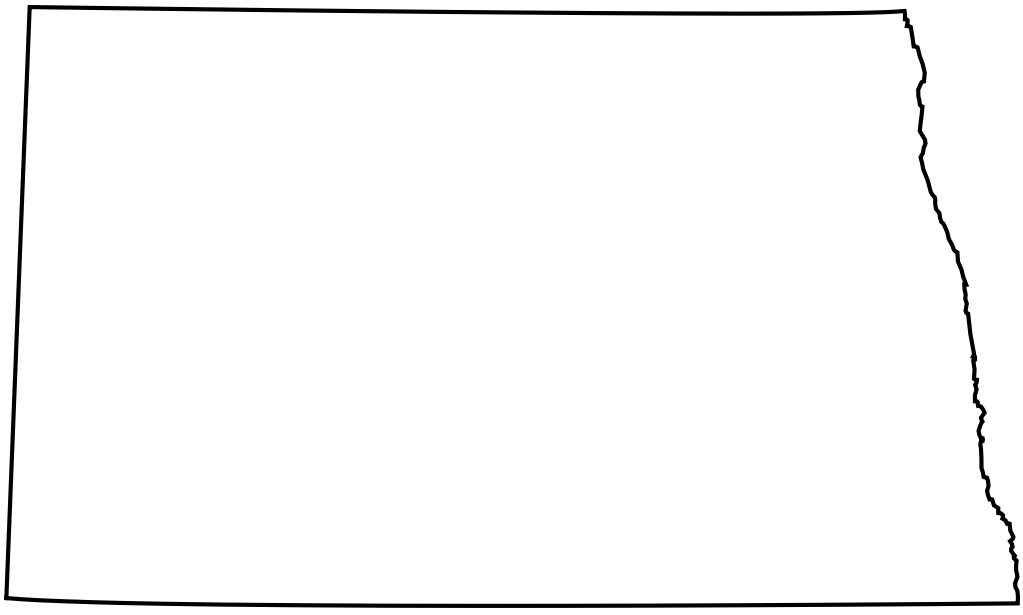
U.S. Department of the Interior
U.S. Geological Survey

Water Resources Data North Dakota Water Year 2001

Volume 1. Surface Water

By R.E. Harkness, W.R. Berkas, S.W. Norbeck, and S.M. Robinson

Water-Data Report ND-01-1



Prepared in cooperation with the State of North Dakota
and with other agencies

CALENDAR FOR WATER YEAR 2001

2000

OCTOBER

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2001

JANUARY

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PREFACE

This edition of the annual hydrologic data report of North Dakota is one of a series of annual reports that document hydrologic data collected from the U.S. Geological Survey's collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and quality of water provide the hydrologic information needed by Federal, State, local agencies, and the private sector for developing and managing land and water resources in North Dakota. The records are contained in 2 volumes:

Volume 1. Surface-Water Data

Volume 2. Ground-Water 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 the primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to U.S. Geological Survey policy and established guidelines, the following North Dakota District personnel 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 North Dakota and with other agencies under the supervision of G.J. Wiche, District Chief, North Dakota.

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. AGENCY USE ONLY *(Leave blank)*	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	Published March 2002	Annual--October 1, 2000 to September 30, 2001

4. TITLE AND SUBTITLE
Water Resources Data--North Dakota, Water Year 2001, Volume 1
Surface Water

5. FUNDING NUMBERS

6. AUTHOR(S)
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7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
U.S. Geological Survey, Water Resources Division
North Dakota District
821 East Interstate Avenue
Bismarck, ND 58501-1199

8. PERFORMING ORGANIZATION REPORT NUMBER
USGS-WDR-ND-2001-1

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)
U.S. Geological Survey, Water Resources Division
North Dakota District
821 East Interstate Avenue
Bismarck, ND 58501-1199

10. SPONSORING / MONITORING AGENCY REPORT NUMBER
USGS-WDR-ND-2001-1

11. SUPPLEMENTARY NOTES
Prepared in cooperation with Federal, State, and local agencies.

12a. DISTRIBUTION / AVAILABILITY STATEMENT
No restriction on distribution. This report may be purchased from:

National Technical Information Service
Springfield, VA 22161

12b. DISTRIBUTION CODE

13. ABSTRACT *(Maximum 200 words)*

Water-resources data for the 2001 water year for North Dakota consists of records of discharge, stage, and water quality for streams; contents, stage, and water quality for lakes and reservoirs; and water levels and water quality for ground-water wells. Volume 1 contains records of water discharge for 103 streamflow-gaging stations; stage only for 20 river-stage stations; contents and/or stage for 13 lake or reservoir stations; annual maximum discharge for 35 crest-stage stations; and water-quality for 94 streamflow-gaging stations, 2 river-stage stations, 9 lake or reservoir stations, 7 miscellaneous sample sites on rivers, and 58 miscellaneous sample sites on lakes and wetlands. Data are included for 9 water-quality monitor sites on streams and 2 precipitation-chemistry stations. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating Federal, State, and local agencies in North Dakota.

14. SUBJECT TERMS
*North Dakota, *Hydrologic data, *Surface water, *Water quality, Flow rate, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediments, Water temperature, Sampling sites, Water analyses, Floods, Drought

15. NUMBER OF PAGES

16. PRICE CODE
467

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
			Unclassified

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SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH
RECORDS ARE PUBLISHED IN THIS VOLUME

[Letters after station names designate type of data: (d) discharge, (e) elevation, gage heights, or contents, (c) chemical, (b) biological, (m) microbiological, (t) water temperature, (s) sediment, (r) radiochemical, (p) pesticides]

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PRECIPITATION SITES, FOR WHICH CHEMICAL-QUALITY DATA ARE PUBLISHED IN THIS VOLUME

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS

The following continuous-record surface-water discharge or stage-only stations (gaging stations) in North Dakota 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.

[(d), discharge; (e), elevation (stage only); 1, not published (records only available from computer and/or manual files); --, no data].

Station name	Station number	Drainage area (mi^2)	Period of record
RED RIVER OF THE NORTH BASIN			
Bois de Sioux River near Fairmount, ND (d)	05050500	1,540	1919-44
Wild Rice River near Cayuga, ND (d)	05051700	955	1956-79
Wild Rice River near Mantador, ND (d)	05052000	1,540	1944-50
Richland County Drain No. 65 near Great Bend, ND (d)	05052100	38	1981-85
Sheyenne River near Harvey, ND (d)	05055000	534	1946-56
North Fork Sheyenne River near Wellsburg, ND (d)	05055100	693	1957-67
Big Coulee near Maddock, ND (d)	05055200	146	1957-67
Sheyenne River at Sheyenne, ND (d)	05055500	1,790	1929-33, 1940-51
Big Coulee near Fort Totten, ND (d)	05055520	23.2	1966-75
Mauvais Coulee Tributary No. 4 near Cando, ND (d)	05056085	109	1994
Webster Coulee at Webster, ND (d)	05056225	670	1980-87 (1), 1993-94
St. Joe Coulee near Webster, ND (d)	05056244	--	1986-87 (1)
Calio Coulee near Starkweather, ND (d)	05056247	130	1986-88, 1994
Big Coulee below Churchs Ferry, ND (d)	05056270	1,260	1998-99
Little Coulee at Leeds, ND (d)	05056300	280	1956-67
Little Coulee near Brinsmade, ND (d)	05056390	350	1975-97
Big Coulee near Churchs Ferry, ND (d)	05056400	1,620	1951-97
Comstock Coulee near Minnewaukan, ND (d)	05056403	58	1986-88 (1), 1994
Channel A near Penn, ND (d)	05056410	930	1984-99
Sheyenne River near Kathryn, ND (d)	05058600	--	1995-96
Cass County Drain 52 near Amenia, ND (d)	05060510	13.5	1981-85
Rush River near Prosper, ND (d)	05060550	170	1981-85
Lower Branch Rush River near Prosper, ND (d)	05060570	35.8	1981-85
Elm River near Kelso, ND (d)	05062200	199	1956-63, 1981-86
Beaver Creek near Hatton, ND (d)	05065000	162	1954-57

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record
RED RIVER OF THE NORTH BASIN--Continued			
Goose River near Portland, ND (d)	05065500	517	1940-75, 1981-86
South Branch Goose River near Portland, ND (d)	05066000	362	1940-42
Turtle River at Manvel, ND (d)	05083000	613	1946-70 (d), 1980-82 (e)
Red River of the North at Oslo, MN (d)	05083500*	31,200	1936-37, 1941-43, 1945-60, 1974-76 (1)
Middle Branch Forest River near Whitman, ND (d)	05083600	47.7	1961-90
South Branch Park River near Park River, ND (d)	05088000	214	1940-50
Homme Reservoir near Park River, ND (e)	05088500	226	1949-94
South Branch Park River below Homme Dam, ND (d)	05089000	226	1950-94
Middle Branch Park River near Union, ND (d)	05089100	15.3	1966-86
Cart Creek at Mountain, ND (d)	05089500	16.9	1954-84
Pembina County Drain No. 20 near Glasston, ND (d)	05092200	80	1972-86
Hidden Island Coulee near Hansboro, ND (d)	05098700	38	1961-95
Cypress Creek near Sarles, ND (d)	05098800	71	1961-88
Cypress Creek above International Boundary near Sarles, ND (d)	05098820	83	1988-95
Herzog Creek near Concrete, ND (d)	05100500	18.9	1954-77
Tongue River at Cavalier, ND (d)	05101500	167	1939-51
Tongue River near Pembina, ND (d)	05102000	460	1940-42
Long Creek near Crosby, ND (d)	05113500	2,080	1943-65
West Branch Short Creek near Columbus, ND (d)	05113700	167	1978-81
Des Lacs River near Kenmare, ND (d)	05116150	687	1988-93
Wintering River near Bergen, ND (d)	05120200	176	1957-78
Souris River near Towner, ND (d)	05121500	13,100	1933-41
Willow Creek at Dunseith, ND (d)	05122500	142	1953-70
Lake Metigoshe near Bottineau, ND (e)	05123000	59	1931-32 1953-87 1992-96
Oak Creek at Lake Metigoshe Outlet near Bottineau, ND (d)	05123100	59	1954-81
Stone Creek near Kramer, ND (d)	05123500	168	1986-93, 1999-2000
Egg Creek near Granville, ND (d)	05123600	289	1957-81
Cut Bank Creek at North Lake Outlet near Granville, ND (d)	05123700	534	1957-80

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record
RED RIVER OF THE NORTH BASIN--Continued			
Cut Bank Creek near Upham, ND (d)	05123750	722	1974-80, 1999-2000
Boundary Creek near Landa, ND (d)	05123900	230	1957-81 1985-94 1999-2000
MISSOURI RIVER BASIN			
Charbonneau Creek near Charbonneau, ND (d)	06329597	149	1967-81
Missouri River Stage Gage No. 8 near Trenton, ND (e)	06329680	164,000	1959-79 (e)
Blacktail Creek near Bonetrail, ND (d)	06330500	30	1956-60
Little Muddy Creek near Williston, ND (d)	06331500	1,010	1904-09, 1932-33, 1946-54
Stony Creek near Williston, ND (d)	06331570	146	1978-81
Missouri River Stage Gage No. 10 near Williston, ND (e)	06331600	165,000	1959-75 (e)
Missouri River Stage Gage No. 11 near Williston, ND (e)	06331650	165,000	1959-80 (e)
Tobacco Garden Creek near Watford City, ND (d)	06331680	135	1977-82
Beaver Creek near Ray, ND (d)	06331850	102	1977-82
White Earth River at White Earth, ND (d)	06332000	780	1954-82
Missouri River at Sanish, ND (d)	06332500	166,000	1928-32
Shell Creek near Parshall, ND (d)	06332520	465	1965-82
Little Beaver Creek near Marmarth, ND (d)	06335000	587	1938-79
Deep Creek near Amidon, ND (d)	06335750	250	1978-83
Missouri River near Elbowwoods, ND (d)	06337500	179,800	1940-54
Missouri River below Garrison Dam, ND (d)	06339000	181,400	1948-69, 1970-76 (e)
Stray Creek near Manning, ND (d)	06339180	30.3	1979-81
Knife River at Marshall, ND (d)	06339300	722	1971-81
Elm Creek near Golden Valley, ND (d)	06339490	82	1967-81
Coyote Creek near Zap, ND (d)	06339550	65.2	1978-83
Brush Creek near Beulah, ND (d)	06339560	23.9	1975-91
Spring Creek below Lake Ilo at Dunn Center, ND (d)	06339800	116	1978-81
Spring Creek near Halliday, ND (d)	06339900	260	1978-81
West Branch Otter Creek near Beulah, ND (d)	06340200	26.5	1965-82
Antelope Creek above Hazen, ND (d)	06340520	47.2	1977-86
West Branch Antelope Creek No. 5 near Zap, ND (d)	06340524	4.37	1978-82

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record
MISSOURI RIVER BASIN--Continued			
West Branch Antelope Creek No. 4 near Zap, ND (d)	06340528	8.46	1977-86
West Branch Antelope Creek No. 2 near Beulah, ND (d)	06340536	28.3	1977-80
West Branch Antelope Creek near Hazen, ND (d)	06340540	37.7	1978-83
Coal Creek near Stanton, ND (d)	06340580	15.8	1978-81
Alderin Creek near Fort Clark, ND (d)	06340780	21.9	1978-84
Missouri River Tributary No. 2 near Hensler, ND (d)	06340890	9.80	1979-81
Coal Lake Coulee near Hensler, ND (d)	06340905	70.5	1978-89
Buffalo Creek near Washburn, ND (d)	06340930	57.3	1979-83
Turtle Creek near Turtle Lake, ND (d)	06341400	310	1957-76
Square Butte Creek near Hannover, ND (d)	06342040	16.9	1977-81
Square Butte Creek Tributary No. 2 near Center, ND (d)	06342100	13	1965-76
Square Butte Creek above Nelson Lake near Center, ND (d)	06342200	75.8	1977-82
Hagel Creek near Center, ND (d)	06342230	45.6	1977-82
Norwegian Creek near Belfield, ND (d)	06342850	39.8	1979-81
South Branch Heart River near South Heart, ND (d)	06342900	132	1979-83
North Creek near South Heart, ND (d)	06342970	40.8	1979-81
Heart River near South Heart, ND (d)	06343000*	311	1946-70, 1978-84
Heart River below Dickinson Dam near Dickinson, ND (d)	06344000	404	1952-72
Heart River at Dickinson, ND (d)	06344300	440	1983-96
Heart River at Lehigh, ND (d)	06344500	443	1943-52
Green River Tributary near New Hradec, ND (d)	06344610	22.4	1979-81
Green River near Gladstone, ND (d)	06345000	356	1946-75
Heart River below Heart Butte Dam near Glen Ullin, ND (d)	06346500	1,710	1943-72
Wilson Creek near Glen Ullin, ND (d)	06347100	41.4	1965-70
Heart River near Lark, ND	06348000	2,750	1946-95
Sweetbriar Creek near Judson, ND (d)	06348500	157	1951-79
Missouri River below Mandan, ND (d)	06349070	189,800	1966-94
Long Lake Creek below Long Lake near Moffit, ND (d)	06349275	700	1989-93
Cannonball River at New England, ND (d)	06349900	285	1979-81
Coal Bank Creek near Havelock, ND (d)	06349930	70	1975-83
Cannonball River below Bentley, ND (d)	06351000	1,140	1943-81
Cannonball River near Heil, ND (d)	06351500	1,340	1951-53

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record
MISSOURI RIVER BASIN--Continued			
White Butte Fork Cedar Creek near Scranton, ND (d)	06351680	42.9	1965-95
Cedar Creek near North Lemmon, ND (d)	06352300	901	1959-63
Cannonball River near New Leipzig, ND (d)	---	1,180	1943-50
Timber Creek near Bentley, ND (d)	06352400	100	1978-81
Cedar Creek near Pretty Rock, ND (d)	06352500	1,340	1943-76
Hay Creek near Morristown, SD (d)	06352525	86	1991-92
Cannonball River near Timmer, ND (d)	06353500	3,670	1903-09, 1911-18, 1922, 1924, 1928-35
Beaver Creek at Linton, ND (d)	06354500	717	1949-89
Porcupine Ceek near Fort Yates, ND (d)	06354815	220	1991-99
One-Mile Creek near Fort Yates, ND (d)	06354825	19.8	1978-79
North Fork Grand River at Haley, ND	06355000	509	1908-17, 1945-95
Buffalo Creek Tributary near Gascoyne, ND (d)	06355310	15.7	1975-87
James River near Manfred, ND (d)	06467600	253	1958-94
Big Slough at Hamberg, ND (d)	06467900	60	1957-68, 1970-75
James River at New Rockford, ND (d)	06468000	714	1950-69
Juanita Lake Tributary near Grace City, ND (d)	06468190	94	1986-89
Kelly Creek below Niccum Reservoir near Bordulac, ND (d)	06468300	188	1986-89
James River near Pingree, ND (d)	06468500	1,670	1953-68
Pipestem Creek near Buchanan, ND (d)	06469500	758	1950-74
Pipestem Creek below Pipestem Dam, ND (d)	06469825	--	1985 (1)
Pilot Drain at Oakes, ND (d)	06470833	5.10	1972-82
James River at North Dakota-South Dakota State Line (e)	06470878	5,480	1981-99

DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER-QUALITY STATIONS

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

[--, no data]

Station name	Station number	Drainage area (mi^2)	Type of record	Period of record (water years)
Wild Rice River near Cayuga, ND	05051700	955	temperature	1958
Wild Rice River near Abercrombie, ND	05053000	2,080	temperature specific conductance	1967-81 1968-81
Red River of the North below Fargo, ND	05054020	6,820	temperature specific conductance	1973-82 1973-82
Sheyenne River above Harvey, ND	05054500	424	temperature	1954
Sheyenne River near Warwick, ND	05056000	2,070	temperature specific conductance	1951-53, 1955-62, 1964-80 1952-60, 1964-80
Big Coulee near Churchs Ferry, ND	05056400	2,510	temperature specific conductance	1983-89 1983-89
Channel A near Penn, ND	05056410	---	temperature specific conductance	1983-89, 1991 1983-89
Sheyenne River at Lisbon, ND	05058700	8,190	temperature specific conductance sediment	1956-81 1964-80 1976-79
Sheyenne River near Kindred, ND	05059000	8,800	temperature specific conductance sediment	1971-81 1976-81 1976-80
Red River of the North at Grand Forks, ND	05082500	30,100	temperature	1957-73
Red River of the North at Oslo, MN	05083500	31,200	temperature specific conductance	1974-78 1974-78
Red River of the North at Drayton, ND	05092000	34,800	temperature	1957-61, 1965-75
Pembina River at Walhalla, ND	05099600	3,350	temperature specific conductance sediment	1962-81 1965-81 1962-76
Red River of the North at Emerson, Manitoba	05102500	40,200	temperature specific conductance	1978-96 1978-96
Souris River near Sherwood, ND	05114000	8,940	sediment	1975-81
Souris River near Foxholm, ND	05116000	9,470	temperature specific conductance	1973-81 1973-81
Souris River near Verendrye, ND	05120000	11,300	temperature specific conductance	1973-83 1973-83
Deep River below Cut Bank Creek near Upham, ND	05123760	1,722	temperature specific conductance sediment	1974-81, 1989 1974-81 1989
Turtle River at Turtle River State Park near Arvilla, ND	05082625	311	temperature specific conductance	1993-97 1993-97
Souris River near Westhope, ND	05124000	16,900	temperature specific conductance sediment	1955, 1957-64, 1967-68, 1974-81, 1989 1957-64, 1967-68, 1974-81 1956-59, 1989
Missouri River near Williston, ND	06330000	164,500	temperature specific conductance	1952-65 1952-60, 1965

DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi^2)	Type of record	Period of record (water years)
Bear Den Creek near Mandaree, ND	06332515	74	temperature specific conductance	1969-71, 1989-91 1969-71
Little Missouri River at Marmarth, ND	06335500	4,640	temperature sediment	1952-54 1952-54
Little Missouri River at Medora, ND	06336000	6,190	temperature sediment	1947-49 1946-51
Little Missouri River near Watford City, ND	06337000	8,310	temperature specific conductance sediment	1972-81 1972-81 1947-48, 1972-76
Missouri River Below Garrison Dam, ND	06339000	181,400	temperature	1952-71
Knife River near Golden Valley, ND	06339500	1,230	temperature sediment	1964-65 1946-49, 1964-65
Knife River at Hazen, ND	06340500	2,240	temperature specific conductance	1975-82 1975-82
Missouri River near Hensler, ND	06340900	183,000	temperature	1967-77
Missouri River at Bismarck, ND	06342500	186,400	temperature specific conductance sediment	1967-75 1972-75 1972-81
Heart River near Richardton, ND	06345500	1,240	sediment	1946-52
Heart River near Mandan, ND	06349000	3,310	temperature specific conductance sediment	1972-76, 1978-82 1972-76, 1978-82 1972-76
Missouri River near Schmidt, ND	06349700	191,700	temperature	1967-75
Cannonball River at Regent, ND	06350000	580	temperature specific conductance sediment	1965-66 1965-66 1965-66
Cedar Creek near Pretty Rock, ND	06352500	1,340	sediment	1946-49
Cannonball River at Breien, ND	06354000	4,100	temperature specific conductance sediment	1972-82, 1991 1972-82 1972-76
North Fork Grand River at Haley, ND	06355000	509	temperature	1951-52
James River at LaMoure, ND	06470500	4,390	temperature specific conductance	1953-75, 1977-96 1976-96
James River at Oakes, ND	06470800	5,320	temperature specific conductance	1983-99 1983-99
James River at Dakota Lake Dam near Ludden, ND	06470875	5,480	temperature specific conductance	1983-99 1983-99
Pilot Drain at Oakes, ND	06470833	5.10	temperature specific conductance	1972-80, 1982 1972-80, 1982
James River at North Dakota-South Dakota State line	06470878	6,650	temperature specific conductance	1974-88 1974-88

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INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with many other agencies, obtains a large amount of data pertaining to the water resources of North Dakota each water year. These data, accumulated during many water 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 U.S. Geological Survey, the data are published annually in this report series entitled "Water Resources Data - North Dakota."

This report includes records of discharge, stage, and water quality for streams and contents, stage, and water quality for lakes and reservoirs. Specifically, it contains records of water discharge for 103 streamflow-gaging stations; stage only for 20 river-stage stations; contents and/or stage for 13 lake or reservoir stations; annual maximum discharge for 35 crest-stage stations; and water quality for 94 streamflow-gaging stations, 2 river-stage stations, 9 lake or reservoir stations, 7 miscellaneous sample sites on rivers, and 58 miscellaneous sample sites on lakes and wetlands. Locations of these stations are shown in figures 1 and 2 except for the miscellaneous water-quality sites. Data are included for 9 water-quality monitor sites on streams and for 2 precipitation-chemistry stations. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in North Dakota.

This series of annual reports for North Dakota 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. For the l975-95 water years, the report format was changed to present, in one volume, data on quantities of surface water, quality of surface and ground water, and ground-water levels. Beginning with the 1996 water year, ground-water levels and ground-water quality data have been published in a separate volume for North Dakota.

Prior to introduction of this series and for several water years concurrent with it, water-resources data for North Dakota were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States, Parts 5 and 6." For the 1961 -70 water years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941-70 water years were published annually under the title "Quality of Surface Waters of the United States," and ground-water levels for the 1935-74 water years were published under the title "Ground-Water Levels in the United States." The above mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States and may be purchased from U.S. Geological Survey, Branch of Information Services, Box 25286, Denver, CO 80225-0286.

Publications similar to this report are published annually by the U.S. Geological Survey for all States. These official Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example this volume is identified as "U.S. Geological Survey Water-Data Report ND-2001-1." For archiving and general distribution, the reports for l971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

Additional information, including current prices, for ordering specific reports may be obtained from the District Chief at the address given on the back of the title page or by telephoning (701) 250-7406.

COOPERATION

The U.S. Geological Survey and agencies of the State of North Dakota have had cooperative agreements for the collection of streamflow records since 1903, ground-water levels since 1937, and water-quality records since 1946. Organizations that assisted in collecting the data in this report through cooperative agreement with the Survey are: North Dakota State Water Commission, Dale Frink, State Engineer; North Dakota Department of Health, Terry L. Dwelle, M.D., State Health Officer; Devils Lake Basin Joint Water Resource Board, Don Lee, Chairman; Lower Heart River Water Resources District, W. S. Russell, Chairman; Morton County Water Resources District, A. C. Mork, Chairman; Oliver County Water Resources District, Duane Bueligen, Chairman; Red River Joint Water Resource Board, Donald Elston, Chairman; Red River Watershed Management Board, Ronald Osowski, Chairman; Southeast Cass Water Resources District, Thomas L. Fischer, Chairman; City of Minot, Carroll Erickson, Mayor; North Dakota Department of Transportation, D. A. Sprynczynatyk, P.E., Director; Cass County Joint Water Resource District, Thomas L. Fischer, Chairman; Nelson County Water Resource District, Ben Varnson, Chairman; Three Affiliated Tribes, Tex G. Hall, Tribal Chairman; Spirit Lake Sioux Nation, Phillip G. Longie, Tribal Chairman.

Assistance with funds or services was given by the U.S. Army Corps of Engineers for 26 streamflow-gaging stations, 17 river-stage stations, 4 reservoir stations, 2 crest-stage gages, and water quality for 9 streamflow-gaging stations; the U.S. Bureau of Reclamation for 4 streamflow-gaging stations, 1 river-stage station, 2 reservoir stations, and water quality for 2 streamflow-gaging stations and for 2 lake or reservoir stations; International Joint Commission of the U.S. State Department for 3 streamflow-gaging stations and 1 reservoir station; the U.S. Fish and Wildlife Service for 7 streamflow-gaging stations and water quality for 2 reservoir stations; the

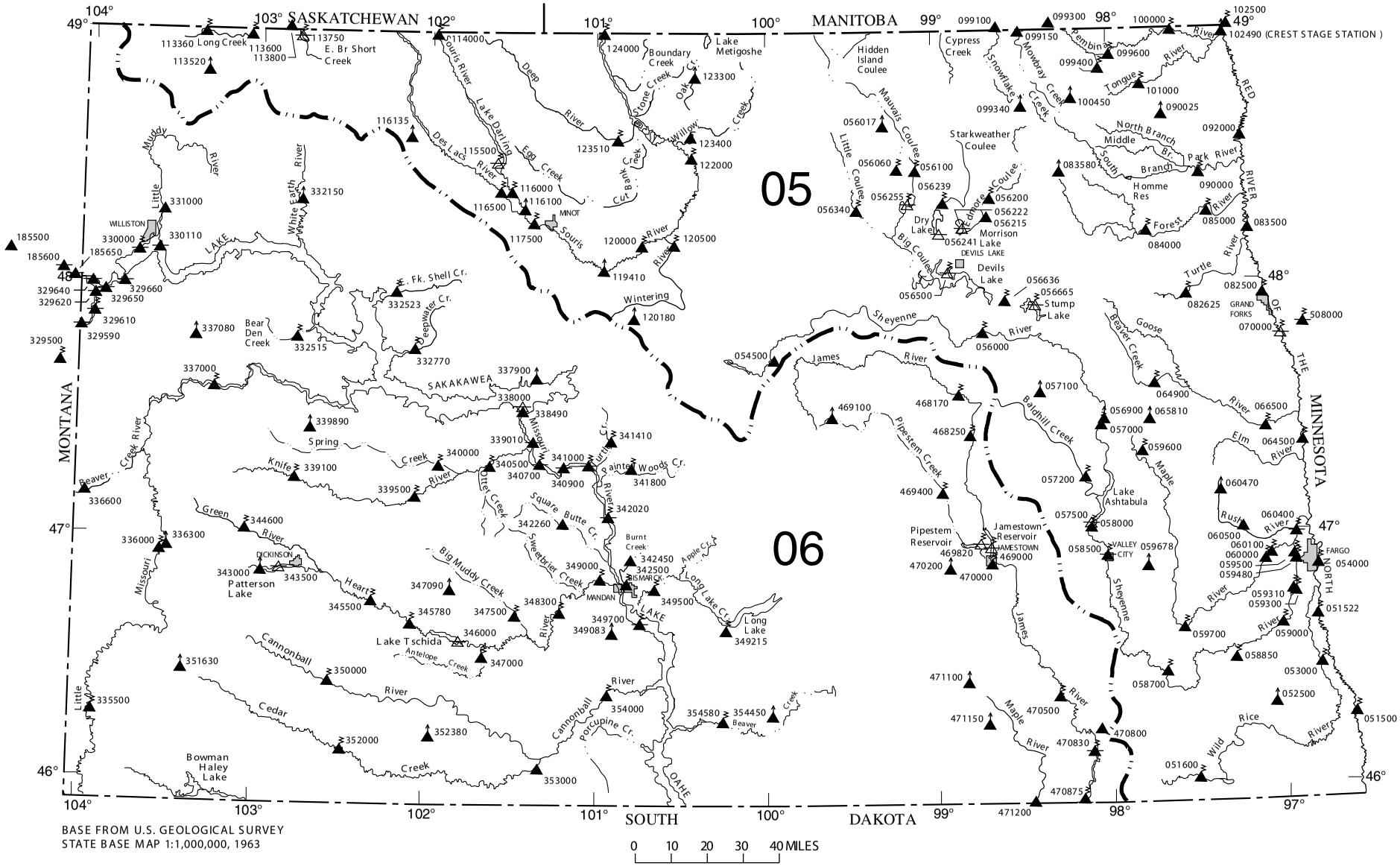

Figure 1. Location of active surface-water gaging stations.

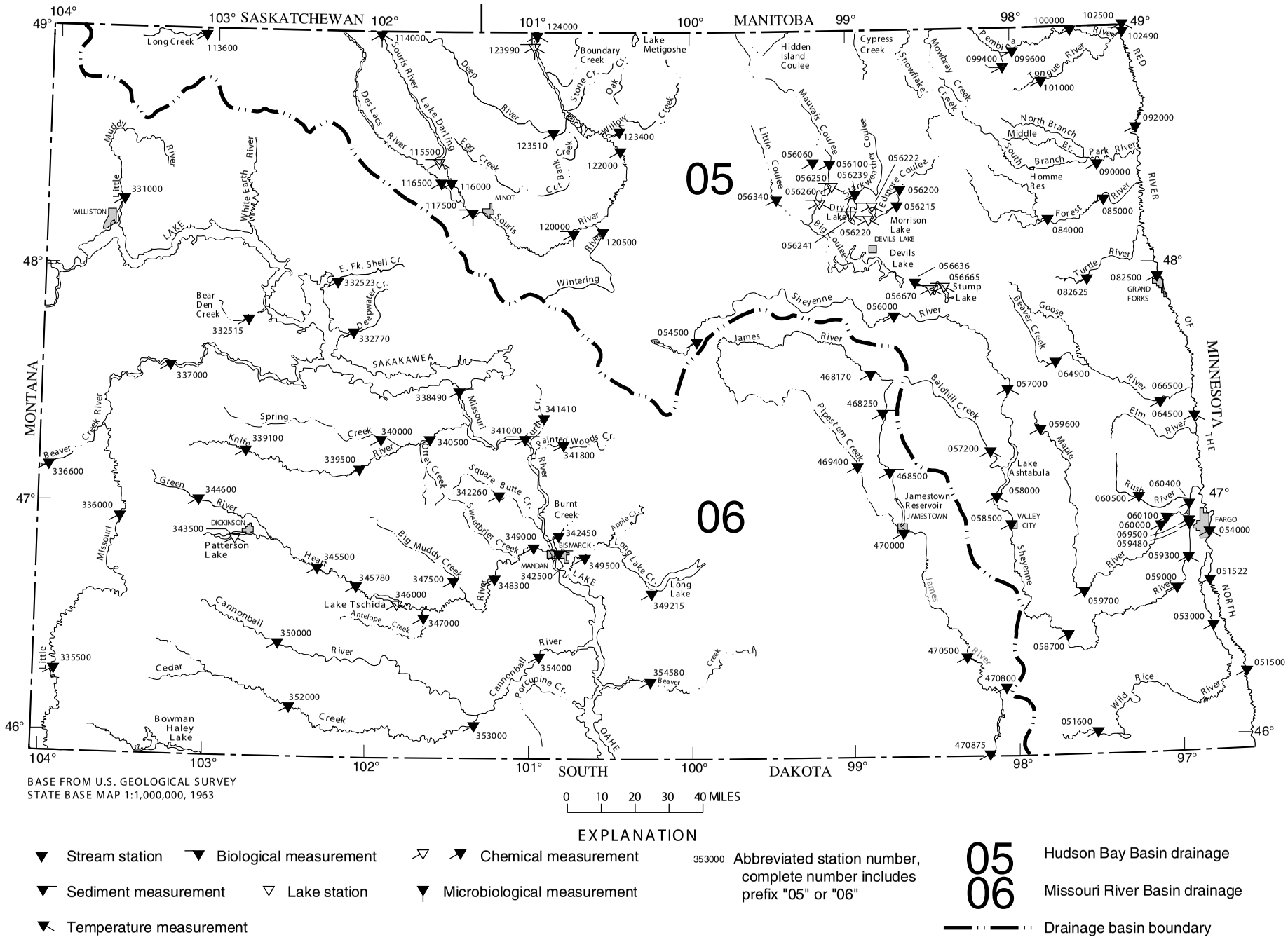

Figure 2. Location of active surface-water-quality stations.

U.S. Forest Service for 1 streamflow-gaging station; and other U.S. Department of the Interior agencies concerned with the Missouri River Basin for 7 streamflow-gaging stations, 1 river-stage station, 3 reservoir stations, and water quality for 2 streamflow-gaging stations.

Certain stations are maintained under agreement with Canada and the records are obtained and compiled in a manner equally acceptable to both countries. Most of these are designated as "international gaging stations."

Organizations that provided data are acknowledged in station descriptions.

SUMMARY OF HYDROLOGIC CONDITIONS

Climate

In North Dakota, normal annual precipitation ranges from about 14 inches in the northwestern part of the State to about 22 inches in the southeastern part of the State (Owenby, J.R., and Ezell, D.S., 1992, Monthly station normals of temperature, precipitation, and heating and cooling degree days, 1961-90, North Dakota: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Environmental Satellite, Data, and Information Service, National Climatic Data Center, Asheville, North Carolina, Climatography of the United States, No. 81). Three-fourths of this precipitation occurs during April through September. The greatest normal monthly precipitation for the entire State occurs during June. Normal, as used in reference to meteorological data in this report, is a mean value for the reference period 1961 through 1990. Meteorological data were obtained from publications of the National Climatic Data Center (U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Climatic Data Center, 2000, 2001, Climatological data, North Dakota: Asheville, North Carolina, v. 109, no. 10-12, and v. 110, no. 1-9).

North Dakota is divided into nine climatological divisions (fig. 3). Precipitation during water year 2001 ranged from about 0.5 inch (3 percent) less than normal in the northwest division to about 6.1 inches (31 percent) greater than normal in the east-central division. A comparison of monthly precipitation for water year 2001 to normal monthly precipitation for 1961-90 for the nine climatological divisions in North Dakota is shown in figure 3. Data shown in figure 3 are means of monthly precipitation for reporting stations within each climatological division.

Precipitation was greater than normal in all nine climatological divisions during October and November except in the southeast division during October (fig. 3). Statewide monthly mean precipitation was about 0.6 inch (54 percent) greater than normal during October and about 2.0 inches (400 percent) greater than normal during November. Statewide monthly mean precipitation was near normal for December and ranged from 26 percent less than normal in the west-central division to 41 percent greater than normal in the southeast division.

Precipitation was less than normal in all nine climatological divisions during January, February, and March except in the south-central division (6 percent greater than normal) during January and in the east-central, south-central, and southeast divisions (31 percent, 17 percent, and 82 percent greater than normal, respectively) during February. Statewide monthly mean precipitation was about 0.6 inch (83 percent) less than normal during March, and total precipitation ranged from about 0.5 inch (69 percent) less than normal in the southwest division to about 0.9 inch (91 percent) less than normal in the southeast division.

Statewide monthly mean precipitation during April was near normal, and total precipitation ranged from about 0.5 inch (34 percent) less than normal in the central division to about 0.9 inch (44 percent) greater than normal in the southeast division. The North Dakota Red River drainage basin upstream from Fargo lies mostly within the southeast division.

Statewide monthly mean precipitation during May was about 0.3 inch (12 percent) less than normal, and total precipitation ranged from about 1.7 inches (65 percent) less than normal in the southwest division to about 0.9 inch (37 percent) greater than normal in the east-central division.

During June, when statewide precipitation usually is greatest, eight of the nine climatological divisions reported greater-than-normal precipitation. Statewide monthly mean precipitation was about 1.0 inch (33 percent) greater than normal, and total precipitation ranged from about normal in the east-central division to about 2.3 inches (68 percent) greater than normal in the southwest division.

During July, statewide monthly mean precipitation was about 2.1 inch (84 percent) greater than normal. All of the nine climatological divisions reported greater-than-normal precipitation for July.

Statewide monthly mean precipitation during August was about 1.0 inch (53 percent) less than normal, and total precipitation ranged from about 1.8 inches (97 percent) less than normal in the south-central division to about 0.4 inch (14 percent) greater than normal in the east-central division. During September, seven of the nine climatological divisions reported less-than-normal precipitation. Statewide monthly mean precipitation was about 0.6 inch (36 percent) less than normal.

Temperatures during October were near normal statewide. November and December were particularly cold and had monthly mean temperatures that averaged about 5°F and about 10°F below normal, respectively. Statewide average monthly temperatures during January were about 9°F above normal. February temperatures averaged about 5°F (9°F below normal), and March temperatures averaged about 27°F (1°F above normal). Temperatures during April were near normal statewide. The influence of temperatures on

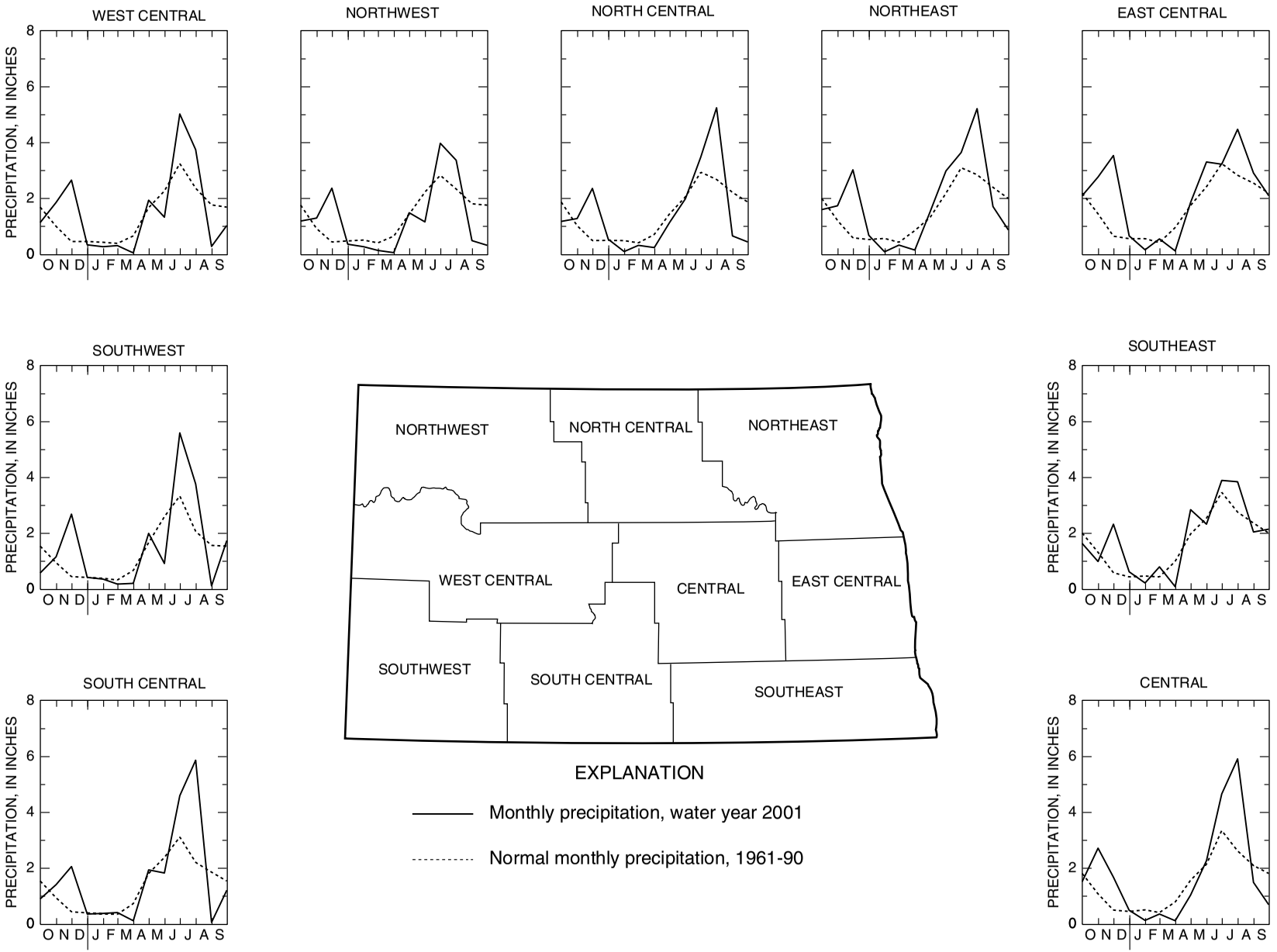

Figure 3. Comparison, by climatological division, of monthly precipitation, water year 2001, to normal monthly precipitation, 1961-90.

streamflow in North Dakota is diminished substantially after the snowpack has melted, and temperatures have little effect on streamflow from May through September.

Streamflow

The largest mean monthly discharge of North Dakota rivers generally is coincident with snowmelt runoff. Because above-freezing temperatures normally occur earlier in the southwestern part of the State than in the northeastern part of the State, snowmelt runoff usually begins first on the Missouri River tributaries in southwestern North Dakota and progresses from southwest to northeast across the State. Hydrographs of mean monthly discharge (fig. 4) for the period of record for selected streams within each of the climatological divisions verify this pattern. For example, the largest mean monthly discharges for the period of record for Bear Den Creek near Mandaree, which is in the west-central division, and for Cedar Creek near Haynes, which is in the southwest division, occur in March, whereas the largest mean monthly discharges for the remaining streamflow-gaging stations occur in April.

Although many inferences about hydrologic conditions in the State can be made from precipitation (fig. 3) and streamflow (fig. 4) data, sound hydrologic judgment should be used. Variability of rainfall intensity and distribution should be considered when making conclusions about hydrologic response to rainfall, especially for small basins. Problems also may occur because different reporting periods are used in figures 3 and 4. Normal monthly precipitation is computed using data for a 30-year period (1961-90), but mean monthly discharge is computed using data for the period of record at each streamflow-gaging station--56 years (1946-2001) in the case of Apple Creek near Menoken.

According to the National Weather Service "Weekly Palmer Drought Index Report" (written commun., 2001), western North Dakota experienced drought at the beginning of the water year while central and eastern North Dakota was moist. Conditions were classified as very moist in the southeast and east-central divisions and as extreme drought in the southwest division. The above-normal precipitation throughout most of the State during October and November increased discharges significantly above the mean monthly discharge for streamflow-gaging stations Apple Creek near Menoken, Wintering River near Karlsruhe, Rush River at Amenia, and James River near Grace City (fig. 4). Only Cedar Creek near Haynes remained below the mean monthly discharge for November.

Because of greater-than-normal fall precipitation and below-normal temperatures during November, December, and February, conditions for a large spring snowmelt were developing. However, major flooding was averted because precipitation was near or less than normal in most of the nine climatological divisions during December, January, and February. The exceptions were during February in the south-central, east-central, and southeast divisions where precipitation was 17 percent, 31 percent, and 82 percent greater than normal, respectively.

Spring breakup began in March in the three western climatological divisions as shown in figure 4 in the hydrographs for Cedar Creek near Haynes, Bear Den Creek near Mandaree, and Des Lacs River at Foxholm. The hydrograph for the Des Lacs River at Foxholm shows the monthly mean discharge considerably lower for water year 2001 than the period of record mean monthly discharges for most of the water year. Precipitation in the northwest division was 39 percent less than normal for the months of December through May, and the northwest division was the only division to have less-than-normal precipitation for the water year.

Following spring breakup, runoff declined rapidly in the west and April monthly mean discharges for Des Lacs River at Foxholm, Cedar Creek near Haynes, and Bear Den Creek near Mandaree were less than their respective mean monthly discharges during April. The other streams shown in figure 4 had monthly mean discharges for April significantly greater than their respective mean monthly discharges.

Although the National Weather Service forecast peak for the Red River at Wahpeton was near the 1997 peak of record, the timing of the peaks for the Bois de Sioux and Otter Tail Rivers were not coincident and the Red River stayed within the levees at Wahpeton and Fargo. Levels were sufficient to declare a Presidential Disaster to assist with costs for flood prevention works and flood recovery. The North Dakota District was assisted in their flood monitoring effort by stream-gaging crews from Montana, Nebraska, and Indiana. Fortunately, predicted early April rainfall from storm systems over the upper basin did not develop or flooding would have been much greater.

Monthly mean discharge for April for the Wild Rice River near Abercrombie, which is located in the southeast division, was 574 percent of the mean monthly discharge. The next greatest percentage for April was 341 percent for the James River near Grace City, which is located in the central division. The James River near Grace City also exceeded the monthly mean discharge for every month of the water year.

The Devils Lake Basin is a 3,810-square-mile closed basin adjacent to the headwaters of the Sheyenne River. Geologic evidence indicates that, in the past, water flowed from the Devils Lake Basin into the Sheyenne River. However, since 1867 when water levels of Devils Lake first were recorded, Devils Lake has not flowed into the Sheyenne River Basin and the level of the lake has varied greatly in response to wet and dry periods (fig. 5). From 1867 to 1940, the water level generally declined from a maximum of 1,438.4 feet above sea level in 1867 to a minimum of 1,400.9 feet above sea level in 1940. After 1940, the water level generally increased except during 1956-68 and 1987-93. The decline from 1987 to 1993 occurred as a result of a drought in the basin. From 1993 to 1999, the water level increased each year as a result of greater-than-normal precipitation and runoff in

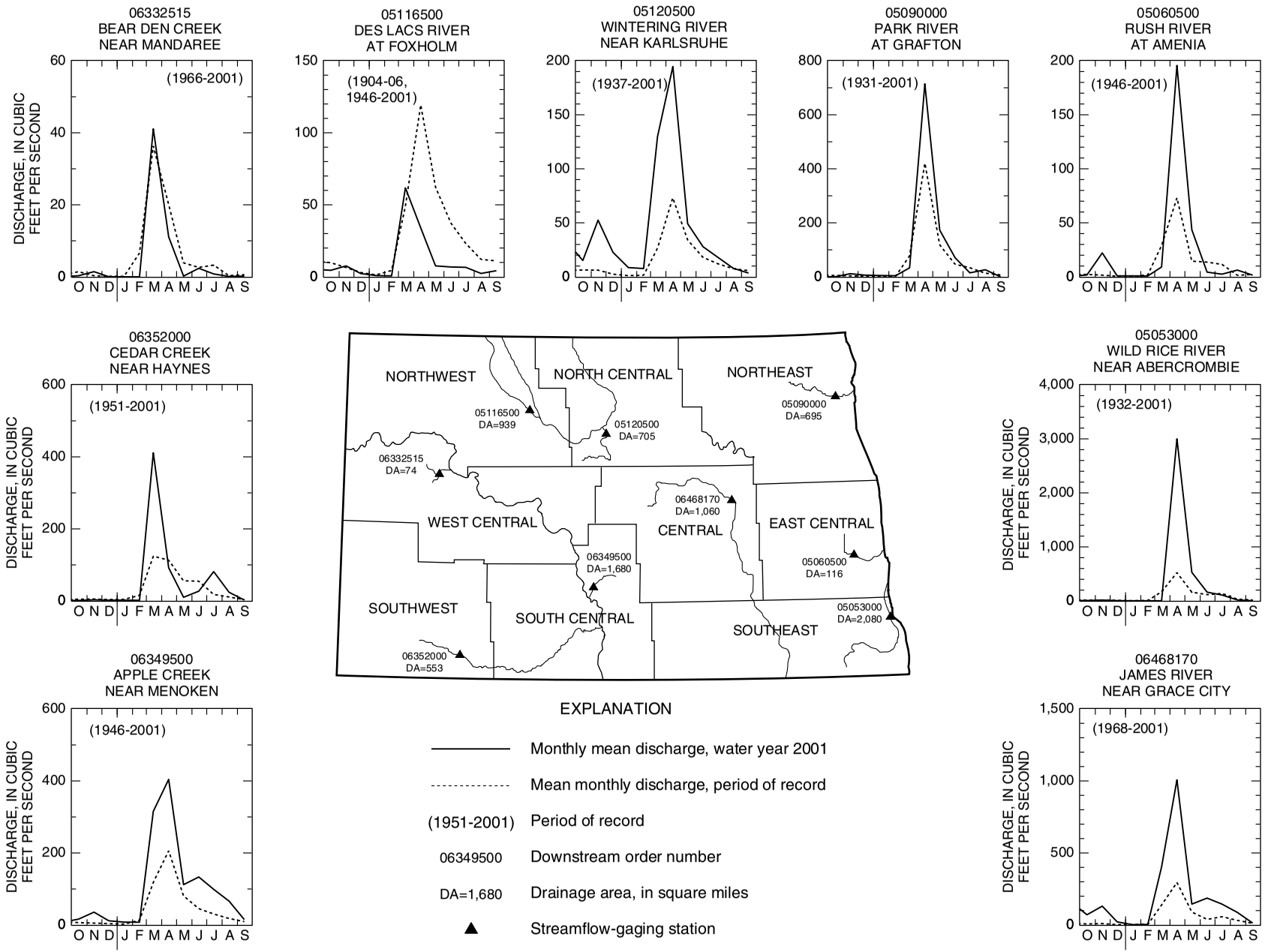

Figure 4. Comparison of monthly mean discharge during water year 2001 to mean monthly discharge for the period of record.

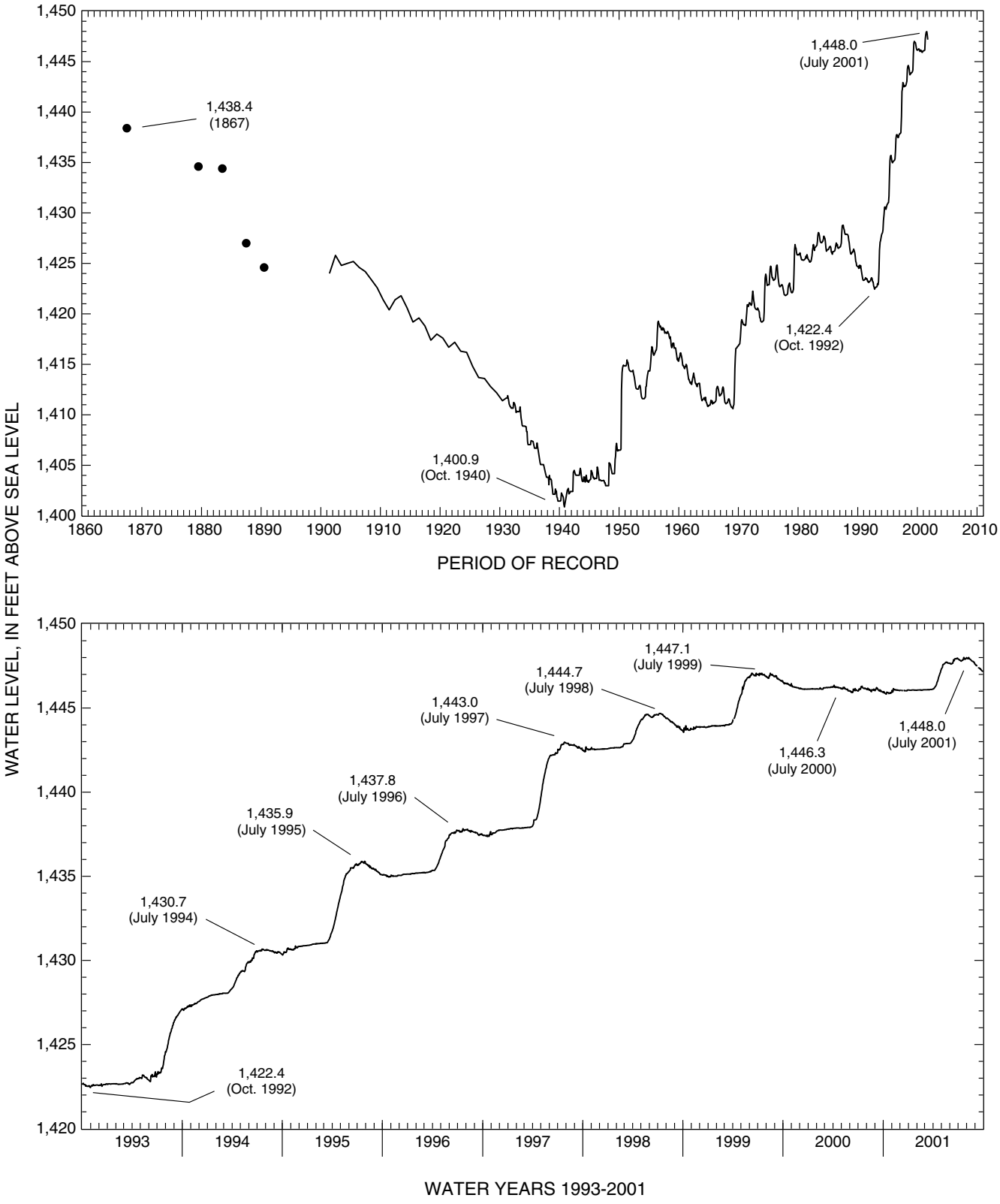

Figure 5. Devils Lake water levels for the period of record and for water years 1993-2001.

the basin. During 2000, for the first time since 1993, the maximum water level did not exceed the maximum from the previous year. However, in water year 2001 Devils Lake reached a new period-of-record maximum of 1,448 feet on July 22.

As Devils Lake rises, the surface area increases and requires greater volumes of inflow for each incremental increase in elevation. For example, at an elevation of 1,422.4 feet (the lake level at the end of the 1987-92 drought), the surface area of the lake is about 44,000 acres, where as at an elevation of 1,447 feet, the surface area of the lake is about 124,000 acres.

During the water year, Devils Lake flowed over the divide into Stump Lake for the first time since records have been kept. The elevation of the divide is 1,446.5 feet (James Landenberger, North Dakota State Water Commission, oral commun., 2002). Although Stump Lake increased almost 3 feet during the water year, it remained over 35 feet lower than Devils Lake.

Chemical Quality of Streamflow

Chemical quality of streamflow at any particular site is dependent upon many factors, including source of streamflow, composition of soil over which water flows, location, and time of year; therefore, the quality of streamflow varies considerably across the State. Chemical quality of streamflow also is dependent upon the volume of streamflow. During periods of low flow, most of the flow is derived from ground-water inflow, which is mineralized, and the resulting streamflow has large dissolved-solids concentrations. During periods of high flow, most of the flow is derived from snowmelt or precipitation runoff, which is less mineralized, and the resulting streamflow has small dissolved-solids concentrations.

Five stations were selected to show the water-quality variability in rivers throughout the State. Specific conductance, an indicator of dissolved solids in water, is used to show the variability among these stations and among months at a given station. The mean, maximum, and minimum specific conductance for the period of record and the specific conductances measured during the 2001 water year for each station are shown in table 1.

Specific conductance is used as an indicator of the suitability of water for irrigation and other uses. The U.S. Salinity Laboratory (U.S. Salinity Laboratory Staff, 1954, Diagnosis and improvement of saline and alkali soils: U.S. Department of Agriculture Handbook 60, 160 p.) has developed an index using specific conductance as an indicator of salinity hazard for irrigation water. The salinity hazard and corresponding specific conductance are as follow:

Salinity hazard	Specific conductance (microsiemens per centimeter at 25 degrees Celsius)
Low	Less than 250
Medium	250 to 750
High	750 to 2,250
Very high	2,250 to 5,000

In the United States, the Red River of the North drains all of eastern North Dakota, much of northwestern Minnesota, and a small part of northeastern South Dakota. Of the five stations listed in table 1, the Red River of the North at Grand Forks has the smallest mean monthly specific-conductance values for each month. The smaller mean values are caused partly by more precipitation occurring in the Red River of the North Basin, especially in Minnesota, than in other parts of North Dakota. The salinity hazard of stream water for irrigation use during the irrigation season (April through October) was medium in the months when measurements were made.

The Souris River upstream of Sherwood drains about 9,000 square miles of southeastern Saskatchewan, Canada, and a small part of northwestern North Dakota. Generally, the Souris River near Sherwood has larger specific-conductance values than the Red River of the North and the James River but smaller specific-conductance values than the Little Missouri River and the Cannonball River. The salinity hazard of stream water for irrigation use during the irrigation season (April through October) was high in October, medium and high in April; medium in May; high in June, July, and August; and medium in September.

The Little Missouri River drains parts of southwestern North Dakota, northwestern South Dakota, northeastern Wyoming, and southeastern Montana. Of the five stations listed in table 1, the Little Missouri near Watford City has the largest mean specific-conductance values for the period of record. The salinity hazard of stream water for irrigation use during the irrigation season (April through October) was high in the months when measurements were made.

The Cannonball River drains parts of southwestern North Dakota and northwestern South Dakota. The salinity hazard of stream water for irrigation use during the irrigation season (April through October) was high in the months when measurements were made.

The James River drains east-central North Dakota. Flow in the James River Basin is regulated by the Jamestown and Pipestem Reservoirs, which are used primarily for flood control. High flows from snowmelt and rainfall are stored in the reservoirs and released throughout the summer. Specific-conductance values generally are smallest from March through

Table 1. Statistical summary of specific-conductance values for the period of record and listing of measured specific-conductance values for water year 2001

[Specific-conductance values are in microsiemens per centimeter at 25 degrees Celsius; --, no data]

	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Water year 2001	Period of record
05082500 Red River of the North at Grand Forks (period of record, water years 1949, 1956-2001)														
Mean	519	617	634	600	580	503	460	569	551	501	516	506	576	530
Maximum	700	925	985	1,040	900	910	757	856	829	675	753	674	737	1,040
Minimum	399	440	468	275	400	305	200	325	348	280	266	340	270	200
Number of values	72	42	50	53	48	80	176	99	77	82	66	53	9	898
Measured values for water year 2001	548	--	--	702	737	667	270 508	670	--	--	550	533	--	--
05114000 Souris River near Sherwood (period of record, water years 1970, 1972-2001)														
Mean	1,230	1,380	1,630	1,780	1,800	1,200	775	922	1,050	1,060	1,110	1,100	1,090	1,170
Maximum	2,240	2,460	2,230	2,770	2,920	3,500	2,510	2,460	1,530	1,640	2,060	1,960	2,740	3,500
Minimum	710	925	1,250	1,280	540	200	277	345	310	540	128	755	622	128
Number of values	35	35	14	25	30	51	70	34	37	35	42	22	16	430
Measured values for water year 2001	1,740	1,080	--	2,460	2,740	1,000 622 962	1,000 820 680	645 690	830	770	760	720	--	--
06337000 Little Missouri River near Watford City (period of record, water years 1972-2001)														
Mean	2,040	2,020	2,790	2,500	1,390	931	1,480	1,730	1,610	1,680	1,670	1,860	1,250	1,720
Maximum	3,100	4,000	5,000	3,600	3,020	2,000	2,700	3,100	2,780	3,000	2,550	2,570	2,240	5,000
Minimum	720	740	1,730	1,290	640	400	515	780	750	695	682	900	550	400
Number of values	27	21	12	15	8	37	27	22	25	23	30	18	5	265
Measured values for water year 2001	--	--	2,240	--	--	550	--	1,790	880	--	774	--	--	--
06354000 Cannonball River at Breien (period of record, water years 1950, 1971-2001)														
Mean	1,610	2,030	2,550	2,430	2,730	859	1,240	1,760	1,540	1,510	1,460	1,650	1,290	1,690
Maximum	2,400	3,070	3,290	3,800	4,860	3,100	2,260	2,930	3,020	3,000	2,800	2,300	1,930	4,860
Minimum	650	1,600	284	680	190	190	300	481	288	440	500	730	382	190
Number of values	28	28	21	32	33	60	46	34	35	28	32	30	9	407
Measured values for water year 2001	1,210	1,240	--	--	--	382 450	--	1,930	1,880	--	1,620 1,460	1,440	--	--
06470500 James River at LaMoure (period of record, water years 1957-2001)														
Mean	854	962	1,170	1,480	1,330	635	542	792	796	779	811	872	826	862
Maximum	1,210	1,300	1,550	2,590	1,780	1,350	940	1,210	1,180	1,280	1,180	1,210	1,170	2,590
Minimum	480	540	890	340	700	185	160	500	170	170	485	480	630	160
Number of values	38	25	12	32	19	42	53	35	31	25	31	29	6	373
Measured values for water year 2001	704	--	--	--	--	--	630 640	710	--	1,100	--	1,170	--	--

October during high flow or when the stored runoff water is released. The salinity hazard of stream water for irrigation use during the irrigation season (April through October) was medium in October, medium in April and May, and high in July and September.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Benchmark Network is a network of 50 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by human activities.

National Stream-Quality Accounting Network (NASQAN) monitors the water quality of large rivers within four of the Nation's largest river basins--the Mississippi, Columbia, Colorado, and Rio Grande. The network consists of 39 stations. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents; (2) to test findings of the National Water-Quality Assessment Program (NAWQA); (3) to characterize processes unique to large-river systems such as storage and 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 Atmospheric Deposition Program/National Trends Network (NADP/NTN) provides continuous measurement and assessment of the chemical climate of precipitation throughout the United States. As the lead federal agency, the U.S. Geological Survey works together with over 100 organizations to accomplish the following objectives; (1) Provide a long-term, spatial and temporal record of atmospheric deposition generated from a network of 191 precipitation chemistry monitoring sites. (2) Provide the mechanism to evaluate the effectiveness of the significant reduction in SO_2 emissions that began in 1995 as implementation of the Clean Air Act Amendments (CAAA) occurred. (3) Provide the scientific basis and nationwide evaluation mechanism for implementation of the Phase II CAAA emission reductions for SO_2 and NOx scheduled to begin in 2000.

Data from the network, as well as information about individual sites, are available through the World Wide Web at:

http://nadp.sws.uiuc.edu/

The National Water-Quality Assessment (NAWQA) Program of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water-quality conditions for a large, representative part of the Nation's ground- and surface-water resources; provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Assessment activities are being conducted in 53 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

Communication and coordination between U.S. Geological Survey personnel and other local, State, and federal interests are critical components of the NAWQA Program. Each study unit has a local liaison committee consisting of representatives from key federal, State, and local water resources agencies, Indian nations, and universities in the study unit. Liaison committees typically meet semiannually to discuss their information needs, monitoring plans and progress, desired information products, and opportunities to collaborate efforts among the agencies.

Additional information about the NAWQA Program is available through the World Wide Web at:

http://wwwrvares.er.usgs.gov/nawqa/nawqa_home.html

EXPLANATION OF THE RECORDS

The surface-water records published in this report are for water year 2001 that began October 1, 2000, and ended September 30, 2001. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data and stage, content, and water-quality data for lakes and reservoirs. The locations of the stations where the data were collected are shown in figures 1 and 2. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station in this report is assigned a unique identification number. This number applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations is based on geographic location. Generally, the "downstream-order" system is used for regular surface-water stations and the "latitude-longitude" system is used for surface-water stations where only miscellaneous measurements are made.

Downstream-Order System

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a mainstream station are listed before that station. A station on a tributary that enters between two mainstream 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 indention in the "List of Stations" in the front of this report. Each indention represents one rank. This downstream order and system of indention shows which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete eight-digit number for each station, such as 06342500, which appears just to the left of the station name, includes the two-digit Part number "06" plus the six-digit downstream-order number "342500." The Part number designates the major river basin; for example, Part "06" is the Missouri River Basin. All records for a drainage basin encompassing more than one State can be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.

Latitude-Longitude System

The identification numbers for 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 sites within a 1-second grid. This site-identification number, once assigned, is a pure number and has no locational significance. 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 (fig. 6).

Miscellaneous Site Numbers

In this report, miscellaneous sites also are numbered according to a system based on the location in the public-land classification of the U.S. Bureau of Land Management. This system is used to identify and locate miscellaneous measurement sites on maps that use the public-land classification of the U.S. Bureau of Land Management. The system is illustrated in figure 7. The first number denotes the township north of a base line, the second number denotes the range west of the fifth principal meridian, and the third numeral denotes the section in which the site is located. The letters A, B, C, and D designate, respectively, the northeast, northwest, southwest, and southeast quarter section, quarter-quarter section, and quarter-quarter-quarter section (10-acre tract). For example, site 139-049-15ADC is in the $SW^1/_4SE^1/_4NE^1/_4$ sec.15, T.139 N., R.049 W. Consecutive terminal numbers are added if more than one site is recorded within a 10-acre tract.

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

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the 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. Locations of all complete-record and crest-stage partial-record stations for which data are given in this report are shown in figure 1.

