.0	13.6	13.9
28	10.3	9.9	10.1	11.6	11.4	11.5	13.2	12.9	13.1	14.0	13.6	13.9
29	10.9	10.1	10.2	11.6	11.4	11.6	13.2	12.9	13.1	14.0	13.6	13.9
30	10.3	10.1	10.2	11.6	11.3	11.5	13.2	12.9	13.1	14.0	13.6	13.9
31	---	---	---	11.8	11.3	11.6	13.2	12.9	13.2	---	---	---
MONTH	10.9	8.5	9.3	11.8	10.1	11.0	13.2	11.6	12.5	14.0	13.1	13.7
YEAR	14.0	7.0	10.4									

TEMPERATURE, SOIL DEG. C), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	15.1	14.2	14.6	10.4	9.2	10.0	4.2	3.4	3.7	2.9	2.1	2.6
2	14.9	13.0	14.0	9.7	8.4	9.0	4.8	3.4	4.0	2.6	1.1	1.7
3	13.8	12.1	12.9	9.3	7.6	8.4	5.5	3.7	4.5	1.1	.7	.9
4	12.5	11.5	12.1	11.4	9.3	10.3	7.2	5.5	6.3	.8	.5	.6
5	12.9	11.8	12.4	11.8	11.3	11.5	8.3	7.2	7.9	.5	.2	.3
6	12.8	10.2	11.5	11.8	10.8	11.5	8.3	7.9	8.2	.2	.1	.1
7	13.4	10.4	11.9	10.8	9.0	9.8	7.9	5.8	7.0	.2	.2	.2
8	14.7	12.3	13.4	10.3	8.5	9.3	5.8	4.3	5.0	.2	.2	.2
9	14.4	13.5	14.0	10.5	9.8	10.2	4.4	3.9	4.1	.2	.2	.2
10	13.5	11.4	12.4	9.8	8.0	9.0	4.3	4.0	4.2	.2	.2	.2
11	12.0	9.7	10.9	8.0	6.4	7.2	4.0	3.3	3.6	.2	.2	.2
12	12.0	9.5	10.7	7.3	5.4	6.4	3.3	2.4	2.8	.2	.2	.2
13	11.6	9.8	10.7	8.4	6.8	7.5	2.4	1.6	1.8	1.1	.2	.5
14	12.8	11.0	11.8	9.9	7.3	8.5	1.6	1.2	1.3	5.8	1.0	2.6
15	12.8	10.6	11.8	9.9	9.1	9.7	1.2	1.1	1.1	6.4	4.4	5.8
16	12.6	10.4	11.5	9.1	8.5	8.8	2.3	1.1	1.4	4.4	3.0	3.5
17	12.1	9.3	10.7	8.9	7.7	8.4	3.4	2.3	3.0	3.0	2.6	2.8
18	12.6	9.8	11.1	9.9	8.4	9.0	3.0	2.2	2.5	3.2	2.5	2.8
19	13.0	12.0	12.5	9.0	7.5	8.2	3.0	2.5	2.7	4.1	2.6	3.3
20	14.1	12.9	13.4	8.4	7.5	7.9	3.1	2.2	2.6	4.3	3.4	4.0
21	13.7	12.4	13.1	9.1	7.9	8.4	2.6	1.6	2.1	3.4	2.5	3.0
22	12.8	11.3	12.1	8.6	6.2	7.4	2.3	1.4	1.8	2.5	2.0	2.2
23	11.8	10.1	11.0	6.2	4.9	5.3	2.8	1.5	2.1	2.0	1.9	1.9
24	10.9	9.1	9.9	4.9	4.0	4.5	3.1	2.7	2.9	2.0	2.0	2.0
25	10.0	9.1	9.5	5.8	4.7	5.2	3.2	2.5	2.8	2.0	1.9	1.9
26	9.4	8.8	9.1	4.9	3.4	4.1	3.7	2.9	3.2	2.0	1.9	1.9
27	9.8	8.6	9.2	4.6	3.4	3.8	3.3	2.7	3.0	1.9	1.6	1.7
28	9.4	7.1	8.3	6.2	4.6	5.8	2.9	2.2	2.5	1.7	1.6	1.7
29	9.9	7.9	8.8	5.4	4.3	5.0	2.9	2.0	2.6	1.7	1.1	1.3
30	9.6	8.4	9.1	4.3	3.4	3.9	2.0	1.2	1.4	1.2	.9	.9
31	9.9	8.7	9.3	---	---	---	2.1	1.1	1.4	.9	.7	.8
MONTH	15.1	7.1	11.4	11.8	3.4	7.8	8.3	1.1	3.3	6.4	.1	1.7

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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411138081172500 PO-116 NR RAVENNA OH--Continued

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.38	.00	.00	.14	.02	.00	.07	.00	.02	.00	.50	.00
2	.00	.00	.00	.00	.00	.00	---	.03	.40	.00	.01	.00
3	.00	.00	.00	.00	.00	.00	.23	.01	.21	.00	.00	.00
4	.00	.00	.01	.00	.00	.00	.15	.01	.00	.00	.10	.00
5	.01	.01	.00	.00	.00	.19	.00	.07	.00	.64	.70	.00
6	.00	.00	.01	.00	.00	.03	.02	.00	.00	.02	.10	.00
7	.00	.00	.00	.00	.00	.36	.00	.00	.47	.00	.00	.00
8	.00	.00	.00	.01	.00	.17	.26	.00	.00	.01	.00	.03
9	.15	.01	.00	.02	.01	.01	.56	.32	.00	.00	.43	.07
10	.00	.00	.00	.00	.01	.10	.12	.24	.22	.00	.00	.00
11	.00	.00	.00	.34	.00	.00	.00	.06	.02	.00	.00	.00
12	.00	.00	.12	.07	.00	.00	.35	.00	.04	.00	.00	.15
13	.00	.00	.02	.00	.00	.00	.09	.00	.00	.25	.15	.88
14	.00	.01	.02	.84	.00	.00	.01	.20	.00	.00	.00	.00
15	.00	.00	.01	1.05	.08	.00	.00	.00	.00	1.42	1.13	.00
16	.00	.00	.34	.19	.00	.00	.00	.00	.00	.11	.00	.00
17	.00	.00	.02	.00	.00	.00	.00	.26	.00	.06	.07	.03
18	.00	.00	.06	.00	.00	.00	.36	.56	.00	.00	.10	.00
19	.01	.00	.02	.04	.00	.00	.00	.18	.00	.00	.00	.00
20	.00	.00	.01	.33	.01	.15	.01	.00	.00	.13	.00	.40
21	.00	.01	.01	.08	.01	.01	.42	.00	.04	.04	.00	.01
22	.00	.00	.02	.01	.01	.01	.03	.00	.01	.00	.00	.13
23	.00	.00	.04	.00	.06	.00	.00	.00	.00	.39	.00	.00
24	.01	.01	.00	.00	.01	.00	.00	.47	.05	.01	.00	.01
25	.00	.00	.00	.00	.00	.00	.01	.08	.15	1.22	.00	.00
26	.00	.00	.00	.00	.13	.00	.00	.00	.01	.01	.00	.00
27	.00	.02	.00	.00	.41	.21	.06	.00	.76	---	.00	.00
28	.00	.01	.00	.00	.24	.10	.00	.04	.00	.13	.00	.00
29	.00	.00	.00	.04	---	.02	.00	1.32	1.13	.03	.00	.00
30	.00	.00	.00	.12	---	.04	.03	.01	.45	.00	.00	.00
31	.01	---	.11	.07	---	.00	---	.00	---	.00	.00	---
TOTAL	0.57	0.08	0.82	3.35	1.00	1.40	2.78	3.86	3.98	4.47	3.29	1.71

WTR YR 1995 TOTAL 27.31

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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 shelf 3.36 ft above land-surface datum.

REMARKS.--

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

PERIOD OF DAILY RECORD.--

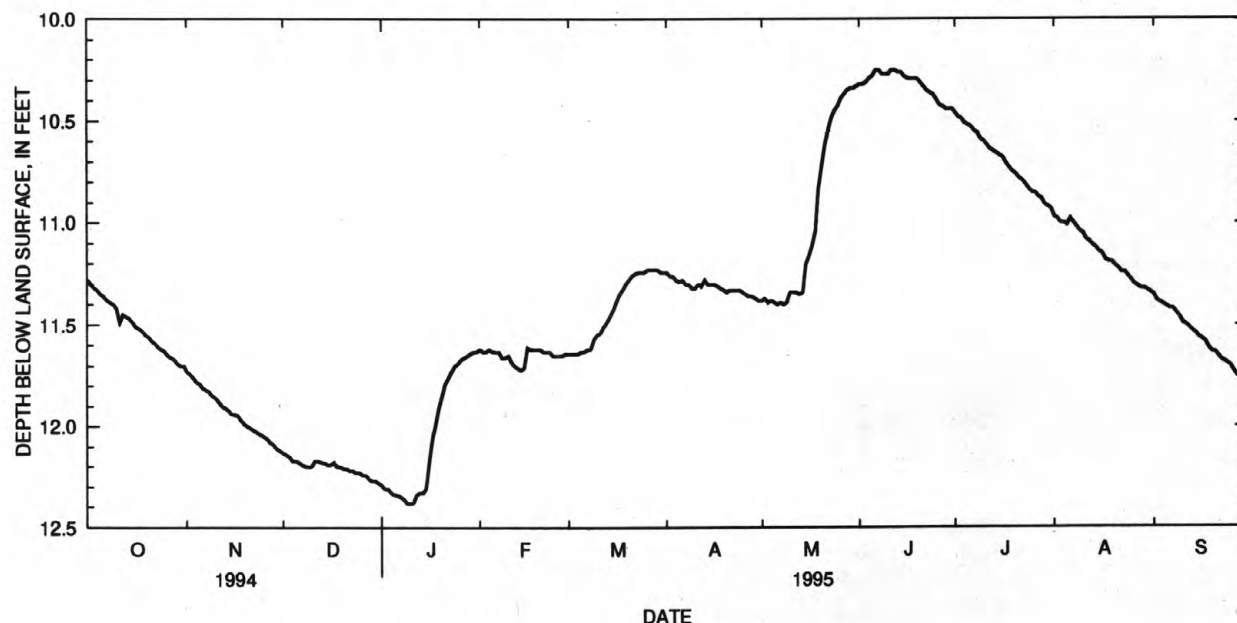
WATER LEVEL: February 1991 to current year.
SPECIFIC CONDUCTANCE: February 1991 to current year.
AIR TEMPERATURE: February 1991 to current year.
WATER TEMPERATURE: February 1991 to current year.
SOIL TEMPERATURE: February 1991 to current year.
PRECIPITATION: February 1991 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER LEVEL: Maximum daily low, 13.11 ft. below land-surface datum, June 18, 1992; maximum daily high, 6.68 ft. below land-surface datum, March 27, 1991.
SPECIFIC CONDUCTANCE: Maximum, 933 microsiemens April 15, 1994; minimum, 585 microsiemens October 23, 1992.
AIR TEMPERATURE: Maximum, 37.5°C July 15, 1995; minimum, -34.1°C January 19, 1994.
WATER TEMPERATURE: Maximum, 15.0°C October 20-21 1991; minimum, 10.6°C April 29, 1993.
SOIL TEMPERATURE: Maximum, 32.5°C September 16, 1991; minimum, -2.2°C February 12, 1994.

EXTREMES FOR CURRENT YEAR.--

WATER LEVEL: Maximum daily low, 12.38 ft. below land-surface datum, January 9-11, 1995; maximum daily high, 10.24 ft. below land-surface datum, June 6-7, 1995.
SPECIFIC CONDUCTANCE: Maximum, 747 microsiemens May 27-28, 1995; minimum, 610 microsiemens September 29-30, 1995.
AIR TEMPERATURE: Maximum, 37.5°C July 15, 1995; minimum, -22.4°C February 7, 1995.
WATER TEMPERATURE: Maximum, 13.5°C January 4-5, 1995; minimum, 11.5°C many days in April, May, and June, 1995.
SOIL TEMPERATURE: Maximum, 26.2°C August 17, 1995; minimum, -1.5°C February 15, 1995.



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DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.24	11.24	11.38	11.37	10.32	10.32	10.46	10.44	10.97	10.93	11.35	11.34
2	11.26	11.24	11.37	11.36	10.32	10.31	10.48	10.46	10.98	10.97	11.38	11.35
3	11.26	11.25	11.39	11.37	10.31	10.29	10.49	10.48	11.00	10.98	11.39	11.38
4	11.28	11.25	11.38	11.38	10.29	10.28	10.51	10.49	11.00	11.00	11.40	11.39
5	11.29	11.28	11.39	11.38	10.28	10.25	10.52	10.51	11.01	10.98	11.41	11.40
6	11.28	11.27	11.40	11.39	10.25	10.24	10.53	10.52	10.98	10.96	11.42	11.41
7	11.30	11.28	11.39	11.38	10.25	10.24	10.55	10.53	11.00	10.98	11.42	11.42
8	11.30	11.29	11.40	11.38	10.27	10.25	10.56	10.55	11.02	11.00	11.44	11.42
9	11.32	11.30	11.39	11.34	10.27	10.26	10.59	10.56	11.04	11.02	11.46	11.44
10	11.32	11.30	11.34	11.32	10.27	10.25	10.60	10.59	11.05	11.04	11.49	11.46
11	11.30	11.29	11.34	11.33	10.25	10.24	10.62	10.60	11.08	11.05	11.50	11.49
12	11.31	11.28	11.34	11.34	10.25	10.25	10.64	10.62	11.09	11.08	11.51	11.50
13	11.28	11.28	11.35	11.34	10.26	10.25	10.65	10.64	11.11	11.09	11.53	11.51
14	11.30	11.28	11.34	11.20	10.26	10.26	10.66	10.64	11.12	11.11	11.54	11.53
15	11.30	11.30	11.20	11.16	10.28	10.26	10.67	10.66	11.14	11.12	11.56	11.54
16	11.30	11.30	11.16	11.11	10.29	10.28	10.68	10.67	11.15	11.14	11.57	11.56
17	11.31	11.30	11.11	11.04	10.29	10.29	10.71	10.68	11.18	11.15	11.58	11.57
18	11.32	11.30	11.04	10.83	10.29	10.29	10.73	10.71	11.19	11.18	11.61	11.58
19	11.33	11.30	10.83	10.72	10.29	10.28	10.75	10.73	11.19	11.18	11.63	11.61
20	11.34	11.33	10.72	10.62	10.31	10.29	10.76	10.75	11.21	11.19	11.63	11.63
21	11.33	11.30	10.62	10.55	10.33	10.31	10.78	10.76	11.22	11.21	11.65	11.63
22	11.33	11.31	10.55	10.49	10.35	10.33	10.79	10.78	11.24	11.22	11.67	11.65
23	11.33	11.32	10.49	10.45	10.36	10.35	10.81	10.79	11.24	11.24	11.68	11.67
24	11.33	11.32	10.45	10.40	10.37	10.36	10.83	10.81	11.26	11.24	11.69	11.68
25	11.34	11.33	10.43	10.39	10.39	10.37	10.85	10.83	11.28	11.26	11.70	11.69
26	11.35	11.34	10.39	10.37	10.42	10.39	10.85	10.85	11.30	11.28	11.73	11.70
27	11.36	11.34	10.37	10.35	10.43	10.42	10.87	10.85	11.31	11.30	11.75	11.73
28	11.36	11.36	10.35	10.33	10.44	10.43	10.88	10.87	11.32	11.31	11.76	11.75
29	11.37	11.36	10.34	10.33	10.44	10.43	10.91	10.88	11.32	11.32	11.77	11.76
30	11.38	11.37	10.34	10.33	10.44	10.43	10.92	10.91	11.33	11.32	11.78	11.77
31	---	---	10.33	10.32	---	---	10.93	10.92	11.34	11.33	---	---
MONTH	11.38	11.24	11.40	10.32	10.44	10.24	10.93	10.44	11.34	10.93	11.78	11.34
YEAR	12.38	10.24										

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

393541083001100 PK-48 NR CIRCLEVILLE OH--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	679	677	678	684	680	682	682	678	680	679	674	675
2	679	678	679	684	678	681	680	677	679	681	674	676
3	680	678	679	684	679	682	680	677	679	681	675	677
4	681	679	680	684	679	681	679	676	677	682	673	677
5	681	679	680	683	679	680	677	673	676	684	674	678
6	681	678	680	684	679	680	678	673	676	682	675	677
7	681	679	680	682	680	681	680	674	678	680	675	677
8	681	680	680	682	680	681	680	674	677	680	675	678
9	681	680	681	681	679	680	679	674	677	680	674	678
10	682	680	681	681	679	680	679	675	676	680	675	679
11	683	681	682	682	679	681	680	675	677	679	674	677
12	684	681	682	683	679	681	680	674	676	677	676	677
13	683	681	682	681	678	680	676	674	675	677	676	677
14	683	681	682	680	678	679	680	674	676	677	676	677
15	683	681	682	680	679	679	677	673	674	677	676	677
16	683	678	681	680	679	680	678	673	674	680	677	679
17	684	677	679	680	678	679	678	673	674	681	679	680
18	683	678	679	679	678	678	678	673	674	683	681	682
19	680	678	679	680	678	679	678	673	674	683	682	682
20	679	678	679	679	677	678	678	673	674	687	683	685
21	680	679	680	679	678	678	679	672	675	690	687	689
22	681	680	681	681	678	680	678	672	674	692	690	691
23	682	680	681	682	679	680	679	672	674	693	690	692
24	682	680	681	682	679	680	679	674	674	697	693	694
25	683	680	681	680	679	680	676	672	674	702	692	695
26	682	681	682	681	679	680	679	674	675	702	694	698
27	683	680	682	680	679	680	679	675	675	702	694	699
28	684	681	682	680	679	679	680	673	675	701	696	699
29	684	681	682	681	678	679	679	673	674	701	696	700
30	684	681	683	682	679	680	678	672	674	702	698	700
31	684	680	683	---	---	---	679	673	675	703	698	700
MONTH	684	677	681	684	677	680	682	672	676	703	673	685

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	699	697	698	686	682	684	695	693	694	673	668	670
2	699	697	698	686	682	685	---	---	---	672	666	669
3	700	698	699	686	682	684	694	690	692	672	666	668
4	699	696	698	685	681	683	694	691	692	671	665	667
5	700	694	698	683	681	682	695	689	692	670	665	666
6	700	696	698	682	680	681	692	688	690	670	664	666
7	701	693	697	681	679	680	692	687	689	668	663	665
8	698	693	696	683	681	682	692	686	689	667	662	665
9	697	693	695	683	680	682	692	686	689	666	662	664
10	697	691	694	684	678	680	692	687	691	665	661	664
11	698	692	696	682	678	680	692	687	689	665	660	664
12	700	694	697	683	678	680	688	686	687	665	663	664
13	697	691	694	685	679	681	688	687	688	664	660	663
14	695	689	692	685	680	683	689	686	687	663	663	663
15	692	690	691	686	683	684	689	685	687	664	660	663
16	692	690	691	687	684	685	686	683	684	666	661	665
17	691	687	689	688	686	687	684	683	683	668	665	667
18	691	686	689	690	685	688	683	682	683	676	668	671
19	691	686	688	690	687	688	683	681	682	687	675	681
20	690	686	688	693	688	690	683	680	681	700	687	694
21	688	686	687	695	689	693	681	678	680	712	700	706
22	688	684	686	696	690	694	680	679	679	724	710	718
23	686	685	685	697	695	696	680	678	679	731	724	728
24	687	685	686	698	695	696	679	675	677	737	727	734
25	687	683	685	699	695	697	678	674	676	742	737	740
26	684	682	683	699	694	696	677	673	675	745	739	744
27	685	682	683	696	694	695	675	673	673	747	745	746
28	683	681	682	697	694	696	676	671	673	747	742	746
29	---	---	---	697	694	695	673	670	671	746	740	744
30	---	---	---	696	693	695	674	669	670	745	738	742
31	---	---	---	695	693	694	---	---	---	743	738	740
MONTH	701	681	692	699	678	688	695	669	684	747	660	692

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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393541083001100 PK-48 NR CIRCLEVILLE OH--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	738	731	736	660	658	659	630	624	628	621	620	620
2	735	727	732	660	658	659	629	626	628	621	620	620
3	731	724	727	660	657	659	629	622	626	622	620	621
4	728	720	723	660	657	658	627	623	624	621	619	620
5	721	716	719	660	658	659	624	623	623	621	619	620
6	719	713	715	659	658	659	625	623	624	622	619	621
7	716	710	713	659	656	658	625	623	624	621	620	621
8	711	706	709	657	655	656	625	624	624	621	619	620
9	706	703	705	657	655	656	625	623	624	621	620	620
10	703	701	702	657	655	655	625	623	624	621	616	620
11	701	697	699	657	655	656	625	623	624	621	616	619
12	698	694	696	657	653	655	625	624	624	621	616	617
13	695	691	693	656	653	654	625	624	624	616	616	616
14	692	689	691	655	650	653	626	623	624	617	616	616
15	689	686	688	653	650	651	626	623	625	617	616	616
16	686	683	685	650	647	649	629	624	625	617	616	616
17	684	681	683	648	645	647	626	624	625	617	615	616
18	681	678	680	646	644	646	625	620	624	617	615	616
19	679	675	678	645	642	644	625	620	624	617	615	616
20	677	673	676	643	641	643	625	620	623	616	616	616
21	674	672	673	642	640	641	625	620	621	617	616	616
22	673	670	672	641	637	640	621	619	620	617	613	616
23	672	669	671	641	636	639	621	619	620	618	612	616
24	671	668	669	640	633	638	621	619	620	618	611	616
25	669	663	667	638	632	634	621	619	620	617	611	613
26	667	662	665	634	631	632	622	620	621	616	611	613
27	666	661	663	632	630	631	621	620	621	613	611	612
28	664	660	661	631	628	630	621	620	621	616	611	612
29	662	659	660	631	628	629	621	621	621	612	610	611
30	661	659	659	631	627	629	623	620	621	615	610	611
31	---	---	---	630	627	629	621	620	620	---	---	---
MONTH	738	659	690	660	627	647	630	619	623	622	610	617
YEAR	747	610	671									

TEMPERATURE, AIR, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	28.6	7.7	18.0	13.8	3.4	6.4	7.1	-8.6	-1.5	6.6	-5.1	2.9
2	19.2	10.3	14.7	14.3	-1.5	5.3	13.4	-2.3	3.6	-3.5	-10.6	-7.0
3	18.8	4.6	11.4	19.9	2.3	11.5	14.2	-2.7	5.9	-1.9	-10.3	-6.3
4	16.2	.1	7.9	21.5	11.3	16.8	15.5	3.4	10.4	-7.8	-15.9	-11.6
5	14.0	2.2	8.0	22.2	10.1	16.1	13.5	9.3	12.2	-6.3	-18.1	-13.0
6	20.0	-1.4	8.3	16.7	6.8	12.4	13.0	10.1	11.2	-.6	-13.8	-4.6
7	25.6	1.8	13.2	14.3	-1.8	5.2	14.6	-2.6	7.5	-.4	-8.6	-3.5
8	24.6	8.4	16.1	20.5	1.5	10.8	4.8	-3.2	.5	-.4	-5.6	-2.8
9	19.5	2.7	13.2	15.9	6.4	13.5	6.2	-.9	2.4	-1.7	-8.5	-4.3
10	14.2	-1.4	6.1	12.0	-.7	5.6	2.3	-.6	1.1	.0	-6.4	-3.1
11	17.7	-2.0	7.0	12.9	-3.2	2.6	.6	-4.9	-2.8	7.9	-.7	3.8
12	20.8	-1.5	8.7	15.9	-4.3	5.6	.5	-7.2	-3.2	16.3	7.8	11.9
13	16.9	3.3	11.4	20.8	3.1	10.9	3.6	-9.5	-3.7	19.1	7.5	12.6
14	21.6	9.6	14.4	19.6	4.2	12.4	3.4	-7.1	-3.0	16.6	7.9	13.2
15	22.2	4.1	12.9	13.2	6.7	10.1	8.5	-4.6	1.6	12.0	1.0	6.0
16	24.5	1.8	12.0	8.8	5.3	6.8	8.9	1.0	5.2	1.0	-1.3	-.5
17	25.7	-.1	10.3	16.4	5.1	8.7	8.1	-1.0	3.9	4.0	-1.9	.9
18	24.2	4.0	14.2	16.1	-.7	9.0	2.5	-1.9	.6	5.0	-2.0	1.6
19	16.3	13.4	14.9	13.8	-4.5	3.8	3.2	-3.9	-.3	10.4	-1.6	4.4
20	21.4	6.4	14.4	15.4	4.6	9.6	8.7	-6.6	-.9	4.9	-2.5	-.2
21	19.5	3.0	10.1	17.0	5.0	12.4	11.3	-7.7	-.3	-2.5	-6.1	-4.3
22	17.1	4.0	8.8	5.0	-6.5	.5	10.7	-5.1	1.2	-3.4	-7.9	-5.6
23	20.4	1.3	9.3	6.3	-8.2	-1.0	9.0	-2.9	1.9	-2.9	-8.0	-6.2
24	15.4	-1.6	5.9	8.5	-8.4	.5	2.9	-.4	2.0	-4.5	-18.4	-7.9
25	11.3	-1.0	5.1	10.0	.0	5.0	6.9	-4.6	-.4	-4.0	-20.1	-12.3
26	9.9	3.1	5.7	9.6	.7	3.5	.0	-2.4	-1.3	-.9	-16.6	-9.8
27	14.9	-1.4	5.8	12.5	4.3	7.0	.8	-3.3	-1.9	-1.4	-15.9	-7.7
28	18.3	-4.2	5.8	14.2	2.0	7.8	10.4	-3.0	2.4	-1.5	-6.6	-2.6
29	18.7	-.9	7.9	10.0	-3.2	3.2	4.1	-1.4	1.5	-1.6	-8.2	-4.7
30	20.5	-2.1	7.4	6.2	-6.2	-.9	11.4	-7.7	.7	-.9	-12.1	-5.9
31	13.7	2.7	10.2	---	---	---	6.6	-4.1	2.6	-.7	-13.5	-5.7
MONTH	28.6	-4.2	10.3	22.2	-8.4	7.4	15.5	-9.5	1.9	19.1	-20.1	-2.3

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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393541083001100 PK-48 NR CIRCLEVILLE OH--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	12.7	12.6	12.6	13.1	12.8	12.9	13.1	13.0	13.1	13.3	13.0	13.3
2	12.7	12.6	12.6	13.1	12.8	12.9	13.1	13.0	13.1	13.3	13.0	13.2
3	12.7	12.6	12.6	13.1	12.8	12.9	13.1	13.0	13.1	13.3	13.0	13.2
4	12.6	12.6	12.6	13.1	12.9	13.0	13.1	13.1	13.1	13.5	13.0	13.3
5	12.6	12.6	12.6	13.1	12.9	13.1	13.3	13.1	13.1	13.5	13.0	13.3
6	12.7	12.6	12.6	13.1	12.9	13.1	13.3	13.1	13.2	13.3	13.0	13.2
7	12.7	12.6	12.6	13.1	13.0	13.1	13.3	13.0	13.1	13.3	13.0	13.2
8	12.7	12.6	12.6	13.1	13.0	13.1	13.3	13.0	13.2	13.3	13.0	13.1
9	12.7	12.6	12.6	13.1	13.1	13.1	13.3	13.0	13.2	13.3	13.0	13.1
10	12.6	12.6	12.6	13.1	13.0	13.1	13.3	13.0	13.3	13.3	13.0	13.1
11	12.7	12.6	12.6	13.1	13.0	13.1	13.3	13.0	13.2	13.3	13.0	13.1
12	12.7	12.6	12.6	13.1	13.0	13.1	13.3	13.0	13.3	13.1	13.1	13.1
13	12.6	12.6	12.6	13.1	13.1	13.1	13.3	13.3	13.3	13.1	13.1	13.1
14	12.7	12.6	12.6	13.1	13.1	13.1	13.3	13.0	13.2	13.1	13.1	13.1
15	12.7	12.6	12.6	13.1	13.1	13.1	13.3	13.1	13.3	13.1	13.0	13.1
16	12.9	12.6	12.7	13.1	13.1	13.1	13.3	13.1	13.3	13.0	13.0	13.0
17	12.9	12.6	12.8	13.1	13.1	13.1	13.3	13.1	13.3	13.1	13.0	13.1
18	12.9	12.6	12.9	13.1	13.1	13.1	13.3	13.0	13.3	13.1	13.0	13.1
19	12.9	12.9	12.9	13.1	13.0	13.1	13.3	13.0	13.3	13.1	13.0	13.1
20	12.9	12.9	12.9	13.1	13.1	13.1	13.3	13.1	13.3	13.1	13.0	13.1
21	12.9	12.8	12.9	13.1	13.1	13.1	13.4	13.0	13.3	13.0	13.0	13.0
22	12.9	12.8	12.8	13.1	13.0	13.1	13.3	13.0	13.3	13.0	13.0	13.0
23	12.9	12.8	12.8	13.1	13.0	13.1	13.3	13.0	13.3	13.1	13.0	13.0
24	12.9	12.8	12.8	13.1	13.0	13.1	13.3	13.0	13.3	13.0	13.0	13.0
25	12.9	12.8	12.8	13.1	13.0	13.1	13.3	13.1	13.3	13.2	12.7	13.1
26	12.9	12.8	12.8	13.1	13.0	13.1	13.3	13.0	13.3	13.2	12.8	12.9
27	12.9	12.8	12.8	13.1	13.1	13.1	13.3	13.0	13.3	13.1	12.8	12.8
28	12.9	12.8	12.8	13.1	13.0	13.1	13.3	13.0	13.3	13.0	12.8	12.9
29	12.9	12.8	12.8	13.1	13.0	13.1	13.3	13.0	13.3	13.0	12.8	12.8
30	12.9	12.8	12.8	13.1	13.0	13.1	13.4	13.1	13.3	12.8	12.8	12.8
31	13.1	12.8	12.9	---	---	---	13.3	13.0	13.3	13.0	12.8	12.8
MONTH	13.1	12.6	12.7	13.1	12.8	13.1	13.4	13.0	13.2	13.5	12.7	13.1

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995												
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	12.8	12.8	12.8	12.6	12.3	12.4	11.9	11.9	11.9	11.7	11.5	11.7
2	12.8	12.8	12.8	12.6	12.3	12.4	---	---	---	11.7	11.5	11.7
3	12.8	12.8	12.8	12.4	12.3	12.4	12.0	11.9	11.9	11.7	11.5	11.7
4	12.8	12.8	12.8	12.4	12.3	12.4	11.9	11.9	11.9	11.7	11.5	11.7
5	13.0	12.7	12.8	12.4	12.3	12.4	12.1	11.9	11.9	11.7	11.5	11.7
6	13.0	12.7	12.8	12.4	12.4	12.4	12.0	11.7	11.9	11.7	11.5	11.7
7	13.0	12.7	12.8	12.4	12.4	12.4	12.0	11.7	11.9	11.8	11.5	11.7
8	13.0	12.8	12.8	12.4	12.3	12.3	12.0	11.7	11.9	11.7	11.5	11.6
9	12.8	12.8	12.8	12.4	12.3	12.3	12.0	11.7	11.8	11.7	11.5	11.6
10	12.8	12.6	12.7	12.5	12.3	12.4	11.9	11.7	11.7	11.7	11.5	11.5
11	12.8	12.5	12.6	12.4	12.3	12.4	11.9	11.7	11.7	11.7	11.5	11.5
12	12.8	12.5	12.6	12.4	12.2	12.4	11.7	11.7	11.7	11.5	11.5	11.5
13	12.6	12.5	12.6	12.5	12.1	12.3	11.7	11.7	11.7	11.5	11.5	11.5
14	12.8	12.5	12.6	12.4	12.1	12.2	11.7	11.7	11.7	11.5	11.5	11.5
15	12.6	12.6	12.6	12.2	12.1	12.2	11.7	11.7	11.7	11.8	11.5	11.5
16	12.6	12.6	12.6	12.2	12.1	12.2	11.8	11.7	11.7	11.8	11.5	11.5
17	12.6	12.6	12.6	12.2	12.1	12.2	11.8	11.7	11.7	11.7	11.5	11.5
18	12.6	12.6	12.6	12.2	12.1	12.1	11.8	11.7	11.7	11.7	11.5	11.5
19	12.6	12.6	12.6	12.2	12.1	12.2	11.8	11.7	11.7	11.7	11.5	11.5
20	12.6	12.6	12.6	12.2	11.9	12.1	11.7	11.7	11.7	11.5	11.5	11.5
21	12.6	12.6	12.6	12.2	11.9	12.0	11.8	11.7	11.7	11.5	11.5	11.5
22	12.8	12.6	12.6	12.2	11.9	12.0	11.7	11.7	11.7	11.7	11.5	11.5
23	12.6	12.6	12.6	11.9	11.9	11.9	11.7	11.7	11.7	11.6	11.5	11.5
24	12.6	12.6	12.6	12.0	11.9	11.9	11.7	11.7	11.7	11.7	11.5	11.5
25	12.6	12.6	12.6	12.0	11.9	11.9	11.7	11.7	11.7	11.5	11.5	11.5
26	12.6	12.6	12.6	12.0	11.9	11.9	11.8	11.7	11.7	11.7	11.5	11.5
27	12.6	12.4	12.6	11.9	11.9	11.9	11.7	11.7	11.7	11.5	11.5	11.5
28	12.6	12.6	12.6	11.9	11.9	11.9	11.7	11.5	11.7	11.7	11.5	11.5
29	---	---	---	11.9	11.9	11.9	11.8	11.7	11.7	11.7	11.5	11.5
30	---	---	---	11.9	11.9	11.9	11.7	11.5	11.7	11.7	11.5	11.6
31	---	---	---	11.9	11.9	11.9	---	---	---	11.7	11.5	11.5
MONTH	13.0	12.4	12.7	12.6	11.9	12.2	12.1	11.5	11.8	11.8	11.5	11.6

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

393541083001100 PK-48 NR CIRCLEVILLE OH--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	11.8	11.5	11.6	12.0	12.0	12.0	12.5	12.2	12.2	12.7	12.6	12.6
2	11.7	11.5	11.6	12.0	11.9	12.0	12.2	12.2	12.2	12.7	12.6	12.6
3	11.8	11.5	11.7	12.0	11.9	12.0	12.5	12.2	12.3	12.7	12.6	12.6
4	11.8	11.5	11.7	12.0	12.0	12.0	12.5	12.2	12.4	12.7	12.6	12.7
5	11.8	11.5	11.7	12.0	12.0	12.0	12.4	12.4	12.4	12.7	12.6	12.6
6	11.8	11.5	11.7	12.0	12.0	12.0	12.5	12.4	12.4	12.7	12.6	12.7
7	11.8	11.5	11.7	12.0	11.9	12.0	12.5	12.4	12.4	12.7	12.6	12.6
8	11.8	11.7	11.7	12.0	11.9	12.0	12.4	12.4	12.4	12.7	12.6	12.6
9	11.8	11.7	11.7	12.0	11.9	12.0	12.5	12.4	12.4	12.7	12.6	12.6
10	11.8	11.7	11.8	12.0	11.9	12.0	12.5	12.4	12.4	12.9	12.6	12.6
11	11.8	11.7	11.7	12.0	11.9	12.0	12.5	12.4	12.4	12.9	12.6	12.8
12	11.7	11.7	11.7	12.0	12.0	12.0	12.5	12.4	12.4	12.9	12.6	12.9
13	11.8	11.7	11.7	12.0	12.0	12.0	12.5	12.4	12.4	12.9	12.9	12.9
14	11.8	11.7	11.7	12.0	12.0	12.0	12.5	12.4	12.4	12.9	12.9	12.9
15	11.8	11.7	11.7	12.0	12.0	12.0	12.5	12.4	12.4	12.9	12.8	12.9
16	11.8	11.7	11.7	12.0	12.0	12.0	12.5	12.3	12.4	12.9	12.8	12.9
17	11.8	11.7	11.7	12.0	12.0	12.0	12.5	12.4	12.4	12.9	12.9	12.9
18	11.8	11.7	11.8	12.0	12.0	12.0	12.7	12.4	12.4	12.9	12.8	12.9
19	11.8	11.7	11.8	12.0	11.9	12.0	12.7	12.4	12.4	12.9	12.8	12.9
20	11.8	11.7	11.8	12.0	11.9	12.0	12.7	12.4	12.5	12.9	12.9	12.9
21	11.8	11.7	11.8	12.0	12.0	12.0	12.7	12.5	12.7	12.9	12.9	12.9
22	11.8	11.7	11.8	12.2	12.0	12.0	12.7	12.6	12.7	13.1	12.8	12.9
23	11.8	11.7	11.7	12.2	12.0	12.1	12.7	12.6	12.6	13.1	12.8	12.9
24	11.8	11.7	11.7	12.2	12.0	12.1	12.7	12.6	12.7	13.1	12.8	12.9
25	12.0	11.7	11.8	12.2	12.0	12.2	12.7	12.6	12.7	13.1	12.8	13.0
26	12.0	11.7	11.9	12.2	12.2	12.2	12.7	12.6	12.7	13.1	12.8	13.1
27	12.0	11.7	11.9	12.2	12.2	12.2	12.7	12.6	12.7	13.2	13.1	13.1
28	12.0	11.7	12.0	12.2	12.2	12.2	12.7	12.6	12.7	13.2	12.9	13.1
29	12.0	12.0	12.0	12.2	12.2	12.2	12.7	12.6	12.7	13.2	13.1	13.1
30	12.0	12.0	12.0	12.2	12.2	12.2	12.7	12.6	12.7	13.2	12.9	13.1
31	---	---	---	12.2	12.2	12.2	12.7	12.6	12.7	---	---	---
MONTH	12.0	11.5	11.8	12.2	11.9	12.1	12.7	12.2	12.5	13.2	12.6	12.8
YEAR	13.5	11.5	12.4									

TEMPERATURE, SOIL DEG. C), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	16.5	15.0	15.6	11.5	9.5	10.8	6.4	5.3	5.7	5.0	4.2	4.7
2	16.5	16.1	16.3	10.6	9.8	10.1	5.9	5.2	5.5	4.8	3.4	4.0
3	16.1	15.0	15.4	10.8	9.4	10.0	6.4	5.4	5.8	3.4	2.7	2.9
4	15.1	13.8	14.3	12.2	10.8	11.4	7.4	6.4	6.8	2.7	2.1	2.4
5	14.3	13.7	14.0	13.0	11.9	12.3	9.0	7.4	8.3	2.1	1.7	1.9
6	13.9	12.8	13.3	13.2	12.1	13.0	9.6	8.9	9.2	1.7	1.3	1.5
7	14.2	12.7	13.3	12.7	11.0	11.5	9.8	9.1	9.6	1.5	1.3	1.4
8	15.0	13.8	14.3	11.5	10.3	10.9	9.1	7.5	8.1	1.5	1.4	1.4
9	15.1	14.7	15.0	12.3	11.1	11.7	7.5	6.7	7.2	1.5	1.4	1.4
10	14.7	12.9	13.4	12.0	10.3	11.2	7.3	6.7	6.9	1.4	1.4	1.4
11	13.0	11.8	12.3	10.3	9.0	9.5	6.7	5.8	6.2	1.4	1.0	1.2
12	12.5	11.3	12.0	9.3	8.0	8.6	5.8	5.1	5.4	2.6	1.0	1.6
13	13.1	12.1	12.4	10.4	9.2	9.6	5.1	4.3	4.5	4.4	2.6	3.6
14	14.1	13.0	13.4	11.1	9.8	10.3	4.4	3.9	4.0	5.9	4.3	4.8
15	14.0	13.0	13.5	11.3	11.1	11.2	4.5	3.8	4.0	6.9	5.9	6.5
16	13.8	12.8	13.3	11.1	10.0	10.4	5.5	4.5	4.9	6.0	5.0	5.4
17	13.3	12.0	12.6	10.6	10.1	10.3	6.1	5.5	5.9	5.0	4.6	4.7
18	13.5	12.0	12.6	10.8	10.2	10.4	5.7	5.1	5.3	5.0	4.7	4.8
19	14.2	12.3	13.6	10.5	9.1	9.5	5.4	5.0	5.2	4.9	4.4	4.6
20	14.9	14.0	14.5	9.8	9.2	9.4	5.0	4.1	4.4	5.1	4.5	4.8
21	14.6	13.4	13.8	10.7	9.0	10.1	4.3	3.7	3.9	4.5	3.6	4.1
22	13.6	12.8	13.1	10.5	8.7	9.6	4.1	3.5	3.8	3.6	2.9	3.2
23	13.2	12.4	12.8	8.7	7.3	7.6	4.4	3.8	4.0	2.9	2.5	2.7
24	12.7	11.3	11.8	7.3	6.2	6.7	4.5	4.3	4.4	2.5	2.2	2.4
25	12.0	11.0	11.4	7.5	6.8	7.1	4.4	3.9	4.1	2.2	1.8	2.0
26	11.4	11.0	11.2	7.5	7.2	7.3	4.1	3.9	4.0	1.8	1.6	1.7
27	11.3	10.6	10.9	7.7	6.9	7.3	4.1	3.9	4.1	1.6	1.5	1.5
28	10.8	9.5	10.1	8.6	7.7	8.3	4.5	4.0	4.2	1.5	1.4	1.4
29	10.8	9.5	10.1	8.2	7.5	7.8	4.5	4.2	4.4	1.4	1.3	1.4
30	10.7	9.5	10.1	7.5	6.3	6.7	4.2	3.5	3.9	1.3	1.2	1.3
31	11.0	10.1	10.4	---	---	---	4.2	3.3	3.7	1.2	1.1	1.1
MONTH	16.5	9.5	12.9	13.2	6.2	9.7	9.8	3.3	5.4	6.9	1.0	2.8

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

393541083001100 PK-48 NR CIRCLEVILLE OH--Continued

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.23	.00	.07	.00	.00	.00	.28	.53	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	---	.56	.23	.00	.00	.00
3	.00	.00	.00	.00	.02	.00	.02	.01	.41	.00	.00	.00
4	.00	.00	.58	.00	.03	.00	.07	.04	.00	.22	.16	.00
5	.00	.09	.16	.00	.11	.12	.00	.06	.00	.00	2.15	.00
6	.00	.01	.00	.35	.13	.08	.05	.00	.00	.05	.24	.00
7	.00	.00	.03	.04	.00	.53	.00	.00	.00	.01	.00	.00
8	.00	.00	.01	.02	.01	.25	.53	.00	.26	.00	.02	.00
9	.13	.69	.66	.02	.00	.03	.06	.93	.00	.00	.08	.16
10	.00	.07	.56	.01	.00	.00	.63	.27	.45	.00	.00	.00
11	.00	.01	.00	.50	.00	.00	.00	.01	.24	.00	.09	.00
12	.00	.00	.00	.04	.00	.00	.60	.00	.13	.00	.01	.20
13	.03	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.09
14	.02	.00	.00	.94	.00	.00	.00	1.21	.00	.00	.00	.01
15	.00	.06	.00	1.02	.66	.00	.00	.00	.00	.00	.00	.00
16	.00	.45	.52	.10	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.02	.00	.00	.00	.06	.68	.00	.01	.00	.07
18	.00	.00	.03	.01	.00	.00	.03	1.30	.00	.00	1.02	.00
19	.16	.00	.00	.18	.00	.00	.00	.01	.00	.00	.00	.00
20	.01	.00	.00	.17	.06	.16	.02	.00	.00	.00	.00	.36
21	.00	.01	.00	.01	.01	.00	.85	.00	.16	.62	.00	.00
22	.09	.00	.00	.01	.01	.00	.03	.00	.15	.06	.00	.03
23	.00	.00	.00	.00	.06	.09	.23	.00	.01	.01	.00	.00
24	.04	.00	.00	.00	.00	.00	.05	.42	.00	.00	.00	.00
25	.02	.00	.00	.00	.00	.00	.00	.76	.12	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.02	.72	.00	.00
27	.00	.62	.00	.01	.45	.01	.00	.00	.69	.01	.00	.00
28	.00	.12	.00	.01	.06	.00	.00	.24	.28	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.05	.56	.00	.01	.00
30	.00	.00	.00	.00	---	.00	.05	.00	.06	.00	.00	.00
31	.27	---	.15	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.77	2.36	2.72	3.51	1.61	1.27	3.28	6.88	4.30	1.71	3.78	0.92

WTR YR 1995 TOTAL 33.11

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW
UNCONSOLIDATED AQUIFERS IN OHIO

273

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 shelf 2.32 ft above land-surface datum.