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,

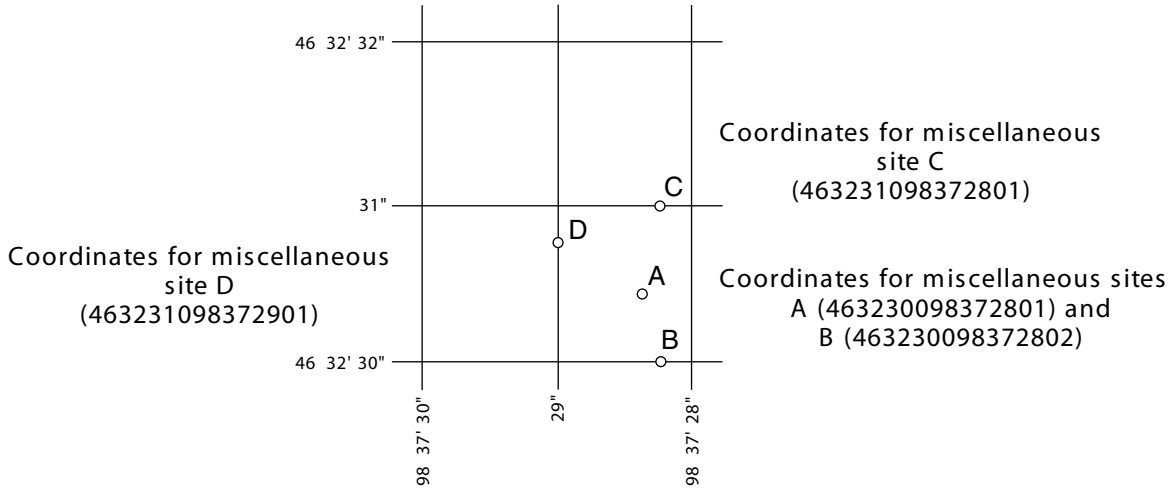

Figure 6. System for numbering miscellaneous sites (latitude and longitude).

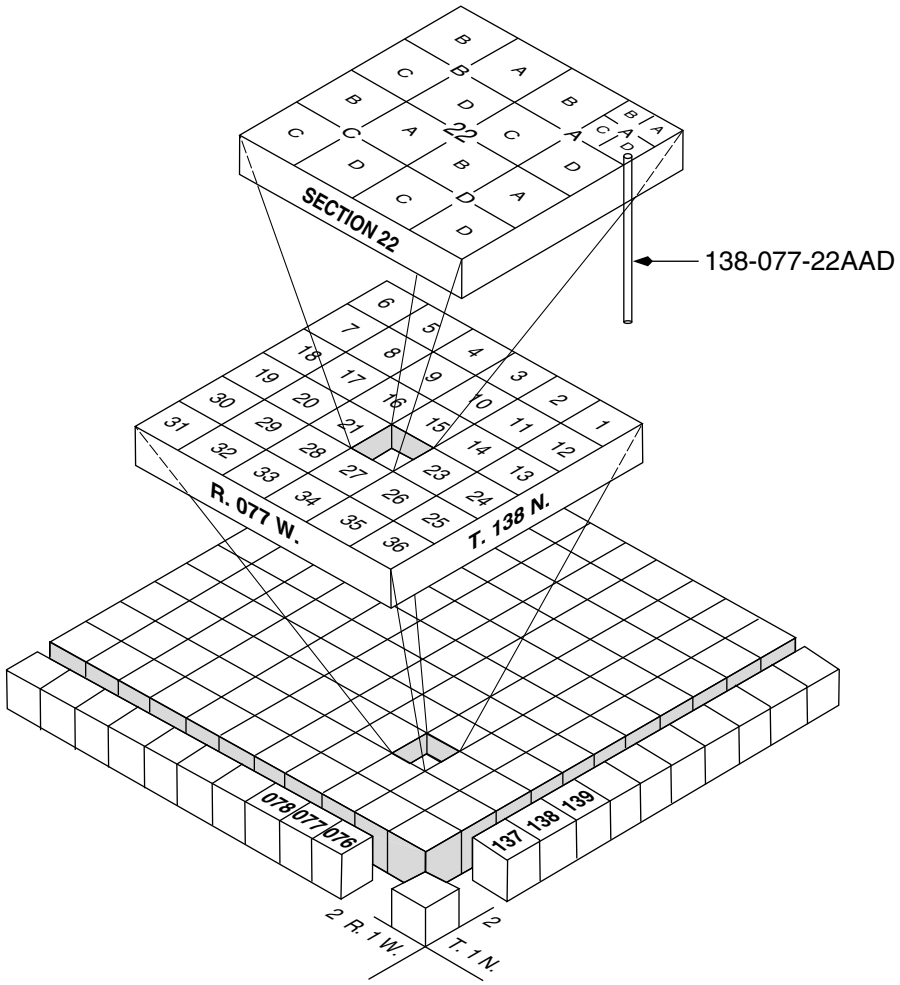

Figure 7. System for numbering miscellaneous sites (township and range).

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 electronic data loggers that store data on an electronic chip, or with satellite data platforms that store data electronically and transmit the data periodically via satellite to a computer based data processing facility. Measurements of discharge are made with current meters using methods adopted by the U.S. Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, Water-Supply Paper 2175, and the U.S. Geological Survey Techniques of Water-Resources Investigations (TWRI's), Book 3, Chapter A1 through A19 and Book 8, Chapters A2 and B2. The methods are consistent with the American Society for Testing and Materials (ASTM) standards and generally follow the standards of the International Organization for Standards (ISO).

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 the daily mean 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 curves 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 relations 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.

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

For some gaging stations, there are periods when no gage-height record is obtained, or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following record, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

Data Presentation

Streamflow data in this report are presented in a new format that is considerably different from the format in data reports prior to the 1991 water year. The major changes are that statistical characteristics of discharge now appear in tabular summaries following the water-year data table and less information is provided in the text or station manuscript above the table. These changes represent the results of a pilot program to reformat the annual water-data report to meet current user needs and data preferences.

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

Station manuscript

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

content. Comments 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 gaging station with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. River mileages were determined by methods given in "River Mileage Measurement," Bulletin 14, Revision of October 1968, prepared by the Water Resources Council or were provided by the U.S. Army Corps of Engineers.

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

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

REVISED RECORDS.--Because of new information, published records 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 peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given.

GAGE.--The type of gage in current use, the datum of the current gage referred to sea level (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 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 paragraph is used to identify estimated record, the paragraph will begin with this information presented as the first entry. The paragraph is also used to present information relative to the accuracy of the records, to special methods of computation, and to conditions that affect natural flow at the station. In addition, information may be presented pertaining to average discharge data for the period of record; to extremes data for the period of record and the current year; and, possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

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

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 the U.S. Geological Survey.

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made in the U.S. Geological Survey's distributed data system, NWIS, and subsequently to its web-based National data system, NWISWeb [http://water.usgs.gov/nwis/nwis]. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from NWIS or NWISWeb to ensure the most recent updates. Updates to NWISWeb are currently made on an annual basis.

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

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

Headings for AVERAGE DISCHARGE, EXTREMES FOR PERIOD OF RECORD, AND EXTREMES FOR CURRENT YEAR have been deleted and the information contained in these paragraphs is now presented in the tabular summaries following the discharge table or in the REMARKS paragraph. No changes have been made to the data presentations of lake contents.

Data table of daily mean values

The daily table of discharge records for stream-gaging stations gives mean discharge for each day of the water year. In the monthly summary for the table, the line headed "TOTAL" gives the sum of the daily figures for each month; the line headed "MEAN" gives the average flow in cubic feet per second for the month; and the lines headed "MAX" and "MIN" give the maximum and minimum daily mean discharges, respectively, for each month. Discharge for the month also is usually expressed in cubic feet per second per square mile (line headed "CFSM"); or in inches (line headed "IN."); or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches or in acre-feet may be omitted if there is extensive regulation or diversion or if the

drainage area includes large noncontributing areas. At some stations monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversion data or reservoir contents are given. These figures are identified by a symbol and corresponding footnote.

Statistics of monthly mean data

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

Summary statistics

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

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

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

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

ANNUAL MEAN.--The arithmetic mean of the individual daily mean discharges for the year noted or for the designated period. At some stations, the yearly mean discharge is adjusted for reservoir storage or diversion. The adjusted 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 7-DAY MINIMUM.--The lowest mean discharge for 7 consecutive days for a calendar year or a water year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1-March 31). The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistic.)

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

INSTANTANEOUS PEAK STAGE.--The maximum instantaneous stage occurring for the water year or for the designated period. If the dates of occurrence for the instantaneous peak flow and instantaneous peak stage differ, the REMARKS paragraph in the manuscript or a footnote may be used to provide further information.

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

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

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

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

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

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

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations, and the second 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 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.

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 symbol "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 their true values; "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 hundredth of a cubic foot per second for values less than 1 ft^3/s; to the nearest tenth between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures for more than 1,000 ft^3/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.

Other Records Available

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

Records of Surface-Water Quality

Records of surface-water quality in this report represent a variety of data types and measurement frequencies. Whenever possible, records of surface-water quality are obtained at or near stream-gaging stations because interpretation of surface-water quality and seasonal variation is enhanced by knowledge of corresponding discharge data. Locations of stations for which records on the quality of surface water appear in this report are shown in figure 2.

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 water-quality data are collected systematically over a period of years, but frequency of sampling is usually less than quarterly. A miscellaneous sampling site is a location where samples are collected one time or intermittently to provide better areal coverage for defining water-quality conditions over a broad area in a 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, a series of discrete values punched at short intervals on a paper tape, or electronically stored data from a data logger or satellite data platform. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this report are shown in figure 2.

Arrangement of Records

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

Onsite Measurements and Sample Collection

In obtaining water-quality data, a major concern needs to be assuring that the data obtained represent the in situ quality of the water. To assure this, certain measurements, such as water temperature, specific conductance, pH, and dissolved oxygen, need to be made onsite 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 samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for onsite measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," Book 1, Chapter D2; Book 3, Chapter A1, A3, and A4; and Book 9, Chapters A1-A9. These references are listed in the "Publications on Techniques of Water-Resources Investigations" section of this report. These methods are consistent with ASTM standards and generally follow ISO standards.

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 which 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 punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the U.S. Geological Survey North Dakota District office whose address is given on the back of the title page of this report.

Water Temperature

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

At stations where recording instruments are used, either mean temperatures or maximum, minimum, and mean temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are published with the water-quality records for each surface-water station in this report.

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. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow and in predicting long-term sediment-discharge characteristics of the stream. Records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included for some stations.

Laboratory Analyses

Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter (µg/L) level. Recent evidence, mostly from large rivers, indicates that actual dissolved-phase concentrations for a number of trace elements are within the range of 10's to 100's of nanograms per liter (ng/L). Present data above the µg/L level should be viewed with caution. Such data may actually represent elevated environmental concentrations from natural or human causes; however, these data could reflect contamination introduced during sampling, processing, or analysis.

Samples for biochemical-oxygen demand (BOD) and samples for indicator bacteria are analyzed locally. Sediment samples are analyzed in the U.S. Geological Survey laboratory in Iowa City, Iowa. Al1 other samples are analyzed in the

U.S. Geological Survey laboratory in Arvada, Colo., the North Dakota State Water Commission laboratory in Bismarck, N. Dak., or the North Dakota Department of Health laboratory in Bismarck, N. Dak. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1. Methods used by the U.S. Geological Survey laboratory are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4.

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, cooperating agencies, and extremes for parameters measured on a daily basis. Tables of chemical, physical, biological, and radiochemical data obtained at a frequency less than daily are presented first. Tables of "daily values" of specific conductance, pH, water temperature, and suspended sediment then follow in sequence.

In the descriptive headings, if the location is identical to that of the stream-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 monitor, pumping sampler, or other sampling device is in operation at a station.

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

COOPERATION.--Records provided by a cooperating organization or obtained for the U.S. Geological Survey 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 or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

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

ACCESS TO USGS WATER DATA

The U.S. Geological Survey provides near real-time stage and discharge data for many of the gaging stations equipped with the necessary telemetry and historic daily-mean and peak-flow discharge data for most current or discontinued gaging stations through the World Wide Web (WWW). These data may be accessed at:

http://water.usgs.gov

Some water-quality and ground-water data also are available through the WWW. In addition, data can be provided in various machine-readable formats on magnetic tape or 3-1/2 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 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 table for converting English units to International System (SI) Units on the inside of the back cover.

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

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

Annual runoff is the total quantity of water 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, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equal to 43,560 cubic feet, 325,851 gallons, or 1,233 cubic meters.

Cubic foot per second per square mile [CFSM, $(ft^3/s)/mi^2$] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area.

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

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

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 44.5 °C plus or minus 0.2 °C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found in the 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 plus or minus 1.0 °C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Non-ideal colony count (K) is a remark code used in reporting bacteria densities when plate counts fall outside of an ideal range. The lower limit of 20 colonies is set as the number below which statistically valid results become increasingly questionable. The upper limit, which differs according to type of bacteria, represents numbers above which interference from colony crowding, deposition of extraneous material, and other factors appear to result in increasingly questionable results.

Base flow is flow in a channel sustained by ground-water discharge in the absence of direct runoff.

Bed material is the sediment mixture 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.

Bottom material: See "Bed material."

Cells/volume refers to the number of plankton cells or natural units counted using a microscope and grid or counting cell. Results are generally reported as cells or units per milliliter.

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

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

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

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

Continuous-record station is a site that meets either of the following conditions:

1. Stage or streamflow are recorded at some interval on a continuous basis. The recording interval is usually 15 minutes, but may be less or more frequent.

2. Water-quality, sediment, or other hydrologic measurements are recorded at least daily.

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

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

Crest-stage gage is a device for obtaining the elevation of the flood crest of a stream.

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

Cubic foot per second-day (CFS-DAY, Cfs-day, [$(ft^3/s)/d$]) is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.9835 acre-feet, 646,317 gallons, or 2,447 cubic meters.

Daily record is a summary of streamflow, sediment, or water-quality values computed from data collected with sufficient frequency to obtain reliable estimates of daily mean values.

Daily record station is a site for which daily records of streamflow, sediment, or water-quality values are computed.

Datum, as used in this report, is an elevation above mean sea level to which all gage height readings are referenced.

Discharge, or flow, is the volume of water (or more broadly, volume of fluid including solid- and dissolved-phase material), that passes a given point in a given period of time.

Annual 7-day minimum is the lowest mean discharge for 7 consecutive days in a 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 discharge is the discharge at a particular instant of time.

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

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

Dissolved oxygen (DO) content of water in equilibrium with air is a function of atmospheric pressure, temperature, and dissolved-solids concentration of the water. The ability of water to retain oxygen decreases with increasing temperature or dissolved solids, with small temperature changes having the more significant offset. Photosynthesis and respiration may cause diurnal variations in dissolved-oxygen concentration in water from some streams.

Dissolved-solids concentration of water is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During that 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 0.4926 to reflect the change. Alternatively, alkalinity concentration (as mg/L $CaCO_3$) can be converted to carbonate concentration by multiplying by 0.60.

Drainage area of a site on a stream is that area, measured in a horizontal plane, that has a common outlet at the site for its surface runoff. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

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

Flow (see "Discharge").

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

Gage datum is the elevation of the zero point of the reference gage from which gage height is determined as compared to sea level (see "Datum"). This elevation is established by a system of levels from known benchmarks, by approximation from topographic maps, or by geographical positioning system.

Gage height (G.H.) is the water-surface elevation referenced to the 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 site on a stream, canal, lake, or reservoir where systematic observations of stage, discharge, or other hydrologic data are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is computed.

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

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

Micrograms per gram (UG/G, µg/g) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per liter (UG/L, µg/L) is a unit expressing the concentration of chemical constituents in water as mass (micrograms) of constituent per unit volume (liter) of water. One thousand micrograms per liter is equivalent to 1 milligram per liter.

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

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

Miscellaneous site, or miscellaneous station, is a site where streamflow, sediment, and/or water-quality data are collected once, or more often on a random or discontinuous basis.

National Geodetic Vertical Datum of 1929 (NGVD of 1929) is a geodetic datum derived from a general adjustment of the first order level nets of the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. 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. *See NOAA web site: http://www.ngs.noaa.gov/faq.shtml#WhatVD29VD88*

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

Normal as related to meteorological data published by the National Weather Service are computed as the average value of a meteorological element over a time period. Effective January 1, 1993, the average period is 1961 to 1990.

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

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

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

Particle size is the diameter, in millimeters (mm), of a particle determined by sieve or sedimentation methods. The sedimentation method utilizes the principle of Stokes Law to calculate sediment particle sizes. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube, Sedigraph) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with the recommendation made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay	0.00024 - 0.004	Sedimentation
Silt	0.004 - 0.062	Sedimentation
Sand	0.062 - 2.0	Sedimentation/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 matter is removed, and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native water analysis.

Percent composition or **percent of total** is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, weight, or volume.

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

pH of water is the negative logarithm of the hydrogen-ion activity. Solutions with pH less than 7 are termed "acidic," and solutions with a pH greater than 7 are termed "basic." Solutions with a pH of 7 are neutral. The presence and concentration of many dissolved chemical constituents found in water are, in part, influenced by the hydrogen-ion activity of water. Biological processes including growth, distribution of organisms, and toxicity of the water to organisms are also influenced, in part, by the hydrogen-ion activity of water.

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

Recurrence interval, also referred to as return period, is the average time, usually expressed in years, between

occurrences of hydrologic events of a specified type (such as exceedances of a specified high flow or non-exceedance of a specified low flow). The terms "return period" and "recurrence interval" do not imply regular cyclic occurrence. The actual times between occurrences vary randomly, with most of the times being less than the average and a few being substantially greater than the average. For example, the 100-year flood is the flow rate that is exceeded by the annual maximum peak flow at intervals whose average length is 100 years (that is, once in 100 years, on average); almost two-thirds of all exceedances of the 100-year flood occur less than 100 years after the previous exceedance, half occur less than 70 years after the previous exceedance, and about one-eighth occur more than 200 years after the previous exceedance. Similarly, the 7-day 10-year low flow ($7Q_{10}$) is the flow rate below which the annual minimum 7-day-mean flow dips at intervals whose average length is 10 years (that is, once in 10 years, on average); almost two-thirds of the non-exceedances of the $7Q_{10}$ occur less than 10 years after the previous non-exceedance, half occur less than 7 years after, and about one-eighth occur more than 20 years after the previous non-exceedance. The recurrence interval for annual events is the reciprocal of the annual probability of occurrence. Thus, the 100-year flood has a 1-percent chance of being exceeded by the maximum peak flow in any year, and there is a 10-percent chance in any year that the annual minimum 7-day-mean flow will be less than the $7Q_{10}$.

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

Sea level refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment of the first-order level nets of the United States and Canada, formerly called Sea Level Datum of 1929.

See: http://www.co-ops.nos.noaa.gov/

glossary/gloss_n.html#NGVD

Sediment is solid material that is transported by, suspended in, or deposited from water. It originates mostly from disintegrated rocks; it also 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 or very close to the bed. In this report, bed load is considered to consist of particles in transit from the bed to an elevation equal to the top of the bed-load sampler nozzle (usually within 0.25 ft of the streambed).

Bed-load discharge (tons per day) is the quantity of sediment moving as bed load, reported as dry weight, that passes a cross section in a given time.

Suspended sediment is the sediment that 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). The entire sample is used for the analysis.

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

Suspended-sediment discharge (tons/day) is the quantity of sediment moving in suspension, reported as dry weight, that passes a cross section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft^3/s) x 0.0027.

Suspended-sediment load is a term that refers to material in suspension. The term needs to be qualified, such as "annual suspended-sediment load" or "sand-size suspended-sediment load," and so on. It is not synonymous with either suspended-sediment discharge or concentration.

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, reported as dry weight, that passes a cross section in a given time.

Total sediment load or total load is a term that refers to the total sediment (bed load plus suspended-sediment load) that is in transport. The term needs to be qualified, such as "annual suspended-sediment load" or "sand-size suspended-sediment load," and so on. It is not synonymous with total sediment discharge.

Seven-day 10-year low flow (7Q10, $7Q_{10}$) is the minimum flow averaged over 7 consecutive days that is expected to occur on average, once in any 10-year period. The 7Q10 has a 10-percent chance of occurring in any given year.

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

Solute is any substance 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 from 55 to 75 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage: See "Gage height."

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

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

Surface area of a lake or impoundment is that area encompassed by the boundary of the lake or impoundment as shown on U.S. Geological Survey topographic maps, or on other available maps or photographs. The computed surface areas reflect the water levels of the lakes or impoundments at the times when the information for the maps or photographs was obtained.

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

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

Determinations of "suspended, recoverable" constituents are made either by 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 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. 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.

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 is 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, tons/d) is the rate representing a mass of 1 ton of a constituent in streamflow passing a cross section in 1 day. It is equivalent to 2,000 pounds per day, or 0.9072 metric tons per day.

Total is the total amount of a given constituent in a representative 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 suspended-sediment mixture and that the analytical method determined all of the constituent in the sample.)

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

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

Total recoverable is the amount of a given constituent that is in solution after a representative 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 are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Turbidity is a measurement of the collective optical properties of a water sample that cause light to be scattered and absorbed rather than transmitted in straight lines; the higher the intensity of scattered light, the higher the turbidity. Turbidity is expressed in nephelometric turbidity units (NTU) or Formazin turbidity units (FTU) depending on the method and equipment used.

Water level is the water-surface elevation or stage of the free surface of a body of water above or below any datum (see "Gage height"), or the surface of water standing in a well, usually indicative of the position of the water table or other potentiometric surface.

Water table is the surface of a ground-water body at which the water is at atmospheric pressure.

Water year in U.S. Geological Survey reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 2001, is called the "2001 water year."

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

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

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

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

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

The reports listed below are for sale by the U.S. Geological Survey, 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 made in the form of a 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 mention the "U.S. Geological Survey Techniques of Water-Resources Investigations."

Book 1. Collection of Water Data by Direct Measurement

Section D. Water Quality

1-D1. *Water temperature—influential factors, field measurement, and data presentation,* by H. H. Stevens, Jr., J.F. Ficke, and G. F. Smoot: USGS–TWRI book 1, chap. D1. 1975. 65 p.

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

Book 2. Collection of Environmental Data

Section D. Surface Geophysical Methods

2-D1. *Application of surface geophysics to ground-water investigations,* by A.A. R. Zohdy, G.P. Eaton, and D.R. Mabey: USGS–TWRI book 2, chap. D1. 1974. 116 p.

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

Section E. Subsurface Geophysical Methods

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

2-E2. *Borehole geophysics applied to ground-water investigations,* by W.S. Keys: USGS–TWRI book 2, chap. E2. 1990. 150 p.

Section F. Drilling and Sampling Methods

2-F1. *Application of drilling, coring, and sampling techniques to test holes and wells,* by Eugene Shuter and W.E. Teasdale: USGS–TWRI book 2, chap. F1. 1989. 97 p.

Book 3. Applications of Hydraulics

Section A. Surface-Water Techniques

3-A1. *General field and office procedures for indirect discharge measurements,* by M.A. Benson and Tate Dalrymple: USGS–TWRI book 3, chap. A1. 1967. 30 p.

3-A2. *Measurement of peak discharge by the slope-area method,* by Tate Dalrymple and M.A. Benson: USGS–TWRI book 3, chap. A2. 1967. 12 p.

3-A3. *Measurement of peak discharge at culverts by indirect methods,* by G.L. Bodhaine: USGS–TWRI book 3, chap. A3. 1968. 60 p.

3-A4. *Measurement of peak discharge at width contractions by indirect methods,* by H.F. Matthai: USGS-TWRI book 3, chap. A4. 1967. 44 p.

3-A5. *Measurement of peak discharge at dams by indirect methods,* by Harry Hulsing: USGS–TWRI book 3. chap. A5. 1967. 29 p.

3-A6. *General procedure for gaging streams,* by R.W. Carter and Jacob Davidian: USGS–TWRI book 3, chap. A6. 1968. 13 p.

3-A7. *Stage measurement at gaging stations,* by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A7. 1968. 28 p.

3-A8. *Discharge measurements at gaging stations,* by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A8. 1969. 65 p.

3-A9. *Measurement of time of travel in streams by dye tracing,* by F.A. Kilpatrick and J.F. Wilson, Jr.: USGS–TWRI book 3, chap. A9. 1989. 27 p.

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3-A11. *Measurement of discharge by the moving-boat method,* by G.F. Smoot and C.E. Novak: USGS–TWRI book 3, chap. A11. 1969. 22 p.

3-A12. *Fluorometric procedures for dye tracing,* Revised, by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS–TWRI book 3, chap. A12. 1986. 34 p.

3-A13. *Computation of continuous records of streamflow,* by E.J. Kennedy: USGS–TWRI book 3, chap. A13. 1983. 53 p.

3-A14. *Use of flumes in measuring discharge,* by F.A. Kilpatrick and V.R. Schneider: USGS–TWRI book 3, chap. A14. 1983. 46 p.

3-A15. *Computation of water-surface profiles in open channels,* by Jacob Davidian: USGS–TWRI book 3, chap. A15. 1984. 48 p.

3-A16. *Measurement of discharge using tracers,* by F.A. Kilpatrick and E.D. Cobb: USGS–TWRI book 3, chap. A16. 1985. 52 p.

3-A17. *Acoustic velocity meter systems,* by Antonius Laenen: USGS–TWRI book 3, chap. A17. 1985. 38 p.

3-A18. *Determination of stream reaeration coefficients by use of tracers,* by F.A. Kilpatrick, R.E. Rathbun, Nobuhiro Yotsukura, G.W. Parker, and L.L. DeLong: USGS–TWRI book 3, chap. A18. 1989. 52 p.

3-A19. *Levels at streamflow gaging stations,* by E.J. Kennedy: USGS–TWRI book 3, chap. A19. 1990. 31 p.

3-A20. *Simulation of soluble waste transport and buildup in surface waters using tracers,* by F.A. Kilpatrick: USGS–TWRI book 3, chap. A20. 1993. 38 p.

3-A21 *Stream-gaging cableways,* by C. Russell Wagner: USGS–TWRI book 3, chap. A21. 1995. 56 p.

Section B. Ground-Water Techniques

3-B1. *Aquifer-test design, observation, and data analysis,* by R.W. Stallman: USGS–TWRI book 3, chap. B1. 1971. 26 p.

3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction,* by G.D. Bennett: USGS–TWRI book 3, chap. B2. 1976. 172 p.

3-B3. *Type curves for selected problems of flow to wells in confined aquifers,* by J.E. Reed: USGS–TWRI book 3, chap. B3. 1980. 106 p.

3-B4. *Regression modeling of ground-water flow,* by R.L. Cooley and R.L. Naff: USGS–TWRI book 3, chap. B4. 1990. 232 p.

3-B4. *Supplement 1. Regression modeling of ground-water flow --Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems,* by R.L. Cooley: USGS–TWRI book 3, chap. B4. 1993. 8 p.

3-B5. *Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems—An introduction,* by O.L. Franke, T.E. Reilly, and G.D. Bennett: USGS–TWRI book 3, chap. B5. 1987. 15 p.

3-B6. *The principle of superposition and its application in ground-water hydraulics*, by T.E. Reilly, O.L. Franke, and G.D. Bennett: USGS–TWRI book 3, chap. B6. 1987. 28 p.

3-B7. *Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow,* by E.J. Wexler: USGS–TWRI book 3, chap. B7. 1992. 190 p.

3-B8. *System and boundary conceptualization in ground-water flow simulation,* by T.E. Reilly: USGS–TWRI book 3, chap. B8. 2001. 29 p.

Section C. Sedimentation and Erosion Techniques

3-C1. *Fluvial sediment concepts,* by H.P. Guy: USGS–TWRI book 3, chap. C1. 1970. 55 p.

3-C2. *Field methods for measurement of fluvial sediment,* by T.K. Edwards and G.D. Glysson: USGS–TWRI book 3, chap. C2. 1999. 89 p.

3-C3. *Computation of fluvial-sediment discharge,* by George Porterfield: USGS–TWRI book 3, chap. C3. 1972. 66 p.

Book 4. Hydrologic Analysis and Interpretation

Section A. Statistical Analysis

4-A1. *Some statistical tools in hydrology,* by H.C. Riggs: USGS–TWRI book 4, chap. A1. 1968. 39 p.

4-A2. *Frequency curves,* by H.C. Riggs: USGS–TWRI book 4, chap. A2. 1968. 15 p.

Section B. Surface Water

4-B1. *Low-flow investigations,* by H.C. Riggs: USGS–TWRI book 4, chap. B1. 1972. 18 p.

4-B2. *Storage analyses for water supply,* by H.C. Riggs and C.H. Hardison: USGS–TWRI book 4, chap. B2. 1973. 20 p.

4-B3. *Regional analyses of streamflow characteristics,* by H.C. Riggs: USGS–TWRI book 4, chap. B3. 1973. 15 p.

Section D. Interrelated Phases of the Hydrologic Cycle

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

Book 5. Laboratory Analysis

Section A. Water Analysis

5-A1. *Methods for determination of inorganic substances in water and fluvial sediments,* by M.J. Fishman and L.C. Friedman, editors: USGS–TWRI book 5, chap. A1. 1989. 545 p.

5-A2. *Determination of minor elements in water by emission spectroscopy,* by P.R. Barnett and E.C. Mallory, Jr.: USGS–TWRI book 5, chap. A2. 1971. 31 p.

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5-A5. *Methods for determination of radioactive substances in water and fluvial sediments,* by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS–TWRI book 5, chap. A5. 1977. 95 p.

5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments,* by L.C. Friedman and D.E. Erdmann: USGS–TWRI book 5, chap. A6. 1982. 181 p.

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Section A. Ground Water

6-A1. *A modular three-dimensional finite-difference ground-water flow model,* by M.G. McDonald and A.W. Harbaugh: USGS–TWRI book 6, chap. A1. 1988. 586 p.

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6-A3. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual,* by L.J. Torak: USGS–TWRI book 6, chap. A3. 1993. 136 p.

6-A4. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions,* by R.L. Cooley: USGS–TWRI book 6, chap. A4. 1992. 108 p.

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6-A6. A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction, by Eric D. Swain and Eliezer J. Wexler: USGS–TWRI book 6, chap. A5, 1996. 125 p.

Book 7. Automated Data Processing and Computations

Section C. Computer Programs

7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments,* by P.C. Trescott, G.F. Pinder, and S.P. Larson: USGS–TWRI book 7, chap. C1. 1976. 116 p.

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Book 8. Instrumentation

Section A. Instruments for Measurement of Water Level

8-A1. *Methods of measuring water levels in deep wells,* by M.S. Garber and F.C. Koopman: USGS–TWRI book 8, chap. A1. 1968. 23 p.

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Section B. Instruments for Measurement of Discharge

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

Book 9. Handbooks for Water-Resources Investigations

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

9-A1. *National Field Manual for the Collection of Water-Quality Data: Preparations for Water Sampling,* by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A1. 1998. 47 p.

9-A2. *National Field Manual for the Collection of Water-Quality Data: Selection of Equipment for Water Sampling,* edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A2. 1998. 94 p.

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9-A4. *National Field Manual for the Collection of Water-Quality Data: Collection of Water Samples,* edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A4. 1999. 156 p.

9-A5. *National Field Manual for the Collection of Water-Quality Data: Processing of Water Samples,* edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A5. 1999, 149 p.

9-A6. *National Field Manual for the Collection of Water-Quality Data: Field Measurements,* edited by F.D. Wilde and D.B. Radtke: USGS–TWRI book 9, chap. A6. 1998. Variously paginated.

9-A7. *National Field Manual for the Collection of Water-Quality Data: Biological Indicators,* edited by D.N. Myers and F.D. Wilde: USGS–TWRI book 9, chap. A7. 1997 and 1999. Variously paginated.

9-A8. *National Field Manual for the Collection of Water-Quality Data: Bottom-material samples,* by D.B. Radtke: USGS–TWRI book 9, chap. A8. 1998. 48 p.

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SURFACE-WATER-DISCHARGE AND SURFACE-WATER-QUALITY RECORDS

Remark Codes

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

PRINT 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 acceptance range (non-ideal colony count).

Water-Quality-Control Data

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

The dates and times of QC samples are noted in the water quality tables, but the QA data are not displayed. The various types of QA data are available upon request from the U.S. Geological Survey North Dakota District office (see address on back of the title page of this report).

Blank Samples

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

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

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

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

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

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

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

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

Reference Samples

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

Replicate Samples

Replicate samples are a set of environmental samples collected in a manner such that the samples are thought to be essentially identical in composition. Replicate samples are collected and analyzed to establish the amount of variability in the data contributed by some part of the collection and analytical process. There are many types of replicate samples possible, each of which may yield slightly different results in a dynamic hydrologic setting, such as a flowing stream. The types of replicate samples collected in this District are:

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

Split sample - a type of replicate sample in which a sample is split into subsamples contemporaneous in time and space.

Spike Samples

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

Dissolved Trace-Element Concentrations

*NOTE.--Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter (µg/L) level. Recent evidence, mostly from large rivers, indicates that actual dissolved-phase concentrations for a number of trace elements are within the range of 10's to 100's of nanograms per liter (ng/L). Data above the µg/L level should be viewed with caution. Such data may actually represent elevated environmental concentrations from natural or human causes; however, these data could reflect contamination introduced during sampling, processing, or analysis. To confidently produce dissolved trace-element data with insignificant contamination, the U.S. Geological Survey began using new trace-element protocols at some stations in water year 1994.

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 Program Office, Illinois State Water Survey, 2204 Griffith Drive, Champaign, IL 61820-7495 (217-333-7873).

05051500 RED RIVER OF THE NORTH AT WAHPETON, ND

LOCATION.--Lat 46°15'55", long 96°35'40", in NE$^1/_4$ sec.8, T.132 N., R.47 W., Richland County, Hydrologic Unit 09020104, on left bank in Wahpeton, 800 ft downstream from confluence of Bois de Sioux and Otter Tail Rivers, and at mile 548.6.

DRAINAGE AREA.--4,010 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April to October 1942, March 1943 to current year. Gage-height records collected in this vicinity since 1917 are contained in reports of the National Weather Service.

GAGE.--Water-stage recorder and concrete and wooden dam. Datum of gage is 942.97 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 6, 1943, National Weather Service nonrecording gage 800 ft upstream, converted to present datum. Aug. 6, 1943, to Oct. 27, 1950, nonrecording gage at present site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by; Orwell Reservoir, flood storage capacity, 13,300 acre-ft at elevation 1,070 ft above mean sea level, adjustment of 1912; Mud Lake, flood storage capacity, 78,600 acre-ft at elevation 981 ft above mean sea level, adjustment of 1912; Lake Traverse, flood storage capacity, 75,100 acre-ft at elevation 981 ft above mean sea level, adjustment of 1912; and numerous other controlled lakes and ponds and several powerplants.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 17.0 ft, discharge, 10,500 ft^3/s, occurred in the spring of 1897.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	475	366	e830	e630	e630	e580	1070	5140	2770	2870	1560	469
2	462	337	e830	e640	e630	e580	1150	4790	2710	2850	1500	499
3	457	337	e800	e650	e630	e600	1270	4410	2640	2820	1460	491
4	459	346	e760	e650	e630	e650	1280	4080	2600	2710	1350	486
5	450	347	e730	e650	e630	e780	1520	3740	2590	2650	1260	479
6	440	360	e690	e650	e620	e950	1850	3420	2580	2640	1230	476
7	410	392	e660	e650	e600	e1150	3600	3270	2530	2580	1110	503
8	388	436	e610	e650	e580	e1300	8060	3060	2510	2550	919	495
9	388	513	e590	e650	e580	e1420	9260	2880	2520	2530	793	485
10	389	550	e540	e670	e580	e1500	8810	2710	2760	2520	711	485
11	395	547	e520	e700	e630	e1550	8080	2600	3140	2520	660	485
12	395	557	e530	e730	e630	e1600	8110	2550	3650	2510	620	482
13	384	557	e540	e700	e620	e1600	8440	2530	3490	2520	613	482
14	360	546	e560	e700	e620	e1550	8180	2520	3080	2520	496	488
15	333	544	e580	e700	e600	e1500	7940	2500	3250	2520	282	489
16	324	549	e590	e700	e600	e1450	7460	2520	3430	2520	188	471
17	324	596	e600	e700	e600	e1350	7050	2540	3410	2500	294	468
18	334	645	e650	e670	e600	e1280	6880	2540	3350	2490	563	481
19	309	642	e720	e650	e600	e1250	6760	2530	3180	2460	676	493
20	270	474	e800	e640	e600	e1250	6550	2510	3080	2420	677	498
21	279	413	e840	e640	e600	e1250	6260	2520	3020	2410	673	486
22	288	e500	e800	e640	e600	e1280	5930	2500	3090	2350	578	469
23	301	e560	e710	e630	e600	e1320	5740	2500	3160	2250	505	471
24	275	e580	e680	e630	e590	e1320	5770	2520	3110	1940	514	469
25	191	e600	e680	e630	e580	e1300	6060	2510	3050	1590	514	465
26	181	e630	e670	e630	e580	e1250	6090	2510	3000	1490	517	420
27	185	e650	e660	e630	e580	e1200	5910	2580	2980	1330	516	358
28	247	e690	e640	e630	e580	e1140	5720	2620	2950	1350	465	352
29	356	e740	e630	e630	---	e1100	5550	2590	2920	1700	420	384
30	371	e800	e630	e630	---	e1050	5390	2620	2890	1700	361	391
31	347	---	e630	e630	---	e1050	---	2760	---	1580	366	---
TOTAL	10767	15804	20700	20330	16920	37150	171740	91070	89440	71390	22391	13970
MEAN	347	527	668	656	604	1198	5725	2938	2981	2303	722	466
MAX	475	800	840	730	630	1600	9260	5140	3650	2870	1560	503
MIN	181	337	520	630	580	580	1070	2500	2510	1330	188	352
AC-FT	21360	31350	41060	40320	33560	73690	340600	180600	177400	141600	44410	27710

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2001, BY WATER YEAR (WY)

MEAN	346	326	302	286	309	713	1483	1152	1104	832	451	353
MAX	1599	952	967	678	868	2629	8717	3344	2981	2787	2496	2148
(WY)	1994	1987	1999	1986	1998	1995	1997	1997	2001	1993	1993	1993
MIN	5.72	7.40	6.60	8.81	18.0	84.3	138	22.5	90.0	65.6	53.5	2.18
(WY)	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977	1976

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1942 - 2001	
ANNUAL TOTAL	271705		581672			
ANNUAL MEAN	742		1594		636	
HIGHEST ANNUAL MEAN					1600	1997
LOWEST ANNUAL MEAN					54.0	1977
HIGHEST DAILY MEAN	2410	Mar 9	9260	Apr 9	12700	Apr 15 1997
LOWEST DAILY MEAN	181	Oct 26	181	Oct 26	1.7	Aug 28 1976
ANNUAL SEVEN-DAY MINIMUM	238	Oct 22	238	Oct 22	1.7	Aug 28 1976
MAXIMUM PEAK FLOW			9340	Apr 9	12800	Apr 15 1997
MAXIMUM PEAK STAGE			16.94	Apr 9	a 19.42	Apr 6 1997
INSTANTANEOUS LOW FLOW					1.7	Aug 28 1976
ANNUAL RUNOFF (AC-FT)	538900		1154000		460400	
10 PERCENT EXCEEDS	1130		3260		1490	
50 PERCENT EXCEEDS	679		677		395	
90 PERCENT EXCEEDS	380		390		110	

a Backwater from ice, from floodmark
e Estimated

05051500 RED RIVER OF THE NORTH AT WAHPETON, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
11...	1000	396	--	--	--	473	9.0	9.5	--	--	--	--	--
NOV													
16...	0835	546	--	--	--	647	-4.5	1.5	--	--	--	--	--
JAN													
10...	1020	666	--	--	--	435	-3.0	.00	--	--	--	--	--
APR													
03...	0850	1240	--	--	--	649	2.0	1.5	--	--	--	--	--
18...	0915	7060	7.9	7.5	444	406	3.5	4.5	190	44.0	19.0	5.00	.3
25...	1325	6020	--	--	--	697	10.5	6.5	--	--	--	--	--
JUL													
31...	0825	1540	--	--	--	849	24.5	23.5	--	--	--	--	--
SEP													
27...	0930	363	--e	8.1	501	476	10.0	14.0	240	43.0	33.0	4.70	.4

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	11.0	11	122	7.5	.2	91.0	5700	299	251	3.0	10	2.00	100
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
31...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
27...	16.0	12	219	11.0	.2	52.0	308	314	292	3.0	70	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
11...	--	--	--	--	--
NOV					
16...	--	--	--	--	--
JAN					
10...	--	--	--	--	--
APR					
03...	--	--	--	--	--
18...	40.0	<.10	2.0	3.0	190
25...	--	--	--	--	--
JUL					
31...	--	--	--	--	--
SEP					
27...	20.0	<.10	2.0	3.0	150

e Required equipment not functional/available

05051522 RED RIVER OF THE NORTH AT HICKSON, ND

LOCATION.--Lat 46°39'35", long 96°47'44", in SW$^{1}/_{4}$ sec.19, T.137 N., R.48 W., Clay County, MN, Hydrologic Unit 09020104, on right bank 60 ft downstream from bridge on township road, and 1 mi southeast of Hickson.

DRAINAGE AREA.--4,300 mi^{2}, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1975 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 877.06 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for periods of estimated discharge, which are poor. Flow regulated by Orwell Reservoir, flood storage capacity, 13,300 acre-ft at elevation 1,070 ft above mean sea level, adjustment of 1912; Mud Lake, flood storage capacity, 78,600 acre-ft at elevation 981 ft above mean sea level, adjustment of 1912; Lake Traverse, flood storage capacity, 75,100 acre-ft at elevation 981 ft above mean sea level, adjustment of 1912; and numerous other controlled lakes and ponds and several powerplants.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	561	454	e770	e660	e650	e640	e1100	6280	2990	e2950	1720	343
2	498	462	e830	e660	e640	e660	e1100	6000	3050	e2920	1680	383
3	455	447	e850	e660	e640	e670	e1150	5710	3040	2850	1630	477
4	443	411	e840	e660	e640	e670	e1250	5390	2980	2830	1590	488
5	442	410	e810	e660	e640	e680	e1460	5110	2910	2770	1530	481
6	440	428	e770	e660	e640	e690	e1850	4830	2870	2690	1440	489
7	434	500	e720	e660	e640	e720	e3000	4540	2850	2640	1390	505
8	423	575	e680	e660	e640	e810	5390	4250	2830	2600	1310	507
9	398	620	e630	e660	e630	e1000	7340	4000	2810	2550	1140	515
10	379	669	e590	e660	e610	e1440	9510	3780	2810	2510	981	524
11	379	703	e560	e670	e610	e1510	10900	3550	2900	2480	861	518
12	401	703	e550	e700	e630	e1570	11400	3320	3150	2470	790	504
13	416	693	e550	e740	e640	e1590	11200	3140	3570	2460	712	496
14	428	687	e570	e760	e640	e1600	10500	3020	3880	2460	682	492
15	414	654	e580	e740	e640	e1600	9590	2950	3760	2450	637	494
16	387	555	e600	e730	e640	e1590	9150	2900	3490	2460	421	501
17	362	e570	e610	e720	e640	e1560	8820	2860	3430	2470	260	489
18	354	e620	e630	e720	e630	e1540	8420	2860	3530	2500	188	471
19	352	e680	e640	e700	e620	e1450	7860	2870	3710	2510	366	471
20	362	e680	e720	e690	e620	e1360	7310	2860	3840	2500	672	498
21	327	574	e830	e670	e620	e1340	6980	2850	3800	2500	753	507
22	290	425	e860	e660	e620	e1310	6770	2840	3670	2510	757	505
23	297	462	e820	e650	e620	e1310	6630	2840	3610	2470	717	478
24	311	e500	e760	e650	e620	e1310	6510	2830	3520	2370	575	462
25	323	e560	e740	e650	e620	e1340	6520	2840	3410	2220	533	459
26	281	e600	e720	e650	e620	e1350	6790	2850	3280	1970	555	451
27	202	e620	e700	e650	e620	e1320	7120	2870	3150	1790	549	435
28	177	e650	e690	e650	e620	e1200	7080	2900	3060	1630	537	370
29	190	e680	e680	e650	---	e1140	6860	2950	3020	1490	518	331
30	301	e720	e670	e650	---	e1110	6580	2960	e3000	1650	445	333
31	422	---	e660	e650	---	e1100	---	2940	---	1770	396	---
TOTAL	11449	17312	21630	20950	17640	37180	196140	111890	97920	74440	26335	13977
MEAN	369	577	698	676	630	1199	6538	3609	3264	2401	850	466
MAX	561	720	860	760	650	1600	11400	6280	3880	2950	1720	524
MIN	177	410	550	650	610	640	1100	2830	2810	1490	188	331
AC-FT	22710	34340	42900	41550	34990	73750	389000	221900	194200	147700	52240	27720

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 2001, BY WATER YEAR (WY)

MEAN	427	372	345	326	392	1017	2267	1383	1168	971	570	464
MAX	1558	900	932	747	1058	2687	9864	3925	3264	2674	2674	2135
(WY)	1994	1987	1999	1986	1998	1995	1997	1997	2001	1993	1993	1993
MIN	2.02	.000	.000	4.95	14.0	75.9	165	22.0	86.4	73.4	35.6	12.6
(WY)	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977	1977	1976

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1975 - 2001	
ANNUAL TOTAL	286210		646863			
ANNUAL MEAN	782		1772		809	
HIGHEST ANNUAL MEAN					1772	2001
LOWEST ANNUAL MEAN					53.1	1977
HIGHEST DAILY MEAN	2720	Mar 11	11400	Apr 12	13100	Apr 15 1997
LOWEST DAILY MEAN	177	Oct 28	177	Oct 28	.00	Oct 26 1976
ANNUAL SEVEN-DAY MINIMUM	254	Oct 23	254	Oct 23	.00	Oct 26 1976
MAXIMUM PEAK FLOW			a 11500	Apr 12	13300	Apr 14 1997
MAXIMUM PEAK STAGE			35.80	Apr 13	37.60	Apr 16 1997
ANNUAL RUNOFF (AC-FT)	567700		1283000		585900	
10 PERCENT EXCEEDS	1200		3770		1880	
50 PERCENT EXCEEDS	686		717		456	
90 PERCENT EXCEEDS	390		427		98	

a Gage height, 35.30 ft
e Estimated

05051522 RED RIVER OF THE NORTH AT HICKSON, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1976 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
OCT													
11...	1530	--	370	--	--	--	460	12.5	10.5	--	--	--	--
JAN													
10...	1410	--	659	--	--	--	495	-2.0	.5	--	--	--	--
APR													
19...	1240	7860	--	8.1	--e	450	413	10.5	5.0	180	42.0	19.0	4.60
27...	0820	--	7460	--	--	--	425	6.5	5.5	--	--	--	--
MAY													
03...	1215	--	5530	--	--	--	529	13.0	7.0	--	--	--	--
JUL													
31...	1315	--	1780	--	--	--	947	27.5	25.0	--	--	--	--

DATE	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
OCT													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
19...	.4	11.0	11	124	7.7	.2	95.0	6130	289	254	3.0	10	2.00
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
31...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT						
11...	--	--	--	--	--	--
JAN						
10...	--	--	--	--	--	--
APR						
19...	100	50.0	<.10	3.0	3.0	170
27...	--	--	--	--	--	--
MAY						
03...	--	--	--	--	--	--
JUL						
31...	--	--	--	--	--	--

e Required equipment not functional/available

05051600 WILD RICE RIVER NEAR RUTLAND, ND

LOCATION.--Lat 46°01'20", long 97°30'40", in $SE^1/_4SE^1/_4$ sec.36, T.130 N., R.55 W., Sargent County, Hydrologic Unit 09020105, on right bank 1,000 ft upstream from bridge on county highway, 2 mi south of Rutland, and 10 mi upstream from Lake Tewaukon.

DRAINAGE AREA.--546 mi^2, of which about 250 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1959 to current year (seasonal records only since 1982).

REVISED RECORDS.--WSP 1728: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,197.73 ft above sea level. Prior to Dec. 11, 1960, nonrecording gage at same site and datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor.

EXTREMES FOR CURRENT YEAR.-- Maximum discharge, 1,050 ft^3/s, Apr. 13, gage height 7.33 ft, minimum daily discharge, no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e.00	e30	193	93	32	20	2.1
2	---	---	---	---	---	e.00	e80	182	89	31	20	6.6
3	---	---	---	---	---	e.00	e140	173	85	30	20	3.3
4	---	---	---	---	---	e.00	207	167	78	27	22	2.3
5	---	---	---	---	---	e.00	191	162	73	25	20	1.7
6	---	---	---	---	---	e.00	140	172	70	27	19	3.2
7	---	---	---	---	---	e.00	212	202	68	25	20	4.4
8	---	---	---	---	---	e.00	494	308	62	22	19	2.5
9	---	---	---	---	---	e.00	767	308	57	20	23	7.1
10	---	---	---	---	---	e.00	646	237	70	19	18	12
11	---	---	---	---	---	e.00	606	203	67	17	19	11
12	---	---	---	---	---	e.00	647	188	61	17	19	8.4
13	---	---	---	---	---	e.00	925	175	62	16	17	6.4
14	---	---	---	---	---	e.00	843	165	e110	16	16	6.6
15	---	---	---	---	---	e.00	622	157	e95	16	15	12
16	---	---	---	---	---	e.00	492	149	e75	18	13	10
17	---	---	---	---	---	e.00	405	145	e66	17	8.8	12
18	---	---	---	---	---	e1.0	353	142	e80	16	5.1	11
19	---	---	---	---	---	e4.0	323	135	e105	16	4.1	10
20	---	---	---	---	---	e10	298	130	e100	21	6.2	11
21	---	---	---	---	---	e20	272	128	e86	21	4.8	12
22	---	---	---	---	---	e26	257	128	e75	19	2.7	12
23	---	---	---	---	---	e34	262	126	e68	18	2.2	15
24	---	---	---	---	---	e34	239	125	61	17	1.9	15
25	---	---	---	---	---	e48	231	119	57	17	3.1	14
26	---	---	---	---	---	e50	347	115	51	17	5.3	13
27	---	---	---	---	---	e36	392	112	47	22	4.8	12
28	---	---	---	---	---	e24	334	110	42	25	3.9	10
29	---	---	---	---	---	e16	265	105	39	26	4.9	11
30	---	---	---	---	---	e13	208	100	36	23	3.1	7.7
31	---	---	---	---	---	e13	---	96	---	22	2.7	---
TOTAL	---	---	---	---	---	329.00	11228	4957	2128	655	363.6	265.3
MEAN	---	---	---	---	---	10.6	374	160	70.9	21.1	11.7	8.84
MAX	---	---	---	---	---	50	925	308	110	32	23	15
MIN	---	---	---	---	---	.00	30	96	36	16	1.9	1.7
AC-FT	---	---	---	---	---	653	22270	9830	4220	1300	721	526

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2001, BY WATER YEAR (WY)

MEAN	.54	.36	.14	.004	.068	26.1	73.9	39.4	22.3	26.8	7.99	7.18
MAX	4.81	5.87	2.90	.10	1.00	138	756	419	263	379	105	146
(WY)	1963	1963	1963	1963	1976	1966	1997	1998	1998	1998	1998	1999
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1960	1960	1960	1960	1960	1965	1977	1977	1973	1961	1960	1960

SUMMARY STATISTICS WATER YEARS 1960 - 2001

ANNUAL MEAN	a 8.36		
HIGHEST ANNUAL MEAN	a 44.8		1969
LOWEST ANNUAL MEAN	a .000		1977
HIGHEST DAILY MEAN	2540	Apr 4	1997
LOWEST DAILY MEAN	.00	Oct 1	1959
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 1	1959
MAXIMUM PEAK FLOW	2700	Apr 3	1997
MAXIMUM PEAK STAGE	10.11	Apr 3	1997
ANNUAL RUNOFF (AC-FT)	a 6050		
10 PERCENT EXCEEDS	55		
50 PERCENT EXCEEDS	.00		
90 PERCENT EXCEEDS	.00		

e Estimated
a Based on complete water years only (1960-82)

05051600 WILD RICE RIVER NEAR RUTLAND, ND--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
APR													
04...	0930	200	8.4	--e	1020	698	3.0	1.5	420	83.0	52.0	14.0	.9
14...	1030	825	--	--	--	1100	13.0	8.0	--	--	--	--	--
25...	0810	215	--	--	--	495	--	4.5	--	--	--	--	--
MAY													
07...	1320	210	--	--	--	790	11.0	5.5	--	--	--	--	--
JUN													
14...	1405	108	--	--	--	1910	24.0	23.0	--	--	--	--	--
SEP													
26...	1230	14	8.4	--	--	2640	14.5	13.5	--	--	--	--	--

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
APR													
04...	43.0	18	148	18.0	.1	360	387	717	660	3.0	60	2.00	100
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR					
04...	230	<.10	2.0	3.0	360
14...	--	--	--	--	--
25...	--	--	--	--	--
MAY					
07...	--	--	--	--	--
JUN					
14...	--	--	--	--	--
SEP					
26...	--	--	--	--	--

e Required equipment not functional/available

05053000 WILD RICE RIVER NEAR ABERCROMBIE, ND

LOCATION.--Lat 46°28'05", long 96°47'00", in $NE^1/_4NE^1/_4$ sec.36, T.135 N., R.49 W., Richland County, Hydrologic Unit 09020105, on right bank 420 ft upstream from bridge on county highway, 0.75 mi upstream from rubble masonry dam which serves as control, 3.2 mi northwest of Abercrombie, and 7 mi downstream from Antelope Creek.

DRAINAGE AREA.--2,080 mi^2, of which about 590 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1932 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1388: 1939, 1941(M). WSP 1728: Drainage area.

GAGE.--Water-stage recorder and masonry control. Datum of gage is 907.94 ft above sea level. Prior to Dec. 7, 1939, nonrecording gage at site 420 ft downstream at datum 5.0 ft lower. Dec. 7, 1939, to Nov. 24, 1952, nonrecording gage at site 0.75 mi downstream at present datum.

REMARKS.--Records good except for those below 10 ft^3/s, which are fair, and those for estimated daily discharges, which are poor. Some regulation by Fish and Wildlife Service reservoirs, of which Lake Tewaukon is the largest. Some small diversions for irrigation.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in spring of 1897 reached a stage of 27.5 ft, present site and datum, from floodmarks pointed out by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	5.8	e6.4	e1.5	e1.0	e1.0	e9.0	902	92	120	42	3.6
2	4.8	7.8	e6.5	e1.4	e1.1	e1.0	e15	738	47	117	39	3.4
3	4.8	15	e6.6	e1.4	e1.1	e1.0	e40	625	38	108	37	3.1
4	4.7	19	e6.4	e1.4	e1.1	e1.0	e200	551	41	87	e35	2.8
5	4.7	22	e6.3	e1.4	e1.1	e1.0	e900	513	39	63	30	2.6
6	4.6	33	e6.0	e1.4	e1.1	e1.0	e1400	501	29	51	29	2.8
7	4.6	43	e5.8	e1.4	e1.1	e1.0	e3200	597	22	45	29	3.6
8	4.5	84	e5.6	e1.4	e1.1	e1.1	7590	776	23	41	27	3.1
9	5.1	58	e5.2	e1.4	e1.1	e1.2	9160	1030	34	39	28	2.8
10	4.8	37	e4.9	e1.4	e1.1	e1.2	9020	1060	45	36	26	2.4
11	3.6	e20	e4.7	e1.4	e1.1	e1.2	8040	940	99	32	23	2.0
12	3.1	e15	e4.4	e1.3	e1.1	e1.3	7400	827	211	30	20	1.7
13	3.1	e11	e4.0	e1.3	e1.1	e1.3	6830	723	209	26	18	1.3
14	4.0	e8.5	e3.8	e1.3	e1.1	e1.4	5450	646	179	22	17	1.4
15	4.6	e7.4	e3.6	e1.2	e1.1	e1.4	3920	578	202	24	16	1.4
16	5.0	e6.8	e3.4	e1.2	e1.1	e1.5	2950	503	201	25	15	1.2
17	4.9	e6.8	e3.2	e1.2	e1.1	e1.7	2490	449	307	26	14	1.1
18	5.2	e6.8	e3.0	e1.2	e1.1	e1.8	2180	417	416	80	13	.97
19	5.6	e6.7	e2.9	e1.2	e1.1	e1.9	2010	400	432	149	11	.94
20	6.1	e6.7	e2.8	e1.2	e1.1	e1.9	1980	387	312	207	10	1.1
21	6.2	e6.8	e2.8	e1.2	e1.1	e2.0	1800	378	273	307	9.3	1.4
22	6.2	e6.9	e2.7	e1.2	e1.1	e2.2	1630	366	252	419	9.0	1.5
23	6.2	e7.0	e2.6	e1.2	e1.1	e2.5	1510	355	234	e350	8.4	1.6
24	6.2	e6.6	e2.5	e1.2	e1.1	e2.8	1430	343	224	e300	7.3	1.4
25	6.5	e6.4	e2.4	e1.2	e1.1	e3.4	1520	328	200	e220	7.3	1.2
26	7.5	e6.3	e2.2	e1.2	e1.1	e4.0	1600	308	171	e125	8.4	3.2
27	7.6	e6.3	e2.0	e1.1	e1.0	e4.5	1660	297	151	e100	7.7	7.7
28	33	e6.2	e1.9	e1.1	e1.0	e5.0	1570	278	140	74	6.3	6.6
29	34	e6.2	e1.7	e1.0	---	e6.0	1380	236	133	60	5.3	4.8
30	17	e6.2	e1.6	e1.0	---	e7.0	1130	192	127	51	4.7	3.7
31	8.9	---	e1.5	e1.0	---	e7.5	---	133	---	48	4.1	---
TOTAL	231.9	485.2	119.4	39.0	30.5	72.8	90014.0	16377	4883	3382	556.8	76.41
MEAN	7.48	16.2	3.85	1.26	1.09	2.35	3000	528	163	109	18.0	2.55
MAX	34	84	6.6	1.5	1.1	7.5	9160	1060	432	419	42	7.7
MIN	3.1	5.8	1.5	1.0	1.0	1.0	9.0	133	22	22	4.1	.94
AC-FT	460	962	237	77	60	144	178500	32480	9690	6710	1100	152

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 2001, BY WATER YEAR (WY)

MEAN	12.9	9.50	6.74	2.70	6.39	171	523	162	116	139	32.1	18.6
MAX	146	111	188	72.8	210	1195	5510	1246	929	1787	462	438
(WY)	1999	1999	1999	1999	1998	1995	1997	1998	1962	1962	1993	1999
MIN	.000	.000	.000	.000	.000	.000	2.81	.11	.085	.000	.000	.000
(WY)	1933	1933	1933	1933	1934	1937	1991	1934	1988	1933	1932	1932

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1932 - 2001	
ANNUAL TOTAL	44128.5		116268.01			
ANNUAL MEAN	121		319		101	
HIGHEST ANNUAL MEAN					560	1997
LOWEST ANNUAL MEAN					.48	1934
HIGHEST DAILY MEAN	665	Jul 8	9160	Apr 9	9450	Apr 16 1997
LOWEST DAILY MEAN	1.5	Dec 31	.94	Sep 19	.00	Jul 26 1932
ANNUAL SEVEN-DAY MINIMUM	1.7	Sep 12	1.0	Feb 27	.00	Jul 26 1932
MAXIMUM PEAK FLOW			9320	Apr 9	9540	Apr 11 1969
MAXIMUM PEAK STAGE			25.20	Apr 9	a 26.59	Apr 6 1997
ANNUAL RUNOFF (AC-FT)	87530		230600		72830	
10 PERCENT EXCEEDS	337		608		190	
50 PERCENT EXCEEDS	32		6.6		2.6	
90 PERCENT EXCEEDS	3.6		1.1		.00	

a Backwater from ice
e Estimated

05053000 WILD RICE RIVER NEAR ABERCROMBIE, ND--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
11...	1655	3.6	--	--	--	1690	20.0	9.5	--	--	--	--	--
NOV													
16...	1125	6.7	--	--	--	1020	-2.5	1.0	--	--	--	--	--
JAN													
19...	0805	1.2	--	--	--	1960	-18.0	.5	--	--	--	--	--
MAR													
22...	1405	2.2	--	--	--	1740	.5	.5	--	--	--	--	--
APR													
18...	1250	2190	8.0	7.6	839	807	9.0	9.0	320	66.0	38.0	11.0	1.0
26...	1135	1600	--	--	--	1410	12.5	7.0	--	--	--	--	--
MAY													
08...	1320	809	--	--	--	527	11.5	6.0	--	--	--	--	--
JUN													
19...	1250	429	--	--	--	--	13.5	17.0	--	--	--	--	--
AUG													
08...	0940	28	--	--	--	1050	--	--	--	--	--	--	--

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
18...	40.0	21	174	17.0	.2	260	3320	561	537	4.0	30	2.00	100
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
11...	--	--	--	--	--
NOV					
16...	--	--	--	--	--
JAN					
19...	--	--	--	--	--
MAR					
22...	--	--	--	--	--
APR					
18...	110	<.10	2.0	3.0	300
26...	--	--	--	--	--
MAY					
08...	--	--	--	--	--
JUN					
19...	--	--	--	--	--
AUG					
08...	--	--	--	--	--

05054000 RED RIVER OF THE NORTH AT FARGO, ND

LOCATION.--Lat 46°51'40", long 96°47'00", in $NW^1/_4NE^1/_4$ sec.18, T.139 N., R.48 W., Cass County, Hydrologic Unit 09020104, at waterplant on 4th St. S. in Fargo, 25 mi upstream from mouth of Sheyenne River, and at mile 453.

DRAINAGE AREA.--6,800 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1901 to current year. Published as "at Moorhead, MN.", 1901. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1308: 1902-4, 1906-7, 1910-14, 1916, 1918, 1924. WSP 1388: 1905-6, 1917-20(M), 1935(M), 1938-39(M), 1943.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 861.8 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1960, to Sept. 30, 1962, water-stage recorder at present site at datum 5.6 ft higher. See WSP 1728 or 1913 for history of changes prior to Oct. 1, 1960.

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow regulated by; Orwell Reservoir, flood storage capacity, 13,300 acre-ft at elevation 1,070 ft above mean sea level, adjustment of 1912; Mud Lake, flood storage capacity, 78,600 acre-ft at elevation 981 ft above mean sea level, adjustment of 1912; Lake Traverse, flood storage capacity, 75,100 acre-ft at elevation 981 ft above mean sea level, adjustment of 1912; and numerous other controlled lakes and ponds and several powerplants. Figures of daily discharge do not include diversions to cities of Fargo and Moorhead, MN, from the Sheyenne River.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 7, 1897, reached a stage of 39.1 ft present datum, discharge, 25,000 ft^3/s at site 1.5 mi downstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	579	729	e830	e700	e700	e690	1330	7670	e3050	2910	1760	482
2	604	855	e880	e690	e700	e700	1910	7290	e3100	2880	1680	442
3	532	716	e900	e690	e700	e720	2740	6880	e3100	2870	1640	519
4	500	584	e900	e690	e700	e740	3170	6530	e3100	2850	1600	585
5	494	495	e880	e690	e700	e770	3670	6180	e3040	2820	1560	596
6	484	608	e850	e690	e690	e810	4540	5870	e3000	2760	1490	622
7	477	1620	e820	e690	e690	e890	6400	5530	e2900	2690	1420	654
8	471	2130	e770	e690	e680	e1000	8460	5220	e2900	2620	1400	627
9	451	1450	e720	e690	e680	e1150	9950	5020	e2900	2540	1330	627
10	426	1070	e690	e690	e670	1420	11800	4810	e2900	2470	1150	631
11	416	981	e650	e700	e660	1520	14500	4530	e2950	2440	1050	630
12	410	984	e600	e710	e660	1560	17600	4120	e3130	2400	975	627
13	433	951	e560	e740	e670	1580	19800	3750	3450	2390	913	614
14	500	898	e570	e770	e680	1580	20200	3520	3780	2390	852	624
15	459	857	e590	e800	e680	1540	19500	3350	4010	2400	931	618
16	429	761	e610	e800	e680	1500	18300	3220	3840	2390	718	616
17	396	614	e630	e780	e680	1460	17400	3130	3580	2410	480	615
18	379	701	e650	e770	e680	1400	16200	3080	3550	2430	315	601
19	367	754	e680	e760	e680	1340	14300	3070	3850	2490	293	588
20	365	748	e730	e740	e680	1320	12600	3060	4140	2630	568	624
21	364	700	e790	e720	e680	1290	11400	3050	4270	2840	840	634
22	324	561	e900	e710	e680	1250	10500	3030	4060	2880	886	638
23	297	469	e920	e700	e670	1230	9890	3030	3800	2910	886	620
24	306	561	e880	e700	e670	1240	9420	3010	3610	2820	789	585
25	353	e600	e840	e690	e670	1280	9040	3010	3440	2660	677	571
26	411	e670	e810	e690	e670	1330	8690	3010	3270	2330	689	566
27	338	e710	e780	e690	e670	1310	8430	3040	3130	1990	678	559
28	255	e750	e750	e690	e680	1280	8310	3020	3040	1750	656	524
29	264	e770	e730	e700	---	1260	8180	3030	2980	1520	653	461
30	278	e800	e720	e700	---	1210	7970	3030	2950	1550	612	405
31	411	---	e710	e700	---	1240	---	e3030	---	1770	538	---
TOTAL	12773	25097	23340	22170	19050	37610	316200	129120	100820	76800	30029	17505
MEAN	412	837	753	715	680	1213	10540	4165	3361	2477	969	584
MAX	604	2130	920	800	700	1580	20200	7670	4270	2910	1760	654
MIN	255	469	560	690	660	690	1330	3010	2900	1520	293	405
AC-FT	25340	49780	46290	43970	37790	74600	627200	256100	200000	152300	59560	34720

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
+	1280	1150	1240	1210	1140	538	311	1230	1310	1660	1560	1380
*	26620	50930	47530	45180	38930	75140	627500	257300	201300	154000	61120	36100

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1901 - 2001, BY WATER YEAR (WY)

MEAN	332	293	248	225	237	788	2021	1164	1096	922	444	341
MAX	1741	942	1261	740	1353	4722	17920	5365	5122	5692	3293	2280
(WY)	1994	1907	1999	1986	1998	1995	1997	1997	1962	1962	1993	1993
MIN	.000	.000	.000	.000	.18	26.8	102	8.12	2.87	.000	.000	.000
(WY)	1935	1937	1938	1933	1933	1937	1934	1934	1936	1934	1932	1934

05054000 RED RIVER OF THE NORTH AT FARGO, ND--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1901 - 2001	
ANNUAL TOTAL	392696		810514			
ANNUAL MEAN	1073 *(1096)		2221 *(2239)		677	
HIGHEST ANNUAL MEAN					2619	1997
LOWEST ANNUAL MEAN					17.5	1934
HIGHEST DAILY MEAN	5220	Jun 20	20200	Apr 14	27800	Apr 17 1997
LOWEST DAILY MEAN	237	Sep 29	255	Oct 28	.00	Jul 25 1932
ANNUAL SEVEN-DAY MINIMUM	315	Oct 24	315	Oct 24	.00	Jul 25 1932
MAXIMUM PEAK FLOW			20300	Apr 14	a 28000	Apr 17 1997
MAXIMUM PEAK STAGE			36.69	Apr 14	39.72	Apr 18 1997
ANNUAL RUNOFF (AC-FT)	778900 *(794000)		1608000 *(1622000)		490600	
10 PERCENT EXCEEDS	1910		4370		1520	
50 PERCENT EXCEEDS	852		840		330	
90 PERCENT EXCEEDS	410		500		42	

a Gage height, 22.20 ft
\+ Diversions in acre-ft to cities of Fargo and Moorhead
* Adjusted for diversions to cities of Fargo and Moorhead
e Estimated

05054000 RED RIVER OF THE NORTH AT FARGO, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1956 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: September 1998 to current year.

SPECIFIC CONDUCTANCE: September 1998 to current year.

INSTRUMENTATION.--Water-quality sensors since September 1998.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 30.1°C, Aug. 6-7, 2001; minimum recorded, -0.1°C on many days.

SPECIFIC CONDUCTANCE: Maximum recorded, 1,330 microsiemens, July 19, 2001; minimum recorded, 315 microsiemens, June 20 and 22, 2000.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maxmimum recorded, 30.1°C, Aug. 6-7; minimum recorded, 0.2°C on many days.

SPECIFIC CONDUCTANCE: Maximum recorded, 1,330 microsiemens, July 19; minimum recorded, 453 microsiemens, Oct. 14.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
OCT													
04...	0830	--	485	--	--	--	--	--	--	594	9.0	11.5	--
NOV													
15...	1205	--	826	--	--	--	--	--	--	805	-2.5	1.5	--
MAR													
29...	1030	--	1280	--	--	--	--	--	--	609	2.5	2.0	--
APR													
10...	0800	--	11800	--	--	--	--	--	--	497	--	2.3	--
19...	1510	--	14300	--	--	--	8.1	--e	488	471	11.5	7.0	190
27...	1220	--	8540	--	--	--	--	--	--	749	11.5	7.0	--
MAY													
01...	1200	7670	--	726	82	7.9	7.8	7.6	626	621	19.0	14.9	290
03...	0735	--	6930	--	--	--	--	--	--	697	12.0	6.5	--
JUN													
22...	0820	--	4080	--	--	--	--	--	--	670	18.0	20.0	--
JUL													
25...	0950	2400	--	742	74	5.8	7.8	7.0	662	649	25.0	26.5	330
AUG													
02...	0730	--	1650	--	--	--	--	--	--	1150	21.0	27.0	--
29...	1340	653	--	732	--	--	8.2	--e	602	565	--	24.3	230

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
OCT													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
19...	44.0	20.0	6.00	.5	16.0	15	124	7.6	.2	110	11900	307	279
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
01...	61.7	32.4	7.60	.5	19.1	12	140	10.3	--	176	8100	--	393
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
25...	65.7	40.7	7.00	.5	20.1	11	161	10.7	--	157	2580	--	400
AUG													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
29...	43.0	30.0	20.0	.9	30.0	20	201	29.0	.2	49.0	659	374	322

05054000 RED RIVER OF THE NORTH AT FARGO, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TURBIDITY FIELD WATER UNFLTRD (NTU) (61028)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	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)	MANGAN-ESE TOTAL RECOVER- ABLE (UG/L) (01123)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
OCT													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	4.0	70	--	2.00	100	30.0	--	<.10	2.0	3.0	180	--
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
01...	--	--	--	2160	--	--	--	80	--	--	--	--	138
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
25...	270	--	--	M	--	--	--	M	--	--	--	--	278
AUG													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
29...	93	6.0	40	--	2.00	100	20.0	--	<.10	3.0	3.0	150	--

DATE	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT		
04...	--	--
NOV		
15...	--	--
MAR		
29...	--	--
APR		
10...	--	--
19...	--	--
27...	--	--
MAY		
01...	2860	100
03...	--	--
JUN		
22...	--	--
JUL		
25...	1800	100
AUG		
02...	--	--
29...	--	--

M Presence verified, not quantified
e Required equipment not functional/available

05054000 RED RIVER OF THE NORTH AT FARGO, ND--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	14.1	13.6	13.7	12.2	11.3	11.7	.3	.3	.3	.3	.3	.3
2	14.3	13.5	13.9	11.9	10.8	11.5	.3	.3	.3	.3	.3	.3
3	14.1	13.5	13.9	10.8	9.4	10.0	.3	.3	.3	.3	.3	.3
4	13.6	13.0	13.3	9.4	8.7	8.9	.3	.3	.3	.3	.2	.3
5	13.3	12.3	12.9	8.7	8.1	8.3	.3	.3	.3	.3	.2	.3
6	12.3	11.1	11.6	8.5	8.4	8.5	.3	.3	.3	.3	.2	.3
7	11.1	10.1	10.6	8.5	7.6	8.3	.3	.3	.3	.3	.2	.3
8	10.1	9.2	9.6	7.6	4.9	6.2	.3	.3	.3	.3	.2	.3
9	9.4	8.6	9.0	4.9	3.6	4.1	.3	.3	.3	.3	.2	.3
10	9.0	8.2	8.6	3.6	3.3	3.4	.3	.3	.3	.3	.2	.3
11	8.9	8.2	8.6	3.3	3.1	3.2	.3	.3	.3	.3	.2	.3
12	8.9	8.6	8.8	3.1	2.8	2.9	.3	.3	.3	.3	.2	.3
13	9.4	8.8	9.1	2.9	2.0	2.5	.3	.3	.3	.3	.2	.3
14	9.5	9.0	9.2	2.0	1.2	1.6	.3	.3	.3	.3	.2	.2
15	9.5	9.0	9.2	1.2	.6	.9	.3	.3	.3	.3	.2	.3
16	9.9	9.1	9.5	.6	.4	.4	.3	.3	.3	.3	.2	.3
17	10.2	9.8	9.9	.5	.3	.4	.3	.3	.3	.3	.2	.2
18	10.7	9.7	10.2	.5	.4	.4	.3	.3	.3	.3	.2	.2
19	11.2	10.4	10.8	.4	.4	.4	.3	.3	.3	.3	.2	.2
20	11.5	10.8	11.1	.4	.3	.3	.3	.3	.3	.3	.2	.2
21	11.2	10.7	11.0	.4	.3	.4	.3	.3	.3	.3	.2	.2
22	11.4	10.7	11.1	.4	.3	.4	.3	.3	.3	.3	.2	.2
23	11.6	11.0	11.2	.5	.4	.4	.3	.3	.3	.3	.2	.2
24	11.5	11.0	11.3	.5	.4	.4	.3	.3	.3	.3	.2	.2
25	12.4	11.4	12.0	.4	.3	.4	.3	.3	.3	.2	.2	.2
26	12.6	12.3	12.5	.4	.3	.4	.3	.3	.3	.3	.2	.2
27	12.3	11.5	11.9	.4	.3	.3	.3	.3	.3	.3	.2	.2
28	11.5	11.2	11.3	.4	.3	.3	.3	.3	.3	.2	.2	.2
29	11.2	10.9	11.0	.3	.3	.3	.3	.3	.3	.2	.2	.2
30	11.1	11.0	11.1	.3	.3	.3	.3	.3	.3	.2	.2	.2
31	11.4	11.1	11.2	---	---	---	.3	.3	.3	.2	.2	.2
MONTH	14.3	8.2	10.9	12.2	.3	3.2	.3	.3	.3	.3	.2	.2

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	.2	.2	.2	.2	.2	.2	---	---	---	16.1	15.5	15.7
2	.2	.2	.2	.2	.2	.2	---	---	---	16.6	15.9	16.2
3	.2	.2	.2	.2	.2	.2	---	---	---	16.9	16.4	16.6
4	.2	.2	.2	.2	.2	.2	---	---	---	17.3	16.5	16.8
5	.2	.2	.2	.2	.2	.2	---	---	---	17.0	15.5	16.2
6	.2	.2	.2	.2	.2	.2	---	---	---	15.5	15.2	15.4
7	.2	.2	.2	.2	.2	.2	---	---	---	15.2	14.3	14.7
8	.2	.2	.2	.2	.2	.2	---	---	---	14.6	13.9	14.2
9	.2	.2	.2	---	---	---	---	---	---	14.7	13.6	14.1
10	.2	.2	.2	---	---	---	---	---	---	15.1	14.3	14.7
11	.2	.2	.2	---	---	---	---	---	---	15.5	14.5	15.0
12	.2	.2	.2	---	---	---	---	---	---	16.2	15.4	15.7
13	.2	.2	.2	---	---	---	---	---	---	17.0	16.0	16.4
14	.2	.2	.2	---	---	---	---	---	---	18.0	16.8	17.4
15	.2	.2	.2	---	---	---	---	---	---	19.2	17.9	18.6
16	.2	.2	.2	---	---	---	---	---	---	19.7	19.0	19.4
17	.2	.2	.2	---	---	---	---	---	---	20.3	19.6	19.9
18	.2	.2	.2	---	---	---	---	---	---	20.5	19.9	20.2
19	.2	.2	.2	---	---	---	---	---	---	20.9	20.2	20.5
20	.2	.2	.2	---	---	---	---	---	---	20.8	19.8	20.4
21	.2	.2	.2	---	---	---	---	---	---	19.8	18.4	19.1
22	.2	.2	.2	---	---	---	---	---	---	18.4	16.6	17.6
23	.2	.2	.2	---	---	---	---	---	---	16.6	14.7	15.6
24	.2	.2	.2	---	---	---	---	---	---	14.7	14.2	14.4
25	.2	.2	.2	---	---	---	---	---	---	14.7	14.0	14.4
26	.2	.2	.2	---	---	---	---	---	---	15.2	14.3	14.7
27	.2	.2	.2	---	---	---	---	---	---	15.7	15.1	15.4
28	.2	.2	.2	---	---	---	12.3	10.2	11.0	16.7	15.6	16.1
29	---	---	---	---	---	---	14.4	12.3	13.3	17.5	16.6	17.0
30	---	---	---	---	---	---	15.6	14.4	14.9	17.9	17.2	17.5
31	---	---	---	---	---	---	---	---	---	18.9	17.9	18.4
MONTH	.2	.2	.2	.2	.2	.2	15.6	10.2	13.1	20.9	13.6	16.7

05054000 RED RIVER OF THE NORTH AT FARGO, ND--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	19.1	18.5	18.9	26.1	25.3	25.6	27.2	26.1	26.6	22.9	22.0	22.5
2	19.1	18.4	18.7	25.4	24.5	24.8	27.4	26.2	26.8	22.7	21.8	22.2
3	18.8	18.5	18.7	24.5	24.2	24.4	28.3	26.9	27.6	22.6	21.8	22.2
4	18.7	18.3	18.5	24.2	23.7	23.9	29.3	27.9	28.5	22.4	21.6	22.1
5	18.6	17.9	18.2	24.0	23.5	23.7	29.3	28.5	28.9	23.1	21.8	22.4
6	---	---	---	24.4	23.6	24.0	29.6	28.6	29.2	23.4	22.3	22.7
7	---	---	---	24.9	24.1	24.4	30.1	29.1	29.6	22.8	21.8	22.4
8	---	---	---	25.5	24.6	25.0	30.1	29.6	29.9	21.9	21.3	21.6
9	19.7	18.8	19.2	26.4	25.4	25.9	29.7	28.3	28.7	21.5	20.9	21.2
10	21.4	19.7	20.5	26.9	26.2	26.5	28.3	27.6	27.9	20.9	20.4	20.6
11	21.7	21.0	21.4	26.6	26.0	26.4	27.6	26.6	27.1	20.8	20.1	20.4
12	22.4	21.6	21.9	26.6	25.9	26.2	27.2	25.9	26.5	20.4	19.8	20.2
13	22.5	22.0	22.2	26.6	25.9	26.3	25.9	25.0	25.5	19.8	18.8	19.3
14	22.3	21.3	21.7	26.7	26.1	26.4	25.3	24.4	24.9	18.8	17.7	18.4
15	21.5	20.9	21.2	26.8	26.4	26.5	24.8	23.8	24.2	17.7	17.2	17.5
16	21.1	20.5	20.8	26.6	26.3	26.4	24.3	23.4	23.8	17.2	16.7	17.1
17	20.8	20.5	20.7	27.2	26.2	26.6	24.2	23.5	23.9	16.9	16.7	16.8
18	20.8	20.1	20.5	27.3	26.5	26.9	23.9	23.2	23.4	16.9	16.6	16.7
19	20.4	19.7	20.0	27.8	26.7	27.2	23.3	22.8	23.0	17.2	16.5	16.8
20	20.5	19.7	20.0	28.0	27.2	27.6	23.9	22.7	23.2	16.9	16.2	16.5
21	21.0	20.0	20.5	28.5	27.6	28.1	24.0	23.1	23.5	16.6	15.9	16.2
22	21.3	20.6	21.0	28.5	28.1	28.3	24.4	23.4	23.9	16.5	16.0	16.3
23	21.5	20.9	21.2	28.6	27.9	28.3	24.6	23.5	24.0	16.1	15.7	15.9
24	22.5	21.5	21.9	28.1	27.3	27.7	25.2	23.8	24.5	15.8	15.1	15.5
25	23.5	22.4	22.9	27.4	26.9	27.1	25.4	24.4	24.9	15.7	15.0	15.3
26	24.4	23.5	23.9	26.9	26.0	26.4	25.3	24.5	25.0	15.5	14.6	15.0
27	25.3	24.1	24.6	26.0	24.7	25.3	25.0	24.5	24.8	15.6	14.5	14.9
28	26.1	25.2	25.6	24.7	24.0	24.4	25.0	24.2	24.6	15.6	14.6	15.0
29	26.9	26.1	26.4	24.9	23.9	24.4	24.8	24.2	24.4	15.6	14.4	15.0
30	26.7	26.1	26.5	25.5	24.6	25.0	24.2	23.4	23.7	15.5	14.8	15.2
31	---	---	---	26.6	25.3	25.9	23.4	22.8	23.1	---	---	---
MONTH	26.9	17.9	21.4	28.6	23.5	26.0	30.1	22.7	25.7	23.4	14.4	18.5

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	553	483	513	626	507	578	563	551	555	565	560	562
2	505	485	494	548	483	518	560	549	554	561	558	559
3	525	489	500	621	531	580	560	524	543	567	558	561
4	596	525	565	662	621	648	524	512	518	568	563	565
5	543	477	497	680	662	673	521	512	515	605	538	556
6	513	474	481	671	594	643	534	521	526	548	539	545
7	474	471	472	596	525	564	560	532	537	547	533	538
8	489	473	482	596	527	556	568	560	565	554	531	540
9	493	489	490	589	509	541	669	565	607	559	547	550
10	496	490	494	614	553	591	645	573	594	562	559	560
11	498	491	495	654	607	630	632	573	594	560	514	551
12	515	485	491	695	654	666	661	602	637	514	508	510
13	487	473	478	757	682	713	602	597	600	508	505	506
14	501	453	476	778	757	769	613	602	608	507	503	504
15	571	489	524	765	735	746	627	610	616	503	501	503
16	530	519	523	763	707	724	644	624	631	525	496	502
17	523	500	519	719	709	713	689	606	634	498	496	497
18	581	511	523	735	714	719	693	576	620	500	497	499
19	629	581	619	736	688	713	576	566	571	541	497	521
20	627	622	625	705	686	694	566	558	560	526	524	525
21	627	605	617	721	686	714	558	549	554	529	524	527
22	606	598	603	746	719	726	549	545	548	547	527	537
23	600	593	596	738	724	732	550	544	547	563	546	554
24	602	596	599	736	709	728	550	534	543	564	556	560
25	603	592	599	710	680	695	535	531	532	572	564	568
26	616	554	593	701	645	666	556	530	535	582	568	576
27	562	523	544	837	645	728	542	530	535	574	545	560
28	623	524	560	735	569	613	543	541	541	574	543	549
29	616	545	582	576	566	572	544	540	541	552	541	545
30	590	545	572	575	558	565	540	537	539	560	546	553
31	622	562	579	---	---	---	580	535	552	557	549	553
MONTH	629	453	539	837	483	657	693	512	566	605	496	540

05054000 RED RIVER OF THE NORTH AT FARGO, ND--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	553	545	548	530	516	523	---	---	---	620	607	614
2	558	549	554	534	518	524	---	---	---	628	620	625
3	555	546	550	547	521	532	---	---	---	633	628	631
4	553	529	547	547	521	531	---	---	---	655	633	643
5	529	523	526	540	521	529	---	---	---	679	655	668
6	528	524	526	557	522	531	---	---	---	702	679	691
7	545	525	533	537	522	527	---	---	---	725	702	716
8	540	525	529	544	519	537	---	---	---	743	725	737
9	527	522	525	---	---	---	---	---	---	763	743	752
10	527	524	526	---	---	---	---	---	---	802	761	780
11	550	523	529	---	---	---	---	---	---	799	769	785
12	551	524	535	---	---	---	---	---	---	793	769	782
13	551	534	539	---	---	---	---	---	---	796	792	794
14	537	517	522	---	---	---	---	---	---	814	795	805
15	538	520	528	---	---	---	---	---	---	808	799	805
16	534	518	521	---	---	---	---	---	---	799	769	786
17	518	512	516	---	---	---	---	---	---	769	749	757
18	518	513	516	---	---	---	---	---	---	766	749	754
19	521	513	517	---	---	---	---	---	---	777	764	770
20	532	518	523	---	---	---	---	---	---	781	770	777
21	539	522	530	---	---	---	---	---	---	782	766	774
22	537	517	525	---	---	---	---	---	---	782	749	769
23	532	518	525	---	---	---	---	---	---	777	759	766
24	528	516	521	---	---	---	---	---	---	780	757	764
25	524	511	516	---	---	---	---	---	---	784	776	781
26	526	515	519	---	---	---	---	---	---	784	780	782
27	550	516	526	---	---	---	---	---	---	785	765	780
28	524	514	519	---	---	---	624	604	617	786	783	784
29	---	---	---	---	---	---	623	611	617	791	782	786
30	---	---	---	---	---	---	611	602	605	790	778	786
31	---	---	---	---	---	---	---	---	---	790	759	781
MONTH	558	511	528	557	516	529	624	602	613	814	607	749

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	776	757	767	738	733	735	1100	1090	1090	828	810	820
2	757	712	735	852	736	793	1090	1060	1080	836	828	833
3	715	708	711	859	827	844	1060	1040	1050	837	835	836
4	710	701	707	872	829	858	1040	1010	1030	835	829	832
5	731	701	715	829	791	798	1010	984	998	829	819	824
6	---	---	---	799	793	797	984	956	970	819	807	812
7	---	---	---	815	792	802	---	---	---	807	797	802
8	---	---	---	821	803	814	1020	948	992	797	786	792
9	727	704	714	---	---	---	1070	1020	1040	786	772	779
10	736	719	729	---	---	---	1110	1070	1090	773	760	768
11	781	705	736	---	---	---	1120	1110	1110	760	743	751
12	751	726	737	817	772	794	1130	1120	1130	743	728	735
13	753	723	742	860	817	842	1130	1110	1120	---	---	---
14	753	695	738	1020	858	909	1110	1080	1090	---	---	---
15	695	680	684	1170	1020	1110	1080	1050	1060	---	---	---
16	682	660	671	1250	1170	1210	1050	1020	1030	---	---	---
17	701	679	692	1300	1250	1270	1020	977	996	---	---	---
18	730	691	708	1320	1300	1310	977	940	958	---	---	---
19	727	628	701	1330	1320	1320	940	901	920	---	---	---
20	633	590	610	1320	1300	1320	901	868	884	---	---	---
21	639	629	634	1300	1270	1290	868	834	852	---	---	---
22	666	632	648	1270	1250	1260	834	806	820	---	---	---
23	683	666	674	1250	1240	1250	806	778	792	---	---	---
24	709	681	696	1240	1220	1230	778	747	763	---	---	---
25	725	709	716	1220	1200	1210	---	---	---	---	---	---
26	738	724	730	1200	1180	1190	---	---	---	---	---	---
27	737	732	734	1180	1160	1170	---	---	---	---	---	---
28	737	726	733	1160	1150	1160	---	---	---	---	---	---
29	736	726	733	1150	1130	1140	---	---	---	---	---	---
30	742	731	734	1130	1120	1120	---	---	---	---	---	---
31	---	---	---	1120	1100	1110	810	771	793	---	---	---
MONTH	781	590	708	1330	733	1060	1130	747	986	837	728	799

05054500 SHEYENNE RIVER ABOVE HARVEY, ND

LOCATION.--Lat 47°42'10", long 99°56'55", in $SW^1/_4SE^1/_4$ sec.24, T.149 N., R.73 W., Wells County, Hydrologic Unit 09020202, on right bank just downstream from county road, and 4.5 mi south of Harvey.

DRAINAGE AREA.--424 mi^2, of which about 270 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.- October 1955 to current year.

REVISED RECORDS.--WSP 1728: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,547.30 ft above sea level.

REMARKS.--Records fair except for periods of estimated discharge, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	e13	e14	e2.5	e2.7	e2.5	296	61	20	69	38	3.3
2	10	e14	e14	e2.5	e2.6	e2.5	198	58	20	67	35	2.9
3	9.5	15	e13	e2.6	e2.6	e2.6	165	56	19	63	31	2.6
4	8.9	15	e13	e2.6	e2.5	e2.7	152	53	18	60	26	2.6
5	8.9	15	e13	e2.7	e2.4	e2.8	138	49	17	57	21	2.5
6	8.5	14	e12	e2.9	e2.4	e3.0	138	53	17	56	17	2.4
7	8.1	20	e12	e2.9	e2.4	e3.1	158	55	16	52	15	2.7
8	7.8	40	e12	e3.0	e2.4	e3.3	164	57	15	46	13	2.6
9	7.8	34	e12	e3.0	e2.4	e3.5	157	55	14	41	11	2.6
10	7.4	26	e11	e3.0	e2.4	e3.8	151	49	15	37	10	e2.5
11	7.1	23	e11	e3.0	e2.4	e4.0	158	45	16	34	9.8	e2.4
12	7.0	21	e10	e3.0	e2.4	e4.3	173	42	17	35	8.9	e2.5
13	7.1	e21	e9.1	e3.0	e2.4	e4.9	170	38	25	34	8.4	e2.8
14	9.2	e20	e7.5	e3.0	e2.4	e5.8	157	36	32	32	7.9	e3.0
15	9.0	e19	e6.1	e3.0	e2.4	e7.9	148	33	39	32	7.6	e3.2
16	9.2	e18	e5.0	e3.0	e2.4	e10	138	32	45	38	6.7	e3.5
17	9.0	e18	e4.3	e3.0	e2.4	e15	128	33	58	37	6.9	e3.9
18	8.7	e18	e3.8	e3.0	e2.4	e32	119	34	70	38	6.3	e4.3
19	8.5	e17	e3.5	e3.0	e2.4	e107	113	33	75	37	5.8	e4.7
20	8.0	e17	e3.3	e3.0	e2.4	e209	112	32	78	35	5.7	e3.8
21	7.5	e16	e3.1	e3.0	e2.4	e300	110	28	84	51	5.4	e3.2
22	7.6	e16	e3.0	e3.0	e2.4	e350	108	28	94	52	5.1	3.1
23	7.4	e15	e2.9	e3.0	e2.4	e500	102	27	113	53	5.0	3.0
24	7.3	e15	e2.8	e3.0	e2.4	e900	95	27	102	54	4.7	3.0
25	e7.3	e15	e2.7	e2.9	e2.4	e700	89	26	95	54	4.7	3.1
26	e8.5	e16	e2.6	e2.9	e2.4	e800	82	24	88	51	4.3	3.1
27	e8.5	e15	e2.6	e2.8	e2.4	e680	78	22	84	52	4.0	3.0
28	e9.3	e15	e2.5	e2.8	e2.4	563	74	21	81	47	3.8	2.7
29	e10	e15	e2.5	e2.8	---	457	69	20	76	43	3.6	2.8
30	e11	e14	e2.5	e2.7	---	374	62	21	72	42	3.5	2.7
31	e12	---	e2.5	e2.7	---	369	---	21	---	41	3.3	---
TOTAL	267.1	550	219.3	89.3	68.0	6422.7	4002	1169	1515	1440	338.4	90.5
MEAN	8.62	18.3	7.07	2.88	2.43	207	133	37.7	50.5	46.5	10.9	3.02
MAX	12	40	14	3.0	2.7	900	296	61	113	69	38	4.7
MIN	7.0	13	2.5	2.5	2.4	2.5	62	20	14	32	3.3	2.4
AC-FT	530	1090	435	177	135	12740	7940	2320	3010	2860	671	180

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2001, BY WATER YEAR (WY)

MEAN	3.65	3.84	1.97	.95	3.14	36.0	44.5	21.1	11.5	9.73	4.59	3.10
MAX	34.5	39.0	21.2	6.73	26.8	207	324	117	77.3	67.4	59.4	48.4
(WY)	1995	1995	1995	2000	1983	2001	1997	1995	2000	2000	1999	1999
MIN	.43	.26	.034	.000	.000	.000	2.13	1.59	.30	.071	.000	.061
(WY)	1991	1977	1996	1959	1956	1969	1991	1977	1961	1961	1959	1976

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1956 - 2001	
ANNUAL TOTAL	10078.3		16171.3			
ANNUAL MEAN	27.5		44.3		12.0	
HIGHEST ANNUAL MEAN					44.3	2001
LOWEST ANNUAL MEAN					.76	1961
HIGHEST DAILY MEAN	149	Jun 18	900	Mar 24	900	Mar 24 2001
LOWEST DAILY MEAN	2.5	Dec 28	2.4	Feb 5	.00	Jan 21 1956
ANNUAL SEVEN-DAY MINIMUM	2.6	Dec 25	2.4	Feb 5	.00	Jan 21 1956
MAXIMUM PEAK FLOW			a 900	Mar 24	1000	Apr 20 1979
MAXIMUM PEAK STAGE			b 10.02	Mar 24	b 10.76	Apr 6 1997
INSTANTANEOUS LOW FLOW					.00	Jan 21 1956
ANNUAL RUNOFF (AC-FT)	19990		32080		8720	
10 PERCENT EXCEEDS	58		104		29	
50 PERCENT EXCEEDS	18		12		1.9	
90 PERCENT EXCEEDS	6.5		2.5		.00	

a About
b Backwater from ice
e Estimated

05054500 SHEYENNE RIVER ABOVE HARVEY, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
11...	1340	7.2	--	--	--	1380	19.5	10.0	--	--	--	--	--
NOV													
14...	1410	20	--	--	--	1590	<-5.0	.5	--	--	--	--	--
DEC													
11...	1155	11	--	--	--	280	<-5.0	-0.5	--	--	--	--	--
MAR													
20...	1605	215	8.6	--e	547	507	7.0	4.5	160	28.0	22.0	12.0	2
APR													
03...	1000	168	--	--	--	973	1.5	1.5	--	--	--	--	--
JUN													
12...	1140	17	--	--	--	1350	17.5	18.5	--	--	--	--	--
JUL													
23...	1045	54	8.1	--e	1620	1580	23.0	24.3	470	67.0	74.0	19.0	4
SEP													
21...	1155	3.2	--	--	--	1330	16.5	16.0	--	--	--	--	--

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
20...	48.0	37	147	5.6	.1	100	205	353	305	3.0	370	1.00	30.0
APR													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
23...	200	47	458	19.0	.2	460	173	1180	1110	10.0	100	2.00	110
SEP													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
11...	--	--	--	--	--
NOV					
14...	--	--	--	--	--
DEC					
11...	--	--	--	--	--
MAR					
20...	180	<.10	<1.0	<1.0	170
APR					
03...	--	--	--	--	--
JUN					
12...	--	--	--	--	--
JUL					
23...	110	.60	2.0	3.0	440
SEP					
21...	--	--	--	--	--

e Required equipment not functional/available

05056000 SHEYENNE RIVER NEAR WARWICK, ND

LOCATION.--Lat 47°48'20", long 98°42'57", on south quarter of line between secs.15 and 16, T.150 N., R.63 W., Eddy County, Hydrologic Unit 09020203, on left bank on downstream side of county highway bridge, and 3.3 mi south of Warwick.

DRAINAGE AREA.--2,070 mi^2, approximately, of which about 1,310 mi^2 is probably noncontributing, including 227 mi^2 in closed basins.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1949 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1438: 1952(M). WSP 1728: Drainage area.

GAGE.--Water-stage recorder and rubble masonry control. Datum of gage is 1,376.34 ft above sea level (GPS survey by North Dakota State Water Commission).

REMARKS.--Records good except for periods of estimated discharge, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	112	180	154	e55	e55	e41	e960	463	147	227	407	e67
2	104	187	151	e56	e54	e41	e1150	432	143	198	365	e64
3	99	211	148	e57	e51	e41	e1400	406	135	176	296	e62
4	99	237	149	e56	e50	e41	e1650	375	129	161	251	e66
5	98	251	146	e56	e49	e42	e1740	357	126	143	222	e62
6	95	279	e130	e55	e48	e42	e1790	364	133	126	204	e55
7	101	342	e129	e54	e48	e42	e1850	405	141	116	182	e59
8	96	343	e128	54	e48	e42	1870	429	144	109	163	e60
9	92	266	e124	54	e48	e42	1750	395	129	102	147	e59
10	92	280	e119	56	e48	e43	1640	377	114	93	134	63
11	91	279	e117	56	e47	e43	1540	358	113	88	122	44
12	88	285	e110	56	e46	e44	1420	335	114	83	117	44
13	90	297	e101	55	e46	e45	1310	312	132	80	115	43
14	124	261	e94	55	e45	e46	1220	288	168	76	114	43
15	197	301	e89	54	e45	e48	1140	265	212	75	126	43
16	228	278	e84	54	e44	e50	1070	255	253	81	128	44
17	216	252	e81	54	e44	e54	992	247	279	83	110	45
18	196	252	e76	54	e43	e61	909	237	303	94	96	45
19	181	233	e72	e54	e42	e72	847	221	372	106	82	44
20	167	217	e69	e54	e42	e92	789	208	455	137	e77	53
21	161	211	e65	54	e41	e118	755	206	514	194	e80	55
22	146	197	e62	54	e41	e148	723	200	506	239	e74	57
23	135	184	e60	54	e41	e190	688	184	477	289	68	53
24	134	177	57	56	e41	e206	658	173	452	361	64	48
25	132	174	56	58	e41	e218	626	174	424	431	63	51
26	143	167	54	58	e41	e227	599	171	392	440	65	51
27	165	164	54	57	e41	e240	572	162	360	461	63	49
28	157	162	e54	56	e41	e260	535	153	316	476	61	47
29	154	159	e54	56	---	e283	502	147	289	418	63	46
30	161	158	e54	55	---	e350	485	145	261	354	65	41
31	170	---	e54	54	---	e580	---	148	---	349	68	---
TOTAL	4224	6984	2895	1711	1271	3792	33180	8592	7733	6366	4192	1563
MEAN	136	233	93.4	55.2	45.4	122	1106	277	258	205	135	52.1
MAX	228	343	154	58	55	580	1870	463	514	476	407	67
MIN	88	158	54	54	41	41	485	145	113	75	61	41
AC-FT	8380	13850	5740	3390	2520	7520	65810	17040	15340	12630	8310	3100

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2001, BY WATER YEAR (WY)

MEAN	17.0	17.6	10.2	6.63	11.7	135	350	123	66.8	56.3	32.3	17.3
MAX	136	233	93.4	55.2	154	793	1794	854	326	441	423	154
(WY)	2001	2001	2001	2001	1981	1983	1997	1950	1954	2000	1993	2000
MIN	1.16	1.28	.76	.47	.75	1.46	15.8	10.4	1.75	.36	.090	.71
(WY)	1953	1961	1961	1990	1990	1964	1977	1990	1961	1989	1961	1961

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1950 - 2001	
ANNUAL TOTAL	57882		82503			
ANNUAL MEAN	158		226		70.3	
HIGHEST ANNUAL MEAN					226	2001
LOWEST ANNUAL MEAN					5.31	1977
HIGHEST DAILY MEAN	1030	Jul 14	1870	Apr 8	4370	Apr 14 1969
LOWEST DAILY MEAN	14	Jan 22	41	Feb 21	.00	Aug 7 1961
ANNUAL SEVEN-DAY MINIMUM	14	Jan 22	41	Feb 21	.00	Aug 7 1961
MAXIMUM PEAK FLOW			a 1910	Apr 8	4660	Apr 14 1969
MAXIMUM PEAK STAGE			b 6.03	Apr 6	8.08	Apr 21 1997
INSTANTANEOUS LOW FLOW					.00	Aug 7 1961
ANNUAL RUNOFF (AC-FT)	114800		163600		50910	
10 PERCENT EXCEEDS	335		462		139	
50 PERCENT EXCEEDS	113		126		11	
90 PERCENT EXCEEDS	17		45		1.6	

a Gage height, 5.86 ft
b Backwater from ice
e Estimated

05056000 SHEYENNE RIVER NEAR WARWICK, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951, 1953, 1958 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
OCT													
11...	1355	--	92	--	--	--	--	--	--	1160	18.5	9.5	--
NOV													
15...	1300	301	--	--	--	--e	--e	8.0	1620	--e	--	--e	500
DEC													
06...	1320	--	131	--	--	--	--	--	--	1900	.00	3.0	--
JAN													
31...	1515	--	54	--	--	--	--	--	--	1690	-7.5	.00	--
APR													
09...	1510	--	1660	--	--	--	--	--	--	812	2.0	4.0	--
15...	1140	--	1130	--	--	--	--	--	--	905	-3.0	5.0	--
20...	1305	--	776	--	--	--	8.0	7.8	1020	1000	7.0	11.0	330
30...	1400	485	--	720	98	9.0	8.2	8.4	1140	1140	19.8	16.3	370
MAY													
08...	0955	--	434	--	--	--	--	--	--	1180	13.5	11.0	--
JUN													
14...	1455	--	180	--	--	--	--	--	--	1330	15.0	19.0	--
JUL													
10...	1245	--	92	--	--	--	--	--	--	1420	--	26.5	--
24...	1020	361	--	730	71	5.6	8.0	7.9	1280	1260	20.9	25.2	360
AUG													
03...	1100	--	296	--	--	--	7.6	7.9	1150	1120	30.5	24.5	350
SEP													
10...	1445	--	68	--	--	--	--	--	--	1430	21.0	18.0	--

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
OCT													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
15...	81.9	71.4	13.7	4	183	44	469	25.4	.2	25.9	405	1.4	.069
DEC													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
31...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	57.0	45.0	11.0	2	100	39	301	26.0	.1	--	230	--	--
30...	62.7	52.1	11.4	3	125	41	355	14.7	--	--	267	--	--
MAY													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	58.8	52.2	11.9	4	161	48	322	15.1	--	--	291	--	--
AUG													
03...	59.0	49.0	12.0	3	130	44	412	16.0	.2	--	240	--	--
SEP													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--

05056000 SHEYENNE RIVER NEAR WARWICK, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	TUR-BID-ITY FIELD WATER UNFLTRD (NTU) (61028)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)
OCT													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
15...	.007	.255	.262	1.3	1.7	.132	.174	926	1140	1090	--	--	30
DEC													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
31...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	1460	697	650	--	3.0	90
30...	--	--	--	--	--	--	--	977	--	747	24	--	--
MAY													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	763	--	786	85	--	--
AUG													
03...	--	--	--	--	--	--	--	643	804	754	--	7.0	60
SEP													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	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)	MANGAN-ESE TOTAL RECOVER - ABLE (UG/L) (01123)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT												
11...	--	--	--	--	--	--	--	--	--	--	--	--
NOV												
15...	--	--	--	58.0	--	--	--	--	--	--	--	--
DEC												
06...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
31...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
09...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	2.00	100	70.0	--	.10	2.0	3.0	290	--	--	--
30...	600	--	--	--	100	--	--	--	--	21	27	98
MAY												
08...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
14...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
10...	--	--	--	--	--	--	--	--	--	--	--	--
24...	M	--	--	--	M	--	--	--	--	95	93	99
AUG												
03...	--	2.00	100	90.0	--	<.10	2.0	3.0	320	--	--	--
SEP												
10...	--	--	--	--	--	--	--	--	--	--	--	--

M Presence verified, not quantified
e Required equipment not functional/available

05056060 MAUVAIS COULEE TRIBUTARY NO. 3 NEAR CANDO, ND

LOCATION.--Lat 48°27'28", long 99°13'24", in NE$^1/_4$NW$^1/_4$ sec.6, T.157 N., R.66 W., Towner County, Hydrologic Unit 09020201, at bridge 2.1 mi southwest of Cando.

DRAINAGE AREA.--60.2 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1955-71 (annual maximum discharges only), 1986-88 (discharge measurements only), March 1989 to current year (seasonal records only since 1989).

GAGE.--Water-stage recorder. Datum of gage is 1,460 ft above sea level, from topographic map. Prior to 1986 gage was at different datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,300 ft^3/s, Apr. 14, 1969, gage height, 9.35 ft, datum then in use.

EXTREMES FOR CURRENT PERIOD.--Maximum discharge observed, 702 ft^3/s, Apr. 8, gage height, 8.97 ft; no flow much of the time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e.00	e.08	63	.91	2.2	65	.24
2	---	---	---	---	---	e.00	e.28	53	.85	1.9	83	.21
3	---	---	---	---	---	e.00	e.98	43	.78	1.5	72	.18
4	---	---	---	---	---	e.00	e2.3	36	.72	1.3	50	.15
5	---	---	---	---	---	e.00	e8.5	30	.65	1.0	33	.17
6	---	---	---	---	---	e.00	e26	29	.66	.92	22	.11
7	---	---	---	---	---	e.00	e80	28	.66	.81	16	.08
8	---	---	---	---	---	e.00	301	26	.63	.74	12	.04
9	---	---	---	---	---	e.00	615	23	.60	.70	9.7	.01
10	---	---	---	---	---	e.00	577	20	.60	.64	7.3	.00
11	---	---	---	---	---	e.00	509	16	.78	.58	5.4	.00
12	---	---	---	---	---	e.00	449	14	.84	.54	4.2	.00
13	---	---	---	---	---	e.00	418	12	1.1	.55	3.2	.00
14	---	---	---	---	---	e.00	390	9.5	1.4	.64	2.6	.01
15	---	---	---	---	---	e.00	379	8.0	2.1	.64	2.0	.03
16	---	---	---	---	---	e.00	315	6.6	2.1	.85	1.6	.01
17	---	---	---	---	---	e.00	274	6.1	2.0	1.0	1.3	.00
18	---	---	---	---	---	e.00	208	5.0	3.7	1.3	1.1	.00
19	---	---	---	---	---	e.00	173	4.1	9.6	1.3	.90	.00
20	---	---	---	---	---	e.00	239	3.4	11	1.1	.75	.00
21	---	---	---	---	---	e.00	315	2.6	15	1.7	.65	.00
22	---	---	---	---	---	e.00	351	2.1	14	39	.57	.00
23	---	---	---	---	---	e.00	273	1.7	11	64	.49	.00
24	---	---	---	---	---	e.00	215	1.6	8.4	62	.44	.00
25	---	---	---	---	---	e.00	171	1.4	6.7	51	.43	.00
26	---	---	---	---	---	e.00	140	1.3	5.4	37	.36	.00
27	---	---	---	---	---	e.00	119	1.1	4.4	26	.29	.00
28	---	---	---	---	---	e.00	101	1.0	3.7	21	.26	.00
29	---	---	---	---	---	e.00	86	.96	3.1	18	.25	.00
30	---	---	---	---	---	e.01	73	.94	2.6	16	.27	.00
31	---	---	---	---	---	e.02	---	.95	---	30	.26	---
TOTAL	---	---	---	---	---	0.03	6809.14	451.35	115.98	385.91	397.32	1.24
MEAN	---	---	---	---	---	.001	227	14.6	3.87	12.4	12.8	.041
MAX	---	---	---	---	---	.02	615	63	15	64	83	.24
MIN	---	---	---	---	---	.00	.08	.94	.60	.54	.25	.00
AC-FT	---	---	---	---	---	.06	13510	895	230	765	788	2.5
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2001, BY WATER YEAR (WY)												
MEAN	---	---	---	---	---	23.3	87.9	16.1	5.15	13.3	9.34	1.25
MAX	---	---	---	---	---	141	252	94.5	40.0	93.6	59.7	13.9
(WY)	---	---	---	---	---	1992	1999	1999	1996	1997	1996	1993
MIN	---	---	---	---	---	.000	.000	.000	.000	.000	.000	.000
(WY)	---	---	---	---	---	1989	1990	1988	1988	1988	1988	1988

e Estimated

05056060 MAUVAIS COULEE TRIBUTARY NO. 3 NEAR CANDO, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1986 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
APR													
14...	1800	378	7.1	7.0	485	515	8.5	6.5	200	43.0	23.0	9.50	.6
19...	1735	164	--	--	--	658	19.0	12.0	--	--	--	--	--
MAY													
02...	1305	53	--	--	--	895	24.5	14.5	--	--	--	--	--
JUN													
21...	1805	16	--	--	--	1810	18.0	20.5	--	--	--	--	--
AUG													
02...	1600	84	7.1	7.6	892	883	22.5	22.5	390	74.0	49.0	13.0	1.0

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
APR													
14...	20.0	17	116	9.1	.1	100	323	316	275	3.0	60	2.00	100
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
02...	43.0	19	256	14.0	.1	230	153	672	577	6.0	50	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR					
14...	20.0	.10	2.0	3.0	160
19...	--	--	--	--	--
MAY					
02...	--	--	--	--	--
JUN					
21...	--	--	--	--	--
AUG					
02...	80.0	<.10	2.0	3.0	330

05056100 MAUVAIS COULEE NEAR CANDO, ND

LOCATION.--Lat 48°26'53", long 99°06'08", in $SE^1/_4NE^1/_4SE^1/_4$ sec.1, T.157 N., R.66 W., Towner County, Hydrologic Unit 09020201, on left bank 0.3 mi upstream from highway bridge, about 4 mi upstream from West Fork Mauvais Coulee, and 5.5 mi southeast of Cando.

DRAINAGE AREA.--387 mi^2, of which about 10 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1956 to current year (seasonal records only since 1982).

GAGE.--Water-stage recorder. Elevation of gage is 1,445 ft above sea level, from topographic map. Prior to July 2, 1957, nonrecording gage at present site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 16, 1954, reached a stage of 9.83 ft, and flood of Apr. 20, 1956, reached a stage of 10.71 ft, from floodmarks set by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,620 ft^3/s, Apr. 11, gage height, 10.39 ft; minimum recorded daily discharge, 0.05 ft^3/s, Mar. 1-13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e.05	.65	312	20	18	106	4.1
2	---	---	---	---	---	e.05	.68	262	18	17	123	3.3
3	---	---	---	---	---	e.05	4.3	221	17	13	140	2.8
4	---	---	---	---	---	e.05	4.8	192	15	11	147	2.5
5	---	---	---	---	---	e.05	e10	170	13	11	142	2.2
6	---	---	---	---	---	e.05	e70	162	12	10	132	1.9
7	---	---	---	---	---	e.05	e100	157	11	7.9	124	1.5
8	---	---	---	---	---	e.05	e160	150	9.3	6.9	118	1.4
9	---	---	---	---	---	e.05	e220	142	8.0	5.7	108	1.3
10	---	---	---	---	---	e.05	494	127	8.0	4.6	97	1.1
11	---	---	---	---	---	e.05	1440	116	9.3	4.0	89	.94
12	---	---	---	---	---	e.05	1400	106	7.8	3.7	78	.69
13	---	---	---	---	---	e.05	1340	98	10	3.4	71	.52
14	---	---	---	---	---	e.06	1330	88	13	3.7	64	.47
15	---	---	---	---	---	e.06	1210	78	20	3.3	54	.45
16	---	---	---	---	---	e.06	1040	73	24	11	47	.44
17	---	---	---	---	---	e.06	940	70	25	13	41	.41
18	---	---	---	---	---	e.06	852	65	31	10	35	.38
19	---	---	---	---	---	e.07	767	59	47	7.4	32	.39
20	---	---	---	---	---	e.07	732	55	53	6.4	29	.42
21	---	---	---	---	---	e.08	674	47	63	5.6	26	.34
22	---	---	---	---	---	e.08	649	43	68	9.5	22	.33
23	---	---	---	---	---	e.09	700	40	66	31	19	.26
24	---	---	---	---	---	e.10	756	39	58	52	18	.30
25	---	---	---	---	---	e.11	755	36	51	66	15	.33
26	---	---	---	---	---	e.11	685	34	43	72	11	.29
27	---	---	---	---	---	e.12	594	31	35	81	8.7	.25
28	---	---	---	---	---	e.13	514	29	31	82	7.9	.25
29	---	---	---	---	---	.16	442	24	26	83	6.9	.29
30	---	---	---	---	---	.24	371	22	21	83	5.2	.20
31	---	---	---	---	---	.36	---	21	---	91	4.5	---
TOTAL	---	---	---	---	---	2.67	18255.43	3069	833.4	827.1	1921.2	30.05
MEAN	---	---	---	---	---	.086	609	99.0	27.8	26.7	62.0	1.00
MAX	---	---	---	---	---	.36	1440	312	68	91	147	4.1
MIN	---	---	---	---	---	.05	.65	21	7.8	3.3	4.5	.20
AC-FT	---	---	---	---	---	5.3	36210	6090	1650	1640	3810	60

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2001, BY WATER YEAR (WY)

MEAN	2.41	1.18	.28	.020	.18	22.7	201	59.8	11.9	16.2	14.5	4.42
MAX	27.1	10.4	3.86	.34	5.01	198	946	527	87.6	226	274	62.3
(WY)	1966	1981	1981	1981	1981	1992	1997	1999	1999	1997	1993	1965
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1959	1960	1957	1957	1957	1958	1991	1961	1961	1959	1959	1959

SUMMARY STATISTICS	WATER YEARS 1956 - 2001	
ANNUAL MEAN	a 19.7	
HIGHEST ANNUAL MEAN	a 71.7	1974
LOWEST ANNUAL MEAN	a .004	1961
HIGHEST DAILY MEAN	2980	Apr 21 1997
LOWEST DAILY MEAN	.00	Aug 21 1956
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 21 1956
MAXIMUM PEAK FLOW	3000	Apr 21 1997
MAXIMUM PEAK STAGE	11.68	Apr 21 1997
ANNUAL RUNOFF (AC-FT)	a 14260	
10 PERCENT EXCEEDS	46	
50 PERCENT EXCEEDS	.12	
90 PERCENT EXCEEDS	.00	

a Based on complete water years only (1957-82)
e Estimated

05056100 MAUVAIS COULEE NEAR CANDO, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT													
03...	1045	1.5	--	--	--	--	--	--	1780	6.0	10.5	--	--
MAR													
30...	1000	.23	--	--	--	--	--	--	2260	1.5	.5	--	--
APR													
13...	1715	1340	--	--	10.1	7.1	7.0	526	559	3.5	4.0	210	41.0
18...	1855	798	--	--	--	--	--	--	575	16.0	6.5	--	--
MAY													
02...	1110	275	724	80	7.8	7.3	7.7	957	941	15.0	14.0	400	77.0
JUN													
21...	1520	62	--	--	--	--	--	--	1700	19.5	19.0	--	--
AUG													
02...	1515	124	--	--	--	7.4	7.7	1160	1130	28.5	23.5	480	87.0
SEP													
12...	1840	.61	--	--	--	--	--	--	1430	15.5	16.5	--	--

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)
OCT													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
13...	25.0	9.70	.7	24.0	19	153	19.0	.1	120	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
02...	50.0	13.0	1	59.0	24	225	16.0	.1	270	1.4	.078	<.006	<.047
JUN													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
02...	64.0	12.0	1	71.0	24	260	21.0	.2	370	--	--	--	--
SEP													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	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)
OCT													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
13...	--	--	--	1250	346	331	3.0	160	2.00	100	150	.10	2.0
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
02...	1.3	.133	.184	497	669	621	3.0	50	2.00	100	70.0	.10	2.0
JUN													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
02...	--	--	--	290	866	782	7.0	40	2.00	100	130	<.10	2.0
SEP													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

05056100 MAUVAIS COULEE NEAR CANDO, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT		
03...	--	--
MAR		
30...	--	--
APR		
13...	3.0	160
18...	--	--
MAY		
02...	3.0	310
JUN		
21...	--	--
AUG		
02...	3.0	390
SEP		
12...	--	--

05056200 EDMORE COULEE NEAR EDMORE, ND

LOCATION.--Lat 48°20'14", long 98°39'33", in $NW^1/_4NW^1/_4$ sec.17, T.156 N., R.62 W., Ramsey County, Hydrologic Unit 09020201, on right bank 50 ft upstream from bridge on county highway, 11 mi southwest of Edmore, and about 13 mi upstream from Sweetwater Lake.

DRAINAGE AREA.--382 mi^2, of which about 100 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April to June 1956, June 1957 to current year (seasonal records only since 1982).

REVISED RECORDS.--WSP 1728: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,400.00 ft above sea level. June 26, 1957, to Sept. 30, 1985, water-stage recorder at same site at a datum of 1,479.79 ft above sea level. Prior to June 26, 1957, nonrecording gage at same site and datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 887 ft^3/s, Apr. 10, gage height, 86.66 ft; minimum daily discharge, 0.05 ft^3/s, Mar. 5-9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e.06	e.32	177	4.7	174	25	3.0
2	---	---	---	---	---	e.06	e.36	152	4.5	145	24	2.5
3	---	---	---	---	---	e.06	e.80	134	4.3	118	25	1.9
4	---	---	---	---	---	e.06	e1.4	124	4.0	94	26	1.6
5	---	---	---	---	---	e.05	e2.4	105	3.5	73	26	1.3
6	---	---	---	---	---	e.05	e12	95	3.2	58	25	.95
7	---	---	---	---	---	e.05	e170	88	3.1	46	24	.79
8	---	---	---	---	---	e.05	e370	81	2.7	36	23	.63
9	---	---	---	---	---	e.05	336	81	2.1	30	22	.50
10	---	---	---	---	---	e.06	647	75	1.8	25	21	.41
11	---	---	---	---	---	e.06	863	64	2.0	22	19	.34
12	---	---	---	---	---	e.06	762	52	1.9	20	18	.29
13	---	---	---	---	---	e.06	766	40	3.8	19	16	.21
14	---	---	---	---	---	e.06	753	31	8.8	20	15	.17
15	---	---	---	---	---	e.06	666	24	83	20	15	.14
16	---	---	---	---	---	e.06	574	20	75	21	13	.12
17	---	---	---	---	---	e.07	554	18	47	23	12	.11
18	---	---	---	---	---	e.08	498	15	55	24	11	.10
19	---	---	---	---	---	e.09	446	12	142	26	10	.10
20	---	---	---	---	---	e.10	421	11	152	27	9.7	.13
21	---	---	---	---	---	e.11	393	10	144	29	9.1	10
22	---	---	---	---	---	e.11	362	9.0	151	31	8.3	7.4
23	---	---	---	---	---	e.11	348	8.2	165	33	7.3	3.3
24	---	---	---	---	---	e.11	341	8.7	188	35	6.6	2.0
25	---	---	---	---	---	e.11	331	7.8	219	37	5.9	1.4
26	---	---	---	---	---	e.11	298	6.3	245	38	5.2	1.1
27	---	---	---	---	---	e.11	276	5.6	256	40	4.5	.87
28	---	---	---	---	---	e.14	259	6.7	252	40	3.9	.65
29	---	---	---	---	---	e.17	230	6.2	235	37	3.7	.49
30	---	---	---	---	---	e.20	199	5.4	206	33	3.7	.40
31	---	---	---	---	---	e.26	---	5.0	---	28	3.4	---
TOTAL	---	---	---	---	---	2.79	10880.28	1477.9	2665.4	1402	441.3	42.90
MEAN	---	---	---	---	---	.090	363	47.7	88.8	45.2	14.2	1.43
MAX	---	---	---	---	---	.26	863	177	256	174	26	10
MIN	---	---	---	---	---	.05	.32	5.0	1.8	19	3.4	.10
AC-FT	---	---	---	---	---	5.5	21580	2930	5290	2780	875	85

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2001, BY WATER YEAR (WY)

MEAN	.97	.32	.055	.000	.44	27.0	124	36.6	11.3	20.2	15.6	2.28
MAX	9.79	5.73	.98	.000	11.6	232	529	309	141	306	437	45.4
(WY)	1986	1981	1981	1958	1981	1995	1997	1997	1998	1993	1993	1993
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1959	1959	1958	1958	1959	1960	1991	1958	1958	1958	1958	1958

SUMMARY STATISTICS	WATER YEARS 1957 - 2001	
ANNUAL MEAN	a 14.2	
HIGHEST ANNUAL MEAN	a 47.7	1974
LOWEST ANNUAL MEAN	a .028	1958
HIGHEST DAILY MEAN	1770	Apr 24 1997
LOWEST DAILY MEAN	.00	Jul 1 1957
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 1 1957
MAXIMUM PEAK FLOW	1830	Apr 24 1997
MAXIMUM PEAK STAGE	87.95	Apr 24 1997
ANNUAL RUNOFF (AC-FT)	a 10280	
10 PERCENT EXCEEDS	38	
50 PERCENT EXCEEDS	.00	
90 PERCENT EXCEEDS	.00	

a Based on complete water years only (1953-82, 1994)
e Estimated

05056200 EDMORE COULEE NEAR EDMORE, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
APR													
13...	1040	766	--	723	82	10.3	7.7	--e	438	478	1.5	3.5	140
18...	1255	--	490	--	--	--	--	--	--	626	16.5	5.0	--
MAY													
03...	1030	--	136	--	--	7.2	7.7	7.6	945	903	15.0	13.5	330
JUN													
15...	1100	--	92	--	--	--	--	--	--	841	14.5	13.5	--
AUG													
01...	1445	--	25	--	--	--	7.4	--e	1270	1230	23.0	23.0	430
SEP													
12...	1200	--	.29	--	--	--	--	--	--	1710	17.0	16.5	--

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
APR													
13...	33.0	14.0	10.0	1	33.0	32	122	9.3	.1	77.0	--w	--w	--w
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
03...	75.0	35.0	17.0	2	71.0	30	227	24.0	.1	220	1.5	E.024	E.005
JUN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
01...	83.0	53.0	18.0	3	120	37	335	31.0	.2	340	--	--	--
SEP													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	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)
APR													
13...	--w	--w	--w	579	280	250	3.0	200	2.00	100	50.0	.10	2.0
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
03...	<.047	.156	.243	230	627	579	4.0	80	2.00	100	40.0	.10	2.0
JUN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
01...	--	--	--	59.9	898	847	6.0	70	2.00	100	80.0	<.10	2.0
SEP													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR		
13...	3.0	120
18...	--	--
MAY		
03...	3.0	290
JUN		
15...	--	--
AUG		
01...	3.0	410
SEP		
12...	--	--

E Estimated value
e Required equipment not functional/available
w Sample discarded: warm when received

05056215 EDMORE COULEE TRIBUTARY NEAR WEBSTER, ND

LOCATION.--Lat 48°15'59", long 98°40'50", in $NW^1/_4NW^1/_4$ sec.7, T.155 N., R.62 W., Ramsey County, Hydrologic Unit 09020201, on upstream side of bridge on county road, 9 mi east and 1.1 mi south of Webster.

DRAINAGE AREA.--148 mi^2, approximately, of which about 44 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1986 to current year (seasonal records only). Discharge record available for 1986 water year in files of the District office.

GAGE.--Water-stage recorder. Datum of gage is 1,400 ft above sea level, from topographic map. Prior to October 1986 nonrecording gage at present site and datum.

REMARKS.--Records fair except for periods where discharge is less than 5.0 ft^3/s and those for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,390 ft^3/s, Apr. 25, 1997, gage height, 74.41 ft; maximum gage height, 75.06 ft, Aug. 2, 1993.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in spring of 1959 reached a stage of about 75.00 ft, from conversation with local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 514 ft^3/s, Apr. 12, gage height, 73.37 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e.00	e.25	78	7.5	15	7.1	1.5
2	---	---	---	---	---	e.00	e.29	69	7.5	15	6.9	1.4
3	---	---	---	---	---	e.00	e.60	60	7.3	15	6.7	1.4
4	---	---	---	---	---	e.00	e1.0	54	7.3	15	6.5	1.3
5	---	---	---	---	---	e.00	e2.0	46	7.5	14	6.1	1.2
6	---	---	---	---	---	e.00	e7.5	45	10	14	5.7	e1.1
7	---	---	---	---	---	e.00	e92	43	12	14	5.2	e1.1
8	---	---	---	---	---	e.00	e270	38	12	14	4.9	e1.0
9	---	---	---	---	---	e.00	e320	35	12	13	4.8	e.98
10	---	---	---	---	---	e.00	e490	31	18	13	4.8	e.95
11	---	---	---	---	---	e.00	e510	28	18	11	4.5	e.91
12	---	---	---	---	---	e.00	513	26	16	11	4.2	.89
13	---	---	---	---	---	e.00	503	22	15	9.9	4.0	.85
14	---	---	---	---	---	e.00	475	20	15	10	3.8	.82
15	---	---	---	---	---	e.00	416	19	32	9.8	3.7	.75
16	---	---	---	---	---	e.00	382	18	37	9.7	3.6	.69
17	---	---	---	---	---	e.00	e320	17	28	9.7	3.3	.66
18	---	---	---	---	---	e.00	275	17	25	9.5	3.1	.61
19	---	---	---	---	---	e.00	263	16	32	9.4	2.9	.56
20	---	---	---	---	---	e.00	254	14	31	8.4	2.9	.57
21	---	---	---	---	---	e.00	238	13	29	9.8	2.8	.59
22	---	---	---	---	---	e.00	214	11	25	9.2	2.6	.57
23	---	---	---	---	---	e.00	196	10	22	8.8	2.5	.53
24	---	---	---	---	---	e.00	179	9.3	19	8.3	2.3	.50
25	---	---	---	---	---	e.00	162	8.8	17	7.9	2.3	.48
26	---	---	---	---	---	e.00	148	8.3	16	7.4	2.3	.45
27	---	---	---	---	---	e.00	131	7.9	15	7.2	2.1	.42
28	---	---	---	---	---	e.00	117	7.0	15	7.2	1.9	.38
29	---	---	---	---	---	e.00	102	6.6	15	7.1	1.8	.33
30	---	---	---	---	---	e.00	88	6.8	15	7.0	1.7	.29
31	---	---	---	---	---	e.20	---	7.4	---	7.0	1.5	---
TOTAL	---	---	---	---	---	0.20	6669.64	792.1	538.1	327.3	118.5	23.78
MEAN	---	---	---	---	---	.006	222	25.6	17.9	10.6	3.82	.79
MAX	---	---	---	---	---	.20	513	78	37	15	7.1	1.5
MIN	---	---	---	---	---	.00	.25	6.6	7.3	7.0	1.5	.29
AC-FT	---	---	---	---	---	.4	13230	1570	1070	649	235	47

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2001, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	32.5	150	47.2	11.0	27.7	58.8	9.56
MAX	---	---	---	---	---	233	493	303	55.5	226	858	134
(WY)	---	---	---	---	---	1995	1997	1997	1996	1993	1993	1993
MIN	---	---	---	---	---	.000	.000	.000	.000	.000	.000	.000
(WY)	---	---	---	---	---	1989	1990	1990	1988	1988	1988	1987

e Estimated

05056215 EDMORE COULEE TRIBUTARY NEAR WEBSTER, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1986 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
APR													
13...	0905	503	--	7.3	7.0	415	438	2.0	4.5	140	33.0	13.0	8.90
18...	1105	--	284	--	--	--	471	10.5	4.5	--	--	--	--
MAY													
03...	1155	--	58	--	--	--	777	18.0	14.5	--	--	--	--
JUN													
22...	1120	--	24	--	--	--	1080	23.5	20.0	--	--	--	--
AUG													
01...	1300	--	7.0	6.9	--e	1440	1400	24.5	22.0	450	92.0	54.0	15.0
SEP													
12...	1015	--	.91	--	--	--	1600	12.5	13.5	--	--	--	--

DATE	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
APR													
13...	1	30.0	31	126	8.5	.1	71.0	356	262	240	3.0	140	2.00
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
01...	3	150	41	402	39.0	.2	360	19.7	1040	952	7.0	60	6.00
SEP													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR						
13...	100	10.0	.10	2.0	3.0	120
18...	--	--	--	--	--	--
MAY						
03...	--	--	--	--	--	--
JUN						
22...	--	--	--	--	--	--
AUG						
01...	100	70.0	<.10	2.0	3.0	430
SEP						
12...	--	--	--	--	--	--

e Required equipment not functional/available

05056220 SWEETWATER LAKE AT SWEETWATER, ND

LOCATION.--Lat 48°12'39", long 98°52'15", in NE$^1/_4$SW$^1/_4$SW$^1/_4$ sec.27, T.155 N., R.64 W., Ramsey County, Hydrologic Unit 09020201, at southwest arm of lake 6 mi north of Devils Lake.

DRAINAGE AREA.--670 mi^2 of which about 290 mi^2 is probably noncontributing.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960, 1962-87, 1993 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTERVAL(IN METERS) (82047)	DEPTH TO BOTTOM OF SAMPLE INTERVAL(IN METERS) (82048)	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STANDARD UNITS) (00403)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SODIUM ADSORPTION RATIO (00931)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
OCT													
11...	0915	.00	1.6	1200	--e	370	66.0	49.0	22.0	3	110	38	227
FEB													
12...	1645	.80	1.6	2250	7.3	750	140	98.0	33.0	3	220	38	465
MAY													
09...	1440	.00	2.1	816	--e	270	57.0	31.0	16.0	2	63.0	32	197
JUL													
17...	1450	.00	2.2	1270	8.5	420	91.0	47.0	16.0	2	110	35	272

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
OCT													
11...	31.0	.2	340	2.5	<.040	E.005	.243	--	2.8	.050	.266	813	756
FEB													
12...	63.0	.3	690	4.5	.807	E.003	.091	3.7	4.5	.240	.638	1650	1530
MAY													
09...	24.0	.2	210	1.2	<.040	E.005	<.050	--	--	.140	.223	552	520
JUL													
17...	29.0	.1	360	--	<.040	.006	<.050	--	--	.520	--	899	818

DATE	CHLOR-A PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70954)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY DISSOLVED (UG/L AS HG) (71890)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)
OCT											
11...	17.8	2.5	8.0	100	<1.00	70.0	10.0	<.10	3.0	<1.0	370
FEB											
12...	5.4	.5	8.0	30	1.00	110	950	.10	7.0	<1.0	630
MAY											
09...	E1.4	<.1	4.0	40	2.00	100	10.0	<.10	3.0	3.0	250
JUL											
17...	8.6	.1	6.0	60	2.00	100	70.0	.10	2.0	3.0	410

05056220 SWEETWATER LAKE AT SWEETWATER, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH OF LAKE MAX. METERS (85310)	SAMPLING DEPTH (M) (00098)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	BAROMETRIC PRESSURE (MM OF HG) (00025)	ICE THICKNESS METERS (82131)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	TEMPERATURE AIR (DEG C) (00020)	WIND DIRECTION (DEG. FROM TRUE NORTH) (00036)
OCT													
11...	0910	1.6	.00	1180	8.5	6.1	11.9	101	725	--	8.00	7.0	150
11...	0911	--	.50	1180	8.5	6.1	11.8	--	--	--	--	--	--
11...	0912	--	1.0	1180	8.5	6.1	11.8	--	--	--	--	--	--
11...	0913	--	1.6	1180	8.5	6.1	11.7	--	--	--	--	--	--
FEB													
12...	1640	1.6	.70	2230	7.0	.2	1.7	12	729	.70	16.0	-11.0	--
12...	1641	--	1.6	2240	7.0	.8	1.3	--	--	--	--	--	--
MAY													
09...	1435	2.1	.00	813	8.6	12.9	12.4	126	713	--	14.0	26.5	230
09...	1436	--	.80	814	8.6	12.9	12.2	--	--	--	--	--	--
09...	1437	--	1.6	823	8.5	12.4	11.9	--	--	--	--	--	--
09...	1438	--	2.1	849	8.5	11.2	10.6	--	--	--	--	--	--
JUL													
17...	1445	2.2	.00	1240	8.8	26.6	12.1	162	716	--	53.0	38.5	--
17...	1446	--	.50	1240	8.8	26.5	11.0	--	--	--	--	--	--
17...	1447	--	1.0	1250	8.8	25.9	10.8	--	--	--	--	--	--
17...	1448	--	1.5	1240	8.8	24.9	9.7	--	--	--	--	--	--
17...	1449	--	2.2	1250	8.7	23.6	4.3	--	--	--	--	--	--

DATE	WIND SPEED (MILES PER HOUR) (00035)
OCT	
11...	9.0
11...	--
11...	--
11...	--
FEB	
12...	<5.0
12...	--
MAY	
09...	<5.0
09...	--
09...	--
09...	--
JUL	
17...	<5.0
17...	--
17...	--
17...	--
17...	--

E Estimated value
e Required equipment not functional/available

05056222 MORRISON LAKE NEAR WEBSTER, ND

LOCATION.--Lat 48°15'35", long 98°50'48", in NW$^{1}/_{4}$ sec.11, T.155 N., R.64 W., Ramsey County, Hydrologic Unit 09020201, on northwest shoreline of Morrison Lake, and 2 mi southeast of Webster.