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

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

PERIOD OF DAILY RECORD.--

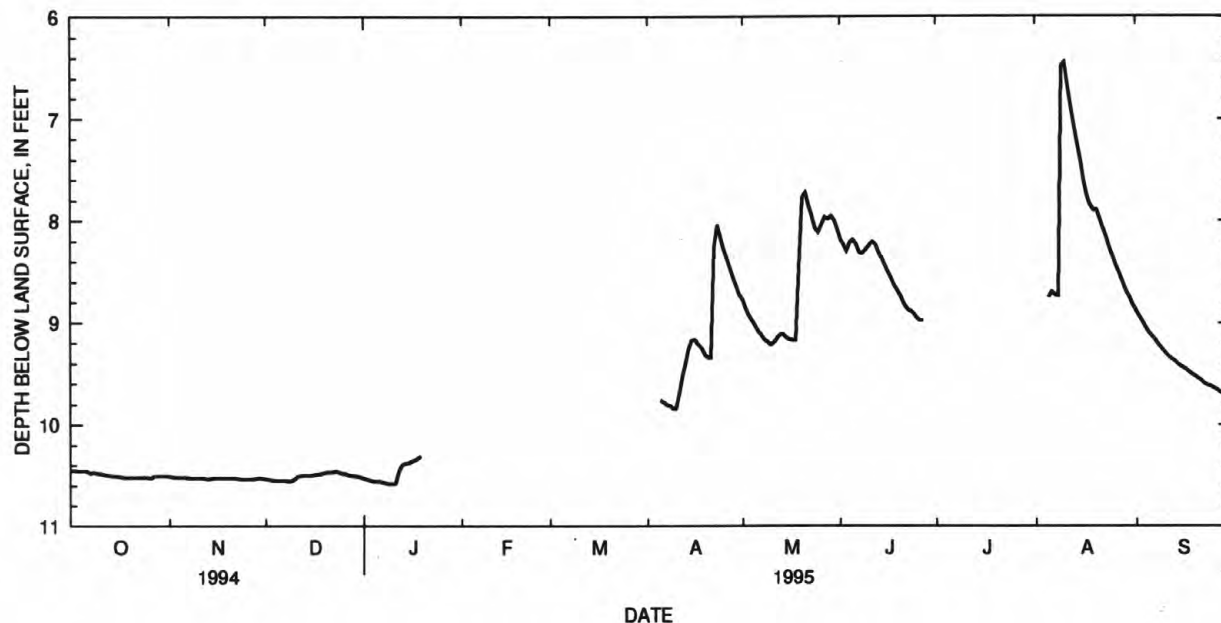
WATER LEVEL: February 1991 to current year.
SPECIFIC CONDUCTANCE: February 1991 to current year.
AIR TEMPERATURE: February 1991 to current year.
WATER TEMPERATURE: February 1991 to current year.
SOIL TEMPERATURE: February 1991 to current year.
PRECIPITATION: February 1991 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER LEVEL: Maximum daily low, 10.62 ft. below land-surface datum, December 19, 1991; maximum daily high, 5.47 ft. below land-surface datum, July 18, 1992.
SPECIFIC CONDUCTANCE: Maximum, 919 microsiemens December 11-12, 1993; minimum, 725 microsiemens July 31, 1991.
AIR TEMPERATURE: Maximum, 37.6°C June 18, 1994; minimum, -33.6°C January 19, 1994.
WATER TEMPERATURE: Maximum, 13.2°C many days October, November 1992; minimum, 10.3°C May 23, 1994.
SOIL TEMPERATURE: Maximum, 30.5°C August 2, 1991; minimum, -1.8°C February 10, 1994.

EXTREMES FOR CURRENT YEAR.--

WATER LEVEL: Maximum daily low, 10.58 ft. below land-surface datum, January 8-11, 1995; maximum daily high, 6.26 ft. below land-surface datum, August 9-10, 1995.
SPECIFIC CONDUCTANCE: Maximum, 823 microsiemens April 5, 1995; minimum, 765 microsiemens January 19, 1995.
AIR TEMPERATURE: Maximum, 37.1°C June 19, 1995; minimum, -19.3°C January 5, 1995.
WATER TEMPERATURE: Maximum, 12.4°C many days in November, December, 1994, January 1995; minimum, 10.6°C May 3, 1995.
SOIL TEMPERATURE: Maximum, 23.9°C August 13, 16-17, 1995; minimum, -0.3°C January 6, 1995.



EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

400949083480100 CH-42 NR URBANA OH-Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET). WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	10.45	10.45	10.51	10.51	10.54	10.53	10.53	10.52	---	---	---	---
2	10.45	10.45	10.52	10.51	10.54	10.54	10.54	10.53	---	---	---	---
3	10.46	10.45	10.52	10.52	10.55	10.54	10.55	10.54	---	---	---	---
4	10.46	10.46	10.52	10.52	10.55	10.55	10.56	10.55	---	---	---	---
5	10.46	10.46	10.52	10.52	10.55	10.55	10.56	10.56	---	---	---	---
6	10.46	10.46	10.52	10.51	10.55	10.55	10.56	10.56	---	---	---	---
7	10.48	10.46	10.53	10.52	10.55	10.55	10.57	10.56	---	---	---	---
8	10.47	10.46	10.53	10.53	10.56	10.55	10.58	10.57	---	---	---	---
9	10.48	10.47	10.53	10.53	10.56	10.54	10.58	10.58	---	---	---	---
10	10.48	10.48	10.53	10.53	10.54	10.51	10.58	10.58	---	---	---	---
11	10.49	10.48	10.53	10.53	10.51	10.51	10.58	10.46	---	---	---	---
12	10.50	10.49	10.53	10.53	10.51	10.50	10.46	10.40	---	---	---	---
13	10.50	10.50	10.54	10.53	10.50	10.50	10.40	10.38	---	---	---	---
14	10.51	10.49	10.53	10.53	10.50	10.50	10.38	10.38	---	---	---	---
15	10.51	10.49	10.53	10.53	10.50	10.50	10.38	10.36	---	---	---	---
16	10.51	10.51	10.53	10.53	10.50	10.49	10.36	10.35	---	---	---	---
17	10.52	10.51	10.53	10.53	10.49	10.49	10.35	10.33	---	---	---	---
18	10.52	10.51	10.53	10.53	10.49	10.48	10.33	10.31	---	---	---	---
19	10.52	10.52	10.53	10.53	10.48	10.47	10.31	10.28	---	---	---	---
20	10.52	10.52	10.53	10.53	10.47	10.46	---	---	---	---	---	---
21	10.52	10.51	10.53	10.53	10.47	10.47	---	---	---	---	---	---
22	10.52	10.52	10.53	10.53	10.47	10.46	---	---	---	---	---	---
23	10.52	10.52	10.54	10.53	10.46	10.46	---	---	---	---	---	---
24	10.52	10.51	10.54	10.54	10.47	10.46	---	---	---	---	---	---
25	10.52	10.52	10.54	10.54	10.48	10.47	---	---	---	---	---	---
26	10.53	10.51	10.54	10.54	10.48	10.48	---	---	---	---	---	---
27	10.51	10.51	10.54	10.53	10.50	10.48	---	---	---	---	---	---
28	10.51	10.51	10.53	10.51	10.50	10.50	---	---	---	---	---	---
29	10.51	10.51	10.53	10.52	10.51	10.50	---	---	---	---	---	---
30	10.51	10.51	10.53	10.53	10.51	10.51	---	---	---	---	---	---
31	10.51	10.51	---	---	10.52	10.51	---	---	---	---	---	---
MONTH	10.53	10.45	10.54	10.51	10.56	10.46	10.58	10.28	---	---	---	---

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

[illegible]

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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400949083480100 CH-42 NR URBANA OH--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	854	787	789	789	787	788	791	787	789	781	781	781
2	789	788	788	790	787	788	791	787	789	783	781	782
3	790	788	789	789	787	788	790	788	788	783	781	782
4	791	786	790	788	788	788	788	788	788	783	780	781
5	790	788	789	789	788	788	788	788	788	783	779	780
6	791	786	789	789	787	788	788	788	788	780	778	779
7	790	786	789	789	787	788	789	787	788	779	776	778
8	790	788	789	789	787	788	790	788	789	779	777	778
9	790	785	789	789	788	788	789	787	788	778	773	776
10	790	785	788	789	788	789	789	788	788	777	775	776
11	790	785	788	790	788	789	789	785	788	775	772	774
12	790	785	788	790	789	789	789	785	787	773	770	771
13	790	785	787	790	788	789	789	785	787	771	769	770
14	790	785	786	789	788	789	790	784	786	770	769	770
15	791	785	787	789	788	789	788	784	787	770	769	770
16	791	785	787	790	788	789	787	786	787	770	769	770
17	791	785	787	790	788	789	787	785	786	770	768	769
18	790	785	786	790	788	789	787	786	786	771	767	768
19	787	786	786	792	788	790	787	784	786	771	765	768
20	787	786	786	790	789	790	787	782	785	---	---	---
21	788	786	787	789	788	788	786	782	785	---	---	---
22	789	786	787	791	789	789	786	782	784	---	---	---
23	787	786	786	791	787	790	786	782	784	---	---	---
24	788	786	787	792	787	789	785	784	784	---	---	---
25	788	787	788	791	788	789	785	783	784	---	---	---
26	789	786	787	792	787	790	784	783	783	---	---	---
27	790	786	788	790	788	790	784	781	783	---	---	---
28	790	786	788	790	788	789	783	781	782	---	---	---
29	788	786	787	791	789	790	782	781	782	---	---	---
30	789	786	787	792	787	790	783	780	782	---	---	---
31	788	787	787	---	---	---	782	781	781	---	---	---
MONTH	854	785	788	792	787	789	791	780	786	783	765	775

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	798	795	796
2	---	---	---	---	---	---	---	---	---	799	794	796
3	---	---	---	---	---	---	---	---	---	799	794	796
4	---	---	---	---	---	---	---	---	---	799	794	795
5	---	---	---	---	---	---	823	815	819	798	793	795
6	---	---	---	---	---	---	821	815	818	798	792	795
7	---	---	---	---	---	---	821	815	818	797	792	794
8	---	---	---	---	---	---	818	816	817	796	791	793
9	---	---	---	---	---	---	818	816	817	795	790	793
10	---	---	---	---	---	---	818	810	814	795	790	794
11	---	---	---	---	---	---	811	808	809	795	790	791
12	---	---	---	---	---	---	809	807	808	794	788	791
13	---	---	---	---	---	---	809	806	808	793	788	791
14	---	---	---	---	---	---	808	804	806	792	787	790
15	---	---	---	---	---	---	808	803	805	792	786	790
16	---	---	---	---	---	---	805	802	804	791	785	789
17	---	---	---	---	---	---	805	801	803	791	785	788
18	---	---	---	---	---	---	802	800	802	789	783	786
19	---	---	---	---	---	---	802	800	801	787	781	784
20	---	---	---	---	---	---	803	801	802	785	780	782
21	---	---	---	---	---	---	802	798	800	785	780	782
22	---	---	---	---	---	---	800	798	799	785	781	782
23	---	---	---	---	---	---	800	798	799	785	781	783
24	---	---	---	---	---	---	802	797	799	785	781	783
25	---	---	---	---	---	---	800	797	799	785	780	781
26	---	---	---	---	---	---	801	796	798	785	779	782
27	---	---	---	---	---	---	802	796	797	784	780	781
28	---	---	---	---	---	---	801	796	797	784	778	781
29	---	---	---	---	---	---	801	796	797	783	778	779
30	---	---	---	---	---	---	798	796	796	782	777	779
31	---	---	---	---	---	---	---	---	---	782	777	779
MONTH	---	---	---	---	---	---	823	796	805	799	777	788

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

400949083480100 CH-42 NR URBANA OH--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	781	777	778	---	---	---	---	---	---	810	808	809
2	781	776	779	---	---	---	---	---	---	810	808	809
3	781	776	778	---	---	---	---	---	---	810	808	809
4	780	776	777	---	---	---	---	---	---	810	807	808
5	781	775	778	---	---	---	812	806	810	810	802	807
6	781	775	778	---	---	---	815	807	811	809	802	806
7	781	775	778	---	---	---	818	811	814	807	802	803
8	781	775	779	---	---	---	821	814	816	802	801	802
9	781	776	778	---	---	---	818	813	815	802	800	801
10	782	776	779	---	---	---	817	812	813	801	799	800
11	782	776	779	---	---	---	818	812	813	801	799	800
12	782	777	779	---	---	---	816	813	815	800	794	798
13	783	777	780	---	---	---	818	815	817	799	797	798
14	783	777	780	---	---	---	819	817	818	799	792	797
15	784	779	781	---	---	---	820	818	819	797	792	794
16	785	779	782	---	---	---	821	818	819	793	791	792
17	786	780	784	---	---	---	819	817	818	792	790	791
18	788	781	784	---	---	---	819	817	818	791	790	791
19	789	782	786	---	---	---	819	816	818	790	788	790
20	790	783	787	---	---	---	818	812	816	789	788	789
21	791	784	787	---	---	---	817	810	815	789	788	788
22	791	784	788	---	---	---	816	809	812	788	787	787
23	792	785	788	---	---	---	816	810	812	789	783	786
24	792	786	790	---	---	---	816	810	812	787	782	785
25	793	786	789	---	---	---	812	809	811	785	779	784
26	793	786	789	---	---	---	812	810	811	785	779	782
27	792	787	789	---	---	---	812	810	811	783	778	781
28	---	---	---	---	---	---	813	810	811	782	776	779
29	---	---	---	---	---	---	812	810	811	781	776	778
30	---	---	---	---	---	---	812	809	810	781	775	777
31	---	---	---	---	---	---	810	809	810	---	---	---
MONTH	793	775	782	---	---	---	821	806	814	810	775	794
YEAR	854	765	791									

TEMPERATURE, AIR, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	29.7	12.5	19.2	14.9	3.0	5.9	7.7	-7.2	-3	6.7	-7.0	1.1
2	22.3	10.0	15.1	15.5	-1.9	6.6	13.0	-2.3	4.7	-5.8	-11.4	-8.6
3	21.9	3.6	12.4	20.3	4.3	13.1	15.9	1.2	8.4	-4.0	-11.5	-7.4
4	19.3	.7	8.7	20.1	14.0	16.5	14.6	8.2	11.8	-9.3	-17.1	-13.2
5	16.4	2.7	9.6	19.8	12.3	15.6	13.3	8.6	11.7	-5.8	-19.3	-12.8
6	21.0	-.8	9.8	16.6	1.6	10.5	11.3	8.6	9.6	.2	-11.3	-3.3
7	26.8	5.0	16.3	13.8	-2.9	5.0	12.6	-.7	6.0	.0	-11.2	-4.2
8	25.4	12.4	18.8	19.1	3.4	11.5	3.5	-2.6	.1	-1.7	-7.6	-3.7
9	20.4	2.3	12.4	15.8	5.2	11.9	6.6	.0	2.0	-1.7	-8.5	-5.5
10	19.7	-2.4	7.0	12.6	-.3	6.1	1.4	-2.2	.2	.1	-7.2	-4.3
11	19.4	-1.8	7.2	11.8	-2.1	4.2	-1.9	-4.9	-3.8	7.5	.1	3.2
12	21.5	1.4	11.2	15.3	-2.7	6.0	-1.5	-9.4	-4.8	16.5	7.5	11.8
13	18.6	5.7	12.9	20.5	1.5	11.0	1.4	-10.0	-4.3	17.0	9.3	13.0
14	24.3	9.2	15.1	19.2	10.3	14.6	3.8	-8.3	-3.2	17.4	9.6	12.7
15	22.9	5.6	14.1	14.4	5.9	9.3	5.8	-4.2	1.0	10.6	.2	4.1
16	27.0	4.5	14.5	12.4	4.8	7.6	8.0	.5	4.8	.2	-1.7	-.9
17	27.2	2.0	12.7	14.8	6.2	9.1	8.0	-.3	3.4	3.8	-2.0	.4
18	23.4	3.7	14.2	17.0	1.9	9.4	2.5	-.3	1.5	5.8	1.3	2.8
19	17.2	14.4	15.7	15.2	-4.0	4.7	5.9	-2.8	.6	9.9	1.3	5.7
20	22.0	4.8	13.6	15.7	5.3	9.7	8.0	-4.8	.4	---	---	---
21	20.8	.7	9.1	14.9	5.0	11.5	13.2	-5.3	2.0	---	---	---
22	21.1	2.0	10.4	5.0	-3.6	.6	13.8	-4.3	2.0	---	---	---
23	20.0	.6	11.2	6.4	-6.5	-.5	9.3	-4.3	1.8	---	---	---
24	15.1	-.2	6.0	9.5	-7.2	1.5	3.0	-2.0	1.8	---	---	---
25	7.1	.6	4.3	11.5	-4.8	4.5	.2	-3.6	-1.8	---	---	---
26	12.9	1.4	6.5	8.1	-5.8	.8	1.7	-2.9	-1.0	---	---	---
27	15.0	-4.3	4.1	15.6	2.4	7.3	5.7	-4.0	-1.3	---	---	---
28	18.6	-3.8	7.1	15.6	3.3	6.6	7.5	-3.3	1.8	---	---	---
29	18.8	3.6	10.5	8.7	-2.6	3.1	4.1	-3.7	.4	---	---	---
30	21.8	1.0	10.2	5.7	-6.3	-.8	9.0	-5.3	.4	---	---	---
31	15.0	4.6	11.1	---	---	---	6.4	.8	4.5	---	---	---
MONTH	29.7	-4.3	11.3	20.5	-7.2	7.4	15.9	-10.0	1.9	17.4	-19.3	-.5

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

400949083480100 CH-42 NR URBANA OH--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	12.0	12.0	12.0	12.2	12.2	12.2	12.4	12.2	12.2	12.2	12.2	12.2
2	12.0	12.0	12.0	12.2	12.2	12.2	12.4	12.2	12.2	12.2	12.1	12.2
3	12.0	12.0	12.0	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.1	12.2
4	12.2	12.0	12.0	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.1	12.2
5	12.0	12.0	12.0	12.2	12.2	12.2	12.2	12.2	12.2	12.4	12.1	12.2
6	12.2	12.0	12.0	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.1	12.2
7	12.2	12.0	12.0	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2
8	12.0	12.0	12.0	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2
9	12.2	12.0	12.0	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2
10	12.2	12.0	12.1	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2
11	12.2	12.0	12.1	12.2	12.2	12.2	12.4	12.2	12.2	12.2	12.2	12.2
12	12.2	12.0	12.1	12.2	12.2	12.2	12.4	12.2	12.2	12.2	12.2	12.2
13	12.2	12.0	12.1	12.2	12.2	12.2	12.4	12.2	12.3	12.2	12.2	12.2
14	12.2	12.0	12.2	12.2	12.2	12.2	12.4	12.2	12.3	12.2	12.2	12.2
15	12.2	12.0	12.2	12.2	12.2	12.2	12.4	12.2	12.2	12.2	12.2	12.2
16	12.3	12.0	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2
17	12.3	12.0	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2
18	12.3	12.0	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.0	12.2
19	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.0	12.1
20	12.3	12.2	12.2	12.2	12.2	12.2	12.4	12.2	12.2	---	---	---
21	12.3	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	---	---	---
22	12.3	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	---	---	---
23	12.3	12.2	12.2	12.4	12.2	12.2	12.2	12.2	12.2	---	---	---
24	12.2	12.2	12.2	12.4	12.2	12.2	12.2	12.2	12.2	---	---	---
25	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	---	---	---
26	12.2	12.2	12.2	12.4	12.2	12.2	12.2	12.2	12.2	---	---	---
27	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	---	---	---
28	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	---	---	---
29	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	---	---	---
30	12.3	12.2	12.2	12.4	12.2	12.2	12.2	12.2	12.2	---	---	---
31	12.2	12.2	12.2	---	---	---	12.2	12.2	12.2	---	---	---
MONTH	12.3	12.0	12.1	12.4	12.2	12.2	12.4	12.2	12.2	12.4	12.0	12.2

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	---	---	---	10.9	10.9	10.9
2	---	---	---	---	---	---	---	---	---	10.9	10.7	10.9
3	---	---	---	---	---	---	---	---	---	10.9	10.6	10.8
4	---	---	---	---	---	---	---	---	---	10.9	10.7	10.9
5	---	---	---	---	---	---	11.1	10.8	11.0	10.9	10.7	10.8
6	---	---	---	---	---	---	11.1	10.9	10.9	10.9	10.7	10.8
7	---	---	---	---	---	---	11.1	10.9	10.9	10.9	10.7	10.8
8	---	---	---	---	---	---	10.9	10.9	10.9	10.9	10.7	10.8
9	---	---	---	---	---	---	10.9	10.9	10.9	10.9	10.7	10.8
10	---	---	---	---	---	---	11.1	10.9	10.9	10.9	10.7	10.8
11	---	---	---	---	---	---	10.9	10.9	10.9	10.9	10.7	10.8
12	---	---	---	---	---	---	10.9	10.9	10.9	10.9	10.7	10.8
13	---	---	---	---	---	---	10.9	10.9	10.9	10.9	10.7	10.8
14	---	---	---	---	---	---	10.9	10.9	10.9	10.9	10.7	10.8
15	---	---	---	---	---	---	10.9	10.9	10.9	10.9	10.7	10.8
16	---	---	---	---	---	---	10.9	10.9	10.9	10.9	10.7	10.8
17	---	---	---	---	---	---	10.9	10.9	10.9	10.9	10.7	10.8
18	---	---	---	---	---	---	10.9	10.9	10.9	10.9	10.7	10.8
19	---	---	---	---	---	---	10.9	10.9	10.9	11.0	10.7	10.8
20	---	---	---	---	---	---	10.9	10.9	10.9	10.9	10.7	10.8
21	---	---	---	---	---	---	10.9	10.9	10.9	10.9	10.7	10.8
22	---	---	---	---	---	---	10.9	10.9	10.9	10.9	10.7	10.9
23	---	---	---	---	---	---	10.9	10.9	10.9	10.9	10.7	10.8
24	---	---	---	---	---	---	10.9	10.7	10.9	10.9	10.7	10.8
25	---	---	---	---	---	---	10.9	10.9	10.9	10.9	10.7	10.9
26	---	---	---	---	---	---	10.9	10.7	10.9	10.9	10.7	10.8
27	---	---	---	---	---	---	10.9	10.7	10.9	10.9	10.7	10.9
28	---	---	---	---	---	---	10.9	10.7	10.9	10.9	10.7	10.8
29	---	---	---	---	---	---	10.9	10.7	10.9	10.9	10.7	10.9
30	---	---	---	---	---	---	10.9	10.9	10.9	10.9	10.7	10.8
31	---	---	---	---	---	---	---	---	---	10.9	10.7	10.8
MONTH	---	---	---	---	---	---	11.1	10.7	10.9	11.0	10.6	10.8

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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400949083480100 CH-42 NR URBANA OH--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	10.9	10.7	10.8	---	---	---	---	---	---	11.6	11.5	11.6
2	10.9	10.7	10.8	---	---	---	---	---	---	11.6	11.5	11.6
3	10.9	10.7	10.8	---	---	---	---	---	---	11.6	11.5	11.6
4	10.9	10.7	10.9	---	---	---	---	---	---	11.6	11.5	11.6
5	10.9	10.7	10.8	---	---	---	11.4	11.1	11.2	11.8	11.5	11.6
6	10.9	10.7	10.8	---	---	---	11.4	11.1	11.3	11.8	11.5	11.6
7	10.9	10.7	10.8	---	---	---	11.4	11.1	11.3	11.8	11.6	11.7
8	10.9	10.7	10.8	---	---	---	11.4	11.3	11.4	11.8	11.8	11.8
9	10.9	10.7	10.8	---	---	---	11.4	11.1	11.3	11.8	11.8	11.8
10	10.9	10.7	10.8	---	---	---	11.4	11.2	11.4	11.8	11.7	11.8
11	10.9	10.7	10.8	---	---	---	11.4	11.2	11.4	11.8	11.7	11.8
12	10.9	10.7	10.9	---	---	---	11.4	11.4	11.4	12.0	11.8	11.8
13	10.9	10.7	10.8	---	---	---	11.4	11.4	11.4	11.8	11.8	11.8
14	11.0	10.7	10.8	---	---	---	11.4	11.3	11.4	12.0	11.8	11.8
15	11.0	10.7	10.8	---	---	---	11.4	11.4	11.4	12.0	11.8	11.9
16	10.9	10.7	10.8	---	---	---	11.4	11.3	11.4	12.0	12.0	12.0
17	10.9	10.7	10.8	---	---	---	11.4	11.4	11.4	12.0	12.0	12.0
18	10.9	10.7	10.8	---	---	---	11.4	11.4	11.4	12.0	12.0	12.0
19	10.9	10.7	10.8	---	---	---	11.4	11.3	11.4	12.0	12.0	12.0
20	11.0	10.7	10.8	---	---	---	11.6	11.3	11.4	12.0	12.0	12.0
21	10.9	10.7	10.8	---	---	---	11.6	11.3	11.4	12.0	12.0	12.0
22	10.9	10.7	10.8	---	---	---	11.6	11.4	11.5	12.0	12.0	12.0
23	10.9	10.7	10.8	---	---	---	11.6	11.4	11.5	12.2	12.0	12.0
24	10.9	10.7	10.8	---	---	---	11.6	11.4	11.6	12.2	12.0	12.0
25	11.0	10.7	10.8	---	---	---	11.6	11.5	11.6	12.2	12.0	12.0
26	10.9	10.7	10.8	---	---	---	11.6	11.5	11.6	12.2	12.0	12.1
27	10.9	10.7	10.8	---	---	---	11.6	11.5	11.6	12.2	12.0	12.1
28	---	---	---	---	---	---	11.6	11.6	11.6	12.2	12.0	12.1
29	---	---	---	---	---	---	11.6	11.6	11.6	12.3	12.0	12.2
30	---	---	---	---	---	---	11.6	11.6	11.6	12.3	12.0	12.2
31	---	---	---	---	---	---	11.6	11.6	11.6	---	---	---
MONTH	11.0	10.7	10.8	---	---	---	11.6	11.1	11.4	12.3	11.5	11.9
YEAR	12.4	10.6	11.6									

TEMPERATURE, SOIL DEG. C), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	17.7	14.9	16.1	12.1	9.9	10.9	4.8	3.7	4.2	4.5	3.1	4.1
2	17.6	15.9	16.8	10.0	8.6	9.4	5.0	3.8	4.4	3.1	1.5	2.1
3	16.5	14.6	15.7	11.4	9.0	10.0	6.7	4.5	5.4	1.5	1.0	1.2
4	15.6	13.2	14.4	12.6	11.4	12.0	8.3	6.6	7.3	1.0	.3	.7
5	14.7	13.5	14.0	13.4	12.3	12.8	9.2	8.2	8.7	.5	-.1	.2
6	14.5	11.8	13.2	13.5	11.7	12.8	9.3	9.1	9.2	.0	-.3	-.1
7	15.9	12.9	14.2	11.7	9.4	10.3	9.6	8.4	9.2	.2	-.1	.0
8	16.9	14.9	15.8	11.3	9.2	10.2	8.4	6.5	7.3	.3	.1	.2
9	16.7	15.0	16.0	11.9	11.0	11.6	6.5	5.9	6.1	.4	.1	.3
10	15.0	12.2	13.4	11.4	9.8	10.5	6.1	5.2	5.7	.4	.1	.3
11	13.4	10.8	12.2	9.8	8.1	8.8	5.3	4.2	4.7	.4	.2	.3
12	13.5	10.9	12.2	9.0	7.4	8.2	4.3	3.3	3.7	.5	.2	.3
13	14.1	12.0	13.0	10.1	8.1	9.0	3.4	2.7	2.9	4.3	.5	2.5
14	15.4	13.6	14.2	11.6	9.8	10.5	2.8	2.3	2.5	6.3	4.1	5.1
15	15.0	12.9	14.0	11.6	11.0	11.4	3.3	2.1	2.6	6.2	5.0	5.8
16	15.1	12.9	14.1	11.0	10.2	10.6	4.8	3.2	3.7	5.1	3.9	4.4
17	14.7	12.2	13.5	10.7	9.9	10.3	5.1	4.3	4.8	3.9	3.1	3.4
18	14.8	12.5	13.6	10.8	9.6	10.2	4.4	4.1	4.2	4.1	3.4	3.7
19	15.1	14.5	14.8	9.9	8.0	8.8	4.3	3.9	4.1	4.7	3.6	4.0
20	15.5	14.3	14.9	9.4	8.6	9.0	3.9	3.0	3.6	---	---	---
21	14.4	12.1	13.2	9.9	9.1	9.5	3.9	2.7	3.3	---	---	---
22	13.7	11.7	12.7	9.3	7.0	8.1	3.8	2.8	3.3	---	---	---
23	13.7	11.9	12.7	7.0	5.4	6.0	4.0	3.0	3.4	---	---	---
24	12.8	10.8	11.6	5.6	4.3	5.0	4.1	3.7	3.9	---	---	---
25	11.5	10.1	10.6	6.7	5.4	5.9	3.9	3.1	3.4	---	---	---
26	11.0	9.8	10.3	5.8	4.6	5.2	3.7	3.2	3.3	---	---	---
27	10.6	8.6	9.7	7.2	5.0	5.7	3.4	2.9	3.1	---	---	---
28	10.2	8.1	9.2	8.1	6.2	7.2	3.7	2.6	3.1	---	---	---
29	11.2	9.3	10.2	6.2	5.3	5.7	3.7	3.1	3.5	---	---	---
30	11.8	9.5	10.7	5.3	4.3	4.8	3.1	2.3	2.8	---	---	---
31	11.8	10.7	11.2	---	---	---	4.0	2.8	3.3	---	---	---
MONTH	17.7	8.1	13.2	13.5	4.3	9.0	9.6	2.1	4.5	6.3	-.3	2.0

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RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY SUM VALUES

[illegible]

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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 shelf 3.31 ft above land-surface datum.

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

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

PERIOD OF DAILY RECORD.--

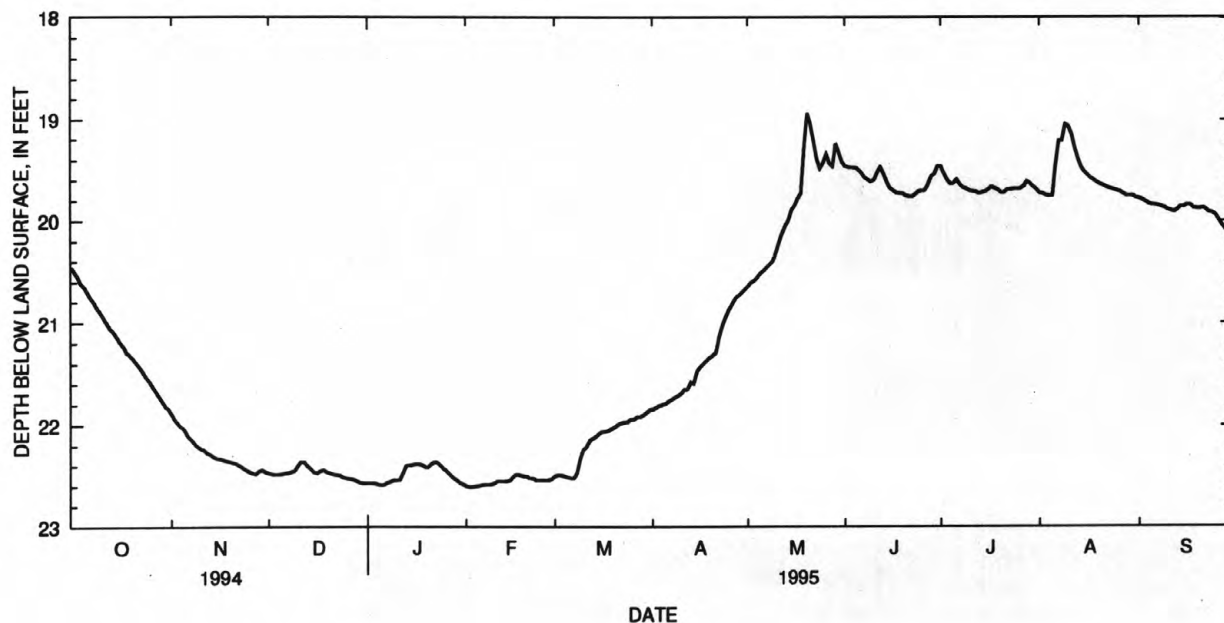
WATER LEVEL: February 1991 to current year.
SPECIFIC CONDUCTANCE: July 1992 to current year.
AIR TEMPERATURE: February 1991 to current year.
WATER TEMPERATURE: July 1992 to current year.
SOIL TEMPERATURE: February 1991 to current year.
PRECIPITATION: February 1991 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER LEVEL: Maximum daily low, 22.61 ft. below land-surface datum, February 2,3, 1995; maximum daily high, 18.61 ft. below land-surface datum, July 20-21, 1993.
WATER TEMPERATURE: Maximum, 13.9°C many days in November, December, 1993; minimum, 2.2°C August 29-September 4, 1995.
AIR TEMPERATURE: Maximum, 37.5°C July 22, 1991; minimum, -30.7°C January 21, 1994.
SOIL TEMPERATURE: Maximum, 39.5°C July 22 and August 2, 1991; minimum, -2.7°C Dec. 27, 1992.
SPECIFIC CONDUCTANCE: Maximum, 922 microsiemens, March 18, 1993; minimum 733 microsiemens, May 19-20, July 14-16, 1995.

EXTREMES FOR CURRENT YEAR.--

WATER LEVEL: Maximum daily low, 22.61 ft. below land-surface datum, February 2,3, 1995; maximum daily high, 18.86 ft. below land-surface datum, May 20, 1995.
SPECIFIC CONDUCTANCE: Maximum, 859 microsiemens, August 29-30, 1995; minimum 733 microsiemens, May 19-20, July 14-16, 1995.
AIR TEMPERATURE: Maximum, 36.5°C July 14, 1995; minimum, -20.1°C February 12, 1995.
WATER TEMPERATURE: Maximum, 11.1°C October 1-5, 1994, several days in November, 1994; minimum, 2.2°C August 29-September 4, 1995.
SOIL TEMPERATURE: Maximum, 28.1°C July 14, 1995; minimum, -0.4°C January 6, 1995.



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DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	21.85	21.83	20.65	20.61	19.46	19.42	19.46	19.37	19.73	19.69	19.78	19.76
2	21.83	21.81	20.61	20.59	19.47	19.45	19.53	19.46	19.73	19.72	19.79	19.78
3	21.81	21.80	20.59	20.56	19.47	19.46	19.59	19.53	19.75	19.73	19.81	19.79
4	21.80	21.79	20.56	20.52	19.47	19.47	19.63	19.59	19.75	19.75	19.83	19.79
5	21.79	21.77	20.52	20.49	19.49	19.47	19.63	19.59	19.75	19.45	19.84	19.83
6	21.77	21.75	20.49	20.46	19.52	19.49	19.59	19.56	19.45	19.21	19.84	19.83
7	21.75	21.73	20.46	20.43	19.57	19.52	19.64	19.57	19.21	19.17	19.85	19.84
8	21.73	21.71	20.43	20.40	19.59	19.57	19.67	19.64	19.21	19.04	19.86	19.85
9	21.71	21.69	20.40	20.31	19.61	19.59	19.68	19.67	19.05	19.04	19.87	19.85
10	21.69	21.65	20.31	20.21	19.60	19.53	19.70	19.68	19.07	19.04	19.89	19.87
11	21.65	21.65	20.21	20.12	19.53	19.47	19.71	19.70	19.15	19.07	19.90	19.89
12	21.65	21.58	20.12	20.05	19.47	19.45	19.71	19.71	19.28	19.15	19.91	19.89
13	21.58	21.58	20.05	19.99	19.53	19.45	19.73	19.71	19.39	19.28	19.89	19.85
14	21.59	21.47	19.99	19.89	19.61	19.53	19.72	19.70	19.47	19.39	19.86	19.84
15	21.47	21.43	19.89	19.85	19.67	19.61	19.71	19.69	19.52	19.47	19.86	19.84
16	21.43	21.40	19.85	19.78	19.70	19.67	19.69	19.66	19.55	19.52	19.84	19.82
17	21.40	21.37	19.78	19.73	19.72	19.70	19.66	19.65	19.58	19.55	19.84	19.82
18	21.37	21.33	19.73	19.30	19.73	19.72	19.68	19.65	19.60	19.58	19.87	19.84
19	21.34	21.32	19.30	18.94	19.73	19.73	19.69	19.68	19.62	19.60	19.88	19.86
20	21.32	21.29	18.94	18.86	19.75	19.73	19.72	19.69	19.64	19.62	19.88	19.87
21	21.29	21.14	19.04	18.88	19.76	19.75	19.72	19.68	19.65	19.64	19.87	19.85
22	21.14	21.03	19.21	19.04	19.76	19.73	19.69	19.68	19.67	19.65	19.89	19.85
23	21.03	20.95	19.38	19.21	19.74	19.71	19.69	19.68	19.68	19.67	19.92	19.89
24	20.95	20.88	19.48	19.38	19.71	19.69	19.68	19.66	19.69	19.67	19.92	19.92
25	20.88	20.83	19.43	19.34	19.70	19.69	19.68	19.67	19.70	19.69	19.95	19.92
26	20.83	20.77	19.34	19.30	19.70	19.64	19.68	19.66	19.71	19.69	20.00	19.95
27	20.77	20.74	19.43	19.32	19.64	19.56	19.66	19.61	19.73	19.71	20.05	20.00
28	20.74	20.71	19.46	19.17	19.56	19.53	19.61	19.58	19.75	19.73	20.09	20.05
29	20.71	20.68	19.24	19.17	19.54	19.46	19.63	19.60	19.75	19.74	20.13	20.09
30	20.68	20.65	19.33	19.24	19.46	19.37	19.66	19.63	19.75	19.75	20.16	20.13
31	---	---	19.42	19.33	---	---	19.69	19.66	19.77	19.74	---	---
MONTH	21.85	20.65	20.65	18.86	19.76	19.37	19.73	19.37	19.77	19.04	20.16	19.76
YEAR	22.61	18.86										

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

395859083440700 CL-138 NR SPRINGFIELD OH--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	772	767	770	762	761	761	---	---	---	753	749	750
2	773	767	771	763	758	762	---	---	---	756	753	754
3	773	767	770	762	757	760	---	---	---	760	756	757
4	774	768	773	761	756	760	---	---	---	765	760	762
5	774	769	772	760	759	759	---	---	---	770	763	767
6	772	771	771	760	755	759	---	---	---	772	769	770
7	774	769	772	761	760	760	---	---	---	775	768	772
8	775	769	771	761	759	760	---	747	---	778	775	776
9	773	769	770	760	759	759	748	747	748	779	777	778
10	774	769	772	760	755	759	748	746	747	779	778	779
11	774	768	771	760	758	759	747	746	747	782	778	779
12	773	769	771	759	755	758	747	745	746	782	778	779
13	772	771	771	759	755	758	747	745	746	779	777	778
14	772	769	770	758	757	757	746	744	745	781	776	777
15	771	769	770	758	757	757	749	744	745	780	776	778
16	771	768	770	758	757	757	744	743	744	780	775	778
17	771	768	770	758	755	757	744	742	743	778	774	777
18	770	768	769	757	756	757	747	742	743	776	773	774
19	769	768	769	757	755	756	747	743	746	773	770	771
20	769	767	768	757	754	756	747	742	745	770	767	769
21	769	767	768	755	753	754	746	742	745	767	762	766
22	768	767	768	756	754	755	746	744	745	766	760	763
23	768	766	767	757	754	755	745	744	745	763	760	762
24	767	763	766	756	752	755	745	744	745	760	759	760
25	767	763	766	---	752	---	746	745	745	760	757	758
26	768	767	767	---	---	---	747	745	746	760	756	758
27	768	763	767	---	---	---	746	746	746	760	756	757
28	768	763	767	---	---	---	747	745	746	758	756	757
29	767	762	764	---	---	---	748	747	747	757	754	755
30	765	761	762	---	---	---	749	747	748	755	753	754
31	762	761	762	---	---	---	750	749	749	754	751	752
MONTH	775	761	769	763	752	758	750	742	746	782	749	767

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	752	750	752	782	779	780	795	792	794	765	762	764
2	752	750	751	783	780	782	797	792	794	763	760	761
3	752	749	750	783	781	782	798	796	797	763	756	759
4	752	748	749	790	780	785	800	795	797	760	755	757
5	751	747	749	795	790	793	799	795	796	760	755	757
6	750	747	749	794	792	793	800	796	798	758	754	756
7	752	746	750	795	793	794	799	796	797	757	751	754
8	755	748	752	802	794	799	799	798	799	755	752	753
9	752	747	749	804	798	802	801	798	799	753	751	752
10	748	746	747	809	800	803	802	797	800	754	749	751
11	751	744	748	805	801	803	803	799	801	754	750	751
12	750	745	748	805	795	800	804	798	802	753	749	751
13	753	748	750	795	790	792	802	797	798	754	750	752
14	753	746	749	792	787	791	797	789	794	753	749	751
15	757	751	753	791	786	789	792	786	789	751	750	750
16	758	751	754	790	785	788	788	786	787	751	749	750
17	758	753	755	789	784	787	787	785	786	751	747	749
18	760	754	757	788	783	786	787	784	786	751	740	745
19	764	756	762	787	784	786	785	781	783	740	733	737
20	765	764	765	801	783	788	784	783	783	740	733	737
21	767	763	764	803	793	800	783	780	781	742	739	740
22	770	764	767	795	788	792	780	779	780	747	742	745
23	770	769	769	805	792	799	780	776	780	751	747	748
24	772	768	769	805	794	798	779	776	777	754	750	752
25	773	768	769	824	797	805	778	773	777	752	750	751
26	774	769	772	800	797	799	774	770	772	758	752	755
27	775	770	773	800	798	799	772	771	771	770	757	764
28	779	775	776	798	794	796	771	767	769	774	770	772
29	---	---	---	796	794	795	770	765	766	778	769	774
30	---	---	---	796	793	794	768	763	766	788	778	782
31	---	---	---	794	791	793	---	---	---	791	787	789
MONTH	779	744	757	824	779	793	804	763	787	791	733	755

**EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW
UNCONSOLIDATED AQUIFERS IN OHIO**

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395859083440700 CL-138 NR SPRINGFIELD OH--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	790	782	787	749	743	746	765	761	763	857	851	855
2	785	776	779	751	747	750	767	763	765	854	850	852
3	777	772	774	751	746	747	770	767	768	854	849	851
4	779	771	775	747	742	744	774	769	770	853	847	850
5	775	771	773	743	739	740	774	770	773	848	844	846
6	777	772	774	739	734	738	778	765	771	846	843	845
7	783	774	780	739	735	738	785	778	780	844	838	841
8	785	777	782	740	735	738	788	782	787	839	837	838
9	787	780	783	738	736	737	789	785	787	837	832	834
10	781	780	781	742	736	739	789	786	788	832	825	828
11	781	780	781	740	735	739	788	785	786	827	821	824
12	781	780	780	739	736	737	794	787	791	822	819	821
13	784	779	782	738	734	736	803	793	797	819	813	817
14	788	781	785	738	733	734	807	802	804	814	809	812
15	786	780	783	738	733	736	812	805	809	809	807	808
16	785	779	782	737	733	736	815	812	813	808	802	806
17	783	779	782	738	734	736	821	814	817	807	802	805
18	783	779	780	739	735	737	827	821	824	802	800	801
19	781	777	778	741	737	739	830	827	828	802	797	800
20	777	772	775	752	739	743	834	829	831	806	802	805
21	775	769	771	746	742	744	837	832	834	805	803	804
22	771	764	767	745	743	744	841	836	838	804	797	800
23	766	761	763	748	744	745	844	838	841	800	795	798
24	762	758	760	749	744	747	851	843	847	799	795	797
25	761	756	759	751	747	749	852	850	851	795	794	795
26	759	754	756	754	748	751	856	851	853	796	790	794
27	755	750	752	754	751	752	856	852	854	790	776	783
28	754	750	752	756	752	753	858	853	856	782	773	777
29	754	749	752	759	755	756	859	854	857	782	777	780
30	750	743	747	762	758	759	859	855	857	782	776	779
31	---	---	---	763	759	760	858	854	856	---	---	---
MONTH	790	743	772	763	733	744	859	761	813	857	773	815
YEAR	859	733	774									