DRAINAGE AREA.--501 mi^{2}, approximately.

GAGE-HEIGHT RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 1,400.00 ft above sea level.

REMARKS.--Stage frequently affected by wind. Gage heights for Dec. 13, Feb. 2, Mar. 30, from once daily observation of gage height.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height recorded, 62.60 ft, Apr. 27-28, 1997; minimum recorded, 53.35 ft, Sept. 17, 1991.

EXTREMES FOR CURRENT YEAR.--Maximum gage height recorded, 60.30 ft, May 2, may have been higher between Apr. 28 through May 2; minimum observed, 57.57 ft, Mar. 30.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57.76	---	---	---	---	---	---	---	59.39	59.99	59.80	59.49
2	57.76	---	---	---	57.92	---	---	60.30	59.43	60.00	59.81	59.44
3	57.71	---	---	---	---	---	---	60.26	59.44	59.99	59.80	59.43
4	57.72	---	---	---	---	---	---	60.19	59.42	59.98	59.81	59.44
5	57.70	---	---	---	---	---	---	60.05	59.40	59.99	59.77	59.42
6	57.70	---	---	---	---	---	---	60.04	59.41	59.98	59.77	59.36
7	57.72	---	---	---	---	---	---	59.94	59.44	60.00	59.76	59.34
8	57.73	---	---	---	---	---	---	59.86	59.43	59.99	59.76	59.34
9	57.73	---	---	---	---	---	---	59.81	59.44	59.97	59.74	59.35
10	57.74	---	---	---	---	---	---	59.70	59.43	59.95	59.76	59.33
11	57.73	---	---	---	---	---	---	59.65	59.43	59.93	59.76	59.33
12	57.74	---	---	---	---	---	---	59.58	59.45	59.92	59.74	59.30
13	57.72	---	58.38	---	---	---	---	59.47	59.49	59.91	59.74	59.31
14	---	---	---	---	---	---	---	59.44	59.51	59.94	59.72	59.30
15	---	---	---	---	---	---	---	59.37	59.53	59.93	59.67	59.29
16	---	---	---	---	---	---	---	59.41	59.60	59.93	59.67	59.28
17	---	---	---	---	---	---	---	59.43	59.64	59.92	59.66	59.27
18	---	---	---	---	---	---	---	59.47	59.67	59.90	59.65	59.28
19	---	---	---	---	---	---	---	59.45	59.75	59.88	59.67	59.28
20	---	---	---	---	---	---	59.81	59.43	59.80	59.87	59.66	59.27
21	---	---	---	---	---	---	59.85	59.29	59.84	59.88	59.64	59.26
22	---	---	---	---	---	---	59.89	59.24	59.87	59.90	59.63	59.26
23	---	---	---	---	---	---	59.90	59.24	59.90	59.87	59.62	59.25
24	---	---	---	---	---	---	59.90	59.40	59.92	59.85	59.62	59.27
25	---	---	---	---	---	---	59.88	59.41	59.93	59.84	59.60	59.26
26	---	---	---	---	---	---	59.86	59.43	59.94	59.81	59.57	59.25
27	---	---	---	---	---	---	59.90	59.46	59.94	59.83	59.55	59.24
28	---	---	---	---	---	---	---	59.47	59.97	59.84	59.55	59.23
29	---	---	---	---	---	---	---	59.47	59.97	59.82	59.51	59.22
30	---	---	---	---	---	57.57	---	59.47	59.96	59.80	59.46	59.20
31	---	---	---	---	---	---	---	59.46	---	59.81	59.48	---
MEAN	57.73	---	58.38	---	57.92	57.57	59.87	59.61	59.64	59.91	59.68	59.31
MAX	57.76	---	58.38	---	57.92	57.57	59.90	60.30	59.97	60.00	59.81	59.49
MIN	57.70	---	58.38	---	57.92	57.57	59.81	59.24	59.39	59.80	59.46	59.20

05056222 MORRISON LAKE NEAR WEBSTER, ND--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
OCT													
10...	1630	.00	2.0	1190	--e	380	72.0	49.0	20.0	2	110	37	237
FEB													
12...	1705	.80	1.9	1840	7.4	600	110	79.0	29.0	3	170	37	376
MAY													
09...	1425	.00	2.5	850	--e	270	55.0	32.0	16.0	2	70.0	34	196
JUL													
18...	1205	.00	2.6	972	--e	330	72.0	36.0	19.0	2	76.0	32	232

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
OCT													
10...	29.0	.2	350	2.6	.322	.036	.648	.684	2.3	3.3	.034	.213	814
FEB													
12...	49.0	.2	560	3.5	.932	E.005	--	.148	2.6	3.6	.115	.174	1310
MAY													
09...	19.0	.2	230	1.5	<.040	E.005	--	<.050	--	--	.090	.245	567
JUL													
18...	21.0	.1	250	--w	--w	--w	--	--w	--	--	--w	--w	663

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT												
10...	776	12.0	E.8	6.0	80	<1.00	70.0	20.0	<.10	4.0	<1.0	380
FEB												
12...	1230	<.1	<.1	6.0	40	1.00	90.0	100	<.10	6.0	<1.0	540
MAY												
09...	540	11.2	.9	4.0	20	2.00	100	10.0	<.10	3.0	3.0	220
JUL												
18...	614	10.1	1.5	6.0	60	2.00	100	50.0	.10	4.0	3.0	340

05056222 MORRISON LAKE NEAR WEBSTER, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH OF LAKE MAX. METERS (85310)	SAMPLING DEPTH (M) (00098)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	BAROMETRIC PRESSURE (MM OF HG) (00025)	ICE THICKNESS METERS (82131)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	TEMPERATURE AIR (DEG C) (00020)	WIND DIRECTION (DEG. FROM TRUE NORTH) (00036)
OCT													
10...	1625	2.0	.00	1180	8.4	7.1	12.8	112	720	--	8.00	12.0	150
10...	1626	--	.80	1180	8.4	7.1	12.5	--	--	--	--	--	--
10...	1627	--	1.6	1180	8.4	7.1	12.4	--	--	--	--	--	--
10...	1628	--	2.0	1180	8.4	7.1	12.3	--	--	--	--	--	--
FEB													
12...	1700	1.9	.80	1830	7.3	1.2	2.5	19	730	.80	63.0	-12.0	--
12...	1701	--	1.9	1820	7.3	1.9	1.6	--	--	--	--	--	--
MAY													
09...	1420	2.5	.00	837	8.8	12.5	13.8	139	713	--	17.0	26.0	250
09...	1421	--	1.0	837	8.8	12.4	13.6	--	--	--	--	--	--
09...	1422	--	2.0	846	8.8	11.4	11.8	--	--	--	--	--	--
09...	1423	--	2.5	848	8.8	11.0	11.2	--	--	--	--	--	--
JUL													
18...	1155	2.6	.00	964	8.3	25.2	7.9	103	717	--	53.0	28.5	135
18...	1156	--	.50	964	8.3	25.2	7.9	--	--	--	--	--	--
18...	1157	--	1.0	962	8.3	25.2	7.9	--	--	--	--	--	--
18...	1158	--	1.5	965	8.3	25.2	7.8	--	--	--	--	--	--
18...	1159	--	2.0	964	8.3	25.1	7.8	--	--	--	--	--	--
18...	1200	--	2.6	971	8.1	24.7	4.0	--	--	--	--	--	--

DATE	WIND SPEED (MILES PER HOUR) (00035)
OCT	
10...	7.0
10...	--
10...	--
10...	--
FEB	
12...	<5.0
12...	--
MAY	
09...	8.0
09...	--
09...	--
09...	--
JUL	
18...	8.0
18...	--
18...	--
18...	--
18...	--
18...	--

E Estimated value
e Required equipment not functional/available
w Sample discarded: warm when received

05056239 STARKWEATHER COULEE NEAR WEBSTER, ND

LOCATION.--Lat 48°19'13", long 98°56'23", in $NW^1/_4SW^1/_4NW^1/_4$ sec.19, T.156 N., R.64 W., Ramsey County, Hydrologic Unit 09020201, on right bank 100 ft upstream from bridge on township road, and 3.8 mi northwest of Webster.

DRAINAGE AREA.--About 310 mi^2, of which about 100 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1979 to current year (seasonal records only since 1988).

GAGE.--Water-stage recorder. Elevation of gage is 1,448 ft above sea level, from topographic map. Prior to July 23, 1986, nonrecording gage 100 ft downstream at same datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 680 ft^3/s, Apr. 14, gage height, 7.21 ft; maximum gage height, 8.83 ft, Apr. 1; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e.00	e.20	187	20	90	104	9.0
2	---	---	---	---	---	e.00	e.90	163	20	85	97	8.4
3	---	---	---	---	---	e.00	e5.2	145	18	75	94	6.7
4	---	---	---	---	---	e.00	e7.3	123	17	65	93	5.9
5	---	---	---	---	---	e.00	e11	99	16	56	92	5.9
6	---	---	---	---	---	e.00	e95	93	16	51	86	5.8
7	---	---	---	---	---	e.00	e530	95	15	44	83	4.6
8	---	---	---	---	---	e.00	e450	87	16	39	80	3.6
9	---	---	---	---	---	e.00	381	78	18	34	78	3.0
10	---	---	---	---	---	e.00	421	68	15	29	72	2.4
11	---	---	---	---	---	e.00	457	62	17	25	65	2.0
12	---	---	---	---	---	e.00	516	54	16	21	55	2.0
13	---	---	---	---	---	e.00	576	48	32	19	50	1.4
14	---	---	---	---	---	e.00	652	42	36	18	46	1.2
15	---	---	---	---	---	e.00	661	41	82	17	45	1.0
16	---	---	---	---	---	e.00	540	38	67	24	43	.86
17	---	---	---	---	---	e.00	501	38	60	31	44	.74
18	---	---	---	---	---	e.00	518	35	100	34	36	.56
19	---	---	---	---	---	e.00	516	31	149	33	34	.40
20	---	---	---	---	---	e.00	498	30	119	35	32	.58
21	---	---	---	---	---	e.00	485	28	112	37	30	.39
22	---	---	---	---	---	e.00	438	27	108	42	28	.47
23	---	---	---	---	---	e.00	411	28	109	49	25	.46
24	---	---	---	---	---	e.00	377	27	107	55	23	.33
25	---	---	---	---	---	e.00	348	24	110	65	21	.31
26	---	---	---	---	---	e.00	315	22	110	78	18	.77
27	---	---	---	---	---	e.00	284	21	109	93	15	1.1
28	---	---	---	---	---	e.00	266	21	108	100	14	1.0
29	---	---	---	---	---	e.09	241	21	105	105	13	.91
30	---	---	---	---	---	e.13	210	20	99	107	12	.60
31	---	---	---	---	---	e.16	---	20	---	107	9.5	---
TOTAL	---	---	---	---	---	0.38	10711.60	1816	1926	1663	1537.5	72.38
MEAN	---	---	---	---	---	.012	357	58.6	64.2	53.6	49.6	2.41
MAX	---	---	---	---	---	.16	661	187	149	107	104	9.0
MIN	---	---	---	---	---	.00	.20	20	15	17	9.5	.31
AC-FT	---	---	---	---	---	.8	21250	3600	3820	3300	3050	144

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2001, BY WATER YEAR (WY)

MEAN	1.30	.12	.010	.000	.69	24.8	123	34.1	10.6	22.9	17.1	3.05
MAX	5.53	1.09	.092	.000	6.61	180	357	284	64.2	119	138	22.0
(WY)	1983	1981	1983	1980	1981	1992	2001	1997	2001	1993	1993	1993
MIN	.000	.000	.000	.000	.000	.000	.92	.000	.000	.000	.000	.000
(WY)	1980	1980	1980	1980	1980	1980	2000	1980	1980	1980	1980	1981

SUMMARY STATISTICS	WATER YEARS 1980 - 2001	
ANNUAL MEAN	a 12.1	
HIGHEST ANNUAL MEAN	a 24.5	1987
LOWEST ANNUAL MEAN	a .88	1980
HIGHEST DAILY MEAN	779	Apr 27 1997
LOWEST DAILY MEAN	.00	Oct 1 1979
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 1 1979
MAXIMUM PEAK FLOW	782	Apr 27 1997
MAXIMUM PEAK STAGE	10.05	Apr 6 1989
ANNUAL RUNOFF (AC-FT)	a 8790	
10 PERCENT EXCEEDS	72	
50 PERCENT EXCEEDS	.05	
90 PERCENT EXCEEDS	.00	

a Based on complete water years only (1980-87, 1994)
e Estimated

05056239 STARKWEATHER COULEE NEAR WEBSTER, ND--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
OCT													
02...	1555	--	2.8	--	--	--	--	--	--	980	16.5	6.5	--
APR													
13...	1315	--	606	721	82	10.2	7.4	7.1	480	500	2.0	4.0	180
18...	1450	--	525	--	--	--	--	--	--	583	18.5	7.0	--
30...	1140	210	--	--	--	8.3	8.2	8.3	816	808	17.5	13.5	350
MAY													
02...	1745	--	165	--	--	9.2	7.9	7.7	867	835	18.5	15.5	360
JUN													
15...	0855	--	95	--	--	--	--	--	--	902	14.0	13.5	--
JUL													
24...	0845	55	--	--	--	5.5	7.6	--e	--e	711	17.5	21.8	370
AUG													
01...	1610	--	103	--	--	--	7.5	7.8	1030	1010	25.0	24.0	400
SEP													
01...	1345	--	1.7	--	--	--	--	--	--	1520	27.0	19.0	--

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
OCT													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
13...	42.0	18.0	12.0	.6	19.0	18	131	22.0	.1	110	--w	--w	--w
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	79.7	37.8	18.9	.8	35.6	17	196	23.9	--	209	--	--	--
MAY													
02...	79.0	40.0	18.0	1.0	42.0	19	213	49.0	.1	220	1.8	E.032	.011
JUN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
24...	76.5	42.4	13.0	1	58.8	25	174	28.5	--	290	--	--	--
AUG													
01...	79.0	48.0	15.0	1	65.0	25	227	30.0	.1	300	--	--	--
SEP													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
13...	--	--w	--	--w	--w	506	309	302	4.0	130	--	2.00	100
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	296	--	524	--	--	2900	--	--
MAY													
02...	.108	.119	1.9	.117	.260	263	591	577	5.0	130	--	2.00	100
JUN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
24...	--	--	--	--	--	91.1	--	616	--	--	M	--	--
AUG													
01...	--	--	--	--	--	206	740	674	7.0	20	--	2.00	100
SEP													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--

05056239 STARKWEATHER COULEE NEAR WEBSTER, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MANGAN-ESE TOTAL RECOVER-ABLE (UG/L) (01123)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70341)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)
OCT													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
13...	70.0	--	.10	2.0	3.0	140	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	740	--	--	--	--	394	223	100	100	100	99	84
MAY													
02...	70.0	--	.10	2.0	3.0	290	--	--	--	--	--	--	--
JUN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
24...	--	M	--	--	--	--	6	.89	96	--	--	--	--
AUG													
01...	60.0	--	<.10	2.0	3.0	350	--	--	--	--	--	--	--
SEP													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)
OCT	
02...	--
APR	
13...	--
18...	--
30...	58
MAY	
02...	--
JUN	
15...	--
JUL	
24...	--
AUG	
01...	--
SEP	
01...	--

E Estimated value
M Presence verified, not quantified
e Required equipment not functional/available
w Sample discarded: warm when received

05056241 DRY LAKE NEAR PENN, ND

LOCATION.--Lat 48°13'52", long 98°58'59", in $NW^1/_4NW^1/_4SW^1/_4$ sec.23, T.155 N., R.65 W., Ramsey County, Hydrologic Unit 09020201, on west shoreline of Dry Lake, and 6 mi east of Penn.

DRAINAGE AREA.--920 mi^2, approximately.

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--October 1983 to current year (gage heights only).

GAGE.--Water-stage recorder. Datum of gage is 1,400.00 ft above sea level.

REMARKS.--Stage is affected by wind at times. Gage heights for Dec. 5, Feb. 26, Apr. 15, May 25, and Aug. 1 from once daily observations of gage height.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height recorded, 52.02 ft, May 2, 1997; minimum recorded, 41.80 ft, Sept. 14 and Oct. 1-20, 1991.

EXTREMES FOR CURRENT YEAR.--Maximum gage height recorded, 48.26 ft, July 27, may have been higher during period of no record Apr. 16 to June 21; minimum recorded, 45.52 ft, Oct. 21.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46.10	46.02	---	---	---	---	---	---	---	48.04	48.07	47.66
2	46.08	46.00	---	---	---	---	---	---	---	48.06	48.05	47.67
3	46.08	45.91	---	---	---	---	---	---	---	48.06	48.08	47.59
4	46.06	45.87	---	---	---	---	---	---	---	48.03	48.06	47.57
5	46.10	45.93	46.30	---	---	---	---	---	---	47.98	48.12	47.55
6	46.08	46.22	---	---	---	---	---	---	---	48.04	48.08	47.62
7	46.03	46.34	---	---	---	---	---	---	---	48.02	48.07	47.55
8	45.95	---	---	---	---	---	---	---	---	47.99	48.08	47.49
9	45.92	---	---	---	---	---	---	---	---	48.00	48.08	47.47
10	45.96	---	---	---	---	---	---	---	---	47.95	48.01	47.47
11	45.95	---	---	---	---	---	---	---	---	47.88	48.02	47.47
12	45.96	---	---	---	---	---	---	---	---	47.88	48.03	47.44
13	45.97	---	---	---	---	---	---	---	---	47.87	47.98	47.41
14	45.99	---	---	---	---	---	---	---	---	47.90	48.00	47.41
15	45.92	---	---	---	---	---	47.80	---	---	47.88	48.02	47.41
16	45.92	---	---	---	---	---	---	---	---	47.92	47.92	47.39
17	45.90	---	---	---	---	---	---	---	---	47.93	47.94	47.38
18	45.90	---	---	---	---	---	---	---	---	47.93	47.86	47.36
19	45.91	---	---	---	---	---	---	---	---	47.93	47.85	47.37
20	45.89	---	---	---	---	---	---	---	---	47.93	47.87	47.39
21	45.74	---	---	---	---	---	---	---	---	47.98	47.88	47.37
22	45.87	---	---	---	---	---	---	---	48.08	48.03	47.87	47.40
23	45.86	---	---	---	---	---	---	---	48.14	48.05	47.83	47.31
24	45.83	---	---	---	---	---	---	---	48.16	48.01	47.82	47.27
25	45.88	---	---	---	---	---	---	47.59	48.15	48.00	47.88	47.31
26	46.02	---	---	---	45.99	---	---	---	48.15	48.01	47.83	47.32
27	45.83	---	---	---	---	---	---	---	48.13	48.10	47.78	47.30
28	45.69	---	---	---	---	---	---	---	48.10	48.06	47.72	47.26
29	45.78	---	---	---	---	---	---	---	48.12	48.04	47.76	47.32
30	45.90	---	---	---	---	---	---	---	48.14	48.04	47.74	47.31
31	45.92	---	---	---	---	---	---	---	---	---	47.65	---
MEAN	45.94	46.04	46.30	---	45.99	---	47.80	47.59	48.13	47.98	47.93	47.43
MAX	46.10	46.34	46.30	---	45.99	---	47.80	47.59	48.16	48.10	48.12	47.67
MIN	45.69	45.87	46.30	---	45.99	---	47.80	47.59	48.08	47.87	47.65	47.26

05056241 DRY LAKE NEAR PENN, ND--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTERVAL(IN METERS) (82047)	DEPTH TO BOTTOM OF SAMPLE INTERVAL(IN METERS) (82048)	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STANDARD UNITS) (00403)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SODIUM ADSORPTION RATIO (00931)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
OCT													
10...	1525	.00	1.0	1180	7.4	360	58.0	53.0	25.0	3	110	38	241
FEB													
12...	1520	.80	3.1	3590	7.2	1400	230	190	71.0	5	390	37	861
MAY													
09...	1235	.00	1.8	698	7.7	240	49.0	28.0	15.0	1	47.0	28	163
JUL													
18...	1105	.00	1.6	827	7.2	250	38.0	37.0	20.0	2	64.0	34	137

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NITRATE DISSOLVED (MG/L AS N) (00618)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)
OCT													
10...	37.0	.2	320	3.6	.780	.032	.991	1.02	2.8	4.6	.198	.469	800
FEB													
12...	130	.4	1100	9.8	2.75	.097	1.01	1.11	7.1	11	.911	1.00	2940
MAY													
09...	24.0	.1	170	1.3	<.041	.015	.916	.931	--	2.3	.254	.377	462
JUL													
18...	24.0	.1	220	--	E.038	E.005	--	<.050	--	--	.038	--	523

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	CHLOR-A PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70954)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY DISSOLVED (UG/L AS HG) (71890)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)
OCT												
10...	754	11.2	E.4	9.0	80	1.00	90.0	30.0	<.10	4.0	<1.0	350
FEB												
12...	2640	.3	<.1	19.0	60	2.00	200	170	<.10	12.0	<1.0	970
MAY												
09...	436	16.2	.7	4.0	60	2.00	100	10.0	<.10	3.0	3.0	210
JUL												
18...	486	--	--	6.0	40	2.00	100	90.0	.10	2.0	3.0	240

DATE	TIME	DEPTH OF LAKE MAX. METERS (85310)	SAMPLING DEPTH (M) (00098)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	BAROMETRIC PRESSURE (MM OF HG) (00025)	ICE THICKNESS METERS (82131)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	TEMPERATURE AIR (DEG C) (00020)	WIND DIRECTION (DEG. FROM TRUE NORTH) (00036)
OCT													
10...	1520	1.0	.00	1170	8.2	7.6	11.6	103	722	--	4.00	17.0	150
10...	1521	--	.60	1160	8.2	7.6	11.4	--	--	--	--	--	--
10...	1522	--	1.0	1160	8.2	7.6	11.4	--	--	--	--	--	--
FEB													
12...	1515	.95	.70	3710	6.7	-0.1	1.7	12	731	.70	12.0	-11.0	210
12...	1516	--	.90	3720	6.8	-0.1	1.3	--	--	--	--	--	--
MAY													
09...	1230	1.8	.30	700	8.4	12.3	11.7	117	715	--	11.0	23.0	170
09...	1231	--	.80	701	8.4	12.2	11.7	--	--	--	--	--	--
09...	1232	--	1.8	702	8.4	11.5	10.7	--	--	--	--	--	--
JUL													
18...	1056	1.7	.00	795	9.1	25.4	13.5	176	718	--	31.0	29.5	125
18...	1057	--	.50	794	9.1	25.4	13.5	--	--	--	--	--	--
18...	1058	--	1.0	794	9.1	25.4	13.5	--	--	--	--	--	--
18...	1059	--	1.5	795	9.1	25.3	11.9	--	--	--	--	--	--
18...	1100	--	1.7	797	9.1	25.3	3.4	--	--	--	--	--	--

05056241 DRY LAKE NEAR PENN, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WIND SPEED (MILES PER HOUR) (00035)
OCT	
10...	8.0
10...	--
10...	--
FEB	
12...	5.0
12...	--
MAY	
09...	<5.0
09...	--
09...	--
JUL	
18...	6.0
18...	--
18...	--
18...	--
18...	--

E -- Estimated value

05056250 LAKE ALICE NEAR CHURCHS FERRY, ND

LOCATION.--Lat 48°19'33", long 99°05'42", in $SE^1/_4NE^1/_4NE^1/_4$ sec.11, T.156 N., R.66 W., Ramsey County, Hydrologic Unit 09020201, at northwest corner of lake 7.5 mi northwest of Churchs Ferry.

DRAINAGE AREA.--2,100 mi^2, approximately, of which about 500 mi^2 is probably noncontributing.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960, 1962-64, 1966-87, 1993 to current year.

REMARKS.--Quality assurance sample also collected at this location.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTERVAL(IN METERS) (82047)	DEPTH TO BOTTOM OF SAMPLE INTERVAL(IN METERS) (82048)	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STANDARD UNITS) (00403)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SODIUM ADSORPTION RATIO (00931)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
OCT													
10...	1355	.00	2.2	1210	--e	500	98.0	61.0	21.0	1	72.0	23	314
FEB													
12...	1335	.70	2.4	2000	--e	840	170	100	24.0	2	130	25	494
MAY													
09...	1050	.00	2.5	824	--e	320	65.0	39.0	13.0	1	46.0	23	198
JUL													
18...	0925	.00	2.8	952	--e	390	81.0	45.0	16.0	1	55.0	23	251

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
OCT													
10...	27.0	.2	330	1.9	<.040	<.006	<.050	--	--	.186	.369	852	799
FEB													
12...	52.0	.2	560	1.8	1.07	E.005	.129	.70	1.9	.585	.281	1470	1340
MAY													
09...	23.0	.2	220	1.9	.068	.009	E.026	1.9	--	.072	.205	545	526
JUL													
18...	20.0	.1	220	--w	--w	--w	--w	--	--	--w	--w	646	588

DATE	CHLOR-A PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70954)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY DISSOLVED (UG/L AS HG) (71890)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)
OCT											
10...	12.4	1.2	11.0	70	<1.00	80.0	20.0	<.10	3.0	<1.0	450
FEB											
12...	2.8	.1	12.0	20	2.00	110	850	.10	5.0	<1.0	640
MAY											
09...	21.5	1.5	4.0	80	2.00	100	30.0	<.10	3.0	3.0	240
JUL											
18...	13.7	.4	8.0	50	2.00	100	80.0	.10	3.0	3.0	350

05056250 LAKE ALICE NEAR CHURCHS FERRY, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH OF LAKE MAX. METERS (85310)	SAMPLING DEPTH (M) (00098)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	BAROMETRIC PRESSURE (MM OF HG) (00025)	ICE THICKNESS METERS (82131)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	TEMPERATURE AIR (DEG C) (00020)	WIND DIRECTION (DEG. FROM TRUE NORTH) (00036)
OCT													
10...	1350	2.2	.00	1230	8.5	6.0	13.0	110	723	--	8.00	15.0	165
10...	1351	--	.60	1230	8.5	6.0	12.9	--	--	--	--	--	--
10...	1352	--	1.0	1230	8.5	6.0	12.9	--	--	--	--	--	--
10...	1353	--	1.5	1230	8.5	5.9	12.7	--	--	--	--	--	--
10...	1354	--	2.2	1220	8.5	5.9	12.7	--	--	--	--	--	--
FEB													
12...	1330	2.4	.80	1920	6.9	.6	7.1	52	731	.80	18.0	-9.0	210
12...	1331	--	1.5	1880	6.9	1.9	3.9	--	--	--	--	--	--
12...	1332	--	2.4	1860	6.9	3.9	1.9	--	--	--	--	--	--
MAY													
09...	1045	2.5	.00	808	8.6	12.0	14.2	141	716	--	18.0	21.5	120
09...	1046	--	1.0	817	8.5	11.1	12.3	--	--	--	--	--	--
09...	1047	--	2.0	817	8.5	11.0	11.9	--	--	--	--	--	--
09...	1048	--	2.5	817	8.5	11.0	11.6	--	--	--	--	--	--
JUL													
18...	0915	2.8	.00	933	8.4	25.0	7.9	102	719	--	41.0	26.0	60
18...	0916	--	.50	933	8.4	25.0	7.8	--	--	--	--	--	--
18...	0917	--	1.0	933	8.4	25.0	7.8	--	--	--	--	--	--
18...	0918	--	1.5	934	8.4	25.0	7.6	--	--	--	--	--	--
18...	0919	--	2.0	935	8.4	24.9	7.4	--	--	--	--	--	--
18...	0920	--	2.5	935	8.4	24.6	6.5	--	--	--	--	--	--
18...	0921	--	2.8	937	8.4	24.5	4.6	--	--	--	--	--	--

DATE	WIND SPEED (MILES PER HOUR) (00035)
OCT	
10...	8.0
10...	--
10...	--
10...	--
10...	--
FEB	
12...	6.0
12...	--
12...	--
MAY	
09...	<5.0
09...	--
09...	--
09...	--
JUL	
18...	6.0
18...	--
18...	--
18...	--
18...	--
18...	--
18...	--

E Estimated value
e Required equipment not functional/available
w Sample discarded: warm when received

05056255 LAKE ALICE-IRVINE CHANNEL NEAR CHURCHS FERRY, ND

LOCATION.--Lat 48°19'25", long 99°08'41", in $NW^1/_4NE^1/_4$ sec.21, T.156 N., R.66 W., Ramsey County, Hydrologic Unit 09020201, on downstream side of control structure between Lake Alice and Lake Irvine, 5 mi northwest of Churchs Ferry.

DRAINAGE AREA.--999 mi^2, approximately.

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--March 1985 to September 1987 (seasonal records only) and April 1998 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,400.00 ft above sea level.

REMARKS.--Elevation at gage frequently affected by wind.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 48.63 ft, Apr. 25-27 2001; minimum recorded, 39.51 ft, Oct. 7, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, 48.63 ft, Apr. 25-27; minimum recorded, 45.92 ft, Oct. 6 and 7.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46.06	46.11	46.15	---	46.20	46.25	46.30	48.47	47.79	48.04	48.13	47.90
2	46.04	46.11	---	---	46.21	46.25	46.30	48.42	47.76	48.04	48.15	47.85
3	45.99	46.06	---	---	46.21	46.25	46.30	48.38	47.78	48.02	48.17	47.83
4	45.98	46.09	---	---	46.22	46.24	46.34	48.33	47.78	47.99	48.19	47.83
5	45.96	46.13	---	---	46.22	46.24	46.37	48.31	47.78	48.00	48.19	47.82
6	45.94	46.12	---	---	46.22	46.24	46.41	48.31	47.82	48.01	48.17	47.80
7	45.93	46.03	---	---	46.21	46.24	46.50	48.25	47.83	48.00	48.17	47.77
8	45.95	---	---	46.18	46.21	46.24	46.62	48.21	47.83	47.99	48.19	47.76
9	45.99	---	---	46.19	46.21	46.24	46.79	48.18	47.83	47.97	48.17	47.76
10	46.01	46.08	---	46.19	46.22	46.24	47.00	48.13	47.84	47.95	48.17	47.75
11	46.02	46.11	---	46.18	46.21	46.25	47.23	48.09	47.85	47.94	48.17	47.74
12	46.00	46.13	---	46.18	46.22	46.25	47.49	48.07	47.85	47.95	48.16	47.71
13	45.98	46.13	---	46.18	46.23	46.26	47.73	48.06	47.89	47.95	48.15	47.71
14	45.99	46.15	---	46.17	46.22	46.25	47.94	48.05	47.88	47.97	48.15	47.71
15	45.99	46.15	---	46.17	46.24	46.25	48.11	48.01	47.90	47.97	48.11	47.70
16	46.02	46.15	---	46.18	46.23	46.25	48.20	47.97	47.94	48.02	48.10	47.69
17	46.02	46.15	---	46.20	46.23	46.25	48.27	47.98	47.97	48.02	48.08	47.68
18	46.03	---	---	46.20	46.23	46.26	48.33	47.97	48.02	48.02	48.05	47.68
19	46.04	46.15	---	46.20	46.23	46.26	48.36	47.96	48.07	48.00	48.06	47.69
20	46.01	46.14	---	46.20	46.23	46.27	48.45	47.94	48.09	48.01	48.07	47.68
21	46.06	46.15	---	46.20	46.23	46.27	48.51	47.86	48.10	48.02	48.06	47.66
22	46.07	46.15	---	46.21	46.23	46.26	48.54	47.76	48.12	48.04	48.04	47.65
23	46.03	46.16	---	46.21	46.22	46.27	48.58	47.69	48.15	48.04	48.03	47.62
24	46.03	46.16	---	46.20	46.24	46.27	48.60	47.71	48.16	48.03	48.03	47.64
25	46.03	46.16	---	46.20	46.24	46.26	48.62	47.73	48.15	48.06	48.04	47.65
26	46.00	46.16	---	46.20	46.24	46.26	48.62	47.73	48.12	48.10	48.00	47.64
27	45.95	46.16	---	46.21	46.25	46.27	48.61	47.76	48.12	48.15	47.96	47.62
28	46.02	46.17	---	46.21	46.25	46.27	48.61	47.78	48.10	48.15	47.96	47.62
29	46.10	46.16	---	46.21	---	46.27	48.57	47.81	48.09	48.17	47.94	47.62
30	46.12	46.16	---	46.21	---	46.29	48.52	47.82	48.06	48.15	47.90	47.59
31	46.10	---	---	46.21	---	46.31	---	47.82	---	48.15	47.88	---
TOTAL	1426.46	1245.58	46.15	1108.69	1294.30	1433.98	1430.82	1488.56	1438.67	1488.92	1490.64	1431.37
MEAN	46.01	46.13	46.15	46.20	46.23	46.26	47.69	48.02	47.96	48.03	48.09	47.71
MAX	46.12	46.17	46.15	46.21	46.25	46.31	48.62	48.47	48.16	48.17	48.19	47.90
MIN	45.93	46.03	46.15	46.17	46.20	46.24	46.30	47.69	47.76	47.94	47.88	47.59

05056260 LAKE IRVINE NEAR CHURCHS FERRY, ND

LOCATION.--Lat 48°16'57", long 99°10'25", in $SE^1/_4SW^1/_4SW^1/_4$ sec.32, T.156 N., R.66 W., Ramsey County, Hydrologic Unit 09020201, at south end of lake $1^1/_4$ mi northwest of Churchs Ferry.

DRAINAGE AREA.--2,120 mi^2, approximately, of which about 500 mi^2 is probably noncontributing.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966-87, 1993 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTERVAL(IN METERS) (82047)	DEPTH TO BOTTOM OF SAMPLE INTERVAL(IN METERS) (82048)	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STANDARD UNITS) (00403)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SODIUM ADSORPTION RATIO (00931)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
OCT													
10...	1415	.00	2.6	1250	--e	510	100	64.0	20.0	1	77.0	24	321
FEB													
12...	1405	.70	2.9	1740	7.6	720	140	90.0	24.0	2	110	24	459
MAY													
09...	1110	.00	3.1	820	--e	320	62.0	39.0	14.0	1	48.0	24	210
JUL													
18...	0945	.00	3.1	925	--e	370	76.0	44.0	16.0	1	57.0	24	253

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
OCT													
10...	29.0	.2	340	2.4	<.040	E.003	<.050	--	--	.105	.362	869	824
FEB													
12...	47.0	.2	500	2.8	.347	<.006	.118	2.4	2.9	.212	.383	1290	1190
MAY													
09...	19.0	.1	210	1.7	.041	.008	E.030	1.6	--	.128	.251	553	519
JUL													
18...	20.0	.1	210	--w	--w	--w	--w	--	--	--w	--w	619	576

DATE	CHLOR-A PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70954)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY DISSOLVED (UG/L AS HG) (71890)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)
OCT											
10...	21.9	1.4	9.0	60	<1.00	90.0	20.0	<.10	3.0	<1.0	450
FEB											
12...	7.1	.5	14.0	40	1.00	100	250	.10	6.0	<1.0	560
MAY											
09...	4.4	.6	4.0	20	2.00	100	10.0	<.10	3.0	3.0	280
JUL											
18...	18.0	.3	7.0	40	2.00	100	250	.10	2.0	3.0	300

05056260 LAKE IRVINE NEAR CHURCHS FERRY, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH OF LAKE MAX. METERS (85310)	SAMPLING DEPTH (M) (00098)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	BAROMETRIC PRESSURE (MM OF HG) (00025)	ICE THICKNESS METERS (82131)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	TEMPERATURE AIR (DEG C) (00020)	WIND DIRECTION (DEG. FROM TRUE NORTH) (00036)
OCT													
10...	1405	2.6	.00	1200	8.4	6.4	11.4	98	723	--	9.00	15.0	160
10...	1406	--	.50	1200	8.4	6.4	11.4	--	--	--	--	--	--
10...	1407	--	1.1	1200	8.4	6.4	11.4	--	--	--	--	--	--
10...	1408	--	1.5	1200	8.4	6.4	11.3	--	--	--	--	--	--
10...	1409	--	2.0	1200	8.4	6.4	11.3	--	--	--	--	--	--
10...	1410	--	2.6	1200	8.4	6.4	11.2	--	--	--	--	--	--
FEB													
12...	1400	2.9	.80	1740	7.2	.1	10.1	73	731	.80	19.0	-10.0	210
12...	1401	--	1.2	1730	7.3	.2	10.0	--	--	--	--	--	--
12...	1402	--	1.7	1730	7.3	.4	9.8	--	--	--	--	--	--
12...	1403	--	2.2	1720	7.2	1.1	9.2	--	--	--	--	--	--
12...	1404	--	2.9	1720	7.3	1.5	3.4	--	--	--	--	--	--
MAY													
09...	1105	3.1	.00	812	8.7	12.1	10.6	105	716	--	25.0	21.5	150
09...	1106	--	2.0	824	8.7	11.1	11.1	--	--	--	--	--	--
09...	1107	--	3.1	824	8.7	11.0	11.2	--	--	--	--	--	--
JUL													
18...	0935	3.1	.00	906	8.7	24.0	8.7	110	719	--	71.0	26.0	60
18...	0936	--	.50	906	8.7	24.0	8.7	--	--	--	--	--	--
18...	0937	--	1.0	907	8.7	24.0	8.6	--	--	--	--	--	--
18...	0938	--	1.5	907	8.7	24.0	8.6	--	--	--	--	--	--
18...	0939	--	2.0	906	8.7	23.9	8.5	--	--	--	--	--	--
18...	0940	--	2.5	907	8.7	23.8	8.1	--	--	--	--	--	--
18...	0941	--	3.1	910	8.5	22.5	8.5	--	--	--	--	--	--

DATE	WIND SPEED (MILES PER HOUR) (00035)
OCT	
10...	7.0
10...	--
10...	--
10...	--
10...	--
10...	--
FEB	
12...	6.0
12...	--
12...	--
12...	--
12...	--
MAY	
09...	<5.0
09...	--
09...	--
JUL	
18...	7.0
18...	--
18...	--
18...	--
18...	--
18...	--
18...	--

E Estimated value
e Required equipment not functional/available
w Sample discarded: warm when received

05056270 BIG COULEE BELOW CHURCHS FERRY, ND

LOCATION.--Lat 48°15'33", long 99°12'00", in NE$^{1}/_{4}$SE$^{1}/_{4}$ sec.12, T. 155 N., R.67 W., Benson County, Hydrologic Unit 09020201, on downstream side of bridge 1 mi south of Churchs Ferry.

DRAINAGE AREA.--1,260 mi^{2}, approximately, of which about 140 mi^{2} is probably noncontributing, drainage area reduced from approximately 2,510 mi^{2} with the completion of Channel A in March 1979.

WATER-DISCHARGE RECORDS

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

Miscellaneous discharge measurements for Big Coulee below Churchs Ferry

Date	Discharge
October 3, 2000	0
March 29, 2001	0
April 14, 2001	1,100
April 19, 2001	1,350
May 1, 2001	[1]668
June 21, 2001	66.7
August 13, 2001	0
September 13, 2001	0

[1]Wind aided

05056270 BIG COULEE BELOW CHURCHS FERRY, ND

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958, 1961-99, 2001.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
APR													
14...	1140	1100	722	83	10.1	7.3	7.8	1500	1640	8.0	4.5	650	130
19...	1410	1350	--	--	--	--	--	--	882	14.5	4.0	--	--
MAY													
01...	1420	668	--	--	--	--	--	--	843	16.5	12.0	--	--
JUN													
21...	1215	67	--	--	--	--	--	--	874	22.5	17.5	--	--

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)
APR													
14...	78.0	21.0	2	98.0	24	325	63.0	.2	420	3300	1110	1010	8.0
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--

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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR								
14...	80	2.00	100	940	.10	3.0	3.0	540
19...	--	--	--	--	--	--	--	--
MAY								
01...	--	--	--	--	--	--	--	--
JUN								
21...	--	--	--	--	--	--	--	--

05056340 LITTLE COULEE NEAR LEEDS, ND

LOCATION.--Lat 48°14'37", long 99°22'23", in NE$^1/_4$NE$^1/_4$SE$^1/_4$ sec.15, T.155 N., R.68 W., Benson County, Hydrologic Unit 09020201, at bridge 3.5 miles southeast of Leeds.

DRAINAGE AREA.--320 mi^2, of which about 150 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. This station was moved upstream from 05056390 Little Coulee near Brinsmade due to rising water from Devils Lake. Records may not be equivalent to prior locations due to change in drainage area. Datum of gage is 1,480 ft above sea level, from topographic map.

REMARKS.--Records fair except for period of estimated discharge, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum observed discharge, 269 ft^3/s, Apr. 23, 1999, gage height, 66.30 ft; maximum gage height observed 66.41 ft, Apr. 13, 16, 18 and 19, 1999; no flow for several days in 2000 and 2001.

EXTREMES FOR CURRENT YEAR.--Maximum recorded discharge, 171 ft^3/s, Apr. 20, gage height, 65.52 ft; maximum gage height, 65.54 ft, Apr. 14 (observed, may have been higher during period of no record, Mar. 30 to Apr. 18); no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e.00	e.00	147	49	27	2.9	.00
2	---	---	---	---	---	e.00	e.14	140	43	27	1.9	.00
3	---	---	---	---	---	e.00	e.27	132	39	26	1.7	.00
4	---	---	---	---	---	e.00	e.51	125	37	25	1.3	.00
5	---	---	---	---	---	e.00	e1.0	117	34	22	1.4	.00
6	---	---	---	---	---	e.00	e2.0	123	33	22	1.0	.00
7	---	---	---	---	---	e.00	e3.6	122	36	20	.62	.00
8	---	---	---	---	---	e.00	e6.7	114	36	18	.75	.00
9	---	---	---	---	---	e.00	e13	109	34	15	.86	.00
10	---	---	---	---	---	e.00	e24	104	35	12	.29	.00
11	---	---	---	---	---	e.00	e48	98	44	9.4	.17	.00
12	---	---	---	---	---	e.00	e94	94	41	9.0	.13	.00
13	---	---	---	---	---	e.00	e120	85	47	8.3	.05	.00
14	---	---	---	---	---	e.00	e140	83	44	7.7	.01	.00
15	---	---	---	---	---	e.00	e148	81	43	6.9	.00	.00
16	---	---	---	---	---	e.00	e155	75	37	9.0	.00	.00
17	---	---	---	---	---	e.00	e159	75	33	10	.00	.00
18	---	---	---	---	---	e.00	e160	69	35	9.1	.00	.00
19	---	---	---	---	---	e.00	163	66	34	8.0	.00	.00
20	---	---	---	---	---	e.00	165	67	32	7.2	.00	.00
21	---	---	---	---	---	e.00	163	66	31	7.1	.00	.00
22	---	---	---	---	---	e.00	161	63	31	7.0	.00	.00
23	---	---	---	---	---	e.00	160	57	32	6.8	.00	.00
24	---	---	---	---	---	e.00	159	50	32	5.1	.00	.00
25	---	---	---	---	---	e.00	158	51	32	3.9	.00	.00
26	---	---	---	---	---	e.00	157	50	31	3.2	.00	.00
27	---	---	---	---	---	e.00	154	50	30	4.1	.00	.00
28	---	---	---	---	---	e.00	152	50	29	3.9	.00	.00
29	---	---	---	---	---	e.00	151	47	29	3.3	.00	.00
30	---	---	---	---	---	e.00	149	48	28	3.1	.00	.00
31	---	---	---	---	---	e.00	---	49	---	2.9	.00	---
TOTAL	---	---	---	---	---	0.00	2967.22	2607	1071	349.0	13.08	0.00
MEAN	---	---	---	---	---	.000	98.9	84.1	35.7	11.3	.42	.000
MAX	---	---	---	---	---	.00	165	147	49	27	2.9	.00
MIN	---	---	---	---	---	.00	.00	47	28	2.9	.00	.00
AC-FT	---	---	---	---	---	.00	5890	5170	2120	692	26	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2001, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	8.39	120	87.4	40.6	14.0	1.81	1.19
MAX	---	---	---	---	---	24.8	217	207	110	28.2	6.51	4.77
(WY)	---	---	---	---	---	1998	1999	1999	1999	1999	1999	1999
MIN	---	---	---	---	---	.000	.15	.041	.040	2.18	.005	.000
(WY)	---	---	---	---	---	2001	2000	2000	2000	2000	1998	1998

SUMMARY STATISTICS WATER YEARS 1998 - 2001

HIGHEST DAILY MEAN	267	Apr 23 1999
LOWEST DAILY MEAN	.00	Jul 31 1998
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 6 1998
MAXIMUM PEAK FLOW	a 269	Apr 23 1999
MAXIMUM PEAK STAGE	66.41	Apr 13 1999
10 PERCENT EXCEEDS	155	
50 PERCENT EXCEEDS	2.0	
90 PERCENT EXCEEDS	.00	

e Estimated
a Observed gage height, 66.30 ft

05056340 LITTLE COULEE NEAR LEEDS, ND--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
APR													
14...	0915	140	6.8	6.9	620	683	4.5	3.0	200	39.0	24.0	12.0	2
19...	0830	162	--	--	--	678	11.5	4.0	--	--	--	--	--
MAY													
01...	1220	146	--	--	--	804	18.5	15.0	--	--	--	--	--
JUN													
21...	1040	31	--	--	--	916	19.5	18.0	--	--	--	--	--
AUG													
02...	0950	2.2	8.4	8.1	1010	973	23.0	20.5	330	61.0	44.0	20.0	2

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
APR													
14...	51.0	34	144	26.0	.1	150	160	422	389	4.0	180	2.00	100
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
02...	85.0	34	268	20.0	.1	260	4.20	707	651	8.0	30	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR					
14...	180	.10	2.0	3.0	170
19...	--	--	--	--	--
MAY					
01...	--	--	--	--	--
JUN					
21...	--	--	--	--	--
AUG					
02...	160	<.10	2.0	3.0	320

05056410 CHANNEL A NEAR PENN, ND

LOCATION.--Lat 48°10'00", long 98°58'47", in $SE^1/_4SW^1/_4SW^1/_4$ sec.11, T.154 N., R.65 W., Ramsey County, Hydrologic Unit 09020201, on right bank 200 ft upstream from U.S. Highway 2, 9 mi northwest of Devils Lake, and 7 mi southeast of Penn.

DRAINAGE AREA.--930 mi^2, approximately, of which about 140 mi^2 is probably noncontributing. Drainage area reduced from approximately 2,510 mi^2 with the completion of Channel A in March 1979.

WATER-DISCHARGE RECORDS

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

Miscellaneous discharge measurements for Channel A near Penn

Date	Discharge
February 26, 2001	0
April 15, 2001	277
April 19, 2001	921
May 1, 2001	[1]955
June 22, 2001	0
August 13, 2001	[2]-189
September 12, 2001	0

[1]Wind aided
[2]Reverse flow

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1984-99, 2001.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
APR													
15...	1240	277	7.3	7.4	813	896	-3.5	1.0	270	51.0	34.0	18.0	2
19...	1055	921	--	--	--	617	16.0	3.5	--	--	--	--	--
MAY													
01...	1620	955	--	--	--	681	21.5	14.0	--	--	--	--	--
AUG													
13...	1305	189	--	--	--	857	28.5	23.5	--	--	--	--	--

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
APR													
15...	61.0	31	187	42.0	.1	190	413	552	509	6.0	210	2.00	100
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR					
15...	320	.10	2.0	3.0	230
19...	--	--	--	--	--
MAY					
01...	--	--	--	--	--
AUG					
13...	--	--	--	--	--

05056500 DEVILS LAKE NEAR DEVILS LAKE, ND

LOCATION.--Lat 48°04'00", long 98°56'07", in SW$^{1}/_{4}$ sec.18, T.153 N., R.64 W., Ramsey County, Hydrologic Unit 09020201, at Lakewood on east bank of Creel Bay, and 4.5 mi southwest of city of Devils Lake. Creel Bay, which is 0.5 mi wide, is an arm of Devils Lake, and extends 2 mi to the north of the lake.

DRAINAGE AREA.--3,130 mi^2, approximately, of which about 1,000 mi^2 is probably noncontributing.

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--1867, 1879, 1883, 1887, 1890, 1896 (one gage height for each year), 1901-63 (fragmentary), 1964 to current year.

REVISED RECORDS.--WSP 1913: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,400.00 ft above sea level. June 23, 1950, to June 6, 1963, nonrecording gage at present site and datum. See WSP 1913 for history of changes prior to June 23, 1950. Prior to October 1979 only monthend elevations were published.

REMARKS.--Elevation at gage frequently affected by wind.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 1,448.33 ft, July 21, 2001, affected by wind, present datum; minimum observed, 1,400.87 ft, Oct. 24, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD.--The lake level was at an elevation of about 1,441 ft around 1830 and lower thereafter. Reference is Geological Survey monograph, volume XXV, the Glacial History of Lake Agassiz by Warren Upham.

EXTREMES FOR CURRENT YEAR.--Maximum daily mean elevation, 1,448.01 ft, July 22 and Aug. 9, affected by wind; minimum daily mean 1,445.83 ft, Oct. 10 and 11, affected by wind.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45.95	45.92	46.04	46.07	46.06	46.09	46.14	47.32	47.67	47.92	48.00	47.61
2	45.96	46.05	46.05	46.07	46.06	46.09	46.13	47.34	47.67	47.91	47.97	47.61
3	45.98	46.02	46.07	46.07	46.07	46.09	46.14	47.37	47.64	47.91	47.96	47.57
4	45.90	45.97	46.08	46.07	46.07	46.09	46.17	47.40	47.63	47.89	47.95	47.55
5	45.95	45.95	---	46.06	46.07	46.09	46.19	47.42	47.61	47.86	47.96	47.53
6	45.91	46.01	46.06	46.06	46.07	46.09	46.20	47.53	47.62	47.87	47.94	47.55
7	45.89	46.16	46.05	46.06	46.07	46.09	46.24	47.59	47.64	47.86	47.93	47.52
8	45.88	46.15	46.04	46.06	46.07	46.09	46.25	47.58	47.64	47.85	47.96	47.51
9	45.87	46.10	46.06	46.06	46.07	46.09	46.27	47.59	47.64	47.84	48.01	47.50
10	45.85	46.09	46.04	46.06	46.07	46.09	46.29	47.61	47.65	47.82	47.96	---
11	45.83	46.08	46.05	46.06	46.08	46.09	46.32	47.62	47.68	47.80	47.94	---
12	45.83	46.10	---	46.06	46.08	46.09	46.35	47.64	47.67	47.79	47.93	---
13	45.84	46.10	---	46.07	46.08	46.10	46.39	47.64	47.76	47.79	47.91	47.42
14	45.95	46.08	46.05	46.07	46.07	46.10	46.45	47.65	47.81	47.82	47.90	47.39
15	45.93	46.08	46.05	46.07	46.08	46.09	46.51	47.68	47.87	47.82	47.90	47.39
16	45.92	46.08	46.05	46.07	46.06	46.09	46.55	47.69	47.82	47.84	47.87	47.38
17	45.92	46.06	46.03	46.07	46.06	46.08	46.58	47.72	47.81	47.86	47.86	47.36
18	45.92	46.08	46.04	46.08	46.07	46.09	46.63	47.71	47.87	47.85	47.84	47.35
19	45.92	46.08	46.03	46.07	46.07	46.09	46.67	47.71	47.93	47.85	47.82	47.33
20	45.91	46.07	46.04	46.07	46.06	46.10	46.76	47.74	47.93	47.87	47.80	47.35
21	45.86	46.06	46.03	46.07	46.07	46.10	46.82	47.74	47.94	47.98	47.80	47.32
22	45.89	46.07	46.03	46.07	46.07	46.11	46.86	47.69	47.93	48.01	47.78	47.29
23	45.87	46.06	46.03	46.06	46.07	46.11	46.91	47.70	47.92	48.00	47.77	47.29
24	45.87	46.07	46.03	46.06	46.09	46.11	46.96	47.68	47.92	47.95	47.77	47.26
25	45.87	46.06	46.03	46.07	46.09	46.11	47.01	47.68	47.95	47.91	47.77	47.24
26	45.92	46.05	46.02	46.07	46.09	46.10	47.06	47.68	47.94	47.89	47.76	47.22
27	45.90	46.05	46.02	46.06	46.09	46.10	47.10	47.67	47.93	47.93	47.73	47.21
28	45.88	46.05	46.07	46.06	46.09	46.11	47.14	47.67	47.96	47.93	47.71	47.18
29	45.90	46.04	46.07	46.06	---	46.11	47.22	47.65	47.97	47.92	47.72	47.18
30	45.92	46.04	46.07	46.06	---	46.13	47.25	47.66	47.94	47.93	47.66	47.17
31	45.91	---	46.07	46.07	---	46.14	---	47.66	---	47.97	47.62	---
MEAN	45.90	46.06	46.05	46.07	46.07	46.10	46.59	47.61	47.80	47.89	47.85	47.38
MAX	45.98	46.16	46.08	46.08	46.09	46.14	47.25	47.74	47.97	48.01	48.01	47.61
MIN	45.83	45.92	46.02	46.06	46.06	46.08	46.13	47.32	47.61	47.79	47.62	47.17

05056636 DEVILS LAKE OUTLET TO STUMP LAKE NEAR LAKOTA, ND

LOCATION.--Lat 47°57'29", long 98°29'00", in NE$^1/_4$SE$^1/_4$NE$^1/_4$ sec.29, T.152 N., R.61 W., Nelson County, Hydrologic Unit 09020201, on right bank, 3 mi upstream of Stump Lake.

DRAINAGE AREA.--Not determined.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1999 to current year.

GAGE.--Water stage recorder. Datum of gage is 1,400.00 ft above sea level. Prior to Oct. 1, 1999, at datum 37.73 ft higher.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Discharge from local drainage only until May after which daily discharges include flows from Devils Lake.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	1.6	.00	.00	e.00	e.00	4.8	2.5	23	24	36	25
2	.00	2.6	.00	.00	e.00	e.00	5.3	2.4	23	24	32	25
3	.00	1.8	.00	.00	e.00	e.00	5.4	2.0	22	24	31	24
4	.00	1.2	.00	.00	e.00	e.00	5.7	1.7	22	24	30	24
5	.00	1.1	.00	.00	e.00	e.00	8.0	1.6	21	23	30	23
6	.00	3.1	.00	.00	e.00	e.00	11	2.5	21	20	29	e23
7	.00	6.3	.00	.00	e.00	e.00	13	3.3	22	25	29	e24
8	.00	2.3	.00	.00	e.00	e.00	13	3.2	21	24	31	e23
9	.00	1.6	.00	.00	e.00	e.00	11	3.1	20	24	32	e22
10	.00	1.6	.00	.00	e.00	e.00	10	3.4	19	23	31	e20
11	.00	1.7	.00	.00	e.00	e.00	9.2	3.7	20	23	31	20
12	.00	1.9	.00	.00	e.00	e.00	8.2	4.1	19	22	31	19
13	.00	2.2	.00	.00	e.00	e.00	7.6	4.5	22	22	31	19
14	.21	1.4	.00	.00	e.00	e.00	7.4	4.0	23	25	31	18
15	.33	1.3	.00	.00	e.00	e.00	6.2	5.0	25	24	31	18
16	.06	e1.2	.00	.00	e.00	e.00	5.7	7.0	23	25	30	18
17	.03	e1.2	.00	.00	e.00	e.02	5.4	8.2	23	25	30	17
18	.00	e1.2	.00	.00	e.00	e.03	4.9	8.4	26	25	29	17
19	.00	e1.2	.00	.00	e.00	e.13	4.6	9.2	27	25	29	17
20	.00	e1.1	.00	.00	e.00	e.31	4.7	11	26	25	29	18
21	.00	e1.1	.00	.00	e.00	e.90	4.6	13	26	29	29	18
22	.00	e1.1	.00	.00	e.00	e2.7	4.3	12	25	28	28	18
23	.00	e1.0	.00	.00	e.00	e3.8	4.1	9.3	26	27	27	17
24	.00	e.82	.00	.00	e.00	e4.6	3.9	15	26	27	27	17
25	.06	e.41	.00	.00	e.00	e5.4	3.6	16	27	27	28	16
26	3.3	e.22	.00	.00	e.00	e6.3	3.4	17	27	27	26	16
27	1.3	e.04	.00	.00	e.00	e6.9	3.1	20	25	34	26	15
28	.40	.00	.00	.00	e.00	e7.9	2.7	21	25	31	25	15
29	1.1	.00	.00	.00	---	e7.0	2.7	21	25	29	26	15
30	1.1	.00	.00	.00	---	e6.5	2.7	22	24	29	26	14
31	.84	---	.00	.00	---	e5.9	---	22	---	39	25	---
TOTAL	8.73	42.29	0.00	0.00	0.00	58.39	186.2	279.1	704	803	906	575
MEAN	.28	1.41	.000	.000	.000	1.88	6.21	9.00	23.5	25.9	29.2	19.2
MAX	3.3	6.3	.00	.00	.00	7.9	13	22	27	39	36	25
MIN	.00	.00	.00	.00	.00	.00	2.7	1.6	19	20	25	14
AC-FT	17	84	.00	.00	.00	116	369	554	1400	1590	1800	1140

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2001, BY WATER YEAR (WY)

MEAN	.28	1.41	.000	.000	.000	1.88	6.21	9.00	23.5	25.9	29.2	19.2
MAX	.28	1.41	.000	.000	.000	1.88	6.21	9.00	23.5	25.9	29.2	19.2
(WY)	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001
MIN	.28	1.41	.000	.000	.000	1.88	6.21	9.00	23.5	25.9	29.2	19.2
(WY)	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 2000 - 2001	
ANNUAL TOTAL			3562.71			
ANNUAL MEAN			9.76		9.76	
HIGHEST ANNUAL MEAN					9.76	2001
LOWEST ANNUAL MEAN					9.76	2001
HIGHEST DAILY MEAN	6.3	Nov 7	39	Jul 31	39	Jul 31 2001
LOWEST DAILY MEAN	.00	Feb 23	.00	Oct 1	.00	Oct 1 1999
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 1	.00	Oct 1	.00	Oct 1 1999
MAXIMUM PEAK FLOW			a 51	Jul 31	a 51	Jul 31 2001
MAXIMUM PEAK STAGE			b 40.44	Mar 21	b 40.44	Mar 21 2001
ANNUAL RUNOFF (AC-FT)			7070		7070	
10 PERCENT EXCEEDS	1.7		27		26	
50 PERCENT EXCEEDS	.00		3.2		1.8	
90 PERCENT EXCEEDS	.00		.00		.00	

a Gage height, 40.07 ft
b Backwater from ice
e Estimated

05056636 DEVILS LAKE OUTLET TO STUMP LAKE NEAR LAKOTA, ND

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water year 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)
MAR					
22...	1315	2.8	418	-3.0	1.0
APR					
20...	1515	4.7	1090	11.0	11.0
MAY					
08...	1410	3.0	1930	15.5	12.5
24...	1330	16	2290	--	12.5
JUN					
14...	1340	22	3950	14.0	16.5
AUG					
03...	1210	31	5310	31.0	26.0
SEP					
10...	1120	21	6230	16.5	15.0

05056665 EASTERN STUMP LAKE NEAR LAKOTA, ND

LOCATION.--Lat 47°52'07", long 98°21'27", in SW$^1/_4$SE$^1/_4$NE$^1/_4$ sec.29, T.151 N., R.60 W., Nelson County, Hydrologic Unit 09020201, on north shore, in southwest corner of Memorial Park.

DRAINAGE AREA.--Not determined.

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--June 1999 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,400 ft above sea level.

REMARKS.--Gage heights are frequently affected by wind.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 12.32 ft, Aug. 8; minimum gage height, 9.16 ft, Oct. 21.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.36	9.36	9.61	9.71	9.78	9.97	10.09	11.09	11.33	11.78	12.11	12.00
2	9.36	9.44	9.61	9.72	---	9.97	10.10	11.10	11.32	11.77	12.11	12.02
3	9.37	9.42	9.61	9.72	---	9.97	10.13	11.09	11.31	11.78	12.11	11.99
4	9.31	9.39	9.62	9.73	---	9.97	10.17	11.09	11.30	11.77	12.11	11.97
5	9.33	9.39	9.61	9.72	---	9.97	10.21	11.08	11.29	11.75	12.14	11.96
6	9.30	9.44	9.62	9.74	---	9.97	10.26	11.16	11.31	11.77	12.14	11.96
7	9.27	9.58	9.62	9.74	---	9.97	10.34	11.22	11.36	11.77	12.13	11.97
8	9.25	9.58	9.62	9.74	---	9.97	10.40	11.22	11.37	11.77	12.19	11.94
9	9.22	9.56	9.63	9.74	---	9.97	10.45	11.22	11.36	11.77	12.23	11.94
10	9.22	9.55	9.63	9.74	---	9.97	10.51	11.23	11.38	11.76	12.17	11.92
11	9.20	9.55	9.63	9.74	---	9.97	10.57	11.22	11.40	11.74	12.16	11.91
12	9.20	9.58	9.62	9.75	---	9.97	10.62	11.21	11.40	11.73	12.16	11.90
13	9.22	9.60	9.62	9.75	---	9.98	10.67	11.21	11.45	11.72	12.14	---
14	9.30	9.58	9.62	9.76	---	9.98	10.72	11.22	11.48	11.75	12.13	---
15	9.29	9.59	9.63	9.76	---	9.98	10.77	11.25	11.54	11.75	12.17	---
16	9.29	9.59	9.64	9.75	---	9.98	10.79	11.25	11.51	11.76	12.14	---
17	9.29	9.58	9.64	9.76	---	9.98	10.81	11.27	11.50	11.77	12.14	11.87
18	9.28	9.58	9.64	9.76	---	9.98	10.83	11.26	11.56	11.77	12.12	11.86
19	9.29	9.66	9.64	9.75	---	9.99	10.86	11.27	11.66	11.77	12.10	11.85
20	9.28	9.60	9.64	9.76	---	10.00	10.89	11.31	11.67	11.77	12.09	11.91
21	9.23	9.59	9.65	9.76	---	10.01	10.92	11.35	11.70	11.88	12.09	11.92
22	9.25	9.59	9.65	9.77	---	10.02	10.93	11.35	11.70	11.90	12.09	11.91
23	9.24	9.60	9.65	9.76	---	10.04	10.95	11.29	11.71	11.93	12.07	11.90
24	9.24	9.60	9.65	9.76	---	10.04	10.96	11.26	11.72	11.89	12.06	11.88
25	9.25	9.60	9.65	9.76	---	10.04	10.97	11.28	11.74	11.87	12.10	11.87
26	9.32	9.60	9.65	9.77	9.96	10.04	10.99	11.27	11.77	11.84	12.09	11.86
27	9.32	9.61	9.66	9.77	9.96	10.04	11.01	11.28	11.76	11.92	12.09	11.86
28	9.28	9.61	9.70	9.77	9.96	10.04	11.00	11.29	11.77	12.00	12.06	11.85
29	9.31	9.61	9.70	9.77	---	10.05	11.03	11.28	11.80	11.99	12.06	11.84
30	9.34	9.61	9.71	9.77	---	10.06	11.07	11.29	11.80	12.00	12.05	11.85
31	9.34	---	9.70	9.79	---	10.09	---	11.30	---	12.05	12.02	---
MEAN	9.28	9.55	9.64	9.75	9.91	10.00	10.67	11.23	11.53	11.82	12.12	11.91
MAX	9.37	9.66	9.71	9.79	9.96	10.09	11.07	11.35	11.80	12.05	12.23	12.02
MIN	9.20	9.36	9.61	9.71	9.78	9.97	10.09	11.08	11.29	11.72	12.02	11.84

05056665 EASTERN STUMP LAKE NEAR LAKOTA, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--1958-79, 1993 to present.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTERVAL(IN METERS) (82047)	DEPTH TO BOTTOM OF SAMPLE INTERVAL(IN METERS) (82048)	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STANDARD UNITS) (00403)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SODIUM ADSORPTION RATIO (00931)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
OCT													
11...	1540	.00	9.3	11700	8.6	2400	140	490	130	21	2300	66	376
FEB													
13...	1315	.80	9.7	12500	7.8	2500	150	510	140	22	2500	67	381
MAY													
10...	1415	.00	9.8	10800	8.5	2200	130	450	128	20	2100	66	373
JUL													
17...	1255	.00	10.0	10900	8.2	2200	140	440	112	21	2200	68	376

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NITRATE DISSOLVED (MG/L AS N) (00618)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)
OCT													
11...	910	.1	5700	2.3	.049	<.006	--	E.038	2.3	--	.151	.221	9930
FEB													
13...	980	.1	6100	2.7	.380	.008	.098	.106	2.4	2.8	.181	.246	10500
MAY													
10...	750	.1	5400	2.1	E.027	.007	--	E.026	--	--	.089	.160	9270
JUL													
17...	900	.1	5400	--w	.405	.009	--	E.024	--	--	.224	--w	9430

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	CHLOR-A PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70954)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY DISSOLVED (UG/L AS HG) (71890)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)
OCT												
11...	9900	.8	<.1	4.0	150	<1.00	770	170	<.10	3.0	7.0	480
FEB												
13...	10600	.2	<.1	13.0	100	6.00	750	170	.10	3.0	<1.0	460
MAY												
10...	9180	--r	--r	22.0	170	2.00	570	40.0	<.10	4.0	25.0	770
JUL												
17...	9420	--	--	23.0	80	2.00	570	370	.10	4.0	24.0	810

05056665 EASTERN STUMP LAKE NEAR LAKOTA, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH OF LAKE MAX. METERS (85310)	SAMPLING DEPTH (M) (00098)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	BAROMETRIC PRESSURE (MM OF HG) (00025)	ICE THICKNESS METERS (82131)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	TEMPERATURE AIR (DEG C) (00020)	WIND DIRECTION (DEG. FROM TRUE NORTH) (00036)
OCT													
11...	1530	9.3	.00	11600	8.8	9.9	9.6	93	723	--	90.5	17.0	150
11...	1531	--	1.5	11600	8.8	9.9	9.5	--	--	--	--	--	--
11...	1532	--	3.0	11600	8.8	9.9	9.5	--	--	--	--	--	--
11...	1533	--	4.5	11600	8.8	9.9	9.5	--	--	--	--	--	--
11...	1534	--	6.1	11600	8.8	9.8	9.5	--	--	--	--	--	--
11...	1535	--	7.5	11600	8.8	9.8	9.5	--	--	--	--	--	--
11...	1536	--	9.3	11600	8.8	9.8	9.5	--	--	--	--	--	--
FEB													
13...	1300	9.7	.80	12500	8.1	-0.2	11.7	87	734	.70	60.0	-12.0	310
13...	1301	--	2.0	12500	8.2	-0.3	11.5	--	--	--	--	--	--
13...	1302	--	3.0	12500	8.2	-0.3	11.3	--	--	--	--	--	--
13...	1303	--	4.0	12500	8.2	-0.3	11.3	--	--	--	--	--	--
13...	1304	--	5.0	12500	8.2	-0.3	11.2	--	--	--	--	--	--
13...	1305	--	6.0	12500	8.2	-0.3	11.2	--	--	--	--	--	--
13...	1306	--	7.0	12500	8.2	.1	10.8	--	--	--	--	--	--
13...	1307	--	8.0	12500	8.1	.5	10.4	--	--	--	--	--	--
13...	1308	--	9.0	12600	8.1	1.9	9.0	--	--	--	--	--	--
13...	1310	--	9.7	12600	8.1	2.1	8.6	--	--	--	--	--	--
MAY													
10...	1400	9.8	.00	11200	8.6	8.8	13.7	129	725	--	48.0	25.0	.0
10...	1401	--	1.0	11200	8.6	8.8	13.7	--	--	--	--	--	--
10...	1402	--	2.0	11200	8.6	8.8	13.6	--	--	--	--	--	--
10...	1403	--	3.0	11200	5.6	8.6	13.4	--	--	--	--	--	--
10...	1404	--	4.0	11200	8.6	8.5	13.5	--	--	--	--	--	--
10...	1405	--	5.0	11200	8.6	8.4	13.3	--	--	--	--	--	--
10...	1406	--	6.0	11200	8.6	8.3	13.3	--	--	--	--	--	--
10...	1407	--	7.0	11200	8.6	8.3	13.3	--	--	--	--	--	--
10...	1408	--	8.0	11200	8.6	8.3	13.1	--	--	--	--	--	--
10...	1409	--	9.1	12400	8.3	4.8	8.5	--	--	--	--	--	--
10...	1410	--	9.8	12700	8.3	3.6	5.9	--	--	--	--	--	--
JUL													
17...	1240	--	.00	11000	8.6	25.7	9.8	133	717	--	90.0	29.0	15
17...	1241	--	1.0	11000	8.6	24.5	9.6	--	--	--	--	--	--
17...	1242	--	2.0	11000	8.6	24.1	8.8	--	--	--	--	--	--
17...	1243	--	3.0	11000	8.5	23.7	8.4	--	--	--	--	--	--
17...	1244	--	4.0	11000	8.5	23.2	7.3	--	--	--	--	--	--
17...	1245	--	5.1	11000	8.5	23.0	6.9	--	--	--	--	--	--
17...	1246	--	6.0	11100	8.4	21.3	5.3	--	--	--	--	--	--
17...	1247	--	7.0	11100	8.4	20.5	4.4	--	--	--	--	--	--
17...	1248	--	8.1	11100	8.3	19.6	1.4	--	--	--	--	--	--
17...	1249	--	9.0	11100	8.3	17.6	.5	--	--	--	--	--	--
17...	1250	--	10.1	11200	8.2	16.6	.4	--	--	--	--	--	--

05056665 EASTERN STUMP LAKE NEAR LAKOTA, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WIND SPEED (MILES PER HOUR) (00035)
OCT	
11...	14
11...	--
11...	--
11...	--
11...	--
11...	--
11...	--
FEB	
13...	10
13...	--
13...	--
13...	--
13...	--
13...	--
13...	--
13...	--
13...	--
13...	--
MAY	
10...	6.0
10...	--
10...	--
10...	--
10...	--
10...	--
10...	--
10...	--
10...	--
10...	--
10...	--
JUL	
17...	<5.0
17...	--
17...	--
17...	--
17...	--
17...	--
17...	--
17...	--
17...	--
17...	--
17...	--

E Estimated value
r Sample ruined in preparation
w Sample discarded: warm when received

05056670 WESTERN STUMP LAKE NEAR LAKOTA, ND

LOCATION.--Lat 47°54'48", long 98°23'26", in $SE^1/_4NE^1/_4NW^1/_4$ sec.7, T.151 N., R.60 W., Nelson County, Hydrologic Unit 09020201, at southeast arm of lake.

DRAINAGE AREA.--Not determined.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958-79, 1993 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTERVAL(IN METERS) (82047)	DEPTH TO BOTTOM OF SAMPLE INTERVAL(IN METERS) (82048)	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STANDARD UNITS) (00403)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SODIUM ADSORPTION RATIO (00931)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
OCT													
11...	1505	.00	4.7	11900	8.7	2400	140	490	140	21	2400	67	380
FEB													
13...	1215	.80	5.1	13100	7.8	2600	160	530	147	22	2600	67	408
MAY													
10...	1325	.00	5.3	10200	8.5	2100	130	420	116	19	2000	66	337
JUL													
17...	1225	.00	5.5	10600	8.3	2100	140	430	108	20	2100	67	385

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NITRATE DISSOLVED (MG/L AS N) (00618)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)
OCT													
11...	790	.1	5600	2.8	.161	.006	--	E.030	2.6	--	.106	.195	10100
FEB													
13...	1000	.1	6300	2.7	.328	.009	.152	.161	2.4	2.9	.157	.212	11100
MAY													
10...	750	.1	5000	2.0	E.032	E.005	--	E.023	--	--	.090	.165	8820
JUL													
17...	640	.1	5100	--w	.092	.006	--	<.050	--	--	.240	--w	9110

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	CHLOR-A PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70954)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY DISSOLVED (UG/L AS HG) (71890)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)
OCT												
11...	9790	.7	<.1	3.0	140	<1.00	730	80.0	<.10	3.0	5.0	490
FEB												
13...	11000	<.1	<.1	13.0	90	3.00	760	90.0	<.10	3.0	<1.0	470
MAY												
10...	8620	--w	--w	20.0	130	2.00	540	30.0	<.10	4.0	23.0	730
JUL												
17...	8750	--w	--w	22.0	90	2.00	550	260	.10	4.0	21.0	780

05056670 WESTERN STUMP LAKE NEAR LAKOTA, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH OF LAKE MAX. METERS (85310)	SAMPLING DEPTH (M) (00098)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	BAROMETRIC PRESSURE (MM OF HG) (00025)	ICE THICKNESS METERS (82131)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	TEMPERATURE AIR (DEG C) (00020)	WIND DIRECTION (DEG. FROM TRUE NORTH) (00036)
OCT													
11...	1455	4.7	.00	11800	8.7	8.5	9.7	91	725	--	51.0	16.0	150
11...	1456	--	1.0	11800	8.7	8.5	9.6	--	--	--	--	--	--
11...	1457	--	2.1	11800	8.7	8.5	9.5	--	--	--	--	--	--
11...	1458	--	3.1	11800	8.7	8.4	9.5	--	--	--	--	--	--
11...	1459	--	4.1	11900	8.7	8.4	9.5	--	--	--	--	--	--
11...	1500	--	4.7	11900	8.7	8.4	9.4	--	--	--	--	--	--
11...	1505	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
13...	1200	5.1	.80	12800	8.1	.1	11.4	86	733	.80	52.0	-12.0	290
13...	1201	--	2.0	13000	8.0	.0	9.8	--	--	--	--	--	--
13...	1202	--	3.0	13100	8.0	.0	9.0	--	--	--	--	--	--
13...	1203	--	4.0	13200	8.0	-0.1	8.8	--	--	--	--	--	--
13...	1204	--	5.1	13200	8.0	.00	8.6	--	--	--	--	--	--
13...	1215	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
10...	1315	5.3	.00	10400	8.6	10.8	12.1	120	723	--	54.0	25.5	.0
10...	1316	--	1.0	10400	8.6	10.8	12.1	--	--	--	--	--	--
10...	1317	--	2.0	10400	8.6	10.7	12.0	--	--	--	--	--	--
10...	1318	--	3.0	10400	8.6	10.6	11.9	--	--	--	--	--	--
10...	1319	--	4.0	10500	8.6	10.3	11.8	--	--	--	--	--	--
10...	1320	--	5.0	11300	8.5	7.9	11.6	--	--	--	--	--	--
10...	1321	--	5.3	11200	8.5	7.8	11.3	--	--	--	--	--	--
10...	1325	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
17...	1215	5.5	.00	10500	8.7	26.0	11.7	159	718	--	56.0	30.5	145
17...	1216	--	1.0	10500	8.7	25.6	11.6	--	--	--	--	--	--
17...	1217	--	2.0	10600	8.7	24.8	11.1	--	--	--	--	--	--
17...	1218	--	3.0	10700	8.6	24.4	9.2	--	--	--	--	--	--
17...	1219	--	4.0	10800	8.5	23.4	5.4	--	--	--	--	--	--
17...	1220	--	5.1	11000	8.4	21.5	.7	--	--	--	--	--	--
17...	1221	--	5.5	11000	8.3	20.6	.5	--	--	--	--	--	--
17...	1225	--	--	--	--	--	--	--	--	--	--	--	--

DATE	WIND SPEED (MILES PER HOUR) (00035)
OCT	
11...	12
11...	--
11...	--
11...	--
11...	--
11...	--
11...	--
FEB	
13...	10
13...	--
13...	--
13...	--
13...	--
13...	--
MAY	
10...	7.0
10...	--
10...	--
10...	--
10...	--
10...	--
10...	--
10...	--
JUL	
17...	<5.0
17...	--
17...	--
17...	--
17...	--
17...	--
17...	--
17...	--

E Estimated value
w Sample discarded: warm when received

05057000 SHEYENNE RIVER NEAR COOPERSTOWN, ND

LOCATION.--Lat 47°25'58", long 98°01'38", in NW¼NW¼SW¼ sec.26, T.146 N., R.58 W., Griggs County, Hydrologic Unit 09020203, on right bank at Ueland Dam 0.7 mi downstream from State Highway 200, and 5 mi east of Cooperstown.

DRAINAGE AREA.--6,470 mi², approximately, of which about 5,200 mi² is probably noncontributing, includes 3,800 mi² in closed basins.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1944 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1728: Drainage area. WRD ND-80-1: Gage datum.

GAGE.--Water-stage recorder and artificial control. Datum of gage is 1,271.76 ft above sea level (Coast and Geodetic Survey bench mark). Aug. 3, 1950, to Oct. 22, 1985, gage located on right bank 300 ft downstream of present site and datum. Prior to Aug. 3, 1950, nonrecording gage at site 150 ft downstream of present site at same datum.

REMARKS.--Records fair except for periods of estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	175	289	265	e69	e66	e45	e550	814	346	574	707	89
2	164	304	252	e68	e65	e46	e830	773	339	537	655	89
3	156	327	243	e68	e64	e46	e1250	737	334	499	604	84
4	149	325	236	e68	e63	e46	e1550	701	325	458	566	79
5	147	336	219	e67	e62	e46	e2300	673	314	410	531	74
6	144	353	212	e66	e60	e46	e2750	653	302	373	501	72
7	134	385	198	e65	e58	e46	2940	687	298	341	457	72
8	123	431	190	e64	e56	e46	3110	697	296	311	412	69
9	115	457	191	e64	e53	e46	2960	689	291	286	354	66
10	109	486	170	e65	e50	e47	2900	677	292	261	304	65
11	103	499	e161	e65	e50	e47	2830	664	290	235	275	64
12	101	463	e157	e64	e49	e56	2730	658	284	218	253	62
13	96	405	e153	e65	e49	e58	2630	646	278	204	223	61
14	92	389	e150	e66	e48	e59	2530	632	276	191	200	60
15	88	360	e146	e66	e47	e60	2430	612	285	183	186	61
16	92	390	e140	e66	e46	e60	2330	589	305	175	167	64
17	104	392	e135	e66	e45	e63	2210	564	335	174	155	64
18	128	422	e127	e67	e45	e67	2070	540	367	189	158	65
19	173	436	e121	e67	e45	e72	1940	518	398	180	159	65
20	227	422	e112	e68	e44	e81	1810	504	431	180	154	e65
21	263	417	e104	e68	e44	e95	1680	500	481	208	143	e65
22	269	396	e99	e67	e44	e125	1550	493	539	235	131	e65
23	266	374	e95	e66	e44	e155	1440	483	587	239	122	e66
24	251	360	e90	e65	e44	e202	1330	469	624	249	112	e68
25	237	342	e84	e64	e45	e245	1220	450	653	280	114	e71
26	242	323	e77	e64	e45	e270	1140	431	669	306	110	e68
27	240	310	e72	e65	e45	e290	1040	411	671	332	103	e61
28	260	287	e68	e66	e45	e310	946	398	661	383	96	e63
29	272	282	e67	e68	---	e335	894	391	641	412	92	e64
30	277	274	e68	e68	---	e375	857	383	612	450	93	e63
31	285	---	e69	e67	---	e415	---	361	---	543	86	---
TOTAL	5482	11236	4471	2052	1421	3900	56747	17798	12524	9616	8223	2044
MEAN	177	375	144	66.2	50.8	126	1892	574	417	310	265	68.1
MAX	285	499	265	69	66	415	3110	814	671	574	707	89
MIN	88	274	67	64	44	45	550	361	276	174	86	60
AC-FT	10870	22290	8870	4070	2820	7740	112600	35300	24840	19070	16310	4050

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2001, BY WATER YEAR (WY)

MEAN	38.9	38.3	22.4	14.3	16.2	187	674	254	145	111	65.3	40.7
MAX	392	375	144	68.2	112	1381	2623	1953	873	722	1033	321
(WY)	1995	2001	2001	1995	1998	1995	1996	1950	2000	2000	1993	1994
MIN	.83	2.83	3.14	1.94	.000	2.14	42.4	37.3	6.66	3.84	.68	.000
(WY)	1964	1977	1977	1964	1963	1964	1991	1961	1961	1961	1961	1959

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1945 - 2001	
ANNUAL TOTAL	103182		135514			
ANNUAL MEAN	282		371		134	
HIGHEST ANNUAL MEAN					399	1950
LOWEST ANNUAL MEAN					13.2	1977
HIGHEST DAILY MEAN	2200	Jun 19	3110	Apr 8	7410	Apr 17 1950
LOWEST DAILY MEAN	24	Jan 22	44	Feb 20	.00	Aug 29 1959
ANNUAL SEVEN-DAY MINIMUM	24	Jan 28	44	Feb 18	.00	Aug 29 1959
MAXIMUM PEAK FLOW			a 3190	Apr 8	7830	Apr 17 1950
MAXIMUM PEAK STAGE			b 17.37	Apr 5	19.13	Apr 18 1996
ANNUAL RUNOFF (AC-FT)	204700		268800		96950	
10 PERCENT EXCEEDS	652		688		295	
50 PERCENT EXCEEDS	170		204		28	
90 PERCENT EXCEEDS	33		60		4.4	

a Gage height, 17.07 ft
b Backwater from ice
e Estimated

05057000 SHEYENNE RIVER NEAR COOPERSTOWN, ND--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: June 1997 to current year.

SPECIFIC CONDUCTANCE: June 1997 to current year.

INSTRUMENTATION.--Water-quality sensors since June 1997.

REMARKS.--Records good. Missing data is result of equipment malfunction.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 29.3°C, Aug. 7, 2001; minimum recorded, -0.2°C, on many days in November and December 2000 and on many days in January 2001.

SPECIFIC CONDUCTANCE: Maximum recorded, 1,810 microsiemens, Dec. 20, 21, 2000; minimum recorded, 539 microsiemens, June 16, 2000.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 29.3°C, Aug. 7; minimum recorded, -0.2°C, on many days.

SPECIFIC CONDUCTANCE: Maximum recorded, 1,810 microsiemens, Dec. 20, 21; minimum recorded, 644 microsiemens, April 7.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
OCT													
05...	1200	147	--	--	--	--	1110	--	9.0	--	--	--	--
18...	0945	--	123	--	--	--	1090	7.5	9.0	--	--	--	--
24...	0930	251	--	--	--	--	1000	--	10.0	--	--	--	--
NOV													
21...	0910	--	423	--	--	--	1490	-5.0	.5	--	--	--	--
DEC													
14...	1240	150	--	--	--	--	1760	-15.0	.00	--	--	--	--
JAN													
03...	1615	68	--	--	--	--	1720	.5	.00	--	--	--	--
16...	1250	--	66	--	--	--	1400	-6.5	.00	--	--	--	--
31...	0945	67	--	--	--	--	1460	-5.5	.00	--	--	--	--
FEB													
27...	1515	45	--	--	--	--	1400	-8.0	.5	--	--	--	--
MAR													
12...	1525	--	56	--	--	--	1280	.00	.00	--	--	--	--
APR													
02...	1610	--	820	7.7	7.6	612	539	4.0	2.0	190	39.0	23.0	10.0
07...	1345	--	2870	--	--	--	--	4.5	2.0	--	--	--	--
15...	1620	--	2370	--	--	--	780	-1.0	5.5	--	--	--	--
23...	1045	--	1430	--	--	--	947	9.5	5.0	--	--	--	--
MAY													
23...	1555	483	--	--	--	--	1350	11.5	12.0	--	--	--	--
JUN													
05...	1500	314	--	--	--	--	1310	19.5	17.5	--	--	--	--
20...	1630	431	--	--	--	--	1260	--	19.0	--	--	--	--
21...	1050	--	469	--	--	--	1160	18.5	18.5	--	--	--	--
JUL													
08...	1020	--	466	8.2	8.1	1070	1050	30.0	28.0	350	60.0	49.0	11.0
11...	1435	235	--	--	--	--	1390	23.0	24.5	--	--	--	--
AUG													
07...	0910	--	466	8.2	--	--	1050	30.0	28.0	--	--	--	--
07...	1330	457	--	--	--	--	1080	30.5	27.5	--	--	--	--
SEP													
04...	1235	79	--	--	--	--	1210	26.0	22.0	--	--	--	--

05057000 SHEYENNE RIVER NEAR COOPERSTOWN, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
OCT													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
02...	2	51.0	35	168	9.6	.1	130	903	408	364	3.0	120	12.0
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
08...	3	110	40	364	14.0	.2	240	973	773	703	7.0	120	2.00
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT						
05...	--	--	--	--	--	--
18...	--	--	--	--	--	--
24...	--	--	--	--	--	--
NOV						
21...	--	--	--	--	--	--
DEC						
14...	--	--	--	--	--	--
JAN						
03...	--	--	--	--	--	--
16...	--	--	--	--	--	--
31...	--	--	--	--	--	--
FEB						
27...	--	--	--	--	--	--
MAR						
12...	--	--	--	--	--	--
APR						
02...	100	150	.10	2.0	3.0	190
07...	--	--	--	--	--	--
15...	--	--	--	--	--	--
23...	--	--	--	--	--	--
MAY						
23...	--	--	--	--	--	--
JUN						
05...	--	--	--	--	--	--
20...	--	--	--	--	--	--
21...	--	--	--	--	--	--
JUL						
08...	100	20.0	<.10	2.0	3.0	310
11...	--	--	--	--	--	--
AUG						
07...	--	--	--	--	--	--
07...	--	--	--	--	--	--
SEP						
04...	--	--	--	--	--	--

05057000 SHEYENNE RIVER NEAR COOPERSTOWN, ND--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	14.3	12.9	13.8	10.2	9.4	9.7	-.1	-.2	-.2	-.1	-.2	-.1
2	13.1	12.5	12.8	10.0	8.3	9.3	-.1	-.2	-.2	-.1	-.2	-.2
3	12.6	10.8	11.8	8.3	6.6	7.4	-.1	-.2	-.1	-.1	-.2	-.1
4	10.8	9.7	10.2	6.6	5.7	6.2	-.1	-.2	-.1	-.1	-.2	-.1
5	9.7	8.0	8.9	---	---	---	-.1	-.2	-.1	-.1	-.2	-.2
6	8.0	6.6	7.4	6.3	5.8	6.0	-.1	-.2	-.1	-.1	-.2	-.1
7	6.8	5.8	6.3	5.8	2.9	4.6	-.1	-.2	-.2	-.1	-.2	-.2
8	6.2	5.0	5.6	2.9	1.2	2.0	-.1	-.2	-.1	.0	-.2	-.1
9	7.0	5.3	6.0	1.2	.7	.9	-.1	-.2	-.1	.0	-.1	.0
10	7.9	6.1	6.9	.7	.3	.5	-.1	-.2	-.2	.0	-.1	.0
11	9.0	7.1	8.0	.3	-.1	.1	-.1	-.2	-.1	.0	-.1	.0
12	9.6	8.3	8.9	-.1	-.2	-.1	-.1	-.2	-.1	.0	-.1	.0
13	10.7	9.0	9.8	.0	-.2	-.2	-.1	-.2	-.2	.0	-.1	-.1
14	10.2	9.1	9.9	.0	-.2	-.1	-.1	-.2	-.2	.0	-.1	-.1
15	---	---	---	.0	-.2	-.1	-.1	-.2	-.1	.0	-.1	-.1
16	---	---	---	-.1	-.2	-.1	-.1	-.2	-.2	.0	-.1	.0
17	---	---	---	-.1	-.2	-.1	-.1	-.2	-.1	.1	-.1	.0
18	---	---	---	-.1	-.2	-.2	-.1	-.2	-.1	.1	.0	.1
19	---	---	---	-.1	-.2	-.1	-.1	-.2	-.1	.1	.0	.0
20	---	---	---	-.1	-.2	-.1	-.1	-.2	-.1	.1	.0	.1
21	---	---	---	-.1	-.2	-.1	-.1	-.2	-.2	.1	.0	.1
22	---	---	---	-.1	-.2	-.2	-.1	-.2	-.2	.1	.0	.0
23	9.5	8.4	9.0	-.1	-.2	-.1	-.1	-.2	-.2	.1	.0	.0
24	9.5	8.2	8.7	-.1	-.2	-.1	-.1	-.2	-.1	.1	.0	.1
25	11.0	9.5	10.2	-.1	-.2	-.2	-.1	-.2	-.2	.1	.0	.1
26	11.3	10.1	10.9	-.1	-.2	-.1	-.1	-.2	-.1	.2	.0	.1
27	10.1	7.7	8.7	.0	-.2	-.1	-.1	-.2	-.1	.2	.1	.2
28	7.7	7.0	7.2	-.1	-.2	-.1	-.1	-.2	-.2	.2	.1	.2
29	8.0	7.3	7.7	-.1	-.2	-.1	-.1	-.2	-.2	.2	.1	.2
30	8.4	8.0	8.1	-.1	-.2	-.2	-.1	-.2	-.2	.2	.1	.1
31	9.4	8.4	8.9	---	---	---	-.1	-.2	-.2	.2	.1	.1
MONTH	14.3	5.0	8.9	10.2	-.2	1.5	-.1	-.2	-.1	.2	-.2	.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	.2	.1	.2	.4	.3	.3	.6	.5	.5	16.3	15.5	15.9
2	.2	.1	.1	.4	.3	.3	.6	.4	.5	15.9	14.7	15.3
3	.2	.1	.2	.4	.3	.3	.6	.4	.5	16.0	14.9	15.5
4	.2	.1	.1	.4	.3	.4	.6	.4	.5	16.5	14.8	15.6
5	.2	.1	.1	.4	.3	.3	1.1	.5	.7	15.6	13.6	14.7
6	.2	.1	.2	.4	.3	.4	---	---	---	13.7	13.0	13.5
7	.3	.1	.2	.4	.3	.3	3.8	3.1	3.5	13.0	11.7	12.4
8	.3	.2	.2	.4	.3	.4	4.3	2.7	3.4	13.0	10.9	11.9
9	.3	.2	.2	.4	.3	.3	4.3	4.0	4.2	14.8	12.2	13.4
10	.3	.2	.3	.4	.3	.3	4.1	3.8	4.0	15.8	13.9	14.8
11	.3	.2	.2	.4	.3	.4	4.3	3.7	4.0	16.1	14.0	15.0
12	.3	.2	.3	.4	.3	.3	5.8	3.8	4.8	16.8	14.9	15.8
13	.3	.2	.3	.4	.3	.3	5.8	5.4	5.6	18.1	15.7	16.8
14	.3	.2	.2	.4	.3	.4	6.8	4.7	5.6	19.5	17.3	18.3
15	.3	.2	.3	.4	.3	.4	6.9	4.9	6.2	20.2	18.4	19.3
16	.3	.2	.3	.4	.3	.4	4.9	3.1	3.5	19.7	18.4	19.0
17	.3	.2	.3	.5	.3	.4	4.5	2.8	3.5	19.7	18.0	18.8
18	.3	.2	.2	.4	.3	.4	7.1	4.5	5.6	20.2	17.6	18.9
19	.3	.2	.2	.4	.3	.4	9.2	6.0	7.6	21.1	18.6	19.8
20	.3	.2	.3	.5	.3	.4	10.2	9.2	9.8	20.1	18.1	19.3
21	.4	.3	.4	.6	.3	.4	10.1	7.7	9.2	18.1	15.3	16.5
22	.4	.3	.4	.6	.3	.4	7.7	5.6	6.5	15.3	12.8	13.9
23	.4	.3	.3	.5	.3	.4	6.6	5.1	5.8	12.8	11.3	11.8
24	.4	.3	.4	.5	.3	.4	8.7	6.5	7.7	12.9	10.8	11.7
25	.4	.3	.4	.5	.3	.4	10.9	8.5	9.9	15.3	11.8	13.4
26	.4	.3	.3	.5	.3	.4	12.8	10.7	11.9	17.3	13.6	15.3
27	.4	.3	.4	.5	.3	.4	13.5	12.3	13.0	18.0	15.7	16.8
28	.4	.3	.4	.5	.4	.4	14.6	12.7	13.6	19.1	16.2	17.6
29	---	---	---	.6	.5	.5	16.3	14.3	15.3	20.0	17.3	18.6
30	---	---	---	.6	.5	.5	16.6	15.5	16.0	19.4	18.1	18.6
31	---	---	---	.6	.5	.5	---	---	---	19.5	17.5	18.5
MONTH	.4	.1	.3	.6	.3	.4	16.6	.4	6.3	21.1	10.8	16.0

05057000 SHEYENNE RIVER NEAR COOPERSTOWN, ND--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	18.8	17.2	17.8	23.7	22.0	22.7	24.2	22.5	23.3	21.1	19.1	19.9
2	18.8	16.3	17.5	22.9	21.5	22.2	24.7	22.8	23.8	22.0	20.3	21.1
3	19.6	17.4	18.4	23.9	21.3	22.5	26.3	23.8	25.0	21.8	20.5	21.1
4	19.2	17.5	18.4	23.9	21.9	22.9	28.0	25.7	26.7	21.8	20.0	20.8
5	18.6	17.2	17.6	23.6	21.3	22.5	28.7	26.7	27.6	22.9	20.7	21.7
6	17.2	16.3	16.6	24.7	21.6	23.0	29.2	27.0	28.1	24.0	21.9	22.6
7	18.8	15.8	17.0	25.4	22.4	23.9	29.3	27.4	28.3	22.2	20.0	21.4
8	20.9	17.6	18.9	26.4	23.3	24.8	28.8	27.3	27.8	20.0	18.3	19.3
9	22.3	19.3	20.6	27.1	24.4	25.7	27.3	24.8	25.7	19.0	17.0	18.0
10	23.9	20.8	22.2	26.9	24.9	26.0	24.8	22.7	23.8	18.1	16.2	17.0
11	23.7	21.7	22.8	26.5	24.0	24.8	24.7	22.4	23.5	18.0	15.9	16.8
12	23.1	21.2	22.0	24.8	23.0	23.9	24.4	22.6	23.5	18.0	15.9	16.7
13	22.2	19.9	20.6	25.8	23.8	24.6	23.8	21.7	22.6	17.8	16.0	16.7
14	20.3	18.4	18.9	26.4	25.0	25.6	24.3	22.0	22.9	16.3	15.1	15.8
15	19.1	17.3	18.2	26.4	25.5	25.9	24.2	23.0	23.4	15.1	14.1	14.6
16	19.1	17.5	18.3	26.2	25.3	25.8	23.2	21.7	22.4	14.3	13.7	14.0
17	19.7	17.4	18.5	27.0	25.6	26.0	22.8	21.5	22.2	15.9	13.6	14.5
18	19.4	17.8	18.6	25.9	24.7	25.3	22.4	21.4	21.9	16.3	14.5	15.3
19	18.9	16.5	17.7	27.8	25.5	26.5	22.1	20.8	21.5	17.3	15.1	16.0
20	19.1	17.5	18.3	28.2	27.0	27.7	22.7	21.2	21.9	17.1	15.7	16.2
21	19.4	17.2	18.3	28.3	26.9	27.6	23.6	22.1	22.8	16.9	15.5	16.0
22	20.4	17.7	19.1	28.2	26.5	27.4	24.7	23.2	24.0	16.1	14.8	15.5
23	20.6	18.8	19.7	27.9	26.6	27.1	25.2	23.9	24.6	14.8	13.2	14.0
24	22.5	19.9	21.1	27.2	25.1	25.8	25.2	24.2	24.6	13.5	11.9	12.7
25	23.3	21.9	22.5	25.5	23.6	24.4	25.2	23.6	24.4	13.5	11.5	12.4
26	23.5	22.3	22.9	24.8	23.1	23.7	25.0	23.6	24.2	14.0	11.6	12.7
27	24.2	22.4	23.3	23.3	22.0	22.5	23.8	22.6	23.4	14.8	12.1	13.4
28	25.5	23.5	24.5	23.5	21.2	22.2	23.6	22.0	22.7	15.3	13.0	14.1
29	26.0	24.6	25.2	24.0	22.2	23.1	23.6	22.0	22.7	16.1	13.7	14.8
30	25.4	23.7	24.6	24.2	22.4	23.2	22.5	20.8	21.8	17.1	14.6	15.6
31	---	---	---	23.9	22.8	23.4	21.0	19.5	20.2	---	---	---
MONTH	26.0	15.8	20.0	28.3	21.2	24.6	29.3	19.5	23.9	24.0	11.5	16.7

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	---	1200	1180	1190	1630	1630	1630	1730	1720	1730
2	1100	1080	1090	1200	1180	1190	1640	1630	1640	1730	1710	1720
3	1100	1080	1090	1190	1170	1180	1640	1630	1640	1720	1700	1710
4	1100	1100	1100	1220	1170	1200	1640	1630	1640	1710	1690	1700
5	1110	1100	1100	1220	1190	1210	1670	1640	1650	1700	1670	1690
6	1100	1090	1100	1190	1180	1180	1680	1670	1670	1670	1650	1660
7	1100	1090	1100	1250	1180	1210	1670	1670	1670	1660	1630	1650
8	1100	1100	1100	1240	1220	1230	1680	1670	1680	1630	1600	1620
9	1120	1100	1110	1270	1230	1260	1680	1680	1680	1600	1590	1600
10	1120	1110	1120	1300	1270	1280	1700	1680	1680	1590	1580	1590
11	1130	1120	1120	1320	1290	1310	1710	1690	1700	1580	1570	1580
12	1130	1120	1130	1360	1310	1330	1720	1710	1710	1580	1570	1570
13	1120	1110	1120	---	---	---	1740	1720	1730	1570	1560	1560
14	---	---	---	---	---	---	1770	1740	1760	1560	1550	1550
15	---	---	---	1450	1410	1430	1780	1760	1770	1550	1540	1550
16	---	---	---	1450	1450	1450	1780	1770	1780	1540	1530	1540
17	---	---	---	1470	1450	1470	1790	1780	1780	1530	1520	1530
18	---	---	---	1490	1470	1480	1800	1790	1790	1520	1510	1520
19	1130	1120	1130	1540	1470	1520	1800	1790	1800	1520	1500	1510
20	1130	1100	1110	1560	1540	1550	1810	1800	1800	1510	1500	1510
21	1130	1120	1120	1610	1560	1590	1810	1800	1800	1520	1510	1510
22	1140	1110	1120	1630	1610	1620	1800	1790	1800	1520	1510	1510
23	1150	1130	1140	1640	1630	1630	1800	1780	1790	1510	1500	1510
24	1130	1100	1110	1630	1610	1620	1790	1780	1780	1500	1500	1500
25	1100	1080	1090	1620	1610	1620	1790	1780	1780	1500	1500	1500
26	1120	1070	1080	1640	1620	1630	1780	1780	1780	1500	1500	1500
27	1170	1120	1150	1640	1630	1640	1780	1770	1770	1500	1480	1490
28	1190	1170	1180	1640	1630	1640	1770	1760	1770	1480	1470	1480
29	1180	1150	1160	1630	1620	1630	1760	1750	1760	1480	1470	1470
30	1190	1140	1160	1630	1630	1630	1750	1740	1750	1470	1470	1470
31	1210	1190	1200	---	---	---	1740	1730	1740	1470	1460	1460
MONTH	1210	1070	1120	1640	1170	1430	1810	1630	1730	1730	1460	1560

05057000 SHEYENNE RIVER NEAR COOPERSTOWN, ND--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	1460	1460	1460	1400	1390	1390	685	660	675	1030	1010	1020
2	1470	1460	1460	1390	1380	1390	663	652	658	1040	1030	1040
3	1470	1460	1460	1380	1380	1380	665	650	656	1050	1040	1050
4	1470	1450	1460	1380	1380	1380	673	663	669	1060	1050	1060
5	1450	1440	1440	1380	1380	1380	678	673	676	1070	1060	1070
6	1440	1440	1440	1380	1370	1370	705	676	684	1080	1070	1080
7	1440	1430	1440	1370	1350	1360	680	644	668	1140	1080	1110
8	1440	1420	1430	1360	1340	1350	682	660	670	1160	1140	1150
9	1430	1420	1420	1340	1320	1330	723	682	705	1170	1150	1160
10	1430	1420	1420	1320	1310	1310	741	723	734	1170	1160	1160
11	1430	1420	1430	1310	1300	1310	745	741	742	1160	1150	1150
12	1430	1430	1430	1300	1290	1300	749	740	744	1150	1140	1150
13	1440	1430	1430	1300	1290	1300	749	740	744	1170	1150	1160
14	1440	1430	1430	1300	1290	1300	761	749	756	1200	1160	1180
15	1440	1430	1440	1300	1290	1290	779	761	770	1250	1200	1230
16	1440	1440	1440	1290	1280	1280	795	779	789	1300	1250	1280
17	1440	1430	1440	1280	1270	1270	802	795	798	1330	1300	1320
18	1440	1430	1430	1270	1250	1260	810	802	807	1330	1330	1330
19	1440	1430	1440	1250	1200	1230	832	805	821	1330	1320	1330
20	1440	1430	1430	1200	1120	1180	853	832	843	1320	1300	1310
21	1440	1430	1430	1120	901	999	884	853	868	1300	1280	1290
22	1440	1430	1430	901	762	830	910	884	897	1290	1290	1290
23	1440	1430	1430	837	765	786	922	910	917	1290	1260	1280
24	1430	1430	1430	832	761	801	922	918	920	1290	1280	1280
25	1430	1420	1420	849	821	835	930	920	925	1280	1270	1280
26	1420	1410	1420	887	844	871	943	930	936	1280	1270	1270
27	1410	1400	1400	888	854	875	957	942	949	1280	1270	1270
28	1400	1400	1400	854	820	835	973	957	966	1280	1280	1280
29	---	---	---	832	819	827	990	973	983	1290	1280	1280
30	---	---	---	819	749	784	1010	990	999	1290	1280	1280
31	---	---	---	749	685	715	---	---	---	1300	1280	1290
MONTH	1470	1400	1430	1400	685	1150	1010	644	799	1330	1010	1210

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	1300	1280	1290	1440	1430	1430	1220	1190	1200	1130	1120	1120
2	1300	1290	1300	1430	1410	1420	1190	1160	1170	1140	1110	1120
3	1300	1290	1300	1410	1390	1400	1160	1140	1150	1220	1110	1190
4	1300	1290	1300	1400	1380	1390	1140	1120	1130	1210	1190	1200
5	1320	1300	1310	1410	1400	1400	1120	1100	1110	1190	1180	1180
6	1300	1270	1290	1420	1400	1410	1100	1080	1090	1200	1180	1190
7	1300	1280	1290	1420	1400	1410	1080	1050	1070	1190	1170	1180
8	1300	1290	1300	1410	1390	1390	1060	1020	1030	1190	1160	1180
9	1300	1290	1290	1400	1390	1400	1080	1040	1060	1190	1180	1180
10	1300	1290	1290	1400	1380	1390	1110	1080	1090	1190	1180	1180
11	1300	1290	1300	1430	1390	1400	1140	1110	1130	1190	1160	1180
12	1300	1290	1300	1460	1430	1450	1160	1140	1150	1180	1160	1170
13	1300	1290	1290	1470	1420	1460	1170	1160	1160	1170	1160	1160
14	1290	1270	1290	1440	1420	1430	1180	1170	1170	1170	1150	1160
15	1290	1280	1280	1430	1420	1430	1180	1180	1180	1160	1150	1150
16	1290	1270	1280	1420	1380	1400	1190	1180	1190	1160	1140	1150
17	1280	1260	1270	1380	1380	1380	1190	1190	1190	1150	1140	1140
18	1270	1260	1260	1390	1380	1380	1200	1190	1190	1140	1130	1140
19	1280	1260	1270	1400	1390	1390	1200	1190	1200	1140	1130	1130
20	1280	1260	1260	1420	1400	1410	1210	1200	1200	1140	1130	1130
21	1260	1220	1240	1420	1400	1410	1210	1200	1210	1140	1120	1130
22	1220	1180	1210	1400	1390	1390	1210	1200	1210	1140	1130	1140
23	1200	1180	1190	1390	1370	1380	1220	1210	1210	1140	1130	1140
24	1250	1200	1220	1370	1350	1360	1210	1210	1210	1140	1140	1140
25	1290	1250	1280	1350	1320	1330	1210	1190	1200	1150	1140	1140
26	1330	1290	1300	1320	1300	1310	1190	1180	1190	1150	1130	1130
27	1370	1330	1350	1300	1270	1290	1180	1160	1170	1140	1130	1130
28	1390	1370	1380	1280	1270	1270	1250	1160	1200	1130	1130	1130
29	1420	1390	1410	1270	1250	1260	1260	1180	1220	1140	1130	1130
30	1440	1420	1430	1250	1240	1250	1200	1150	1170	1140	1130	1140
31	---	---	---	1240	1220	1230	1150	1130	1140	---	---	---
MONTH	1440	1180	1290	1470	1220	1380	1260	1020	1160	1220	1110	1150

05057200 BALDHILL CREEK NEAR DAZEY, ND

LOCATION.--Lat 47°13'45", long 98°07'28", in NW$^1/_4$SE$^1/_4$SW$^1/_4$ sec.2, T.143 N., R.59 W., Barnes County, Hydrologic Unit 09020203, on left bank 500 ft upstream from bridge on county highway, 4.5 mi northeast of Dazey, and 14 mi upstream from mouth.

DRAINAGE AREA.--691 mi^2, of which about 340 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1956 to current year.

REVISED RECORDS.--WSP 1728: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,330 ft above sea level. Prior to Nov. 9, 1956, nonrecording gage 500 ft downstream at same datum.

REMARKS.--Records good except for periods of estimated discharge, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.6	41	e40	e4.6	e5.3	e2.4	e200	80	33	21	115	17
2	8.3	47	e37	e4.9	e5.1	e2.4	e205	77	31	20	129	21
3	7.6	52	e34	e5.0	e5.0	e2.5	e230	75	28	18	82	19
4	6.9	52	e34	e5.2	e5.0	e2.5	e220	74	26	16	75	19
5	7.5	54	e30	e5.1	e4.8	e2.6	e204	70	24	14	68	16
6	6.6	60	e26	e5.1	e4.6	e2.8	e254	84	27	14	61	15
7	5.6	72	e21	e5.0	e4.2	e2.9	e365	104	32	13	53	15
8	5.3	74	e20	e5.1	e4.0	e3.0	e430	105	35	12	56	14
9	5.1	e74	e17	e5.1	e3.8	e3.0	e420	100	36	12	45	13
10	5.3	e73	e14	e5.1	e3.7	e3.1	415	95	36	11	36	13
11	5.0	e70	e12	e5.1	e3.5	e3.3	407	91	36	11	30	12
12	4.7	e67	e11	e5.1	e3.5	e3.5	439	85	35	11	25	12
13	5.0	e63	e10	e5.2	e3.4	e3.8	397	76	42	11	21	12
14	7.2	e61	e9.0	e5.2	e3.2	e4.2	344	70	46	11	18	12
15	7.8	e59	e8.3	e5.1	e3.1	e4.6	303	66	55	11	19	11
16	10	e58	e7.7	e5.2	e3.0	e5.1	245	60	56	10	17	11
17	e8.2	e58	e7.0	e5.1	e2.9	e5.6	208	58	56	10	17	11
18	e7.1	e58	e6.5	e5.1	e2.8	e6.4	191	55	59	9.2	18	11
19	6.6	e52	e6.1	e5.2	e2.7	e7.2	179	53	67	8.7	18	11
20	6.5	e50	e5.7	e5.3	e2.5	e8.5	167	55	69	11	22	12
21	5.5	e48	e5.2	e5.5	e2.4	e11	154	57	70	12	26	12
22	5.7	e47	e4.9	e5.6	e2.3	e20	144	56	65	12	23	11
23	6.4	e46	e4.5	e5.5	e2.2	e155	134	51	59	13	18	11
24	11	e45	e4.1	e5.5	e2.2	e140	124	50	56	24	15	11
25	11	e44	e4.1	e5.5	e2.2	e130	115	46	51	25	27	11
26	16	e45	e4.1	e5.6	e2.2	e120	106	44	44	22	19	10
27	27	e45	e4.1	e5.6	e2.3	e135	99	42	38	21	17	9.7
28	35	e45	e4.1	e5.7	e2.3	e205	94	39	32	34	18	9.1
29	45	e44	e4.1	e5.7	---	e212	89	37	28	48	17	8.6
30	43	e43	e4.1	e5.5	---	e212	84	36	24	58	15	8.1
31	41	---	e4.4	e5.3	---	e204	---	34	---	61	16	---
TOTAL	381.5	1647	404.0	162.8	94.2	1623.4	6966	2025	1296	584.9	1136	378.5
MEAN	12.3	54.9	13.0	5.25	3.36	52.4	232	65.3	43.2	18.9	36.6	12.6
MAX	45	74	40	5.7	5.3	212	439	105	70	61	129	21
MIN	4.7	41	4.1	4.6	2.2	2.4	84	34	24	8.7	15	8.1
AC-FT	757	3270	801	323	187	3220	13820	4020	2570	1160	2250	751

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2001, BY WATER YEAR (WY)

MEAN	7.65	6.72	3.19	1.50	2.76	63.8	134	31.8	20.1	19.1	8.93	7.28
MAX	106	54.9	16.1	7.31	34.2	475	1040	220	180	273	133	58.5
(WY)	1995	2001	1995	1995	1998	1995	1997	1997	1999	1993	1993	1957
MIN	.47	.38	.15	.000	.000	.59	2.44	1.71	.91	.021	.076	.094
(WY)	1992	1960	1959	1959	1957	1964	1981	1981	1961	1989	1984	1984

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1956 - 2001	
ANNUAL TOTAL	11272.2		16699.3			
ANNUAL MEAN	30.8		45.8		25.7	
HIGHEST ANNUAL MEAN					115	1997
LOWEST ANNUAL MEAN					1.52	1981
HIGHEST DAILY MEAN	270	Jun 20	439	Apr 12	4500	Apr 19 1979
LOWEST DAILY MEAN	1.2	Jan 25	2.2	Feb 23	.00	Jan 25 1957
ANNUAL SEVEN-DAY MINIMUM	1.2	Jan 23	2.2	Feb 22	.00	Jan 25 1957
MAXIMUM PEAK FLOW			a 453	Apr 12	b 9000	Apr 19 1979
MAXIMUM PEAK STAGE			c 9.01	Apr 8	17.78	Apr 19 1979
ANNUAL RUNOFF (AC-FT)	22360		33120		18620	
10 PERCENT EXCEEDS	69		110		42	
50 PERCENT EXCEEDS	19		17		3.5	
90 PERCENT EXCEEDS	1.6		4.1		.27	

a Gage height, 8.47 ft
b About
c Backwater from ice
e Estimated

05057200 BALDHILL CREEK NEAR DAZEY, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: April 1997 to Sept. 30, 2001 (discontinued).

SPECIFIC CONDUCTANCE: April 1997 Sept. 30, 2001 (discontinued).

INSTRUMENTATION.--Water-quality sensors April 1997 to Sept. 30, 2001 (discontinued).

REMARKS.--Records good. Missing data is result of equipment malfuntion.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 31.0°C, July 10, 1998; minimum recorded,-0.2°C, on many days in November and December 2000.

SPECIFIC CONDUCTANCE: Maximum recorded, 2,210 microsiemens, May 7-8, 1997; minimum recorded, 291 microsiemens, Mar. 31, 1999.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 30.8°C, July 21; minimum recorded, -0.2°C, on many days in November and December.

SPECIFIC CONDUCTANCE: Maximum recorded, 1,780 microsiemens, Dec. 14; minimum recorded, 399 microsiemens, Mar. 21.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
OCT													
05...	1050	7.5	--	--	--	--	935	--	8.5	--	--	--	--
18...	1440	7.1	--	--	--	--	918	--	11.0	--	--	--	--
19...	1030	--	6.6	--	--	--	939	11.5	11.5	--	--	--	--
DEC													
14...	1445	--	9.2	--	--	--	1750	-15.0	.00	--	--	--	--
JAN													
03...	1450	5.0	--	--	--	--	1340	1.0	.5	--	--	--	--
30...	1730	--	5.7	--	--	--	1160	--	.00	--	--	--	--
FEB													
27...	1650	2.3	--	--	--	--	1070	-11.0	.00	--	--	--	--
MAR													
23...	1415	--	144	--	--	--	441	-5.0	1.0	--	--	--	--
29...	0830	212	--	--	--	--	663	--	.5	--	--	--	--
APR													
04...	1205	--	220	7.8	--e	515	542	4.5	2.5	210	44.0	24.0	9.30
13...	1140	--	391	--	--	--	--	5.5	4.5	--	--	--	--
MAY													
23...	1505	51	--	--	--	--	1190	9.5	9.0	--	--	--	--
JUN													
05...	1730	24	--	--	--	--	1140	11.5	16.5	--	--	--	--
20...	1235	69	--	--	--	--	1120	19.5	19.5	--	--	--	--
JUL													
11...	1335	11	--	--	--	--	1150	23.0	25.0	--	--	--	--
AUG													
07...	1050	--	54	7.9	7.9	1030	998	25.5	27.5	450	81.0	60.0	11.0
SEP													
04...	1145	19	--	--	--	--	954	26.0	20.5	--	--	--	--
11...	1440	--	12	--	--	--	954	22.0	17.5	--	--	--	--

05057200 BALDHILL CREEK NEAR DAZEY, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
OCT													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
04...	.8	27.0	21	142	16.0	.1	110	211	355	316	2.0	140	2.00
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
07...	1	62.0	23	329	10.0	.2	250	107	732	672	6.0	80	2.00
SEP													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT						
05...	--	--	--	--	--	--
18...	--	--	--	--	--	--
19...	--	--	--	--	--	--
DEC						
14...	--	--	--	--	--	--
JAN						
03...	--	--	--	--	--	--
30...	--	--	--	--	--	--
FEB						
27...	--	--	--	--	--	--
MAR						
23...	--	--	--	--	--	--
29...	--	--	--	--	--	--
APR						
04...	100	160	.10	3.0	3.0	210
13...	--	--	--	--	--	--
MAY						
23...	--	--	--	--	--	--
JUN						
05...	--	--	--	--	--	--
20...	--	--	--	--	--	--
JUL						
11...	--	--	--	--	--	--
AUG						
07...	100	260	.10	2.0	3.0	430
SEP						
04...	--	--	--	--	--	--
11...	--	--	--	--	--	--

e Required equipment not functional/available

05057200 BALDHILL CREEK NEAR DAZEY, ND--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	15.1	13.7	14.4	11.4	10.5	10.9	.1	-.2	-.1	.5	.2	.4
2	14.3	12.9	13.5	11.3	6.8	9.3	.0	-.2	-.1	.5	.3	.4
3	12.9	10.9	11.8	6.8	5.2	5.9	.1	-.2	-.1	.5	.3	.4
4	10.9	9.3	10.0	6.2	4.7	5.6	.1	-.2	.0	.6	.3	.4
5	9.3	7.4	8.4	6.3	5.0	5.6	.1	-.2	.0	.6	.3	.5
6	7.4	5.1	6.3	6.2	.1	3.2	.1	-.2	-.1	.6	.3	.4
7	5.8	4.5	5.1	.1	-.2	-.1	.0	-.2	-.1	.5	.3	.4
8	6.2	3.6	4.8	.3	-.2	.0	.1	-.2	-.1	.5	.3	.4
9	6.8	4.3	5.5	.2	-.2	.0	.2	-.2	.0	.6	.3	.4
10	8.3	5.3	6.7	.0	-.1	-.1	.2	-.2	.0	.5	.3	.4
11	9.6	7.0	8.2	.0	-.2	-.1	.1	-.2	-.1	.5	.3	.4
12	10.3	8.4	9.4	.1	-.1	-.1	.1	-.2	.0	.4	.2	.3
13	12.0	9.6	10.8	.1	-.1	.0	.1	-.2	-.1	.4	.2	.3
14	11.3	9.5	10.3	.0	-.2	-.1	.1	-.2	-.1	.4	.2	.3
15	9.6	8.4	9.0	.1	-.1	-.1	.1	-.2	.0	.4	.3	.4
16	---	---	---	.1	-.2	.0	.2	-.2	.0	.4	.3	.4
17	---	---	---	.0	-.1	.0	.2	.0	.1	.4	.3	.3
18	---	---	---	.0	-.1	.0	---	---	---	.4	.2	.3
19	12.2	10.2	11.1	.1	-.1	.0	---	---	---	.4	.2	.3
20	12.2	10.6	11.3	.1	-.1	.0	---	---	---	.4	.2	.3
21	10.6	9.3	10.0	.1	-.1	.0	---	---	---	.4	.2	.3
22	9.9	8.7	9.2	.1	-.1	.0	.3	.0	.1	.4	.2	.3
23	9.6	7.9	8.7	.1	-.1	.0	.3	.0	.1	.4	.1	.3
24	9.6	7.9	8.7	.1	-.2	.0	.3	.0	.2	.3	.1	.2
25	12.8	9.6	11.5	.1	-.2	.0	.4	.1	.2	.3	.1	.2
26	12.8	10.6	12.2	.1	-.1	.0	.4	.1	.2	.3	.1	.2
27	10.6	7.3	8.5	.1	-.2	.0	.3	.1	.2	.3	.1	.2
28	7.3	6.5	6.8	.1	-.2	.0	.4	.1	.3	.2	.1	.2
29	8.6	7.2	8.0	.1	-.2	.0	.4	.2	.3	---	---	---
30	9.0	8.5	8.7	.0	-.2	-.1	.4	.2	.3	.2	.1	.2
31	10.9	8.9	9.7	---	---	---	.4	.3	.3	.3	.1	.2
MONTH	15.1	3.6	9.2	11.4	-.2	1.3	.4	-.2	.1	.6	.1	.3

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	.3	.1	.2	.2	.0	.1	.4	.1	.3	17.7	14.8	15.9
2	.2	.0	.1	.2	.0	.1	.4	.1	.3	16.7	13.1	15.0
3	.2	.0	.2	.2	.0	.1	.3	.2	.3	16.3	14.0	15.2
4	.2	.1	.2	.2	.0	.1	.3	.2	.3	16.6	13.5	15.1
5	.2	.1	.2	.1	.0	.1	.4	.2	.3	15.9	12.0	13.6
6	.3	.1	.2	.2	.0	.1	.7	.2	.4	12.9	11.7	12.2
7	.3	.0	.2	.2	.0	.1	.4	.3	.3	11.7	9.8	10.9
8	.3	.0	.2	.2	.1	.1	1.5	.2	.7	14.2	9.0	11.4
9	.3	.1	.2	.2	.0	.1	3.5	1.5	2.7	17.1	11.9	14.5
10	.2	.1	.1	.2	.1	.1	3.8	3.4	3.5	17.3	14.1	15.9
11	.2	.0	.1	.2	.1	.1	3.8	2.9	3.4	18.1	13.7	16.0
12	.3	.0	.1	.1	.1	.1	6.2	3.1	4.5	19.0	14.8	16.9
13	.2	.0	.1	.2	.0	.1	5.9	4.8	5.3	20.2	15.9	18.0
14	.2	.0	.1	.2	.1	.2	8.0	4.2	6.0	22.2	17.7	19.7
15	.2	.0	.1	.2	.1	.2	7.1	4.2	5.5	21.8	19.8	20.9
16	.2	.0	.1	.3	.1	.2	4.4	1.4	3.0	20.6	18.3	19.4
17	.2	.0	.1	.2	.1	.2	6.1	1.6	3.6	19.7	17.0	18.5
18	.2	.0	.1	.2	.2	.2	8.9	3.7	6.0	20.7	17.2	19.0
19	.2	.0	.1	.2	.1	.2	10.6	6.9	8.7	22.7	18.3	20.4
20	.2	.0	.1	.2	.1	.2	11.8	9.5	10.5	21.8	16.4	19.0
21	.2	.0	.1	.3	.1	.2	10.9	7.1	8.6	16.4	12.4	13.7
22	.2	.0	.1	.2	.1	.2	7.1	4.9	5.7	12.4	10.0	10.8
23	.2	.0	.1	.2	.1	.2	8.2	3.4	5.5	10.0	8.2	9.1
24	.2	.0	.1	.2	.1	.2	11.0	5.8	8.3	13.7	9.0	10.8
25	.2	.0	.1	.2	.1	.2	14.2	8.9	11.4	16.2	12.0	14.0
26	.1	.0	.1	.2	.1	.2	16.0	11.8	13.9	19.3	14.2	16.6
27	.2	.0	.1	.2	.1	.2	15.4	12.8	14.2	19.5	16.8	18.4
28	.2	.0	.1	.2	.1	.2	17.3	12.2	14.5	21.3	16.9	19.2
29	---	---	---	.3	.1	.2	18.2	14.9	16.5	20.8	17.8	19.5
30	---	---	---	.3	.2	.3	18.0	15.1	16.7	20.4	18.0	18.7
31	---	---	---	.4	.2	.3	---	---	---	19.3	17.0	18.1
MONTH	.3	.0	.1	.4	.0	.2	18.2	.1	6.0	22.7	8.2	16.0

05057200 BALDHILL CREEK NEAR DAZEY, ND--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	19.0	16.2	17.1	23.6	20.4	21.7	25.3	22.5	23.8	21.8	19.8	20.8
2	19.9	15.1	17.3	23.7	20.5	21.9	25.6	22.4	23.9	22.7	21.7	22.2
3	20.0	17.3	18.8	24.5	21.9	23.1	28.8	23.5	25.8	22.2	20.8	21.4
4	19.7	17.6	18.8	24.0	22.7	23.4	30.2	26.2	28.1	21.1	20.2	20.8
5	18.9	15.9	17.1	23.4	22.1	22.8	30.1	26.7	28.6	22.8	21.1	21.8
6	15.9	15.0	15.3	25.8	22.0	23.7	30.3	27.0	28.6	24.1	21.8	22.7
7	19.8	14.6	17.1	26.9	23.8	25.1	30.3	27.1	28.8	22.4	18.9	20.7
8	22.6	17.5	20.3	28.0	24.4	26.2	30.1	27.2	28.0	19.1	17.8	18.3
9	23.8	19.4	21.7	29.3	25.9	27.5	27.6	23.7	24.7	18.6	17.0	17.7
10	25.5	20.8	23.2	29.1	25.9	27.3	24.9	21.2	23.2	18.8	15.8	17.0
11	25.3	21.8	23.4	26.6	23.8	25.2	25.8	21.7	23.7	18.8	15.7	16.8
12	23.7	20.5	22.2	24.2	22.7	23.3	25.1	22.7	23.7	18.8	16.2	17.4
13	22.6	18.7	19.8	25.8	23.1	24.3	23.6	21.9	22.6	17.6	16.3	16.9
14	19.3	17.2	18.0	29.8	25.0	26.8	25.6	22.5	23.9	16.6	14.5	15.6
15	19.4	16.0	17.6	27.0	25.3	26.1	24.5	23.3	24.1	14.5	13.3	13.7
16	19.9	17.1	18.6	26.9	25.2	26.0	23.6	22.0	22.9	14.6	13.3	13.8
17	20.7	17.8	19.2	28.3	25.9	26.9	23.8	22.2	22.9	17.7	13.8	15.2
18	20.6	17.0	19.0	28.2	25.9	26.8	23.1	21.7	22.4	16.5	15.0	15.8
19	20.2	15.4	17.7	29.7	26.5	27.8	22.9	21.4	22.1	17.3	15.4	16.3
20	20.0	17.9	18.9	28.9	26.8	27.8	23.8	22.0	22.7	17.8	16.1	16.6
21	21.1	17.2	19.1	30.8	26.7	28.5	26.0	22.6	24.0	17.3	15.5	16.2
22	22.4	18.4	20.4	30.0	27.1	28.4	26.8	23.9	25.2	16.9	14.9	15.9
23	23.0	19.7	21.2	29.0	26.9	27.7	26.6	24.9	25.8	15.1	13.3	14.1
24	26.0	21.4	23.3	27.1	24.9	25.7	25.8	24.9	25.3	14.2	12.1	13.1
25	27.1	24.1	25.1	25.1	22.9	23.7	25.6	23.3	24.7	14.4	11.9	13.1
26	25.9	23.5	24.9	23.9	21.7	22.6	27.4	24.0	25.0	15.1	12.4	13.7
27	26.9	23.0	24.7	21.7	20.6	21.3	24.4	23.1	23.7	15.9	13.1	14.5
28	27.6	24.7	26.2	23.7	20.0	21.5	23.7	22.4	23.0	16.6	14.2	15.3
29	27.3	25.5	26.5	24.4	21.7	23.0	25.3	22.6	23.4	16.8	14.4	15.6
30	26.9	23.6	25.1	26.0	22.5	23.9	22.6	20.8	21.9	18.3	15.8	16.7
31	---	---	---	25.9	23.8	24.5	21.3	19.9	20.6	---	---	---
MONTH	27.6	14.6	20.6	30.8	20.0	25.0	30.3	19.9	24.4	24.1	11.9	17.0

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	907	895	902	---	---	---	1700	1680	1690	1570	1530	1550
2	924	906	916	---	---	---	1680	1650	1670	1530	1500	1520
3	931	917	923	---	---	---	1650	1630	1640	1510	1490	1500
4	938	927	933	1040	1020	1030	1670	1620	1640	1490	1460	1480
5	942	930	935	---	---	---	1680	1660	1670	1460	1440	1450
6	949	935	944	1050	1020	1030	1680	1670	1670	1440	1430	1440
7	958	948	952	1070	1050	1060	1670	1650	1660	1430	1420	1420
8	965	948	955	1140	1060	1100	1680	1660	1660	1420	1400	1410
9	955	940	948	1240	1140	1200	1680	1660	1670	1400	1380	1390
10	950	940	946	1240	1200	1220	1710	1670	1700	1380	1360	1370
11	946	935	943	1200	1170	1190	1730	1710	1720	1360	1350	1350
12	948	934	943	1190	1170	1180	1750	1730	1740	1350	1340	1340
13	951	928	943	1240	1190	1210	1770	1740	1760	1340	1320	1330
14	930	925	928	1270	1240	1260	1780	1760	1770	1330	1310	1320
15	931	911	921	1310	1270	1290	1770	1760	1770	1310	1280	1290
16	---	---	---	1360	1300	1330	1770	1760	1760	1280	1270	1270
17	---	---	---	1400	1360	1380	1760	1750	1760	1270	1250	1260
18	---	---	---	1420	1400	1410	---	---	---	1250	1240	1250
19	937	924	928	1470	1420	1450	---	---	---	1240	1240	1240
20	962	937	949	1490	1470	1480	---	---	---	1240	1230	1230
21	---	---	---	1500	1480	1490	---	---	---	1230	1220	1220
22	981	970	976	1500	1490	1490	1740	1730	1730	1220	1200	1210
23	991	972	982	1500	1490	1500	1730	1720	1730	1200	1190	1200
24	1010	986	997	1520	1490	1500	1730	1720	1720	1200	1190	1190
25	---	---	---	1540	1500	1520	1720	1710	1720	1190	1180	1190
26	1000	951	982	1550	1530	1540	1710	1700	1710	1180	1180	1180
27	1030	1000	1020	1620	1550	1580	1710	1700	1700	1180	1170	1180
28	1040	994	1020	1690	1610	1650	1700	1680	1690	1180	1170	1170
29	1030	994	1020	1720	1690	1710	1690	1660	1680	---	---	---
30	1060	1010	1030	1720	1700	1720	1660	1620	1640	1160	1160	1160
31	---	---	---	---	---	---	1620	1570	1590	1160	1150	1160
MONTH	1060	895	957	1720	1020	1370	1780	1570	1700	1570	1150	1310

05057200 BALDHILL CREEK NEAR DAZEY, ND--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	1160	1150	1150	1080	1070	1070	577	564	572	965	953	957
2	1150	1140	1150	1070	1070	1070	591	545	569	978	964	970
3	1140	1130	1140	1070	1060	1070	570	555	561	991	977	983
4	1130	1130	1130	1060	1060	1060	572	559	568	1010	991	998
5	1130	1120	1130	1060	1050	1060	579	568	574	1010	996	1010
6	1120	1120	1120	1060	1050	1060	589	568	579	1020	992	1010
7	1120	1120	1120	1060	1060	1060	590	573	579	1100	1020	1080
8	1120	1110	1110	1070	1060	1070	644	574	612	1140	1090	1100
9	1110	1100	1110	1080	1060	1070	667	634	648	1180	1140	1150
10	1110	1090	1100	1060	1030	1050	682	667	676	1170	1160	1160
11	1100	1080	1090	1030	1020	1030	708	680	694	1180	1160	1170
12	1080	1070	1070	1020	1010	1020	751	708	732	1160	1140	1160
13	1080	1060	1070	1010	977	991	773	750	765	1160	1140	1160
14	1080	1070	1080	979	970	975	782	763	771	1170	1160	1170
15	1090	1080	1080	971	927	950	800	773	784	1160	1140	1150
16	1090	1080	1080	933	914	922	827	800	820	1160	1140	1150
17	1080	1080	1080	938	898	923	843	820	831	1160	1140	1150
18	1080	1070	1070	900	842	871	851	827	844	1160	1150	1160
19	1070	1060	1070	846	807	819	853	846	850	1170	1150	1160
20	1070	1060	1070	831	415	705	850	838	843	1170	1150	1160
21	1070	1060	1070	540	399	467	863	844	853	1160	1140	1150
22	1070	1060	1070	491	407	456	878	863	873	1170	1160	1160
23	1070	1060	1060	506	444	464	896	875	885	1170	1170	1170
24	1060	1060	1060	496	471	485	909	896	903	1180	1160	1170
25	1080	1060	1070	491	468	481	917	902	908	1170	1160	1160
26	1080	1070	1080	528	489	516	924	908	915	1160	1160	1160
27	1080	1070	1070	567	528	553	928	917	922	1170	1150	1160
28	1080	1070	1070	612	567	591	938	928	933	1170	1160	1160
29	---	---	---	651	612	641	945	936	940	1160	1140	1150
30	---	---	---	647	589	625	953	943	947	1150	1140	1150
31	---	---	---	589	561	570	---	---	---	1160	1140	1140
MONTH	1160	1060	1090	1080	399	829	953	545	765	1180	953	1120

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	1140	1130	1140	1230	1220	1220	980	884	937	1010	996	1000
2	1140	1110	1130	1230	1200	1220	927	806	847	1000	989	992
3	1140	1110	1130	1220	1200	1210	919	880	896	991	970	980
4	1130	1120	1130	1200	1190	1200	978	919	948	971	937	947
5	1140	1120	1130	1200	1190	1190	1000	978	994	951	938	941
6	1120	1090	1110	1190	1170	1180	1010	1000	1010	975	951	960
7	1100	1080	1090	1180	1160	1170	1020	1000	1010	989	972	979
8	1090	1060	1080	1170	1150	1160	1010	987	997	997	985	991
9	1070	1060	1060	1150	1140	1150	1020	993	1010	996	978	986
10	1070	1060	1060	1150	1140	1140	1040	1010	1030	981	958	968
11	1080	1060	1070	1140	1130	1130	1050	1020	1040	959	943	951
12	1080	1050	1070	1140	1130	1130	1050	1040	1040	953	941	946
13	1070	1040	1060	1130	1120	1130	1060	1040	1050	949	935	943
14	1060	1040	1050	1130	1110	1120	1060	1050	1060	944	929	936
15	1070	1040	1050	1120	1100	1110	1060	1030	1050	933	924	928
16	1080	1070	1070	1110	1100	1100	1050	1030	1040	928	918	924
17	1100	1080	1090	1110	1100	1100	1050	1040	1040	928	912	924
18	1120	1100	1110	1100	1080	1090	1040	1030	1030	928	920	925
19	1130	1110	1120	1120	1070	1090	1050	1040	1040	930	919	926
20	1130	1100	1120	1080	1020	1050	1060	1040	1050	930	905	919
21	1160	1100	1130	1040	991	1000	1060	1050	1060	919	907	913
22	1170	1160	1160	992	968	980	1060	1060	1060	920	912	916
23	1200	1170	1180	986	973	978	1060	1050	1060	926	916	921
24	1220	1200	1210	987	969	981	1050	1010	1020	938	925	931
25	1230	1220	1220	995	938	956	1020	926	960	949	927	935
26	1230	1210	1220	1060	995	1040	1000	962	990	948	928	935
27	1220	1190	1200	1080	1060	1070	1010	1000	1010	943	925	932
28	1210	1200	1210	1060	990	1020	1010	968	987	943	924	933
29	1220	1210	1210	995	929	964	986	958	969	948	936	940
30	1220	1220	1220	1130	934	1040	999	983	989	953	943	948
31	---	---	---	1140	980	1080	1010	982	996	---	---	---
MONTH	1230	1040	1130	1230	929	1100	1060	806	1010	1010	905	946

05057500 LAKE ASHTABULA AT BALDHILL DAM, ND

LOCATION.--Lat 47°02'00", long 98°05'00", in NW$^{1}/_{4}$ sec.18, T.141 N., R.58 W., Barnes County, Hydrologic Unit 09020203, at Baldhill Dam on Sheyenne River, and 8 mi northwest of Valley City.