TEMPERATURE, AIR, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	29.7	12.6	19.9	14.9	3.4	6.2	7.1	-5.7	.9	7.1	-6.3	1.8
2	21.4	10.7	15.4	14.3	-.8	7.2	14.1	1.3	6.2	-4.9	-10.5	-7.8
3	19.6	6.2	12.3	18.8	7.2	13.9	15.6	-.4	8.4	-2.9	-11.2	-6.7
4	17.1	2.9	9.2	20.1	13.9	17.4	14.4	8.2	11.7	-8.6	-16.3	-12.6
5	15.2	4.3	9.7	20.8	12.8	16.5	13.4	9.7	12.2	-5.3	-17.6	-11.9
6	20.5	1.3	10.7	17.5	3.0	11.2	12.0	9.2	10.4	.4	-9.7	-2.8
7	26.3	9.2	17.2	13.8	-1.1	6.5	12.6	-.2	6.6	.3	-9.7	-3.7
8	24.9	13.7	18.8	20.4	8.3	13.6	3.5	-1.2	1.0	-1.3	-6.8	-3.2
9	20.1	5.6	13.1	16.4	6.1	12.9	7.7	.3	2.5	-1.3	-8.5	-5.0
10	15.1	.9	7.6	12.8	1.6	6.9	2.3	-2.0	.7	.6	-6.7	-3.7
11	18.1	1.1	8.6	12.7	.3	5.4	-1.9	-5.4	-3.7	7.0	.6	3.6
12	21.3	3.7	12.2	16.8	1.0	8.1	-.8	-7.6	-3.7	17.7	6.7	11.8
13	17.7	10.6	14.0	21.3	3.4	12.4	1.6	-8.5	-3.6	17.4	9.3	12.4
14	23.1	10.2	15.4	20.5	11.3	15.5	2.5	-6.4	-2.7	15.8	10.5	12.6
15	22.4	8.2	14.7	14.8	6.0	9.9	6.3	-3.4	2.0	11.2	.7	4.8
16	25.2	7.7	15.0	11.4	5.4	7.3	8.5	1.8	5.7	.7	-1.3	-.5
17	26.4	4.8	13.7	15.4	6.5	9.6	8.5	.9	4.2	4.4	-1.6	.8
18	24.2	7.0	15.5	18.2	1.6	9.9	3.2	.6	2.0	5.6	1.3	3.1
19	17.1	14.5	15.8	13.3	-1.5	5.7	3.3	-1.7	1.0	9.8	1.3	6.1
20	21.3	6.8	15.1	16.5	6.4	11.0	8.1	-3.7	.9	6.8	-2.1	.4
21	19.9	3.3	10.4	15.5	5.8	12.0	12.4	-3.8	2.0	-2.1	-6.5	-4.3
22	19.9	7.2	12.2	5.8	-3.1	1.1	13.0	-2.7	2.4	-4.6	-7.3	-6.0
23	20.0	2.7	11.9	5.7	-4.8	-.2	8.4	-2.8	2.7	-3.9	-7.3	-6.3
24	16.4	1.3	7.5	9.4	-4.8	2.7	3.3	-1.0	2.2	-3.3	-15.2	-7.6
25	8.1	1.4	5.1	10.9	-3.7	5.0	.6	-4.5	-1.2	-2.3	-16.5	-10.9
26	11.7	3.8	6.6	8.2	-3.5	1.6	3.2	-2.5	-.5	-.3	-16.5	-8.7
27	13.9	-1.6	5.6	15.1	2.9	7.5	4.1	-3.5	-1.1	-1.1	-15.9	-7.0
28	17.6	-1.2	8.8	15.8	5.0	7.7	8.7	-1.7	2.7	-.6	-7.2	-2.9
29	18.9	5.1	11.4	10.1	.1	4.3	4.4	-2.5	1.1	-1.1	-9.4	-5.7
30	20.6	1.9	10.3	5.2	-5.1	-.6	8.8	-4.7	.6	-2.7	-12.5	-7.2
31	14.9	5.0	11.5	---	---	---	6.7	.5	4.8	.1	-9.1	-3.7
MONTH	29.7	-1.6	12.1	21.3	-5.1	8.3	15.6	-8.5	2.5	17.7	-17.6	-2.3

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

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395859083440700 CL-138 NR SPRINGFIELD OH-Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	11.1	10.9	11.0	10.9	10.9	10.9	---	---	---	10.4	10.4	10.4
2	11.1	10.9	11.0	11.1	10.9	10.9	---	---	---	10.4	10.4	10.4
3	11.1	10.9	11.0	11.1	10.9	10.9	---	---	---	10.4	10.4	10.4
4	11.1	10.9	10.9	11.1	10.9	10.9	---	---	---	10.4	10.2	10.3
5	11.1	10.9	10.9	10.9	10.9	10.9	---	---	---	10.4	10.2	10.3
6	10.9	10.9	10.9	11.1	10.9	10.9	---	---	---	10.2	10.2	10.2
7	11.0	10.7	10.8	10.9	10.9	10.9	---	---	---	10.4	10.2	10.3
8	10.9	10.7	10.9	10.9	10.9	10.9	10.7	---	---	10.2	10.2	10.2
9	10.9	10.7	10.8	10.9	10.9	10.9	10.6	10.6	10.6	10.2	10.2	10.2
10	10.9	10.6	10.8	11.1	10.9	10.9	10.6	10.6	10.6	10.2	10.2	10.2
11	10.9	10.6	10.8	10.9	10.9	10.9	10.6	10.6	10.6	10.2	10.0	10.2
12	10.9	10.6	10.7	11.1	10.9	10.9	10.6	10.6	10.6	10.0	10.0	10.0
13	10.7	10.7	10.7	11.1	10.9	10.9	10.7	10.6	10.6	10.1	10.0	10.0
14	10.7	10.7	10.7	10.9	10.9	10.9	10.7	10.6	10.6	10.0	9.8	10.0
15	10.7	10.7	10.7	10.9	10.9	10.9	10.7	10.5	10.6	10.0	9.8	9.9
16	10.7	10.7	10.7	10.9	10.9	10.9	10.7	10.6	10.7	10.0	9.8	9.9
17	10.7	10.6	10.7	10.9	10.9	10.9	10.7	10.6	10.6	10.0	9.8	9.8
18	10.7	10.7	10.7	10.9	10.9	10.9	10.6	10.4	10.6	9.8	9.8	9.8
19	10.7	10.7	10.7	10.9	10.8	10.9	10.6	10.4	10.5	9.8	9.8	9.8
20	10.7	10.7	10.7	10.9	10.9	10.9	10.6	10.4	10.5	9.8	9.8	9.8
21	10.7	10.6	10.7	10.9	10.9	10.9	10.6	10.4	10.5	10.0	9.8	9.8
22	10.7	10.7	10.7	10.9	10.8	10.9	10.5	10.4	10.4	10.0	9.8	9.8
23	10.7	10.6	10.7	10.9	10.7	10.8	10.5	10.4	10.4	9.8	9.8	9.8
24	10.9	10.6	10.7	10.9	10.6	10.8	10.4	10.4	10.4	9.8	9.8	9.8
25	10.9	10.6	10.7	10.9	---	10.4	10.4	10.4	10.4	9.8	9.7	9.8
26	10.7	10.6	10.7	---	---	---	10.5	10.4	10.4	9.8	9.6	9.7
27	10.9	10.6	10.7	---	---	---	10.5	10.4	10.4	9.8	9.6	9.7
28	10.9	10.6	10.7	---	---	---	10.5	10.4	10.4	9.6	9.6	9.6
29	10.9	10.7	10.8	---	---	---	10.5	10.4	10.4	9.6	9.6	9.6
30	10.9	10.7	10.9	---	---	---	10.5	10.4	10.4	9.6	9.6	9.6
31	10.9	10.9	10.9	---	---	---	10.4	10.4	10.4	9.6	9.6	9.6
MONTH	11.1	10.6	10.8	11.1	10.6	10.9	10.7	10.4	10.5	10.4	9.6	10.0

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	9.6	9.6	9.6	8.8	8.8	8.8	7.3	7.3	7.3	7.9	7.8	7.9
2	9.6	9.6	9.6	8.8	8.8	8.8	---	---	---	7.9	7.7	7.9
3	9.6	9.6	9.6	8.8	8.8	8.8	7.4	7.3	7.3	7.9	7.7	7.7
4	9.6	9.4	9.6	8.8	8.4	8.6	7.3	7.1	7.3	7.9	7.7	7.8
5	9.6	9.4	9.5	8.4	8.2	8.3	7.3	7.1	7.3	7.9	7.7	7.7
6	9.5	9.4	9.5	8.2	8.2	8.2	7.3	7.1	7.2	7.7	7.7	7.7
7	9.5	9.2	9.3	8.3	8.2	8.3	7.2	7.1	7.1	7.9	7.7	7.7
8	9.4	9.0	9.1	8.2	7.9	8.0	7.2	7.1	7.1	7.7	7.7	7.7
9	9.2	9.0	9.1	8.0	7.8	7.9	7.1	7.1	7.1	7.7	7.7	7.7
10	9.2	9.2	9.2	8.0	7.7	7.8	7.1	7.1	7.1	7.7	7.6	7.7
11	9.4	9.2	9.2	7.9	7.7	7.8	7.2	7.0	7.1	7.7	7.5	7.7
12	9.4	9.2	9.3	7.9	7.6	7.8	7.1	6.9	7.0	7.7	7.5	7.6
13	9.4	9.2	9.4	7.9	7.8	7.9	7.1	6.9	7.1	7.7	7.5	7.6
14	9.6	9.4	9.5	8.0	7.9	7.9	7.4	7.1	7.2	7.7	7.5	7.5
15	9.6	9.4	9.6	8.0	7.9	7.9	7.4	7.1	7.3	7.6	7.5	7.5
16	9.6	9.4	9.5	8.0	7.9	8.0	7.4	7.3	7.3	7.6	7.5	7.5
17	9.6	9.4	9.5	8.1	7.8	7.9	7.4	7.3	7.3	7.6	7.4	7.5
18	9.6	9.4	9.5	8.0	7.8	7.9	7.4	7.3	7.3	7.5	7.3	7.5
19	9.6	9.2	9.3	8.0	7.8	7.9	7.4	7.3	7.3	7.5	7.4	7.4
20	9.2	9.2	9.2	8.1	7.3	7.9	7.3	7.3	7.3	7.5	7.3	7.4
21	9.2	9.0	9.2	7.7	7.3	7.4	7.4	7.3	7.3	7.4	7.3	7.4
22	9.2	9.0	9.1	7.9	7.7	7.8	7.3	7.3	7.3	7.3	7.1	7.2
23	9.0	9.0	9.0	7.7	7.1	7.4	7.7	7.3	7.3	7.2	7.0	7.1
24	9.0	8.8	9.0	7.5	7.1	7.4	7.7	7.7	7.7	7.4	7.2	7.2
25	9.0	8.8	9.0	7.3	6.3	7.0	7.9	7.7	7.7	7.4	7.3	7.3
26	9.0	8.8	8.9	7.3	7.3	7.3	7.9	7.8	7.9	7.4	7.2	7.3
27	9.0	8.8	8.9	7.3	7.3	7.3	7.9	7.9	7.9	7.3	7.1	7.2
28	8.8	8.8	8.8	7.3	7.3	7.3	8.0	7.8	7.9	7.2	7.2	7.2
29	---	---	---	7.3	7.3	7.3	8.0	7.9	8.0	7.3	7.1	7.2
30	---	---	---	7.3	7.3	7.3	8.1	7.9	7.9	7.1	7.0	7.1
31	---	---	---	7.3	7.3	7.3	---	---	---	7.0	6.8	6.9
MONTH	9.6	8.8	9.3	8.8	6.3	7.8	8.1	6.9	7.4	7.9	6.8	7.5

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

395859083440700 CL-138 NR SPRINGFIELD OH--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	7.2	7.0	7.0	6.9	6.7	6.8	4.6	4.4	4.5	2.3	2.2	2.2
2	7.2	7.0	7.1	6.8	6.6	6.6	4.5	4.3	4.4	2.3	2.2	2.3
3	7.2	7.0	7.2	6.8	6.6	6.6	4.3	4.1	4.2	2.3	2.2	2.3
4	7.2	6.8	7.0	6.7	6.5	6.6	4.2	4.0	4.1	2.3	2.2	2.3
5	7.2	7.0	7.2	6.7	6.6	6.6	4.1	4.0	4.0	2.4	2.3	2.3
6	7.2	7.0	7.1	6.7	6.5	6.6	4.3	3.8	4.0	2.4	2.3	2.3
7	7.2	6.8	7.0	6.6	6.4	6.5	4.3	4.1	4.3	2.5	2.3	2.4
8	7.2	6.8	6.9	6.5	6.2	6.3	4.3	4.1	4.2	2.5	2.5	2.5
9	7.2	6.8	7.0	6.4	6.3	6.4	4.2	4.0	4.1	2.6	2.5	2.5
10	7.2	7.1	7.2	6.3	6.1	6.2	4.0	4.0	4.0	2.8	2.6	2.7
11	7.2	7.1	7.2	6.3	6.1	6.1	4.0	3.8	3.9	2.9	2.7	2.8
12	7.2	7.1	7.2	6.2	6.1	6.1	3.8	3.5	3.7	2.9	2.9	2.9
13	7.2	7.0	7.1	6.2	6.1	6.1	3.5	3.2	3.4	3.1	2.9	2.9
14	7.2	6.8	7.0	6.2	6.0	6.1	3.4	3.1	3.2	3.2	2.9	3.1
15	7.2	7.0	7.1	6.1	5.9	6.1	3.4	3.1	3.2	3.2	3.2	3.2
16	7.3	7.0	7.1	6.1	5.9	6.0	3.3	3.1	3.2	3.4	3.2	3.2
17	7.3	7.1	7.2	6.0	5.8	5.9	3.2	3.1	3.2	3.4	3.2	3.2
18	7.4	7.1	7.2	5.9	5.8	5.8	3.1	2.9	3.0	3.4	3.3	3.4
19	7.2	7.1	7.2	5.8	5.6	5.8	3.0	2.9	2.9	3.5	3.3	3.4
20	7.4	7.2	7.2	5.8	5.6	5.7	3.0	2.8	2.9	3.3	3.2	3.2
21	7.2	7.0	7.2	5.6	5.4	5.5	2.9	2.8	2.8	3.2	3.2	3.2
22	7.2	7.0	7.2	5.5	5.4	5.4	2.8	2.6	2.7	3.4	3.2	3.3
23	7.2	7.0	7.2	5.4	5.3	5.4	2.7	2.6	2.7	3.5	3.3	3.4
24	7.2	7.1	7.2	5.4	5.3	5.3	2.6	2.5	2.6	3.5	3.3	3.4
25	7.2	7.0	7.1	5.3	5.1	5.2	2.5	2.5	2.5	3.5	3.5	3.5
26	7.2	7.0	7.0	5.3	5.0	5.1	2.5	2.3	2.4	3.6	3.5	3.5
27	7.0	7.0	7.0	5.1	4.9	5.0	2.5	2.3	2.4	4.0	3.6	3.8
28	7.0	6.8	6.9	5.0	4.8	4.9	2.5	2.3	2.4	4.0	3.9	4.0
29	7.0	6.8	6.9	4.8	4.6	4.8	2.4	2.2	2.3	4.1	3.9	4.0
30	6.9	6.8	6.8	4.8	4.6	4.8	2.3	2.2	2.3	4.1	3.9	4.0
31	---	---	---	4.8	4.6	4.7	2.3	2.2	2.2	---	---	---
MONTH	7.4	6.8	7.1	6.9	4.6	5.8	4.6	2.2	3.3	4.1	2.2	3.0
YEAR	11.1	2.2	7.7									

TEMPERATURE, SOIL DEG. C), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	18.2	14.8	16.3	12.1	9.3	10.7	3.9	2.7	3.3	4.3	3.1	4.0
2	17.7	16.1	16.8	9.5	7.7	8.7	4.8	3.1	3.8	3.1	1.3	1.9
3	16.3	14.2	15.2	11.3	8.5	9.8	6.4	3.7	4.8	1.3	.9	1.1
4	15.3	13.0	14.1	13.1	11.3	12.2	8.5	6.4	7.3	.9	.4	.6
5	15.3	13.4	14.1	14.0	12.6	13.2	9.7	8.5	9.1	.4	-.3	.0
6	15.1	11.9	13.4	13.9	11.7	13.1	9.6	9.3	9.5	-.1	-.4	-.3
7	16.8	12.9	14.6	11.7	9.2	10.0	9.9	7.9	9.3	.0	-.1	.0
8	17.7	14.9	16.2	11.6	9.1	10.2	7.9	5.6	6.6	.1	.0	.0
9	17.3	14.5	16.1	12.5	11.3	11.9	5.9	5.2	5.6	.1	.0	.1
10	14.5	11.8	12.8	11.3	9.1	10.0	5.5	4.4	4.9	.1	.1	.1
11	12.7	10.1	11.4	9.1	7.6	8.1	4.4	3.7	4.0	.1	.1	.1
12	13.1	10.0	11.4	9.1	6.8	7.9	3.7	3.1	3.5	.2	.1	.2
13	14.6	12.0	13.1	10.3	8.1	9.1	3.1	2.3	2.5	4.5	.2	2.3
14	15.9	13.8	14.5	11.9	9.7	10.7	2.3	1.9	2.0	6.8	4.5	5.7
15	15.2	12.8	14.0	12.0	10.7	11.5	3.1	1.8	2.2	6.8	5.1	6.2
16	15.3	12.6	13.9	10.7	9.7	10.0	4.9	3.1	3.8	5.1	3.6	4.2
17	15.1	12.1	13.5	10.5	9.4	9.8	5.3	4.3	5.0	3.6	3.0	3.3
18	15.6	12.6	14.0	11.0	9.5	10.0	4.3	3.8	4.0	4.3	3.4	3.8
19	15.7	15.1	15.4	9.5	7.6	8.4	4.2	3.4	3.8	4.9	3.6	4.1
20	15.9	14.4	15.2	9.4	8.4	8.9	3.5	2.4	2.9	4.9	3.1	3.9
21	14.4	12.1	13.2	10.4	9.1	9.7	3.3	2.1	2.6	3.1	2.7	3.0
22	14.0	12.0	12.9	9.6	6.3	7.7	3.6	2.2	2.8	2.7	2.4	2.5
23	13.4	11.8	12.5	6.3	4.4	5.0	3.6	2.4	3.0	2.4	2.3	2.4
24	12.1	10.3	11.2	4.9	3.4	4.2	3.6	3.2	3.4	2.3	2.2	2.3
25	11.1	9.3	10.1	6.3	4.8	5.4	3.3	2.2	2.7	2.2	1.6	1.8
26	10.7	9.4	10.0	5.0	4.0	4.5	3.4	2.5	2.9	1.6	1.3	1.4
27	10.3	8.3	9.3	7.1	4.4	5.2	3.2	2.4	2.8	1.3	1.1	1.1
28	10.2	7.6	8.8	8.0	6.1	7.2	3.3	2.1	2.7	1.2	1.0	1.1
29	11.2	9.0	9.9	6.1	4.8	5.4	3.4	2.6	3.2	1.0	.8	.9
30	11.6	8.8	10.1	4.8	3.4	4.0	2.6	1.7	2.1	.8	.7	.8
31	12.0	10.2	11.0	---	---	---	3.8	2.0	2.8	.8	.7	.7
MONTH	18.2	7.6	13.1	14.0	3.4	8.7	9.9	1.7	4.2	6.8	-.4	1.9

EFFECTS OF HIGHWAY DEICING CHEMICALS ON SHALLOW UNCONSOLIDATED AQUIFERS IN OHIO

395859083440700 CL-138 NR SPRINGFIELD OH-Continued

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.11	.00	.05	.02	.00	.00	.08	.28	.00	.10	.00
2	.00	.00	.00	.00	.01	.00	---	.02	.23	.00	.00	.00
3	.00	.00	.00	.00	.03	.00	.08	.00	.09	.00	.00	.00
4	.00	.00	.12	.00	.05	.00	.15	.06	.00	.44	.11	.00
5	.00	.29	.07	.00	.04	.15	.00	.02	.00	.48	1.21	.00
6	.00	.00	.02	.08	.05	.02	.01	.00	.00	.00	.75	.00
7	.00	.00	.21	.00	.05	.56	.01	.00	.34	.00	.03	.00
8	.00	.00	.00	.02	.02	.06	.04	.00	.04	.00	.12	.05
9	.01	.37	.26	.04	.05	.02	.16	.37	.01	.02	.06	.00
10	.00	.03	.15	.00	.03	.01	.08	.38	.35	.00	.04	.00
11	.06	.00	.00	.30	.05	.00	.05	.01	.08	.00	.03	.00
12	.00	.00	.02	.01	.08	.00	.23	.00	.01	.00	.01	.60
13	.00	.00	.08	.00	.00	.00	.03	.01	.00	.14	.00	.27
14	.03	.00	.00	.09	.01	.00	.00	.29	.00	.00	.00	.01
15	.00	.05	.00	.12	.19	.00	.00	.00	.00	.18	.01	.00
16	.00	.18	.25	.00	.01	.00	.00	.00	.09	.04	.00	.06
17	.00	.00	.00	.00	.00	.00	.06	.34	.00	.03	.03	.00
18	.00	.00	.00	.00	.00	.00	.04	.92	.00	.01	.10	.00
19	.00	.00	.00	.16	.01	.00	.00	.14	.00	.00	.02	.00
20	.00	.00	.00	.15	.00	.13	.02	.00	.11	.00	.00	.11
21	.00	.06	.00	.00	.00	.00	.84	.00	.09	.41	.00	.00
22	.00	.00	.00	.00	.02	.00	.07	.00	.15	.19	.00	.01
23	.00	.00	.00	.04	.05	.04	.14	.00	.01	.14	.00	.01
24	.00	.00	.00	.00	.00	.00	.05	.43	.00	.09	.01	.00
25	.00	.00	.00	.03	.00	.00	.06	.36	.04	.05	.00	.00
26	.01	.00	.00	.10	.00	.00	.00	.00	.97	.25	.00	.00
27	.00	.33	.00	.10	.11	.01	.00	.00	.00	.00	.00	.00
28	.00	.15	.01	.08	.00	.01	.00	.70	.01	.00	.00	.00
29	.00	.00	.00	.05	---	.01	.01	.00	1.16	.00	.00	.00
30	.00	.00	.00	.02	---	.04	.04	.00	.06	.00	.00	.00
31	.11	---	.06	.01	---	.00	---	.00	---	.00	.00	---
TOTAL	0.22	1.57	1.25	1.45	0.88	1.06	2.17	4.13	4.12	2.47	2.63	1.12

WTR YR 1995 TOTAL 23.07

GEOCHEMISTRY AND GROUND-WATER FLOW BENEATH AN ABANDONED COAL MINE TREATED WITH FLUE-GAS DESULFURIZATION BY-PRODUCTS AS SOIL AND SPOIL AMENDMENTS **291**

The following tables list ground-water levels and the results of chemical analyses of ground-water samples collected from 14 ground-water monitoring wells situated around an abandoned mine site that has been reclaimed using flue-gas desulfurization (FGD) by-products. Water levels in these wells are measured on a periodic basis. The first round of water quality analyses are presented herein--subsequent sampling rounds will be conducted through 1998.

The site selected for study is located in Tuscarawas County, Ohio and is also known as the Fleming abandoned mine site. FGD by-products are produced as a result of injection of limestone slurry through the flue gasses of coal-burning utilities that use high-sulfur coals as fuel. Beneficial use of the by-products are being researched as to their environmental effects.

GROUND-WATER LEVELS

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
403321081311901	TU-100-W1S	68.0	324ALGN	06-21-95 07-13-95 08-10-95 09-07-95	44.69 44.69 44.56 44.65	1078.78
403321081311902	TU-101-W1D	98.0	324PSVL	06-21-95 07-13-95 08-10-95 09-07-95	44.74 44.66 44.45 44.50	1079.02
403319081312000	TU-102-W2	68.0	324ALGN	06-27-95 07-13-95 08-10-95 09-07-95	46.23 46.27 45.82 46.25	1079.93
403315081312301	TU-103-W3S	70.0	324ALGN	06-28-95 07-13-95 08-10-95 09-07-95	43.69 42.20 42.15 42.31	1072.84
403315081312302	TU-104-W3D	86.0	324PSVL	06-28-95 07-13-95 08-10-95 09-07-95	42.02 41.97 41.94 42.07	1072.88
403313081311901	TU-105-W4S	46.0	324ALGN	06-29-95 07-13-95 08-10-95 09-07-95	17.57 17.51 17.49 17.67	1047.67
403313081311902	TU-106-W4I	63.5	324PSVL	06-29-95 07-13-95 08-10-95 09-07-95	41.53 41.46 41.10 41.02	1047.27
403313081311903	TU-107-W4D	100.0	324PSVL	06-29-95 07-13-95 08-10-95 09-07-95	66.84 66.92 66.54 66.68	1046.51
403312081311401	TU-108-W5S	16.0	324ALGN	06-27-95 07-13-95 08-10-95 09-07-95	dry dry dry dry	1045.74
403312081311402	TU-109-W5D	38.0	324ALGN	06-27-95 07-13-95 08-10-95 09-07-95	16.18 16.24 16.22 16.52	1045.77
403315081311001	TU-110-W6S	43.0	324ALGN	06-22-95 07-13-95 08-10-95 09-07-95	18.12 17.92 17.96 18.11	1050.90

**292 GEOCHEMISTRY AND GROUND-WATER FLOW BENEATH AN ABANDONED COAL MINE TREATED
WITH FLUE-GAS DESULFURIZATION BY-PRODUCTS AS SOIL AND SPOIL AMENDMENTS**

GROUND-WATER LEVELS--continued

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER- LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
403315081311002	TU-111-W6D	60.0	324PSVL	06-22-95	18.63	1051.47
				07-13-95	18.42	
				08-10-95	18.45	
				09-07-95	18.61	
403320081311000	TU-112-W7	53.0	324ALGN	06-21-95	25.45	1058.99
				07-13-95	25.85	
				08-10-95	26.00	
				09-07-95	26.19	
403323081311601	TU-113-W8S	68.0	324ALGN	06-27-95	42.24	1076.49
				07-13-95	42.24	
				08-10-95	42.10	
				09-07-95	42.19	
403323081311602	TU-114-W8D	92.0	324PSVL	06-21-95	40.96	1075.49
				07-13-95	41.26	
				08-10-95	41.12	
				09-07-95	41.21	

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LOCATION...Lat 40°33'21', long 81°31'19', Hydrologic Unit 05040001, approximately 1.5 miles northeast of the city of Dover. 0.5 miles west of I-77.

AQUIFER.--Sandstones and coals of Allegheny and Conemaugh Groups, of middle and lower Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation well; diameter, 6 in.; depth, 68.0 ft.

INSTRUMENTATION.--Periodic measurement of water level with steel or electric tape by USGS personnel.

DATUM--Elevation of land-surface datum is 1,078.78 feet above National Geodetic Vertical Datum of 1983, surveyed using Total Station with reference points established by global positioning system, accurate to 0.01 ft. Measuring point is 1,081.42 feet above land surface datum.

PERIOD OF RECORD.--Mar. 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured 44.56 ft below land surface datum on Aug. 10 ; lowest measured, 44.69 ft below land surface datum on Jun. 21.

REMARKS:--This site is used for chemical-quality sampling only as part of a cooperative study with The Ohio State University.

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	REDOX POT- ENT- IAL (MV) (00090)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TURBID- ITY (NTU) (00076)	OXYGEN DIS- SOLVED (MG/L) (00300)	HARD- NESS (MG/L AS CaCO3) (00900)	ACID- ITY (MG/L AS CaCO3) (00435)	CALCIUM DIS- SOLVED (MG/L AS Ca) (00915)	MAGNE- SIUM DIS- SOLVED (MG/L AS MG) (00925)	
		POTAS- SIUM DIS- SOLVED (MG/L AS Na) (00930)	BI- CARB- ONATE IT-FIELD (MG/L AS CaCO3) (00440)	ALKA- LIN- ITY WATER WHOLE FIELD (MG/L AS CaCO3) (00410)	SULF- ATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLOR- IDE DIS- SOLVED (MG/L AS CL) (00940)	FLUOR- IDE DIS- SOLVED (MG/L AS F) (00950)	SILICA DIS- SOLVED (MG/L AS SiO2) (00955)	DIS- SOLVED SOLIDS RESI- DUE AT 180 C (MG/L) (70300)	DIS- SOLVED SOLIDS SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN NITRATE DIS- SOLVED (MG/L AS N) (00631)
		13.50	16.20	145	119	1,583	3	2	13.90	3,925	3,930	2.10	0.01
PHOS- PHORUS ORTHO- PHOS- PHATE DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM TOTAL (UG/L AS AL) (01105)	ALUM- INUM DIS- SOLVED (UG/L AS AL) (01106)	ANTI- MONY DIS- SOLVED (UG/L AS SB) (01095)	ARS- ENIC DIS- SOLVED (UG/L AS AS) (01001)	BARIUM DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM DIS- SOLVED (UG/L AS BE) (01010)	BORON DIS- SOLVED (UG/L AS B) (01020)	CAD- MIUM DIS- SOLVED (UG/L AS CD) (01025)	CHROM- IUM DIS- SOLVED (UG/L AS CR) (01030)	COBALT DIS- SOLVED (UG/L AS CO) (01035)	COPPER DIS- SOLVED (UG/L AS CU) (01040)	IRON TOTAL (UG/L AS FE) (01045)	
0.05	83	117	<106	<1	16	3.0	403	<1	7	239	<2	409,000	
IRON DIS- SOLVED (UG/L AS FE) (01046)	LEAD DIS- SOLVED (UG/L AS PB) (01049)	LITH- IUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE TOTAL (UG/L AS MN) (01055)	MANGA- NESE DIS- SOLVED (UG/L AS MN) (01056)	MERC- URY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM DIS- SOLVED (UG/L AS MO) (01060)	NICKEL DIS- SOLVED (UG/L AS NI) (01065)	SELEN- IUM DIS- SOLVED (UG/L AS SE) (01145)	SILVER DIS- SOLVED (UG/L AS AG) (01075)	STRONT- IUM DIS- SOLVED (UG/L AS SR) (01080)	VANAD- IUM DIS- SOLVED (UG/L AS V) (01085)	ZINC DIS- SOLVED (UG/L AS ZN) (01090)	
383,000	20	158	17,900	17,900	<0.1	<11.0	583	<5	<10	5,240	<5	323	
CARBON ORGANIC DIS- SOLVED (MG/L AS C) (00681)	TRITIUM TOTAL (PCI/L) (07000)	TRITIUM TOTAL (TU) (75985)	$\delta^{34}\text{S}$ (PER MIL) (82086)	0	66.2	20.4	-10.0						

294 GEOCHEMISTRY AND GROUND-WATER FLOW BENEATH AN ABANDONED COAL MINE TREATED WITH FLUE-GAS DESULFURIZATION BY-PRODUCTS AS SOIL AND SPOIL AMENDMENTS

403321081311902. Local number, TU-101-W1D.

LOCATION.--Lat 40°33'21", long 81°31'19", Hydrologic Unit 05040001, approximately 1.5 miles northeast of the city of Dover, 0.5 miles west of I-77.

AQUIFER.--Sandstones and coals of Allegheny and Conemaugh Groups, of middle and lower Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation well; diameter, 6 in.; depth, 98.0 ft.

INSTRUMENTATION.--Periodic measurement of water level with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,079.02 feet above National Geodetic Vertical Datum of 1983, surveyed using Total Station with reference points established by global positioning system, accurate to 0.01 ft. Measuring point is 1,081.82 feet above land surface datum.

PERIOD OF RECORD.--Mar. 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 44.45 ft below land surface datum on Aug 10; lowest measured, 44.74 ft below land surface datum on Jun 21.

REMARKS.--This site is used for chemical-quality sampling only as part of a cooperative study with The Ohio State University.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	REDOX POT- ENT- IAL (MV) (00090)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TURBID- ITY (NTU) (00076)	OXYGEN DIS- SOLVED (MG/L) (00300)	HARD- NESS (MG/L AS CaCO3) (00900)	ACID- ITY (MG/L AS CaCO3) (00435)	CALCIUM DIS- SOLVED (MG/L AS Ca) (00915)	MAGNE- SIUM DIS- SOLVED (MG/L AS Mg) (00925)
950628	1040	2,410	7.2	222	26	15.5	41	<0.100	953	0.5	231.2	91.20

SODIUM DIS- SOLVED (MG/L AS Na) (00930)	POTAS- SIUM DIS- SOLVED (MG/L AS K) (00935)	BI- CARB- ONATE IT-FIELD (MG/L AS CaCO3) (00440)	ALKA- LIN- ITY WATER WHOLE FIELD (MG/L AS CaCO3) (00410)	SULF- ATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLOR- IDE DIS- SOLVED (MG/L AS Cl) (00940)	FLUOR- IDE DIS- SOLVED (MG/L AS F) (00950)	SILICA DIS- SOLVED (MG/L AS SiO2) (00955)	DIS- SOLVED SOLIDS AT 180 C (MG/L) (70300)	DIS- SOLVED SOLIDS SUM OF DUE CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN NITRATE PLUS NITRITE DIS- SOLVED (MG/L AS N) (00631)
273.00	10.70	211	172	1,337	<1	<1	10.50	2,190	2,190	1.80	<0.01	<0.05

PHOS- PHORUS ORTHO- PHOS- PHATE DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM TOTAL (UG/L AS Al) (01105)	ALUM- INUM DIS- SOLVED (UG/L AS Al) (01106)	ANTI- MONY DIS- SOLVED (UG/L AS Sb) (01095)	ARS- ENIC DIS- SOLVED (UG/L AS As) (01001)	BARIUM DIS- SOLVED (UG/L AS Ba) (01005)	BERYL- LIUM DIS- SOLVED (UG/L AS Be) (01010)	BORON DIS- SOLVED (UG/L AS B) (01020)	CAD- MIUM DIS- SOLVED (UG/L AS Cd) (01025)	CHROM- IUM DIS- SOLVED (UG/L AS Cr) (01030)	COBALT DIS- SOLVED (UG/L AS Co) (01035)	COPPER DIS- SOLVED (UG/L AS Cu) (01040)	IRON TOTAL (UG/L AS Fe) (01045)
<0.01	722	79	<106	<1	17	<1.0	300	3	8	<6	<2	7,240

IRON DIS- SOLVED (UG/L AS Fe) (01046)	LEAD DIS- SOLVED (UG/L AS Pb) (01049)	LITH- IUM DIS- SOLVED (UG/L AS Li) (01130)	MANGA- NESE TOTAL (UG/L AS Mn) (01055)	MANGA- NESE DIS- SOLVED (UG/L AS Mn) (01056)	MERC- URY DIS- SOLVED (UG/L AS Hg) (71890)	MOLYB- DENUM DIS- SOLVED (UG/L AS Mo) (01060)	NICKEL DIS- SOLVED (UG/L AS Ni) (01065)	SELEN- IUM DIS- SOLVED (UG/L AS Se) (01145)	SILVER DIS- SOLVED (UG/L AS Ag) (01075)	STRONT- IUM DIS- SOLVED (UG/L AS Sr) (01080)	VANAD- IUM DIS- SOLVED (UG/L AS V) (01085)	ZINC DIS- SOLVED (UG/L AS Zn) (01090)
6,290	24	32	671	672	<0.1	<11.0	<4	<1	<10	2,890	<5	4

CARBON ORGANIC DIS- SOLVED (MG/L AS C) (00681)	TRITIUM TOTAL (PCI/L) (07000)	TRITIUM TOTAL (TU) (75985)	$\delta^{34}\text{S}$ (PER MIL) (82086)
1	4.8	1.5	-6.0

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LOCATION...Lat 40°33'19', long 81°31'20', Hydrologic Unit 05040001, approximately 1.5 miles northeast of the city of Dover. 0.5 miles west of I-77.

WELL CHARACTERISTICS.--Drilled observation well; diameter, 6 in.; depth, 68.0 ft.

INSTRUMENTATION.--Periodic measurement of water level with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,079.93 feet above National Geodetic Vertical Datum of 1983, surveyed using Total Station with reference points established by global positioning system, accurate to 0.01 ft. Measuring point is 1,082.61 feet above land surface datum.

PERIOD OF RECORD.--Mar. 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 45.82 ft below land surface datum on Aug 10; lowest measured, 46.27 ft below land surface datum on Jul 13.

REMARKS.--This site is used for chemical-quality sampling only as part of a cooperative study with The Ohio State University.

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH	REDOX POTENTIAL (MV) (00090)	TEMPERATURE AIR (DEG C) (00020)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN SOLVED (MG/L) (00300)	HARDNESS (MG/L AS CaCO3) (00900)	ACIDITY (MG/L AS CaCO3) (00435)	CALCIUM SOLVED (MG/L AS Ca) (00915)	MAGNESIUM SOLVED (MG/L AS Mg) (00925)
			WATER WHOLE FIELD (STANDARD UNITS) (00400)									
950627	1930	2.960	5.3	402	29	13.0	9	0.130	1.721	14.1	339.8	212.00

ALKA-LIN-ITY											NITRO-GEN	
SODIUM DIS-SOLVED (MG/L) (00930)	POTAS-SIUM DIS-SOLVED (MG/L) (00935)	BI-CARB-ONATE IT-FIELD (MG/L) (00440)	WATER WHOLE FIELD (MG/L) (00410)	SULF-ATE DIS-SOLVED (MG/L) (00945)	CHLOR-IDE DIS-SOLVED (MG/L) (00940)	FLUOR-IDE DIS-SOLVED (MG/L) (00950)	SILICA DIS-SOLVED (MG/L) (00955)	DIS-SOLVED SOLIDS DUE AT 180 C (MG/L) (70300)	DIS-SOLVED SOLIDS OF CONSTITUENTS (MG/L) (70301)	NITRO-GEN NITRITE DIS-SOLVED (MG/L) (00613)	NITRO-GEN AMMONIA DIS-SOLVED (MG/L) (00608)	NITRITE PLUS NITRATE DIS-SOLVED (MG/L) (00631)
11.30	13.00	121	97	2.336	<1	<1	12.00	3.572	3.572	1.40	0.01	0.06

PHOS- PHATE DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM DIS- TOTAL (UG/L AS AL) (01105)	ALUM- INUM DIS- SOLVED (UG/L AS AL) (01106)	ANTI- MONY DIS- SOLVED (UG/L AS SB) (01095)	ARS- ENIC DIS- SOLVED (UG/L AS AS) (01001)	BARIUM DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM DIS- SOLVED (UG/L AS BE) (01010)	BORON DIS- SOLVED (UG/L AS B) (01020)	CAD- MIUM DIS- SOLVED (UG/L AS CD) (01025)	CHROM- IUM DIS- SOLVED (UG/L AS CR) (01030)	COBALT DIS- SOLVED (UG/L AS CO) (01035)	COPPER DIS- SOLVED (UG/L AS CU) (01040)	IRON TOTAL (UG/L AS FE) (01045)
0.03	517	629	<106	<1	17	7.0	232	<1	4	230	<2	400.000

IRON DIS- SOLVED (UG/L AS FE) (01046)	LEAD DIS- SOLVED (UG/L AS PB) (01049)	LITH- IUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE DIS- TOTAL (UG/L AS MN) (01055)	MANGA- NESE DIS- SOLVED (UG/L AS MN) (01056)	MERC- URY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM DIS- SOLVED (UG/L AS MO) (01060)	NICKEL DIS- SOLVED (UG/L AS NI) (01065)	SELEN- IUM DIS- SOLVED (UG/L AS SE) (01145)	SILVER DIS- SOLVED (UG/L AS AG) (01075)	STRYPT- IUM DIS- SOLVED (UG/L AS SR) (01080)	VANAD- IUM DIS- SOLVED (UG/L AS V) (01085)	ZINC DIS- SOLVED (UG/L AS ZN) (01090)
408.000	43	230	18.100	19.000	<0.1	<11.0	428	<5	<10	2.970	<5	402

SOLVED	TRITIUM	TRITIUM	
(MG/L	TOTAL	TOTAL	$\delta^{34}\text{S}$
AS C)	(PCI/L)	(TU)	(PER MIL)
(00681)	(07000)	(75985)	(82086)

0	64.6	19.9	-9.4
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403315081312301. Local number, TU-103-W3S.

AQUIFER.--Sandstones and coals of Allegheny and Conemaugh Groups, of middle and lower Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation well: diameter, 6 in.; depth, 70.0 ft.

INSTRUMENTATION.--Periodic measurement of water level with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,072.84 feet above National Geodetic Vertical Datum of 1983, surveyed using Total Station with reference points established by global positioning system, accurate to 0.01 ft. Measuring point is 1,075.37 feet above land surface datum.

PERIOD OF RECORD.--Mar. 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 42.15 ft below land surface datum on Aug 10; lowest measured, 43.69 ft below land surface datum on Jun 28.

REMARKS.-This site is used for chemical-quality sampling only as part of a cooperative study with The Ohio State University.

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD (US/CM) (00095)	REDOX POT- ENT- IAL (MV) (00090)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TURBID- ITY (NTU) (00076)	OXYGEN DIS- SOLVED (MG/L) (00300)	HARD- NESS (MG/L) AS CaCO3 (00900)	ACID- ITY (MG/L) AS CaCO3 (00435)	CALCIUM DIS- SOLVED (MG/L) (00915)	MAGNE- SIUM DIS- SOLVED (MG/L) (00925)

950706	1410	2,250	5.8	360	29	13.5	44	0.220	1,024	2.4	409.9	154.50
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SODIUM DIS-SOLVED (MG/L AS NA) (00930)											NITRO-GEN	
POTAS-SIUM	BI-CARBONATE	ALKALINITY	SULFATE	CHLORIDE	FLUORIDE	SILICA	DIS-SOLVED SOLIDS	DIS-SOLVED SOLIDS	NITRO-GEN NITRITE	NITRO-GEN AMMONIA	NITRO-GEN PLUS NITRATE	
AS NA	AS K	AS CACO3	AS CAC03	AS SO4	AS CL	AS F	AS SIO2	(MG/L)	(MG/L)	AS N	AS N	AS N
(00930)	(00935)	(00440)	(00410)	(00945)	(00940)	(00950)	(00955)	(70300)	(70301)	(00613)	(00608)	(00631)

9.20	7.10	159	131	1,418	3	<1	10.50	2,405	2,410	0.48	<0.01	<0.05
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[illegible]

<0.01	657	42	<106	1	15	<1.0	142	<1	8	50	<2	74,700
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IRON DIS-	LEAD DIS-	LITH- IUM DIS-	MANGA- NESE DIS-	MANGA- NESE DIS-	MERC- URY DIS-	MOLYB- DENUM DIS-	NICKEL DIS-	SELEN- IUM DIS-	SILVER DIS-	STROMT- IUM DIS-	VANAD- IUM DIS-	ZINC DIS-
SOLVED (UG/L)	SOLVED (UG/L)	SOLVED (UG/L)	TOTAL (UG/L)	SOLVED (UG/L)	SOLVED (UG/L)	SOLVED (UG/L)	SOLVED (UG/L)	SOLVED (UG/L)	SOLVED (UG/L)	SOLVED (UG/L)	SOLVED (UG/L)	SOLVED (UG/L)
AS FE)	AS PB)	AS LI)	AS MN)	AS MN)	AS HG)	AS MO)	AS NI)	AS SE)	AS AG)	AS SR)	AS V)	AS ZN)
(01046)	(01046)	(01130)	(01055)	(01056)	(71890)	(01060)	(01065)	(01145)	(01075)	(01080)	(01085)	(01090)

72,900	<20	98	9,560	8,660	<0.1	<11.0	59	<1	<10	1,530	13	26
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CARBON ORGANIC DIS- SOLVED		TRITIUM	TRITIUM	
(MG/L	TOTAL	TOTAL		$\delta^{34}\text{S}$
AS C	(PCI/L)	(TU)		(PER MIL)
(00681)	(07000)	(75985)		(82086)

0	45.8	14.1	-13.2
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GEOCHEMISTRY AND GROUND-WATER FLOW BENEATH AN ABANDONED COAL MINE TREATED WITH FLUE-GAS DESULFURIZATION BY-PRODUCTS AS SOIL AND SPOIL AMENDMENTS 297

403315081312302. Local number, TU-104-W3D.

LOCATION.--Lat 40°33'15", long 81°31'23", Hydrologic Unit 05040001, approximately 1.5 miles northeast of the city of Dover, 0.5 miles west of I-77.

AQUIFER.--Sandstones and coals of Allegheny and Conemaugh Groups, of middle and lower Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation well; diameter, 6 in.; depth, 86.0 ft.

INSTRUMENTATION.--Periodic measurement of water level with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,072.88 feet above National Geodetic Vertical Datum of 1983, surveyed using Total Station with reference points established by global positioning system, accurate to 0.01 ft. Measuring point is 1,075.49 feet above land surface datum.

PERIOD OF RECORD.--Mar. 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 41.94 ft below land surface datum on Aug 10; lowest measured, 42.07 ft below land surface datum on Sept 7.