DRAINAGE AREA.--7,470 mi^2, approximately, of which about 5,560 mi^2 is probably noncontributing, including 3,800 mi^2 in closed basins.

MONTHEND-ELEVATION AND CONTENTS RECORDS

PERIOD OF RECORD.--July 1949 to current year.

REVISED RECORDS.--WSP 1238: 1950(M). WSP 1728: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,200 ft above sea level.

REMARKS.--Reservoir is formed by an earth-filled dam, 1,650 ft long; storage began on July 30, 1949; dam completed September 1949. Usable capacity, 69,100 acre-ft between invert of outlet conduit, elevation, 1,238.0 ft, and normal pool level, elevation, 1,266.0 ft. Dead storage below elevation 1,238.0 ft, 1,500 acre-ft. Maximum pool elevation, 1,273.2 ft, capacity, 116,500 acre-ft. Low flows are controlled by 2 sluice gates 3 ft in diameter. The spillway crest is 120 ft long at elevation 1,252.0 ft, surmounted by 3 taintor gates, each 15 ft high and 40 ft long. The reservoir is operated for flood control and to increase low-water flow. Figures given for storage capacity (in acre-ft) based on capacity table dated 1978 (provided by U.S. Army Corps of Engineers).

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 91,400 acre-ft, May 14, 1950, elevation, 1,269.46 ft; minimum since reservoir first reached spillway level, 6,660 acre-ft, Aug. 11-14, 1950, elevation, 1,245.13 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 72,370 acre-ft, June 26, elevation, 1,266.31 ft; minimum, 31,450 acre-ft, March 15-17, elevation, 1,257.14 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	1,265.81	69,560	--
Oct. 31	1,265.49	67,740	-1,820
Nov 30	1,264.33	61,320	-6,420
Dec. 31	1,262.19	50,860	-10,460
CAL YR 2000	--	--	-6,540
Jan. 31	1,260.26	42,390	-8,470
Feb. 28	1,257.92	33,940	-8,450
Mar. 31	1,257.79	33,530	-410
Apr. 30	1,266.16	71,510	+37,980
May 31	1,266.15	71,460	-50
June 30	1,266.23	71,910	+450
July 31	1,266.24	71,970	+60
Aug. 31	1,266.02	70,710	-1,260
Sept.30	1,266.06	70,940	+230
WTR YR 2001	--	--	+1,380

05058000 SHEYENNE RIVER BELOW BALDHILL DAM, ND

LOCATION.--Lat 47°01'50", long 98°05'50", in $NW^1/_4NW^1/_4$ sec.18, T.141 N., R.58 W., Barnes County, Hydrologic Unit 09020204, on right bank 0.1 mi downstream from Baldhill Dam, 8 mi northwest of Valley City, and at mile 269.2.

DRAINAGE AREA.--7,470 mi^2, approximately, of which about 5,560 mi^2 is probably noncontributing, including 3,800 mi^2 in closed basins.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1949 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1728: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,200.00 ft above sea level. Prior to Dec. 29, 1994, at site .7 mi upstream at same datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow completely regulated by Lake Ashtabula (station 05057500). Records 1955 to 1972 include releases at Baldhill Dam to the fish-rearing ponds of the Fish and Wildlife Service. Small diversions are still made but not published.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	120	458	534	148	290	112	846	893	382	839	913	88
2	121	462	535	130	316	130	1100	862	395	733	876	87
3	122	508	533	121	277	150	1330	910	395	615	795	87
4	121	539	531	110	291	150	1520	964	448	560	798	72
5	121	540	534	111	294	142	1610	988	482	531	793	60
6	156	539	531	107	300	144	1650	998	492	427	785	58
7	189	552	528	115	278	138	1770	1030	500	362	667	57
8	189	559	528	117	306	142	1890	1070	434	361	589	57
9	188	e600	527	114	300	142	2010	1060	404	252	590	57
10	188	e725	527	128	295	136	2180	1040	406	179	524	58
11	187	e725	525	137	302	138	2240	922	405	175	457	57
12	188	e725	525	171	290	129	2290	854	401	172	470	56
13	193	e725	523	201	297	119	2320	851	399	170	344	57
14	188	e725	522	208	294	103	2240	773	400	170	205	56
15	186	721	468	207	285	99	2170	736	405	168	179	57
16	210	665	430	277	213	88	2120	674	405	167	142	57
17	238	617	417	320	137	81	2160	635	407	166	111	57
18	236	614	414	306	141	81	2170	593	408	167	110	57
19	295	614	423	306	140	103	2070	544	411	167	110	57
20	336	612	365	318	134	152	2000	546	411	197	109	57
21	334	581	204	319	134	240	2000	546	412	217	114	56
22	335	537	145	283	144	385	1910	547	454	294	141	55
23	337	535	149	314	138	486	1760	504	481	368	141	55
24	337	534	147	316	136	497	1530	438	499	382	94	54
25	337	533	152	318	138	500	1350	379	508	383	150	54
26	378	534	151	297	129	616	1260	351	638	386	433	54
27	428	531	148	312	104	722	1170	352	793	388	433	58
28	463	531	155	315	94	696	1020	353	819	389	290	68
29	461	534	149	314	---	690	1010	350	829	389	160	72
30	460	534	152	299	---	778	1020	346	842	453	109	72
31	458	---	148	311	---	840	---	354	---	654	93	---
TOTAL	8100	17609	11620	7050	6197	8929	51716	21463	14665	10881	11725	1847
MEAN	261	587	375	227	221	288	1724	692	489	351	378	61.6
MAX	463	725	535	320	316	840	2320	1070	842	839	913	88
MIN	120	458	145	107	94	81	846	346	382	166	93	54
AC-FT	16070	34930	23050	13980	12290	17710	102600	42570	29090	21580	23260	3660

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2001, BY WATER YEAR (WY)

MEAN	58.3	82.1	74.8	66.4	76.6	221	656	323	188	146	91.1	62.5
MAX	622	587	375	227	300	1567	3329	2906	1154	1272	1555	577
(WY)	1995	2001	2001	2001	1996	1995	1997	1950	1950	1993	1993	1994
MIN	1.92	5.27	4.32	3.64	7.66	7.81	2.07	6.86	5.88	7.28	6.72	.81
(WY)	1956	1956	1980	1956	1956	1955	1953	1959	1958	1959	1977	1955

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1950 - 2001	
ANNUAL TOTAL	124108		171802			
ANNUAL MEAN	339		471		170	
HIGHEST ANNUAL MEAN					574	1995
LOWEST ANNUAL MEAN					12.8	1991
HIGHEST DAILY MEAN	2260	Jun 19	2320	Apr 13	5410	Apr 20 1996
LOWEST DAILY MEAN	25	Feb 3	54	Sep 24	.00	Sep 8 1950
ANNUAL SEVEN-DAY MINIMUM	27	Feb 1	55	Sep 20	.00	Aug 8 1952
MAXIMUM PEAK FLOW			2340	Apr 14	5460	Apr 20 1996
MAXIMUM PEAK STAGE			30.26	Apr 14	36.46	Apr 20 1996
INSTANTANEOUS LOW FLOW			48	Sep 25		
ANNUAL RUNOFF (AC-FT)	246200		340800		123400	
10 PERCENT EXCEEDS	733		939		349	
50 PERCENT EXCEEDS	198		354		48	
90 PERCENT EXCEEDS	53		97		9.5	

e Estimated

05058000 SHEYENNE RIVER BELOW BALDHILL DAM, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1959 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: April 1997 to current year.

SPECIFIC CONDUCTANCE: April 1997 to current year.

INSTRUMENTATION.--Water-quality sensors since April 1997.

REMARKS.--Records good. Missing data is result of equipment malfunction.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 28.3°C, July 20, 1998; minimum recorded, 0.3°C, Apr. 16, 1997, and Nov. 20, 2000.

SPECIFIC CONDUCTANCE: Maximum recorded, 1,640 microsiemens, Feb. 27-18, 2001; minimum recorded, 401 microsiemens, Apr. 14, 1999.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 27.0°C, Aug. 6-7; minimum recorded, 0.3°C, Nov. 20.

SPECIFIC CONDUCTANCE: Maximum recorded, 1,640 microsiemens, Feb. 27-28; minimum recorded, 597 microsiemens, Apr. 13.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
OCT													
12...	0945	--	185	--	--	--	--	--	--	927	3.5	9.5	--
DEC													
08...	1425	--	531	--	--	--	--	--	--	1200	-8.0	2.5	--
JAN													
30...	1445	--	268	--	--	--	--	--	--	1520	--	3.5	--
FEB													
28...	1030	--	89	--	--	--	--	--	--	1630	-3.5	2.5	--
APR													
04...	0830	1520	--	--	--	--	7.5	7.7	896	936	2.0	2.5	330
05...	1355	--	1660	--	--	--	--	--	--	882	--	2.0	--
19...	1100	--	2020	--	--	--	--	--	--	640	12.0	3.0	--
27...	0800	--	1230	--	--	--	--	--	--	722	18.0	6.0	--
MAY													
01...	0830	893	--	717	100	11.0	8.1	8.2	838	828	17.0	8.5	290
JUN													
13...	1605	--	379	--	--	--	--	--	--	952	--	20.0	--
JUL													
24...	1240	382	--	732	93	7.4	8.4	8.4	1150	1130	20.0	24.6	410
AUG													
06...	1600	--	790	--	--	--	7.8	--e	1200	1170	31.5	25.5	420

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
OCT													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
04...	70.0	38.0	10.0	2	77.0	33	263	31.0	.2	190	2540	620	575
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
01...	56.5	35.3	10.3	2	73.3	35	233	11.9	--	195	1260	--	524
JUN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
24...	74.1	55.2	11.6	3	117	37	311	14.2	--	274	756	--	734
AUG													
06...	68.0	60.0	12.0	3	120	38	384	17.0	.2	280	1760	823	788

05058000 SHEYENNE RIVER BELOW BALDHILL DAM, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TURBIDITY FIELD WATER UNFLTRD (NTU) (61028)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	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)	MANGAN-ESE TOTAL RECOVER-ABLE (UG/L) (01123)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
OCT													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
04...	--	2.0	70	--	2.00	100	420	--	.10	2.0	3.0	330	--
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
01...	14	--	--	350	--	--	--	330	--	--	--	--	17
JUN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
24...	20	--	--	M	--	--	--	M	--	--	--	--	17
AUG													
06...	--	6.0	80	--	2.00	100	190	--	<.10	2.0	3.0	370	--

DATE	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT		
12...	--	--
DEC		
08...	--	--
JAN		
30...	--	--
FEB		
28...	--	--
APR		
04...	--	--
05...	--	--
19...	--	--
27...	--	--
MAY		
01...	41	90
JUN		
13...	--	--
JUL		
24...	18	95
AUG		
06...	--	--

M Presence verified, not quantified
e Required equipment not functional/available

05058000 SHEYENNE RIVER BELOW BALDHILL DAM, ND--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	14.4	14.1	14.3	10.9	10.5	10.6	2.3	2.0	2.2	2.9	2.4	2.6
2	14.9	13.8	14.3	10.5	9.9	10.2	2.4	2.2	2.2	3.2	2.4	2.9
3	14.2	13.3	13.7	9.9	9.3	9.6	2.6	2.2	2.4	3.3	2.9	3.0
4	14.0	13.0	13.3	9.6	9.0	9.2	2.5	2.2	2.4	3.5	2.9	3.1
5	13.0	12.1	12.7	9.1	8.9	9.0	2.5	2.2	2.4	3.4	2.9	3.0
6	12.1	11.5	11.9	9.0	8.4	8.8	2.7	2.4	2.5	3.5	3.0	3.1
7	11.7	11.1	11.3	8.8	7.2	8.1	2.8	2.5	2.6	3.3	2.9	3.0
8	11.4	10.5	11.0	7.2	6.2	6.7	2.8	2.5	2.6	3.3	2.8	3.0
9	11.2	10.2	10.6	---	---	---	2.8	2.4	2.6	3.4	2.7	2.9
10	11.1	10.2	10.6	---	---	---	2.9	2.5	2.7	3.6	2.9	3.1
11	11.1	10.2	10.6	---	---	---	2.9	2.6	2.7	3.4	3.0	3.1
12	11.2	10.4	10.7	---	---	---	2.9	2.6	2.7	3.4	3.0	3.1
13	11.8	10.6	11.1	---	---	---	2.9	2.7	2.8	3.2	3.0	3.1
14	11.3	10.6	11.0	---	---	---	3.0	2.7	2.8	3.2	2.9	3.1
15	11.0	10.4	10.6	3.0	2.2	2.8	3.0	2.8	2.9	3.2	2.9	3.0
16	11.0	10.3	10.5	2.2	1.6	1.8	2.9	2.7	2.8	3.1	2.8	2.9
17	11.0	10.3	10.5	1.9	1.4	1.6	3.1	2.8	2.9	3.2	2.8	3.0
18	11.0	10.3	10.6	1.5	1.2	1.4	2.9	2.7	2.8	3.1	2.8	2.9
19	11.3	10.3	10.7	1.4	.4	.9	3.0	2.7	2.8	3.1	2.7	2.8
20	11.4	10.8	11.1	.5	.3	.4	2.9	2.7	2.8	3.2	2.7	2.9
21	11.2	10.7	11.0	.7	.4	.5	3.0	2.5	2.7	3.2	2.9	3.0
22	10.9	10.6	10.8	1.4	.7	1.1	3.1	2.7	2.8	3.3	2.9	3.0
23	11.1	10.4	10.7	1.5	1.2	1.3	3.1	2.7	2.8	3.2	2.8	2.9
24	10.9	10.3	10.5	1.6	1.3	1.4	3.1	2.6	2.8	3.3	2.8	2.9
25	10.9	10.6	10.8	1.7	1.4	1.5	3.0	2.6	2.8	3.4	2.7	2.9
26	11.0	10.6	10.9	1.8	1.4	1.6	3.2	2.8	3.0	3.3	2.8	3.0
27	10.6	10.0	10.3	2.0	1.7	1.8	3.2	2.7	2.9	3.3	2.9	3.0
28	10.8	10.0	10.2	2.1	1.8	2.0	2.9	2.4	2.8	3.3	2.9	3.0
29	11.0	10.8	10.9	2.2	2.0	2.0	3.2	2.8	3.0	3.4	2.9	3.1
30	10.9	10.5	10.7	2.1	2.0	2.1	3.2	2.8	2.9	3.3	2.9	3.1
31	10.6	10.3	10.4	---	---	---	3.0	2.6	2.7	3.4	2.7	3.0
MONTH	14.9	10.0	11.2	10.9	.3	4.0	3.2	2.0	2.7	3.6	2.4	3.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	3.1	2.7	2.9	3.6	2.5	2.9	3.6	3.1	3.3	9.3	8.7	9.0
2	3.0	2.7	2.9	3.7	2.7	3.0	3.3	2.9	3.1	10.1	9.3	9.8
3	3.5	2.9	3.1	3.6	2.5	2.9	2.9	2.5	2.7	12.3	10.1	11.0
4	3.4	2.9	3.1	3.4	2.5	2.7	2.5	2.3	2.4	12.8	11.8	12.3
5	3.4	2.9	3.1	3.4	2.5	2.8	2.3	2.1	2.2	12.7	11.8	12.3
6	3.4	2.9	3.0	3.2	2.5	2.8	2.1	1.9	2.0	11.9	11.1	11.5
7	3.2	2.8	3.0	3.6	2.6	2.9	1.9	1.5	1.7	11.7	11.2	11.4
8	3.1	2.8	2.9	3.2	2.6	2.8	1.6	1.3	1.5	11.9	11.1	11.5
9	3.3	2.7	2.9	3.1	2.4	2.7	1.5	1.3	1.4	12.0	11.4	11.7
10	3.2	2.8	2.9	3.2	2.4	2.8	1.3	1.2	1.3	13.5	12.0	13.0
11	3.2	2.8	2.9	3.4	2.4	2.7	1.2	1.0	1.1	14.7	12.6	13.4
12	3.4	2.8	3.0	3.4	2.5	2.8	1.4	1.0	1.2	13.8	12.6	12.9
13	3.3	2.7	2.9	3.9	2.7	3.0	1.3	1.2	1.3	14.3	12.7	13.5
14	3.4	2.6	2.9	4.8	2.7	3.4	1.6	1.2	1.4	15.5	13.6	14.5
15	3.3	2.6	2.8	4.8	2.5	3.2	1.8	1.3	1.6	15.9	14.2	15.3
16	3.4	2.6	2.9	5.4	2.6	3.5	1.9	1.3	1.6	15.9	13.9	14.9
17	3.5	2.7	2.9	5.5	2.6	3.6	2.3	1.5	1.9	15.8	14.4	15.0
18	3.6	2.8	3.1	3.6	2.6	3.0	2.6	2.0	2.2	16.1	15.1	15.7
19	3.7	2.9	3.2	3.6	2.7	3.1	2.7	2.2	2.4	17.9	15.4	16.5
20	3.4	2.7	2.9	3.8	3.0	3.2	3.3	2.6	2.8	17.2	16.4	16.7
21	3.5	2.7	3.0	4.0	2.9	3.3	2.9	2.2	2.5	16.5	15.1	15.8
22	3.7	2.9	3.2	3.6	2.9	3.1	2.4	2.0	2.2	15.1	13.8	14.6
23	3.6	2.8	3.0	4.0	3.0	3.3	3.1	2.1	2.5	13.8	13.1	13.4
24	3.4	2.7	3.0	4.1	3.0	3.4	3.5	2.3	2.9	13.9	12.9	13.3
25	3.4	2.8	3.0	4.0	3.2	3.5	4.4	3.0	3.7	14.3	13.3	13.8
26	3.5	2.6	2.9	4.0	3.1	3.6	6.4	4.4	5.1	15.3	13.7	14.5
27	3.7	2.0	2.8	4.6	3.7	4.1	6.7	5.9	6.2	15.9	14.5	15.1
28	4.5	2.0	2.9	4.0	3.4	3.8	7.4	6.2	6.7	16.8	15.5	16.0
29	---	---	---	3.6	3.3	3.4	8.6	7.1	8.0	17.2	15.3	16.3
30	---	---	---	3.4	3.1	3.3	8.9	8.4	8.6	16.4	15.4	15.9
31	---	---	---	3.3	3.0	3.1	---	---	---	16.2	14.3	15.2
MONTH	4.5	2.0	3.0	5.5	2.4	3.2	8.9	1.0	2.9	17.9	8.7	13.7

05058000 SHEYENNE RIVER BELOW BALDHILL DAM, ND--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	15.9	14.9	15.5	23.3	22.1	22.6	24.8	24.1	24.4	24.1	21.9	22.6
2	17.2	15.2	16.1	22.1	21.7	21.9	24.7	24.2	24.5	23.8	21.9	22.6
3	17.9	16.0	16.9	22.1	21.6	21.9	25.0	24.3	24.6	23.9	21.6	22.5
4	18.1	16.2	17.2	23.0	21.4	22.2	25.3	24.3	24.7	24.2	21.4	22.5
5	17.3	16.6	17.0	22.8	21.7	22.3	26.5	24.1	25.0	24.4	21.3	22.5
6	16.8	16.2	16.5	22.7	21.4	22.0	27.0	25.6	26.2	24.3	21.2	22.2
7	17.0	16.2	16.6	22.9	22.1	22.5	27.0	25.4	26.1	22.3	20.5	21.4
8	17.0	16.0	16.4	23.0	21.9	22.4	26.2	25.5	25.9	22.5	19.8	20.8
9	17.3	16.0	16.5	24.4	22.0	22.9	25.9	25.2	25.6	22.2	19.3	20.3
10	18.0	15.9	17.0	24.6	22.3	23.5	25.5	24.8	25.2	21.7	18.7	19.9
11	19.8	15.9	18.0	24.2	23.6	23.8	25.4	24.6	24.9	21.9	18.7	20.0
12	20.7	18.3	19.3	24.1	22.8	23.5	24.8	24.1	24.5	21.8	18.7	19.8
13	20.5	19.5	19.9	23.5	22.3	22.9	24.9	23.9	24.3	21.0	18.4	19.2
14	19.8	19.3	19.6	23.1	22.2	22.6	25.0	23.7	24.2	18.5	17.7	18.1
15	19.7	19.0	19.3	23.3	22.3	22.7	24.8	23.6	24.1	18.3	17.6	17.9
16	19.6	18.9	19.2	23.5	22.3	22.8	25.0	23.4	24.1	18.5	17.7	18.0
17	19.8	18.8	19.1	24.1	22.4	23.2	25.4	23.0	23.9	19.3	17.3	18.2
18	19.4	18.7	19.2	24.1	22.6	23.6	25.2	23.2	23.9	18.8	17.1	17.8
19	19.4	18.4	18.8	24.3	22.3	23.5	25.0	22.8	23.6	19.9	17.1	18.1
20	19.3	18.6	18.9	24.8	22.6	23.8	24.5	22.5	23.3	18.6	16.8	17.5
21	20.3	19.0	19.4	25.8	23.1	24.5	25.0	22.8	23.6	19.2	16.5	17.5
22	19.3	18.4	18.9	26.2	23.4	24.8	26.2	22.9	24.0	19.1	16.1	17.3
23	19.1	18.3	18.7	25.9	24.4	25.1	25.6	23.1	24.3	18.3	15.1	16.3
24	19.8	18.8	19.3	26.2	25.0	25.5	25.0	22.7	23.6	18.2	14.8	16.1
25	20.6	19.3	19.9	25.6	24.9	25.2	25.0	22.2	23.5	18.0	14.8	16.0
26	22.0	20.2	21.2	25.1	24.3	24.7	24.0	23.2	23.6	17.9	14.5	15.8
27	22.6	21.2	21.7	24.3	23.8	24.1	24.2	23.5	23.9	18.1	14.7	15.9
28	21.7	20.4	20.9	25.0	23.6	24.1	24.5	23.2	23.8	17.6	15.0	15.9
29	23.7	21.7	22.6	24.8	23.9	24.2	24.7	22.9	23.5	17.3	15.1	15.9
30	23.7	22.9	23.4	24.9	23.9	24.3	24.6	22.7	23.3	17.6	15.3	16.2
31	---	---	---	24.6	23.7	24.2	24.5	22.0	22.9	---	---	---
MONTH	23.7	14.9	18.8	26.2	21.4	23.5	27.0	22.0	24.3	24.4	14.5	18.8

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	910	904	907	988	981	984	1140	1140	1140	1480	1480	1480
2	910	901	907	991	987	989	1150	1140	1150	1510	1480	1490
3	910	906	909	995	990	992	1170	1150	1160	1520	1490	1510
4	913	905	909	999	992	994	1170	1160	1170	1520	1500	1510
5	915	906	912	1000	998	999	1190	1170	1180	1520	1500	1510
6	918	913	916	1000	1000	1000	1190	1180	1190	1530	1520	1530
7	917	913	916	1010	994	998	1200	1190	1190	1530	1520	1520
8	920	913	916	1020	1010	1010	1200	1180	1190	1530	1520	1520
9	923	917	920	---	---	---	1180	1180	1180	1540	1520	1520
10	926	918	921	---	---	---	1190	1180	1190	1540	1520	1530
11	926	922	924	---	---	---	1210	1190	1200	1530	1520	1520
12	932	924	927	---	---	---	1220	1210	1210	1530	1500	1520
13	933	929	931	---	---	---	1230	1220	1220	1510	1490	1500
14	936	932	934	---	---	---	1240	1230	1230	1500	1490	1500
15	936	932	934	1040	1030	1040	1250	1240	1240	1510	1500	1500
16	939	935	937	1050	1040	1040	1260	1250	1260	1510	1460	1480
17	944	938	941	1060	1050	1050	1280	1260	1270	1470	1460	1460
18	948	942	944	1060	1050	1060	1290	1280	1280	1470	1460	1470
19	963	959	962	1060	1050	1060	1300	1290	1290	1480	1470	1470
20	951	948	949	1080	1060	1070	1310	1300	1310	1480	1460	1470
21	953	949	951	1080	1070	1070	1370	1310	1340	1480	1470	1470
22	956	952	954	1080	1070	1080	1380	1370	1370	1490	1480	1490
23	961	956	958	1090	1080	1090	1400	1380	1390	1490	1480	1480
24	964	959	961	1100	1090	1090	1410	1390	1400	1500	1480	1490
25	969	957	963	1110	1090	1100	1420	1400	1410	1500	1490	1490
26	970	963	966	1120	1100	1110	1430	1410	1420	1510	1490	1500
27	976	969	971	1120	1110	1110	1440	1420	1430	1510	1500	1500
28	976	957	972	1120	1110	1110	1450	1430	1440	1510	1500	1510
29	959	954	957	1130	1120	1120	1460	1440	1450	1520	1500	1510
30	971	958	963	1140	1130	1130	1460	1450	1460	1540	1510	1520
31	985	969	976	---	---	---	1480	1460	1470	1540	1530	1530
MONTH	985	901	939	1140	981	1050	1480	1140	1280	1540	1460	1500

05058000 SHEYENNE RIVER BELOW BALDHILL DAM, ND--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	1540	1520	1530	1610	1580	1600	997	951	979	854	820	836
2	1530	1520	1520	1600	1570	1580	954	906	933	840	822	827
3	1530	1530	1530	1580	1550	1560	926	876	904	823	806	816
4	1540	1530	1530	1570	1550	1560	906	848	888	809	806	807
5	1540	1530	1530	1570	1560	1560	915	845	883	808	804	806
6	1540	1530	1530	1570	1550	1560	861	794	831	812	805	809
7	1540	1530	1530	1570	1560	1570	811	732	771	818	809	814
8	1540	1520	1530	1570	1550	1560	734	690	706	825	817	821
9	1540	1530	1530	1570	1550	1560	692	639	657	827	823	825
10	1540	1530	1530	1570	1550	1560	659	646	653	828	825	826
11	1540	1520	1530	1560	1560	1560	651	634	638	843	826	832
12	1540	1530	1530	1570	1560	1560	635	599	620	842	831	836
13	1540	1520	1530	1580	1560	1570	623	597	610	846	839	842
14	1530	1530	1530	1580	1560	1570	628	600	616	847	843	845
15	1540	1520	1530	1590	1570	1580	629	607	617	851	847	848
16	1630	1520	1560	1590	1570	1580	630	599	619	861	848	853
17	1630	1620	1630	1590	1560	1580	618	602	610	866	860	864
18	1630	1610	1620	1580	1570	1580	640	608	623	869	862	866
19	1620	1600	1620	1580	1550	1570	640	629	635	879	867	872
20	1630	1620	1620	1550	1520	1540	655	633	644	881	873	878
21	1620	1610	1620	1530	1500	1520	656	628	643	884	878	881
22	1610	1610	1610	1510	1480	1500	683	646	660	894	884	888
23	1620	1600	1610	1500	1490	1500	699	678	687	903	891	896
24	1610	1600	1610	1500	1490	1500	722	679	693	901	888	896
25	1610	1590	1600	1500	1480	1490	809	706	743	907	896	901
26	1610	1600	1600	1490	1460	1480	745	718	733	906	901	904
27	1640	1600	1610	1480	1350	1420	756	718	733	910	903	906
28	1640	1600	1620	1350	1260	1300	811	755	780	917	908	912
29	---	---	---	1260	1180	1210	888	801	857	944	913	923
30	---	---	---	1180	1080	1120	832	815	822	942	932	936
31	---	---	---	1090	994	1040	---	---	---	936	916	928
MONTH	1640	1520	1570	1610	994	1500	997	597	726	944	804	861

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	932	921	927	1070	1010	1060	1120	1120	1120	1190	1180	1190
2	933	928	931	1080	1070	1080	1140	1120	1130	1190	1190	1190
3	951	932	940	1100	1080	1090	1140	1130	1140	1200	1190	1190
4	951	935	939	1090	1090	1090	1150	1140	1140	1200	1190	1200
5	937	934	935	1100	1090	1100	1150	1150	1150	1200	1190	1190
6	940	929	934	1100	1070	1100	1150	1140	1150	1200	1180	1190
7	941	924	932	1110	1100	1100	1140	1140	1140	1200	1180	1190
8	958	940	949	1110	1100	1100	1140	1110	1140	1190	1180	1190
9	964	950	957	1120	1090	1110	1140	1140	1140	1200	1180	1190
10	972	957	964	1130	1120	1120	1150	1140	1140	1190	1180	1190
11	994	956	969	1130	1110	1120	1150	1140	1150	1190	1180	1190
12	970	961	965	1110	1100	1110	1150	1150	1150	1190	1180	1190
13	981	970	976	1120	1100	1110	1150	1150	1150	1190	1180	1190
14	979	973	976	1130	1110	1120	1160	1150	1150	1190	1180	1190
15	980	974	977	1140	1120	1130	1150	1140	1150	1200	1190	1190
16	981	978	979	1140	1130	1140	1160	1150	1160	1210	1200	1200
17	991	975	981	1140	1130	1140	1170	1160	1160	1220	1210	1210
18	989	978	981	1140	1130	1140	1170	1150	1160	1220	1210	1210
19	985	978	982	1140	1130	1140	1170	1160	1170	1220	1210	1220
20	984	971	980	1140	1130	1140	1180	1170	1170	1230	1220	1220
21	975	965	968	1140	1130	1140	1180	1170	1170	1230	1220	1230
22	991	975	982	1140	1120	1130	1170	1160	1170	1230	1210	1220
23	994	985	990	1130	1120	1130	1180	1170	1170	1220	1210	1220
24	1010	994	1000	1130	1120	1130	1180	1170	1170	1230	1210	1220
25	1030	1000	1010	1130	1120	1130	1180	1090	1170	1230	1220	1220
26	1040	1020	1030	1130	1120	1130	1180	1160	1170	1230	1210	1220
27	1050	1030	1040	1130	1120	1120	1180	1180	1180	1220	1200	1210
28	1060	1040	1050	1120	1120	1120	1180	1170	1180	1210	1200	1200
29	1070	1060	1060	1130	1120	1120	1190	1180	1180	1210	1190	1200
30	1060	1010	1040	1130	1120	1130	1190	1180	1190	1210	1200	1210
31	---	---	---	1130	1110	1120	1190	1180	1190	---	---	---
MONTH	1070	921	978	1140	1010	1120	1190	1090	1160	1230	1180	1200

05058500 SHEYENNE RIVER AT VALLEY CITY, ND

LOCATION.--Lat 46°54'50", long 98°00'30", in $SE^1/_4NW^1/_4$ sec.28, T.140 N., R.58 W., Barnes County, Hydrologic Unit 09020204, on left bank 100 ft downstream from College Dam in Valley City, and at mile 253.0.

DRAINAGE AREA.--7,810 mi^2, approximately, of which about 5,700 mi^2 is probably noncontributing, includes 3,800 mi^2 in closed basins.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March to August 1919, March 1938 to September 1975; October 1979 to current year (gage heights and annual maximum discharge for water years 1980 to current year; seasonal discharge record for March 1995 to September 1996). Records for July 1938, published in WSP 855, have been found to be unreliable and should not be used.

REVISED RECORDS.---WSP 1388: 1939 (M). WSP 1728: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,199.27 ft above sea level. March to August 1919, nonrecording gage at site 0.5 mi upstream at different datum. March to Oct. 13, 1938, nonrecording gage at present site and datum.

REMARKS.--Flow regulated by Lake Ashtabula 13 mi upstream (see station 05057500). Small diversions above station for municipal supply.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,250 ft^3/s, Apr. 21, 1996, gage height, 18.78 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,450 ft^3/s, Apr. 14, gage height, 11.60 ft.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.55	4.94	5.18	---	4.73	3.86	6.67	6.95	4.76	6.49	6.80	3.50
2	3.55	4.93	5.17	---	4.69	3.91	7.10	6.48	4.86	6.40	6.98	3.47
3	3.55	5.17	5.18	3.98	4.69	4.06	8.16	6.61	4.87	5.91	6.52	3.45
4	3.55	5.21	5.16	3.93	4.68	4.10	8.50	6.88	4.93	5.55	6.31	3.42
5	3.57	5.20	5.27	3.84	4.68	4.06	8.94	7.07	5.22	5.30	6.26	3.36
6	3.57	5.23	5.50	3.82	4.67	4.05	9.02	7.21	5.27	5.19	6.25	3.34
7	3.77	5.32	5.25	3.81	4.60	3.99	10.32	7.31	5.26	4.72	6.15	3.38
8	3.81	5.32	5.27	3.80	4.54	3.96	10.83	7.52	5.17	4.66	5.61	3.34
9	3.82	5.41	---	3.82	4.54	3.94	10.63	7.43	4.89	4.29	6.16	3.31
10	3.82	6.09	---	3.82	4.61	3.90	11.04	7.36	4.89	3.83	5.64	3.30
11	3.82	6.15	---	3.95	4.55	3.85	11.26	7.06	5.03	3.77	5.27	3.30
12	3.83	6.16	---	4.03	4.64	3.79	11.44	6.64	4.95	3.77	5.19	3.29
13	3.89	6.14	---	4.36	4.60	3.72	11.52	6.59	4.94	3.76	5.06	3.28
14	3.91	6.12	5.18	4.45	4.64	3.60	11.51	6.28	4.93	3.78	3.77	3.35
15	3.86	6.07	5.08	4.43	4.68	3.50	11.05	6.14	4.95	3.79	4.01	3.34
16	3.86	5.96	4.74	4.57	4.48	3.49	10.92	6.08	4.96	3.79	3.87	3.32
17	4.06	5.60	4.70	5.15	3.96	3.46	10.89	5.85	4.92	3.78	3.60	3.32
18	4.08	5.55	4.93	5.09	3.92	3.49	10.96	5.82	4.96	3.80	3.53	3.31
19	4.13	5.54	4.92	4.98	3.90	3.50	10.88	5.63	4.98	3.84	3.52	3.30
20	4.45	5.58	4.92	5.03	3.92	3.93	10.51	5.60	5.03	3.91	3.51	3.43
21	4.47	5.77	4.67	5.07	3.91	4.54	10.46	5.59	5.00	4.17	3.51	3.43
22	4.50	5.49	4.47	4.95	4.01	4.96	10.30	5.34	5.01	4.46	3.53	3.37
23	4.49	5.31	---	4.96	4.06	5.15	9.70	5.48	5.21	4.81	3.71	3.32
24	4.49	5.26	---	4.98	4.04	5.05	9.04	5.28	5.29	4.89	3.52	3.30
25	4.51	5.21	---	5.03	4.05	5.01	---	5.02	5.33	4.89	4.70	3.29
26	4.57	5.22	---	4.95	4.01	5.19	7.90	4.75	5.67	4.92	5.42	3.28
27	4.72	5.21	---	4.91	3.93	5.97	7.89	4.71	6.12	5.23	5.62	3.29
28	4.87	5.20	---	4.96	3.75	5.97	7.33	4.70	6.46	5.07	4.72	3.34
29	4.94	5.20	---	4.95	---	5.96	7.18	4.69	6.36	4.97	4.24	3.39
30	4.92	5.20	---	4.88	---	6.28	7.05	4.67	6.48	5.00	3.57	3.42
31	4.90	---	---	4.80	---	6.67	---	4.71	---	5.76	3.51	---
MEAN	4.12	5.49	5.03	4.53	4.34	4.42	9.62	6.05	5.22	4.66	4.84	3.35
MAX	4.94	6.16	5.50	5.15	4.73	6.67	11.52	7.52	6.48	6.49	6.98	3.50
MIN	3.55	4.93	4.47	3.80	3.75	3.46	6.67	4.67	4.76	3.76	3.51	3.28

05058500 SHEYENNE RIVER AT VALLEY CITY, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
APR													
13...	1430	2310	--	--	--	640	6.0	1.5	--	--	--	--	--
26...	1815	1220	7.3	7.5	769	788	22.0	9.0	260	53.0	31.0	9.80	2

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
APR													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	65.0	34	222	21.0	.1	170	1700	516	484	3.0	90	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR					
13...	--	--	--	--	--
26...	230	.10	2.0	3.0	260

05058700 SHEYENNE RIVER AT LISBON, ND

LOCATION.--Lat 46°26'49", long 97°40'44", on line between secs.1 and 2, T.134 N., R.56 W., Ransom County, Hydrologic Unit 09020204, on left bank 150 ft downstream from dam at State Fish Hatchery at north edge of city of Lisbon, 3 mi upstream from Timber Coulee, and at mile 162.1.

DRAINAGE AREA.--8,190 mi^2, approximately, of which about 5,700 mi^2 is probably noncontributing, including 3,800 mi^2 in closed basins.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1956 to current year.

REVISED RECORDS.--WSP 1728: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,066.46 ft above sea level.

REMARKS.--Records fair except for periods of estimated discharge, which are poor. Flow regulated by Lake Ashtabula (station 05057500), 108.5 mi upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	127	e480	421	e150	e310	e118	e850	e1000	295	786	399	157
2	132	e480	432	e145	e310	e100	e950	e950	294	828	490	111
3	129	e480	441	e140	e310	e88	e1200	e915	300	845	e600	110
4	126	e480	437	e135	e312	e90	e1500	e925	311	810	e700	104
5	123	e510	508	e130	e315	e120	e1650	e1000	315	645	e920	100
6	122	e540	483	e125	e315	e140	e1850	e1050	324	546	e850	95
7	122	e560	447	e120	e315	e145	e2350	e1130	367	484	e720	95
8	e130	e570	488	e118	e312	e145	2590	e1140	383	435	649	85
9	e150	e575	486	e115	e305	e145	2670	e1100	388	370	638	77
10	e180	e600	561	e115	e305	e140	2670	1030	387	340	554	79
11	e200	e620	e530	e115	e310	e138	2470	989	338	298	661	75
12	e200	e620	e530	e118	e310	e135	2530	939	328	230	527	74
13	e200	e610	e530	e120	e305	e128	2630	844	382	203	425	72
14	e200	e550	e525	e140	e310	e122	2730	722	394	199	394	74
15	e210	e475	e520	e160	e310	e110	2800	686	377	196	366	77
16	e215	e420	e510	e200	e300	e100	2660	653	369	199	224	74
17	e205	e390	e500	e220	e300	e90	2470	663	363	200	161	78
18	e200	e370	e460	e280	e260	e80	2360	631	386	e200	162	78
19	e220	e350	e450	e300	e210	e76	2320	587	360	e210	142	76
20	e250	e340	e440	e320	e150	e80	2330	573	350	e220	125	81
21	e280	e350	e420	e325	e130	e95	2300	525	338	e235	118	83
22	e300	e370	e380	e330	e128	e115	2210	494	339	e250	114	83
23	e340	e400	e275	e325	e125	e170	2090	479	337	e260	110	94
24	e345	e480	e240	e320	e125	e220	1890	435	331	e290	108	89
25	e345	501	e200	e310	e125	e260	1680	440	366	338	139	81
26	e345	506	e185	e310	e122	e320	1430	413	393	357	141	80
27	e350	461	e165	e310	e120	e400	1270	373	411	377	261	e79
28	e370	452	e155	e310	e120	e480	1160	326	495	384	431	e78
29	e400	443	e155	e310	---	e580	1100	305	649	430	463	e78
30	e440	431	e150	e310	---	e660	e1020	299	778	429	322	e78
31	e480	---	e150	e310	---	e750	---	300	---	395	212	---
TOTAL	7436	14414	12174	6736	6869	6340	59730	21916	11448	11989	12126	2595
MEAN	240	480	393	217	245	205	1991	707	382	387	391	86.5
MAX	480	620	561	330	315	750	2800	1140	778	845	920	157
MIN	122	340	150	115	120	76	850	299	294	196	108	72
AC-FT	14750	28590	24150	13360	13620	12580	118500	43470	22710	23780	24050	5150

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2001, BY WATER YEAR (WY)

MEAN	74.0	96.8	88.2	76.3	94.0	352	846	385	211	196	121	79.8
MAX	716	480	393	217	413	1525	4181	2394	970	1424	1945	561
(WY)	1995	2001	2001	2001	1996	1995	1997	1997	2000	1993	1993	1994
MIN	7.66	12.2	8.69	8.15	10.7	19.8	20.3	17.5	14.8	6.07	6.54	5.25
(WY)	1957	1991	1991	1991	1991	1964	1991	1959	1961	1973	1961	1959

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1957 - 2001	
ANNUAL TOTAL	132018		173773			
ANNUAL MEAN	361		476		218	
HIGHEST ANNUAL MEAN					719	1997
LOWEST ANNUAL MEAN					25.9	1991
HIGHEST DAILY MEAN	2140	Jun 22	2800	Apr 15	5650	Apr 23 1997
LOWEST DAILY MEAN	74	Feb 12	72	Sep 13	.00	Oct 23 1956
ANNUAL SEVEN-DAY MINIMUM	76	Feb 10	75	Sep 11	.87	Oct 1 1956
MAXIMUM PEAK FLOW			2880	Apr 14	5670	Apr 23 1997
MAXIMUM PEAK STAGE			12.46	Apr 14	a 19.29	Apr 5 1997
ANNUAL RUNOFF (AC-FT)	261900		344700		158200	
10 PERCENT EXCEEDS	750		966		479	
50 PERCENT EXCEEDS	251		326		66	
90 PERCENT EXCEEDS	120		106		16	

a Backwater from ice
e Estimated

05058700 SHEYENNE RIVER AT LISBON, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1956 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
NOV													
20...	1215	--	342	--	--	--	747	-9.0	1.0	--	--	--	--
FEB													
13...	1220	305	--	--	--	--	1410	-8.0	.00	--	--	--	--
APR													
14...	1620	--	2650	--	--	--	703	15.0	4.5	--	--	--	--
24...	1300	--	1720	8.1	7.9	704	670	9.5	7.5	220	46.0	26.0	9.50
JUN													
19...	0655	--	355	--	--	--	848	8.5	14.5	--	--	--	--
SEP													
26...	0935	--	80	8.3	8.2	1320	1290	8.0	10.2	450	87.0	57.0	13.0

DATE	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
NOV													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	2	53.0	33	204	11.0	.1	200	2340	504	468	2.0	70	2.00
JUN													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
26...	2	120	36	368	30.0	.3	340	198	919	869	7.0	70	2.00

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
NOV						
20...	--	--	--	--	--	--
FEB						
13...	--	--	--	--	--	--
APR						
14...	--	--	--	--	--	--
24...	100	60.0	<.10	2.0	3.0	210
JUN						
19...	--	--	--	--	--	--
SEP						
26...	100	120	<.10	3.0	3.0	480

05058850 DITCH 10 ABOVE IRON SPRINGS CREEK NEAR McLEOD, ND

LOCATION.--Lat 46°29'07", long 97°16'03", in $NW^1/_4NE^1/_4$ sec.30, T.135 N., R.52 W., Richland County, Hydrologic Unit 09020204, in Sheyenne River Grasslands, 6.2 mi northeast of McLeod.

DRAINAGE AREA.--Not determined.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 2 to Sept. 30, 2001.

GAGE.--Water-stage recorder. Elevation of gage is 1,055 ft above sea level, from topographic map.

REMARKS.--Records poor.

EXTREMES FOR CURRENT YEAR.--Maximum recorded discharge, 6.2 ft^3/s, July 19, gage height, 7.24 ft; no flow on many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	e2.0	.93	e.00
2	---	---	---	---	---	---	---	---	---	e1.5	.84	e.00
3	---	---	---	---	---	---	---	---	---	1.1	.74	e.00
4	---	---	---	---	---	---	---	---	---	1.0	.66	e.00
5	---	---	---	---	---	---	---	---	---	.92	.56	e.00
6	---	---	---	---	---	---	---	---	---	.92	.49	e.00
7	---	---	---	---	---	---	---	---	---	.91	.44	e.00
8	---	---	---	---	---	---	---	---	---	.83	.35	e.00
9	---	---	---	---	---	---	---	---	---	.75	.37	e.00
10	---	---	---	---	---	---	---	---	---	.66	.33	e.00
11	---	---	---	---	---	---	---	---	---	.60	.30	e.00
12	---	---	---	---	---	---	---	---	---	.55	.23	e.00
13	---	---	---	---	---	---	---	---	---	.48	.20	e.00
14	---	---	---	---	---	---	---	---	---	.43	.19	e.00
15	---	---	---	---	---	---	---	---	---	.40	.15	e.00
16	---	---	---	---	---	---	---	---	---	.40	.10	e.00
17	---	---	---	---	---	---	---	---	---	.57	.08	e.00
18	---	---	---	---	---	---	---	---	---	3.4	.05	e.00
19	---	---	---	---	---	---	---	---	---	5.3	.04	e.00
20	---	---	---	---	---	---	---	---	---	4.9	.04	e.00
21	---	---	---	---	---	---	---	---	---	4.3	.00	e.00
22	---	---	---	---	---	---	---	---	---	3.8	.00	e.00
23	---	---	---	---	---	---	---	---	---	3.0	.00	e.00
24	---	---	---	---	---	---	---	---	---	2.2	.00	e.00
25	---	---	---	---	---	---	---	---	---	1.7	.00	e.00
26	---	---	---	---	---	---	---	---	---	1.6	.00	e.00
27	---	---	---	---	---	---	---	---	---	1.5	.00	e.00
28	---	---	---	---	---	---	---	---	---	1.4	.00	e.00
29	---	---	---	---	---	---	---	---	---	1.2	.00	e.00
30	---	---	---	---	---	---	---	---	---	1.1	e.00	e.00
31	---	---	---	---	---	---	---	---	---	1.1	e.00	---
TOTAL	---	---	---	---	---	---	---	---	---	50.52	7.09	0.00
MEAN	---	---	---	---	---	---	---	---	---	1.63	.23	.000
MAX	---	---	---	---	---	---	---	---	---	5.3	.93	.00
MIN	---	---	---	---	---	---	---	---	---	.40	.00	.00
AC-FT	---	---	---	---	---	---	---	---	---	100	14	.00

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

MEAN	---	---	---	---	---	---	---	---	---	1.63	.23	.000
MAX	---	---	---	---	---	---	---	---	---	1.63	.23	.000
(WY)	---	---	---	---	---	---	---	---	---	2001	2001	2001
MIN	---	---	---	---	---	---	---	---	---	1.63	.23	.000
(WY)	---	---	---	---	---	---	---	---	---	2001	2001	2001

SUMMARY STATISTICS FOR 2001 WATER YEAR

HIGHEST DAILY MEAN	5.3	Jul 19
LOWEST DAILY MEAN	.00	Aug 21
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 21
MAXIMUM PEAK FLOW	6.2	Jul 19
MAXIMUM PEAK STAGE	7.24	Jul 19
10 PERCENT EXCEEDS	1.7	
50 PERCENT EXCEEDS	.12	
90 PERCENT EXCEEDS	.00	

e Estimated

Miscellaneous discharge measurements on Iron Springs Creek, 1.1 mile below gage

Date	Discharge
July 2	3.02
September 6, 2001	0.08

05059000 SHEYENNE RIVER NEAR KINDRED, ND

LOCATION.--Lat 46°37'54", long 97°00'01", in $SE^1/_4SE^1/_4SW^1/_4$ sec.33, T.137 N., R.50 W., Cass County, Hydrologic Unit 09020204, on left bank 100 ft downstream from North Dakota State Highway 46 bridge crossing, 1.5 mi southeast of Kindred, and at mile 67.9.

DRAINAGE AREA.--8,800 mi^2, approximately, of which about 5,780 mi^2 is probably noncontributing, including 3,800 mi^2 in closed basins.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1949 to current year.

REVISED RECORDS.--WSP 1728: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 925.55 ft above sea level. From Oct. 1, 1962, to Sept. 30, 1989, gage was located at site 1,500 ft upstream. July 1949 to Sept. 30, 1962, nonrecording gage at same site and datum.

REMARKS.--Records fair except for periods of estimated discharge, which are poor. Flow regulated to a large degree by Lake Ashtabula (station 05057500), 202 mi upstream, and several small reservoirs.

EXTREMES OUTSIDE PERIOD OF RECORD.--Spring flood in 1947 or 1948 reached a stage of 22.1 ft from floodmarks, discharge about 3,600 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	324	445	e450	e200	e320	e190	e1180	e1400	e420	567	448	418
2	246	497	e430	e220	e318	e185	e1200	e1300	e405	645	409	290
3	209	497	e430	e220	e320	e180	e1400	e1250	e390	699	379	221
4	203	484	e440	e215	e320	e178	e1650	e1170	e380	739	457	172
5	206	477	e450	e210	e325	e175	e1800	e1130	e380	769	646	133
6	205	489	e460	e205	e325	e175	e2000	e1100	e380	764	769	126
7	203	549	e470	e200	e320	e175	e2280	1170	e390	700	761	125
8	201	636	e475	e200	e320	e180	e2800	1130	e410	624	712	112
9	200	626	e480	e198	e320	e190	e3100	1080	e440	554	700	106
10	200	606	e480	e195	e325	e200	3250	1040	e480	485	698	104
11	201	599	e480	e193	e325	e220	3070	987	515	427	695	95
12	207	591	e480	e192	e325	e235	3100	964	535	367	643	83
13	224	e590	e480	e188	e325	e245	3050	940	510	335	678	79
14	231	e580	e480	e184	e325	e245	2940	886	506	280	650	77
15	235	e575	e470	e180	e320	e235	2880	838	524	232	542	78
16	234	e580	e460	e185	e320	e220	2850	771	535	211	486	78
17	233	e580	e460	e197	e320	e210	2820	729	527	206	440	80
18	239	e570	e450	e222	e320	e200	2750	685	568	276	405	80
19	243	e560	e450	e237	e310	e210	2660	644	586	334	284	76
20	239	e540	e440	e261	e300	e240	2530	620	556	356	239	80
21	235	e490	e420	e277	e265	e300	2470	594	532	358	234	91
22	248	e430	e400	e294	e230	e350	2390	582	512	377	182	91
23	263	e390	e370	e300	e205	e420	2370	571	497	313	160	90
24	279	e370	e330	e305	e190	e520	2370	e550	486	277	141	83
25	326	e410	e300	e310	e180	e640	2330	e540	483	253	145	79
26	351	e480	e270	e315	e180	e800	2220	e520	474	257	134	88
27	369	e540	e250	e320	e185	e1000	2060	e510	473	301	137	88
28	370	e540	e230	e320	e190	e1020	1820	e490	478	347	170	79
29	372	e500	e215	e320	---	e1050	1580	e475	481	369	203	71
30	389	e470	e205	e320	---	e1070	e1500	e460	503	380	360	66
31	402	---	e202	e320	---	e1100	---	e440	---	405	466	---
TOTAL	8087	15691	12407	7503	8028	12358	70420	25566	14356	13207	13373	3439
MEAN	261	523	400	242	287	399	2347	825	479	426	431	115
MAX	402	636	480	320	325	1100	3250	1400	586	769	769	418
MIN	200	370	202	180	180	175	1180	440	380	206	134	66
AC-FT	16040	31120	24610	14880	15920	24510	139700	50710	28480	26200	26530	6820

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2001, BY WATER YEAR (WY)

MEAN	96.7	115	98.6	84.8	96.0	342	889	541	307	269	153	103
MAX	693	589	400	242	317	1256	3957	3053	1938	1466	2231	528
(WY)	1995	1995	2001	2001	1996	1987	1997	1950	1950	1975	1993	1999
MIN	24.6	22.7	17.6	17.5	21.7	35.1	71.7	53.6	48.4	26.7	17.5	25.1
(WY)	1957	1956	1956	1991	1956	1956	1991	1990	1961	1988	1988	1959

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1949 - 2001	
ANNUAL TOTAL	160421		204435			
ANNUAL MEAN	438		560		258	
HIGHEST ANNUAL MEAN					770	1997
LOWEST ANNUAL MEAN					48.0	1991
HIGHEST DAILY MEAN	1960	Jun 29	3250	Apr 10	5610	Apr 29 1997
LOWEST DAILY MEAN	105	Feb 14	66	Sep 30	9.2	Aug 16 1990
ANNUAL SEVEN-DAY MINIMUM	105	Feb 14	78	Sep 13	11	Dec 26 1990
MAXIMUM PEAK FLOW			a 3310	Apr 10	5970	Apr 27 1997
MAXIMUM PEAK STAGE			b 18.38	Apr 9	b 22.33	Apr 8 1997
INSTANTANEOUS LOW FLOW			66	Sep 30		
ANNUAL RUNOFF (AC-FT)	318200		405500		187100	
10 PERCENT EXCEEDS	855		1130		550	
50 PERCENT EXCEEDS	350		380		95	
90 PERCENT EXCEEDS	185		177		35	

a From measurement of discharge, gage height, 16.56 ft
b Backwater from ice
e Estimated

05059000 SHEYENNE RIVER NEAR KINDRED, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
OCT													
04...	1530	--	199	--	--	--	--	--	--	931	11.5	11.0	--
JAN													
17...	1350	--	198	--	--	--	--	--	--	545	-5.0	.5	--
MAR													
07...	1440	--	173	--	--	--	--	--	--	--	1.0	.00	--
APR													
19...	1040	2660	--	--	--	--	8.1	7.8	720	713	10.0	6.5	230
MAY													
01...	1030	1400	--	725	91	9.0	8.0	8.2	793	797	17.6	13.6	290
09...	1305	--	1060	--	--	--	--	--	--	595	12.5	7.0	--
JUN													
19...	1030	--	587	--	--	--	--	--	--	1040	14.5	18.0	--
JUL													
25...	0830	253	--	742	97	8.0	8.2	7.8	993	985	18.9	23.3	410

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
OCT													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
19...	49.0	26.0	9.70	2	53.0	32	184	14.0	.2	160	3230	450	423
MAY													
01...	63.5	32.3	10.1	2	60.5	30	229	14.8	--	190	1920	--	511
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
25...	88.5	46.3	11.0	2	79.3	29	251	19.4	--	224	423	--	622

DATE	TUR-BID-ITY FIELD WATER UNFLTRD (NTU) (61028)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	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)	MANGAN-ESE TOTAL RECOVER - ABLE (UG/L) (01123)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
OCT													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
19...	--	3.0	130	--	2.00	100	40.0	--	<.10	2.0	3.0	220	--
MAY													
01...	240	--	--	2460	--	--	--	420	--	--	--	--	166
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
25...	150	--	--	4080	--	--	--	570	--	--	--	--	211

05059000 SHEYENNE RIVER NEAR KINDRED, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70341)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)
OCT							
04...	--	--	--	--	--	--	--
JAN							
17...	--	--	--	--	--	--	--
MAR							
07...	--	--	--	--	--	--	--
APR							
19...	--	--	--	--	--	--	--
MAY							
01...	627	84	84	68	57	41	25
09...	--	--	--	--	--	--	--
JUN							
19...	--	--	--	--	--	--	--
JUL							
25...	144	96	--	--	--	--	--

05059300 SHEYENNE RIVER ABOVE SHEYENNE RIVER DIVERSION NEAR HORACE, ND

LOCATION.--Lat 46°45'01", long 96°55'35", in $NE^1/_4SE^1/_4SE^1/_4$ sec.24, T.138 N., R.50 W., Cass County, Hydrologic Unit 09020204, on right bank 300 ft upstream from diversion structure 1 mi southwest of Horace.

DRAINAGE AREA.--8,840 mi^2, approximately, of which about 7,580 mi^2 is probably noncontributing, including 3,800 mi^2 in closed basins.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 890 ft above sea level.

REMARKS.--Records fair except for periods of estimated discharge, which are poor. Flow regulated to a large degree by Lake Ashtabula (station 05057500), 230 mi upstream. These records represent the total Sheyenne River flow immediately upstream from the Horace flood diversion.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	439	430	e510	e240	e330	e233	e1200	e1700	457	613	431	497
2	354	483	e480	e240	e330	e234	e1250	1570	449	715	439	418
3	279	522	e450	e240	e330	e230	e1370	1470	442	800	403	313
4	231	514	e450	e250	e330	e223	e1580	1400	428	831	392	246
5	219	502	e465	e250	e330	e210	e1740	1360	415	851	524	189
6	223	504	e470	e245	e330	e195	e1950	1320	415	862	746	152
7	222	577	e480	e240	e330	e205	e2190	1530	423	831	846	151
8	218	667	e490	e230	e330	e230	e2770	1270	427	744	816	138
9	214	680	e490	e225	e330	e238	e3210	1220	435	656	784	122
10	211	653	e490	e220	e330	e236	e3500	1200	475	571	782	114
11	210	633	e490	e220	e330	e244	e3600	1180	524	502	785	110
12	210	629	e490	e210	e330	e259	3560	1150	583	430	762	100
13	219	622	e490	e210	e330	e268	3490	1140	593	382	719	86
14	244	e600	e490	e210	e330	e265	3230	1110	542	348	768	84
15	253	e590	e490	e210	e330	e260	3090	1090	549	291	709	82
16	255	e600	e480	e210	e325	e250	3030	1040	589	244	594	82
17	252	e600	e475	e210	e325	e240	2930	988	594	223	529	82
18	252	e600	e470	e220	e320	e230	2860	940	595	244	469	83
19	256	e590	e465	e230	e320	e260	2790	878	835	303	370	83
20	261	e575	e460	e250	e315	e280	2690	831	892	397	270	81
21	255	e560	e450	e270	e290	e330	2600	797	809	413	241	87
22	249	e540	e440	e300	e270	e400	2550	763	724	450	218	98
23	268	e510	e425	e320	e240	e500	2550	743	658	408	186	97
24	285	e470	e390	e340	e220	e630	2580	712	611	337	159	96
25	307	e460	e370	e345	e220	e700	2620	689	586	294	145	87
26	348	e460	e330	e345	e220	e800	2590	671	570	271	146	81
27	370	e480	e300	e345	e225	e910	2470	645	544	280	143	90
28	383	e560	e275	e340	e230	e1030	2300	629	549	329	148	91
29	384	e560	e260	e340	---	e1050	e2000	599	559	370	168	82
30	388	e540	e250	e330	---	e1100	e1900	546	564	392	207	75
31	402	---	e245	e330	---	e1130	---	487	---	403	402	---
TOTAL	8661	16711	13310	8165	8470	13370	76190	31668	16836	14785	14301	4097
MEAN	279	557	429	263	302	431	2540	1022	561	477	461	137
MAX	439	680	510	345	330	1130	3600	1700	892	862	846	497
MIN	210	430	245	210	220	195	1200	487	415	223	143	75
AC-FT	17180	33150	26400	16200	16800	26520	151100	62810	33390	29330	28370	8130

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2001, BY WATER YEAR (WY)

MEAN	247	301	245	186	208	699	1861	1163	609	668	528	315
MAX	673	617	429	268	302	1214	2964	2737	946	1157	2221	582
(WY)	1995	1995	2001	1997	2001	1995	1997	1997	1999	1993	1993	1999
MIN	52.9	54.8	31.7	73.0	98.6	230	368	232	309	308	144	95.2
(WY)	1993	1993	1993	1993	1993	1993	2000	1993	1993	1996	1998	1996

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1993 - 2001	
ANNUAL TOTAL	169287		226564			
ANNUAL MEAN	463		621		587	
HIGHEST ANNUAL MEAN					749	1999
LOWEST ANNUAL MEAN					424	2000
HIGHEST DAILY MEAN	1980	Jun 30	3600	Apr 11	4480	May 8 1997
LOWEST DAILY MEAN	110	Feb 16	75	Sep 30	13	Dec 18 1992
ANNUAL SEVEN-DAY MINIMUM	110	Feb 16	82	Sep 14	16	Dec 13 1992
MAXIMUM PEAK FLOW			a 3610	Apr 12	b 5210	May 8 1997
MAXIMUM PEAK STAGE			c 25.01	Apr 10	d 26.66	Mar 25 1999
ANNUAL RUNOFF (AC-FT)	335800		449400		425100	
10 PERCENT EXCEEDS	885		1260		1350	
50 PERCENT EXCEEDS	375		418		317	
90 PERCENT EXCEEDS	192		209		125	

a Gage height, 23.62 ft, may have been higher during period of backwater from ice, Apr. 10 & 11
b Gage height, 25.44 ft, backwater from ice
c Backwater from ice
d From high-water mark, backwater from ice and closure of diversion channel
e Estimated

05059300 SHEYENNE RIVER ABOVE SHEYENNE RIVER DIVERSION NEAR HORACE, ND--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: June 1997 to current year.

SPECIFIC CONDUCTANCE: June 1997 to current year.

INSTRUMENTATION.--Water-quality sensors since June 1997.

REMARKS.--Records good. Missing data is result of sensor probe malfunction and probe being buried in mud.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 29.8°C, Aug. 6, 2001; minimum recorded, -0.1°C, on many days.

SPECIFIC CONDUCTANCE: Maximum recorded, 1,610 microsiemens, May 7 and 8, 2000; minimum recorded, 658 microsiemens, Apr. 17, 1999.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 29.8°C, Aug. 6; minimum recorded, 0.1°C, Feb. 28.

SPECIFIC CONDUCTANCE: Maximum recorded, 1,410 microsiemens, Mar. 1-2; minimum recorded, 781 microsiemens, Apr. 8-9.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
OCT													
19...	1150	--	258	--	--	--	974	17.5	11.0	--	--	--	--
NOV													
16...	1330	600	--	--	--	--	1040	--	.5	--	--	--	--
DEC													
15...	0950	490	--	--	--	--	1200	--	.00	--	--	--	--
JAN													
03...	1430	240	--	--	--	--	1240	--	.00	--	--	--	--
24...	1225	340	--	--	--	--	1280	15.0	.00	--	--	--	--
30...	1020	330	--	--	--	--	1510	--	.5	--	--	--	--
FEB													
28...	1430	230	--	--	--	--	1430	--	.00	--	--	--	--
MAR													
28...	0720	1030	--	--	--	--	1010	--	.5	--	--	--	--
APR													
17...	0930	--	2960	--	--	--	715	5.5	4.5	--	--	--	--
18...	1520	2860	--	8.0	7.8	736	714	10.5	7.0	240	51.0	27.0	9.60
MAY													
09...	1015	--	1220	--	--	--	622	11.5	7.5	--	--	--	--
23...	1125	743	--	--	--	--	976	--	12.0	--	--	--	--
JUN													
06...	1430	415	--	--	--	--	1020	--	17.5	--	--	--	--
20...	0925	--	893	--	--	--	1000	--	17.5	--	--	--	--
JUL													
11...	0945	502	--	--	--	--	1090	--	25.5	--	--	--	--
18...	1025	244	--	--	--	--	1020	--	25.5	--	--	--	--
AUG													
01...	0805	--	435	--	--	--	1210	22.5	26.0	--	--	--	--
07...	1150	846	--	--	--	--	1170	--	28.5	--	--	--	--
30...	1305	207	--	--	--	--	1150	--	22.0	--	--	--	--
SEP													
13...	1120	86	--	--	--	--	1140	--	16.5	--	--	--	--

05059300 SHEYENNE RIVER ABOVE SHEYENNE RIVER DIVERSION NEAR HORACE, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
OCT													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	2	56.0	33	184	15.0	.2	170	3600	466	440	3.0	160	2.00
MAY													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT						
19...	--	--	--	--	--	--
NOV						
16...	--	--	--	--	--	--
DEC						
15...	--	--	--	--	--	--
JAN						
03...	--	--	--	--	--	--
24...	--	--	--	--	--	--
30...	--	--	--	--	--	--
FEB						
28...	--	--	--	--	--	--
MAR						
28...	--	--	--	--	--	--
APR						
17...	--	--	--	--	--	--
18...	100	40.0	<.10	2.0	3.0	230
MAY						
09...	--	--	--	--	--	--
23...	--	--	--	--	--	--
JUN						
06...	--	--	--	--	--	--
20...	--	--	--	--	--	--
JUL						
11...	--	--	--	--	--	--
18...	--	--	--	--	--	--
AUG						
01...	--	--	--	--	--	--
07...	--	--	--	--	--	--
30...	--	--	--	--	--	--
SEP						
13...	--	--	--	--	--	--

05059300 SHEYENNE RIVER ABOVE SHEYENNE RIVER DIVERSION NEAR HORACE, ND--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	15.2	14.6	15.1	11.7	10.6	11.2	.4	.2	.3	.4	.2	.3
2	15.3	14.2	14.7	11.5	10.0	10.9	.4	.2	.3	.4	.2	.3
3	---	---	---	10.0	9.0	9.5	.4	.2	.3	.4	.2	.3
4	---	---	---	9.0	7.9	8.3	.4	.2	.3	.4	.2	.3
5	---	---	---	7.9	7.3	7.5	.4	.2	.3	.4	.2	.3
6	---	---	---	7.6	7.5	7.5	.3	.2	.3	.4	.2	.3
7	---	---	---	7.7	6.9	7.5	.4	.2	.3	.4	.2	.3
8	---	---	---	6.9	5.3	5.9	.4	.2	.3	.4	.2	.3
9	---	---	---	5.3	4.1	4.7	.4	.2	.3	.4	.2	.3
10	---	---	---	4.1	2.9	3.5	.4	.2	.3	.3	.2	.3
11	---	---	---	2.9	2.3	2.6	.4	.2	.3	.4	.2	.3
12	---	---	---	2.3	2.0	2.2	.4	.2	.3	.4	.2	.3
13	---	---	---	2.2	1.3	1.8	.4	.2	.3	.4	.2	.3
14	---	---	---	1.3	.3	.6	.4	.2	.3	.4	.2	.3
15	---	---	---	.4	.3	.3	.4	.2	.3	.4	.2	.3
16	---	---	---	.4	.3	.3	.4	.2	.3	.4	.2	.3
17	---	---	---	.4	.3	.3	.4	.2	.3	.4	.2	.3
18	---	---	---	.4	.3	.3	.3	.3	.3	.4	.2	.3
19	11.6	10.4	11.0	.4	.2	.3	.4	.2	.3	.4	.2	.3
20	11.4	10.6	11.1	.3	.3	.3	.4	.2	.3	.4	.2	.3
21	11.2	9.9	10.5	.4	.3	.3	.4	.2	.3	.4	.2	.3
22	11.0	9.9	10.5	.4	.2	.3	.4	.2	.3	.4	.2	.3
23	11.2	10.3	10.8	.4	.3	.3	.4	.2	.3	.4	.2	.3
24	11.6	10.2	10.8	.3	.2	.3	.4	.2	.3	.4	.2	.3
25	13.0	11.6	12.3	.4	.3	.3	.4	.2	.3	.4	.2	.3
26	13.1	12.5	12.9	.4	.2	.3	.4	.2	.3	.4	.2	.3
27	12.5	11.5	11.9	.3	.3	.3	.4	.2	.3	.4	.2	.3
28	11.5	10.4	10.8	.3	.3	.3	.4	.2	.3	.4	.2	.3
29	10.4	10.1	10.2	.4	.2	.3	.4	.2	.3	.4	.2	.3
30	10.2	9.9	10.0	.3	.2	.3	.4	.2	.3	.4	.2	.3
31	10.6	9.9	10.2	---	---	---	.4	.2	.3	.5	.3	.4
MONTH	15.3	9.9	11.5	11.7	.2	3.0	.4	.2	.3	.5	.2	.3

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	.4	.2	.3	.4	.2	.3	.4	.2	.3	---	---	---
2	.4	.2	.3	.4	.2	.3	.4	.2	.3	---	---	---
3	.4	.2	.3	.4	.2	.3	.3	.3	.3	---	---	---
4	.4	.2	.3	.4	.2	.3	.4	.2	.3	---	---	---
5	.4	.2	.3	.4	.2	.3	.4	.2	.3	---	---	---
6	.4	.2	.3	.4	.2	.3	.4	.2	.3	---	---	---
7	.4	.2	.3	.3	.2	.3	.4	.3	.4	---	---	---
8	.4	.2	.3	.4	.2	.3	.5	.3	.4	---	---	---
9	.4	.2	.3	.4	.2	.3	.4	.3	.3	---	---	---
10	.4	.2	.3	.4	.2	.3	1.6	.3	.5	---	---	---
11	.4	.2	.3	.4	.2	.3	4.3	1.6	3.2	---	---	---
12	.4	.2	.3	.4	.2	.3	5.0	4.3	4.6	---	---	---
13	.4	.2	.3	.4	.2	.3	5.4	4.7	5.0	---	---	---
14	.4	.2	.3	.4	.2	.3	6.0	5.1	5.5	---	---	---
15	.4	.2	.3	.4	.2	.3	5.8	5.3	5.5	---	---	---
16	.4	.2	.3	.4	.2	.3	5.4	4.7	5.1	---	---	---
17	.4	.2	.3	.4	.2	.3	5.4	4.6	5.0	---	---	---
18	.4	.2	.3	.4	.2	.3	5.7	4.8	5.2	---	---	---
19	.4	.2	.3	.4	.2	.3	6.2	5.4	5.7	---	---	---
20	.4	.2	.3	.4	.2	.3	---	---	---	---	---	---
21	.4	.2	.3	.4	.2	.3	---	---	---	---	---	---
22	.4	.2	.3	.4	.2	.3	---	---	---	---	---	---
23	.4	.2	.3	.4	.2	.3	---	---	---	---	---	---
24	.4	.2	.3	.4	.2	.3	---	---	---	---	---	---
25	.4	.2	.3	.4	.2	.3	---	---	---	---	---	---
26	.4	.2	.3	.4	.3	.3	---	---	---	15.1	13.8	14.3
27	.4	.2	.3	.4	.3	.3	---	---	---	16.0	15.1	15.4
28	.4	.1	.3	.4	.3	.3	---	---	---	17.4	15.8	16.4
29	---	---	---	.3	.2	.3	---	---	---	18.6	17.1	17.7
30	---	---	---	.4	.3	.3	---	---	---	18.9	18.1	18.5
31	---	---	---	.3	.3	.3	---	---	---	19.5	18.5	18.9
MONTH	.4	.1	.3	.4	.2	.3	6.2	.2	2.5	19.5	13.8	16.9

05059300 SHEYENNE RIVER ABOVE SHEYENNE RIVER DIVERSION NEAR HORACE, ND--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	19.2	18.0	18.6	25.4	23.9	24.5	27.7	26.6	27.1	---	---	---
2	18.3	17.5	17.9	24.2	22.9	23.4	27.4	26.4	26.9	---	---	---
3	18.1	17.4	17.8	23.8	22.5	23.2	---	---	---	---	---	---
4	18.5	17.3	17.9	23.9	22.8	23.3	29.0	27.3	28.1	---	---	---
5	18.2	17.6	17.9	23.8	22.7	23.3	29.5	28.3	28.8	---	---	---
6	17.6	17.3	17.5	24.0	22.6	23.3	29.8	28.5	29.2	---	---	---
7	18.2	17.2	17.6	24.9	23.3	24.0	29.5	28.6	29.0	---	---	---
8	19.0	17.5	18.2	25.9	24.1	24.9	29.4	28.5	29.0	---	---	---
9	20.1	18.6	19.3	26.7	25.2	25.9	28.9	27.3	27.9	---	---	---
10	21.7	19.9	20.7	26.6	25.6	26.1	27.3	26.0	26.4	---	---	---
11	21.7	21.0	21.4	26.2	25.0	25.5	26.1	25.0	25.4	---	---	---
12	22.1	20.9	21.5	25.8	24.4	25.0	25.4	24.2	24.6	---	---	---
13	22.0	21.1	21.5	25.7	24.4	25.1	24.5	23.3	23.8	---	---	---
14	21.4	20.3	20.8	26.1	24.8	25.4	23.9	22.9	23.4	---	---	---
15	20.3	19.4	19.8	25.9	25.4	25.6	24.1	23.4	23.7	---	---	---
16	19.7	18.8	19.3	25.5	24.8	25.2	23.9	23.0	23.5	---	---	---
17	19.6	19.3	19.4	26.4	24.4	25.3	23.8	22.8	23.3	---	---	---
18	19.5	18.9	19.2	---	---	---	23.4	22.3	22.7	---	---	---
19	19.0	18.0	18.5	27.0	25.4	26.2	22.9	21.6	22.2	---	---	---
20	19.2	18.5	18.9	26.9	25.8	26.3	23.2	21.6	22.4	---	---	---
21	19.8	18.7	19.2	27.6	26.0	26.7	23.7	22.0	22.8	---	---	---
22	20.6	19.3	19.9	27.4	26.8	27.1	---	---	---	---	---	---
23	21.2	19.7	20.4	27.9	26.7	27.2	---	---	---	---	---	---
24	22.0	20.8	21.3	27.5	25.8	26.4	---	---	---	---	---	---
25	23.8	22.0	22.8	25.8	24.7	25.3	---	---	---	---	---	---
26	24.5	23.5	24.0	25.2	23.4	24.0	---	---	---	---	---	---
27	25.5	24.1	24.7	23.4	22.2	22.7	---	---	---	---	---	---
28	26.2	24.9	25.5	23.3	21.7	22.4	---	---	---	---	---	---
29	27.0	25.7	26.3	24.1	22.5	23.2	---	---	---	---	---	---
30	26.7	25.4	26.0	25.7	24.0	24.7	---	---	---	---	---	---
31	---	---	---	27.2	25.6	26.3	---	---	---	---	---	---
MONTH	27.0	17.2	20.5	27.9	21.7	24.9	29.8	21.6	25.5	---	---	---

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	962	947	955	965	945	950	1090	1080	1080	1230	1220	1220
2	956	950	953	957	951	954	1090	1080	1080	1230	1220	1230
3	---	---	---	954	925	944	1080	1080	1080	1240	1200	1230
4	---	---	---	946	924	935	1080	1070	1080	1240	1230	1240
5	---	---	---	955	946	950	1080	1080	1080	1240	1240	1240
6	---	---	---	969	951	960	1090	1080	1080	1250	1240	1240
7	---	---	---	964	900	934	1090	1080	1090	1250	1240	1250
8	---	---	---	922	900	910	1090	1080	1090	1250	1250	1250
9	---	---	---	926	918	922	1100	1090	1090	1260	1250	1250
10	---	---	---	961	926	943	1100	1090	1100	1260	1250	1260
11	---	---	---	1010	961	992	1100	1090	1100	1260	1250	1260
12	---	---	---	1010	1010	1010	1120	1100	1110	1260	1260	1260
13	---	---	---	1010	1010	1010	1130	1120	1120	1260	1260	1260
14	---	---	---	1020	1010	1020	1150	1130	1140	1260	1260	1260
15	---	---	---	1030	1020	1030	1160	1150	1150	1260	1260	1260
16	---	---	---	1060	1030	1040	1160	1150	1160	1260	1260	1260
17	---	---	---	1060	1050	1060	1160	1150	1160	1260	1260	1260
18	---	---	---	1060	1060	1060	1160	1150	1160	1260	1260	1260
19	994	984	988	1060	1050	1050	1160	1150	1160	1260	1250	1260
20	996	991	994	1060	1050	1050	1180	1160	1170	1260	1250	1260
21	994	989	991	1060	1060	1060	1180	1170	1170	1260	1250	1250
22	991	984	989	1080	1060	1070	1180	1160	1170	1300	1250	1270
23	984	980	982	1080	1070	1080	1170	1160	1170	1300	1290	1300
24	983	980	982	1090	1080	1090	1180	1160	1170	1300	1290	1300
25	982	973	978	1100	1090	1100	1180	1170	1180	1330	1300	1310
26	982	973	977	1100	1090	1100	1190	1180	1180	1340	1320	1330
27	984	979	982	1110	1100	1100	1190	1180	1180	1330	1320	1330
28	979	969	973	1110	1110	1110	1210	1180	1200	1320	1310	1320
29	969	960	964	1110	1100	1110	1210	1200	1210	1330	1300	1320
30	970	961	964	1100	1090	1090	1220	1210	1210	1330	1290	1310
31	972	965	968	---	---	---	1220	1210	1220	1300	1290	1300
MONTH	996	947	976	1110	900	1020	1220	1070	1140	1340	1200	1270

05059300 SHEYENNE RIVER ABOVE SHEYENNE RIVER DIVERSION NEAR HORACE, ND--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	1320	1300	1310	1410	1400	1400	956	916	938	---	---	---
2	1320	1310	1320	1410	1400	1400	952	914	930	---	---	---
3	1320	1300	1310	1400	1380	1400	998	915	959	---	---	---
4	1310	1300	1310	1380	1370	1380	1060	998	1040	---	---	---
5	1320	1310	1310	1380	1370	1380	1070	1040	1060	---	---	---
6	1320	1310	1310	1380	1380	1380	1040	964	1010	---	---	---
7	1320	1310	1320	1390	1380	1390	964	838	900	---	---	---
8	1320	1300	1310	1390	1380	1390	838	781	814	---	---	---
9	1320	1300	1310	1390	1380	1390	817	781	799	---	---	---
10	1320	1320	1320	1390	1370	1380	843	806	823	---	---	---
11	1320	1310	1320	1380	1370	1370	852	838	846	---	---	---
12	1320	1310	1320	1380	1370	1380	860	852	857	---	---	---
13	1330	1320	1330	1380	1370	1380	867	858	862	---	---	---
14	1340	1330	1340	1370	1350	1350	873	866	869	---	---	---
15	1350	1340	1350	1350	1340	1340	874	867	870	---	---	---
16	1340	1320	1330	1340	1330	1330	872	869	871	---	---	---
17	1330	1320	1320	1330	1320	1330	875	871	873	---	---	---
18	1340	1320	1330	1330	1320	1320	879	874	876	---	---	---
19	1340	1330	1330	1330	1320	1320	880	877	879	---	---	---
20	1350	1330	1340	1320	1300	1310	---	---	---	---	---	---
21	1360	1340	1350	1300	1260	1280	---	---	---	---	---	---
22	1370	1360	1370	1260	1230	1250	---	---	---	---	---	---
23	1380	1360	1370	1230	1160	1200	---	---	---	---	---	---
24	1390	1380	1390	1180	1140	1160	---	---	---	---	---	---
25	1390	1380	1390	1140	1040	1090	---	---	---	---	---	---
26	1400	1390	1390	1040	948	976	---	---	---	995	989	992
27	1400	1390	1400	967	911	930	---	---	---	1000	995	1000
28	1400	1400	1400	975	960	972	---	---	---	1020	1000	1010
29	---	---	---	960	929	944	---	---	---	1030	1020	1020
30	---	---	---	931	923	928	---	---	---	1040	1030	1030
31	---	---	---	927	918	922	---	---	---	1050	1040	1050
MONTH	1400	1300	1340	1410	911	1260	1070	781	899	1050	989	1020

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	1060	1050	1060	1000	996	999	1070	1060	1070	---	---	---
2	1070	1060	1060	997	989	992	1080	1070	1070	---	---	---
3	1070	1070	1070	991	989	990	1080	1080	1080	---	---	---
4	1080	1060	1070	991	989	990	1080	1080	1080	---	---	---
5	1060	1030	1040	991	987	989	1090	1080	1080	---	---	---
6	1040	1020	1030	995	989	991	1100	1090	1090	---	---	---
7	1060	1040	1040	1010	995	1000	1100	1080	1090	---	---	---
8	1080	1060	1060	1030	1010	1020	1080	1060	1070	---	---	---
9	1090	1080	1080	1050	1030	1040	1070	1060	1060	---	---	---
10	1100	1090	1100	1070	1050	1060	1060	1050	1060	---	---	---
11	1100	1090	1090	1070	1060	1070	1050	1020	1050	---	---	---
12	1100	1090	1100	1070	1060	1060	1020	986	998	---	---	---
13	1100	1090	1090	1090	1060	1070	1010	990	999	---	---	---
14	1090	1080	1090	1070	1070	1070	1020	1000	1010	---	---	---
15	1080	1060	1080	1080	1070	1070	1020	1010	1010	---	---	---
16	1060	1050	1060	1090	1070	1080	1010	1010	1010	---	---	---
17	1050	1050	1050	1120	1090	1100	1010	1010	1010	---	---	---
18	1080	1050	1070	---	---	---	1010	1000	1010	---	---	---
19	1080	1080	1080	---	---	---	1010	1000	1000	---	---	---
20	1080	897	952	---	---	---	1010	1000	1000	---	---	---
21	912	902	907	---	---	---	1010	1000	1000	---	---	---
22	926	911	917	---	---	---	---	---	---	---	---	---
23	945	926	937	797	756	767	---	---	---	---	---	---
24	959	945	952	850	797	823	---	---	---	---	---	---
25	976	959	966	917	850	887	---	---	---	---	---	---
26	988	976	983	944	915	928	---	---	---	---	---	---
27	1000	988	994	980	941	951	---	---	---	---	---	---
28	1010	1000	1010	1020	980	1000	---	---	---	---	---	---
29	1010	1010	1010	1040	1020	1030	---	---	---	---	---	---
30	1010	1000	1000	1060	1030	1040	---	---	---	---	---	---
31	---	---	---	1060	1050	1060	---	---	---	---	---	---
MONTH	1100	897	1030	1120	756	1000	1100	986	1040	---	---	---

05059310 SHEYENNE RIVER DIVERSION NEAR HORACE, ND

LOCATION.--Lat 46°45'06", long 96°55'33", in $NE^{1}/_{4}SE^{1}/_{4}SE^{1}/_{4}$ sec.24, T.138 N., R.50 W., Cass County, Hydrologic Unit 09020204, at diversion structure 1 mi southwest of Horace.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder for Sheyenne River above Sheyenne River Diversion near Horace (station 05059300) is used to obtain stage record for this station. Datum of gage is 890 ft above sea level.

REMARKS.--Records fair. The records are for the flow that is diverted from the Sheyenne River at this location. When flows are greater than about 1,000 ft^3/s at Sheyenne River above Sheyenne River Diversion near Horace (05059300), diversions are made in order to control flood discharges downstream. The diverted flow returns to the Sheyenne River main channel at a location about 13 mi downstream, below the city of West Fargo. See Sheyenne River Diversion at West Fargo (station 05059480) for return flows.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	e50	e160	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	e260	91	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	310	37	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	332	10	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	376	2.8	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	429	.26	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	689	107	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	978	174	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	1250	138	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	1990	118	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	1970	93	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	1600	63	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	1620	45	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	1460	27	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	1250	10	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	1200	.80	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	1150	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	1100	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	1050	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	975	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	914	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	883	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	881	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	900	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	931	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	e.20	911	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	e2.0	829	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	e10	713	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	e50	e500	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	e40	e300	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	e40	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	142.20	27801	1076.86	0.00	0.00	0.00	0.00
MEAN	.000	.000	.000	.000	.000	4.59	927	34.7	.000	.000	.000	.000
MAX	.00	.00	.00	.00	.00	50	1990	174	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	50	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	282	55140	2140	.00	.00	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2001, BY WATER YEAR (WY)

MEAN	.072	.72	.000	.000	.000	89.3	633	244	37.3	53.8	96.9	.000
MAX	.65	6.50	.000	.000	.000	471	1507	1181	139	281	872	.000
(WY)	1995	1995	1993	1993	1993	1995	1997	1997	2000	1993	1993	1993
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1993	1993	1993	1993	1993	1997	2000	1993	1993	1996	1994	1993

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1993 - 2001	
ANNUAL TOTAL	5408.39		29020.06			
ANNUAL MEAN	14.8		79.5		96.2	
HIGHEST ANNUAL MEAN					226	1997
LOWEST ANNUAL MEAN					14.8	2000
HIGHEST DAILY MEAN	457	Jun 30	1990	Apr 10	2390	Apr 26 1997
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1992
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Oct 1 1992
MAXIMUM PEAK FLOW			2760	Apr 10	a 2760	Apr 10 2001
MAXIMUM PEAK STAGE			25.01	Apr 11	b 26.66	Mar 25 1999
ANNUAL RUNOFF (AC-FT)	10730		57560		69720	
10 PERCENT EXCEEDS	.00		74		157	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

a Gage height, 25.01 ft
b From high-water mark, backwater from ice and closure of diversion channel
e Estimated

05059310 SHEYENNE RIVER DIVERSION NEAR HORACE, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April to May 1997, water year 2001.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
APR 19...	0835	1090	8.5	--e	729	726	5.5	230	50.0	26.0	9.90	2	56.0

DATE	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	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)
APR 19...	33	194	15.0	.1	160	1330	452	434	2.0	150	2.00	100	30.0

DATE	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR 19...	<.10	2.0	3.0	220

e Required equipment not functional/available

05059480 SHEYENNE RIVER DIVERSION AT WEST FARGO, ND

LOCATION.--Lat 46°53'15", long 96°55'09", in $NE^{1}/_{4}NE^{1}/_{4}NW^{1}/_{4}$ sec.6, T.139 N., R.50 W., Cass County, Hydrologic Unit 09020204, on right bank, 50 ft upstream from 12th Ave N bridge in West Fargo, and 0.5 mi upstream from confluence with the Sheyenne River.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 876.78 ft above sea level. Datum incorrectly set 13.56 ft lower from Oct. 1, 1996 to Sept. 30, 1999. Prior to Oct. 1, 1996, at datum 6.78 ft lower.

REMARKS.--Records fair except those for estimated discharge, which are poor. These records are for the flood flows that are diverted around West Fargo.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	75	81	e.00	e.00	e.00	e.00	e1300	e850	e90	202	21	54
2	27	182	e.00	e.00	e.00	e.00	e1380	700	e55	193	63	70
3	.00	157	e.00	e.00	e.00	e.00	e1500	495	e32	200	37	3.9
4	.00	138	e.00	e.00	e.00	e.00	e1700	442	e13	e220	1.9	.00
5	.00	116	e.00	e.00	e.00	e.00	e1900	350	e8.0	e230	39	.00
6	.00	140	e.00	e.00	e.00	e.00	e2200	340	e3.5	220	179	.00
7	.00	498	e.00	e.00	e.00	e.00	e2400	703	e2.0	217	214	.00
8	.00	812	e.00	e.00	e.00	e.00	e2600	1420	1.0	194	213	.00
9	.00	366	e.00	e.00	e.00	e.00	3050	770	174	148	215	.00
10	.00	232	e.00	e.00	e.00	e.00	3290	895	179	104	217	.00
11	.00	204	e.00	e.00	e.00	e.00	3510	785	295	56	217	.00
12	.00	196	e.00	e.00	e.00	e.00	3470	722	299	9.8	217	.00
13	.00	192	e.00	e.00	e.00	e.00	3390	689	212	.00	207	.00
14	.00	e200	e.00	e.00	e.00	e.00	3260	655	185	.00	211	.00
15	.00	e210	e.00	e.00	e.00	e.00	3180	618	188	.00	210	.00
16	.00	e210	e.00	e.00	e.00	e.00	3110	595	184	.00	157	.00
17	.00	e200	e.00	e.00	e.00	e.00	3030	e580	182	.00	114	.00
18	.00	e.02	e.00	e.00	e.00	e.00	2880	e550	188	.00	81	.00
19	.00	e.00	e.00	e.00	e.00	e.00	2690	e490	196	.00	24	.00
20	.00	e.00	e.00	e.00	e.00	e.00	2510	e440	225	.00	.50	.00
21	.00	e.00	e.00	e.00	e.00	e.00	2300	e430	190	.00	.10	.00
22	.00	e.00	e.00	e.00	e.00	e.00	e2200	e420	188	2.0	.04	.00
23	.00	e.00	e.00	e.00	e.00	e.00	2050	e400	194	20	.05	.00
24	.00	e.00	e.00	e.00	e.00	e.00	2080	380	200	.04	.02	.00
25	.00	e.00	e.00	e.00	e.00	e.00	2060	364	203	.00	.00	.00
26	.00	e.00	e.00	e.00	e.00	e1.0	2000	360	205	.00	.00	.00
27	1.8	e.00	e.00	e.00	e.00	e5.0	1800	351	202	.00	.00	.00
28	13	e.00	e.00	e.00	e.00	e7.5	e1600	338	204	.00	.00	.00
29	22	e.00	e.00	e.00	---	e9.5	e1400	324	206	.00	.00	.00
30	28	e.00	e.00	e.00	---	e25	e1200	300	204	.00	.00	.00
31	22	---	e.00	e.00	---	e400	---	260	---	.00	.00	---
TOTAL	188.80	4134.02	0.00	0.00	0.00	448.00	71040	17016	4707.5	2015.84	2638.61	127.90
MEAN	6.09	138	.000	.000	.000	14.5	2368	549	157	65.0	85.1	4.26
MAX	75	812	.00	.00	.00	400	3510	1420	299	230	217	70
MIN	.00	.00	.00	.00	.00	.00	1200	260	1.0	.00	.00	.00
AC-FT	374	8200	.00	.00	.00	889	140900	33750	9340	4000	5230	254

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2001, BY WATER YEAR (WY)

MEAN	19.3	33.3	1.29	.000	16.5	459	1691	900	286	371	297	58.2
MAX	127	138	11.6	.000	90.2	1111	3288	2937	834	1000	2144	292
(WY)	1995	2001	1999	1993	1996	1995	1997	1997	2000	1993	1993	1995
MIN	.000	.000	.000	.000	.000	13.1	.000	.000	.000	.97	.000	.000
(WY)	1993	1993	1993	1993	1993	1997	2000	1993	1993	1996	1994	1996

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1993 - 2001	
ANNUAL TOTAL	60018.66		102316.67			
ANNUAL MEAN	164		280		345	
HIGHEST ANNUAL MEAN					549	1995
LOWEST ANNUAL MEAN					93.5	1994
HIGHEST DAILY MEAN	2600	Jun 21	3510	Apr 11	4800	Apr 19 1997
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 3	.00	Oct 1 1992
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 3	.00	Oct 1 1992
MAXIMUM PEAK FLOW			3550	Apr 11	4810	Apr 19 1997
MAXIMUM PEAK STAGE			22.04	Apr 11	a 22.90	Apr 9 1997
ANNUAL RUNOFF (AC-FT)	119000		202900		249900	
10 PERCENT EXCEEDS	407		741		1150	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated
a Backwater from ice

05059480 SHEYENNE RIVER DIVERSION AT WEST FARGO, ND--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
NOV													
17...	1125	190	--	--	--	849	-4.0	.5	--	--	--	--	--
APR													
17...	1430	3030	8.0	7.7	741	680	7.5	5.5	240	52.0	27.0	9.80	1
MAY													
24...	1000	378	--	--	--	697	8.0	8.5	--	--	--	--	--
JUN													
21...	1240	181	--	--	--	748	17.0	16.0	--	--	--	--	--

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
NOV													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
17...	53.0	31	195	15.0	.2	170	3860	472	444	4.0	110	2.00	100
MAY													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
NOV					
17...	--	--	--	--	--
APR					
17...	40.0	<.10	2.0	3.0	230
MAY					
24...	--	--	--	--	--
JUN					
21...	--	--	--	--	--

05059500 SHEYENNE RIVER AT WEST FARGO, ND

LOCATION.--Lat 46°53'28", long 96°54'24", in $SE^1/_4SE^1/_4$ sec.31, T.140 N., R.49 W., Cass County, Hydrologic Unit 09020204, on right bank at downstream side of county highway bridge, 1 mi north of West Fargo, 3 mi upstream from Maple River, and at mile 24.5.

DRAINAGE AREA.--8,870 mi^2, approximately, of which about 5,780 mi^2 is probably noncontributing, including 3,800 mi^2 in closed basins.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March to November 1902 (gage heights only), April 1903 to October 1905, March to August 1919, September 1929 to current year. Published as "at or near Haggart" 1902-7, 1919. Records for March to November 1902 and November 1905 to June 1907, published in WSP 100, 171, 207, and 245, have been found to be unreliable and should not be used. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1388: 1904(M). WSP 1728: Drainage area. See also "PERIOD OF RECORD."

GAGE.--Water-stage recorder. Datum of gage is 877.19 ft above sea level. June 27, 1933, to September 1969 on left bank about 600 ft downstream on unimproved channel at same datum. See WSP 1728 or 1913 for history of changes prior to June 27, 1933.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow regulated to a large degree by Lake Ashtabula (station 05057500), 246 mi upstream. Since March 1993, flood flows that are diverted from the Sheyenne River just downstream from gaging station Sheyenne River above Sheyenne River Diversion near Horace (station 05059300) bypass this station. These flows are measured at streamflow station Sheyenne River Diversion at West Fargo (station 05059480). Figures of discharge given here include flow of the bypass. During some years, flow is diverted from just above the station into the Red River of the North in order to maintain adequate supply for municipal uses. Figures of daily discharge do not include this diversion.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	444	568	e580	e260	e350	e240	e1300	e1750	e455	732	479	501
2	367	750	e550	e260	e350	e240	e1380	e1650	e450	795	536	479
3	302	696	e540	e260	e350	e240	e1500	e1540	e442	854	498	323
4	249	621	e520	e255	e350	e240	e1700	e1460	e433	900	450	228
5	224	553	e515	e250	e350	e240	e1900	e1360	e423	921	504	181
6	221	610	e510	e250	e350	e230	e2200	e1330	e418	923	741	150
7	223	1340	e520	e245	e350	e220	e2400	e1580	e427	913	867	142
8	221	1840	e520	e240	e345	e205	e2600	e2360	e431	846	882	134
9	219	1170	e520	e235	e345	e220	3050	e1570	e444	749	866	123
10	216	828	e520	e230	e345	e240	3290	e1500	507	661	840	117
11	216	720	e520	e225	e345	e250	3510	e1380	725	576	839	112
12	216	693	e520	e220	e345	e265	3470	e1300	795	501	837	108
13	219	681	e520	e220	e340	e270	3390	e1250	778	444	801	e95
14	245	687	e515	e220	e340	e275	3260	e1200	718	414	805	e90
15	253	681	e510	e220	e340	e280	3180	e1160	717	372	827	e87
16	258	e580	e505	e220	e335	e270	3110	e1120	766	327	699	e86
17	258	e530	e500	e225	e330	e260	3030	e1080	798	296	615	e86
18	257	e400	e500	e230	e325	e265	2980	e1020	784	294	557	e87
19	261	e515	e500	e240	e322	e290	2890	e940	856	340	465	e87
20	266	e510	e495	e280	e320	e310	2780	e860	959	398	364	e88
21	265	e550	e485	e310	e310	e360	2670	e810	893	465	309	e90
22	259	e545	e480	e330	e300	e425	e2570	e770	847	477	e260	e100
23	265	e535	e460	e340	e280	e550	e2590	e740	774	496	e230	e100
24	275	e530	e440	e345	e270	e700	e2660	e718	690	419	e200	e99
25	287	e525	e400	e350	e250	e800	e2680	676	663	371	e170	e93
26	319	e550	e380	e350	e240	e851	e2640	662	625	338	e160	e85
27	337	e600	e350	e350	e240	e955	e2480	653	602	335	e160	e84
28	357	e600	e320	e350	e240	e1060	e2300	619	604	361	e170	e90
29	378	e600	e280	e350	---	e1110	e2080	596	606	403	e195	e81
30	380	e600	e270	e350	---	e1180	e1980	545	644	e500	e247	e75
31	406	---	e265	e350	---	e1200	---	517	---	e520	351	---
TOTAL	8663	20608	14510	8560	8957	14241	77570	34716	19274	16941	15924	4201
MEAN	279	687	468	276	320	459	2586	1120	642	546	514	140
MAX	444	1840	580	350	350	1200	3510	2360	959	923	882	501
MIN	216	400	265	220	240	205	1300	517	418	294	160	75
AC-FT	17180	40880	28780	16980	17770	28250	153900	68860	38230	33600	31590	8330

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2001, BY WATER YEAR (WY)

MEAN	82.9	100	82.9	69.1	76.8	281	819	494	287	234	136	92.1
MAX	713	687	468	276	320	1184	3312	3235	1785	1373	2218	609
(WY)	1995	2001	2001	2001	2001	1999	1997	1997	1950	2000	1993	1999
MIN	9.88	12.4	7.48	6.37	5.47	6.76	65.2	54.0	25.2	14.7	7.46	7.43
(WY)	1937	1937	1937	1940	1937	1940	1991	1959	1934	1934	1936	1976

05059500 SHEYENNE RIVER AT WEST FARGO, ND--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1903 - 2001	
ANNUAL TOTAL	196336		244165			
ANNUAL MEAN	536		669		229	
HIGHEST ANNUAL MEAN					804	1997
LOWEST ANNUAL MEAN					37.1	1934
HIGHEST DAILY MEAN	2670	Jun 21	3510	Apr 11	4800	Apr 19 1997
LOWEST DAILY MEAN	115	Feb 15	75	Sep 30	a 1.0	Sep 23 1976
ANNUAL SEVEN-DAY MINIMUM	115	Feb 15	87	Sep 24	2.0	Sep 17 1976
MAXIMUM PEAK FLOW			b 3550	Apr 11	c 4810	Apr 19 1997
MAXIMUM PEAK STAGE			d 22.04	Apr 11	f 22.90	Apr 9 1997
ANNUAL RUNOFF (AC-FT)	389400		484300		166000	
10 PERCENT EXCEEDS	1180		1480		520	
50 PERCENT EXCEEDS	385		450		81	
90 PERCENT EXCEEDS	190		218		22	

e Estimated
a Caused by diversion to the Red River of the North
b All flow through diversion channel
c All flow through diversion channel, gage height 22.68 feet
d Maximum gage height in diversion channel
f Maximum gage height in diversion channel, backwater from ice

05059500 SHEYENNE RIVER AT WEST FARGO, ND--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)
OCT						
03...	1405	--	296	908	11.0	12.5
NOV						
17...	1025	--	313	1010	-4.5	.5
FEB						
14...	1200	340	--	949	-10.0	.00
MAY						
24...	1140	--	336	1100	8.5	7.0
JUN						
21...	1505	--	714	943	18.0	17.5
JUL						
30...	1340	--	546	947	24.5	20.0
AUG						
14...	1145	--	603	997	25.5	26.0

05059600 MAPLE RIVER NEAR HOPE, ND

LOCATION.--Lat 47°19'30", long 97°47'25", in NW$^1/_4$NW$^1/_4$ sec.4, T.144 N., R.56 W., Steele County, Hydrologic Unit 09020205, 100 ft downstream from box culvert on State Highway 38, 500 ft east of the intersection of State Highways 32 and 38, and 3 mi west of Hope.

DRAINAGE AREA.--20.2 mi^2, of which about 2.8 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1964 to current year (seasonal records only since 1983).

GAGE.--Water-stage recorder. Datum of gage is 1,296.62 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are poor.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 276 ft^3/s, Apr. 7, gage height, 5.53 ft; maximum gage height, 5.79 ft, Mar. 22, backwater from ice; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e.00	e24	2.2	.78	.00	25	.25
2	---	---	---	---	---	e.00	e22	1.8	.36	.00	142	.22
3	---	---	---	---	---	e.00	e20	1.7	.22	.00	106	.05
4	---	---	---	---	---	e.00	e18	1.6	.20	.00	53	.00
5	---	---	---	---	---	e.00	e16	1.8	.20	.00	24	.00
6	---	---	---	---	---	e.00	66	12	.19	.00	13	.00
7	---	---	---	---	---	e.00	152	26	.17	.00	8.8	.05
8	---	---	---	---	---	e.00	198	23	.11	.00	9.7	.06
9	---	---	---	---	---	e.00	110	27	.06	.00	8.0	.02
10	---	---	---	---	---	e.00	81	14	.04	.00	6.1	.00
11	---	---	---	---	---	e.00	66	9.1	.00	.00	4.9	.00
12	---	---	---	---	---	e.00	76	7.0	.20	.00	4.2	.00
13	---	---	---	---	---	e.00	66	5.6	.24	.00	4.1	.00
14	---	---	---	---	---	e.00	59	4.8	4.0	.00	3.4	.00
15	---	---	---	---	---	e.00	42	4.6	.80	.00	3.0	.00
16	---	---	---	---	---	e.00	27	2.9	.99	.00	2.4	.00
17	---	---	---	---	---	e.00	15	2.6	.67	.00	1.9	.00
18	---	---	---	---	---	e.10	11	2.1	1.2	.00	.93	.00
19	---	---	---	---	---	e1.0	8.3	1.8	.62	.00	.82	.00
20	---	---	---	---	---	e10	7.3	1.9	.23	20	.56	.00
21	---	---	---	---	---	e40	6.3	2.4	.13	48	.34	.00
22	---	---	---	---	---	e140	5.1	1.9	.04	47	.22	.00
23	---	---	---	---	---	e50	5.2	1.7	.00	72	.09	.00
24	---	---	---	---	---	e26	4.5	1.6	.00	50	.03	.00
25	---	---	---	---	---	e18	4.3	1.5	.00	27	.06	.00
26	---	---	---	---	---	e10	3.9	1.4	.00	17	.16	.00
27	---	---	---	---	---	e9.0	3.7	1.2	.00	14	.26	.00
28	---	---	---	---	---	e9.0	3.0	1.3	.00	12	.21	.00
29	---	---	---	---	---	e12	2.7	1.1	.00	9.7	.09	.00
30	---	---	---	---	---	e20	2.4	.86	.00	8.5	.00	.00
31	---	---	---	---	---	e24	---	4.5	---	11	.00	---
TOTAL	---	---	---	---	---	369.10	1125.7	172.96	11.45	336.20	423.27	0.65
MEAN	---	---	---	---	---	11.9	37.5	5.58	.38	10.8	13.7	.022
MAX	---	---	---	---	---	140	198	27	4.0	72	142	.25
MIN	---	---	---	---	---	.00	2.4	.86	.00	.00	.00	.00
AC-FT	---	---	---	---	---	732	2230	343	23	667	840	1.3

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2001, BY WATER YEAR (WY)

MEAN	.060	.003	.000	.000	.000	11.1	15.9	3.53	2.97	4.76	.88	.49
MAX	1.07	.054	.000	.000	.006	41.8	63.8	44.0	34.5	65.3	13.7	15.3
(WY)	1966	1966	1965	1965	1981	1987	1997	1999	1968	1993	2001	1994
MIN	.000	.000	.000	.000	.000	.000	.007	.000	.000	.000	.000	.000
(WY)	1965	1965	1965	1965	1965	1969	1991	1980	1973	1973	1967	1967

SUMMARY STATISTICS	WATER YEARS 1965 - 2001		
ANNUAL MEAN	a 2.82		
HIGHEST ANNUAL MEAN	a 5.55		1969
LOWEST ANNUAL MEAN	a .002		1981
HIGHEST DAILY MEAN	560	Mar 31	1997
LOWEST DAILY MEAN	.00	Oct 1	1964
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 1	1964
MAXIMUM PEAK FLOW	900	Apr 18	1979
MAXIMUM PEAK STAGE	8.83	Mar 31	1997
ANNUAL RUNOFF (AC-FT)	a 2040		
10 PERCENT EXCEEDS	5.4		
50 PERCENT EXCEEDS	.00		
90 PERCENT EXCEEDS	.00		

a Based on complete water years only (1965-82)
e Estimated

05059600 MAPLE RIVER NEAR HOPE, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
MAR													
22...	1345	157	--	--	--	706	.00	1.0	--	--	--	--	--
29...	1340	874	--	--	--	874	2.0	.00	--	--	--	--	--
APR													
08...	1640	767	--	--	--	767	.00	4.5	--	--	--	--	--
26...	1550	3.9	8.2	8.2	1780	1640	11.0	17.0	700	140	86.0	8.50	3
MAY													
11...	1245	8.3	--	--	--	2270	12.2	14.5	--	--	--	--	--
JUN													
20...	1335	.21	--	--	--	2290	--	17.0	--	--	--	--	--
JUL													
26...	1140	16	--	--	--	1480	18.0	20.5	--	--	--	--	--
AUG													
07...	1410	8.6	7.9	7.9	1350	1320	32.0	28.5	480	97.0	58.0	10.0	3

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
MAR													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	160	33	345	42.0	.2	640	14.2	1350	1280	3.0	70	2.00	100
MAY													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
07...	130	36	380	30.0	.3	360	22.9	991	914	8.0	30	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
MAR					
22...	--	--	--	--	--
29...	--	--	--	--	--
APR					
08...	--	--	--	--	--
26...	60.0	.10	2.0	3.0	610
MAY					
11...	--	--	--	--	--
JUN					
20...	--	--	--	--	--
JUL					
26...	--	--	--	--	--
AUG					
07...	90.0	<.10	2.0	3.0	430

05059700 MAPLE RIVER NEAR ENDERLIN, ND

LOCATION.--Lat 46°37'18", long 97°34'25", on west line sec.2, T.136 N., R.55 W., Ransom County, Hydrologic Unit 09020205, on left bank 25 ft downstream from county highway bridge, 1 mi downstream from South Branch, and 1.2 mi east of Enderlin.

DRAINAGE AREA.--843 mi^2, of which about 47 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1956 to current year.

REVISED RECORDS.--WSP 1728: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,056.72 ft above sea level. Sept. 21, 1956, to June 9, 1969, recording gage on right bank at same datum. Prior to Sept. 20, 1956, nonrecording gage at site 25 ft upstream at same datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	11	e16	e3.6	e2.3	e2.1	429	104	20	16	25	107
2	5.1	11	e15	e3.4	e2.3	e2.0	362	93	18	15	23	71
3	5.2	12	e14	e3.3	e2.3	e2.0	383	86	17	15	21	47
4	5.2	11	e26	e3.1	e2.3	e2.0	446	78	16	13	21	34
5	4.6	10	e30	e3.0	e2.2	e2.0	e500	77	15	11	43	26
6	4.6	11	e14	e2.9	e2.2	e2.0	e560	107	14	11	43	19
7	4.5	22	e13	e2.8	e2.2	e2.0	e700	191	13	9.5	43	15
8	4.2	39	e12	e2.7	e2.2	e2.0	e900	273	12	7.4	43	11
9	4.4	45	e11	e2.6	e2.2	e2.0	e1500	357	12	5.8	50	8.8
10	4.5	57	e10	e2.6	e2.2	e2.0	1860	422	17	4.9	71	7.3
11	4.8	77	e8.8	e2.5	e2.2	e2.0	1840	393	28	4.5	71	6.2
12	4.8	91	e8.0	e2.5	e2.2	e2.0	1630	322	67	4.5	71	4.8
13	3.7	92	e7.5	e2.4	e2.2	e2.0	1400	254	81	4.2	80	3.9
14	3.7	118	e6.9	e2.4	e2.2	e2.0	1270	197	87	4.0	80	4.8
15	4.1	101	e6.7	e2.4	e2.2	e2.0	1140	157	106	4.0	67	4.9
16	4.5	e84	e6.4	e2.3	e2.2	e2.1	1000	124	93	3.9	52	4.5
17	4.8	e67	e6.1	e2.3	e2.2	e2.4	882	96	79	3.0	42	4.4
18	5.0	e62	e5.8	e2.3	e2.2	e2.8	766	76	75	3.1	36	4.2
19	5.4	62	e5.5	e2.3	e2.2	e9.0	656	63	64	2.8	31	4.0
20	5.0	81	e5.3	e2.3	e2.2	e20	559	56	54	3.9	28	8.0
21	5.0	52	e5.1	e2.3	e2.2	e40	459	52	45	19	26	12
22	4.8	43	e5.0	e2.3	e2.2	e100	366	44	38	20	23	10
23	4.6	31	e4.9	e2.3	e2.1	e60	301	42	34	12	21	7.4
24	4.9	23	e4.8	e2.3	e2.1	e40	254	43	31	4.7	18	8.7
25	6.2	20	e4.7	e2.3	e2.1	e110	218	37	29	13	21	8.2
26	6.5	e17	e4.6	e2.3	e2.1	e480	182	32	26	16	20	9.2
27	7.0	e16	e4.4	e2.3	e2.1	563	164	28	24	14	25	9.9
28	7.7	e15	e4.3	e2.3	e2.1	561	153	27	21	14	34	9.1
29	8.3	e16	e4.1	e2.3	---	601	133	22	20	15	77	6.7
30	8.0	e18	e4.0	e2.3	---	595	117	20	18	21	134	5.3
31	7.8	---	e3.8	e2.3	---	503	---	21	---	26	137	---
TOTAL	164.1	1315	277.7	79.0	61.4	3719.4	21130	3894	1174	321.2	1477	482.3
MEAN	5.29	43.8	8.96	2.55	2.19	120	704	126	39.1	10.4	47.6	16.1
MAX	8.3	118	30	3.6	2.3	601	1860	422	106	26	137	107
MIN	3.7	10	3.8	2.3	2.1	2.0	117	20	12	2.8	18	3.9
AC-FT	325	2610	551	157	122	7380	41910	7720	2330	637	2930	957

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2001, BY WATER YEAR (WY)

MEAN	10.6	7.61	4.78	2.71	6.01	149	291	71.4	45.8	65.0	22.5	13.1
MAX	211	63.6	50.4	7.78	123	622	2162	669	424	875	506	122
(WY)	1995	1995	1999	1999	1998	1966	1997	1999	1975	1993	1993	1999
MIN	1.52	1.49	1.32	1.21	1.30	2.10	2.06	2.19	1.41	1.44	1.33	1.28
(WY)	1993	1961	1961	1969	1969	1969	1991	1992	1961	1961	1961	1984

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1956 - 2001	
ANNUAL TOTAL	18952.3		34095.1			
ANNUAL MEAN	51.8		93.4		57.7	
HIGHEST ANNUAL MEAN					242	1997
LOWEST ANNUAL MEAN					2.14	1990
HIGHEST DAILY MEAN	757	Jun 24	1860	Apr 10	5450	Jun 30 1975
LOWEST DAILY MEAN	3.2	Aug 27	2.0	Mar 2	.10	Dec 7 1963
ANNUAL SEVEN-DAY MINIMUM	3.5	Aug 23	2.0	Mar 2	.67	Dec 7 1963
MAXIMUM PEAK FLOW			2070	Apr 10	7610	Jun 30 1975
MAXIMUM PEAK STAGE			10.07	Apr 10	15.41	Jun 30 1975
ANNUAL RUNOFF (AC-FT)	37590		67630		41830	
10 PERCENT EXCEEDS	143		232		90	
50 PERCENT EXCEEDS	13		13		3.9	
90 PERCENT EXCEEDS	4.7		2.2		1.8	

e Estimated

05059700 MAPLE RIVER NEAR ENDERLIN, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
05...	1335	4.5	--	--	--	1710	8.5	9.0	--	--	--	--	--
NOV													
20...	1050	117	--	--	--	947	-10.5	.5	--	--	--	--	--
JAN													
19...	1055	2.3	--	--	--	797	-10.0	1.0	--	--	--	--	--
MAR													
27...	1135	544	--	--	--	731	-3.5	1.5	--	--	--	--	--
APR													
03...	1405	408	--	--	--	491	.5	1.5	--	--	--	--	--
14...	1820	1200	--	--	--	970	16.0	8.5	--	--	--	--	--
24...	0850	271	8.1	8.0	1360	1350	7.0	6.0	400	61.0	60.0	14.0	2
MAY													
22...	0725	44	--	--	--	1060	7.0	6.0	--	--	--	--	--
JUN													
18...	1320	81	--	--	--	1130	18.0	17.0	--	--	--	--	--

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	76.0	28	249	37.0	.2	230	709	969	628	4.0	40	2.00	100
MAY													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
05...	--	--	--	--	--
NOV					
20...	--	--	--	--	--
JAN					
19...	--	--	--	--	--
MAR					
27...	--	--	--	--	--
APR					
03...	--	--	--	--	--
14...	--	--	--	--	--
24...	140	<.10	2.0	3.0	460
MAY					
22...	--	--	--	--	--
JUN					
18...	--	--	--	--	--

05060000 MAPLE RIVER NEAR MAPLETON, ND

LOCATION.--Lat 46°52'00", long 97°06'20", in $SW^1/_4NE^1/_4$ sec.10, T.139 N., R.51 W., Cass County, Hydrologic Unit 09020204, on right bank upstream of county bridge, 3 mi southwest of Mapleton.

DRAINAGE AREA.-- 1,450 mi^2, approximately, of which 70 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1958 to September 1975, March 1, 2001 to present.

GAGE.--Water-stage recorder and rubble masonary dam. Datum of gage is 890.00 ft above sea level. Prior to Oct. 1, 2001, at datum 3.53 ft higher.

REMARKS.--Records fair except those for estimated daily discharges, which are poor.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,890 ft^3/s, Apr. 8, gage height 23.15 ft, backwater from ice; minimum daily discharge, 14 ft^3/s, Mar. 6-7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e15	e1250	214	116	82	48	64
2	---	---	---	---	---	e15	e1230	195	111	80	42	111
3	---	---	---	---	---	e15	e1180	181	108	75	e40	121
4	---	---	---	---	---	e15	e1100	169	105	71	e39	110
5	---	---	---	---	---	e15	e1000	161	100	68	e40	91
6	---	---	---	---	---	e14	e1010	291	102	67	e37	75
7	---	---	---	---	---	e14	e4000	e1500	99	65	e35	68
8	---	---	---	---	---	e15	e6000	e900	94	61	e34	62
9	---	---	---	---	---	e15	5290	e600	91	58	e50	56
10	---	---	---	---	---	e15	3620	474	92	54	e60	42
11	---	---	---	---	---	e15	2540	427	120	52	e69	36
12	---	---	---	---	---	e16	3100	430	235	49	e73	36
13	---	---	---	---	---	e16	3300	409	224	47	e72	31
14	---	---	---	---	---	e15	2600	359	399	45	e80	28
15	---	---	---	---	---	e15	2200	306	706	44	92	27
16	---	---	---	---	---	e15	1800	258	805	44	97	26
17	---	---	---	---	---	e15	1550	222	514	49	98	27
18	---	---	---	---	---	e15	1290	196	305	70	91	28
19	---	---	---	---	---	e15	1080	178	241	110	81	26
20	---	---	---	---	---	e15	907	167	207	100	71	27
21	---	---	---	---	---	e15	766	159	185	99	62	e28
22	---	---	---	---	---	e15	652	151	165	169	55	e30
23	---	---	---	---	---	e16	559	148	148	132	48	e32
24	---	---	---	---	---	e50	541	146	135	85	43	e34
25	---	---	---	---	---	e100	610	139	124	75	37	e34
26	---	---	---	---	---	e200	510	136	121	81	35	e33
27	---	---	---	---	---	e500	367	139	112	84	40	e31
28	---	---	---	---	---	e800	302	130	102	76	42	e31
29	---	---	---	---	---	e1000	263	123	93	66	39	e30
30	---	---	---	---	---	e1200	234	122	87	59	33	e29
31	---	---	---	---	---	e1230	---	119	---	55	35	---
TOTAL	---	---	---	---	---	5426	50851	9149	6046	2272	1718	1404
MEAN	---	---	---	---	---	175	1695	295	202	73.3	55.4	46.8
MAX	---	---	---	---	---	1230	6000	1500	805	169	98	121
MIN	---	---	---	---	---	14	234	119	87	44	33	26
AC-FT	---	---	---	---	---	10760	100900	18150	11990	4510	3410	2780

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2001, BY WATER YEAR (WY)

MEAN	14.3	12.1	4.44	1.40	9.53	195	564	155	96.3	200	31.6	20.5
MAX	51.1	36.2	12.2	4.30	178	1040	1708	428	478	2375	267	65.8
(WY)	1996	1972	1963	1973	1997	1966	1969	1970	1970	1975	1962	1962
MIN	.000	.000	.000	.000	.000	.000	13.9	8.35	1.71	.000	.000	.000
(WY)	1961	1961	1961	1959	1959	1969	1959	1959	1961	1961	1960	1959

SUMMARY STATISTICS	WATER YEARS 1958 - 2001		
ANNUAL MEAN	a 97.7		
HIGHEST ANNUAL MEAN	a 374		1975
LOWEST ANNUAL MEAN	a 5.98		1961
HIGHEST DAILY MEAN	11300	Jul 2	1975
LOWEST DAILY MEAN	.00	Dec 13	1958
ANNUAL SEVEN-DAY MINIMUM	.00	Dec 13	1958
MAXIMUM PEAK FLOW	11600	Jul 2	1975
MAXIMUM PEAK STAGE	23.03	Jul 2	1975
ANNUAL RUNOFF (AC-FT)	a 70770		
10 PERCENT EXCEEDS	188		
50 PERCENT EXCEEDS	10		
90 PERCENT EXCEEDS	.05		

e Estimated
a Based on complete water years only (1959-75)

05060000 MAPLE RIVER NEAR MAPLETON, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2001 to present.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)
APR							
18...	0840	--	1310	--	980	2.0	4.5
20...	0935	907	--	8.0	1050	7.0	7.5
MAY							
01...	1050	--	217	--	848	12.0	6.0
08...	0815	900	--	--	644	9.5	6.0

05060100 MAPLE RIVER BELOW MAPLETON, ND

LOCATION.--Lat 46°54'19", long 97°03'08", in $NW^1/_4NW^1/_4NW^1/_4$ sec.31, T.140 N., R.50 W., Cass County, Hydrologic Unit 09020205, on left bank just downstream from bridge on county highway 1.0 mi north of Mapleton.

DRAINAGE AREA.-- 1,480 mi^2, approximately, of which 70 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1944 to September 1975, March 1995 to current year. April 1944 to September 1958 published as "at Mapleton". Record not equivalent at extreme high flows to station 05060000 (site 9 mi upstream), which was operated for water years 1959 to 1975, and operated as a seasonal gage beginning in March 2001.

GAGE.--Water-stage recorder. Datum of gage is 890.00 ft above sea level. Feb. 16, 1944, to Sept. 30, 1958, nonrecording gage at site 2 mi upstream at datum 3.33 ft lower.

REMARKS.--Records fair except those for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	149	e44	e16	e14	e15	e1280	222	e120	e95	51	44
2	23	481	e42	e15	e13	e15	e1280	201	e118	e90	44	100
3	21	877	e40	e15	e13	e15	e1230	187	e116	e85	40	140
4	19	558	e38	e15	e13	e15	e1180	174	e113	e80	42	135
5	19	273	e37	e15	e13	e15	e1050	172	e110	e75	42	112
6	18	191	e35	e15	e13	e14	e1600	273	e108	e70	40	87
7	18	490	e34	e15	e13	e14	e4000	1520	e103	e69	36	78
8	18	1090	e33	e15	e13	e15	6000	e900	e99	e67	34	68
9	17	990	e32	e15	e13	e15	6180	e600	e96	e63	50	63
10	17	532	e30	e15	e13	e15	4420	495	e100	e60	60	50
11	16	314	e29	e15	e13	e15	e2900	425	105	e56	68	41
12	17	215	e28	e15	e14	e16	e3200	422	238	e52	75	39
13	18	189	e27	e15	e14	e16	e3350	414	258	e50	74	38
14	23	153	e26	e15	e14	e15	2800	379	436	e48	85	34
15	28	e130	e25	e15	e14	e15	2370	322	675	e46	93	32
16	27	e110	e24	e15	e14	e15	e1800	274	841	e45	95	29
17	26	e105	e23	e15	e14	e15	e1550	e250	627	e50	99	29
18	27	e90	e22	e15	e14	e15	1310	e225	404	e65	96	31
19	26	e85	e21	e15	e14	e15	1110	e200	307	e70	85	31
20	24	e78	e20	e15	e14	e15	932	e180	261	e110	74	30
21	26	e72	e20	e15	e14	e15	783	e170	227	e105	64	32
22	25	e70	e19	e15	e14	e15	659	e160	196	155	56	36
23	23	e67	e18	e15	e14	e16	566	e150	170	178	50	40
24	24	e60	e18	e15	e14	e50	523	e145	153	116	44	43
25	26	e59	e18	e15	e14	e160	570	e140	133	81	40	42
26	30	e57	e17	e15	e14	e300	523	e138	125	83	37	41
27	33	e54	e17	e15	e14	e500	400	e136	115	90	37	37
28	46	e54	e17	e15	e14	e800	335	e135	e115	84	43	33
29	54	e49	e16	e15	---	e1020	282	e130	e110	73	41	31
30	58	e46	e16	e15	---	e1200	248	e125	e100	65	37	30
31	81	---	e16	e14	---	e1230	---	e122	---	60	34	---
TOTAL	852	7688	802	465	382	5606	54431	9386	6679	2436	1766	1576
MEAN	27.5	256	25.9	15.0	13.6	181	1814	303	223	78.6	57.0	52.5
MAX	81	1090	44	16	14	1230	6180	1520	841	178	99	140
MIN	16	46	16	14	13	14	248	122	96	45	34	29
AC-FT	1690	15250	1590	922	758	11120	108000	18620	13250	4830	3500	3130

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 2001, BY WATER YEAR (WY)

MEAN	15.7	25.8	12.6	4.03	18.6	234	590	185	139	75.7	16.7	33.8
MAX	96.5	256	125	20.7	288	1376	2956	1035	867	373	57.0	401
(WY)	1999	2001	1999	1999	1998	1998	1997	1999	2000	2000	2001	1999
MIN	.000	1.75	.63	.016	.000	.000	21.0	6.30	6.52	2.90	.042	.000
(WY)	1953	1953	1956	1956	1945	1956	1953	1955	1954	1956	1946	1949

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1944 - 2001	
ANNUAL TOTAL	71101		92069			
ANNUAL MEAN	194		252		112	
HIGHEST ANNUAL MEAN					343	1999
LOWEST ANNUAL MEAN					11.1	1954
HIGHEST DAILY MEAN	4010	Jun 22	6180	Apr 9	6620	Apr 16 1997
LOWEST DAILY MEAN	12	Jan 10	13	Feb 2	.00	Jan 16 1945
ANNUAL SEVEN-DAY MINIMUM	12	Jan 7	13	Feb 2	.00	Jan 16 1945
MAXIMUM PEAK FLOW			6540	Apr 9	a 7150	Apr 16 1997
MAXIMUM PEAK STAGE			23.32	Apr 9	b 24.96	Apr 8 1997
ANNUAL RUNOFF (AC-FT)	141000		182600		80820	
10 PERCENT EXCEEDS	483		568		196	
50 PERCENT EXCEEDS	43		50		10	
90 PERCENT EXCEEDS	13		15		.10	

e Estimated
a Gage height, 23.76
b Observed, backwater from ice, may have been higher during period of no gage-height record, April 6-9, 1997.

05060100 MAPLE RIVER BELOW MAPLETON, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1995 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: April 1997 to September 30, 2001 (discontinued).

SPECIFIC CONDUCTANCE: April 1997 to September 30, 2001 (discontinued).

INSTRUMENTATION.--Water-quality sensors April 1997 to September 30, 2001 (discontinued).

REMARKS.--Records good. Missing data Dec. 22-29, equipment manufunction; Apr. 21-26, Apr. 30 to May 7, May 16-23, probe out of water.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 30.9°C, July 17, 2001; minimum recorded, less than 0.0°C, April 16, 1997.

SPECIFIC CONDUCTANCE: Maximum recorded, 2,180 microsiemens, Feb. 1-17, 2001; minimum recorded, 276 microsiemens, June 20, 2000.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 30.9°C, July 17; minimum recorded, 0.0°C, on many days.