REMARKS.--This site is used for chemical-quality sampling only as part of a cooperative study with The Ohio State University.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	REDOX POT- ENT- IAL (MV) (00090)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TURBID- ITY (NTU) (00076)	OXYGEN DIS- SOLVED (MG/L) (00300)	HARD- NESS (MG/L AS CaCO3) (00900)	ACID- ITY (MG/L AS CaCO3) (00435)	CALCIUM DIS- SOLVED (MG/L AS Ca) (00915)	MAGNE- SIUM DIS- SOLVED (MG/L AS Mg) (00925)
		POTAS- SIUM DIS- SOLVED (MG/L AS Na) (00930)	BI- CARB- ONATE IT-FIELD (MG/L AS CaCO3) (00440)	ALKA- LIN- ITY WATER WHOLE FIELD (MG/L AS CaCO3) (00410)	SULF- ATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLOR- IDE DIS- SOLVED (MG/L AS Cl) (00940)	FLUOR- IDE DIS- SOLVED (MG/L AS F) (00950)	SILICA DIS- SOLVED (MG/L AS SiO2) (00955)	DIS- SOLVED SOLIDS RESI- DUE AT 180 C (MG/L) (70300)	DIS- SOLVED SOLIDS SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN AMMONIA DIS- SOLVED (MG/L AS N) (00608)
950628	1600	2,350	6.0	313	27	13.0	3	0.230	1,747	2.2	459.0	146.00

298 GEOCHEMISTRY AND GROUND-WATER FLOW BENEATH AN ABANDONED COAL MINE TREATED WITH FLUE-GAS DESULFURIZATION BY-PRODUCTS AS SOIL AND SPOIL AMENDMENTS

403313081311901. Local number, TU-105-W4S.

LOCATION.--Lat 40°33'13", long 81°31'19", Hydrologic Unit 05040001, approximately 1.5 miles northeast of the city of Dover, 0.5 miles west of I-77.

AQUIFER.--Sandstones and coals of Allegheny and Conemaugh Groups, of middle and lower Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation well; diameter, 6 in.; depth, 46.0 ft.

INSTRUMENTATION.--Periodic measurement of water level with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,047.67 feet above National Geodetic Vertical Datum of 1983, surveyed using Total Station with reference points established by global positioning system, accurate to 0.01 ft. Measuring point is 1,050.44 feet above land surface datum.

PERIOD OF RECORD.--Mar. 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 17.49 ft below land surface datum on Aug 10; lowest measured, 17.67 ft below land surface datum on Sept 7.

REMARKS.--This site is used for chemical-quality sampling only as part of a cooperative study with The Ohio State University.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	REDOX POT- ENT- IAL (MV) (00090)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TURBID- ITY (NTU) (00076)	OXYGEN DIS- SOLVED (MG/L) (00300)	HARD- NESS (MG/L AS CaCO3) (00900)	ACID- ITY (MG/L AS CaCO3) (00435)	CALCIUM DIS- SOLVED (MG/L AS Ca) (00915)	MAGNE- SIUM DIS- SOLVED (MG/L AS Mg) (00925)
950629	1300	2,910	5.4	389	--	13.0	2	0.274	1,844	11.4	403.9	203.00

SODIUM DIS- SOLVED (MG/L AS Na) (00930)	POTAS- SIUM DIS- SOLVED (MG/L AS K) (00935)	BI- CARB- ONATE IT-FIELD (MG/L AS CaCO3) (00440)	ALKA- LIN- ITY WATER WHOLE FIELD (MG/L AS CaCO3) (00410)	SULF- ATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLOR- IDE DIS- SOLVED (MG/L AS Cl) (00940)	FLUOR- IDE DIS- SOLVED (MG/L AS F) (00950)	SILICA DIS- SOLVED (MG/L AS SiO2) (00955)	DIS- SOLVED SOLIDS AT 180 C (MG/L) (70300)	DIS- SOLVED SOLIDS SUM OF DUE CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN PLUS NITRATE DIS- SOLVED (MG/L AS N) (00631)
9.60	11.60	68	54	2,223	<1	<1	11.60	3,464	3,460	1.40	<0.01	<0.05

PHOS- PHORUS ORTHO- PHOS- PHATE DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM TOTAL (UG/L AS Al) (01105)	ALUM- INUM DIS- SOLVED (UG/L AS Al) (01106)	ANTI- MONY DIS- SOLVED (UG/L AS Sb) (01095)	ARS- ENIC DIS- SOLVED (UG/L AS As) (01001)	BARIUM DIS- SOLVED (UG/L AS Ba) (01005)	BERYL- LIUM DIS- SOLVED (UG/L AS Be) (01010)	BORON DIS- SOLVED (UG/L AS B) (01020)	CAD- MIUM DIS- SOLVED (UG/L AS Cd) (01025)	CHROM- IUM DIS- SOLVED (UG/L AS Cr) (01030)	COBALT DIS- SOLVED (UG/L AS Co) (01035)	COPPER DIS- SOLVED (UG/L AS Cu) (01040)	IRON TOTAL (UG/L AS Fe) (01045)
0.03	54	128	<106	2	16	5.0	301	5	12	240	<2	299,000

IRON DIS- SOLVED (UG/L AS Fe) (01046)	LEAD DIS- SOLVED (UG/L AS Pb) (01049)	LITH- IUM DIS- SOLVED (UG/L AS Li) (01130)	MANGA- NESE TOTAL (UG/L AS Mn) (01055)	MANGA- NESE DIS- SOLVED (UG/L AS Mn) (01056)	MERC- URY DIS- SOLVED (UG/L AS Hg) (71890)	MOLYB- DENUM DIS- SOLVED (UG/L AS Mo) (01060)	NICKEL DIS- SOLVED (UG/L AS Ni) (01065)	SELEN- IUM DIS- SOLVED (UG/L AS Se) (01145)	SILVER DIS- SOLVED (UG/L AS Ag) (01075)	STRONT- IUM DIS- SOLVED (UG/L AS Sr) (01080)	VANAD- IUM DIS- SOLVED (UG/L AS V) (01085)	ZINC DIS- SOLVED (UG/L AS Zn) (01090)
292,000	38	188	14,100	14,800	<0.1	<11.0	503	<5	<10	3,210	18	471

CARBON ORGANIC DIS- SOLVED (MG/L AS C) (00681)	TRITIUM TOTAL (PCI/L) (07000)	TRITIUM TOTAL (TU) (75985)	$\delta^{34}\text{S}$ (PER MIL) (82086)
0	63.0	19.4	-9.5

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LOCATION.--Lat 40°33'13", long 81°31'19", Hydrologic Unit 05040001, approximately 1.5 miles northeast of the city of Dover. 0.5 miles west of I-77.

WELL CHARACTERISTICS.--Drilled observation well; diameter, 6 in.; depth, 63.5 ft.

INSTRUMENTATION.--Periodic measurement of water level with steel or electric tape by USGS personnel.

DATUM--Elevation of land-surface datum is 1,047.27 feet above National Geodetic Vertical Datum of 1983, surveyed using Total Station with reference points

established by global positioning system, accurate to 0.01 ft. Measuring point is 1,050.16 feet above land surface datum.

PERIOD OF RECORD.--Mar. 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 41.02 ft below land surface datum on Sept 7; lowest measured, 41.53 ft below land surface datum on Jun 29.

REMARKS:--This site is used for chemical quality sampling only as part of a cooperative study with The Ohio State University.

[illegible]

300 GEOCHEMISTRY AND GROUND-WATER FLOW BENEATH AN ABANDONED COAL MINE TREATED WITH FLUE-GAS DESULFURIZATION BY-PRODUCTS AS SOIL AND SPOIL AMENDMENTS

403313081311903. Local number, TU-107-W4D.

LOCATION.--Lat 40°33'13", long 81°31'19", Hydrologic Unit 05040001, approximately 1.5 miles northeast of the city of Dover, 0.5 miles west of I-77.

AQUIFER.--Sandstones and coals of Allegheny and Conemaugh Groups, of middle and lower Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation well; diameter, 6 in.; depth, 100.0 ft.

INSTRUMENTATION.--Periodic measurement of water level with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,046.51 feet above National Geodetic Vertical Datum of 1983, surveyed using Total Station with reference points established by global positioning system, accurate to 0.01 ft. Measuring point is 1,049.16 feet above land surface datum.

PERIOD OF RECORD.--Mar. 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 66.54 ft below land surface datum on Aug 10; lowest measured, 66.92 ft below land surface datum on Jul 13.

REMARKS.--This site is used for chemical-quality sampling only as part of a cooperative study with The Ohio State University.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	REDOX POT- ENT- IAL (MV) (00090)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TURBID- ITY (NTU) (00076)	OXYGEN DIS- SOLVED (MG/L) (00300)	HARD- NESS (MG/L AS CaCO3) (00900)	ACID- ITY (MG/L AS CaCO3) (00435)	CALCIUM DIS- SOLVED (MG/L AS Ca) (00915)	MAGNE- SIUM DIS- SOLVED (MG/L AS Mg) (00925)
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950706	1600	1,780	6.2	298	28	13.5	18	<0.100	780	0.6	312.2	97.70
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		POTAS- SIUM DIS- SOLVED (MG/L AS Na) (00930)	BI- CARB- ONATE IT-FIELD (MG/L AS CaCO3) (00440)	ALKA- LIN- ITY WATER WHOLE FIELD (MG/L AS CaCO3) (00410)	SULF- ATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLOR- IDE DIS- SOLVED (MG/L AS Cl) (00940)	FLUOR- IDE DIS- SOLVED (MG/L AS F) (00950)	SILICA DIS- SOLVED (MG/L AS SiO2) (00955)	DIS- SOLVED SOLIDS RESI- DUE AT 180 C (MG/L) (70300)	DIS- SOLVED SOLIDS SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN PLUS NITRATE DIS- SOLVED (MG/L AS N) (00631)
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14.50	17.80	244	199	951	<1	<1	11.30	1,739	1,740	1.40	<0.01	<0.05
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PHOS- PHORUS ORTHO- PHOS- PHATE		ALUM- INUM DIS- SOLVED (MG/L AS Al) (01105)	ALUM- INUM DIS- SOLVED (MG/L AS Al) (01106)	ANTI- MONY DIS- SOLVED (UG/L AS Sb) (01095)	ARS- ENIC DIS- SOLVED (UG/L AS As) (01001)	BARIUM DIS- SOLVED (UG/L AS Ba) (01005)	BERYL- LIUM DIS- SOLVED (UG/L AS Be) (01010)	BORON DIS- SOLVED (UG/L AS B) (01020)	CAD- MIUM DIS- SOLVED (UG/L AS Cd) (01025)	CHROM- IUM DIS- SOLVED (UG/L AS Cr) (01030)	COBALT DIS- SOLVED (UG/L AS Co) (01035)	COPPER DIS- SOLVED (UG/L AS Cu) (01040)	IRON TOTAL (UG/L AS Fe) (01045)
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<0.01	272	<30	<106	--	14	<1.0	322	2	10	8	<2	34,000
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IRON DIS- SOLVED (UG/L AS Fe) (01046)		LEAD DIS- SOLVED (UG/L AS Pb) (01049)	LITH- IUM DIS- SOLVED (UG/L AS Li) (01130)	MANGA- NESE TOTAL (UG/L AS Mn) (01055)	MANGA- NESE DIS- SOLVED (UG/L AS Mn) (01056)	MERC- URY DIS- SOLVED (UG/L AS Hg) (71890)	MOLYB- DENUM DIS- SOLVED (UG/L AS Mo) (01060)	NICKEL DIS- SOLVED (UG/L AS Ni) (01065)	SELEN- IUM DIS- SOLVED (UG/L AS Se) (01145)	SILVER DIS- SOLVED (UG/L AS Ag) (01075)	STRONT- IUM DIS- SOLVED (UG/L AS Sr) (01080)	VANAD- IUM DIS- SOLVED (UG/L AS V) (01085)	ZINC DIS- SOLVED (UG/L AS Zn) (01090)
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33,800	<20	35	2,340	2,500	<0.1	<11.0	23	--	<10	2,120	16	5
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CARBON ORGANIC DIS- SOLVED		TRITIUM TOTAL (PCI/L) (07000)	TRITIUM TOTAL (TU) (75985)	δ ³⁴ S (PER MIL) (82086)
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1	18.0	--	-9.2
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301

LOCATION...Lat 40°33'12', long 81°31'14', Hydrologic Unit 05040001, approximately 1.5 miles northeast of the city of Dover, 0.5 miles west of I-77.

WELL CHARACTERISTICS.--Drilled observation well; diameter, 6 in.; depth, 38.0 ft.

INSTRUMENTATION.--Periodic measurement of water level with steel or electric tape by USGS personnel.

DATUM--Elevation of land-surface datum is 1,045.77 feet above National Geodetic Vertical Datum of 1983, surveyed using Total Station with reference points

established by global positioning system, accurate to 0.01 ft. Measuring point is 1,048.47 feet above land surface datum.

PERIOD OF RECORD.--Mar. 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.18 ft below land surface datum on Jun 27; lowest measured, 16.52 ft below land surface datum on Sept 7.

REMARKS.--This site is used for chemical-quality sampling only as part of a cooperative study with The Ohio State University.

[illegible]

302 GEOCHEMISTRY AND GROUND-WATER FLOW BENEATH AN ABANDONED COAL MINE TREATED WITH FLUE-GAS DESULFURIZATION BY-PRODUCTS AS SOIL AND SPOIL AMENDMENTS

403315081311001. Local number, TU-110-W6S.

LOCATION.--Lat 40°33'15", long 81°31'10", Hydrologic Unit 05040001, approximately 1.5 miles northeast of the city of Dover, 0.5 miles west of I-77.

AQUIFER.--Sandstones and coals of Allegheny and Conemaugh Groups, of middle and lower Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation well; diameter, 6 in.; depth, 43.0 ft.

INSTRUMENTATION.--Periodic measurement of water level with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,050.90 feet above National Geodetic Vertical Datum of 1983, surveyed using Total Station with reference points established by global positioning system, accurate to 0.01 ft. Measuring point is 1,053.58 feet above land surface datum.

PERIOD OF RECORD.--Mar. 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 17.92 ft below land surface datum on Jul 13; lowest measured, 18.12 ft below land surface datum on Jun 22.

REMARKS.--This site is used for chemical-quality sampling only as part of a cooperative study with The Ohio State University.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UG/CM (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	REDOX POT- ENT- IAL (MV) (00090)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TURBID- ITY (NTU) (00076)	OXYGEN DIS- SOLVED (MG/L) (00300)	HARD- NESS (MG/L AS CACO3) (00900)	ACID- ITY (MG/L AS CACO3) (00435)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM DIS- SOLVED (MG/L AS MG) (00925)
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950622	1300	4,440	5.0	457	30	13.5	22	0.000	1,354	29.8	336.2	329.00
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	POTAS- SIUM DIS- SOLVED (MG/L AS NA) (00930)	BI- CARB- ONATE IT-FIELD (MG/L AS CACO3) (00440)	ALKA- LIN- ITY WATER WHOLE FIELD (MG/L AS CAC03) (00410)	SULF- ATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLOR- IDE DIS- SOLVED (MG/L AS CL) (00940)	FLUOR- IDE DIS- SOLVED (MG/L AS F) (00950)	SILICA DIS- SOLVED (MG/L AS SiO2) (00955)	DIS- SOLVED RESI- DUE AT 180 C (MG/L) (70300)	DIS- SOLVED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN NITRATE DIS- SOLVED (MG/L AS N) (00631)
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10.70	13.50	122	87	2,089	5	7	9.00	5,864	5,860	1.20	<0.01	<0.05
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	ALUM- INUM DIS- SOLVED (MG/L AS AL) (01105)	ALUM- INUM DIS- SOLVED (UG/L AS AL) (01106)	ANTI- MONY DIS- SOLVED (UG/L AS SB) (01095)	ARS- ENIC DIS- SOLVED (UG/L AS AS) (01001)	BARIUM DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM DIS- SOLVED (UG/L AS BE) (01010)	BORON DIS- SOLVED (UG/L AS B) (01020)	CAD- MIUM DIS- SOLVED (UG/L AS CD) (01025)	CHROM- IUM DIS- SOLVED (UG/L AS CR) (01030)	COBALT DIS- SOLVED (UG/L AS CO) (01035)	COPPER DIS- SOLVED (UG/L AS CU) (01040)	IRON TOTAL (UG/L AS FE) (01045)
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<0.01	7,620	6,620	<106	<1	9	37.0	12	<1	7	775	<2	957,000
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	LEAD DIS- SOLVED (UG/L AS PB) (01046)	LITH- IUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE TOTAL (UG/L AS MN) (01055)	MANGA- NESE DIS- SOLVED (UG/L AS MN) (01056)	MERC- URY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM DIS- SOLVED (UG/L AS MO) (01060)	NICKEL DIS- SOLVED (UG/L AS NI) (01065)	SELEN- IUM DIS- SOLVED (UG/L AS SE) (01145)	SILVER DIS- SOLVED (UG/L AS AG) (01075)	STRONT- IUM DIS- SOLVED (UG/L AS SR) (01080)	VANAD- IUM DIS- SOLVED (UG/L AS V) (01085)	ZINC DIS- SOLVED (UG/L AS ZN) (01090)
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921,000	74	256	66,200	67,200	--	<11.0	1,140	<5	<10	1,310	<5	1,860
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CARBON ORGANIC

DIS- SOLVED (MG/L AS C) (00681)	TRITIUM TOTAL (PCI/L) (07000)	TRITIUM TOTAL (TU) (75985)	$\delta^{34}\text{S}$ (PER MIL) (82086)
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1	68.5	21.1	-8.2
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GEOCHEMISTRY AND GROUND-WATER FLOW BENEATH AN ABANDONED COAL MINE TREATED WITH FLUE-GAS DESULFURIZATION BY-PRODUCTS AS SOIL AND SPOIL AMENDMENTS 303

403315081311002. Local number, TU-111-W6D.

LOCATION.--Lat 40°33'15", long 81°31'10", Hydrologic Unit 05040001, approximately 1.5 miles northeast of the city of Dover, 0.5 miles west of I-77.

AQUIFER.--Sandstones and coals of Allegheny and Conemaugh Groups, of middle and lower Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation well; diameter, 6 in.; depth, 60.0 ft.

INSTRUMENTATION.--Periodic measurement of water level with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,051.47 feet above National Geodetic Vertical Datum of 1983, surveyed using Total Station with reference points established by global positioning system, accurate to 0.01 ft. Measuring point is 1,053.92 feet above land surface datum.

PERIOD OF RECORD.--Mar. 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 18.42 ft below land surface datum on Jul 13; lowest measured, 18.63 ft below land surface datum on Jun 22.

REMARKS.--This site is used for chemical-quality sampling only as part of a cooperative study with The Ohio State University.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	REDOX POT- ENT- IAL (MV) (00090)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TURBID- ITY (NTU) (00076)	OXYGEN DIS- SOLVED (MG/L) (00300)	HARD- NESS (MG/L AS CaCO3) (00900)	ACID- ITY (MG/L AS CaCO3) (00435)	CALCIUM DIS- SOLVED (MG/L AS Ca) (00915)	MAGNE- SIUM DIS- SOLVED (MG/L AS Mg) (00925)
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950628	1130	4,280	5.5	374	27	12.5	16	<0.100	2,716	21.1	472.6	373.00
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SODIUM DIS- SOLVED (MG/L AS Na) (00930)	POTAS- SIUM DIS- SOLVED (MG/L AS K) (00935)	BI- CARB- ONATE IT-FIELD (MG/L AS CaCO3) (00440)	ALKA- LIN- ITY WATER FIELD (MG/L AS CaCO3) (00410)	SULF- ATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLOR- IDE DIS- SOLVED (MG/L AS CL) (00940)	FLUOR- IDE DIS- SOLVED (MG/L AS F) (00950)	SILICA DIS- SOLVED (MG/L AS SiO2) (00955)	DIS- SOLVED RESI- DUE AT 180 C (MG/L) (70300)	DIS- SOLVED SOLIDS SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN NITRATE DIS- SOLVED (MG/L AS N) (00631)
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15.00	15.90	171	132	3,706	<1	<1	15.60	5,943	5,940	1.40	0.02	0.09
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PHOS-
PHORUS
ORTHO-

PHOS- PHATE DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM DIS- SOLVED (UG/L AS AL) (01105)	ALUM- INUM DIS- SOLVED (UG/L AS AL) (01106)	ANTI- MONY DIS- SOLVED (UG/L AS Sb) (01095)	ARS- ENIC DIS- SOLVED (UG/L AS As) (01001)	BARIUM DIS- SOLVED (UG/L AS Ba) (01005)	BERYL- LIUM DIS- SOLVED (UG/L AS Be) (01010)	BORON DIS- SOLVED (UG/L AS B) (01020)	CAD- MIUM DIS- SOLVED (UG/L AS Cd) (01025)	CHROM- IUM DIS- SOLVED (UG/L AS Cr) (01030)	COBALT DIS- SOLVED (UG/L AS Co) (01035)	COPPER DIS- SOLVED (UG/L AS Cu) (01040)	IRON TOTAL (UG/L AS Fe) (01045)
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0.07	1,600	1,010	<106	<1	14	11.0	99	<1	9	557	<2	639,000
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IRON DIS- SOLVED (UG/L AS Fe) (01046)	LEAD DIS- SOLVED (UG/L AS Pb) (01049)	LITH- IUM DIS- SOLVED (UG/L AS Li) (01130)	MANGA- NESE TOTAL (UG/L AS Mn) (01055)	MANGA- NESE DIS- SOLVED (UG/L AS Mn) (01056)	MERC- URY DIS- SOLVED (UG/L AS Hg) (71890)	MOLYB- DENUM DIS- SOLVED (UG/L AS Mo) (01060)	NICKEL DIS- SOLVED (UG/L AS Ni) (01065)	SELEN- IUM DIS- SOLVED (UG/L AS Se) (01145)	SILVER DIS- SOLVED (UG/L AS Ag) (01075)	STRONT- IUM DIS- SOLVED (UG/L AS Sr) (01080)	VANAD- IUM DIS- SOLVED (UG/L AS V) (01085)	ZINC DIS- SOLVED (UG/L AS Zn) (01090)
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657,000	73	402	45,000	47,200	<0.1	<11.0	883	<5	<10	1,990	<5	674
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CARBON
ORGANIC
DIS-

SOLVED (MG/L AS C) (00681)	TRITIUM TOTAL (PCI/L) (07000)	TRITIUM TOTAL (TU) (75985)	δ ³⁴ S (PER MIL) (82086)
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1	35.5	11.0	-8.0
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304 GEOCHEMISTRY AND GROUND-WATER FLOW BENEATH AN ABANDONED COAL MINE TREATED WITH FLUE-GAS DESULFURIZATION BY-PRODUCTS AS SOIL AND SPOIL AMENDMENTS

403320081311000. Local number, TU-112-W7.

LOCATION.--Lat 40°33'20', long 81°31'10', Hydrologic Unit 05040001, approximately 1.5 miles northeast of the city of Dover, 0.5 miles west of I-77.

AQUIFER.--Sandstones and coals of Allegheny and Conemaugh Groups, of middle and lower Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation well; diameter, 6 in.; depth, 53.0 ft.

INSTRUMENTATION.--Periodic measurement of water level with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,058.99 feet above National Geodetic Vertical Datum of 1983, surveyed using Total Station with reference points established by global positioning system, accurate to 0.01 ft. Measuring point is 1,061.60 feet above land surface datum.

PERIOD OF RECORD.--Mar. 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 25.45 ft below land surface datum on Jun 21; lowest measured, 26.19 ft below land surface datum on Sept 7.

REMARKS.--This site is used for chemical-quality sampling only as part of a cooperative study with The Ohio State University.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	REDOX POT- ENT- IAL (MV) (00090)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TURBID- ITY (NTU) (00076)	OXYGEN DIS- SOLVED (MG/L) (00300)	HARD- NESS (MG/L AS CaCO3) (00900)	ACID- ITY (MG/L AS CaCO3) (00435)	CALCIUM DIS- SOLVED (MG/L AS Ca) (00915)	MAGNE- SIUM DIS- SOLVED (MG/L AS Mg) (00925)
950621	1630	2,470	5.7	408	33	13.5	14	0.000	1,490	5.9	369.2	158.00

	POTAS- SIUM DIS- SOLVED (MG/L AS Na) (00930)	BI- CARB- ONATE IT-FIELD (MG/L AS CaCO3) (00440)	ALKA- LIN- ITY WATER WHOLE FIELD (MG/L AS CaCO3) (00410)	SULF- ATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLOR- IDE DIS- SOLVED (MG/L AS Cl) (00940)	FLUOR- IDE DIS- SOLVED (MG/L AS F) (00950)	SILICA DIS- SOLVED (MG/L AS SiO2) (00955)	DIS- SOLVED RESI- DUE AT 180 C (MG/L) (70300)	DIS- SOLVED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN NITRATE DIS- SOLVED (MG/L AS N) (00631)
12.40	14.20	168	136	1,051	3	1	12.80	2,828	2,830	1.10	<0.01	<0.05

PHOS- PHORUS ORTHO- PHOS- PHATE DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM DIS- SOLVED (UG/L AS Al) (01105)	ALUM- INUM DIS- SOLVED (UG/L AS Al) (01106)	ANTI- MONY DIS- SOLVED (UG/L AS Sb) (01095)	ARS- ENIC DIS- SOLVED (UG/L AS As) (01001)	BARIUM DIS- SOLVED (UG/L AS Ba) (01005)	BERYL- LIUM DIS- SOLVED (UG/L AS Be) (01010)	BORON DIS- SOLVED (UG/L AS B) (01020)	CAD- MIUM DIS- SOLVED (UG/L AS Cd) (01025)	CHROM- IUM DIS- SOLVED (UG/L AS Cr) (01030)	COBALT DIS- SOLVED (UG/L AS Co) (01035)	COPPER DIS- SOLVED (UG/L AS Cu) (01040)	IRON TOTAL (UG/L AS Fe) (01045)
0.02	389	59	<106	<1	15	<1.0	303	<1	<2	167	<2	164,000

IRON DIS- SOLVED (UG/L AS Fe) (01046)	LEAD DIS- SOLVED (UG/L AS Pb) (01049)	LITH- IUM DIS- SOLVED (UG/L AS Li) (01130)	MANGA- NESE TOTAL (UG/L AS Mn) (01055)	MANGA- NESE DIS- SOLVED (UG/L AS Mn) (01056)	MERC- URY DIS- SOLVED (UG/L AS Hg) (71890)	MOLYB- DENUM DIS- SOLVED (UG/L AS Mo) (01060)	NICKEL DIS- SOLVED (UG/L AS Ni) (01065)	SELEN- IUM DIS- SOLVED (UG/L AS Se) (01145)	SILVER DIS- SOLVED (UG/L AS Ag) (01075)	STRONT- IUM DIS- SOLVED (UG/L AS Sr) (01080)	VANAD- IUM DIS- SOLVED (UG/L AS V) (01085)	ZINC DIS- SOLVED (UG/L AS Zn) (01090)
149,000	<20	218	10,400	10,500	<0.1	<11.0	391	<5	<10	3,060	15	228

CARBON ORGANIC DIS- SOLVED (MG/L AS C) (00681)	TRITIUM TOTAL (PCI/L) (07000)	TRITIUM TOTAL (TU) (75985)	8 ³⁴ S (PER MIL) (82086)
0	67.8	20.9	-10.4

306 GEOCHEMISTRY AND GROUND-WATER FLOW BENEATH AN ABANDONED COAL MINE TREATED WITH FLUE-GAS DESULFURIZATION BY-PRODUCTS AS SOIL AND SPOIL AMENDMENTS

403323081311602. Local number, TU-114-W8D.

LOCATION.--Lat 40°33'23", long 81°31'16", Hydrologic Unit 05040001, approximately 1.5 miles northeast of the city of Dover, 0.5 miles west of I-77.

AQUIFER.--Sandstones and coals of Allegheny and Conemaugh Groups, of middle and lower Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation well; diameter, 6 in.; depth, 92.0 ft.

INSTRUMENTATION.--Periodic measurement of water level with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,075.49 feet above National Geodetic Vertical Datum of 1983, surveyed using Total Station with reference points established by global positioning system, accurate to 0.01 ft. Measuring point is 1,078.25 feet above land surface datum.

PERIOD OF RECORD.--Mar. 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 40.96 ft below land surface datum on Jun 21; lowest measured, 41.26 ft below land surface datum on Jul 13.

REMARKS.--This site is used for chemical-quality sampling only as part of a cooperative study with The Ohio State University.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	REDOX POT- ENT- IAL (MV) (00090)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TURBID- ITY (NTU) (00076)	OXYGEN DIS- SOLVED (MG/L) (00300)	HARD- NESS (MG/L AS CaCO3) (00900)	ACID- ITY (MG/L AS CaCO3) (00435)	CALCIUM DIS- SOLVED (MG/L AS Ca) (00915)	MAGNE- SIUM DIS- SOLVED (MG/L AS Mg) (00925)
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950621	1345	2,640	5.8	357	33	14.0	1	0.000	687	4.2	434.1	167.00
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		POTAS- SIUM DIS- SOLVED (MG/L AS Na) (00930)	BI- CARB- ONATE IT-FIELD (MG/L AS CaCO3) (00440)	ALKA- LIN- ITY WATER WHOLE FIELD (MG/L AS CaCO3) (00410)	SULF- ATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLOR- IDE DIS- SOLVED (MG/L AS Cl) (00940)	FLUOR- IDE DIS- SOLVED (MG/L AS F) (00950)	SILICA DIS- SOLVED (MG/L AS SiO2) (00955)	DIS- SOLVED RESI- DUE AT 180 C (MG/L) (70300)	DIS- SOLVED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN PLUS NITRATE DIS- SOLVED (MG/L AS N) (00631)
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11.10	9.30	203	160	1,113	3	2	12.20	3,144	3,140	0.91	0.02	<0.05
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		ALUM- INUM DIS- SOLVED (MG/L AS Al) (01105)	ANTI- MONY DIS- SOLVED (UG/L AS Sb) (01106)	ARS- ENIC DIS- SOLVED (UG/L AS As) (01001)	BARIUM DIS- SOLVED (UG/L AS Ba) (01005)	BERYL- LIUM DIS- SOLVED (UG/L AS Be) (01010)	BORON DIS- SOLVED (UG/L AS B) (01020)	CAD- MIUM DIS- SOLVED (UG/L AS Cd) (01025)	CHROM- IUM DIS- SOLVED (UG/L AS Cr) (01030)	COBALT DIS- SOLVED (UG/L AS Co) (01035)	COPPER DIS- SOLVED (UG/L AS Cu) (01040)	IRON TOTAL (UG/L AS Fe) (01045)
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0.06	51	67	<106	<1	13	<1.0	200	<1	<2	106	<2	196,000
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		LITH- IUM DIS- SOLVED (UG/L AS Fe) (01046)	MANGA- NESE TOTAL (UG/L AS Mn) (01130)	MANGA- NESE DIS- SOLVED (UG/L AS Mn) (01055)	MERC- URY DIS- SOLVED (UG/L AS Hg) (71890)	MOLYB- DENUM DIS- SOLVED (UG/L AS Mo) (01060)	NICKEL DIS- SOLVED (UG/L AS Ni) (01065)	SELEN- IUM DIS- SOLVED (UG/L AS Se) (01145)	SILVER DIS- SOLVED (UG/L AS Ag) (01075)	STRONT- IUM DIS- SOLVED (UG/L AS Sr) (01080)	VANAD- IUM DIS- SOLVED (UG/L AS V) (01085)	ZINC DIS- SOLVED (UG/L AS Zn) (01090)
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176,000	<20	147	10,400	10,000	<0.1	<11.0	261	--	<10	2,030	<5	87
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CARBON ORGANIC

DIS- SOLVED (MG/L AS C) (00681)	TRITIUM TOTAL (PCI/L) (07000)	TRITIUM TOTAL (TU) (75985)	$\delta^{34}\text{S}$ (PER MIL) (82086)
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1	58.0	--	-12.0
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403251081312800. Local number, TU-171-Horvath.

AQUIFER.--Sandstones and coals of Allegheny and Conemaugh Groups, of middle and lower Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled domestic supply well; diameter, 5 in., depth unknown.

PERIOD OF RECORD.--Mar. 1995 to current year.

REMARKS.--This site is used for chemical-quality sampling only as part of a cooperative study with The Ohio State University.

[illegible]

950613	1645	468	7.0	318	23	12.0	0	<0.100	242	0.2	68.4	17.20
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11.00	5.40	303	247	22	3	1	10.10	231	231	0.97	<0.01	<0.05
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[illegible]

<0.01	<30	<30	<106	<1	243	<1.0	364	<1	<2	<6	<2	322
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295	<20	17	145	137	<0.1	<11.0	<4	<1	<10	598	<5	<1
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SOLVED	TRITIUM	TRITIUM	
(MG/L	TOTAL	TOTAL	$\delta^{34}\text{S}$
AS C)	(PCI/L)	(TU)	(PER MIL)
(00681)	(07000)	(75985)	(82086)

0 2.0 0.6 0.7

309

LOCATION...Lat 40°32'59', long 81°31'08', Hydrologic Unit 05040001, approximately 1.5 miles northeast of the city of Dover, 0.5 miles west of I-77.

WELL CHARACTERISTICS.--Drilled domestic supply well; diameter, 5 in., depth unknown.

PERIOD OF RECORD.--Mar. 1995 to current year.

REMARKS.--This site is used for chemical-quality sampling only as part of a cooperative study with The Ohio State University.

[illegible]

310 GEOCHEMISTRY AND GROUND-WATER FLOW BENEATH AN ABANDONED COAL MINE TREATED WITH FLUE-GAS DESULFURIZATION BY-PRODUCTS AS SOIL AND SPOIL AMENDMENTS

403301081305900. Local number, TU-173-Caledine.

LOCATION.--Lat 40°33'01' , long 81°30'59' , Hydrologic Unit 05040001, approximately 1.5 miles northeast of the city of Dover, 0.5 miles west of I-77.

AQUIFER.--Sandstones and coals of Allegheny and Conemaugh Groups, of middle and lower Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled domestic supply well; diameter, 5 in., depth unknown.

PERIOD OF RECORD.--Mar. 1995 to current year.

REMARKS.--This site is used for chemical-quality sampling only as part of a cooperative study with The Ohio State University.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	REDOX POT- ENT- IAL (MV) (00090)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TURBID- ITY (NTU) (00076)	OXYGEN DIS- SOLVED (MG/L) (00300)	HARD- NESS (MG/L AS CaCO3) (00900)	ACID- ITY (MG/L AS CaCO3) (00435)	CALCIUM DIS- SOLVED (MG/L AS Ca) (00915)	MAGNE- SIUM DIS- SOLVED (MG/L AS Mg) (00925)
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950614	1045	462	7.3	268	18	12.5	0	<0.100	143	0.1	40.6	10.10
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	POTAS- SIUM DIS- SOLVED (MG/L AS Na) (00930)	BI- CARB- ONATE IT-FIELD (MG/L AS CaCO3) (00440)	ALKA- LIN- ITY WATER WHOLE FIELD (MG/L AS CaCO3) (00410)	SULF- ATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLOR- IDE DIS- SOLVED (MG/L AS CL) (00940)	FLUOR- IDE DIS- SOLVED (MG/L AS F) (00950)	SILICA DIS- SOLVED (MG/L AT 180 C AS SiO2) (00955)	DIS- SOLVED RESI- DUE (MG/L) (70300)	DIS- SOLVED SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO- GEN NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN NITRATE DIS- SOLVED (MG/L AS N) (00631)
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47.70	2.30	284	232	9	12	1	8.80	195	195	1.00	<0.01	<0.05
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PHOS- PHORUS ORTHO- PHOS- PHATE DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM DIS- SOLVED (UG/L AS AL) (01105)	ALUM- INUM DIS- SOLVED (UG/L AS AL) (01106)	ANTI- MONY DIS- SOLVED (UG/L AS SB) (01095)	ARS- ENIC DIS- SOLVED (UG/L AS AS) (01001)	BARIUM DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM DIS- SOLVED (UG/L AS BE) (01010)	BORON DIS- SOLVED (UG/L AS B) (01020)	CAD- MIUM DIS- SOLVED (UG/L AS CD) (01025)	CHROM- IUM DIS- SOLVED (UG/L AS CR) (01030)	COBALT DIS- SOLVED (UG/L AS CO) (01035)	COPPER DIS- SOLVED (UG/L AS CU) (01040)	IRON TOTAL (UG/L AS FE) (01045)
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0.01	<30	34	<106	<1	178	<1.0	125	<1	<2	<6	12	177
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IRON DIS- SOLVED (UG/L AS FE) (01046)	LEAD DIS- SOLVED (UG/L AS PB) (01049)	LITH- IUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE TOTAL (UG/L AS MN) (01055)	MANGA- NESE DIS- SOLVED (UG/L AS MN) (01056)	MERC- URY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM DIS- SOLVED (UG/L AS MO) (01060)	NICKEL DIS- SOLVED (UG/L AS NI) (01065)	SELEN- IUM DIS- SOLVED (UG/L AS SE) (01145)	SILVER DIS- SOLVED (UG/L AS AG) (01075)	STRONT- IUM DIS- SOLVED (UG/L AS SR) (01080)	VANAD- IUM DIS- SOLVED (UG/L AS V) (01085)	ZINC DIS- SOLVED (UG/L AS ZN) (01090)
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164	<20	<4	51	47	<0.1	<11.0	<4	<1	<10	250	<5	15
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CARBON ORGANIC DIS- SOLVED (MG/L AS C) (00681)	TRITIUM TOTAL (PCI/L) (07000)	TRITIUM TOTAL (TU) (75985)	δ ³⁴ S (PER MIL) (82086)
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0	<1.0	<0.3	--
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LOCATION.--Lat 40°33'01', long 81°30'57', Hydrologic Unit 05040001, approximately 1.5 miles northeast of the city of Dover. 0.5 miles west of I-77.

WELL CHARACTERISTICS.--Drilled domestic supply well; diameter, 5 in., depth unknown

PERIOD OF RECORD.--Mar. 1995 to current year.

REMARKS.--This site is used for chemical-quality sampling only as part of a cooperative study with The Ohio State University.

[illegible]

403307081305200. Local number, TU-175-Laizure.

AQUIFER.--Sandstones and coals of Allegheny and Conemaugh Groups, of middle and lower Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled domestic supply well; diameter, 5 in., unknown

PERIOD OF RECORD.--Mar. 1995 to current year.

REMARKS.--This site is used for chemical-quality sampling only as part of a cooperative study with The Ohio State University.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH	REDOX POTENTIAL (MV) (00090)	TEMPERATURE AIR (DEG C) (00020)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN SOLVED (MG/L) (00300)	HARDNESS (MG/L AS CaCO3) (00900)	ACIDITY (MG/L AS CaCO3) (00435)	CALCIUM SOLVED (MG/L AS Ca) (00915)	MAGNESIUM SOLVED (MG/L AS MG) (00925)
			WATER WHOLE FIELD (STANDARD UNITS) (00400)									
950620	1345	757	7.2	448	28	13.0	2	4.950	87	0.3	24.3	6.40

ALKA-LIN-ITY											NITRO-GEN	
SODIUM DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM DIS-SOLVED (MG/L AS K) (00935)	BI-CARB-ONATE IT-FIELD (MG/L AS CACO3) (00440)	WATER WHOLE FIELD (MG/L AS CACO3) (00410)	SULF-ATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLOR-IDE DIS-SOLVED (MG/L AS CL) (00940)	FLUOR-IDE DIS-SOLVED (MG/L AS F) (00950)	SILICA DIS-SOLVED (MG/L AS SIO2) (00955)	DIS-SOLVED SOLIDS DUE AT 180 C (MG/L) (70300)	DIS-SOLVED SOLIDS SUM OF CONSTIT- UENTS (MG/L) (70301)	NITRO-GEN NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN PLUS NITRATE DIS-SOLVED (MG/L AS N) (00631)
144.00	3.90	428	350	125	7	2	7.30	473	473	0.47	<0.01	0.07

PHOS -
PHORUS
ORTHO -

PHOS- PHATE	ALUM- INUM	ANTI- MONY	ARS- ENIC	BARIUM	BERYL- LIUM	BORON	CAD- MIUM	CHROM- IUM	COBALT	COPPER	IRON
DIS- SOLVED	ALUM- INUM	DIS- SOLVED	DIS- SOLVED	DIS- SOLVED	DIS- SOLVED	DIS- SOLVED	DIS- SOLVED	DIS- SOLVED	DIS- SOLVED	DIS- SOLVED	DIS- SOLVED
(MG/L AS P)	(UG/L AS AL)	(UG/L AS AL)	(UG/L AS SB)	(UG/L AS AS)	(UG/L AS BA)	(UG/L AS BE)	(UG/L AS B)	(UG/L AS CD)	(UG/L AS CR)	(UG/L AS CO)	(UG/L AS CU)
(00671)	(01105)	(01106)	(01095)	(01001)	(01005)	(01010)	(01020)	(01025)	(01030)	(01035)	(01040)
<0.01	<30	<30	<106	<1	38	<1.0	643	<1	<2	<6	24
											140

IRON DIS-	LEAD DIS-	LITH- IUM DIS-	MANGA- NESE DIS-	MANGA- NESE DIS-	MERC- URY DIS-	MOLYB- DENUM DIS-	NICKEL DIS-	SELEN- IUM DIS-	SILVER DIS-	STRONT- IUM DIS-	VANAD- IUM DIS-	ZINC DIS-
SOLVED (UG/L AS FE) (01046)	SOLVED (UG/L AS PB) (01049)	SOLVED (UG/L AS LI) (01130)	TOTAL (UG/L AS MN) (01055)	SOLVED (UG/L AS MN) (01056)	SOLVED (UG/L AS HG) (71890)	SOLVED (UG/L AS MO) (01060)	SOLVED (UG/L AS NI) (01065)	SOLVED (UG/L AS SE) (01145)	SOLVED (UG/L AS AG) (01075)	SOLVED (UG/L AS SR) (01080)	SOLVED (UG/L AS V) (01085)	SOLVED (UG/L AS ZN) (01090)
24	<20	8	84	82	<0.1	<11.0	10	<1	<10	307	<5	8

**CARBON
ORGANIC**

DIS- SOLVED (MG/L AS C) (00681)	TRITIUM TOTAL (PCI/L) (07000)	TRITIUM TOTAL (TU) (75985)	$\delta^{34}\text{S}$ (PER MIL) (82086)
0	25.3	7.8	-11.2

--	58.0	17.9	-6.6
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LOCATION...Lat 40°33'04', long 81°31'15', Hydrologic Unit 05040001, approximately 1.5 miles northeast of the city of Dover, 0.5 miles west of I-77.

WELL CHARACTERISTICS.--Drilled domestic supply well; diameter, 5 in., depth unknown.

PERIOD OF RECORD.--Mar. 1995 to current year.

REMARKS.--This site is used for chemical-quality sampling only as part of a cooperative study with The Ohio State University.

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD ARD UNITS) (00400)	REDOX POTENTIAL (MV) (00090)	TEMPERATURE AIR (DEG C) (00020)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN DIS-SOLVED (MG/L) (00300)	HARDNESS (MG/L AS CaCO3) (00900)	ACIDITY (MG/L AS CaCO3) (00435)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)	MAGNESIUM DIS-SOLVED (MG/L AS Mg) (00925)											
		POTASSIUM DIS-SOLVED (MG/L AS K) (00930)	BICARBONATE IT-FIELD (MG/L AS CaCO3) (00440)	ALKALINITY WATER WHOLE FIELD (MG/L AS CaCO3) (00410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLORIDE DIS-SOLVED (MG/L AS CL) (00940)	FLUORIDE DIS-SOLVED (MG/L AS F) (00950)	SILICA DIS-SOLVED (MG/L AS SiO2) (00955)	DIS-SOLVED SOLIDS RESISTANCE DUE AT 180 C (MG/L) (70300)	DIS-SOLVED SOLIDS SUM OF CATIONS (MG/L) (70301)	NITROGEN NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITROGEN AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRATE PLUS NITRATE DIS-SOLVED (MG/L AS N) (00631)										
950614	1415	524	7.2	366	23	12.5	0	<0.100	--	0.1	--	--											
													NITROGEN NITRITE PLUS NITRATE DIS-SOLVED (MG/L AS N) (00631)										
55.10	--	322	264	10	6	1	3.40	256	256	0.06	<0.01	0.07											
PHOSPHORUS ORTHOPHOSPHATE ALUMINUM DIS-SOLVED (MG/L AS P) (00671)													ALUMINUM DIS-SOLVED (UG/L AS AL) (01105)	ANTIMONY DIS-SOLVED (UG/L AS SB) (01095)	ARSENIC DIS-SOLVED (UG/L AS AS) (01001)	BARIUM DIS-SOLVED (UG/L AS BA) (01005)	BERYLLIUM DIS-SOLVED (UG/L AS BE) (01010)	BORON DIS-SOLVED (UG/L AS B) (01020)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHROMIUM DIS-SOLVED (UG/L AS CR) (01030)	COBALT DIS-SOLVED (UG/L AS CO) (01035)	COPPER DIS-SOLVED (UG/L AS CU) (01040)	IRON TOTAL (UG/L AS FE) (01045)
0.03	<30	<30	<106	<1	<1	<1.0	65	<1	<2	<6	<2	<11											
IRON DIS-SOLVED (UG/L AS FE) (01046)	LEAD DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGANESE TOTAL (UG/L AS MN) (01055)	MANGANESE DIS-SOLVED (UG/L AS MN) (01056)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYBDENUM DIS-SOLVED (UG/L AS MO) (01060)	NICKEL DIS-SOLVED (UG/L AS NI) (01065)	SELENIUM DIS-SOLVED (UG/L AS SE) (01145)	SILVER DIS-SOLVED (UG/L AS AG) (01075)	STRONTIUM DIS-SOLVED (UG/L AS SR) (01080)	VANADIUM DIS-SOLVED (UG/L AS V) (01085)	ZINC DIS-SOLVED (UG/L AS ZN) (01090)											
<11	<20	<4	<1	<1	--	<11.0	<4	<1	<10	<1	<5	<1											
CARBON ORGANIC DIS-SOLVED TRITIUM (MG/L AS C) (00681)													TOTAL TRITIUM (PCI/L) (07000)	TOTAL TRITIUM (TU) (75985)	$\delta^{34}\text{S}$ (PER MIL) (82086)								
--	<1.0	<0.3	--																				

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, 88th Air Base Wing/Environmental Management. The purpose of the study is to evaluate the affects of Wright-Patterson Air Force Base on regional ground-water and surface-water quality.

DEPTH BELOW LAND SURFACE DATUM (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

Site	Latitude	Longitude	Local Well number	Aquifer code	Land-surface altitude (feet above sea level)	Date of water-level measurement	Water level (feet below land surface)
394851084042300	394851.00	840423.00	GR-208	112OTSH	796.29	1994.11.02	6.38
						1994.11.22	6.34
						1994.12.14	6.11
						1995.02.16	6.15
						1995.05.23	5.07
394851084042300	394851.00	840423.00	GR-210	112OTSH	796.07	1994.11.02	5.48
						1994.11.22	5.46
						1994.12.14	5.17
						1995.02.16	5.26
						1995.05.23	3.90
394853084042600	394853.91	840421.98	GR-214	112OTSH	795.43	1994.10.24	5.67
						1994.11.22	5.74
						1994.12.14	5.53
						1995.02.16	5.54
394852084042500	394853.76	840422.06	GR-215	112OTSH	795.67	1994.10.24	6.05
						1994.11.22	6.05
						1994.12.14	5.83
						1995.02.16	5.86
394852084042600	394853.65	840422.07	GR-216	112OTSH	795.49	1994.10.24	5.47
						1994.11.22	5.46
						1994.12.14	5.21
						1995.02.16	5.25
395008084011500	395008.00	840115.00	GR-248	112OTSH	825.43	1994.10.24	13.14
						1994.11.22	13.43
						1994.12.14	13.29
						1995.02.16	13.59
						1995.05.23	10.67
395004084013701	395004.10	840137.43	GR-256	112OTSH	822.30	1994.10.17	16.89
						1994.11.22	17.05
						1994.12.14	16.38
						1995.02.02	15.77
395004084013700	395004.16	840137.40	GR-257	112OTSH	822.30	1994.10.17	12.57
						1994.11.22	13.01
						1994.12.14	12.77
						1995.02.02	13.03
394811084045100	394810.99	840451.12	GR-264	112OTSH	791.20	1994.10.24	7.67
						1994.11.22	7.88
						1994.12.14	7.68
						1995.02.02	7.67
						1995.03.22	7.36
395030084011900	395028.86	840120.90	GR-275	112OTSH	828.80	1994.10.17	17.22
						1994.11.22	17.50
						1994.12.14	17.37
						1995.02.02	17.29
394625084054200	394624.58	840542.15	GR-283	112OTSH	825.90	1994.10.24	7.65

GROUND-WATER RECORDS FOR THE BASE WIDE MONITORING PROGRAM

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Site	Latitude	Longitude	Local Well number	Aquifer code	Land- surface altitude (feet above sea level)	Date of water-level measurement	Water level (feet below land surface)
394641084051900	394640.71	840518.62	GR-286	112OTSH	882.00	1994.11.23	7.46
						1994.12.15	5.03
						1994.10.17	6.02
						1994.11.23	5.53
						1994.12.15	3.52
394736084054700	394735.99	840546.95	GR-287	112OTSH	793.43	1995.02.02	2.63
						1994.10.17	25.96
						1994.11.23	26.51
						1994.12.15	26.19
						1995.02.02	DRY
39407084014600	394907.24	840146.11	GR-288	112OTSH	833.72	1994.10.17	25.88
						1994.11.22	26.43
						1994.12.14	26.77
						1995.02.16	27.69
						1994.10.17	27.75
394907084014601	394907.18	840146.08	GR-289	112OTSH	833.69	1994.11.22	28.28
						1994.12.14	28.93
						1995.02.16	29.70
						1994.10.17	30.30
						1994.11.22	31.53
394834084015400	394834.29	840154.10	GR-298	112OTSH	838.30	1994.12.14	31.66
						1995.02.16	32.27
						1994.10.17	17.50
						1994.11.22	17.75
						1994.12.14	17.64
395030084011901	395028.88	840120.99	GR-299	112OTSH	829.00	1995.02.02	17.43
						1994.10.17	9.34
						1994.11.22	9.42
						1994.12.14	9.08
						1995.02.02	9.10
394942084033500	394942.17	840333.90	GR-303	360ODVC	803.60	1995.03.22	8.72
						1994.10.04	2.38
						1994.10.24	2.45
						1994.12.14	2.30
						1994.10.04	6.02
394831084042700	394831.37	840426.86	GR-305	360ODVC	796.81	1994.10.24	6.00
						1994.12.14	5.77
						1994.10.24	32.48
						1994.11.22	32.02
						1994.12.15	31.74
394815084020700	394815.53	840206.20	GR-306	360ODVC	839.88	1995.02.16	31.20
						1994.10.17	34.21
						1994.11.22	33.73
						1994.12.14	33.51
						1995.02.16	33.08
394743084024300	394743.03	840244.81	GR-307	360ODVC	838.67	1994.10.04	8.04
						1994.10.17	27.25
						1994.11.23	27.25
						1994.12.15	26.90
						1995.02.02	26.68
394750084043800	394748.00	840440.00	GR-308	360ODVC	799.86	1994.10.17	27.85
						1994.10.17	27.25
						1994.11.23	27.25
						1994.12.15	26.90
						1995.02.02	26.68
394706084045800	394705.78	840458.60	GR-309	357BFLD	976.72	1994.10.17	27.85
						1994.10.17	27.85
						1994.11.23	27.09
						1994.12.15	26.90
						1995.02.02	26.68
394633084045300	394632.63	840453.12	GR-310	357BFLD	974.08	1994.10.17	27.85
						1994.10.17	27.85
						1994.11.23	27.09
						1994.12.15	26.90
						1995.02.02	26.68

Site	Latitude	Longitude	Local Well number	Aquifer code	Land-surface altitude (feet above sea level)	Date of water-level measurement	Water level (feet below land surface)
						1994.12.15	26.20
						1995.02.02	25.15
394852084023100	394853.08	840231.88	GR-311	360ODVC	812.66	1994.10.17	57.77
						1994.11.22	54.51
						1994.12.14	52.09
						1995.02.02	46.16
						1995.03.22	39.44
394706084045801	394705.63	840458.63	GR-312	361WTTR	976.61	1994.10.17	99.33
						1994.11.23	100.84
						1994.12.15	98.20
						1995.02.02	99.09
394645084055200	394644.23	840551.22	GR-313	360ODVC	807.64	1994.10.24	36.38
						1994.11.23	36.65
						1994.12.12	36.78
						1995.02.16	36.77
394929084015000	394928.99	840148.94	GR-314	360ODVC	821.87	1994.10.17	20.00
						1994.11.22	20.14
						1994.12.14	20.13
						1995.02.02	20.20
						1995.03.22	20.25
395032084023100	395032.28	840231.91	GR-315	360ODVC	814.83	1994.10.17	150.31
						1994.11.22	147.32
						1994.12.14	145.54
						1995.02.02	141.54
395032084023101	395032.33	840231.95	GR-316	112OTSH	814.56	1994.10.17	8.52
						1994.11.22	8.59
						1994.12.14	7.91
						1995.02.02	7.94
395032084023102	395032.28	840231.98	GR-317	112OTSH	814.55	1994.10.17	6.17
						1994.11.22	6.09
						1994.12.14	5.37
						1995.02.02	5.35
394929084015001	394928.99	840149.12	GR-318	112OTSH	821.69	1994.10.17	17.71
						1994.11.22	18.21
						1994.12.14	18.23
						1995.02.02	18.58
						1995.03.22	18.30
394929084015002	394928.86	840149.02	GR-319	112OTSH	822.02	1994.10.17	20.87
						1994.11.22	21.13
						1994.12.14	20.89
						1995.02.02	20.97
						1995.03.22	20.73
394942084033501	394942.17	840333.85	GR-320	112OTSH	803.52	1994.10.17	9.73
						1994.11.22	9.81
						1994.12.14	9.66
						1995.02.02	9.63
						1995.03.22	9.30
394855084033901	394855.63	840338.83	GR-321	112OTSH	798.58	1994.10.04	4.47
						1994.10.24	4.48
						1994.12.14	4.14
94855084033902	394855.52	840338.98	GR-322	112OTSH	798.68	1994.10.04	3.58
						1994.10.24	3.58

GROUND-WATER RECORDS FOR THE BASE WIDE MONITORING PROGRAM

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Site	Latitude	Longitude	Local Well number	Aquifer code	Land-surface altitude (feet above sea level)	Date of water-level measurement	Water level (feet below land surface)
394831084042701	394831.50	840426.78	GR-323	112OTSH	796.65	1994.12.14	3.33
						1994.10.04	7.50
						1994.10.24	7.45
394831084042702	394831.49	840426.97	GR-324	112OTSH	796.75	1994.12.14	7.26
						1994.10.04	7.01
						1994.10.24	6.95
394743084024301	394743.13	840244.67	GR-326	112OTSH	838.87	1994.12.14	6.62
						1994.10.17	30.51
						1994.11.22	30.96
394743084024302	394743.16	840244.94	GR-327	112OTSH	838.56	1994.12.14	31.11
						1995.02.16	31.45
						1994.10.17	29.70
3947430840243	394743.24	840244.80	GR-328	112OTSH	838.43	1994.11.22	30.30
						1994.12.14	30.36
						1995.02.16	30.71
394645084055201	394645.00	840551.08	GR-329	112OTSH	807.18	1994.10.17	33.16
						1994.11.22	33.35
						1994.12.14	33.58
394645084055201	394645.00	840551.08	GR-329	112OTSH	807.18	1995.02.16	33.72
						1994.10.11	31.41
						1994.11.02	31.93
394815084020701	394815.61	840206.13	GR-330	112OTSH	839.87	1994.11.23	32.16
						1994.12.12	32.36
						1994.12.20	32.24
394815084020701	394815.61	840206.13	GR-330	112OTSH	839.87	1995.02.16	32.55
						1995.05.23	32.35
						1994.10.11	29.45
394815084020702	394815.65	840206.22	GR-331	112OTSH	839.93	1994.10.24	29.63
						1994.11.22	29.97
						1994.12.15	30.16
394815084020702	394815.65	840206.22	GR-331	112OTSH	839.93	1995.02.16	33.19
						1995.05.23	29.83
						1994.10.24	32.24
394815084020703	394815.58	840206.29	GR-332	112OTSH	839.96	1994.11.22	32.60
						1994.12.15	32.77
						1995.02.16	33.12
394815084020703	394815.58	840206.29	GR-332	112OTSH	839.96	1994.10.24	27.76
						1994.11.22	28.10
						1994.12.15	28.33
394852084023101	394853.08	840231.73	GR-333	112OTSH	812.66	1995.02.16	28.72
						1995.05.23	28.10
						1994.10.17	13.88
394852084023101	394853.08	840231.73	GR-333	112OTSH	812.66	1994.11.22	14.10
						1994.12.14	13.94
						1995.02.02	13.58
394852084023102	394853.01	840231.81	GR-334	112OTSH	812.77	1995.03.22	13.78
						1994.10.17	13.97
						1994.11.22	14.24
394852084023102	394853.01	840231.81	GR-334	112OTSH	812.77	1994.12.14	13.91
						1995.02.02	13.99
						1995.03.22	13.84
394852084023103	394853.14	840231.82	GR-335	112OTSH	812.75	1994.10.17	13.89

GROUND-WATER RECORDS FOR THE BASE WIDE MONITORING PROGRAM

Site	Latitude	Longitude	Local Well number	Aquifer code	Land-surface altitude (feet above sea level)	Date of water-level measurement	Water level (feet below land surface)
						1994.11.22	14.12
						1994.12.14	13.88
						1995.02.02	14.05
						1995.03.22	13.71
NA	394707.36	840433.19	GR-401	112OTSH	904.03	1994.10.17	4.89
						1994.11.23	4.23
NA	394707.47	840433.06	GR-402	112OTSH	903.68	1994.10.17	2.73
						1994.11.23	2.66
NA	394730.50	840336.49	GR-412	112OTSH	831.53	1994.10.17	27.67
						1994.11.22	27.97
						1994.12.14	27.91
						1995.02.02	27.98
NA	394730.50	840336.40	GR-413	112OTSH	831.35	1994.10.17	20.27
						1994.11.22	20.90
						1994.12.14	20.85
						1995.02.02	20.60
NA	394824.96	840507.82	GR-414	112OTSH	789.93	1994.10.24	7.97
						1994.11.22	8.38
						1994.12.14	8.14
						1995.02.02	8.32
						1995.03.22	8.13
NA	394824.89	840507.80	GR-415	112OTSH	789.76	1994.10.24	8.15
						1994.11.22	8.60
						1994.12.14	8.33
						1995.02.02	8.57
						1995.03.22	8.38
NA	394824.83	840507.79	GR-416	112OTSH	789.83	1994.10.24	7.97
						1994.11.22	8.37
						1994.12.14	8.13
						1995.02.02	8.22
						1995.03.22	7.97
NA	394824.78	840507.78	GR-417	112OTSH	789.56	1994.10.24	7.94
						1994.11.22	8.25
						1994.12.14	7.99
						1995.02.02	8.00
						1995.03.22	7.62
NA	394828.50	840502.18	GR-419	112OTSH	788.35	1994.10.24	4.29
						1994.11.22	4.58
						1994.12.14	4.36
						1995.02.02	4.56
						1995.03.22	4.35
NA	394828.52	840502.25	GR-420	112OTSH	789.91	1994.10.24	6.02
						1994.11.22	6.32
						1994.12.14	6.10
						1995.02.02	6.24
						1995.03.22	6.03
NA	394828.55	840502.30	GR-421	112OTSH	790.18	1994.10.24	7.51
						1994.11.22	7.83
						1994.12.14	7.60
						1995.02.02	7.66
						1995.03.22	7.37
NA	395044.74	840136.59	GR-425	112OTSH	825.87	1994.10.17	15.22

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Site	Latitude	Longitude	Local Well number	Aquifer code	Land-surface altitude (feet above sea level)	Date of water-level measurement	Water level (feet below land surface)
						1994.11.22	15.35
						1994.12.14	15.19
						1995.02.02	14.90
NA	395044.66	840136.58	GR-426	112OTSH	825.81	1994.10.17	15.18
						1994.11.22	15.31
						1994.12.14	15.16
						1995.02.02	14.85
NA	394759.57	840503.70	GR-428	112OTSH	790.78	1994.10.24	17.18
						1994.11.22	18.44
						1994.12.14	17.88
						1995.02.02	17.97
						1995.03.22	17.57
NA	394759.46	840503.69	GR-429	112OTSH	790.88	1994.10.24	17.16
						1994.11.22	18.53
						1994.12.14	17.85
						1995.02.02	17.83
						1995.03.22	17.49
NA	394854.27	840151.23	GR-430	112OTSH	830.99	1994.10.17	24.07
						1994.11.22	24.62
						1994.12.14	25.40
						1995.02.16	26.23
NA	394854.22	840151.34	GR-431	112OTSH	830.83	1994.10.17	23.88
						1994.11.22	24.30
						1994.12.14	24.38
						1995.02.16	25.04
NA	394815.76	840206.13	GR-432	112OTSH	839.62	1994.10.24	31.87
						1994.11.22	32.12
						1994.12.15	32.29
						1995.02.16	32.78
NA	395003.54	840116.66	GR-433	112OTSH	826.18	1994.10.17	14.52
						1994.11.22	14.93
						1994.12.14	14.75
						1995.02.02	14.94
NA	394828.51	840502.40	GR-434	112OTSH	790.15	1994.10.24	7.27
						1994.11.22	7.58
						1994.12.14	7.29
						1995.02.02	7.36
						1995.03.22	7.07
NA	394907.17	840146.22	GR-435	112OTSH	833.20	1994.10.17	25.35
						1994.11.22	25.95
						1994.12.14	26.67
						1995.02.16	27.51
NA	394853.18	840231.95	GR-436	112OTSH	812.50	1994.10.17	13.64
						1994.11.22	14.03
						1994.12.14	13.77
						1995.02.02	13.90
						1995.03.22	13.36
NA	395003.38	840116.68	GR-437	112OTSH	826.41	1994.10.17	13.43
						1994.11.22	14.50
						1994.12.14	14.52
						1995.02.02	14.96
NA	395003.45	840116.57	GR-438	112OTSH	825.52	1994.10.17	13.37

GROUND-WATER RECORDS FOR THE BASE WIDE MONITORING PROGRAM

Site	Latitude	Longitude	Local Well number	Aquifer code	Land-surface altitude (feet above sea level)	Date of water-level measurement	Water level (feet below land surface)
						1994.11.22	13.46
						1994.12.14	13.50
						1995.02.02	13.98
NA	395003.48	840116.69	GR-439	112OTSH	825.80	1994.10.17	13.35
						1994.11.22	14.54
						1994.12.14	14.4
						1995.02.02	14.45
394617084072400	394617.10	840723.56	MT-125	112OTSH	785.60	1994.10.17	19.39
						1994.11.23	19.50
						1994.12.15	19.32
						1995.02.02	19.02
394622084073900	394622.03	840739.36	MT-126	112OTSH	780.90	1994.10.17	20.48
						1994.11.23	20.55
						1994.12.15	19.82
						1995.02.02	18.98
394617084072401	394617.26	840723.53	MT-129	112OTSH	785.50	1994.10.17	20.66
						1994.11.23	20.81
						1994.12.15	20.40
						1995.02.02	20.00
394623084064400	394623.73	840643.50	MT-133	360ODVC	792.08	1994.10.24	28.66
						1994.11.23	28.65
						1994.12.15	28.50
394623084064401	394623.63	840643.51	MT-152	112OTSH	792.26	1994.10.24	25.48
						1994.11.23	25.57
						1994.12.15	25.43
394623084064402	394623.69	840643.64	MT-153	112OTSH	791.96	1994.10.24	25.29
						1994.11.23	25.37
						1994.12.15	25.12
NA	394719.72	840628.34	MT-222	112OTSH	786.90	1994.10.17	24.43
						1994.11.23	22.39
						1994.12.15	22.29
						1995.02.02	22.32
NA	394719.78	840628.20	MT-223	112OTSH	787.20	1994.10.17	25.52
						1994.11.23	22.69
						1994.12.15	22.58
						1995.02.02	22.22
NA	394719.61	840628.59	MT-224	112OTSH	787.20	1994.10.17	40.71
						1994.11.23	34.91
						1994.12.15	32.90
						1995.02.02	36.07
NA	394728.19	840610.74	MT-225	112OTSH	791.70	1994.10.17	26.98
						1994.11.22	25.46
						1994.12.14	25.22
						1995.02.02	24.83
NA	394728.27	840610.55	MT-226	112OTSH	791.50	1994.10.17	26.84
						1994.11.22	25.29
						1994.12.14	24.89
						1995.02.02	24.41
NA	394728.36	840610.38	MT-227	112OTSH	791.60	1994.10.17	40.21
						1994.11.22	36.08
						1994.12.14	34.54
						1995.02.02	36.11

Site	Latitude	Longitude	Local Well number	Aquifer code	Land-surface altitude (feet above sea level)	Date of water-level measurement	Water level (feet below land surface)
NA	394733.57	840555.79	MT-228	112OTSH	788.80	1994.10.17	22.65
						1994.11.22	22.64
						1994.12.14	22.77
						1995.02.02	22.61
NA	394733.64	840555.60	MT-229	112OTSH	788.90	1994.10.17	22.65
						1994.11.22	23.21
						1994.12.14	22.63
						1995.02.02	27.10
NA	394733.73	840555.32	MT-230	112OTSH	789.10	1994.10.17	22.95
						1994.11.22	23.64
						1994.12.14	23.08
						1995.02.02	27.64
NA	394636.91	840714.72	MT-231	112OTSH	786.22	1994.10.17	28.58
						1994.11.23	28.58
						1994.12.15	27.33
						1995.02.02	27.40
NA	394636.98	840714.86	MT-232	112OTSH	785.96	1994.10.17	28.08
						1994.11.23	28.21
						1994.12.15	26.87
						1995.02.02	27.16
NA	394631.64	840734.98	MT-234	112OTSH	784.71	1994.10.17	26.36
						1994.11.23	26.43
						1994.12.15	25.55
						1995.02.02	25.23
NA	394627.06	840737.35	MT-235	112OTSH	781.77	1994.10.17	22.38
						1994.11.23	22.33
						1994.12.15	21.66
						1995.02.02	21.21
NA	394627.10	840737.20	MT-237	112OTSH	781.76	1994.10.17	22.44
						1994.11.23	22.47
						1994.12.15	21.68
						1995.02.02	21.19
NA	394701.15	840659.63	MT-238	112OTSH	781.49	1994.10.17	26.37
						1994.11.23	26.93
						1994.12.15	25.68
						1995.02.02	24.01
NA	394631.32	840735.08	MT-239	112OTSH	784.67	1994.10.17	28.61
						1994.11.23	27.40
						1994.12.15	24.60
						1995.02.02	26.54
NA	394631.26	840735.10	MT-240	112OTSH	784.74	1994.10.17	26.29
						1994.11.23	26.33
						1994.12.15	25.47
						1995.02.02	25.12
NA	394631.25	840735.09	MT-241	112OTSH	784.83	1994.10.17	26.86
						1994.11.23	26.49
						1994.12.15	25.18
						1995.02.02	25.50
NA	394710.23	840644.03	MT-242	112OTSH	785.16	1994.10.17	36.21
						1994.11.23	30.90
						1994.12.15	29.08
						1995.02.02	31.38

GROUND-WATER RECORDS FOR THE BASE WIDE MONITORING PROGRAM

Site	Latitude	Longitude	Local Well number	Aquifer code	Land-surface altitude (feet above sea level)	Date of water-level measurement	Water level (feet below land surface)
NA	394710.11	840644.11	MT-243	112OTSH	785.07	1994.10.17	30.42
						1994.11.23	30.42
						1994.12.15	25.97
						1995.02.02	27.62
NA	394701.09	840659.42	MT-244	112OTSH	781.90	1994.10.17	30.36
						1994.11.23	27.82
						1994.12.15	25.72
						1995.02.02	27.15
NA	394701.07	840659.60	MT-245	112OTSH	781.74	1994.10.17	35.65
						1994.11.23	31.89
						1994.12.15	27.00
						1995.02.02	32.78
NA	394701.04	840659.51	MT-246	112OTSH	781.98	1994.10.17	35.99
						1994.11.23	32.15
						1994.12.15	27.29
						1995.02.02	33.59
NA	394637.00	840714.69	MT-247	112OTSH	786.01	1994.10.17	35.78
						1994.11.23	33.46
						1994.12.15	29.70
						1995.02.02	33.50
NA	394735.94	840547.08	MT-248	112OTSH	793.07	1994.10.17	25.67
						1994.11.23	26.12
						1994.12.15	25.88
						1994.02.02	28.79
NA	394552.56	840658.75	MT-249	112OTSH	800.50	1994.10.17	14.97
						1994.11.23	15.26
						1994.12.15	15.02
						1995.02.02	14.99
NA	394552.50	840658.61	MT-250	112OTSH	800.77	1994.10.17	25.36
						1994.11.23	25.77
						1994.12.15	25.87
						1995.02.02	25.98
NA	394552.64	840658.59	MT-251	112OTSH	800.53	1994.10.17	25.17
						1994.11.23	25.47
						1994.12.15	25.54
						1995.02.02	25.61
NA	394552.68	840658.73	MT-252	112OTSH	800.28	1994.10.17	25.59
						1994.11.23	31.93
						1994.12.15	31.93
						1995.02.02	31.93

Aquifer Codes

112OTSH - Outwash, Pleistocene Epoch
 112TILL - Glacial Till
 357BFLD - Brassfield Limestone, Lower Silurian
 361RCMD - Richmond Group, Upper Ordovician
 111ALVM - Holocene Alluvium
 360ODVC - Ordovician System
 361WTTR - Whitewater Formation

BACTERIOLOGICAL AND SELECTED WATER-QUALITY DATA OF THE CUYAHOGA RIVER

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The following tables list the results of bacteriological, chemical, and physical measurements collected at two locations in the Cuyahoga River in Cuyahoga County, Ohio and one location in the Cuyahoga River in Summit County, Ohio. Samples were collected and analyzed as part of a study to investigate regrowth of chlorine-injured fecal-indicator bacteria in receiving waters.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

04208000

CUYAHOGA R AT INDEPENDENCE OH

DATE	TIME	GAGE HEIGHT (FEET) (00065)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	FECAL COLI- FORM, 0.45 UM-MF (COLS./ 100 ML) (31613)	FECAL COLI- FORM, 0.45 UM-MF, ENHANCE RECOVERY (COLS./ 100 ML) (99911)
MAY								
19...	1005	5.60	658	7.6	13.5	8.9	23000	93000
20...	1000	4.29	708	7.9	16.0	9.0	3600	8000
21...	0910	3.85	770	7.9	17.5	8.1	700	1600
JUN								
28...	1510	3.94	518	7.7	24.0	5.6	--	--
29...	1010	4.73	464	7.7	22.0	6.2	10000	25000
30...	0910	5.03	642	7.7	22.0	6.7	28000	39000
SEP								
19...	1545	2.59	904	8.0	18.5	9.1	--	--
20...	1000	2.66	846	7.8	17.5	8.6	2100	3100
21...	1000	3.01	810	7.8	17.5	8.2	2800	4200
22...	0900	2.78	782	7.7	18.0	8.0	--	--

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- ORTHOPHOS- DIS- SOLVED (MG/L AS P) (00671)
MAY							
19...	160	<0.01	1.2	0.20	1.7	0.43	0.13
20...	28	0.03	1.3	0.10	1.2	0.15	0.08
21...	18	0.03	1.6	0.08	1.1	0.14	0.06
JUN							
28...	210	0.10	1.4	0.20	1.6	0.55	0.34
29...	918	0.22	1.3	0.40	3.0	1.94	1.49
30...	301	0.01	1.6	0.05	1.2	0.53	0.50
SEP							
19...	26	<0.01	5.2	0.10	0.90	0.42	0.37
20...	39	<0.01	4.4	0.10	1.0	0.36	0.32
21...	60	0.10	4.3	0.10	1.1	0.43	0.37
22...	39	0.10	2.9	0.10	0.80	0.29	0.24

BACTERIOLOGICAL AND SELECTED WATER-QUALITY DATA OF THE CUYAHOGA RIVER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

04208506

- CUYAHOGA R AT W THIRD ST BRIDGE IN CLEVELAND OH

DATE	TIME	GAGE HEIGHT (FEET) (00065)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	FECAL COLI- FORM, 0.45 UM-MF (COLS./ 100 ML) (31613)	FECAL COLI- FORM, 0.45 UM-MF, RECOVERY (COLS./ 100 ML) (99911)	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)	SILICA, DIS- SOLVED (MG/L) AS SIO2) (00955)
AUG												
07...	1630	25.98	721	8.0	27.0	5.0	--	--	--	--	--	--
08...	0410	--	772	7.0	26.0	3.5	450	1300	--	--	--	--
08...	1400	25.99	790	7.4	26.0	3.6	--	--	--	--	--	--
09...	0410	26.20	852	7.2	26.0	3.5	400	550	--	--	--	--
09...	1430	24.18	887	7.7	24.5	5.7	--	--	--	--	--	--
31...	1415	--	1050	7.7	28.0	4.8	--	--	72	17	100	6.6

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L) AS N) (00625)	PHOS- PHORUS TOTAL (MG/L) AS P) (00665)	PHOS- ORTHO, DIS- SOLVED (MG/L) AS P) (00671)	BARIUM, DIS- SOLVED (UG/L) AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L) AS BE) (01010)	CARBON, ORGANIC TOTAL (MG/L) AS C) (00680)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L) (38260)
AUG											
07...	37	0.10	1.1	0.40	1.2	0.16	0.07	--	--	--	--
08...	80	0.10	1.4	0.40	1.5	0.25	0.20	--	--	--	--
08...	40	0.10	2.1	0.50	1.7	0.20	0.14	--	--	9.7	--
09...	47	0.10	3.0	0.40	1.6	0.24	0.16	--	--	--	--
09...	--	0.10	4.9	0.40	1.9	0.25	0.20	--	--	11	--
31...	--	--	--	--	--	--	--	47	<0.5	--	0.07

BACTERIOLOGICAL AND SELECTED WATER-QUALITY DATA OF THE CUYAHOGA RIVER

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

411359081330400 - CUYAHOGA R NR PENINSULA OH

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	FECAL	FECAL	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)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
			WATER			FORM,	COLI-				
			WHOLE			0.45	0.45				
			FIELD			UM-MF,	FORM,				
			(STAND-			ENHANCE	0.45				
			ARD			RECOVERY	UM-MF				
			UNITS)			(COLS./	(COLS./				
	100 ML)	100 ML)									
AUG											
07...	1500	775	8.0	24.5	7.9	--	--	--	--	--	--
08...	0530	840	7.4	23.5	7.5	870	3100	--	--	--	--
08...	1530	824	7.9	23.0	7.7	--	--	--	--	--	--
09...	0505	846	7.6	22.0	7.6	830	1500	--	--	--	--
09...	1300	440	8.0	19.0	7.9	--	--	--	--	--	--
10...	0930	655	7.8	21.0	6.9	--	--	--	--	--	--
31...	0930	921	7.5	23.0	7.4	--	--	72	17	84	8.9

DATE	RESIDUE	NITRO-	NITRO-	NITRO-	NITRO-		PHOS-				METHY-
	TOTAL	GEN,	GEN,	GEN,	GEN,AM-		PHORUS		BERYL-		LENE
	AT 105	NITRITE	NO2+NO3	AMMONIA	MONIA +	PHOS-	ORTHO,	BARIUM,	LIUM,	CARBON,	BLUE
	DEG. C,	DIS-	DIS-	DIS-	ORGANIC	PHORUS	DIS-	DIS-	DIS-	ORGANIC	ACTIVE
	SUS-	SOLVED	SOLVED	SOLVED	TOTAL	TOTAL	SOLVED	SOLVED	SOLVED	TOTAL	SUB-
PENDEED	(MG/L	(MG/L	(MG/L	(MG/L	(MG/L	(MG/L	(UG/L	(UG/L	(MG/L	STANCE	
(MG/L)	AS N)	AS N)	AS N)	AS N)	AS N)	AS P)	AS P)	AS BA)	AS BE)	AS C)	(MG/L)
(00530)	(00613)	(00631)	(00608)	(00625)	(00665)	(00671)	(01005)	(01010)	(00680)	(38260)	
AUG											
07...	22	0.10	0.70	0.10	0.80	0.20	0.14	--	--	--	--
08...	28	0.10	2.20	0.10	0.80	0.26	0.18	--	--	--	--
08...	22	0.10	2.30	0.20	1.2	0.20	0.16	--	--	7.3	--
09...	26	0.10	2.60	0.20	1.0	0.21	0.18	--	--	--	--
09...	4440	0.30	1.50	0.70	7.0	5.63	4.65	--	--	8.0	--
10...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	43	<0.5	--	0.07

330 SURFACE-WATER-QUALITY DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO

Surface-Water-Quality Data

The following tables contain chemical analyses of surface-water samples collected from various streams and rivers in Clark, Greene, and Montgomery counties. 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 September 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 was conducted in which wells located along regional flow paths were sampled for various environmental tracer compounds (chlorofluorocarbons, tritium-³He). 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. The chemical data presented below were collected to assist in the evaluation sources and controls of chlorofluorocarbon compounds in surface water at various locations in the Dayton area. Knowledge of the distribution of environmental tracer compounds in surface water is needed to evaluate the distribution of such compounds in shallow parts of the aquifer directly recharged by stream and river water. Results of the environmental tracer sampling of both surface water and ground water will be presented in a separate report.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

03263000 - G MIAMI R AT TAYLORSVILLE OH

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	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)
SEP 12...	705	8.2	21.0	8.6	679	8.1	320	77	30
DATE	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
SEP 12...	23	3.4	317	260	61	40	0.50	0.020	5.4
DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)
SEP 12...	406	0.010	2.00	<0.015	0.190	80	6	2	2.9

SURFACE-WATER-QUALITY DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO 331

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

394910084092300 - G MIAMI R AT NEEDMORE RD

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
SEP 18...	704	8.4	22.5	22.0	751	10.5	689	8.2	320	78
DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
SEP 18...	30	26	3.5	310	254	65	41	0.40	0.010	4.8
DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	
SEP 18...	410	0.010	1.80	<0.015	0.150	80	4	4	2.8	

332 SURFACE-WATER-QUALITY DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

394809084092100 - G MIAMI R AT MIAMI WELLFIELD

	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (90095)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	HARD- NESS TOTAL AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
SEP 19...	725	8.2	12.0	17.5	752	8.2	695	8.1	320	78
DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
SEP 19...	30	27	3.5	315	258	65	43	0.50	0.030	4.8
DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	
SEP 19...	416	0.010	1.90	<0.015	0.160	80	<3	2	2.8	

SURFACE-WATER-QUALITY DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO 333

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

395117084155900 - STILLWATER R AT HEATHCLIFF RD

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	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)
SEP 13...	705	8.1	25.0	7.4	684	8.1	310	68	34
DATE	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)
SEP 13...	25	3.2	259	212	62	46	0.30	0.020	1.7
DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)
SEP 13...	374	0.010	1.30	0.030	0.060	120	4	5	3.0

**334 SURFACE-WATER-QUALITY DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW
MODEL AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO**

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

394753084122500 - STILLWATER R AT SIEBENTHALER AVE

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	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)
SEP 13...	702	7.9	21.0	6.4	677	7.9	300	67	33
DATE	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
SEP 13...	25	3.2	339	278	59	47	0.30	0.020	2.2
DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)
SEP 13...	410	<0.010	1.30	0.020	0.070	100	4	4	2.9

SURFACE-WATER-QUALITY DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO 335

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

395226083594600 - MAD R AT I-675

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
SEP 19...	714	8.2	23.0	19.5	747	10.6	684	8.2	350	84
DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
SEP 19...	34	14	2.6	332	272	65	27	0.20	0.030	6.2
DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	
SEP 19...	413	0.020	3.70	<0.015	0.170	60	6	10	2.1	

**336 SURFACE-WATER-QUALITY DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW
MODEL AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO**

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

395122084031100 - MUD C AT VALLEY PIKE

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
SEP 25...	752	8.1	15.5	13.0	743	9.3	732	8.0	400	98
DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
SEP 25...	37	8.4	1.8	365	299	76	22	0.20	0.050	7.1
DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	
SEP 25...	447	0.010	3.80	<0.015	0.020	20	<3	5	1.1	

SURFACE-WATER-QUALITY DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO 337

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

395035084030200 - MAD R AT SR-235

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
SEP 19...	712	8.3	23.5	19.5	745	9.6	682	8.1	340	82
DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
SEP 19...	34	15	2.7	329	270	65	29	0.30	0.040	6.3
DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	
SEP 19...	413	0.010	3.60	<0.015	0.190	50	3	7	2.0	

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MODEL AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

395042084021700 - MUD RN AT MEDWAY RD

	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
SEP 25...		721	8.2	19.5	17.0	742	9.1	695	8.0	340 76
DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
SEP 25...	37	14	10	337	276	52	31	0.20	0.030	7.4
DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	
SEP 25...	413	<0.010	4.40	<0.015	0.020	30	<3	3	2.2	

SURFACE-WATER-QUALITY DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO 339

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

394755084050400 - HEBBLE C AT S. BND. WPAFB

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
SEP 19...	867	8.0	27.0	20.5	749	9.1	834	7.9	400	96
DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
SEP 19...	38	25	3.7	371	304	55	53	0.20	0.060	8.7
DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	
SEP 19...	496	0.020	7.70	<0.015	0.040	50	4	15	1.5	

**340 SURFACE-WATER-QUALITY DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW
MODEL AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO**

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

03270000 - MAD R NR DAYTON OH

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
SEP 25...	696	8.1	16.0	13.5	746	9.1	681	8.0	340	81
DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
SEP 25...	34	16	2.8	326	267	63	31	0.20	0.040	5.8
DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	
SEP 25...	409	0.010	3.20	0.020	0.140	60	6	8	2.0	

SURFACE-WATER-QUALITY DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO 341

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

394731084061800 - MAD R AT ROHERS IS INLET

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
SEP 19...	732	8.0	20.0	19.5	750	7.6	698	8.0	350	83
DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
SEP 19...	34	17	3.0	337	276	65	32	0.20	0.040	6.3
DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	
SEP 19...	422	0.020	3.50	0.020	0.140	60	5	10	2.1	

342 SURFACE-WATER-QUALITY DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW
MODEL AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

394605084110600 - MAD R AT WEBSTER ST

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
SEP 18...	723	8.4	20.0	21.0	752	12.3	699	8.3	340	82
DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
SEP 18...	34	19	3.3	334	274	64	36	0.20	0.040	5.9
DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	
SEP 18...	424	0.030	3.30	<0.015	0.130	60	7	5	2.2	

SURFACE-WATER-QUALITY DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO **343**

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

03271000 - WOLF C AT DAYTON OH

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	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)
SEP 12...	817	7.8	18.5	6.5	790	7.8	340	81	34
DATE	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
SEP 12...	34	2.7	332	272	64	66	0.40	0.070	4.7
DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)
SEP 12...	456	0.010	1.20	0.020	<0.010	70	6	9	1.6

344 SURFACE-WATER-QUALITY DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW
MODEL AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

394352084125700 - G MIAMI R AT BROADWAY

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH WATER LAB (STAND- ARD UNITS) (00403)	HARD- NESS TOTAL AS CACO3 (MG/L) (00900)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L) AS MG (00925)
SEP 12...	565	8.1	22.0	8.0	549	8.0	240	58	24
DATE	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	POTAS- SIUM, DIS- SOLVED (MG/L) AS K (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L) AS SO4 (00945)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL (00940)	FLUO- RIDE, DIS- SOLVED (MG/L) AS F (00950)	BROMIDE DIS- SOLVED (MG/L) AS BR (71870)	SILICA, DIS- SOLVED (MG/L) AS SIO2 (00955)
SEP 12...	20	2.9	234	192	48	34	0.20	0.010	3.3
DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) AS N (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) AS N (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS N (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L) AS P (00671)	BORON, DIS- SOLVED (UG/L) AS B (01020)	IRON, DIS- SOLVED (UG/L) AS FE (01046)	MANGA- NESE, DIS- SOLVED (UG/L) AS MN (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L) AS C (00681)
SEP 12...	315	0.020	2.00	0.140	0.120	70	7	10	4.2

SURFACE-WATER-QUALITY DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO 345

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

394116084135200 - G MIAMI R AT SELLARS AVE

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH WATER LAB (STAND- ARD UNITS) (00403)	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)
SEP 12...	799	8.3	22.5	7.6	770	8.2	310	74	31
DATE	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
SEP 12...	41	4.0	300	246	68	65	0.40	0.040	4.7
DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00691)
SEP 12...	452	0.010	3.40	0.040	0.320	100	<3	6	2.9

**346 SURFACE-WATER-QUALITY DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW
MODEL AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO**

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

394014084121200 - HOLES C AT ALEX-BELL PIKE

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	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)
SEP 11...	823	8.2	21.5	8.2	790	8.1	320	71	34
DATE	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LILITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
SEP 11...	47	2.5	251	206	44	91	0.20	0.050	7.6
DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)
SEP 11...	428	<0.010	1.70	0.020	0.010	50	<3	4	2.5

SURFACE-WATER-QUALITY DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO 347

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

394027084154100 - G MIAMI R AT MIAMI AVE

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH WATER LAB (STAND- ARD UNITS) (00403)	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)
SEP 12...	867	8.2	21.5	7.6	831	8.1	320	76	32
DATE	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
SEP 12...	53	4.6	304	248	74	76	0.50	0.070	5.1
DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00881)
SEP 12...	488	0.020	3.50	0.050	0.370	120	14	5	3.5

348 SURFACE-WATER-QUALITY DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW
MODEL AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

393910084172300 - BEAR C AT SOLDIERS-HOME RD

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH WATER LAB (STAND- ARD UNITS) (00403)	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)
SEP 11...	843	8.0	20.0	9.6	824	7.9	380	89	38
DATE	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)
SEP 11...	28	2.8	361	296	79	52	0.40	0.050	7.1
DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)
SEP 11...	481	<0.010	1.60	0.020	0.020	20	<3	3	1.5

SURFACE-WATER-QUALITY DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW MODEL AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO 349

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

393826084173100 - G MIAMI R LINDEN BRIDGE MIAMISBURG

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	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)
SEP 11...	867	8.4	25.5	10.0	858	8.3	330	77	33
DATE	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
SEP 11...	58	4.4	308	252	78	83	0.40	0.060	5.3
DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)
SEP 11...	507	0.020	3.40	<0.015	0.420	120	<3	5	3.8

**350 SURFACE-WATER-QUALITY DATA FOR THE DAYTON AREA REGIONAL GROUND-WATER-FLOW
MODEL AND ENVIRONMENTAL TRACER STUDY, DAYTON, OHIO**

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995--Continued

03271601 - G MIAMI R BL MIAMISBURG OH

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	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)
SEP 11...	887	8.4	18.5	8.2	865	8.2	330	77	33
DATE	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
SEP 11...	57	4.4	310	254	75	83	0.40	0.070	4.9
DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)
SEP 11...	503	0.010	3.30	<0.015	0.390	60	<3	2	3.9

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

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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 travel times 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.

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 Shadeville.

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 1994 TO SEPTEMBER 1995

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE IT-FLD (MG/L AS HCO3) (99440)
JAN 19...	470	7.8	--	4.0	12.2	180	49	14	15	3.0	149
MAY 31...	494	7.6	20.0	17.0	8.4	200	53	16	16	3.4	149
JUL 13...	720	7.3	--	27.0	5.5	300	79	24	29	3.4	242
AUG 30...	762	8.0	--	24.5	7.8	300	80	25	28	3.5	268

DATE	ALKA- LINITY, 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)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	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 ORTHO, DIS- SOLVED (MG/L AS P) (00671)
JAN 19...	122	65	32	0.20	2.8	258	0.020	0.790	0.120	0.50	0.020
MAY 31...	122	60	32	0.20	2.6	265	0.030	1.70	0.050	0.40	0.020
JUL 13...	198	80	55	0.30	5.8	400	0.010	0.890	0.030	0.30	<0.010
AUG 30...	220	88	54	0.30	5.5	419	<0.010	0.470	0.020	0.40	0.020

DATE	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	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)
JAN 19...	48	<0.5	<1.0	<3	<10	54	<10	4	9	<10	340
MAY 31...	58	<0.5	<1.0	<3	<10	40	<10	<4	10	<10	380
JUL 13...	96	0.6	2.0	<3	<10	9	<10	8	12	<10	500
AUG 30...	95	<0.5	<1.0	<3	<10	16	<10	4	15	10	460

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

[illegible][illegible]

DATE	ALA-	ACETO-	SOLIDS,	METRI-	2,6-DI-	TRI-	ETHAL-	TER-	LIN-	METHYL
	CHLOR,	CHLOR,	RESIDUE	BUZIN	ETHYL	FLUR-	FLUR-	BACIL	URON	PARA-
	WATER,	WATER	AT 180	SENCOR	ANILINE	ALIN	ALIN	WATER	WATER	THION
	DISS,	FLTRD	DEG. C	WATER	WAT FLT	WAT FLT	WAT FLT	FLTRD	FLTRD	WAT FLT
	REC,	REC	DIS-	DISSOLV	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
	(UG/L)	(UG/L)	(MG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)
	(46342)	(49260)	(70300)	(82630)	(82660)	(82661)	(82663)	(82664)	(82665)	(82666)
JAN										
19...	<0.01	<0.01	284	0.01	<0.01	<0.01	<0.01	<0.01	<0.03	<0.04
MAY										
31...	0.02	0.045	288	0.05	<0.01	<0.01	<0.01	<0.01	<0.03	<0.04
JUL										
13...	0.03	0.028	433	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AUG										
30...	--	--	441	--	--	--	--	--	--	--

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GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

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395000082593400 - BIG WALNUT CREEK AT ROUTE 317 NEAR SHADEVILLE--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	CAR- BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	PRO- PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	METHYL AZIN- PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)
JAN 19...	<0.01	<0.02	<0.05	<0.01	<0.01	<0.02	<0.01	<0.01	<0.04	<0.02
MAY 31...	<0.01	<0.02	<0.05	<0.01	<0.01	<0.02	<0.01	<0.01	<0.04	<0.02
JUL 13...	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AUG 30...	--	--	--	--	--	--	--	--	--	--

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 1994 TO SEPTEMBER 1995

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L) AS CACO3 (00900)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L) AS MG (00925)	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	POTAS- SIUM, DIS- SOLVED (MG/L) AS K (00935)	BICAR- BONATE IT-FLD (MG/L) AS HCO3 (99440)
JAN 10...	1190	8.0	--	5.0	12.2	350	96	27	100	7.2 199
MAY 31...	431	7.8	21.5	18.5	8.6	180	49	14	11	3.8 137
JUL 13...	750	7.5	--	26.0	7.8	280	78	21	35	6.3 172
AUG 30...	880	7.7	--	24.5	6.8	310	85	23	47	7.2 179

DATE	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L) CACO3 (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)	SILICA, DIS- SOLVED (MG/L) AS SIO2 (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) AS N (00613)	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 ORTHO, DIS- SOLVED (MG/L) AS P (00671)
JAN 10...	163	210	140	0.60	2.5	710	0.020	5.40	0.020	0.70	0.950
MAY 31...	112	44	21	0.30	7.1	239	0.070	4.60	0.070	0.70	0.160
JUL 13...	141	120	50	0.50	8.6	428	0.020	4.70	0.060	0.90	0.480
AUG 30...	147	160	66	0.60	6.8	504	0.020	3.80	0.020	0.60	0.600

DATE	BARIUM, DIS- SOLVED (UG/L) AS BA (01005)	BERYL- LIUM, DIS- SOLVED (UG/L) AS BE (01010)	CADMIUM DIS- SOLVED (UG/L) AS CD (01025)	COBALT, DIS- SOLVED (UG/L) AS CO (01035)	COPPER, DIS- SOLVED (UG/L) AS CU (01040)	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)
JAN 10...	38	<0.5	<1.0	<3	<10	27	<10	15	10	20	2300
MAY 31...	36	<0.5	<1.0	<3	<10	150	<10	<4	6	20	670
JUL 13...	46	<0.5	1.0	<3	<10	26	10	11	5	<10	1400
AUG 30...	38	<0.5	<1.0	<3	<10	18	<10	17	5	10	1600

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

394957083002900 - SCIOTO RIVER AT ROUTE 665 AT SHADEVILLE--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

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GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

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394957083002900 - SCIOTO RIVER AT ROUTE 665 AT SHADEVILLE--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	TRIAL- LATE WATER FLTRD 0.7 U (UG/L) (82678)	PRO- PANIL WATER FLTRD 0.7 U (UG/L) (82679)	CAR- BARYL WATER FLTRD 0.7 U (UG/L) (82680)	THIO- BENCARB WATER FLTRD 0.7 U (UG/L) (82681)	DCPA WATER FLTRD 0.7 U (UG/L) (82682)	PENDI- METH- ALIN WAT FLT 0.7 U (UG/L) (82683)	NAPROP- AMIDE WATER FLTRD 0.7 U (UG/L) (82684)	PRO- PARGITE WATER FLTRD 0.7 U (UG/L) (82685)	METHYL AZIN- PHOS WAT FLT 0.7 U (UG/L) (82686)	PER- METHRIN CIS WAT FLT 0.7 U (UG/L) (82687)
JAN										
10...	<0.01	<0.02	<0.05	<0.01	<0.01	<0.02	<0.01	<0.01	<0.04	<0.02
MAY										
31...	<0.01	<0.02	<0.05	<0.01	<0.01	<0.02	<0.01	<0.01	<0.04	<0.02
JUL										
13...	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AUG										
30...	--	--	--	--	--	--	--	--	--	--

395114083010401. SCIOTO RIVER AT CW-101 NR SHADEVILLE.

LOCATION.--Lat 39°51'14", long 83°01'04", Hydrologic Unit 05060001, adjacent to City of Columbus well CW-101, 1.5 mi north of Shadeville and 0.8 mi west of US 23.

PERIOD OF RECORD.--Aug. 1994 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 1994 TO SEPTEMBER 1995

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L) AS CAC03 (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 (MG/L) HCO3 (99440)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L) CAC03 (99430)
JAN											
09...	1230	8.4	6.5	15.1	290	79	22	110	6.5	198	162
DATE	SULFATE DIS- SOLVED (MG/L) AS SO4 (00945)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL (00940)	FLUO- RIDE, DIS- SOLVED (MG/L) AS F (00950)	SILICA, DIS- SOLVED (MG/L) AS SIO2 (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) AS N (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) AS N (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS N (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L) AS N (00623)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L) AS P (00671)	BARIUM, DIS- SOLVED (UG/L) AS BA (01005)
JAN											
09...	190	170	0.60	2.4	711	0.040	6.20	0.050	0.80	1.10	34
DATE	BERYL- LIUM, DIS- SOLVED (UG/L) AS BE (01010)	CADMIUM DIS- SOLVED (UG/L) AS CD (01025)	COBALT, DIS- SOLVED (UG/L) AS CO (01035)	COPPER, DIS- SOLVED (UG/L) AS CU (01040)	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)
JAN											
09...	<0.5	<1.0	<3	<10	24	<10	11	9	10	2000	<6
DATE	ZINC, DIS- SOLVED (UG/L) AS ZN (01090)	CARBON, ORGANIC DIS- SOLVED (MG/L) AS C (00681)	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	BUTYL- ATE, WATER, DISS, REC (UG/L) (04028)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	MONOFOS WATER, DISS, REC (UG/L) (04095)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
JAN											
09...	22	5.4	<0.02	<0.01	0.05	0.05	E0.13	0.10	<0.01	2500	800

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

395114083010401 - SCIOTO R AT CW-101 NR SHADEVILLE OH--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	ALPHA BHC DIS- SOLVED (UG/L) (34253)	P, P' DDE DISSOLV (UG/L) (34653)	CHLOR- PYRIFOS DIS- SOLVED (UG/L) (38933)	LINDANE DIS- SOLVED (UG/L) (39341)	DI- ELDRIN DIS- SOLVED (UG/L) (39381)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	MALA- THION, DIS- SOLVED (UG/L) (39532)	PARA- THION, DIS- SOLVED (UG/L) (39542)	DI- AZINON, DIS- SOLVED (UG/L) (39572)	ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	ALA- CHLOR, WATER, DISS, REC, (UG/L) (46342)
JAN 09...	<0.01	<0.01	0.02	<0.01	<0.01	0.16	<0.01	<0.02	0.03	0.57	<0.01
DATE	ACETO- CHLOR, WATER FLTRD REC (UG/L) (49260)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	2,6-DI- ETHYL ANILINE WAT FLT 0.7 U (UG/L) (82660)	TRI- FLUR- ALIN WAT FLT 0.7 U (UG/L) (82661)	ETHAL- FLUR- ALIN WAT FLT 0.7 U (UG/L) (82663)	PHORATE WATER FLTRD 0.7 U (UG/L) (82664)	TER- BACIL WATER FLTRD 0.7 U (UG/L) (82665)	LIN- URON WATER FLTRD 0.7 U (UG/L) (82666)	METHYL PARA- THION WAT FLT 0.7 U (UG/L) (82667)	
JAN 09...	<0.01	772	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.03	<0.04	<0.03
DATE	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	PEB- ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	TEBU- THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	MOL- INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	ETHO- PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	BEN- FLUR- ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	CARBO- FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	TER- BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	PRON- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	DISUL- FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	
JAN 09...	<0.01	<0.01	E0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.06
DATE	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	CAR- BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	PRO- PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	METHYL AZIN- PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	
JAN 09...	<0.01	<0.02	<0.05	<0.01	<0.01	<0.02	<0.01	<0.01	<0.04	<0.02	

395251083010700. SCIOTO RIVER AT I-270 S AT COLUMBUS.

LOCATION.--Lat 39°52'51", long 83°01'07", Hydrologic Unit 05060001, south side of I-270 S bridge over the Scioto River, 0.9 mi west of US 23.

PERIOD OF RECORD.--Aug. 1994 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 1994 TO SEPTEMBER 1995

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L) AS CAC03 (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 IT-FLD (MG/L) AS HCO3 (99440)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L) CAC03 (99430)
JAN 09...	1210	8.0	6.5	12.3	290	78	22	110	6.6	183	150

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WATER-QUALITY DATA. WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

[illegible]

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

395251083010700 - SCIOTO RIVER AT I-270 S AT COLUMBUS--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

	TRIAL- LATE WATER FLTRD 0.7 U	PRO- PANIL WATER FLTRD 0.7 U	CAR- BARYL WATER FLTRD 0.7 U	THIO- BENCARB WATER FLTRD 0.7 U	DCPA WATER FLTRD 0.7 U	PENDI- METH- ALIN WAT FLT 0.7 U	NAPROP- AMIDE WATER FLTRD 0.7 U	PRO- PARGITE WATER FLTRD 0.7 U	METHYL AZIN- PHOS WAT FLT 0.7 U	PER- METHRIN CIS WAT FLT 0.7 U
DATE	GF, REC (UG/L) (82678)	GF, REC (UG/L) (82679)	GF, REC (UG/L) (82680)	GF, REC (UG/L) (82681)	GF, REC (UG/L) (82682)	GF, REC (UG/L) (82683)	GF, REC (UG/L) (82684)	GF, REC (UG/L) (82685)	GF, REC (UG/L) (82686)	GF, REC (UG/L) (82687)
JAN										
09...	<0.01	<0.02	<0.05	<0.01	<0.01	<0.02	<0.01	<0.01	<0.04	<0.02

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 National Geodetic Vertical Datum of 1929. 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

Date	Water Level
APR 11	8.47
SEP 18	12.07

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 National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.3 ft above land-surface datum

PERIOD OF RECORD.--Oct. 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.03 ft below land-surface datum, Oct. 17, 1979; lowest measured, 21.69 ft below land-surface datum, Mar. 16, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
APR 11	20.72
SEP 18	17.85

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 National Geodetic Vertical Datum of 1929. Measuring point: Top of concrete base, 0.35 ft above land-surface datum.

PERIOD OF RECORD.--Apr. 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.24 ft below land-surface datum, Mar. 18, 1991; lowest measured, 27.60 ft below land-surface datum, June 12, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
APR 11	24.93
JUL 03	22.67
SEP 15	19.11

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 National Geodetic Vertical Datum of 1929. 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 and all dates measured this water year.,

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
APR 18	DRY
SEP 15	DRY

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 National Geodetic Vertical Datum of 1929. Measuring point:
 Top of casing, 2.47 ft above land-surface datum.
 PERIOD OF RECORD.--July 1975 to current year. Well destroyed Oct. 1995.
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.72 ft below land-surface datum, Mar. 31, 1980; lowest
 measured, 34.71 ft below land-surface datum, Dec. 11, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
APR 18	21.54
JUL 11	12.36
SEP 15	16.49

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 National Geodetic Vertical Datum of 1929. Measuring
 point: Top of casing 2.10 ft above land-surface datum
 PERIOD OF RECORD.--Dec. 1989 to current year. Well destroyed Oct 1995.
 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

Date	Water Level
APR 18	30.71
JUL 11	29.36
SEP 18	28.18

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 National Geodetic Vertical Datum of 1929. Measuring
 point: Top of casing, 3.57 ft above land-surface datum.
 PERIOD OF RECORD.--May 1981 to current year Well destroyed Oct 1995.
 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

Date	Water Level
APR 18	29.46
JUL 11	18.00
SEP 18	22.87

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

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 National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of sampler cap, 1.92 ft above land-surface datum.

PERIOD OF RECORD.--Aug. 1982 to current year. Well destroyed Dec 1995.

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

Date	Water Level
APR 18	48.67
JUL 11	34.11
SEP 18	44.81

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 National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 6.17 ft above land-surface datum.

PERIOD OF RECORD.--Sept. 1982 to current year. Well destroyed Dec 1995.

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

Date	Water Level
APR 18	37.09
JUL 11	17.56
SEP 18	27.18

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 National Geodetic Vertical Datum of 1929. 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

Date	Water Level
APR 18	36.61
JUL 11	17.63
SEP 18	26.46

395022083003300. Local number, FR-104 (TH-17)

LOCATION.--Lat 39°50'22", 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 80.00 ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 683 feet above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.89 ft above land-surface datum

PERIOD OF RECORD.--June 1995 to current year.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
JUN 01	26.84
JUN 27	25.92

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE IT-FLD (MG/L AS HCO3) (99440)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L AS CAC03) (99430)
JUN											
01...	1310	7.0	13.5	--	680	190	50	36	2.6	531	435
27...	1140	7.1	13.5	0.0	540	150	41	29	2.2	--	--
DATE	SULFATE DIS- SOLVED (MG/L AS S04) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L AS N) (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)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BARIIUM, DIS- SOLVED (UG/L AS BA) (01005)
JUN											
01...	260	63	0.40	14	884	<0.010	<0.050	0.290	0.20	<0.010	85
27...	180	58	0.40	13	703	<0.010	<0.050	0.270	0.30	0.020	95
DATE	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	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)
JUN											
01...	<0.5	<1.0	<3	<10	5600	<10	8	430	<10	460	<6
27...	<0.5	<1.0	--	<10	6100	<10	11	450	<10	370	<6
DATE	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	BUTYL- ATE, WATER, DISS, REC (UG/L) (04028)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	FONOFOS WATER DISS, REC (UG/L) (04095)	ALPHA BHC DIS- SOLVED (UG/L) (34253)	P,P' DDE DISSOLV (UG/L) (34653)
JUN											
01...	<3	0.8	--	--	--	--	--	--	--	--	--
27...	<3	1.6	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01
DATE	CHLOR- PYRIPOS DIS- SOLVED (UG/L) (38933)	LINDANE DIS- SOLVED (UG/L) (39341)	DI- ELDRIN DIS- SOLVED (UG/L) (39381)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	MALA- THION, DIS- SOLVED (UG/L) (39532)	PARA- THION, DIS- SOLVED (UG/L) (39542)	DI- AZINON, DIS- SOLVED (UG/L) (39572)	ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	ALA- CHLOR, WATER, DISS, REC (UG/L) (46342)	ACETO- CHLOR, WATER FLTRD REC (UG/L) (49260)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)
JUN											
01...	--	--	--	--	--	--	--	--	--	--	908
27...	<0.01	<0.01	<0.01	E0.00	<0.01	<0.01	<0.01	0.01	<0.01	<0.012	774
DATE	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN) (72004)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	2,6-DI- ETHYL ANILINE WAT FLT 0.7 U (UG/L) (82660)	TRI- FLUR- ALIN WAT FLT 0.7 U (UG/L) (82661)	ETHAL- FLUR- ALIN WAT FLT 0.7 U (UG/L) (82663)	PHORATE WATER FLTRD GF, REC (UG/L) (82664)	TER- BACIL WATER FLTRD GF, REC (UG/L) (82665)	LIN- URON WATER FLTRD GF, REC (UG/L) (82666)	METHYL PARA- THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	
JUN											
01...	--	26.84	--	--	--	--	--	--	--	--	--
27...	55	25.92	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

395022083003000 - FR-104 (TH-17)--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

	EPTC WATER FLTRD 0.7 U	PEB- ULATE WATER FILTRD 0.7 U	TEBU- THIURON WATER FLTRD 0.7 U	MOL- INATE WATER FLTRD 0.7 U	ETHO- PROP WATER FLTRD 0.7 U	BEN- FLUR- ALIN WAT FLD 0.7 U	CARBO- FURAN WATER FLTRD 0.7 U	TER- BUFOS WATER FLTRD 0.7 U	PRON- AMIDE WATER FLTRD 0.7 U	DISUL- POTON WATER FLTRD 0.7 U
DATE	GF, REC (UG/L) (82668)	GF, REC (UG/L) (82669)	GF, REC (UG/L) (82670)	GF, REC (UG/L) (82671)	GF, REC (UG/L) (82672)	GF, REC (UG/L) (82673)	GF, REC (UG/L) (82674)	GF, REC (UG/L) (82675)	GF, REC (UG/L) (82676)	GF, REC (UG/L) (82677)
JUN 01...	--	--	--	--	--	--	--	--	--	--
27...	<0.01	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02
	TRIAL- LATE WATER FLTRD 0.7 U	PRO- PANIL WATER FLTRD 0.7 U	CAR- BARYL WATER FLTRD 0.7 U	THIO- BENCARB WATER FLTRD 0.7 U	DCPA WATER FLTRD 0.7 U	PENDI- METH- ALIN WAT FLT 0.7 U	NAPROP- AMIDE WATER FLTRD 0.7 U	PRO- PARGITE WATER FLTRD 0.7 U	METHYL AZIN- PHOS WAT FLT 0.7 U	PER- METHRIN CIS WAT FLT 0.7 U
DATE	GF, REC (UG/L) (82678)	GF, REC (UG/L) (82679)	GF, REC (UG/L) (82680)	GF, REC (UG/L) (82681)	GF, REC (UG/L) (82682)	GF, REC (UG/L) (82683)	GF, REC (UG/L) (82684)	GF, REC (UG/L) (82685)	GF, REC (UG/L) (82686)	GF, REC (UG/L) (82687)
JUN 01...	--	--	--	--	--	--	--	--	--	--
27...	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

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 National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.00 ft above land-surface datum.

PERIOD OF RECORD...Sept. 1982 to current year. Well destroyed Dec 1995.

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

Date	Water Level
APR 18	43.23
JUN 27	24.51
SEP 18	36.98

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L) AS CAC03 (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 (MG/L) AS CAC03 (99440)	ALKA- LITY, CARBON- ATE IT-FLD (MG/L) CAC03 (99430)
DEC 09...	1260	7.1	13.5	0.2	620	160	53	37	2.2	425	348
	SULFATE DIS- SOLVED (MG/L) AS SO4 (00945)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL (00940)	FLUO- RIDE, DIS- SOLVED (MG/L) AS F (00950)	SILICA, DIS- SOLVED (MG/L) AS SIO2 (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) AS N (00613)	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 ORTHO, DIS- SOLVED (MG/L) AS P (00671)	BARIUM, DIS- SOLVED (UG/L) AS BA (01005)
DEC 09...	240	67	0.40	13	790	<0.020	<0.050	0.480	0.50	<0.030	90
	BERYL- LIUM, DIS- SOLVED (UG/L) AS BE (01010)	CADMIUM DIS- SOLVED (UG/L) AS CD (01025)	COBALT, DIS- SOLVED (UG/L) AS CO (01035)	COPPER, DIS- SOLVED (UG/L) AS CU (01040)	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)
DEC 09...	<0.5	3.0	8	<10	6700	30	14	230	20	870	<6

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

363

395021083002900. Local number, FR-104 (TH-18)

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DEETHYL											
DATE	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	BUTYL- ATE, WATER, DISS, REC (UG/L) (04028)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	ATRA- ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	FONOFOS WATER, DISS, REC (UG/L) (04095)	ALPHA BHC DIS- SOLVED (UG/L) (34253)	P, P' DDE DISSOLV (UG/L) (34653)
DEC 09...	11	0.8	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
DATE	CHLOR- PYRIFOS DIS- SOLVED (UG/L) (38933)	LINDANE DIS- SOLVED (UG/L) (39341)	DI- ELDRIN DIS- SOLVED (UG/L) (39381)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	MALA- THION, DIS- SOLVED (UG/L) (39532)	PARA- THION, DIS- SOLVED (UG/L) (39542)	DI- AZINON, DIS- SOLVED (UG/L) (39572)	ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	ALA- CHLOR, WATER, DISS, REC (UG/L) (46342)	ACETO- CHLOR, WATER FLTRD REC (UG/L) (49260)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)
DEC 09...	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.01	<0.01	780
DATE	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN) (72004)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	2,6-DI- ETHYL ANILINE WAT FLT GF, REC (UG/L) (82660)	TRI- FLUR- ALIN WAT FLT GF, REC (UG/L) (82661)	ETHAL- FLUR- ALIN WAT FLT GF, REC (UG/L) (82663)	PHORATE WATER FLTRD GF, REC (UG/L) (82664)	TER- BACIL WATER FLTRD GF, REC (UG/L) (82665)	LIN- URON WATER FLTRD GF, REC (UG/L) (82666)	METHYL PARA- THION WAT FLT GF, REC (UG/L) (82667)	
DEC 09...	55	59.06	<0.01	<0.01	<0.01	<0.01	<0.01	<0.03	<0.04	<0.03	
DATE	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	PEB- ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	TEBU- THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	MOL- INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	ETHO- PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	BEN- FLUR- ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	CARBO- FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	TER- BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	PRON- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	DISUL- FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	
DEC 09...	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.06	
DATE	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	CAR- BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	PRO- PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	METHYL AZIN- PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	
DEC 09...	<0.01	<0.02	<0.05	<0.01	<0.01	<0.02	<0.01	<0.01	<0.04	<0.02	

394956083002700. Local number, FR-106 (ODNR 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 National Geodetic Vertical Datum of 1929. 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

Date	Water Level
APR 11	22.94
JUL 03	11.20
SEP 18	19.82

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

Date	Water Level
APR 18	18.50
SEP 15	11.67

EXTREMES FOR PERIOD OF RECORD.-Maximum daily low, 48.15 ft below land-surface datum, Feb. 28 and 29, 1992; minimum daily low, 27.21 ft below land-surface datum, May 3, 1984.

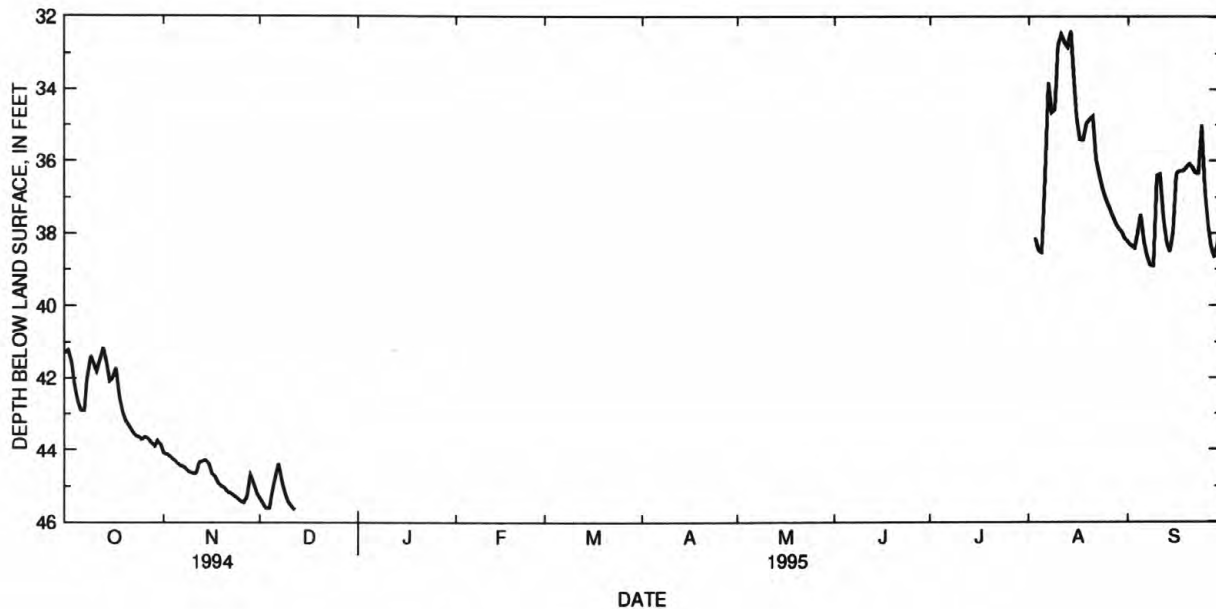
DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MAXIMUM VALUES

[illegible]

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

365

395039082585800 - Local number, FR-115 TH-67--Continued



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 National Geodetic Vertical Datum of 1929. Measuring point:

Top of 2-inch steel pipe, 3.08 ft above land-surface datum.

PERIOD OF RECORD.--Oct. 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.02 ft below land-surface datum, June 17, 1981; lowest measured, 24.15 ft below land-surface datum, Dec. 10, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
APR 11	19.44
SEP 18	16.92

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

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.

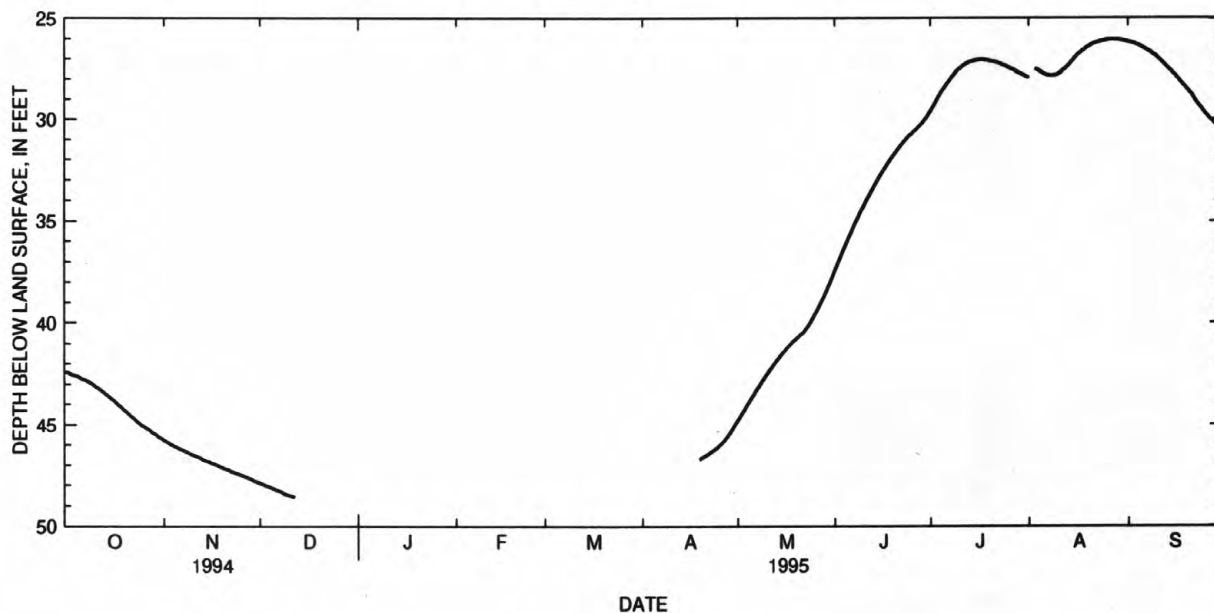
DATUM.--Elevation of land-surface datum is 700 feet above National Geodetic Vertical Datum of 1929. Measuring point: Top of plywood, 2.48 ft above land-surface datum.

PERIOD OF RECORD.--Oct. 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 52.34 ft below land-surface datum, Mar. 4-7, 1992; minimum daily low, 11.10 ft below land-surface datum, June 17, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42.41	45.78	47.90	---	---	---	---	44.81	37.36	29.59	27.95	26.14
2	42.45	45.87	47.95	---	---	---	---	44.56	36.99	29.32	---	26.18
3	42.51	45.95	48.02	---	---	---	---	44.31	36.61	29.04	27.47	26.24
4	42.57	46.04	48.09	---	---	---	---	44.04	36.24	28.77	27.57	26.30
5	42.64	46.11	48.15	---	---	---	---	43.79	35.89	28.52	27.68	26.37
6	42.70	46.20	48.22	---	---	---	---	43.54	35.54	28.30	27.78	26.46
7	42.78	46.28	48.29	---	---	---	---	43.29	35.19	28.07	27.83	26.55
8	42.86	46.35	48.35	---	---	---	---	43.05	34.86	27.87	27.83	26.65
9	42.94	46.43	48.42	---	---	---	---	42.80	34.53	27.68	27.83	26.77
10	43.05	46.49	48.49	---	---	---	---	42.57	34.23	27.52	27.78	26.89
11	43.15	46.57	48.53	---	---	---	---	42.35	33.93	27.38	27.67	27.03
12	43.27	46.63	48.59	---	---	---	---	42.14	33.64	27.28	27.51	27.19
13	43.38	46.70	---	---	---	---	---	41.93	33.36	27.19	27.35	27.34
14	43.50	46.77	---	---	---	---	---	41.72	33.08	27.13	27.18	27.51
15	43.63	46.84	---	---	---	---	---	41.53	32.82	27.09	27.02	27.68
16	43.77	46.91	---	---	---	---	---	41.34	32.55	27.06	26.86	27.86
17	43.92	46.98	---	---	---	---	---	41.17	32.31	27.04	26.72	28.05
18	44.06	47.04	---	---	---	---	46.74	41.00	32.07	27.05	26.58	28.24
19	44.21	47.11	---	---	---	---	46.71	40.86	31.85	27.07	26.47	28.43
20	44.35	47.18	---	---	---	---	46.62	40.72	31.63	27.11	26.37	28.63
21	44.50	47.24	---	---	---	---	46.53	40.58	31.42	27.14	26.29	28.82
22	44.64	47.31	---	---	---	---	46.43	40.46	31.22	27.19	26.21	29.04
23	44.78	47.37	---	---	---	---	46.32	40.23	31.03	27.24	26.16	29.25
24	44.90	47.43	---	---	---	---	46.21	40.00	30.86	27.31	26.11	29.46
25	45.03	47.49	---	---	---	---	46.09	39.73	30.71	27.38	26.08	29.68
26	45.13	47.55	---	---	---	---	45.93	39.44	30.55	27.46	26.06	29.86
27	45.24	47.62	---	---	---	---	45.75	39.15	30.40	27.54	26.05	30.03
28	45.35	47.69	---	---	---	---	45.53	38.83	30.26	27.63	26.04	30.18
29	45.46	47.76	---	---	---	---	45.31	38.48	30.07	27.71	26.06	30.32
30	45.57	47.83	---	---	---	---	45.06	38.12	29.84	27.79	26.08	30.46
31	45.68	---	---	---	---	---	---	37.75	---	27.88	26.11	---
MAX	45.68	47.83	---	---	---	---	---	44.81	37.36	29.59	---	30.46



GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

367

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 National Geodetic Vertical Datum of 1929. Measuring point:

Floor of instrument shelter, 7.14 ft above land-surface datum.

PERIOD OF RECORD.--Oct. 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.36 ft below land-surface datum, Mar. 21, 1984; lowest measured, 35.24 ft below land-surface datum, Mar. 16, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
APR 11	24.25
SEP 22	14.31

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 National Geodetic Vertical Datum of 1929. 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, 32.94 ft below land-surface datum, Dec 8, 1995.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 8	32.94
APR 18	28.69
MAY 1	20.96
JUL 11	16.49
AUG 23	15.22
SEP 18	16.94

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

[illegible]

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

[illegible]

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

395059083000900. Local number, FR-122, (M-8); FR-122A

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., new well 70ft.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 730 feet above National Geodetic Vertical Datum of 1929. Measuring point:

Top of 3-inch aluminum casing, 2.90 ft above land-surface datum. New LSC 2.50 ft.

PERIOD OF RECORD.--Oct. 1979 to current year. FR-122 destroyed and new well FR-122A installed Aug 1995

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

Date	Water Level
APR 18	47.14
SEP 18	44.77

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 National Geodetic Vertical Datum of 1929. Measuring point:

Floor of shelter, 2.25 ft above land-surface datum.

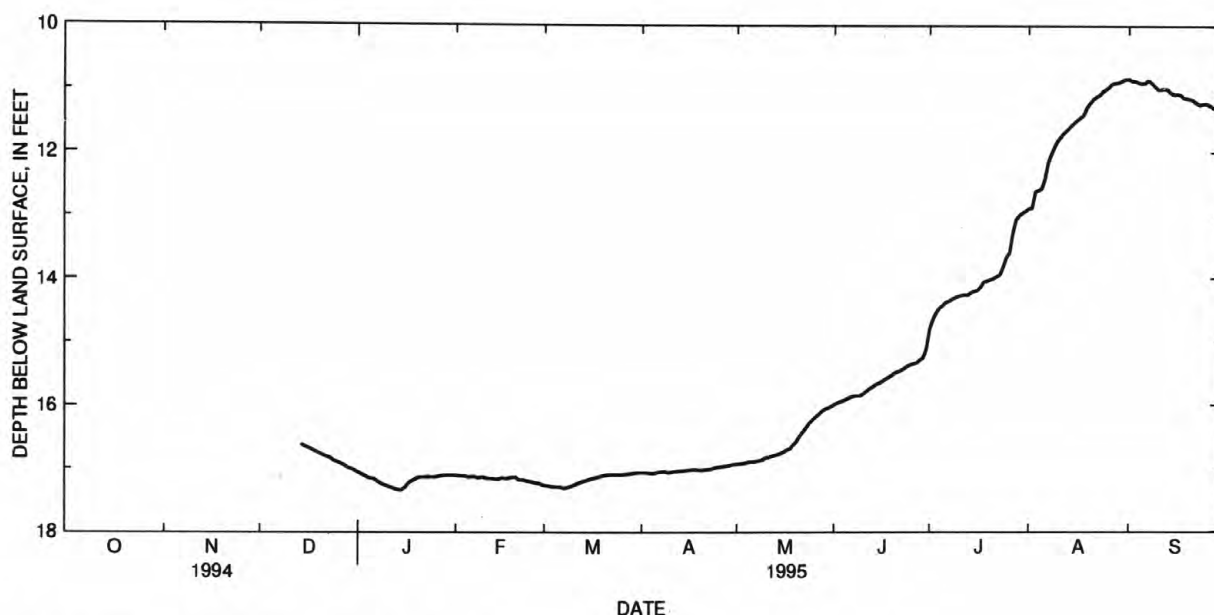
PERIOD OF RECORD.--Apr. 1982 to current year.

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.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	17.06	17.11	17.27	17.07	16.94	15.99	14.81	12.89	10.83
2	---	---	---	17.09	17.12	17.27	17.07	16.92	15.96	14.66	12.88	10.86
3	---	---	---	17.11	17.12	17.28	17.07	16.92	15.94	14.55	12.62	10.86
4	---	---	---	17.14	17.12	17.29	17.08	16.91	15.92	14.47	12.60	10.88
5	---	---	---	17.16	17.14	17.29	17.08	16.90	15.90	14.43	12.57	10.90
6	---	---	---	17.16	17.13	17.29	17.06	16.89	15.87	14.38	12.42	10.89
7	---	---	---	17.20	17.13	17.31	17.06	16.89	15.85	14.36	12.15	10.85
8	---	---	---	17.23	17.15	17.31	17.05	16.88	15.85	14.33	12.02	10.88
9	---	---	---	17.26	17.14	17.29	17.06	16.87	15.85	14.30	11.90	10.94
10	---	---	---	17.27	17.14	17.27	17.07	16.84	15.82	14.28	11.80	10.99
11	---	---	---	17.29	17.16	17.25	17.05	16.83	15.78	14.27	11.74	10.99
12	---	---	---	17.31	17.16	17.23	17.05	16.81	15.74	14.25	11.68	10.98
13	---	---	---	17.33	17.16	17.21	17.04	16.80	15.71	14.26	11.63	10.99
14	---	---	16.62	17.34	17.17	17.20	17.04	16.78	15.67	14.22	11.58	11.05
15	---	---	16.65	17.34	17.16	17.18	17.03	16.77	15.65	14.20	11.53	11.07
16	---	---	16.67	17.29	17.15	17.16	17.03	16.74	15.62	14.19	11.48	11.06
17	---	---	16.69	17.23	17.16	17.15	17.02	16.71	15.59	14.14	11.44	11.08
18	---	---	16.72	17.20	17.15	17.14	17.02	16.69	15.56	14.05	11.40	11.12
19	---	---	16.74	17.17	17.14	17.12	17.03	16.63	15.53	14.04	11.28	11.13
20	---	---	16.77	17.14	17.14	17.11	17.03	16.58	15.49	14.02	11.21	11.15
21	---	---	16.79	17.14	17.18	17.10	17.02	16.49	15.47	14.00	11.15	11.16
22	---	---	16.81	17.14	17.18	17.10	17.02	16.43	15.45	13.97	11.11	11.21
23	---	---	16.83	17.13	17.19	17.10	17.01	16.36	15.42	13.94	11.08	11.23
24	---	---	16.86	17.14	17.21	17.10	16.99	16.29	15.38	13.82	11.02	11.22
25	---	---	16.89	17.14	17.21	17.10	16.98	16.24	15.36	13.66	10.99	11.22
26	---	---	16.91	17.13	17.23	17.10	16.98	16.19	15.34	13.60	10.95	11.24
27	---	---	16.93	17.12	17.23	17.09	16.96	16.15	15.33	13.27	10.90	11.28
28	---	---	16.96	17.11	17.25	17.09	16.96	16.10	15.28	13.07	10.89	11.30
29	---	---	16.99	17.11	---	17.08	16.95	16.06	15.25	13.00	10.88	11.32
30	---	---	17.01	17.11	---	17.07	16.94	16.05	15.11	12.96	10.86	11.34
31	---	---	17.03	17.11	---	17.07	---	16.02	---	12.93	10.83	---
MAX	---	---	---	17.34	17.25	17.31	17.08	16.94	15.99	14.81	12.89	11.34

395131082592400 Local number, FR-123, M-9--Continued



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 National Geodetic Vertical Datum of 1929. 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

Date	Water Level
APR 11	19.80
SEP 18	15.20

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 National Geodetic Vertical Datum of 1929. 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, July 28, 1992; and Apr. 11, 1995.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
APR 11	dry
SEP 18	48.78

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

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 National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 0.0 ft above land-surface datum.

PERIOD OF RECORD.--Apr. 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 49.05 ft below land-surface datum, Apr. 1, 1981; lowest measured, 79.36 ft below land-surface datum, June 22, 1978.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
APR 15	61.50
SEP 19	59.73

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 National Geodetic Vertical Datum of 1929. 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

Date	Water Level
APR 11	27.58
SEP 18	28.17

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 National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.84 ft above land-surface datum.

PERIOD OF RECORD.--May 1981 to current year. Well destroyed Oct 1995

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

Date	Water Level
DEC 8	44.62
APR 18	26.76
MAY 1	22.01
JUN 29	7.14 area flooded
AUG 21	12.72
SEP 18	20.39

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM (00095)	PH	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L CAC03) (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 IT-FLD (MG/L AS HCO3) (99440)	ALKA-
		WATER WHOLE FIELD (STAND- ARD UNITS) (00400)									LINEITY, CARBON- ATE IT-FLD (MG/L CAC03) (99430)
DEC 08...	925	7.1	13.5	0.1	470	130	36	27	3.0	304	249
MAY 01...	877	6.9	--	--	440	120	33	26	2.9	361	296
JUN 29...	953	7.1	14.0	0.2	440	120	34	26	2.8	--	--
AUG 21...	941	7.2	14.5	0	440	120	34	26	2.7	364	298

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

[illegible]

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

395108083010600 Local number, FR-147--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	ALA- CHLOR, WATER, DISS, REC, (UG/L) (46342)	ACETO- CHLOR, WATER, FLTRD REC (UG/L) (49260)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	PUMP OR FLOW PERIOD TO SAM- PLING (MIN) (72004)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	METRI- BUZIN WATER DISSOLV (UG/L) (82630)	2,6-DI- ETHYL ANILINE WAT FLT GF, REC (UG/L) (82660)	TRI- FLUR- ALIN WAT FLT GF, REC (UG/L) (82661)	ETHAL- FLUR- ALIN WAT FLT GF, REC (UG/L) (82663)	PHORATE WATER FLTRD GF, REC (UG/L) (82664)	TER- BACIL WATER FLTRD GF, REC (UG/L) (82665)
DEC 08...	<0.01	<0.01	611	45	44.62	<0.01	<0.01	<0.01	<0.01	<0.01	<0.03
MAY 01...	--	--	625	30	22.01	--	--	--	--	--	--
JUN 29...	<0.01	<0.012	637	90	7.14	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AUG 21...	--	--	604	80	12.72	--	--	--	--	--	--
DATE	LIN- URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	METHYL PARA- THON WAT FLT 0.7 U GF, REC (UG/L) (82667)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	PEB- ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	TEBU- THURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	MOL- INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	ETHO- PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	BEN- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82673)	CARBO- FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	TER- BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	PRON- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)
DEC 08...	<0.04	<0.03	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
MAY 01...	--	--	--	--	--	--	--	--	--	--	--
JUN 29...	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AUG 21...	--	--	--	--	--	--	--	--	--	--	--
DATE	DISUL- FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	CAR- BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	PENDI- METH- ALIN WAT FLT GF, REC (UG/L) (82683)	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	PRO- PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	METHYL AZIN- PHOS WAT FLT GF, REC (UG/L) (82686)	PER- METHRIN CIS WAT FLT GF, REC (UG/L) (82687)
DEC 08...	<0.06	<0.01	<0.02	<0.05	<0.01	<0.01	<0.02	<0.01	<0.01	<0.04	<0.02
MAY 01...	--	--	--	--	--	--	--	--	--	--	--
JUN 29...	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AUG 21...	--	--	--	--	--	--	--	--	--	--	--

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 National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.5 ft above land-surface datum.

PERIOD OF RECORD--June 1986 to current year. Well destroyed Oct 1995.

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

Date	Water Level
APR 18	33.13
JUL 11	15.92
SEP 19	20.86

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

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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 National Geodetic Vertical Datum of 1929. 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

Date	Water Level
APR 18	26.75
JUL 11	14.20
SEP 19	17.24

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 National Geodetic Vertical Datum of 1929. 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

Date	Water Level
DEC 9	35.75
APR 11	35.52
MAY 3	35.21
JUN 28	32.47
AUG 23	28.21
SEP 18	30.43

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE IT-FLD (MG/L AS HCO3) (99440)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L CACO3) (99430)
DEC 09...	954	6.9	13.5	0.1	570	160	41	3.6	1.5	422	346
MAY 03...	978	6.8	14.5	0.1	610	170	46	6.2	1.7	461	378
JUN 28...	1070	6.8	14.0	0.2	580	160	44	6.0	1.7	476	390
AUG 23...	1030	6.9	14.5	0.1	580	160	43	5.8	1.7	461	378

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)
DEC 09...	170	15	0.20	13	615	<0.010	<0.050	0.020	<0.20	<0.010	32
MAY 03...	200	22	0.10	14	690	--	--	--	--	--	36
JUN 28...	210	19	0.20	14	692	<0.010	<0.050	0.050	<0.20	<0.010	44
AUG 23...	200	19	0.20	13	672	<0.010	<0.050	0.070	<0.20	<0.010	58

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

395027082592500 - FR-151--Continued

DATE	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	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)
DEC 09...	<0.5	<1.0	<3	<10	2400	<10	7	61	<10	210	<6
MAY 03...	<0.5	<1.0	4	<10	2700	<10	<4	57	<10	260	<6
JUN 28...	<0.5	<1.0	20	<10	2700	<10	10	71	<10	250	<6
AUG 23...	<0.5	<1.0	<3	<10	2400	<10	7	80	<10	250	<6

DATE	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	BUTYL- ATE, WATER, DISS, REC (UG/L) (04028)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	FONOFOS WATER, DISS REC (UG/L) (04095)	COLI- FORM, TOTAL, IMMED. MEM.FIL (COLS./ 100 ML) (31504)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)
DEC 09...	5	0.7	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<1	<1
MAY 03...	5	0.6	--	--	--	--	--	--	--	--	--
JUN 28...	5	<0.1	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	--	--
AUG 23...	5	0.8	--	--	--	--	--	--	--	--	--

DATE	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALPHA BHC DIS- SOLVED (UG/L) (34253)	P, P' DDE DISSOLV (UG/L) (34653)	CHLOR- PYRIFOS DIS- SOLVED (UG/L) (38933)	LINDANE DIS- SOLVED (UG/L) (39341)	DI- ELDRIN DIS- SOLVED (UG/L) (39381)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	MALA- THION, DIS- SOLVED (UG/L) (39532)	PARA- THION, DIS- SOLVED (UG/L) (39542)	DI- AZINON, DIS- SOLVED (UG/L) (39572)	ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)
DEC 09...	<1	<0.01	E0.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02
MAY 03...	--	--	--	--	--	--	--	--	--	--	--
JUN 28...	--	<0.01	<0.01	<0.01	<0.01	<0.01	E0.00	<0.01	<0.01	<0.01	0.01
AUG 23...	--	--	--	--	--	--	--	--	--	--	--

DATE	ALA- CHLOR, WATER, DISS, REC, (UG/L) (46342)	ACETO- CHLOR, WATER FLTRD REC (UG/L) (49260)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING LEVEL (MIN) (72004)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	2,6-DI- ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	TRI- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	ETHAL- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	PHORATE WATER FLTRD REC (UG/L) (82664)	TER- BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)
DEC 09...	<0.01	<0.01	568	15	39.25	<0.01	<0.01	<0.01	<0.01	<0.01	<0.03
MAY 03...	--	--	716	25	37.57	--	--	--	--	--	--
JUN 28...	<0.01	<0.012	754	30	32.47	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AUG 23...	--	--	714	20	28.21	--	--	--	--	--	--

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

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395027082592500 - FR-151--Continued

	LIN- URON WATER FLTRD 0.7 U	METHYL PARA- THION WAT FLT 0.7 U	EPTC WATER FLTRD 0.7 U	PEB- ULATE WATER FLTRD 0.7 U	TEBU- THIURON WATER FLTRD 0.7 U	MOL- INATE WATER FLTRD 0.7 U	ETHO- PROP WATER FLTRD 0.7 U	BEN- FLUR- ALIN WAT FLD 0.7 U	CARBO- FURAN WATER FLTRD 0.7 U	TER- BUFOS WATER FLTRD 0.7 U	PRON- AMIDE WATER FLTRD 0.7 U
DATE	GF, REC (UG/L) (82666)	GF, REC (UG/L) (82667)	GF, REC (UG/L) (82668)	GF, REC (UG/L) (82669)	GF, REC (UG/L) (82670)	GF, REC (UG/L) (82671)	GF, REC (UG/L) (82672)	GF, REC (UG/L) (82673)	GF, REC (UG/L) (82674)	GF, REC (UG/L) (82675)	GF, REC (UG/L) (82676)
DEC 09...	<0.04	<0.03	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
MAY 03...	--	--	--	--	--	--	--	--	--	--	--
JUN 28...	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AUG 23...	--	--	--	--	--	--	--	--	--	--	--
	DISUL- POTON WATER FLTRD 0.7 U	TRIAL- LATE WATER FLTRD 0.7 U	PRO- PANIL WATER FLTRD 0.7 U	CAR- BARYL WATER FLTRD 0.7 U	THIO- BENCARB WATER FLTRD 0.7 U	DCPA WATER FLTRD 0.7 U	PENDI- METH- ALIN WAT FLT 0.7 U	NAPROP- AMIDE WATER FLTRD 0.7 U	PRO- PARGITE WATER FLTRD 0.7 U	METHYL AZIN- PHOS WAT FLT 0.7 U	PER- METHRIN CIS WAT FLT 0.7 U
DATE	GF, REC (UG/L) (82677)	GF, REC (UG/L) (82678)	GF, REC (UG/L) (82679)	GF, REC (UG/L) (82680)	GF, REC (UG/L) (82681)	GF, REC (UG/L) (82682)	GF, REC (UG/L) (82683)	GF, REC (UG/L) (82684)	GF, REC (UG/L) (82685)	GF, REC (UG/L) (82686)	GF, REC (UG/L) (82687)
DEC 09...	<0.06	<0.01	<0.02	<0.05	<0.01	<0.01	<0.02	<0.01	<0.01	<0.04	<0.02
MAY 03...	--	--	--	--	--	--	--	--	--	--	--
JUN 28...	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AUG 23...	--	--	--	--	--	--	--	--	--	--	--

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 National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 1.17 ft above land-surface datum.

PERIOD OF RECORD.--June 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 66.17 ft below land-surface datum, June 25, 1979; lowest measured, 96.50 ft below land-surface datum, July 19, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
SEP 19	95.40

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 National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 0.72 ft above land-surface datum

PERIOD OF RECORD.--June 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.51 ft below land-surface datum, May 23, 1984; lowest measured, 18.11 ft below land-surface datum, Mar. 16, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
APR 11	16.52
SEP 19	14.57

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. 15, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
APR 11	83.85
SEP 13	81.39

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

Date	Water Level
APR 11	68.44
SEP 19	67.55

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 25.00 ft below land-surface datum, Apr. 25 - May 2, 1992; minimum daily low, 13.92 ft below land-surface datum, Mar. 18, 1991.

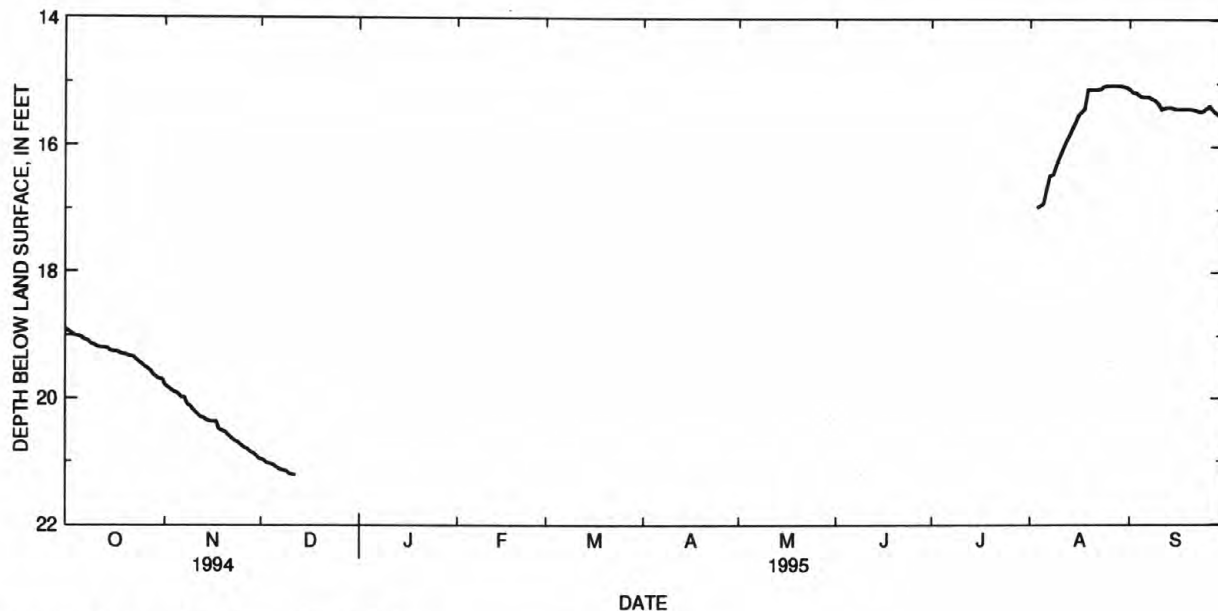
DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MAXIMUM VALUES

[illegible]

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

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395055082592400 Local number, FR-271--Continued



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 National Geodetic Vertical Datum of 1929. 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.

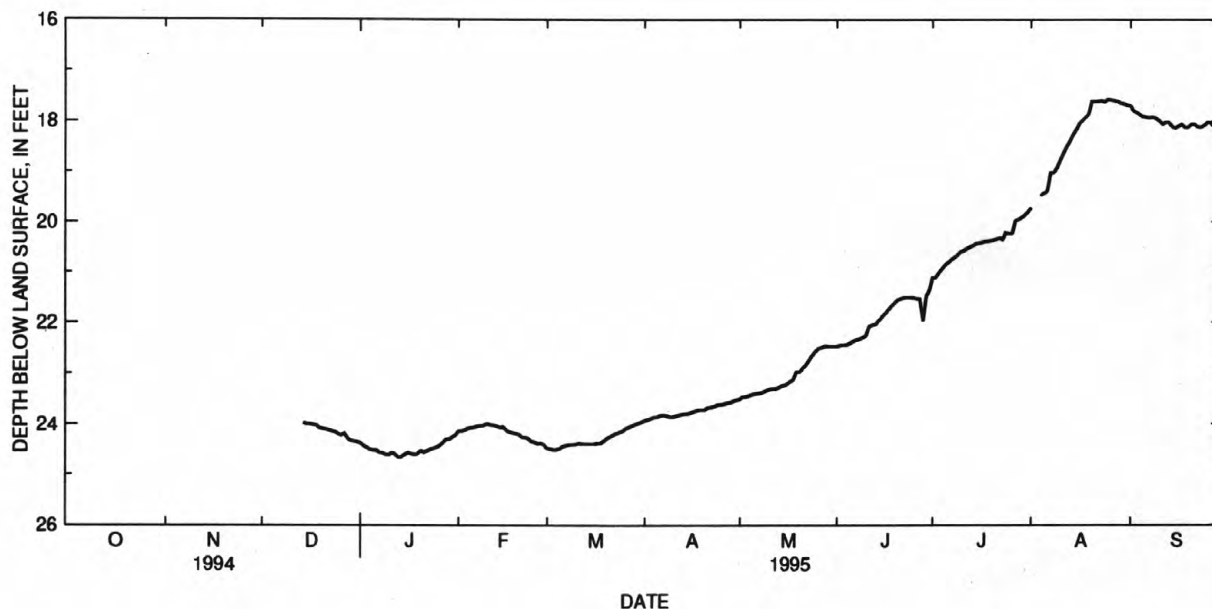
REMARKS.--A "K" associated with bacteriological data indicates non-ideal colony counts.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	24.38	24.15	24.49	23.94	23.52	22.47	21.11	19.72	17.69
2	---	---	---	24.44	24.15	24.50	23.92	23.47	22.45	21.11	---	17.79
3	---	---	---	24.47	24.13	24.51	23.90	23.47	22.45	21.02	---	17.84
4	---	---	---	24.51	24.09	24.51	23.87	23.45	22.44	20.94	19.48	17.88
5	---	---	---	24.52	24.08	24.49	23.87	23.42	22.41	20.86	19.44	17.91
6	---	---	---	24.52	24.07	24.45	23.83	23.41	22.37	20.81	19.40	17.92
7	---	---	---	24.57	24.05	24.43	23.83	23.40	22.34	20.75	19.03	17.94
8	---	---	---	24.58	24.05	24.42	23.84	23.39	22.33	20.71	19.03	17.92
9	---	---	26.14	24.61	24.03	24.41	23.87	23.36	22.30	20.66	18.93	17.95
10	---	---	---	24.61	24.00	24.41	23.87	23.33	22.26	20.60	18.77	17.99
11	---	---	---	24.57	24.03	24.39	23.84	23.31	22.08	20.57	18.64	18.06
12	---	---	---	24.61	24.03	24.40	23.83	23.31	22.05	20.53	18.51	18.02
13	---	---	---	24.67	24.05	24.40	23.81	23.30	22.04	20.50	18.39	18.02
14	---	---	23.98	24.66	24.07	24.40	23.80	23.26	21.97	20.47	18.27	18.12
15	---	---	24.01	24.61	24.06	24.40	23.80	23.24	21.90	20.43	18.16	18.14
16	---	---	24.00	24.58	24.12	24.40	23.77	23.22	21.83	20.43	18.06	18.10
17	---	---	24.02	24.60	24.17	24.39	23.75	23.17	21.76	20.40	17.98	18.07
18	---	---	24.03	24.61	24.18	24.38	23.73	23.13	21.68	20.39	17.92	18.13
19	---	---	24.08	24.60	24.20	24.34	23.73	22.98	21.61	20.39	17.88	18.13
20	---	---	24.10	24.54	24.21	24.29	23.73	22.98	21.55	20.37	17.61	18.06
21	---	---	24.11	24.57	24.27	24.26	23.68	22.91	21.53	20.35	17.61	18.06
22	---	---	24.13	24.54	24.27	24.22	23.68	22.84	21.51	20.32	17.61	18.11
23	---	---	24.15	24.51	24.29	24.19	23.66	22.75	21.50	20.35	17.59	18.13
24	---	---	24.16	24.49	24.35	24.17	23.63	22.65	21.50	20.22	17.62	18.09
25	---	---	24.21	24.47	24.36	24.14	23.63	22.58	21.51	20.24	17.57	18.02
26	---	---	24.23	24.43	24.40	24.09	23.61	22.51	21.53	20.24	17.58	18.03
27	---	---	24.20	24.38	24.38	24.06	23.59	22.50	21.53	19.98	17.59	18.11
28	---	---	24.30	24.31	24.42	24.04	23.59	22.46	21.97	19.96	17.60	18.16
29	---	---	24.34	24.31	---	24.01	23.56	22.47	21.48	19.92	17.64	18.19
30	---	---	24.35	24.27	---	23.99	23.53	22.47	21.36	19.87	17.66	18.20
31	---	---	24.36	24.23	---	23.97	---	22.47	---	19.80	17.68	---
MAX	---	---	---	24.67	24.42	24.51	23.94	23.52	22.47	21.11	---	18.20

GROUND-WATER RECORDS—SOUTHERN FRANKLIN COUNTY

395055082592401 Local number FR-272--Continued



WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE IT-FLD AS HCO3) (99440)	ALKA- LITY, CARBON- ATE IT-FLD (MG/L CACO3) (99430)
DEC 09...	1170	6.9	12.0	0.1	700	190	54	13	2.2	439	360
MAY 02...	1110	7.0	12.5	0.1	660	180	52	13	2.2	459	376
JUN 28...	1140	6.9	14.0	0.1	660	180	51	12	2.2	--	--
AUG 23...	1210	6.9	12.5	0.1	660	180	52	13	2.1	451	370

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BARIIUM, DIS- SOLVED (UG/L AS BA) (01005)
DEC 09...	280	38	0.20	14	812	<0.010	<0.050	0.050	<0.20	<0.010	30
MAY 02...	270	41	0.20	14	802	--	--	--	--	--	28
JUN 28...	270	39	0.20	14	804	<0.010	<0.050	0.060	<0.20	<0.010	28
AUG 23...	260	44	0.20	13	790	<0.010	<0.050	0.060	<0.20	<0.010	30

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

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395055082592401 Local number FR-272--Continued

DATE	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	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)
DEC 09...	<0.5	<1.0	<3	<10	4200	20	7	86	<10	150	<6
MAY 02...	<0.5	<1.0	7	<10	4000	<10	4	88	20	140	<6
JUN 28...	<0.5	<1.0	30	<10	4100	<10	8	86	<10	140	<6
AUG 23...	<0.5	<1.0	<3	<10	3900	<10	7	86	<10	150	<6

DATE	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	BUTYL- ATE, WATER, DISS, REC (UG/L) (04028)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	FONOFOS WATER, DISS REC (UG/L) (04095)	COLI- FORM, TOTAL, IMMED. MEM.FIL (COLS./ 100 ML) (31504)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)
DEC 09...	4	1.0	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<1	<1
MAY 02...	<3	1.0	--	--	--	--	--	--	--	--	--
JUN 28...	5	1.0	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	--	--
AUG 23...	5	1.0	--	--	--	--	--	--	--	--	--

DATE	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	ALPHA BHC DIS- SOLVED (UG/L) (34253)	P, P' DDE DISSOLV (UG/L) (34653)	CHLOR- PYRIFOS DIS- SOLVED (UG/L) (38933)	LINDANE DIS- SOLVED (UG/L) (39341)	DI- ELDRIN DIS- SOLVED (UG/L) (39381)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	MALA- THION, DIS- SOLVED (UG/L) (39532)	PARA- THION, DIS- SOLVED (UG/L) (39542)	DI- AZINON, DIS- SOLVED (UG/L) (39572)	ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)
DEC 09...	<1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02
MAY 02...	--	--	--	--	--	--	--	--	--	--	--
JUN 28...	--	<0.01	<0.01	<0.01	<0.01	<0.01	EO.00	<0.01	<0.01	<0.01	0.01
AUG 23...	--	--	--	--	--	--	--	--	--	--	--

DATE	ALA- CHLOR, WATER, DISS, REC (UG/L) (46342)	ACETO- CHLOR, WATER FLTRD REC (UG/L) (49260)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN) (72004)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	2,6-DI- ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	TRI- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	ETHAL- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	PHORATE WATER FLTRD GF, REC (UG/L) (82664)	TER- BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)
DEC 09...	<0.01	<0.01	834	15	26.14	<0.01	<0.01	<0.01	<0.01	<0.01	<0.03
MAY 02...	--	--	868	27	22.47	--	--	--	--	--	--
JUN 28...	<0.01	<0.012	906	22	21.42	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AUG 23...	--	--	854	20	17.40	--	--	--	--	--	--

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

395055082592401 Local number FR-272--Continued

	LIN- URON WATER FLTRD 0.7 U	METHYL PARA- THION WAT FLT 0.7 U	EPTC WATER FLTRD 0.7 U	PEB- ULATE WATER FILTRD 0.7 U	TEBU- THIURON WATER FLTRD 0.7 U	MOL- INATE WATER FLTRD 0.7 U	ETHO- PROP WATER FLTRD 0.7 U	BEN- FLUR- ALIN WAT FLD 0.7 U	CARBO- FURAN WATER FLTRD 0.7 U	TER- BUFOS WATER FLTRD 0.7 U	PRON- AMIDE WATER FLTRD 0.7 U
DATE	GF, REC (UG/L) (82666)	GF, REC (UG/L) (82667)	GF, REC (UG/L) (82668)	GF, REC (UG/L) (82669)	GF, REC (UG/L) (82670)	GF, REC (UG/L) (82671)	GF, REC (UG/L) (82672)	GF, REC (UG/L) (82673)	GF, REC (UG/L) (82674)	GF, REC (UG/L) (82675)	GF, REC (UG/L) (82676)
DEC 09...	<0.04	<0.03	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
MAY 02...	--	--	--	--	--	--	--	--	--	--	--
JUN 28...	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AUG 23...	--	--	--	--	--	--	--	--	--	--	--

	DISUL- FOTON WATER FLTRD 0.7 U	TRIAL- LATE WATER FLTRD 0.7 U	PRO- PANIL WATER FLTRD 0.7 U	CAR- BARYL WATER FLTRD 0.7 U	THIO- BENCARB WATER FLTRD 0.7 U	DCPA WATER FLTRD 0.7 U	PENDI- METH- ALIN WAT FLT 0.7 U	NAPROP- AMIDE WATER FLTRD 0.7 U	PRO- PARGITE WATER FLTRD 0.7 U	METHYL AZIN- PHOS WAT FLT 0.7 U	PER- METHRIN CIS WAT FLT 0.7 U
DATE	GF, REC (UG/L) (82677)	GF, REC (UG/L) (82678)	GF, REC (UG/L) (82679)	GF, REC (UG/L) (82680)	GF, REC (UG/L) (82681)	GF, REC (UG/L) (82682)	GF, REC (UG/L) (82683)	GF, REC (UG/L) (82684)	GF, REC (UG/L) (82685)	GF, REC (UG/L) (82686)	GF, REC (UG/L) (82687)
DEC 09...	<0.06	<0.01	<0.02	<0.05	<0.01	<0.01	<0.02	<0.01	<0.01	<0.04	<0.02
MAY 02...	--	--	--	--	--	--	--	--	--	--	--
JUN 28...	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AUG 23...	--	--	--	--	--	--	--	--	--	--	--

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 National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 1.15 ft above land-surface datum.

PERIOD OF RECORD.--May 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.5 ft below land-surface datum, June 27, 1990; lowest measured, 20.78 ft below land-surface datum, Mar. 16, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
APR 11	20.32
JUN 27	17.91
SEP 18	17.11

395224083000501. Local number, FR-274

LOCATION.--Lat 39°52'24", long 83°00'05", Hydrologic Unit 05060001, at County Water-Treatment Plant.

Owner.--Franklin County

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, depth 25 ft.; 4 in. casing.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 705 feet above National Geodetic Vertical Datum of 1929. 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

Date	Water Level
APR 11	16.56
JUN 27	15.59
AUG 02	14.44
AUG 21	13.80
SEP 18	14.25

383

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE IT-FLD AS HCO3) (99440)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L CAC03) (99430)
		WATER WHOLE FIELD (STAND- ARD UNITS) (00400)			TOTAL (MG/L AS CAC03) (00900)		TOTAL (MG/L AS CAC03) (00900)				
DEC 08...	1190	7.1	14.0	0.3	440	120	34	89	2.3	371	304
MAY 02...	1020	7.1	--	--	350	94	27	80	2.2	356	292
JUN 27...	972	7.4	14.0	3.8	340	92	26	81	2.1	342	280
AUG 21...	1020	7.3	14.0	0.2	320	89	24	84	2.1	320	262

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)
DEC 08...	89	160	0.40	13	693	0.010	<0.050	0.190	0.30	<0.010	52
MAY 02...	87	110	0.30	11	588	--	--	--	--	--	44
JUN 27...	89	110	0.40	12	583	<0.010	0.110	0.130	<0.20	<0.010	44
AUG 21...	91	120	0.40	11	581	<0.010	0.110	0.150	<0.20	<0.010	45

DATE	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	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)
DEC 08...	<0.5	<1.0	8	<10	2500	<10	<4	39	20	170	<6
MAY 02...	<0.5	2.0	5	<10	1600	20	8	36	30	130	<6
JUN 27...	<0.5	<1.0	9	<10	1700	<10	9	36	20	130	<6
AUG 21...	<0.5	<1.0	<3	<10	1200	10	8	34	20	130	<6

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

[illegible]

	STREP- TOCOCCHI									ATRA-
	FECAL,	ALPHA		CHLOR-	DI-	METO-	MALA-	PARA-	DI-	ZINE,
	KF AGAR	BHC	P, P'	PYRIFOS	LINDANE	ELDRIN	LACHLOR	THION,	THION,	AZINON,
	(COLS.	DIS-	DDE	DIS-	DIS-	DIS-	WATER	DIS-	DIS-	WATER,
DATE	PER	SOLVED	DISSOLV	SOLVED	SOLVED	SOLVED	DISSOLV	SOLVED	SOLVED	DISS,
	100 ML)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	REC
	(31673)	(34253)	(34653)	(38933)	(39341)	(39381)	(39415)	(39532)	(39572)	(39632)

[illegible][illegible]

DEC 08...	<0.01	<0.01	718	--	19.31	<0.01	<0.01	<0.01	<0.01	<0.01	<0.03
MAY 02...	--	--	626	--	683.37	--	--	--	--	--	--
JUN 27...	<0.01	<0.012	614	40	15.59	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AUG 21...	--	--	608	15	13.80	--	--	--	--	--	--

	LIN- URON	METHYL PARA- THION	EPTC WATER	PFB- ULATE WATER	TBU- THIURON	MOL- INATE WATER	ETHO- PROP WATER	BEN- FLUOR- ALIN	CARBO- FURAN WATER	TER- BUPOS WATER	PROM- AMIDE WATER
	FLTRD	WAT FLT	FLTRD	FILTRD	FLTRD	FLTRD	FLTRD	WAT FLTD	FLTRD	FLTRD	FLTRD
	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	0.7 U	0.7 U
DATE	GF, REC	GF, REC	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)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)
	(82666)	(82667)	(82668)	(82669)	(82670)	(82671)	(82672)	(82673)	(82674)	(82675)	(82676)

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

	DISUL-	TRIAL-	PRO-	CAR-	THIO-	PENDI-	NAPROP-	PRO-	METHYL	PER-	
	FOTON	LATE	PANIL	BARYL	BENCARB	DCPA	METH-	AMIDE	PARGITE	AZIN-	
	WATER	WATER	WATER	WATER	WATER	WATER	ALIN	WATER	PHOS	METHRIN	
	FLTRD	FLTRD	FLTRD	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	0.7 U	
DATE	GF, REC (UG/L) (82677)	GF, REC (UG/L) (82678)	GF, REC (UG/L) (82679)	GF, REC (UG/L) (82680)	GF, REC (UG/L) (82681)	GF, REC (UG/L) (82682)	GF, REC (UG/L) (82683)	GF, REC (UG/L) (82684)	GF, REC (UG/L) (82685)	GF, REC (UG/L) (82686)	GF, REC (UG/L) (82687)

[illegible]

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

385

394941083004400. Local number, FR-275

LOCATION.--Lat 39°49'41", long 83°00'44", Hydrologic Unit 05060001, near Shadeville.

Owner.--Franklin County

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, depth 25 ft.; 2 in. casing.

INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 680 feet above National Geodetic Vertical Datum of 1929. Measuring point:

Top of steel protective casing, 5.00 ft above land-surface datum.

PERIOD OF RECORD.--Apr. 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.44 ft below land-surface datum, Mar. 26, 1993; lowest measured, 13.12 ft below land-surface datum, Apr. 18, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
APR 11	7.56
JUL 03	4.77
SEP 15	11.58

395239083021400. Local number, FR-276

LOCATION.--Lat 39°52'39", long 83°02'14", Hydrologic Unit 05060001

Owner.--Stanley and Betty Wray.

AQUIFER.--Devonian limestone

WELL CHARACTERISTICS.--Drilled domestic water well, depth 155 ft.

INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel. 1.25 ft above land-surface datum.

PERIOD OF RECORD.--June 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 71.46 ft below land-surface datum, Mar. 18, 1991; lowest measured, 76.05 ft below land-surface datum, Mar. 16, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
APR 11	74.67
SEP 22	73.12

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 National Geodetic Vertical Datum of 1929. 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

Date	Water Level
APR 11	17.79
JUL 03	16.77
SEP 18	18.04

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 National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 0.95 ft above land-surface datum.

PERIOD OF RECORD.-- July 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 29.07 ft below land-surface datum, Dec. 15, 1993; lowest measured, 35.11 ft below land-surface datum, Dec. 10, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
APR 11	33.04
SEP 19	31.74

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

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 National Geodetic Vertical datum of 1929. Measuring point: Top of casing, 1.35 ft above land-surface datum.

PERIOD OF RECORD.--Sept. 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.85 ft below land-surface datum, Mar. 18, 1991; lowest measured, 31.54 ft below land-surface datum, Apr. 11, 1994.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
APR 11	31.54
SEP 18	12.42

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 National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.40 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

Date	Water Level
APR 11	41.15
SEP 18	39.21

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 National Geodetic Vertical Datum of 1929. 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

Date	Water Level
APR 11	6.62
JUL 03	3.87
SEP 18	10.62

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

387

395131083003801. Local number FR-301

LOCATION.--Lat 39°51'31", long 83°00'38", Hydrologic Unit 05060001

Owner.--City of Columbus

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, 8 in. diameter, 74 feet deep.

INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 684 feet above National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 1.95 ft above land-surface datum

PERIOD OF RECORD.--Dec.15, 1993 to current year.

EXTREMES FOR PERIOD OF RECORD.--highest water level measured, 8.49 ft below land-surface datum, Dec 15, 1993; lowest measured, 28.57 ft below land-surface datum, Dec. 12, 1994.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 12	28.57
APR 18	20.93
MAY 09	17.00
JUL 13	12.72
SEP 05	14.30
SEP 18	17.68

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE IT-FLD (MG/L HCO3) (99440)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L CACO3) (99430)
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DEC 14...	687	7.9	13.0	0.1	1200	340	74	15	4.8	273	225
MAY 09...	1070	7.0	13.0	0.0	630	170	49	9.0	1.5	439	360
JUL 13...	974	6.9	13.5	0.1	560	150	44	5.3	1.2	409	335
SEP 05...	1350	7.1	14.0	0.0	790	210	65	7.2	1.3	439	360

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)
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DEC 14...	910	31	0.20	12	1530	<0.010	<0.050	0.080	<0.20	<0.010	21
MAY 09...	260	27	0.30	14	751	<0.010	<0.050	0.050	<0.20	<0.010	47
JUL 13...	230	21	0.40	15	673	<0.010	<0.050	0.120	<0.20	<0.010	64
SEP 05...	410	24	0.40	16	957	0.010	0.370	0.180	0.30	<0.010	62

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	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)
------	---	---	---	---	---	---	---	---	--	---	---

DEC 14...	<0.5	<1.0	40	<10	3600	<10	7	500	<10	1400	<6
MAY 09...	<0.5	<1.0	6	<10	3500	<10	8	79	20	550	<6
JUL 13...	<0.5	1.0	8	<10	4300	40	7	70	20	500	<6
SEP 05...	<0.5	<1.0	30	<10	4400	<10	<4	72	<10	750	<6

[illegible][illegible]

	PUMP OR FLOW	DEPTH BELOW	METRI- BUZIN	2,6-DI- ETHYL	TRI- FLUR-	ETHAL- FLUR-	TER- BACIL	LIN- URON	METHYL
	PERIOD	LAND	SENSOR	ANILINE	ALIN	ALIN	WATER	WATER	PARA- THION
	PRIOR	SURFACE	WAT FLT	WAT FLT	WAT FLT	WAT FLT	FLTRD	FLTRD	WAT FLT
	TO SAM-	(WATER	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
	PLING	LEVEL)	GF, REC	GF, REC	GF, REC	GF, REC	GF, REC	GF, REC	GF, REC
	(MIN)	(FEET)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)
DATE	(72004)	(72019)	(82630)	(82660)	(82661)	(82663)	(82664)	(82665)	(82667)
DEC									
14...	--	28.57	<0.01	<0.01	<0.01	<0.01	<0.01	<0.03	<0.04
MAY									
09...	--	17.00	--	--	--	--	--	--	--
JUL									
13...	60	12.72	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SEP									
05...	115	14.30	--	--	--	--	--	--	--

[illegible]

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

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395131083003801 - FR-301--Continued

DATE	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	CAR- BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	PRO- PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	METHYL AZIN- PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)
DEC 14...	<0.01	<0.02	<0.05	<0.01	<0.01	<0.02	<0.01	<0.01	<0.04	<0.02
MAY 09...	--	--	--	--	--	--	--	--	--	--
JUL 13...	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SEP 05...	--	--	--	--	--	--	--	--	--	--

395140083003901. Local number FR-302

LOCATION.--Lat 39°51'40", long 83°00'39", Hydrologic Unit 05060001

Owner.--City of Columbus

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, 8 in. diameter, 56 feet deep.

INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 684 feet above National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 1.40 ft above land-surface datum

PERIOD OF RECORD.--Dec.15, 1993 to current year.

EXTREMES FOR PERIOD OF RECORD.--highest water level measured, 9.67 ft below land-surface datum, Dec 15, 1993; lowest measured, 27.40 ft below land-surface datum, Dec. 16, 1994.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	27.40
APR 18	22.51
MAY 08	17.00
JUL 13	14.88
SEP 18	15.62

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CAC03) (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 IT-FLD (MG/L AS HCO3) (99440)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L AS CAC03) (99430)
DEC 16...	1010	7.0	13.5	0.2	550	150	43	6.4	1.1	410	336
MAY 08...	988	7.0	14.0	0.0	590	160	45	7.1	1.4	422	346
JUL 13...	1210	6.9	14.5	0.1	700	200	49	12	1.5	314	257

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)
DEC 16...	220	18	0.40	15	660	<0.010	<0.050	0.180	0.30	<0.010	45
MAY 08...	230	19	0.40	15	692	0.020	<0.050	0.180	0.30	<0.010	51
JUL 13...	410	26	0.40	14	873	--	--	--	--	--	51

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

395140083003901 - FR-302--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	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)
DEC 16...	<0.5	<1.0	9	<10	3400	<10	5	65	10	780	<6
MAY 08...	<0.5	<1.0	--	<10	5500	<10	8	89	10	860	<6
JUL 13...	<0.5	2.0	7	<10	4100	20	10	91	<10	1300	<6

DATE	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	BUTYL- ATE, WATER, DISS, REC (UG/L) (04028)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	FONOFOS WATER DISS REC (UG/L) (04095)	ALPHA BHC DIS- SOLVED (UG/L) (34253)	P,P' DDE DISSOLV (UG/L) (34653)
DEC 16...	<3	1.1	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
MAY 08...	5	1.1	--	--	--	--	--	--	--	--	--
JUL 13...	<3	--	--	--	--	--	--	--	--	--	--

DATE	CHLOR- PYRIFOS DIS- SOLVED (UG/L) (38933)	LINDANE DIS- SOLVED (UG/L) (39341)	DI- ELDRIN DIS- SOLVED (UG/L) (39381)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	MALA- THION, DIS- SOLVED (UG/L) (39532)	PARA- THION, DIS- SOLVED (UG/L) (39542)	DI- AZINON, DIS- SOLVED (UG/L) (39572)	ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	ALA- CHLOR, WATER, DISS, REC (UG/L) (46342)	ACETO- CHLOR, WATER FLTRD REC (UG/L) (49260)	SOLIDS, RESIDUE AT 180 DEC. C DIS- SOLVED (MG/L) (70300)
DEC 16...	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.02	<0.01	<0.01	705
MAY 08...	--	--	--	--	--	--	--	--	--	--	730
JUL 13...	--	--	--	--	--	--	--	--	--	--	940

DATE	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN) (72004)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	METRI- BUZIN WATER DISSOLV (UG/L) (82630)	2,6-DI- ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	TRI- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	ETHAL- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	PHORATE WATER FLTRD GF, REC (UG/L) (82664)	TER- BACIL WATER FLTRD GF, REC (UG/L) (82665)	LIN- URON WATER FLTRD GF, REC (UG/L) (82666)	METHYL PARA- THION WAT FLT 0.7 U GF, REC (UG/L) (82667)
DEC 16...	--	27.40	<0.01	<0.01	<0.01	<0.01	<0.01	<0.03	<0.04	<0.03
MAY 08...	--	17.00	--	--	--	--	--	--	--	--
JUL 13...	60	14.88	--	--	--	--	--	--	--	--

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

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395140083003901 - FR-302--Continued

	EPTC	PEB-	TEBU-	MOL-	ETHO-	BEN-	CARBO-	TER-	PRON-	DISUL-
	WATER	ULATE	THIURON	INATE	PROP	FLUR-	FURAN	BUFOS	AMIDE	FOTON
	FLTRD	FILTRD	FLTRD	FLTRD	FLTRD	ALIN	WATER	FLTRD	FLTRD	FLTRD
	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	0.7 U
DATE	GF, REC	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)	(UG/L)	(UG/L)	(UG/L)	(UG/L)
	(82668)	(82669)	(82670)	(82671)	(82672)	(82673)	(82674)	(82675)	(82676)	(82677)
DEC										
16...	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.06
MAY										
08...	--	--	--	--	--	--	--	--	--	--
JUL										
13...	--	--	--	--	--	--	--	--	--	--
	TRIAL-	PRO-	CAR-	THIO-		PENDI-	NAPROP-	PRO-	METHYL	PER-
	LATE	PANIL	BARYL	BENCARB	DCPA	METH-	AMIDE	PARGITE	AZIN-	METHRIN
	WATER	WATER	WATER	WATER	WATER	ALIN	WATER	WATER	PHOS	CIS
	FLTRD	FLTRD	FLTRD	FLTRD	FLTRD	WAT FLT	FLTRD	FLTRD	WAT FLT	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	0.7 U
DATE	GF, REC	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)	(UG/L)	(UG/L)	(UG/L)	(UG/L)
	(82678)	(82679)	(82680)	(82681)	(82682)	(82683)	(82684)	(82685)	(82686)	(82687)
DEC										
16...	<0.01	<0.02	<0.05	<0.01	<0.01	<0.02	<0.01	<0.01	<0.04	<0.02
MAY										
08...	--	--	--	--	--	--	--	--	--	--
JUL										
13...	--	--	--	--	--	--	--	--	--	--

395150083004001. Local number FR-303

LOCATION.--Lat 39°51'50", long 83°00'40", Hydrologic Unit 05060001

Owner.--City of Columbus

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, 8 in. diameter, 57 feet deep.

INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 691 feet above National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 1.75 ft above land-surface datum

PERIOD OF RECORD.--Dec.15, 1993 to current year.

EXTREMES FOR PERIOD OF RECORD.--highest water level measured, 16.13 ft below land-surface datum, Dec 15, 1993; lowest measured, 31.85 ft below land-surface datum, Dec. 15, 1994.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 15	31.85
APR 18	28.57
MAY 08	23.39
JUL 12	17.68
SEP 18	19.73

395157083004101. Local number FR-304

LOCATION.--Lat 39°51'57", long 83°00'41", Hydrologic Unit 05060001

Owner.--City of Columbus

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, 8 in. diameter, 43 feet deep.

INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 689 feet above National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 2.00 ft above land-surface datum

PERIOD OF RECORD.--Dec.15, 1993 to current year.

EXTREMES FOR PERIOD OF RECORD.--highest water level measured, 14.59 ft below land-surface datum, Dec 15, 1993; lowest measured, 27.96 ft below land-surface datum, Dec. 14, 1994.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 14	27.96
APR 18	25.30
MAY 08	22.07
JUL 12	17.18
SEP 05	15.06
SEP 18	17.48

395157083004101 - FR-304--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	SPE- CIFIC CON- DUCT- ANCE	PH WATER WHOLE FIELD	TEMPER- ATURE (STAND- ARD WATER	OXYGEN, DIS- SOLVED	HARD- NESS TOTAL (MG/L AS	CALCIUM DIS- SOLVED (MG/L	MAGNE- SIUM, DIS- SOLVED (MG/L	SODIUM, DIS- SOLVED (MG/L	POTAS- SIUM, DIS- SOLVED (MG/L	BICAR- BONATE IT-FLD AS	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L
	(US/CM)	(STAND- ARD UNITS)	(DEG C)	(MG/L)	(CACO3)	(AS CA)	(AS MG)	(AS NA)	(AS K)	(HCO3)	(CAC03)
	(00095)	(00400)	(00010)	(00300)	(00900)	(00915)	(00925)	(00930)	(00935)	(99440)	(99430)
DEC 14...	1840	6.9	16.0	0.3	630	180	44	13	3.3	284	240
MAY 08...	1530	6.9	14.5	0.1	880	260	56	14	3.6	264	216
JUL 12...	1500	6.9	15.0	0	840	250	51	13	3.2	410	336
SEP 05...	1560	7.0	15.5	0.1	930	270	61	14	3.0	320	262

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)
DEC 14...	420	28	0.20	9.9	843	<0.010	<0.050	0.040	<0.20	<0.010	61
MAY 08...	630	34	0.20	10	1140	0.020	0.070	0.070	<0.20	<0.010	21
JUL 12...	540	25	0.20	11	1100	0.020	1.00	0.080	<0.20	<0.010	34
SEP 05...	630	28	0.20	12	1180	<0.010	<0.050	0.100	0.20	<0.010	28

DATE	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM, DIS- SOLVED (UG/L AS CD) (01025)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	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)
DEC 14...	<0.5	1.0	30	<10	3200	30	11	410	<10	1000	<6
MAY 08...	<0.5	<1.0	<3	<10	2400	<10	6	460	<10	1300	<6
JUL 12...	<0.5	3.0	6	<10	1700	40	5	440	<10	1200	<6
SEP 05...	<0.5	<1.0	20	<10	3100	<10	7	420	<10	1400	<6

[illegible]

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WATER-QUALITY DATA. WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

[illegible]

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

395158083005401. Local number FR-305

LOCATION.--Lat 39°51'58", long 83°00'54", Hydrologic Unit 05060001

Owner.--City of Columbus

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, 8 in. diameter, 78.50 feet deep.

INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 688 feet above National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 1.70 ft above land-surface datum

PERIOD OF RECORD.--Dec.15, 1993 to current year.

EXTREMES FOR PERIOD OF RECORD.--highest water level measured, 13.84 ft below land-surface datum, Dec 15, 1993; lowest measured, 47.75 ft below land-surface datum, Sept. 30, 1995.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 15	28.44
APR 18	24.14
MAY 09	21.30
JUL 12	44.92
SEP 18	47.75

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE IT-FLD (MG/L AS HCO3) (99440)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L CACO3) (99430)
DEC 15...	955	7.3	13.5	0	520	150	34	13	1.2	222	183
MAY 09...	820	7.1	13.0	0.6	460	130	32	13	1.3	344	282
JUL 12...	849	7.3	16.0	0.4	450	130	30	15	1.7	305	250

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)
DEC 15...	320	30	0.40	10	672	<0.010	<0.050	0.080	<0.20	<0.010	38
MAY 09...	150	31	0.50	12	543	<0.010	<0.050	0.060	<0.20	<0.010	42
JUL 12...	180	30	0.20	10	549	<0.010	<0.050	0.070	<0.20	<0.010	54

DATE	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	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)
DEC 15...	0.5	2.0	7	<10	2800	<10	<4	87	20	800	<6
MAY 09...	<0.5	2.0	<3	<10	3100	<10	5	71	10	1000	<6
JUL 12...	<0.5	<1.0	5	<10	1600	20	5	96	10	660	<6

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

[illegible]

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

395158083005401 - FR-305--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

	TRIAL- LATE WATER FLTRD 0.7 U	PRO- PANIL WATER FLTRD 0.7 U	CAR- BARYL WATER FLTRD 0.7 U	THIO- BENCARB WATER FLTRD 0.7 U	DCPA WATER FLTRD 0.7 U	PENDI- METH- ALIN WAT FLT 0.7 U	NAPROP- AMIDE WATER FLTRD 0.7 U	PRO- PARGITE WATER FLTRD 0.7 U	METHYL AZIN- PHOS WAT FLT 0.7 U	PER- METHRIN CIS WAT FLT 0.7 U
DATE	GF, REC (UG/L) (82678)	GF, REC (UG/L) (82679)	GF, REC (UG/L) (82680)	GF, REC (UG/L) (82681)	GF, REC (UG/L) (82682)	GF, REC (UG/L) (82683)	GF, REC (UG/L) (82684)	GF, REC (UG/L) (82685)	GF, REC (UG/L) (82686)	GF, REC (UG/L) (82687)
DEC 15...	<0.01	<0.02	<0.05	<0.01	<0.01	<0.02	<0.01	<0.01	<0.04	<0.02
MAY 09...	--	--	--	--	--	--	--	--	--	--
JUL 12...	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

395208083004501. Local number FR-307

LOCATION.--Lat 39°52'08", long 83°00'45", Hydrologic Unit 05060001

Owner.--City of Columbus

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, 8 in. diameter, 46 feet deep.

INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 685 feet above National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 1.45 ft above land-surface datum

PERIOD OF RECORD.--Dec.15, 1993 to current year. Well destroyed Sep 1995.

EXTREMES FOR PERIOD OF RECORD.--highest water level measured, 10.90 ft below land-surface datum, Apr 1, 1994; lowest measured, 23.80 ft below land-surface datum, Dec. 14, 1994.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 14	23.80
APR 18	23.20
MAY 05	19.72
JUL 12	14.60

395217083004201. Local number FR-308

LOCATION.--Lat 39°52'17", long 83°00'42", Hydrologic Unit 05060001

Owner.--City of Columbus

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, 8 in. diameter, 38.20 feet deep.

INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 685 feet above National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 1.40 ft above land-surface datum

PERIOD OF RECORD.--Dec.15, 1993 to current year. Well destroyed June 1995.

EXTREMES FOR PERIOD OF RECORD.--highest water level measured, 9.49 ft below land-surface datum, Apr 1, 1994; lowest measured, 23.23 ft below land-surface datum, Dec. 15, 1994.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 15	23.23
APR 18	21.38
May 05	18.00

395227083004001. Local number FR-309

LOCATION.--Lat 39°52'27", long 83°00'40", Hydrologic Unit 05060001

Owner.--City of Columbus

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, 8 in. diameter, 46 feet deep.

INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 684 feet above National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 1.60 ft above land-surface datum

PERIOD OF RECORD.--Dec.15, 1993 to current year. Well destroyed spring 1995.

EXTREMES FOR PERIOD OF RECORD.--highest water level measured, 10.21 ft below land-surface datum, Apr 1, 1994; lowest measured, 23.28 ft below land-surface datum, Dec. 15, 1994.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 15	23.28

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

397

395048083004500. Local number FR-310

LOCATION.--Lat 39°50'48", long 83°00'45", Hydrologic Unit 05060001

Owner.--City of Columbus

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, 2-in. diameter PVC, 61 feet deep.

INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 683.36 feet above National Geodetic Vertical Datum of 1929. Measuring point: top of outer steel protective casing, 4.25 ft above land-surface datum

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

EXTREMES FOR PERIOD OF RECORD.--highest water level measured, 8.91 ft below land-surface datum, Mar. 29, 1993; lowest measured, 23.66 ft below land-surface datum, Sep. 13, 1993.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
APR 01	19.37
JUN 30	22.83
SEP 18	19.12

395044083010500. Local number FR-311

LOCATION.--Lat 39°50'44", long 83°01'05", Hydrologic Unit 05060001

Owner.--City of Columbus

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, 2-in. diameter PVC, 42 feet deep.

INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 683.01 feet above National Geodetic Vertical Datum of 1929. Measuring point: top of outer steel protective casing, 4.10 ft above land-surface datum

PERIOD OF RECORD.--March 1993 to current year

EXTREMES FOR PERIOD OF RECORD.--highest water level measured, 7.00 ft below land-surface datum, Mar. 29, 1993; lowest measured, 16.13 ft below land-surface datum, Sep. 13, 1993.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
APR 01	13.83
JUN 30	14.38
SEP 18	14.43

395151082591700. Local number FR-312

LOCATION.--Lat 39°51'51", long 83°59'17", Hydrologic Unit 05060001

Owner.--Walter Kuhnwein

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 54.5 ft. deep.

INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Measuring point: Top of PVC casing, 0.20 ft below land-surface datum

PERIOD OF RECORD.--Sept, 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--New well.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
SEP 15	28.37

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CAC03) (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 (MG/L AS HCO3) (99440)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L - CAC03) (99430)
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JUL 03...	766	6.8	13.5	0.1	410	110	33	3.3	1.3	--	--
AUG 22...	756	7.2	13.0	0.5	380	100	32	3.0	1.2	356	292

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)
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JUL 03...	67	35	0.30	14	452	<0.010	<0.050	0.030	<0.20	<0.010	80
AUG 22...	66	35	0.30	14	428	<0.010	<0.050	0.050	<0.20	<0.010	94

395151082591700 - FR-312--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

	BERYL- LIUM,	CADMIUM	COBALT,	COPPER,	IRON,	LEAD,	LITHIUM	MANGA- NESE,	MOLYB- DENUM,	STRON- TIUM,	VANA- DIUM,
	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-
	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED
DATE	(UG/L	(UG/L	(UG/L	(UG/L	(UG/L	(UG/L	(UG/L	(UG/L	(UG/L	(UG/L	(UG/L
	AS BE)	AS CD)	AS CO)	AS CU)	AS FE)	AS PB)	AS LI)	AS MN)	AS MO)	AS SR)	AS V)
	(01010)	(01025)	(01035)	(01040)	(01046)	(01049)	(01130)	(01056)	(01060)	(01080)	(01085)

JUL	03...	<0.5	<1.0	7	<10	1500	<10	4	120	<10	160	<6
AUG	22...	<0.5	<1.0	<3	<10	1300	10	5	100	<10	150	<6

[illegible][illegible]

										SOLIDS, RESIDUE AT 180	
	CHLOR- PYRIFOS DIS-	LINDANE DIS-	DI- ELDRIN DIS-	METO- LACHLOR WATER	MALA- THION, DIS-	PARA- THION, DIS-	DI- AZINON, DIS-	ATRA- ZINE, WATER, DISS,	ALA- CHLOR, WATER, DISS,	ACETO- CHLOR, WATER, FLTRD	DEG. C DIS-
DATE	SOLVED (UG/L) (38933)	SOLVED (UG/L) (39341)	SOLVED (UG/L) (39381)	DISSOLV (UG/L) (39415)	SOLVED (UG/L) (39532)	SOLVED (UG/L) (39542)	SOLVED (UG/L) (39572)	REC (UG/L) (39632)	REC, (UG/L) (46342)	REC (UG/L) (49260)	SOLVED (MG/L) (70300)

[illegible]

	PUMP	DEPTH	2,6-DI-	TRI-	ETHAL-	TER-	LIN-	METHYL	
	OR FLOW	BELOW	METRI-	FLUR-	FLUR-	PHORATE	BACIL	URON	PARA-
	PERIOD	LAND	BUTZIN	ANILINE	ALIN	WATER	WATER	WATER	THION
	PRIOR	SURFACE	SENCOR	WAT FLT	WAT FLT	WAT FLT	FLTRD	FLTRD	WAT FLT
	TO SAM-	(WATER	WATER	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
DATE	PLING	LEVEL)	DISSOLV	GF, REC	GF, REC	GF, REC	GF, REC	GF, REC	GF, REC
	(MIN)	(FEET)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)
	(72004)	(72019)	(8263)	(82660)	(82661)	(82663)	(82664)	(82665)	(82667)

[illegible]

	EPTC	PEB- ULATE	TEBU- THIUROWN	MOL- INATE	ETHO- PROP	BEN- FLUR-	CARBO- FURAN	TER- BUPOS	PRON- AMIDE	DISUL- FOTON
	WATER	WATER	WATER	WATER	WATER	ALIN	WATER	WATER	WATER	WATER
	FLTRD	FILTRD	FLTRD	FLTRD	FLTRD	WAT FLD	FLTRD	FLTRD	FLTRD	FLTRD
	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	0.7 U
DATE	GF, REC	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)	(UG/L)	(UG/L)	(UG/L)	(UG/L)
	(82668)	(82669)	(82670)	(82671)	(82672)	(82673)	(82674)	(82675)	(82676)	(82677)

[illegible]

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

399

395151082591700 - FR-312--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

	TRIAL- LATE WATER FLTRD 0.7 U	PRO- PANIL WATER FLTRD 0.7 U	CAR- BARYL WATER FLTRD 0.7 U	THIO- BENCARB WATER FLTRD 0.7 U	DCPA WATER FLTRD 0.7 U	PENDI- METH- ALIN WAT FLT 0.7 U	NAPROP- AMIDE WATER FLTRD 0.7 U	PRO- PARGITE WATER FLTRD 0.7 U	METHYL AZIN- PHOS WAT FLT 0.7 U	PER- METHRIN CIS WAT FLT 0.7 U
DATE	GF, REC (UG/L) (82678)	GF, REC (UG/L) (82679)	GF, REC (UG/L) (82680)	GF, REC (UG/L) (82681)	GF, REC (UG/L) (82682)	GF, REC (UG/L) (82683)	GF, REC (UG/L) (82684)	GF, REC (UG/L) (82685)	GF, REC (UG/L) (82686)	GF, REC (UG/L) (82687)
JUL 03...	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
AUG 22...	--	--	--	--	--	--	--	--	--	--

394948082583400. Local number FR-313

LOCATION.--Lat 39°49'48", long 83°58'34", Hydrologic Unit 05060001

Owner.--Jeanne Badders

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 79 ft. deep.

INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.

DATUM.--Measuring point: Top of PVC casing, 0.20 ft below land-surface datum

PERIOD OF RECORD.--Sept, 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--New well.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date Water Level

SEP 15 56.05

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE IT-FLD AS HCO3) (99440)	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L - CAC03) (99430)
JUN 30...	824	7.0	13.5	0.1	380	110	25	23	2.2	--	--
AUG 23...	732	7.1	13.5	0.1	310	88	21	30	2.0	248	203
DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)
JUN 30...	95	60	0.20	10	467	<0.010	<0.050	0.100	<0.20	<0.010	55
AUG 23...	75	65	0.20	9.6	415	<0.010	<0.050	0.110	<0.20	<0.010	56
DATE	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	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)
JUN 30...	<0.5	2.0	10	<10	2400	20	10	89	20	170	<6
AUG 23...	<0.5	<1.0	<3	<10	1700	<10	5	96	20	150	<6

394948082583400 - FR-313--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

	CARBON, ZINC, DIS- SOLVED (UG/L	ORGANIC DIS- SOLVED (MG/L	PROP- CHLOR, WATER, DISS, REC	BUTYL- ATE, WATER, DISS, REC	SI - MAZINE, WATER, DISS, REC	PRO- METON, WATER, DISS, REC	DEETHYL ATRA- ZINE, WATER, DISS, REC	CYANA- ZINE, WATER, DISS, REC	FONOFOS WATER, DISS, REC	ALPHA BHC DIS- SOLVED	P, P' DDE DISSOLV
DATE	AS ZN) (01090)	AS C) (00681)	(UG/L) (04024)	(UG/L) (04028)	(UG/L) (04035)	(UG/L) (04037)	(UG/L) (04040)	(UG/L) (04041)	(UG/L) (04095)	(UG/L) (34253)	(UG/L) (34653)

[illegible]

CHLOR-PYRIFOS		DI-LINDANE	DI-ELDRIN	METO-LACHLOR	MALA-THION	PARA-THION	DI-AZINON	DI-ATRA-ZINE	ALA-CHLOR	ACETO-WATER	SOLIDS, RESIDUE AT 180 DEG. C
DATE	SOLVED	SOLVED	SOLVED	DISSOLV	SOLVED	SOLVED	SOLVED	REC	REC,	REC	DIS-FLTRD DIS-SOLVED
	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(MG/L)
	(38933)	(39341)	(39381)	(39415)	(39532)	(39542)	(39572)	(39632)	(46342)	(49260)	(70300)

[illegible]

PUMP	DEPTH	2,6-DI-	TRI-	ETHAL-	TER-	LIN-	METHYL		
OR FLOW	BELOW	METRI-	ETHYL	FLUR-	FLUR-	PHORATE	BACIL	URON	PARA-
PERIOD	LAND	BUZIN	ANILINE	ALIN	ALIN	WATER	WATER	WATER	THION
PRIOR	SURFACE	SENSOR	WAT FLT	WAT FLT	WAT FLT	FLTRD	FLTRD	FLTRD	WAT FLT
TO SAM-	(WATER	WATER	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
DATE	PLING	LEVEL)	DISSOLV	GF, REC	GF, REC	GF, REC	GF, REC	GF, REC	GF, REC
(MIN)	(FEET)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)
(72004)	(72019)	(82630)	(82660)	(82661)	(82663)	(82664)	(82665)	(82666)	(82667)

[illegible]

	PEB-	TEBU-	MOL-	ETHO-	BEN-	CARBO-	TER-	PRON-	DISUL-
	EPTC	THIURON	INATE	PROP	FLUR-	FURAN	BUFOS	AMIDE	FOTON
	WATER	WATER	WATER	WATER	ALIN	WATER	WATER	WATER	WATER
	FLTRD	FLTRD	FLTRD	FLTRD	WAT FLD	FLTRD	FLTRD	FLTRD	FLTRD
	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	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)	(UG/L)	(UG/L)	(UG/L)
	(82668)	(82669)	(82670)	(82671)	(82672)	(82673)	(82674)	(82675)	(82677)

[illegible]

	TRIAL- LATE WATER FLTRD 0.7 U	PRO- PANIL WATER FLTRD 0.7 U	CAR- BARYL WATER FLTRD 0.7 U	THIO- BENCARB WATER FLTRD 0.7 U	PENDI- METH- ALIN WAT FLT 0.7 U	NAPROP- AMIDE WATER FLTRD 0.7 U	PRO- PARGITE WATER FLTRD 0.7 U	METHYL AZIN- PHOS WAT FLT 0.7 U	PER- METHRIN CIS WAT FLT 0.7 U	
DATE	GF, REC (UG/L) (82678)	GF, REC (UG/L) (82679)	GF, REC (UG/L) (82680)	GF, REC (UG/L) (82681)	GF, REC (UG/L) (82682)	GF, REC (UG/L) (82683)	GF, REC (UG/L) (82684)	GF, REC (UG/L) (82685)	GF, REC (UG/L) (82686)	GF, REC (UG/L) (82687)

[illegible]

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

401

395241082584500. Local number FR-314
 LOCATION.--Lat 39°52'41", long 83°58'45", Hydrologic Unit 05060001
 Owner.--WTVN
 AQUIFER.--Sand and gravel of Quaternary Age.
 WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 72 ft. deep.
 INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
 DATUM.-- Measuring point: Top of PVC casing, 0.18 ft below land-surface datum
 PERIOD OF RECORD.--Sept, 1995 to current year.
 EXTREMES FOR PERIOD OF RECORD.--New well.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
SEP 15	20.99

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE IT-FLD (MG/L AS HCO3) (99440)
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AUG 22...	688	7.4	14.5	0.0	360	93	30	9.9	2.6	347
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DATE	ALKA- LINITY, 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)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L AS (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)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)
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AUG 22...	284	58	14	0.30	15	396	<0.010	<0.050	0.040	<0.20
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DATE	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)
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AUG 22...	<0.010	330	<0.5	1.0	<3	<10	1600	10	10
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DATE	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)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN) (72004)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)
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AUG 22...	430	20	130	<6	10	15	413	35	20.11
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395100083015700. Local number FR-315
 LOCATION.--Lat 39°51'00", long 83°01'57", Hydrologic Unit 05060001
 Owner.--SW Conservation Club.
 AQUIFER.--Sand and gravel of Quaternary Age.
 WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 65 ft. deep.
 INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
 DATUM.-- Measuring point: Top of PVC casing, 0.20 ft below land-surface datum
 PERIOD OF RECORD.--Sept, 1995 to current year.
 EXTREMES FOR PERIOD OF RECORD.--New well.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
SEP 19	26.98

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

395100083015700 Local number FR-315--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE IT-FLD (MG/L AS HCO3) (99440)
AUG 25...	647	7.3	13.0	0.2	340	90	29	2.9	1.1	310

DATE	ALKA- LINITY, 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)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L AS N) (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)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)
AUG 25...	254	71	16	0.30	13	378	<0.010	<0.050	0.050	<0.20

DATE	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)
AUG 25...	<0.010	210	<0.5	<1.0	<3	<10	1800	<10	<4

DATE	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)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN) (72004)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)
AUG 25...	110	<10	220	<6	<3	0.8	404	25	26.27

395035083014700. Local number FR-316

LOCATION.--Lat 39°50'35", long 83°01'47", Hydrologic Unit 05060001

Owner.--SW Conservation Club.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 62 ft. deep.

INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.

DATUM.-- Measuring point: Top of PVC casing, 2.50 ft above land-surface datum

PERIOD OF RECORD.--Sept, 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--New well.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date Water Level

SEP 19 37.15

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE IT-FLD (MG/L AS HCO3) (99440)
AUG 25...	759	7.7	18.0	1.3	300	64	33	42	4.9	264

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

403

395035083014700 Local number FR-316--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	ALKA-LINITY, 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)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AMMONIA + ORGANIC DIS. (MG/L AS N) (00623)
AUG 25...	216	120	54	0.90	11	460	<0.010	<0.050	0.020	<0.20

DATE	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM, DIS-SOLVED (UG/L AS CD) (01025)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM, DIS-SOLVED (UG/L AS LI) (01130)
AUG 25...	<0.010	59	<0.5	<1.0	<3	<10	35	<10	16

DATE	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)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	PUMP OR FLOW PERIOD PRIOR TO SAM-PLING (MIN) (72004)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)
AUG 25...	64	30	320	<6	3	3.1	479	80	36.17

395153083014000. Local number FR-317

LOCATION.--Lat 39°51'53", long 83°01'40", Hydrologic Unit 05060001

Owner.--Heimat Haus

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 40 ft. deep.

INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.

DATUM.-- Measuring point: Top of PVC casing, 0.20 ft below land-surface datum

PERIOD OF RECORD.--Sept, 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--New well.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
SEP 22	5.98

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	SPE-CIFIC CON-DUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD WATER UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CAC03) (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 IT-FLD (MG/L AS HCO3) (99440)
AUG 25...	1240	7.5	15.5	0.3	490	120	45	78	10	686

DATE	ALKA-LINITY, 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)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
AUG 25...	562	8.5	63	0.70	16	693	<0.010	<0.050	0.070

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

395153083014000 Local number FR-317--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	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)
AUG 25...	0.20	<0.010	1300	<0.5	1.0	<10	5600	<10	65

DATE	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)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN) (72004)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)
AUG 25...	1700	20	6200	<6	6	130	890	30	5.56

395042082585900. Local number FR-318

LOCATION---Lat 39°50'42", long 82°58'59", Hydrologic Unit 05060001

Owner---City of Columbus

AQUIFER---Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS---Drilled observation water well, 4 in. diameter, 85 ft. deep.

INSTRUMENTATION---Periodic measurement with steel or electric tape by USGS personnel.

DATUM--- Measuring point: Top of PVC casing, 3.00 ft above land-surface datum

PERIOD OF RECORD---Sept, 1995 to current year.

EXTREMES FOR PERIOD OF RECORD---New well.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
AUG 31	54.38

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CAC03) (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 IT-FLD (MG/L AS HCO3) (99440)
AUG 31...	844	7.5	15.0	0.1	410	110	33	16	2.2	359

DATE	ALKA- LINITY, CARBON- ATE IT-FLD 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)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	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)
AUG 31...	294	140	42	0.30	13	536	0.010	<0.050	0.070	<0.20

DATE	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)
AUG 31...	<0.010	70	<0.5	<1.0	7	<10	1900	<10	<4

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

405

395042082585900 Local number FR-318--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	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)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN) (72004)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)
AUG 31...	230	10	160	<6	<3	1.1	537	20	54.58

395205083001500. Local number FR-319

LOCATION---Lat 39°52'05", long 83°00'15", Hydrologic Unit 05060001

Owner---Heimat Haus

AQUIFER---Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS---Drilled observation water well, 4 in. diameter, 55 ft. deep.

INSTRUMENTATION---Periodic measurement with steel or electric tape by USGS personnel.

DATUM---Measuring point: Top of PVC casing, 2.30 ft above land-surface datum

PERIOD OF RECORD---Sept, 1995 to current year.

EXTREMES FOR PERIOD OF RECORD---New well.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
SEP 15	33.21

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	PH SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE IT-FLD (MG/L AS HCO3) (99440)
AUG 31...	1180	7.7	13.0	0.2	530	140	43	30	1.5	390

DATE	ALKA- LINIT- Y, 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)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L AS (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)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)
AUG 31...	320	120	130	0.30	15	674	<0.010	<0.050	0.050	<0.20

DATE	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)
AUG 31...	<0.010	83	<0.5	<1.0	20	<10	2400	<10	5

DATE	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)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN) (72004)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)
AUG 31...	110	<10	130	<6	<3	0.9	706	10	34.55

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

394954083002800. Local number FR-320

LOCATION.--Lat 39°49'54", long 83°00'28", Hydrologic Unit 05060001

Owner.--City of Columbus

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 70 ft. deep.

INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.

DATUM.-- Measuring point: Top of PVC casing, 2.95 ft above land-surface datum.

PERIOD OF RECORD.--Sept, 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--New well.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
SEP 18	19.68

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE IT-FLD (MG/L AS HCO3) (99440)
AUG 31...	911	7.2	14.0	0.1	450	120	37	18	2.1	488

DATE	ALKA- LINITY, CARBON- ATE IT-FLD (MG/L CACO3) (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)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	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)
AUG 31...	400	120	37	0.20	13	589	<0.010	<0.050	0.040	<0.20

DATE	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	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)	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)
AUG 31...	<0.010	54	<0.5	<1.0	6	<10	650	<10	<4

DATE	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)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L (70300)	PUMP OR FLOW PERIOD PRIOR TO SAM- PLING (MIN) (72004)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)
AUG 31...	130	<10	570	<6	<3	0.8	574	20	26.85

GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

407

395038083002100. Local number FR-321
 LOCATION.--Lat 39°50'38", long 83°00'21", Hydrologic Unit 05060001
 Owner.--City of Columbus
 AQUIFER.--Sand and gravel of Quaternary Age.
 WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 68 ft. deep.
 INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
 DATUM.-- Measuring point: Top of PVC casing, 2.40 ft above land-surface datum.
 PERIOD OF RECORD.--Sept, 1995 to current year.
 EXTREMES FOR PERIOD OF RECORD.--New well.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
SEP 18	39.74

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CAC03) (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 IT-FLD (MG/L AS HCO3) (99440)
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SEP 01...	1480	6.9	13.0	1.8	810	230	58	14	2.8	561
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DATE	ALKA- LINITY, 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)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	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)
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SEP 01...	460	440	38	0.10	14	1080	<0.010	0.480	0.040	<0.20
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DATE	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	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)	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)
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SEP 01...	0.020	39	<0.5	<1.0	<3	<10	6	<10	5
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DATE	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)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	PUMP OR FLOW PERIOD TO SAM- PLING (MIN) (72004)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)
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SEP 01...	13	<10	680	<6	<3	0.9	1120	20	37.14
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GROUND-WATER RECORDS--SOUTHERN FRANKLIN COUNTY

39513108300520. Local number FR-322

LOCATION.--Lat 39°51'31", long 83°00'52", Hydrologic Unit 05060001

Owner.--City of Columbus

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 60 ft. deep.

INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.

DATUM.-- Measuring point: Top of PVC casing, 2.40 ft above land-surface datum.

PERIOD OF RECORD.--Sept, 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.--New well.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
SEP 15	18.33

WATER-QUALITY DATA, WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L) AS CAC03) (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 IT-FLD (MG/L) AS HCO3) (99440)
SEP 01...	876	7.2	13.0	0.1	420	120	29	21	1.8	415

DATE	ALKA- LITY, CARBON- ATE IT-FLD CAC03) (99430)	SULFATE DIS- SOLVED AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED AS CL) (00940)	FLUO- RIDE, DIS- SOLVED AS F) (00950)	SILICA, DIS- SOLVED AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L) AS N) (00623)
SEP 01...	340	130	28	0.30	10	548	<0.010	0.280	0.060	0.20

DATE	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L) AS P) (00671)	BARIUM, DIS- SOLVED (UG/L) AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L) AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L) AS CD) (01025)	COBALT, DIS- SOLVED (UG/L) AS CO) (01035)	COPPER, DIS- SOLVED (UG/L) AS CU) (01040)	IRON, DIS- SOLVED (UG/L) AS FE) (01046)	LEAD, DIS- SOLVED (UG/L) AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L) AS LI) (01130)
SEP 01...	<0.010	35	<0.5	<1.0	7	<10	1200	<10	<4

DATE	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)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	PUMP OR FLOW PERIOD TO SAM- PLING (MIN) (72004)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)
SEP 01...	200	<10	700	<6	<3	1.4	563	25	17.23

LOW-FLOW MAGNITUDE AND FREQUENCY OF OHIO STREAMS

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The following sites are the low-flow partial record network in Ohio at which instantaneous discharge measurements were made during the 1994 and 1995 water years. The data were collected as part of a cooperative study with the Ohio Department of Natural Resources. The objective of the study is to define the low-flow characteristics of 180 stream sites which have essentially unregulated flow.

03098390 MILL CREEK NEAR YOUNGSTON OHIO

LOCATION.-- Lat 41°02'00", Long 80°41'37", Mahoning County, Hydrologic Unit 05030103 at pedestrian bridge over Mill Creek at end of extra parking lot next to Mill Creek Park Golf Course, 0.75 northeast of park entrance at SR 224, 0.75 mi. downstream of Indian Run, 3.1 mi. upstream of Newport Lake Dam, 3 mi. southwest of South Side Youngstown, Ohio. (Youngstown 1:24000 quad)
DRAINAGE AREA--- 51.5 mi.²

Station Number	Date	Discharge
03098390	9/27/95	4.82

03108996 MIDDLE FORK LITTLE BEAVER CREEK AT TEEGARDEN OHIO

LOCATION.-- Lat 40°49'18", Long 80°49'37", Columbiana County, Hydrologic Unit 05030101 at Teegarden covered bridge of Eagleton Road over Middle Fork Little Beaver Creek (covered bridge is abandoned, next to new bridge), 3.3 mi. below Stone Mill Run, 1 mi. northeast of Salem Reservoir, 4.5 mi. northwest of Lisbon, Ohio. (Lisbon 1:24000 quad)
DRAINAGE AREA--- 90.2 mi.²

Station Number	Date	Discharge
03108996	9/26/95	9.24

03109861 YELLOW CREEK AT BERGHOLZ OHIO

LOCATION.-- Lat 40°30'54", Long 80°53'17", Jefferson County, Hydrologic Unit 05030101 at state route 164 bridge over Yellow Creek, 0.8 mi. below confluence of Elkhorn Creek, 0.4 mi. southwest of Bergholz, Ohio. (Bergholz 1:24000 quad)
DRAINAGE AREA. 65.8 mi.²

Station Number	Date	Discharge
03109861	9/16/94	5.59
03109861	9/26/95	3.65

03111465 SHORT CREEK AT ADENA OHIO

LOCATION.-- Lat 40°13'09", Long 80°52'22", Jefferson County, Hydrologic Unit 05030106 at bridge on Adena-Smithfield Road in Adena, 400 ft downstream from North Fork.
DRAINAGE AREA--- 63.9 mi.²

Station Number	Date	Discharge
03111465	9/16/94	15.7
03111465	9/26/95	10.4

03112820 MCMAHON CREEK AT GLENCOE OHIO

LOCATION.-- Lat 40°00'10", Long 80°52'38", Belmont County, Hydrologic Unit 05030106 at bridge on County Road 149, 0.7 mi. (1.1 km) southeast of Glencoe, Ohio. (St. Clairsville 1:24000 quad)
DRAINAGE AREA--- 50.7 mi.²

Station Number	Date	Discharge
03112820	9/12/95	0.43
03112820	9/27/95	2.41

03113550 MCMAHON CREEK AT BELLAIRE OHIO

LOCATION.-- Lat 40°00'39", Long 80°45'45", Belmont County, Hydrologic Unit 05030106 at bridge on county road connecting Bellaire with State Route 147 on right bank of McMahon Creek, 300 ft upstream from Bellaire City Limits at stream crossing. (Lansing 1:24000 quad)
DRAINAGE AREA--- 90.2 mi.²

Station Number	Date	Discharge
03113550	9/12/95	2.82
03113550	9/27/95	4.48

03114241 SUNFISH CREEK AT COATS OHIO

LOCATION.-- Lat 39°46'14", Long 81°02'34", Monroe County, Hydrologic Unit 05030201 at riffle beside Sunfish Creek Road, 800 ft downstream from confluence of unnamed tributary, 0.7 mi. downstream from confluence of Standingstone Run, 1.0 mi. southeast of Coats, 4.0 mi east of Woodsfield, Ohio. (Woodsfield 1:24000 quad)
DRAINAGE AREA--- 51.3 mi.²

Station Number	Date	Discharge
03114241	9/28/95	<0.10

03114250 SUNFISH CREEK AT CAMERON OHIO

LOCATION.-- Lat 39°46'00", Long 80°56'05", Monroe County, Hydrologic Unit 05030201 at bridge on State Highway 78, 0.5 mi. east of Cameron, 4 mi. upstream from mouth. (Cameron 1:24000 quad)
DRAINAGE AREA--- 99.6 mi.²

Station Number	Date	Discharge
03114250	9/28/95	0.97

LOW-FLOW MAGNITUDE AND FREQUENCY OF OHIO STREAMS

03115700 WEST FORK DUCK CREEK AT DEXTER CITY OHIO

LOCATION.-- Lat 39°39'45", Long 81°28'25", Noble County, Hydrologic Unit 05030201, at State Route 821 bridge at Dexter City, 0.7 mi. upstream from Buffalo Run. (Macksburg 1:24000 quad)
DRAINAGE AREA.-- 75.4 mi.²

Station Number	Date	Discharge
03115700	9/28/95	0.47

03143760 WAKATOMIKA CREEK NEAR PERRYTON OHIO

LOCATION.-- Lat 40°13'10", Long 82°10'53", Coshocton County, Hydrologic Unit 05040004, at point in stream 0.15 mile north of east-west section of county road, 0.7 mi. upstream from Winding Fork, 5.2 mi. north of Perryton, Ohio. (Perryton 1:24000 quad)
DRAINAGE AREA.-- 58.3 mi.²

Station Number	Date	Discharge
03143760	10/12/94	4.49
03143760	9/11/95	3.14

03158165 MONDAY CREEK NEAR GREENDALE OHIO

LOCATION.-- Lat 39°31'24", Long 82°16'17", Hocking County, Hydrologic Unit 05030204 at Dawley Road over Monday Creek, 0.7 mi. above confluence with Sand Run, 0.9 mi. above proposed reservoir site, 1.3 m. southeast of Greendale, 4 mi. northeast of Haydenville, Ohio. (Gore 1:24000 quad)
DRAINAGE AREA.-- 67.2 mi.²

Station Number	Date	Discharge
03158165	10/7/94	1.22
03158165	7/19/95	3.68
03158165	9/26/95	2.37

03159555 EAST BRANCH SHADE RIVER NEAR TUPPERS PLAINS OHIO

LOCATION.-- Lat 39°08'29", Long 81°52'39", Meigs County, Hydrologic Unit 05030202 at bridge on private road, adjacent to Township Road 279, 2.1 mi. downstream from Meigs Creek, 2.8 mi. upstream from Big Run, 2.7 mi. southwest of Tupper Plains, Ohio (Alfred 1:24000 quad)
DRAINAGE AREA.-- 37.5 mi.²

Station Number	Date	Discharge
03159555	10/7/94	0.48
03159555	9/12/95	0.01

03160050 LEADING CREEK NEAR MIDDLEPORT OHIO

LOCATION.-- Lat 39°00'25", Long 82°05'10", Meigs County, Hydrologic Unit 05030202 at first private road bridge, 1.2 mi. above State Highway 7, 1.75 mi. northwest of Middleport, Ohio. (Pomeroy 1:24000 quad)
DRAINAGE AREA.-- 118 mi.²

Station Number	Date	Discharge
03160050	9/12/95	16.5

03216640 PINE CREEK NEAR WHEELERSBURG OHIO

LOCATION.-- Lat 38°39'12", Long 82°48'09", Scioto County, Hydrologic Unit 05090103 at Junior Furnace-Powellville Road bridge, 1.7 mi. upstream from Poplar Fork, 6 mi. southeast of Wheelersburg, Ohio. (Wheelersburg 1:24000 quad)
DRAINAGE AREA.-- 152 mi.²

Station Number	Date	Discharge
03216640	9/12/95	3.04

03230745 DEER CREEK AT US 142 NEAR LONDON OHIO

LOCATION.-- Lat 39°54'17", Long 83°23'35", Madison County, Hydrologic Unit 05060002 at bridge on State Route 142, 3.0 mi. northeast of London, Ohio. (London 1:24000 quad)
DRAINAGE AREA.-- 50.7 mi.²

Station Number	Date	Discharge
03230745	10/12/94	0.07
03230745	9/11/95	4.16
03230745	9/26/95	3.17

03231500 PAINT CREEK AT WASHINGTON COURT HOUSE OHIO

LOCATION.-- Lat 39°32'12", Long 83°26'46", Fayette County, Hydrologic Unit 05060003 at bridge on US 35 (Dayton Avenue) in Washington Court House, 1.7 mi. (2.7 km) upstream from East Fork Paint Creek. (Washington Court House 1:24000 quad)
DRAINAGE AREA.-- 62.3 mi.²

Station Number	Date	Discharge
03231500	10/5/94	0.03
03231500	9/11/95	0.52
03231500	9/26/95	1.82

03231620 EAST FORK PAINT CREEK NEAR BLOOMINGBURG OHIO

LOCATION.-- Lat 39°35'15", Long 83°23'47", Fayette County, Hydrologic Unit 05060003 at bridge on Matthews Road, 0.3 mi. upstream from Green Ditch, 1.2 mi. south of Bloomingburg, Ohio, 2.0 mi. upstream from Big Run. (Washington Court House 1:24000 quad)
DRAINAGE AREA.-- 36.8 mi.²

Station Number	Date	Discharge
03231620	10/5/94	<0.10
03231620	9/11/95	0.96
03231620	9/26/95	0

LOW-FLOW MAGNITUDE AND FREQUENCY OF OHIO STREAMS

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03237040 BIG BEAVER CREEK NEAR PIKETON OHIO

LOCATION.-- Lat 39°02'41", Long 83°01'18", Pike County, Hydrologic Unit 05060002 at bridge on State Route 124, 0.9 mi. upstream from Little Beaver Creek, 1.2 mi. south of Piketon, Ohio. (Piketon 1:24000 quad)
DRAINAGE AREA.-- 62.0 mi.²

Station Number	Date	Discharge
03237040	9/5/95	0
03237040	9/11/95	0

03238370 EAST FORK WHITE OAK CREEK NEAR SARDINIA OHIO

LOCATION.-- Lat 39°00'24", Long 83°49'19", Brown County, Hydrologic Unit 05090201, at State Route 32 bridge, 0.2 mi. (0.3 km) upstream from Slab Camp Run, 0.7 mi. (1.1 km) west of Sardinia, Ohio. (Sardinia 1:24000 quad)
DRAINAGE AREA.-- 60.1 mi.²

Station Number	Date	Discharge
03238370	9/11/95	1.01

03243150 TODD FORK NEAR CLARKSVILLE OHIO

LOCATION.-- Lat 39°26'10", Long 83°56'41", Clinton County, Hydrologic Unit 05090202, at bridge on U.S. Highway 22, 1.0 mi. (1.6 km) upstream from Lytle Creek, 2.7 mi. (4.3 km) northeast of Clarksville, Ohio. (Clarksville 1:24000 quad)
DRAINAGE AREA.-- 56.6 mi.²

Station Number	Date	Discharge
03243150	10/5/94	0.61
03243150	9/12/95	1.31
03243150	9/27/95	1.31

03260450 SOUTH FORK GREAT MIAMI RIVER NEAR HUNTSVILLE OHIO

LOCATION.-- Lat 40°28'43", Long 83°48'43", Logan County, Hydrologic Unit 05080001, at State Route 117 bridge, 3.3 mi. (5.3 km) upstream from Indian Lake, 2.5 mi. (4.0 km) north of Huntsville, Ohio. (Huntsville 1:24000 quad)
DRAINAGE AREA.-- 47.5 mi.²

Station Number	Date	Discharge
03260450	9/12/94	2.90
03260450	9/11/95	4.46
03260450	9/29/95	3.81

03263168 STILLWATER RIVER NEAR ANSONIA OHIO

LOCATION.-- Lat 40°13'01", Long 84°36'44", Darke County, Hydrologic Unit 05080001, at Beisner Road over Stillwater River, 0.1 mi. north of State Route 47, 1.2 mi. east of Ansonia, 1.8 mi. west of Dawn, Ohio. (Dawn 1:24000 quad)
DRAINAGE AREA.-- 74.3 mi.²

Station Number	Date	Discharge
03263168	7/19/95	7.09
03263168	9/13/95	5.19
03263168	9/28/95	3.08

03263390 GREENVILLE CREEK NEAR COLETOWN OHIO

LOCATION.-- Lat 40°08'54", Long 84°43'56", Darke County, Hydrologic Unit 05080001, at bridge on Fisher Road, 1.9 mi. (2.9 km) northwest of Coletown, Ohio. (Ansonia 1:24000 quad)
DRAINAGE AREA.-- 69.2 mi.²

Station Number	Date	Discharge
03263390	7/19/95	12.0
03263390	9/13/95	8.28
03263390	9/28/95	6.40

03266647 MAD RIVER AT LIPPINCOTT OHIO

LOCATION.-- Lat 40°11'41", Long 83°47'48", Champaign County, Hydrologic Unit 05080001, at Lippincott Road bridge over Mad River, 0.55 mi. upstream from confluence of Macochee Ditch, 1.5 mi. upstream from confluence of Gladdy Creek, 4.0 mi. southwest of West Liberty, Ohio, 5.0 mi. northwest of Urbana, Ohio. (Northville 1:24000 quad)
DRAINAGE AREA.-- 68.4 mi.²

Station Number	Date	Discharge
03266647	7/28/94	39.6
03266647	9/22/94	27.9
03266647	9/13/95	49.2
03266647	9/28/95	48.5

03266897 KINGS CREEK NEAR URBANA OHIO

LOCATION.-- Lat 40°09'25", Long 83°47'08", Champaign County, Hydrologic Unit 05080001, at State Route 290 bridge over Kings Creek, just above confluence with Mad River, 3.0 mi. northwest of Urbana, Ohio. (Northville 1:24000 quad)
DRAINAGE AREA.-- 43.6 mi.²

Station Number	Date	Discharge
03266897	7/28/94	21.6
03266897	9/22/94	16.1
03266897	9/13/95	36.3
03266897	9/28/95	32.6

LOW-FLOW MAGNITUDE AND FREQUENCY OF OHIO STREAMS

03271736 TWIN CREEK AT LEWISBURG OHIO

LOCATION.-- Lat 39°51'17", Long 84°31'54", Preble County, Hydrologic Unit 05080002, at U.S. Route 40 over Twin Creek, 0.1 mi. below confluence with Millers Fork, 0.1 mi. above confluence with Swamp Creek, 0.3 mi. east of Lewisburg, Ohio. (Lewisburg 1:24000 quad)

DRAINAGE AREA.-- 68.4 mi.²

Station Number	Date	Discharge
03271736	7/19/95	25.4
03271736	9/12/95	4.46

04180911 ST MARYS RIVER ABOVE KOPP CREEK AT ST MARYS OHIO

LOCATION.-- Lat 40°32'07", Long 84°22'38", Auglaize County, Hydrologic Unit 04100004, at Aqueduct Road over St. Mary's River, 150 ft. upstream of Miami and Erie Canal aqueduct, 0.3 mi. above confluence of Kopp Creek, 2.1 mi. east of Grand Lake, 0.5 mi. southeast of St. Mary's, Ohio. (St. Marys 1:24000 quad)

DRAINAGE AREA.-- 67.0 mi.²

Station Number	Date	Discharge
04180911	8/17/94	3.18
04180911	9/11/95	1.43
04180911	9/28/95	1.07

04185200 BEAVER CREEK NEAR STRYKER OHIO

LOCATION.-- Lat 41°27'23", Long 84°26'09", Williams County, Hydrologic Unit 04100006, at bridge of township road, 0.3 mi. (0.5 km) upstream from mouth, 3.1 mi. (5.0 km) southwest of Stryker, Ohio (Evansport 1:24000 quad)

DRAINAGE AREA.-- 44.8 mi.²

Station Number	Date	Discharge
04185200	9/13/94	0.72
04185200	9/12/95	1.76
04185200	9/27/95	1.60

04185299 BRUSH CREEK AT EVANSPOrt OHIO

LOCATION.-- Lat 41°26'00", Long 84°23'24", Williams County, Hydrologic Unit 04100006, at county road over Brush Creek, 1.0 mi. above mouth, 0.4 mi. north of Williams/Defiance county line, 0.6 mi northeast of Evansport, Ohio. (Evansport 1:24000 quad)

DRAINAGE AREA.-- 64.8 mi.²

Station Number	Date	Discharge
04185299	9/13/94	2.01
04185299	9/12/95	1.24
04185299	9/27/95	1.42

04189172 RILEY CREEK NEAR BLUFFTON OHIO

LOCATION.-- Lat 40°54'12", Long 83°56'19", Allen County, Hydrologic Unit 04100007, at Phillips Road bridge over Riley Creek, 3.7 mi. downstream from confluence of Little Riley Creek, 2.5 mi. northwest of Bluffton, Ohio. (Bluffton 1:24000 quad)

DRAINAGE AREA.-- 64.4 mi.²

Station Number	Date	Discharge
04189172	9/12/94	1.59
04189172	9/13/95	1.99
04189172	9/26/95	1.63

04191007 TOWN CREEK NEAR HOAGLIN OHIO

LOCATION.-- Lat 40°58'36", Long 84°28'36", Van Wert County, Hydrologic Unit 04100007, at State Route 637 bridge over Town Creek, 2.1 mi. above confluence with Maddox Creek, 0.9 mi. south of Paulding/Van Wert County line, 2.3 mi. northeast of Hoaglin, 3.1 mi. north of State Route 224, 10 mi. northeast of Van Wert, Ohio. (Wetsel 1:24000 quad)

DRAINAGE AREA.-- 51.7 mi.²

Station Number	Date	Discharge
04191007	9/12/95	3.54
04191007	9/28/95	3.57

04191100 FLATROCK CREEK NEAR PAYNE OHIO

LOCATION.-- Lat 41°05'57", Long 84°40'06", Paulding County, Hydrologic Unit 04100007, at Township road 71 bridge, 2.0 mi. downstream from Wildcat Creek, 3.5 mi. northeast of Payne, Ohio. Proceed 3.4 mi. northeast from Payne on State Highway 500 to township road 71, turn right and go 0.1 mi. to bridge and station. (Payne 1:24000 quad)

DRAINAGE AREA.-- 147 mi.²

Station Number	Date	Discharge
04191100	9/12/95	0.11
04191100	9/27/95	0

04194362 SOUTH BRANCH PORTAGE RIVER NEAR JERRY CITY OHIO

LOCATION.-- Lat 41°16'22", Long 83°30'56", Wood County, Hydrologic Unit 04100010, at Portage View Road over South Branch Portage River, 0.6 mi. above confluence with East Branch, 2.1 mi. southeast of Six Points, 4.5 mi. northeast of Jerry City, Ohio. (Jerry City 1:24000 quad)

DRAINAGE AREA.-- 54.0 mi.²

Station Number	Date	Discharge
04194362	9/13/95	0
04194362	9/26/95	0

LOW-FLOW MAGNITUDE AND FREQUENCY OF OHIO STREAMS

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04197052 HONEY CREEK NEAR CAROLINE OHIO

LOCATION.-- Lat 41°02'41", Long 82°51'04", Seneca County, Hydrologic Unit 04100011, at truss bridge over Honey Creek, 1.7 mi. below confluence with Brokenknife Creek, 2.3 mi. east of Caroline, 2.5 mi. southeast of Attica, Ohio. (Centerton 1:24000 quad)

DRAINAGE AREA.-- 69.0 mi.²

Station Number	Date	Discharge
04197052	9/14/94	0.73
04197052	9/13/95	0.80
04197052	9/26/95	0.85

04198007 MUSKELLUNGE CREEK NEAR FREMONT OHIO

LOCATION.-- Lat 41°22'21", Long 83°08'46", Sandusky County, Hydrologic Unit 04100011, at Christy Road bridge, 1.8 mi. (2.9 km) upstream from mouth, 1.8 mi. (2.9 km) northwest of Fremont, Ohio. (Fremont West 1:24000 quad)

DRAINAGE AREA.-- 41.8 mi.²

Station Number	Date	Discharge
04198007	9/14/94	0.14
04198007	8/30/95	0.94
04198007	9/13/95	0.11
04198007	9/26/95	0.48

04199706 EAST BRANCH BLACK RIVER NEAR PENFIELD OHIO

LOCATION.-- Lat 41°08'12", Long 82°07'00", Medina/Lorain County, Hydrologic Unit 04110001, at Smith Road bridge over East Branch Black River, on Medina/Lorain County Line, 0.3 mi. east of State Route 301, 2.2 mi. south of Penfield, 3.2 mi. north of Spencer, Ohio. (Lagrange 1:24000 quad)

DRAINAGE AREA.-- 105 mi.²

Station Number	Date	Discharge
04199706	9/12/95	0.47
04199706	9/27/95	0.64

04201079 WEST BRANCH ROCKY RIVER NEAR MEDINA OHIO

LOCATION.-- Lat 41°09'09", Long 81°50'02", Medina County, Hydrologic Unit 04110001, at Weymouth Road bridge over West Branch Rocky River, 0.3 mi. below confluence with North Branch, 1.9 mi northeast of Medina, Ohio. (Medina 1:24000 quad)

DRAINAGE AREA.-- 61.2 mi.²

Station Number	Date	Discharge
04201079	9/12/95	0.52
04201079	9/27/95	1.56

04208815 CHAGRIN RIVER AT CHAGRIN FALLS OHIO

LOCATION.-- Lat 41°25'33", Long 81°23'52", Geauga County, Hydrologic Unit 04110003, at bridge on Miles Road, at west city limits of Chagrin Falls, Ohio. (Chagrin Falls 1:24000 quad)

DRAINAGE AREA.-- 57.3 mi.²

Station Number	Date	Discharge
04208815	9/13/95	9.32
04208815	9/27/95	9.57

04212085 BIG CREEK AT PAINESVILLE OHIO

LOCATION.-- Lat 41°41'50", Long 81°13'47", Lake County, Hydrologic Unit 04110004, at Fry Road bridge, 1.1 mi. (1.8 km) upstream from mouth, 0.5 mi. (0.8 km) south of south city limits of Painesville, Ohio. (Painesville 1:24000 quad)

DRAINAGE AREA.-- 36.4 mi.²

Station Number	Date	Discharge
04212085	9/13/95	2.43
04212085	9/27/95	1.90

04212453 ASHTABULA RIVER NEAR KELLOGGSVILLE OHIO

LOCATION.-- Lat 41°50'00", Long 80°37'13", Ashtabula County, Hydrologic Unit 04110003, at Root Road Covered Bridge over Ashtabula River, 1.7 mi. downstream of confluence of East and West Branches of Ashtabula River, 1.6 mi. south of Kelloggsville, 2.4 mi. east of Sheffield Center, 7.5 mi. southeast of Ashtabula, Ohio. (Pierpont 1:24000 quad)


DRAINAGE AREA.-- 66.5 mi.²

Station Number	Date	Discharge
04212453	9/27/95	0

LOW-FLOW MAGNITUDE AND FREQUENCY OF OHIO STREAMS



EXPLANATION

 03230745 SURFACE-WATER GAGING STATION—Eight-digit number is downstream-order number
 Low-flow discharge

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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.

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