SPECIFIC CONDUCTANCE: Maximum recorded, 2,180 microsiemens, Feb. 1-17; minimum recorded, 445 microsiemens, Apr. 8.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
OCT													
03...	0920	21	--	--	--	--	1290	--	12.5	--	--	--	--
25...	1055	26	--	--	--	--	1390	--	12.5	--	--	--	--
DEC													
15...	0845	25	--	--	--	--	1750	-15.0	.00	--	--	--	--
JAN													
03...	1255	--	15	--	--	--	2040	-1.0	.5	--	--	--	--
30...	1145	15	--	--	--	--	2160	--	.00	--	--	--	--
FEB													
28...	1300	14	--	--	--	--	1800	-2.5	1.0	--	--	--	--
MAR													
28...	1025	800	--	--	--	--	699	--	.00	--	--	--	--
APR													
20...	1040	932	--	8.0	7.8	1080	1050	8.0	7.5	420	93.0	46.0	12.0
26...	1335	523	--	--	--	--	1110	18.5	13.0	--	--	--	--
MAY													
23...	1200	150	--	--	--	--	1860	--	9.0	--	--	--	--
24...	0800	--	144	--	--	--	1760	7.5	9.5	--	--	--	--
JUN													
06...	1335	108	--	--	--	--	1740	18.0	17.5	--	--	--	--
20...	1430	--	256	--	--	--	1300	--	19.0	--	--	--	--
JUL													
11...	1045	56	--	--	--	--	1820	26.0	26.0	--	--	--	--
AUG													
02...	1020	--	45	--	--	--	1430	24.0	27.0	--	--	--	--
07...	1045	36	--	--	--	--	1530	--	29.5	--	--	--	--
30...	1420	37	--	--	--	--	1550	24.5	23.5	--	--	--	--
SEP													
13...	1330	38	--	--	--	--	1260	16.0	18.5	--	--	--	--

05060100 MAPLE RIVER BELOW MAPLETON, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
OCT													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
20...	1	58.0	22	196	27.0	.2	340	1890	753	694	4.0	150	2.00
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT						
03...	--	--	--	--	--	--
25...	--	--	--	--	--	--
DEC						
15...	--	--	--	--	--	--
JAN						
03...	--	--	--	--	--	--
30...	--	--	--	--	--	--
FEB						
28...	--	--	--	--	--	--
MAR						
28...	--	--	--	--	--	--
APR						
20...	100	50.0	<.10	2.0	3.0	360
26...	--	--	--	--	--	--
MAY						
23...	--	--	--	--	--	--
24...	--	--	--	--	--	--
JUN						
06...	--	--	--	--	--	--
20...	--	--	--	--	--	--
JUL						
11...	--	--	--	--	--	--
AUG						
02...	--	--	--	--	--	--
07...	--	--	--	--	--	--
30...	--	--	--	--	--	--
SEP						
13...	--	--	--	--	--	--

05060100 MAPLE RIVER BELOW MAPLETON, ND--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	15.1	13.5	14.3	12.4	10.3	11.4	.2	.1	.2	.1	.1	.1
2	14.5	13.0	13.7	12.0	8.6	10.6	.2	.1	.2	.1	.1	.1
3	13.4	11.4	12.5	8.6	6.5	7.4	.2	.1	.2	.1	.1	.1
4	11.8	10.2	11.0	6.5	5.4	5.9	.2	.1	.1	.1	.0	.1
5	10.6	8.7	9.9	6.1	4.9	5.5	.2	.1	.1	.1	.0	.1
6	8.7	7.1	7.8	7.1	6.0	6.5	.2	.1	.1	.1	.0	.0
7	7.1	5.5	6.5	7.1	5.2	6.6	.2	.1	.1	.1	.0	.0
8	6.6	4.5	5.6	5.2	1.6	3.1	.2	.1	.1	.1	.0	.0
9	7.1	4.6	5.9	1.6	.3	.8	.2	.1	.1	.1	.0	.0
10	8.1	5.6	6.8	.3	.0	.1	.2	.1	.1	.0	.0	.0
11	9.2	6.5	7.9	.2	.0	.1	.2	.1	.1	.0	.0	.0
12	10.1	7.9	9.0	.2	.0	.1	.2	.1	.1	.1	.0	.0
13	11.6	9.2	10.3	.2	.0	.1	.2	.1	.1	.1	.0	.0
14	10.8	9.4	10.0	.2	.0	.1	.2	.1	.1	.1	.0	.1
15	10.3	8.9	9.6	.1	.0	.1	.1	.1	.1	.1	.0	.1
16	10.6	8.4	9.6	.1	.0	.1	.1	.1	.1	.1	.1	.1
17	11.4	9.6	10.4	.2	.0	.1	.1	.1	.1	.1	.1	.1
18	11.9	9.7	10.8	.1	.0	.1	.1	.1	.1	.1	.1	.1
19	12.3	10.4	11.4	.2	.0	.1	.1	.1	.1	.1	.1	.1
20	12.4	10.8	11.6	.2	.0	.1	.1	.1	.1	.1	.1	.1
21	11.3	10.1	10.6	.2	.0	.1	.1	.1	.1	.1	.1	.1
22	11.1	9.8	10.4	.2	.0	.1	---	---	---	.1	.1	.1
23	11.2	10.1	10.7	.2	.0	.1	---	---	---	.1	.1	.1
24	11.9	10.0	10.8	.2	.0	.1	---	---	---	.1	.1	.1
25	13.9	11.9	13.0	.2	.0	.1	---	---	---	.1	.1	.1
26	13.9	12.0	13.5	.2	.0	.1	---	---	---	.1	.1	.1
27	12.0	9.4	10.5	.2	.0	.1	---	---	---	.1	.1	.1
28	9.4	8.5	8.8	.2	.1	.1	---	---	---	.1	.1	.1
29	9.1	8.8	8.9	.2	.1	.1	---	---	---	.1	.1	.1
30	9.1	8.7	8.9	.2	.1	.2	.2	.1	.1	.1	.1	.1
31	10.3	9.0	9.6	---	---	---	.1	.1	.1	.1	.1	.1
MONTH	15.1	4.5	10.0	12.4	.0	2.0	.2	.1	.1	.1	.0	.1

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	.1	.0	.1	.1	.1	.1	.2	.0	.1	---	---	---
2	.1	.0	.1	.1	.0	.1	.5	.1	.2	---	---	---
3	.1	.0	.1	.1	.0	.1	.3	.1	.2	---	---	---
4	.1	.0	.1	.1	.0	.1	.2	.1	.2	---	---	---
5	.1	.0	.1	.1	.0	.1	.3	.1	.2	---	---	---
6	.1	.0	.1	.1	.1	.1	.5	.1	.3	---	---	---
7	.1	.0	.1	.1	.0	.1	1.3	.3	.7	---	---	---
8	.1	.1	.1	.1	.1	.1	3.6	1.1	2.3	12.1	9.5	10.8
9	.1	.1	.1	.1	.1	.1	4.8	3.5	4.2	15.0	11.4	13.2
10	.1	.1	.1	.1	.1	.1	5.1	4.3	4.6	16.7	14.9	15.7
11	.1	.1	.1	.1	.0	.1	5.1	4.7	4.9	16.4	14.7	15.6
12	.1	.1	.1	.1	.0	.1	6.3	4.5	5.4	17.4	15.4	16.4
13	.1	.1	.1	.1	.1	.1	6.8	5.8	6.3	18.8	16.4	17.6
14	.1	.1	.1	.1	.1	.1	8.2	5.7	6.9	19.9	17.4	18.7
15	.1	.1	.1	.1	.1	.1	7.9	5.6	6.6	21.3	19.0	20.1
16	.1	.1	.1	.1	.1	.1	5.6	3.8	4.5	---	---	---
17	.1	.1	.1	.1	.0	.1	6.3	3.9	5.2	---	---	---
18	.1	.1	.1	.1	.0	.1	7.5	5.7	6.6	---	---	---
19	.1	.1	.1	.1	.0	.1	8.5	6.9	7.6	---	---	---
20	.1	.1	.1	.2	.0	.1	9.5	7.9	8.6	---	---	---
21	.1	.1	.1	.3	.0	.1	---	---	---	---	---	---
22	.1	.1	.1	.3	.0	.1	---	---	---	---	---	---
23	.1	.1	.1	.1	.0	.0	---	---	---	---	---	---
24	.1	.0	.1	.1	.0	.1	---	---	---	12.8	9.3	10.9
25	.1	.0	.1	.1	.1	.1	---	---	---	15.3	11.8	13.6
26	.1	.1	.1	.1	.1	.1	---	---	---	17.0	14.4	15.6
27	.1	.1	.1	.1	.0	.1	14.2	12.8	13.5	17.7	16.2	16.9
28	.1	.1	.1	.1	.0	.0	16.1	12.9	14.5	19.4	16.4	18.0
29	---	---	---	.1	.0	.0	19.4	15.2	17.0	20.9	18.3	19.6
30	---	---	---	.1	.1	.1	---	---	---	21.1	19.4	20.2
31	---	---	---	.2	.0	.1	---	---	---	20.7	19.2	19.9
MONTH	.1	.0	.1	.3	.0	.1	19.4	.0	5.2	21.3	9.3	16.4

05060100 MAPLE RIVER BELOW MAPLETON, ND--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	19.5	17.1	18.3	24.5	22.0	23.2	29.3	27.1	28.2	21.9	19.7	21.0
2	18.9	16.1	17.4	23.1	21.2	22.1	29.1	26.7	27.9	23.3	21.0	21.9
3	20.1	17.5	18.7	24.2	21.5	22.9	30.2	26.8	28.3	23.0	20.9	22.1
4	20.1	17.8	19.0	24.6	22.3	23.4	31.2	28.6	29.8	22.6	20.8	21.8
5	19.2	17.3	18.0	24.7	22.2	23.4	31.2	29.0	30.0	24.0	21.2	22.5
6	17.3	16.5	17.0	25.3	21.9	23.7	31.7	29.3	30.3	24.6	22.5	23.5
7	19.0	16.1	17.4	27.0	23.6	25.3	31.7	29.4	30.5	24.2	21.1	22.5
8	21.1	18.2	19.6	28.2	25.5	26.8	30.9	29.2	30.0	21.1	19.4	20.1
9	22.8	20.1	21.4	29.0	26.6	27.7	29.2	25.8	27.3	19.7	18.2	19.1
10	24.8	21.3	23.0	28.4	26.5	27.4	25.9	24.0	25.1	19.5	17.8	18.7
11	24.4	21.6	22.8	26.9	25.2	26.1	26.0	23.7	24.9	20.0	18.0	18.9
12	22.7	20.8	21.8	28.0	24.3	25.9	25.6	23.8	24.7	19.8	18.0	18.9
13	22.0	20.1	21.0	29.2	25.3	26.8	24.8	22.5	23.7	19.0	17.7	18.4
14	20.1	18.0	18.6	28.3	26.0	27.1	25.2	22.4	23.8	18.4	16.2	17.2
15	19.0	17.4	18.1	28.0	26.2	27.2	25.3	23.7	24.5	16.2	15.4	15.6
16	19.7	17.9	18.8	27.5	25.4	26.5	24.9	22.5	23.7	15.5	15.2	15.4
17	20.1	18.9	19.6	30.9	26.0	27.6	24.6	22.6	23.6	16.3	15.2	15.7
18	19.8	18.3	19.3	30.1	26.6	27.8	23.7	22.0	22.8	16.2	15.4	15.8
19	19.7	17.5	18.6	29.8	26.6	28.4	23.9	21.4	22.6	17.8	15.8	16.6
20	20.7	18.4	19.6	29.9	27.6	28.9	24.3	21.9	23.1	17.1	16.2	16.7
21	21.7	19.1	20.4	30.1	27.2	28.8	25.2	22.8	24.0	17.2	15.4	16.3
22	22.4	20.0	21.1	29.7	27.7	28.8	26.1	24.1	25.0	17.1	15.9	16.5
23	23.3	20.6	22.0	29.6	27.4	28.5	27.3	24.7	26.0	15.9	14.2	14.9
24	24.8	22.1	23.4	28.5	26.1	27.0	27.2	25.1	26.2	14.8	13.1	14.0
25	27.1	24.2	25.6	26.3	24.5	25.5	27.2	24.9	26.0	14.6	12.7	13.7
26	26.8	25.5	26.2	25.8	23.4	24.3	26.6	24.5	25.6	14.9	12.7	13.8
27	27.2	24.6	25.9	24.0	22.3	22.8	25.7	23.8	24.8	15.7	13.5	14.5
28	27.6	25.3	26.5	23.9	21.5	22.7	25.7	23.3	24.6	16.3	14.3	15.2
29	29.2	26.4	27.8	25.3	22.6	24.0	24.8	23.0	24.0	16.8	14.5	15.6
30	28.3	24.5	26.6	27.6	24.9	26.0	23.7	22.1	22.9	17.5	15.8	16.6
31	---	---	---	28.8	26.6	27.8	22.6	20.5	21.6	---	---	---
MONTH	29.2	16.1	21.1	30.9	21.2	25.9	31.7	20.5	25.7	24.6	12.7	17.8

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	1320	1280	1300	1260	1060	1130	1360	1330	1350	2000	1980	1980
2	1300	1260	1280	1120	818	909	1390	1360	1380	2010	1990	2000
3	1290	1260	1270	818	561	636	1420	1390	1410	2020	2010	2010
4	1290	1280	1280	564	559	562	1450	1420	1430	2040	2020	2030
5	1280	1260	1270	576	563	569	1470	1450	1460	2050	2040	2040
6	1260	1250	1260	603	576	590	1500	1470	1490	2060	2050	2060
7	1290	1260	1270	624	603	616	1520	1500	1510	2070	2060	2070
8	1310	1290	1300	656	624	640	1550	1520	1540	2080	2070	2080
9	1350	1310	1330	659	650	654	1570	1550	1560	2100	2080	2090
10	1370	1350	1360	668	651	658	1600	1570	1580	2100	2100	2100
11	1360	1340	1350	688	668	677	1620	1590	1610	2110	2100	2110
12	1370	1360	1360	717	688	701	1640	1620	1630	2120	2110	2120
13	1370	1350	1360	747	716	731	1660	1640	1650	2120	2120	2120
14	1350	1340	1350	843	747	821	1680	1660	1670	2130	2120	2130
15	1380	1350	1360	860	843	850	1700	1680	1690	2130	2130	2130
16	1360	1340	1350	884	859	872	1720	1700	1710	2140	2130	2130
17	1840	1360	1650	919	884	900	1740	1720	1730	2140	2130	2140
18	1770	1670	1720	958	919	938	1750	1740	1750	2140	2130	2140
19	1670	1540	1600	1010	958	982	1770	1750	1760	2150	2140	2140
20	1550	1430	1510	1060	1010	1030	1790	1770	1780	2150	2140	2150
21	1430	1380	1400	1090	1060	1070	1810	1790	1800	2150	2150	2150
22	1380	1360	1370	1120	1090	1100	---	---	---	2160	2150	2150
23	1370	1340	1360	1140	1120	1130	---	---	---	2160	2150	2160
24	1380	1330	1350	1170	1140	1160	---	---	---	2160	2150	2160
25	1440	1360	1380	1200	1170	1180	---	---	---	2160	2160	2160
26	1460	1410	1430	1220	1200	1210	---	---	---	2160	2160	2160
27	1410	1360	1390	1250	1220	1240	---	---	---	2170	2160	2160
28	1360	1330	1340	1270	1250	1260	---	---	---	2170	2160	2170
29	1430	1350	1390	1300	1270	1290	---	---	---	2170	2160	2170
30	1370	1270	1300	1330	1300	1320	1960	1940	1950	2170	2170	2170
31	1430	1260	1310	---	---	---	1980	1960	1970	2170	2170	2170
MONTH	1840	1250	1370	1330	559	914	1980	1330	1630	2170	1980	2110

05060100 MAPLE RIVER BELOW MAPLETON, ND--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	2180	2170	2170	2150	2140	2140	634	571	589	---	---	---
2	2180	2170	2170	2140	2140	2140	598	582	591	---	---	---
3	2180	2170	2180	2140	2140	2140	604	598	601	---	---	---
4	2180	2170	2180	2140	2130	2130	605	603	604	---	---	---
5	2180	2180	2180	2130	2130	2130	606	604	605	---	---	---
6	2180	2180	2180	2130	2120	2130	606	604	605	---	---	---
7	2180	2180	2180	2120	2110	2120	606	604	605	---	---	---
8	2180	2180	2180	2120	2110	2110	605	445	501	777	649	683
9	2180	2180	2180	2110	2110	2110	505	448	471	1140	777	983
10	2180	2180	2180	2110	2110	2110	625	505	564	1370	1140	1260
11	2180	2180	2180	2110	2100	2110	738	625	696	1530	1370	1460
12	2180	2180	2180	2100	2100	2100	751	738	742	1760	1530	1650
13	2180	2180	2180	2100	2090	2100	808	751	776	1790	1720	1760
14	2180	2170	2180	2090	2080	2090	863	789	823	1720	1680	1690
15	2180	2170	2180	2080	2080	2080	894	850	871	1730	1690	1710
16	2180	2170	2170	2080	2080	2080	940	894	914	---	---	---
17	2180	2170	2170	2080	2070	2070	970	940	954	---	---	---
18	2170	2170	2170	2070	2060	2060	1020	970	996	---	---	---
19	2170	2170	2170	2060	2050	2060	1060	1020	1040	---	---	---
20	2170	2170	2170	2050	2040	2040	1070	1050	1070	---	---	---
21	2170	2170	2170	2040	2020	2020	---	---	---	---	---	---
22	2170	2160	2160	2020	2000	2010	---	---	---	---	---	---
23	2160	2160	2160	2000	733	1360	---	---	---	---	---	---
24	2160	2160	2160	733	533	609	---	---	---	1820	1800	1820
25	2160	2160	2160	584	523	540	---	---	---	1800	1780	1790
26	2160	2140	2150	650	584	628	---	---	---	1780	1770	1780
27	2150	2150	2150	687	650	667	1200	1130	1170	1770	1750	1760
28	2150	2150	2150	704	687	699	1260	1200	1230	1760	1730	1740
29	---	---	---	702	694	697	1300	1260	1280	1770	1740	1760
30	---	---	---	719	702	715	---	---	---	1780	1750	1770
31	---	---	---	716	634	695	---	---	---	1840	1770	1810
MONTH	2180	2140	2170	2150	523	1700	1300	445	796	1840	649	1590

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	1800	1780	1790	1880	1860	1870	1400	1360	1390	1490	1420	1450
2	1800	1770	1780	1870	1840	1860	1480	1380	1430	1500	1420	1460
3	1810	1760	1790	1860	1840	1850	1560	1460	1520	1580	1500	1560
4	1800	1760	1780	1850	1840	1850	1610	1540	1580	1690	1580	1650
5	1790	1700	1780	1850	1830	1840	1600	1550	1580	1640	1470	1530
6	1790	1740	1770	1830	1760	1820	1560	1490	1530	1470	1330	1400
7	1800	1640	1760	1850	1780	1820	1560	1500	1520	1330	1280	1300
8	1640	1470	1570	1850	1760	1820	1580	1540	1570	1340	1260	1280
9	1570	1360	1500	1870	1850	1860	1550	1480	1500	1370	1270	1300
10	1580	1480	1540	1860	1830	1840	1540	1490	1520	1320	1280	1300
11	1490	1240	1410	1830	1760	1800	1580	1510	1560	1330	1300	1310
12	1450	959	1150	1780	1690	1730	1560	1500	1530	1320	1270	1300
13	959	778	911	1720	1700	1710	1590	1520	1550	1280	1230	1250
14	834	666	737	1720	1710	1720	1760	1590	1700	1410	1240	1310
15	813	668	761	1740	1720	1730	1690	1600	1630	1420	1400	1410
16	827	647	716	1760	1730	1740	1600	1530	1560	1410	1400	1400
17	1060	827	973	1780	1750	1760	1650	1570	1630	1420	1410	1410
18	1170	1050	1110	1780	1760	1770	1690	1650	1670	1440	1420	1430
19	1360	1170	1270	1820	1520	1720	1680	1590	1640	1440	1430	1430
20	1450	1360	1400	1520	968	1360	1590	1570	1580	1430	1410	1420
21	1570	1450	1510	1220	970	1110	1650	1580	1610	1410	1390	1390
22	1650	1570	1610	1230	780	1020	1680	1640	1660	1390	1370	1380
23	1670	1650	1660	874	752	823	1660	1630	1650	1380	1370	1370
24	1670	1640	1650	842	786	817	1650	1610	1630	1380	1340	1360
25	1640	1610	1630	863	785	824	1610	1580	1600	1750	1350	1560
26	1640	1610	1620	1100	862	920	1600	1570	1590	1810	1750	1790
27	1820	1640	1740	1500	1100	1280	1580	1560	1570	1820	1800	1810
28	1900	1820	1840	1500	1440	1470	1580	1550	1560	1820	1770	1790
29	1900	1860	1890	1500	1440	1480	1600	1560	1580	1820	1780	1800
30	1890	1870	1880	1440	1420	1420	1560	1490	1530	1800	1790	1790
31	---	---	---	1420	1390	1410	1520	1470	1500	---	---	---
MONTH	1900	647	1480	1880	752	1550	1760	1360	1570	1820	1230	1460

05060400 SHEYENNE RIVER AT HARWOOD, ND

LOCATION.--Lat 46°58'38", long 96°53'36", in $SW^1/_4SE^1/_4SW^1/_4$ sec.33, T.141 N., R.49 W., Cass County, Hydrologic Unit 09020204, at bridge crossing 0.5 mi west of Harwood.

DRAINAGE AREA.--Revised drainage area will be published when available.

GAGE HEIGHT RECORDS

PERIOD OF RECORD.--March 1995 to current year (gage heights and maximum discharge only).

GAGE.--Water stage recorder. Datum of gage is 800 ft above sea level.

REMARKS.--Flow regulated to a large degree by Lake Ashtabula (station 05057500), 255 mi upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 11,000 ft^3/s, Apr. 16, 1997, gage height, 92.02 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, about 9,200 ft^3/s, Apr. 10, gage height, 91.29 ft.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70.40	71.60	73.28	71.21	72.52	71.57	82.55	79.52	72.33	71.79	71.02	70.78
2	70.23	74.21	73.01	71.35	72.46	71.63	84.47	78.93	72.00	72.05	71.28	71.29
3	69.92	75.88	72.87	71.56	72.48	71.67	86.29	78.18	71.91	72.42	71.16	71.18
4	69.61	75.30	72.72	71.67	72.53	71.67	87.24	77.48	71.86	72.63	70.96	70.73
5	69.25	73.27	72.70	71.65	72.54	71.64	87.49	76.90	71.76	72.70	70.97	70.24
6	69.08	72.69	72.61	71.60	72.49	71.57	87.39	76.54	71.67	72.79	71.75	69.76
7	69.04	76.04	72.44	71.58	72.41	71.50	87.92	81.08	71.68	72.77	72.47	69.54
8	69.01	79.70	72.28	71.55	72.40	71.39	89.92	84.18	71.74	72.58	72.67	69.36
9	68.95	79.02	72.18	71.52	72.47	71.40	91.02	82.79	71.72	72.22	72.66	69.20
10	68.92	76.37	---	71.47	72.47	71.34	91.24	80.16	71.80	71.87	72.47	69.05
11	---	74.16	---	71.42	72.47	71.44	91.10	78.61	72.26	71.52	72.48	68.89
12	68.89	73.13	72.96	71.36	72.50	71.59	91.03	77.98	73.83	71.25	72.53	68.79
13	68.91	72.58	72.91	71.32	72.52	71.68	91.02	77.63	74.54	70.90	72.43	68.70
14	69.09	72.26	72.87	71.30	72.50	71.77	90.89	77.28	74.72	70.63	72.39	68.59
15	69.24	72.76	72.84	71.31	72.48	71.82	90.69	76.88	75.48	70.37	72.61	68.56
16	69.29	72.82	72.86	71.29	72.49	71.85	90.36	76.35	76.32	70.00	72.21	68.51
17	69.32	72.91	72.90	71.30	72.51	71.94	89.88	75.77	76.17	69.72	71.85	68.50
18	69.30	72.85	73.01	71.36	72.53	71.99	89.35	75.23	75.02	69.63	71.61	68.51
19	69.30	72.52	73.07	71.45	72.57	72.06	88.69	74.76	74.29	70.06	71.30	68.54
20	69.33	73.95	73.11	71.53	72.58	72.20	87.81	74.41	74.33	70.70	70.71	68.54
21	69.33	74.16	73.02	71.67	72.56	72.48	86.89	74.17	73.98	71.49	70.13	68.54
22	69.29	73.89	72.79	71.80	72.50	72.65	86.08	73.91	73.50	72.09	69.91	68.59
23	69.27	73.56	72.65	71.92	72.28	72.67	85.29	73.77	73.00	72.57	69.68	68.66
24	69.38	73.19	72.66	72.03	71.94	74.50	84.71	73.67	72.63	71.77	69.42	68.68
25	69.52	73.04	72.66	72.12	71.78	79.03	84.24	73.44	72.36	70.93	69.22	68.71
26	69.73	73.04	72.61	72.23	71.69	79.89	83.78	73.29	72.30	70.49	69.12	68.78
27	69.98	73.31	72.43	72.31	71.59	80.41	82.96	73.28	72.10	70.37	69.12	68.72
28	70.15	73.56	72.21	72.43	71.55	79.75	82.10	73.14	71.96	70.47	69.09	68.71
29	70.33	73.67	71.93	72.51	---	79.72	81.25	72.95	71.88	70.66	69.17	68.64
30	70.46	73.52	71.58	72.51	---	80.14	80.29	72.69	71.80	70.83	69.27	68.51
31	70.62	---	71.32	72.54	---	81.41	---	72.49	---	70.95	69.74	---
TOTAL	2085.14	2218.96	2106.48	2222.87	2025.81	2286.37	2613.94	2367.46	2190.94	2211.22	2201.40	2073.80
MEAN	69.50	73.97	72.64	71.71	72.35	73.75	87.13	76.37	73.03	71.33	71.01	69.13
MAX	70.62	79.70	73.28	72.54	72.58	81.41	91.24	84.18	76.32	72.79	72.67	71.29
MIN	68.89	71.60	71.32	71.21	71.55	71.34	80.29	72.49	71.67	69.63	69.09	68.50

Miscellaneous discharge measurements for Sheyenne River at Harwood

Date	Discharge
April 4, 2001	4,450
April 11, 2001	8,940
April 23, 2001	4,170

05060400 SHEYENNE RIVER AT HARWOOD, ND--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)
APR						
04...	1330	4450	--	558	2.0	3.5
23...	1240	4170	8.2	768	7.0	5.0

05060500 RUSH RIVER AT AMENIA, ND

LOCATION.--Lat 47°01'00", long 97°12'50", in $SE^1/_4NW^1/_4$ sec.24, T.141 N., R.52 W., Cass County, Hydrologic Unit 09020204, on left bank on downstream side of bridge on State Highway 18, and 0.6 mi north of Amenia.

DRAINAGE AREA.--116 mi^2.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1728: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 943 ft above sea level, from topographic map. See WSP 1913 for history of changes prior to June 10, 1961.

REMARKS.--Records fair except those for periods of estimated daily discharge, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.38	11	e1.1	e.87	e.97	e.79	e35	7.8	4.6	e1.5	e12	3.0
2	.35	58	e1.1	e.87	e.96	e.79	e45	6.9	4.2	e1.4	e9.0	2.8
3	.23	61	e1.2	e.87	e.95	e.79	e70	6.4	4.1	e1.4	e7.0	2.5
4	.22	36	e1.2	e.88	e.94	e.79	e80	5.7	4.4	e1.3	e5.5	2.2
5	.23	27	e1.1	e.88	e.92	e.79	e50	5.6	4.1	e1.3	e5.0	1.7
6	.26	22	e1.1	e.89	e.90	e.80	37	82	3.8	e1.3	e4.5	2.0
7	.21	52	e1.1	e.90	e.90	e.81	829	421	4.2	e1.2	e4.0	1.7
8	.22	120	e1.0	e.90	e.90	e.82	1300	284	4.7	e1.2	e10	1.4
9	.46	103	e1.0	e.90	e.90	e.83	682	144	5.4	e1.2	e15	1.3
10	.67	60	e.98	e.91	e.90	e.84	402	100	5.4	e1.1	e10	1.1
11	.73	38	e.97	e.92	e.89	e.89	352	69	5.1	e1.1	e6.0	.95
12	.79	29	e.96	e.94	e.88	e.90	543	49	e6.0	e1.1	e5.0	.79
13	.88	e10	e.96	e.96	e.88	e.92	429	32	e13	e1.1	e4.4	.79
14	1.1	e7.0	e.95	e.97	e.86	e.98	263	22	e12	e1.1	e7.0	1.2
15	1.3	e4.7	e.95	e.98	e.84	e1.2	171	15	e8.5	e1.0	e17	.89
16	2.3	e3.5	e.90	e.98	e.82	e1.6	126	11	e5.0	e1.0	e13	.81
17	2.4	e2.7	e.89	e.99	e.81	e2.8	100	8.5	e4.7	e.98	e10	.81
18	2.1	e2.3	e.88	e1.0	e.80	e4.3	72	6.7	e3.8	e.95	e7.0	.85
19	1.9	e1.8	e.88	e1.0	e.80	e8.0	55	5.5	e3.3	e.90	e5.0	.94
20	1.6	e1.5	e.87	e1.0	e.80	e10	44	5.1	e3.0	e.90	3.6	1.1
21	1.5	e1.3	e.86	e1.0	e.80	e12	39	5.7	e2.8	e5.0	3.1	1.1
22	1.7	e1.2	e.86	e1.0	e.80	e19	31	7.2	e2.6	e9.0	3.6	1.3
23	1.7	e1.2	e.85	e1.0	e.79	e20	24	6.8	e2.4	e8.0	3.5	3.0
24	1.7	e1.1	e.84	e1.0	e.79	e21	19	6.1	e2.2	e6.0	3.4	3.2
25	1.9	e1.1	e.83	e.99	e.78	e21	16	6.4	e2.1	e4.7	3.2	2.6
26	2.1	e1.1	e.82	e.98	e.78	e22	14	6.1	e2.0	e4.2	3.3	2.1
27	3.1	e1.0	e.82	e.98	e.78	e23	13	5.9	e1.9	e3.6	3.1	1.7
28	3.6	e1.0	e.84	e.98	e.78	e24	11	5.5	e1.8	e3.4	2.9	1.7
29	6.1	e1.1	e.86	e.98	---	e25	9.4	5.3	e1.6	e3.2	3.0	1.2
30	5.1	e1.1	e.88	e.98	---	e24	8.6	5.1	e1.5	e3.1	3.1	1.0
31	6.4	---	e.88	e.98	---	e33	---	4.8	---	e5.0	2.9	---
TOTAL	53.23	661.7	29.43	29.48	23.92	283.64	5870.0	1352.1	130.2	78.23	195.1	47.73
MEAN	1.72	22.1	.95	.95	.85	9.15	196	43.6	4.34	2.52	6.29	1.59
MAX	6.4	120	1.2	1.0	.97	33	1300	421	13	9.0	17	3.2
MIN	.21	1.0	.82	.87	.78	.79	8.6	4.8	1.5	.90	2.9	.79
AC-FT	106	1310	58	58	47	563	11640	2680	258	155	387	95

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2001, BY WATER YEAR (WY)

MEAN	2.22	1.58	.60	.19	1.81	29.2	73.1	14.5	13.6	11.5	1.41	2.22
MAX	50.7	22.1	12.5	2.84	84.2	200	531	81.3	123	168	22.3	47.3
(WY)	1995	2001	1999	1997	1998	1999	1997	1950	1998	1993	1993	1996
MIN	.000	.000	.000	.000	.000	.000	1.12	.12	.009	.000	.000	.000
(WY)	1949	1953	1950	1947	1947	1948	1981	1955	1988	1955	1946	1946

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1946 - 2001	
ANNUAL TOTAL	5047.26		8754.76			
ANNUAL MEAN	13.8		24.0		12.6	
HIGHEST ANNUAL MEAN					62.9	1997
LOWEST ANNUAL MEAN					.68	1977
HIGHEST DAILY MEAN	880	Jun 21	1300	Apr 8	3160	Apr 19 1979
LOWEST DAILY MEAN	.14	Sep 19	.21	Oct 7	.00	Aug 1 1946
ANNUAL SEVEN-DAY MINIMUM	.19	Sep 15	.25	Oct 2	.00	Aug 1 1946
MAXIMUM PEAK FLOW			a 1480	Apr 8	3490	Apr 19 1979
MAXIMUM PEAK STAGE			b 10.49	Apr 7	b 12.15	Mar 23 1966
ANNUAL RUNOFF (AC-FT)	10010		17370		9150	
10 PERCENT EXCEEDS	21		34		16	
50 PERCENT EXCEEDS	1.8		1.9		.10	
90 PERCENT EXCEEDS	.23		.82		.00	

a Gage height, 10.34 ft
b Backwater from ice
e Estimated

05060500 RUSH RIVER AT AMENIA, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
16...	1200	2.3	--	--	--	1640	6.5	8.0	--	--	--	--	--
NOV													
22...	0925	1.2	--	--	--	1430	-8.5	.5	--	--	--	--	--
JAN													
16...	0915	.98	--	--	--	2450	-6.0	.5	--	--	--	--	--
18...	0850	1.0	--	--	--	2410	-11.0	.5	--	--	--	--	--
MAY													
10...	1005	100	--	--	--	657	--	--	--	--	--	--	--
21...	1310	5.0	--	--	--	1210	10.0	7.0	--	--	--	--	--
JUL													
30...	1145	3.0	--	--	--	1040	22.5	21.5	--	--	--	--	--
SEP													
24...	1125	3.6	7.8	--e	1080	943	10.5	11.5	470	100	54.0	11.0	.9

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
24...	44.0	16	290	16.0	.3	290	7.19	738	690	7.0	60	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
16...	--	--	--	--	--
NOV					
22...	--	--	--	--	--
JAN					
16...	--	--	--	--	--
18...	--	--	--	--	--
MAY					
10...	--	--	--	--	--
21...	--	--	--	--	--
JUL					
30...	--	--	--	--	--
SEP					
24...	20.0	<.10	4.0	3.0	480

e Required equipment not functional/available

05064500 RED RIVER OF THE NORTH AT HALSTAD, MN

LOCATION.--Lat 47°21'07", long 96°50'36", sec.25, T.145 N., R.49 W., Traill County, Hydrologic Unit 09020107, on center pier on upstream side of highway bridge, 0.5 mi west of Halstad, MN, 2.5 mi downstream from Wild Rice River, and at mile 375.2.

DRAINAGE AREA.--21,800 mi^2, approximately, including 3,800 mi^2 in closed basins.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1936 to June 1937 (no winter records), April 1942 to September 1960 (spring and summer months only), May 1961 to current year.

REVISED RECORDS.--WSP 1388: 1936, 1950. WSP 1728: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 826.65 ft above National Geodetic Vertical Datum of 1929. Prior to July 17, 1961, nonrecording gage at same site and datum.

REMARKS.--Records good except for periods of estimated discharge, which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1897 reached a stage of about 38.5 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1450	2080	e3750	e1450	e1150	e1100	e6000	23500	7230	5370	3440	1200
2	1490	2790	e3650	e1420	e1150	e1100	e8000	22200	7200	5180	3630	1250
3	1670	4540	e3550	e1400	e1150	e1100	e10000	20700	7040	5080	3570	1350
4	1640	5450	e3500	e1380	e1150	e1100	e13500	19200	6910	5030	3390	1370
5	1520	5400	e3400	e1350	e1130	e1100	18200	17600	6770	5000	3150	1380
6	1400	4910	e3300	e1320	e1130	e1100	20800	16100	6600	4980	2960	1360
7	1310	5600	e3200	e1300	e1130	e1100	24300	15800	6430	4920	2900	1330
8	1270	10500	e3100	e1280	e1130	e1120	29600	17500	6260	4810	2960	1330
9	1250	13100	e3000	e1260	e1130	e1150	33700	17600	6140	4630	3150	1320
10	1230	13000	e2900	e1250	e1130	e1150	35900	16900	6030	4420	3890	1300
11	1210	11600	e2800	e1250	e1130	e1200	36600	15400	5930	4230	4370	1310
12	e1160	9490	e2700	e1250	e1130	e1250	37100	13700	6190	4070	3950	1260
13	e1160	7750	e2600	e1230	e1130	e1300	37600	12100	6920	3940	3320	1220
14	e1160	6620	e2500	e1230	e1130	e1400	37800	10800	7560	3820	2810	1190
15	e1400	5960	e2400	e1220	e1130	e1500	37700	9770	8050	3730	2450	1160
16	1860	5480	e2300	e1220	e1130	e1650	37600	9010	8590	3660	2440	1160
17	2080	5220	e2200	e1200	e1130	e1750	37500	8400	8940	3580	2320	1130
18	2110	4560	e2100	e1200	e1130	e1850	36400	7900	8900	3530	2070	1100
19	2040	3900	e2000	e1200	e1120	e1950	35100	7510	8560	3500	1780	1100
20	2000	e3850	e1900	e1200	e1120	e2000	34600	7240	8340	3630	1530	1100
21	1940	e3900	e1850	e1180	e1120	e2050	34000	7010	8380	3940	1390	1090
22	1880	e3950	e1750	e1180	e1120	e2150	33000	6820	8370	4420	1460	1140
23	1830	e4000	e1720	e1180	e1120	e2200	31800	6710	8190	4890	1580	1140
24	e1700	e4000	e1700	e1180	e1120	e2350	30200	6690	7870	5230	1590	1150
25	e1550	e4000	e1650	e1180	e1120	e2450	28800	6730	7510	5060	1540	1140
26	1580	e4000	e1640	e1170	e1120	e2600	27500	6820	7140	4650	1420	1110
27	1620	e3950	e1600	e1150	e1120	e2800	26500	6900	6770	4210	1320	1100
28	1740	e3900	e1550	e1150	e1100	e3050	25600	7090	6360	3750	1290	1090
29	1770	e3900	e1520	e1150	---	e3400	24900	7230	5970	3360	1260	1070
30	1820	e3800	e1500	e1150	---	e4000	24200	7280	5640	3060	1220	1010
31	1950	---	e1480	e1150	---	e4800	---	7260	---	3010	1220	---
TOTAL	49790	171200	74810	38430	31600	58820	854500	365470	216790	132690	75370	35960
MEAN	1606	5707	2413	1240	1129	1897	28480	11790	7226	4280	2431	1199
MAX	2110	13100	3750	1450	1150	4800	37800	23500	8940	5370	4370	1380
MIN	1160	2080	1480	1150	1100	1100	6000	6690	5640	3010	1220	1010
AC-FT	98760	339600	148400	76230	62680	116700	1695000	724900	430000	263200	149500	71330

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2001, BY WATER YEAR (WY)

MEAN	882	888	654	519	562	2653	8283	4096	3058	2934	1220	871
MAX	2875	5707	2413	1240	1952	9444	38460	15570	10480	20060	11700	4705
(WY)	1995	2001	2001	2001	1998	1995	1997	1997	2000	1975	1993	1999
MIN	61.5	92.3	51.2	32.1	45.9	249	705	449	242	153	59.5	38.4
(WY)	1977	1977	1977	1977	1977	1962	1981	1977	1977	1988	1977	1976

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1961 - 2001	
ANNUAL TOTAL	1362080		2105430			
ANNUAL MEAN	3722		5768		2233	
HIGHEST ANNUAL MEAN					6028	1997
LOWEST ANNUAL MEAN					214	1977
HIGHEST DAILY MEAN	29100	Jun 26	37800	Apr 14	69900	Apr 19 1997
LOWEST DAILY MEAN	730	Feb 11	1010	Sep 30	10	Sep 2 1976
ANNUAL SEVEN-DAY MINIMUM	730	Feb 11	1100	Sep 24	17	Aug 28 1976
MAXIMUM PEAK FLOW			a 37900	Apr 14	71500	Apr 19 1997
MAXIMUM PEAK STAGE			38.44	Apr 15,16	40.74	Apr 19 1997
INSTANTANEOUS LOW FLOW					5.4	Oct 8 1936
ANNUAL RUNOFF (AC-FT)	2702000		4176000		1618000	
10 PERCENT EXCEEDS	7410		15600		4950	
50 PERCENT EXCEEDS	2560		2600		882	
90 PERCENT EXCEEDS	890		1130		225	

a Gage height, 38.31 ft
e Estimated

05064500 RED RIVER OF THE NORTH AT HALSTAD, MN--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961-67, 1972 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1997 to current year.

SPECIFIC CONDUCTANCE: October 1997 to current year.

INSTRUMENTATION.--Water-quality sensors since October 1997.

REMARKS.--Records good. Missing data is result of probe being frozen and well maintenance.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 29.0°C, Aug. 8, 2001; minimum recorded, 0.0°C, Dec. 16-20, 2000.

SPECIFIC CONDUCTANCE: Maximum recorded, 1,120 microsiemens, Dec. 31, 1998; minimum recorded, 235 microsiemens, June 21, 2000.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
JAN													
10...	1150	--	1250	--	--	--	--	--	--	830	-1.5	.5	--
FEB													
05...	1130	--	1130	--	--	--	--	--	--	902	-2.0	.00	--
MAR													
28...	1005	3050	--	--	--	--	--	--	--	860	1.5	1.4	--
APR													
17...	1700	--	37500	--	--	--	8.0	7.8	457	416	3.5	3.0	190
MAY													
01...	1345	23500	--	726	87	8.5	7.9	7.9	672	661	18.1	14.2	310
JUL													
25...	1130	5060	--	743	73	5.7	7.8	--e	680	526	25.8	26.4	380
AUG													
17...	1005	--	2290	--	--	--	8.1	8.1	894	891	19.5	24.0	350

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
JAN													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
17...	45.0	20.0	6.40	.5	16.0	15	126	17.0	.2	83.0	29800	294	264
MAY													
01...	67.9	35.2	8.20	.6	24.3	14	172	11.6	--	172	26800	--	425
JUL													
25...	80.5	43.5	9.20	.6	25.9	13	214	13.5	--	153	6200	--	456
AUG													
17...	65.0	45.0	7.60	1	60.0	27	267	18.0	.2	210	3610	584	566

DATE	TUR-BID-ITY FIELD WATER UNFLTRD (NTU) (61028)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	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)	MANGAN-ESE TOTAL RECOVER - ABLE (UG/L) (01123)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
JAN													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
17...	--	4.0	50	--	2.00	100	30.0	--	.10	2.0	3.0	170	--
MAY													
01...	--	--	--	3440	--	--	--	130	--	--	--	--	--
JUL													
25...	510	--	--	12500	--	--	--	M	--	--	--	--	499
AUG													
17...	--	7.0	60	--	2.00	100	10.0	--	<.10	3.0	3.0	310	--

05064500 RED RIVER OF THE NORTH AT HALSTAD, MN--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)
JAN					
10...	--	--	--	--	--
FEB					
05...	--	--	--	--	--
MAR					
28...	--	--	--	--	--
APR					
17...	--	--	--	--	--
MAY					
01...	--	--	--	--	--
JUL					
25...	6820	100	88	68	61
AUG					
17...	--	--	--	--	--

M Presence verified, not quantified
e Required equipment not functional/available

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	13.5	13.1	13.3	10.8	10.1	10.4	.3	.3	.3	---	---	---
2	13.5	13.4	13.5	10.8	10.3	10.6	.3	.3	.3	---	---	---
3	13.4	13.3	13.4	10.3	9.9	10.1	.3	.3	.3	---	---	---
4	13.3	12.8	13.0	9.9	9.1	9.4	.3	.3	.3	---	---	---
5	12.8	12.2	12.5	9.1	8.7	8.9	.3	.3	.3	---	---	---
6	12.2	11.3	11.8	8.7	8.3	8.5	.3	.3	.3	---	---	---
7	11.3	10.3	10.8	8.3	8.0	8.2	.3	.3	.3	---	---	---
8	10.3	9.3	9.8	8.0	6.8	7.4	.3	.3	.3	---	---	---
9	9.3	8.5	8.8	7.1	6.2	6.7	.3	.2	.3	---	---	---
10	8.5	8.1	8.3	6.2	4.9	5.7	.2	.2	.2	---	---	---
11	8.3	8.1	8.2	5.1	4.3	4.7	.2	.2	.2	---	---	---
12	8.7	8.3	8.5	4.4	3.7	4.0	.2	.2	.2	---	---	---
13	9.3	8.7	9.0	3.7	3.0	3.4	.2	.1	.2	---	---	---
14	9.6	9.3	9.5	3.1	2.5	2.8	.2	.1	.1	---	---	---
15	9.7	9.5	9.6	2.5	2.0	2.3	.1	.1	.1	---	---	---
16	9.6	9.4	9.5	2.0	1.4	1.7	.1	.0	.1	---	---	---
17	9.6	9.4	9.4	1.4	.9	1.1	.1	.0	.0	---	---	---
18	9.6	9.5	9.6	1.0	.6	.8	.0	.0	.0	---	---	---
19	9.9	9.6	9.8	.6	.4	.5	.0	.0	.0	---	---	---
20	10.2	9.8	10.0	.4	.2	.3	.0	.0	.0	---	---	---
21	10.3	10.2	10.3	.2	.1	.1	---	---	---	---	---	---
22	10.4	10.3	10.3	.5	.2	.3	---	---	---	---	---	---
23	10.5	10.3	10.4	.5	.4	.4	---	---	---	---	---	---
24	10.5	10.4	10.4	.4	.4	.4	---	---	---	---	---	---
25	10.7	10.4	10.5	.4	.3	.4	---	---	---	---	---	---
26	11.5	10.7	11.1	.4	.3	.3	---	---	---	---	---	---
27	11.5	11.2	11.4	.3	.3	.3	---	---	---	---	---	---
28	11.2	10.5	10.8	.3	.3	.3	---	---	---	---	---	---
29	10.5	10.1	10.3	.3	.3	.3	---	---	---	---	---	---
30	10.1	9.9	10.0	.3	.3	.3	---	---	---	---	---	---
31	10.1	9.9	10.0	---	---	---	---	---	---	---	---	---
MONTH	13.5	8.1	10.4	10.8	.1	3.7	.3	.0	.2	---	---	---

05064500 RED RIVER OF THE NORTH AT HALSTAD, MN--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	---	---	---	.1	.1	.1	11.8	10.9	11.3
2	---	---	---	---	---	---	.1	.0	.1	12.6	11.8	12.3
3	---	---	---	---	---	---	.1	.0	.1	13.4	12.6	13.0
4	---	---	---	---	---	---	.1	.1	.1	14.0	13.4	13.7
5	---	---	---	---	---	---	.1	.1	.1	14.5	14.0	14.3
6	---	---	---	---	---	---	.2	.1	.1	14.7	14.5	14.6
7	---	---	---	---	---	---	.2	.2	.2	14.7	14.5	14.6
8	---	---	---	---	---	---	.8	.1	.4	14.5	14.1	14.3
9	---	---	---	---	---	---	1.5	.7	1.1	14.1	13.8	13.9
10	---	---	---	---	---	---	2.1	1.4	1.7	13.9	13.8	13.8
11	---	---	---	---	---	---	2.2	1.8	2.0	14.0	13.9	13.9
12	---	---	---	---	---	---	3.1	2.2	2.6	14.3	14.0	14.2
13	---	---	---	---	---	---	3.5	2.9	3.1	14.7	14.3	14.5
14	---	---	---	---	---	---	4.2	3.2	3.6	15.3	14.7	14.9
15	---	---	---	---	---	---	4.4	4.1	4.3	16.0	15.3	15.6
16	---	---	---	---	---	---	4.3	3.8	4.0	16.6	16.0	16.3
17	---	---	---	---	---	---	4.1	3.3	3.7	17.2	16.6	16.9
18	---	---	---	---	---	---	4.9	3.9	4.3	17.7	17.2	17.5
19	---	---	---	.0	.0	.0	5.7	4.8	5.2	18.3	17.7	18.0
20	---	---	---	.0	.0	.0	6.3	5.7	6.0	18.7	18.3	18.5
21	---	---	---	.1	.0	.0	6.6	6.2	6.3	18.7	18.6	18.7
22	---	---	---	.0	.0	.0	6.5	6.3	6.4	18.6	17.8	18.3
23	---	---	---	.0	.0	.0	6.3	6.0	6.1	17.8	16.8	17.3
24	---	---	---	.0	.0	.0	6.0	5.8	5.9	16.8	15.8	16.3
25	---	---	---	.1	.0	.0	6.4	5.8	6.1	15.8	15.2	15.5
26	---	---	---	.0	.0	.0	7.4	6.4	6.9	15.2	15.0	15.1
27	---	---	---	.0	.0	.0	8.4	7.2	7.7	15.0	15.0	15.0
28	---	---	---	.0	.0	.0	9.1	8.4	8.8	15.1	15.0	15.0
29	---	---	---	.0	.0	.0	9.8	8.9	9.3	15.4	15.0	15.2
30	---	---	---	.1	.0	.0	10.9	9.8	10.3	15.7	15.3	15.5
31	---	---	---	.1	.1	.1	---	---	---	16.2	15.7	16.0
MONTH	---	---	---	.1	.0	.0	10.9	.0	3.9	18.7	10.9	15.3

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	16.7	16.2	16.5	24.6	24.4	24.5	24.9	24.6	24.7	23.3	22.7	23.0
2	17.0	16.7	16.8	---	---	---	25.5	24.9	25.1	22.7	22.4	22.6
3	17.2	17.0	17.1	24.2	24.0	24.1	26.0	25.5	25.8	22.5	22.3	22.4
4	17.3	17.1	17.2	24.1	24.0	24.1	26.8	26.0	26.3	22.3	22.1	22.2
5	17.5	17.3	17.4	24.0	23.9	23.9	27.8	26.8	27.2	22.3	22.1	22.2
6	17.5	17.4	17.5	24.0	23.8	23.9	28.7	27.8	28.1	22.7	22.3	22.5
7	17.6	17.4	17.5	24.0	23.8	23.9	28.9	28.4	28.6	22.8	22.6	22.7
8	18.3	17.6	17.8	24.5	23.9	24.2	29.0	27.8	28.3	22.6	22.0	22.4
9	18.7	18.1	18.3	24.6	22.8	23.8	27.8	26.9	27.2	22.0	21.5	21.7
10	19.3	18.5	18.8	23.3	22.4	22.8	26.9	26.0	26.5	21.5	20.8	21.2
11	19.6	19.3	19.4	23.2	22.5	22.8	26.0	25.2	25.6	20.8	20.3	20.5
12	20.0	19.5	19.7	24.0	22.8	23.4	25.2	24.7	24.9	20.3	19.9	20.1
13	20.1	19.8	20.0	24.7	23.2	23.9	25.0	24.6	24.8	19.9	19.5	19.7
14	20.2	20.1	20.2	25.3	24.2	24.7	24.9	24.7	24.9	19.5	19.0	19.3
15	20.3	20.0	20.2	26.1	24.6	25.5	24.9	24.7	24.8	19.0	18.4	18.7
16	20.2	19.4	19.8	26.2	25.4	25.8	24.7	24.4	24.6	18.4	17.9	18.2
17	19.9	19.5	19.7	26.1	25.4	25.8	24.4	24.3	24.4	17.9	17.4	17.7
18	20.0	19.8	19.9	26.7	25.1	25.9	24.3	23.9	24.1	17.5	17.3	17.4
19	19.9	19.7	19.8	26.8	25.5	26.4	23.9	23.5	23.7	17.3	17.2	17.3
20	19.7	19.5	19.6	26.9	25.7	26.4	23.5	23.4	23.4	17.3	17.1	17.2
21	19.5	19.4	19.4	26.9	25.7	26.4	23.5	23.4	23.4	17.1	16.9	17.0
22	19.5	19.3	19.4	26.8	25.6	26.1	24.0	23.5	23.7	16.9	16.7	16.9
23	19.9	19.4	19.6	27.5	25.2	25.9	24.4	24.0	24.1	16.7	16.1	16.4
24	20.6	19.9	20.1	26.7	26.1	26.4	24.7	24.4	24.5	16.1	15.4	15.8
25	21.3	20.6	20.9	26.7	25.7	26.4	24.9	24.7	24.8	15.4	14.8	15.1
26	22.1	21.3	21.7	26.0	25.6	25.7	24.9	24.8	24.8	14.8	14.5	14.7
27	22.8	22.0	22.4	26.1	25.9	26.0	24.8	24.6	24.7	14.5	14.4	14.5
28	23.5	22.6	23.0	25.9	25.3	25.5	24.7	24.4	24.5	14.5	14.4	14.4
29	24.5	23.5	23.9	25.3	25.0	25.2	24.4	24.3	24.4	14.8	14.5	14.6
30	24.7	24.5	24.5	25.3	25.1	25.2	24.3	24.0	24.2	15.2	14.8	15.0
31	---	---	---	25.3	24.3	24.6	24.0	23.3	23.7	---	---	---
MONTH	24.7	16.2	19.6	27.5	22.4	25.0	29.0	23.3	25.2	23.3	14.4	18.8

05064500 RED RIVER OF THE NORTH AT HALSTAD, MN--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	745	714	722	752	728	737	923	917	920	---	---	---
2	763	745	758	789	726	752	918	914	916	---	---	---
3	762	725	751	792	656	739	915	910	912	---	---	---
4	759	688	721	668	626	645	910	903	908	---	---	---
5	728	673	692	694	660	677	905	903	904	---	---	---
6	673	666	668	681	658	665	903	898	900	---	---	---
7	666	656	660	704	681	697	899	894	897	---	---	---
8	700	663	678	692	597	650	894	892	893	---	---	---
9	696	671	684	597	581	584	892	888	891	---	---	---
10	671	657	662	628	585	603	890	887	888	---	---	---
11	658	649	654	659	628	646	888	883	886	---	---	---
12	649	647	648	729	659	684	886	881	884	---	---	---
13	662	648	654	747	715	729	883	879	882	---	---	---
14	664	661	662	782	740	755	883	878	880	---	---	---
15	661	660	661	813	770	799	882	878	880	---	---	---
16	661	649	657	792	785	787	882	880	881	---	---	---
17	670	624	640	813	783	799	881	872	879	---	---	---
18	648	624	636	847	813	826	879	877	878	---	---	---
19	676	648	663	875	847	867	880	876	878	---	---	---
20	680	676	677	922	875	889	885	880	882	---	---	---
21	686	680	684	970	922	956	---	---	---	---	---	---
22	703	683	694	968	953	960	---	---	---	---	---	---
23	720	703	714	954	949	952	---	---	---	---	---	---
24	720	711	715	950	945	947	---	---	---	---	---	---
25	714	706	711	945	940	943	---	---	---	---	---	---
26	710	699	703	940	936	938	---	---	---	---	---	---
27	716	705	713	937	932	935	---	---	---	---	---	---
28	749	716	729	933	930	931	---	---	---	---	---	---
29	725	682	704	930	926	928	---	---	---	---	---	---
30	729	688	702	927	922	924	---	---	---	---	---	---
31	746	729	740	---	---	---	---	---	---	---	---	---
MONTH	763	624	689	970	581	798	923	872	892	---	---	---

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	---	---	---	1040	954	998	711	671	695
2	---	---	---	---	---	---	954	866	914	695	669	683
3	---	---	---	---	---	---	868	821	858	699	667	682
4	---	---	---	---	---	---	821	663	744	674	643	657
5	---	---	---	---	---	---	663	490	599	643	632	636
6	---	---	---	---	---	---	490	456	465	646	631	636
7	---	---	---	---	---	---	462	442	452	671	643	660
8	---	---	---	---	---	---	445	393	412	681	643	654
9	---	---	---	---	---	---	440	394	398	683	660	671
10	---	---	---	---	---	---	438	393	402	674	650	656
11	---	---	---	---	---	---	470	400	416	664	649	655
12	---	---	---	---	---	---	424	409	416	692	664	677
13	---	---	---	---	---	---	591	413	466	718	692	705
14	---	---	---	---	---	---	546	477	508	742	718	728
15	---	---	---	---	---	---	603	474	528	762	742	753
16	---	---	---	---	---	---	616	488	527	775	762	769
17	---	---	---	---	---	---	538	494	516	777	775	777
18	---	---	---	---	---	---	533	494	509	776	767	772
19	---	---	---	---	---	---	534	506	517	769	748	759
20	---	---	---	---	---	---	576	512	535	749	735	743
21	---	---	---	---	---	---	629	562	592	829	746	793
22	---	---	---	---	---	---	663	581	617	839	823	831
23	---	---	---	1040	1010	1020	710	639	672	834	807	824
24	---	---	---	1010	984	996	919	656	769	807	784	794
25	---	---	---	984	950	968	1050	781	915	786	769	778
26	---	---	---	950	925	939	870	715	758	776	748	764
27	---	---	---	925	910	916	875	658	751	770	745	756
28	---	---	---	1020	910	935	748	621	652	752	721	734
29	---	---	---	1110	1020	1090	813	685	755	721	709	714
30	---	---	---	1110	1060	1100	689	657	667	710	706	708
31	---	---	---	1060	1040	1050	---	---	---	706	700	703
MONTH	---	---	---	1110	910	1000	1050	393	611	839	631	722

05064500 RED RIVER OF THE NORTH AT HALSTAD, MN--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	701	696	697	740	733	737	---	---	---	---	---	---
2	697	690	695	---	---	---	---	---	---	---	---	---
3	690	681	686	735	731	733	---	---	---	---	---	---
4	681	666	675	743	733	738	---	---	---	---	---	---
5	666	651	658	746	740	743	---	---	---	---	---	---
6	705	640	662	---	---	---	---	---	---	---	---	---
7	705	671	681	740	732	736	---	---	---	---	---	---
8	680	671	675	745	739	742	---	---	---	---	---	---
9	680	669	674	---	---	---	---	---	---	---	---	---
10	679	665	673	---	---	---	---	---	---	---	---	---
11	670	662	666	---	---	---	---	---	---	---	---	---
12	697	670	684	---	---	---	---	---	---	---	---	---
13	692	667	679	---	---	---	---	---	---	---	---	---
14	693	675	682	---	---	---	---	---	---	---	---	---
15	721	691	706	---	---	---	---	---	---	---	---	---
16	763	706	741	---	---	---	---	---	---	---	---	---
17	754	704	735	---	---	---	---	---	---	---	---	---
18	720	632	668	---	---	---	---	---	---	---	---	---
19	659	632	647	---	---	---	---	---	---	---	---	---
20	673	659	668	---	---	---	---	---	---	---	---	---
21	681	665	675	---	---	---	---	---	---	---	---	---
22	692	626	655	---	---	---	---	---	---	---	---	---
23	666	660	662	---	---	---	---	---	---	---	---	---
24	689	665	674	---	---	---	---	---	---	---	---	---
25	702	689	697	---	---	---	---	---	---	---	---	---
26	715	696	706	---	---	---	---	---	---	---	---	---
27	731	715	721	---	---	---	---	---	---	---	---	---
28	755	731	748	---	---	---	---	---	---	---	---	---
29	749	741	746	---	---	---	---	---	---	---	---	---
30	752	736	745	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	763	626	689	746	731	738	---	---	---	---	---	---

05064900 BEAVER CREEK NEAR FINLEY, ND
(Hydrologic benchmark network station)

LOCATION.--Lat 47°35'40", long 97°42'18", in NE$^1/_4$ sec.31, T.148 N., R.55 W., Steele County, Hydrologic Unit 09020109, on right bank 500 ft upstream from bridge on county highway, and 7 mi northeast of Finley.

DRAINAGE AREA.--160 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder and concrete broad-crested weir. Datum of gage is 1,170.08 ft above sea level.

REMARKS.--Records good except those below 1.0 ft^3/s and those for estimated daily discharges, which are poor. Since June 1987, some regulation by flood control dam 2.0 mi upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.62	8.7	e2.8	e.75	e.40	e.30	e20	40	17	12	18	.78
2	.59	8.5	e2.4	e.78	e.33	e.50	e22	39	17	11	23	.66
3	.51	8.7	e2.0	e.78	e.26	e.58	e26	38	15	11	13	.56
4	.45	11	e1.6	e.78	e.20	e.64	e38	38	14	10	9.6	.48
5	.47	24	e1.4	e.78	e.16	e.66	e60	38	13	9.8	8.4	.41
6	.47	32	e1.2	e.80	e.13	e.68	e100	50	13	9.7	7.2	.36
7	.44	46	e1.1	e.80	e.10	e.70	195	86	13	9.2	6.3	.41
8	.40	50	e1.0	e.80	e.08	e.70	230	77	13	8.7	5.4	.39
9	.40	51	e.95	e.82	e.06	e.70	226	65	12	7.9	4.4	.40
10	.38	48	e.90	e.83	e.05	e.70	222	58	11	7.2	3.6	.36
11	.37	41	e.85	e.84	e.04	e.73	217	52	11	6.6	3.1	.33
12	.35	e32	e.83	e.85	e.03	e.77	211	44	10	6.1	2.9	.30
13	.35	e25	e.80	e.85	e.02	e.78	198	38	10	5.6	2.5	.27
14	.61	e18	e.78	e.85	e.01	e.80	184	35	10	5.3	2.6	.26
15	.59	e15	e.78	e.85	e.00	e.80	164	34	11	5.1	3.4	.27
16	.55	e12	e.76	e.85	e.00	e.80	111	31	11	5.1	3.9	.28
17	.58	e11	e.76	e.85	e.00	e.83	111	30	11	5.0	3.9	.27
18	.58	e10	e.76	e.85	e.00	e1.0	109	28	12	4.9	3.9	.25
19	.65	e9.5	e.74	e.85	e.00	e4.0	104	26	13	4.7	3.7	.25
20	.69	e9.0	e.72	e.85	e.00	e10	93	30	18	4.7	3.6	.34
21	.66	e8.4	e.70	e.85	e.00	e30	81	31	32	5.8	3.3	.37
22	.61	e8.0	e.70	e.84	e.00	e80	72	28	26	5.9	3.2	.38
23	.57	e7.7	e.70	e.82	e.00	e66	67	27	25	5.6	3.1	.39
24	.61	e7.5	e.70	e.80	e.01	e55	63	26	25	4.9	2.8	.37
25	.87	e7.2	e.70	e.78	e.02	e45	60	25	28	4.3	2.6	.36
26	1.4	e6.8	e.70	e.75	e.04	e37	55	24	26	3.8	2.3	.34
27	2.7	e6.2	e.70	e.71	e.10	e30	51	23	21	4.1	1.9	.33
28	4.2	e5.0	e.70	e.65	e.18	e27	47	19	17	4.1	1.6	.31
29	6.6	e4.2	e.73	e.60	---	e24	45	16	14	4.2	1.2	.29
30	8.4	e3.3	e.75	e.55	---	e22	42	14	12	4.2	1.1	.29
31	8.2	---	e.75	e.48	---	e20	---	14	---	8.0	.90	---
TOTAL	44.87	534.7	30.96	24.24	2.22	462.67	3224	1124	481	204.5	156.40	11.06
MEAN	1.45	17.8	1.00	.78	.079	14.9	107	36.3	16.0	6.60	5.05	.37
MAX	8.4	51	2.8	.85	.40	80	230	86	32	12	23	.78
MIN	.35	3.3	.70	.48	.00	.30	20	14	10	3.8	.90	.25
AC-FT	89	1060	61	48	4.4	918	6390	2230	954	406	310	22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2001, BY WATER YEAR (WY)

MEAN	1.86	1.65	.30	.088	.59	26.9	61.7	15.7	11.7	13.0	4.12	2.16
MAX	30.3	25.4	4.33	1.06	7.91	151	252	89.1	150	116	43.4	21.2
(WY)	1995	1995	1995	1995	1998	1995	1996	1999	2000	2000	1994	1993
MIN	.000	.000	.000	.000	.000	.000	.19	.042	.001	.000	.000	.000
(WY)	1968	1968	1965	1965	1965	1965	1981	1977	1980	1972	1969	1967

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1965 - 2001	
ANNUAL TOTAL	9554.68		6300.62			
ANNUAL MEAN	26.1		17.3		11.7	
HIGHEST ANNUAL MEAN					36.2	1995
LOWEST ANNUAL MEAN					.12	1977
HIGHEST DAILY MEAN	315	Jun 20	230	Apr 8	1540	Apr 19 1979
LOWEST DAILY MEAN	.04	Jun 12	.00	Feb 15	.00	Nov 21 1964
ANNUAL SEVEN-DAY MINIMUM	.21	Jun 6	.00	Feb 15	.00	Nov 21 1964
MAXIMUM PEAK FLOW			a 244	Apr 7	b,c 1900	Apr 19 1979
MAXIMUM PEAK STAGE			b 5.54	Mar 18	b 10.79	Apr 11 1996
ANNUAL RUNOFF (AC-FT)	18950		12500		8440	
10 PERCENT EXCEEDS	77		46		23	
50 PERCENT EXCEEDS	1.7		3.6		.24	
90 PERCENT EXCEEDS	.27		.30		.00	

e Estimated
a Gage height, 4.53 ft
b Backwater from ice
c Gage height, 8.35 ft

05064900 BEAVER CREEK NEAR FINLEY, ND--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
18...	0830	.58	--	--	--	--	7.0	7.5	--	--	--	--	--
NOV													
21...	1405	8.4	--	--	--	--	-5.0	.00	--	--	--	--	--
JAN													
17...	1640	.85	--	--	--	--	-4.0	.5	--	--	--	--	--
MAR													
23...	1030	67	--	--	--	683	-4.0	.00	--	--	--	--	--
29...	0950	24	--	--	--	688	.00	.00	--	--	--	--	--
APR													
09...	0910	229	--	--	--	662	1.0	1.0	--	--	--	--	--
26...	1045	55	8.5	--e	1070	996	15.5	12.0	360	76.0	42.0	9.90	2
MAY													
11...	1005	52	--	--	--	1550	10.0	15.0	--	--	--	--	--
AUG													
06...	1355	7.4	8.2	--e	1570	1490	32.0	30.5	500	98.0	63.0	12.0	3

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	100	37	228	18.0	.2	350	112	751	733	2.0	20	2.00	100
MAY													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
06...	170	42	320	22.0	.2	570	23.3	1170	1130	9.0	60	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
18...	--	--	--	--	--
NOV					
21...	--	--	--	--	--
JAN					
17...	--	--	--	--	--
MAR					
23...	--	--	--	--	--
29...	--	--	--	--	--
APR					
09...	--	--	--	--	--
26...	70.0	<.10	2.0	3.0	340
MAY					
11...	--	--	--	--	--
AUG					
06...	240	<.10	2.0	3.0	510

e Required equipment not functional/available

05066500 GOOSE RIVER AT HILLSBORO, ND

LOCATION.--Lat 47°24'34", long 97°03'39", in NW$^{1}/_{4}$ sec.5, T.145 N., R.50 W., Traill County, Hydrologic Unit 09020109, on right bank 600 ft upstream from Foogman Dam in Hillsboro, and 27.5 mi upstream from mouth.

DRAINAGE AREA.--1,203 mi^2, of which about 110 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1931 to current year (no winter records 1932-34). Monthly discharge only for some periods, published in WSP 1308.

GAGE.--Water-stage recorder and masonry dam. Datum of gage is 879.52 ft above sea level. Sept. 26, 1941, to Oct. 27, 1965, at site 600 ft downstream at same datum. See WSP 1728 or 1913 for history of changes prior to Sept. 26, 1941.

REMARKS.--Records fair except those for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	282	e120	e46	e44	e38	793	274	157	84	107	22
2	13	654	e115	e46	e44	e38	830	263	151	71	111	21
3	11	901	e110	e46	e44	e38	980	246	144	61	158	20
4	9.1	588	e105	e46	e44	e38	1400	233	139	52	297	15
5	9.2	432	e95	e46	e44	e37	1300	226	134	46	267	12
6	7.8	446	e92	e47	e44	e37	1380	371	127	45	217	13
7	8.3	1180	e88	e48	e44	e37	1740	1600	124	49	170	20
8	9.2	1760	e84	e48	e43	e37	3490	1510	118	52	124	15
9	12	1540	e80	e49	e42	e37	3730	1200	112	50	123	20
10	12	1140	e76	e49	e42	e37	3440	1020	101	45	107	19
11	13	e750	e74	e49	e41	e38	2840	872	95	36	116	19
12	14	e650	e70	e49	e40	e38	2540	707	89	29	107	16
13	16	e500	e68	e48	e40	e38	2330	559	89	27	89	11
14	26	e340	e66	e48	e40	e37	1790	463	87	30	70	9.5
15	28	e280	e64	e48	e39	e40	1570	392	85	31	55	9.5
16	34	e260	e63	e48	e39	e40	1290	334	83	39	45	8.9
17	41	e240	e62	e48	e39	e41	1060	287	83	42	41	7.6
18	43	e220	e60	e48	e38	e42	890	251	86	42	36	6.7
19	42	e200	e57	e48	e38	e44	738	221	84	45	33	7.1
20	42	e180	e56	e48	e38	e80	641	206	83	44	28	11
21	40	e170	e54	e48	e38	e140	578	204	86	65	25	12
22	39	e170	e53	e48	e37	e550	523	191	89	88	24	17
23	41	e165	e52	e48	e37	1030	478	193	109	81	24	18
24	43	e160	e51	e48	e37	1310	436	193	168	85	24	19
25	45	e160	e50	e47	e37	1290	407	193	186	125	23	21
26	116	e150	e50	e46	e37	1100	374	188	181	132	26	21
27	241	e145	e49	e46	e37	952	348	190	163	113	26	21
28	245	e140	e48	e45	e37	796	324	185	137	105	25	20
29	236	e135	e47	e44	---	797	303	176	120	100	21	17
30	255	e130	e46	e44	---	765	287	169	104	108	20	16
31	186	---	e46	e44	---	779	---	164	---	111	22	---
TOTAL	1891.6	14068	2151	1461	1124	10321	38830	13281	3514	2033	2561	465.3
MEAN	61.0	469	69.4	47.1	40.1	333	1294	428	117	65.6	82.6	15.5
MAX	255	1760	120	49	44	1310	3730	1600	186	132	297	22
MIN	7.8	130	46	44	37	37	287	164	83	27	20	6.7
AC-FT	3750	27900	4270	2900	2230	20470	77020	26340	6970	4030	5080	923

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2001, BY WATER YEAR (WY)

MEAN	16.7	18.9	8.60	5.18	9.24	173	521	143	81.8	72.2	26.0	17.8
MAX	436	469	79.9	47.1	217	1220	3412	2275	954	729	515	326
(WY)	1995	2001	1995	2001	1998	1995	1997	1950	2000	1993	1993	1994
MIN	.000	.000	.000	.000	.000	.000	6.51	1.12	1.35	.000	.000	.000
(WY)	1939	1939	1939	1939	1939	1940	1938	1939	1938	1940	1938	1938

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1931 - 2001	
ANNUAL TOTAL	81360.8		91700.9			
ANNUAL MEAN	222		251		93.7	
HIGHEST ANNUAL MEAN					400	1999
LOWEST ANNUAL MEAN					3.47	1937
HIGHEST DAILY MEAN	3030	Jun 21	3730	Apr 9	14400	Apr 21 1979
LOWEST DAILY MEAN	6.4	Sep 21	6.7	Sep 18	.00	Mar 1 1936
ANNUAL SEVEN-DAY MINIMUM	9.0	Sep 18	8.6	Sep 13	.00	Mar 1 1936
MAXIMUM PEAK FLOW			3890	Apr 8	14800	Apr 21 1979
MAXIMUM PEAK STAGE			10.33	Apr 8	16.76	Apr 21 1979
ANNUAL RUNOFF (AC-FT)	161400		181900		67910	
10 PERCENT EXCEEDS	646		771		142	
50 PERCENT EXCEEDS	70		62		6.2	
90 PERCENT EXCEEDS	22		20		.16	

e Estimated

05066500 GOOSE RIVER AT HILLSBORO, ND--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
10...	1205	13	--	--	--	1110	9.0	7.5	--	--	--	--	--
FEB													
05...	1430	44	--	--	--	1970	2.0	1.0	--	--	--	--	--
MAR													
19...	1555	43	--	--	--	1780	2.0	.5	--	--	--	--	--
29...	1300	803	--	--	--	724	--	7.0	--	--	--	--	--
APR													
10...	1445	3380	--	--	--	663	4.5	4.0	--	--	--	--	--
18...	1300	848	7.8	8.0	1080	1040	12.0	5.0	440	100	47.0	8.30	1
MAY													
01...	0930	274	--	--	--	1320	14.0	15.5	--	--	--	--	--
JUN													
22...	0845	84	--	--	--	1550	18.0	19.0	--	--	--	--	--
AUG													
13...	1550	86	8.3	8.1	1480	1470	25.5	23.5	640	140	71.0	11.0	2

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	59.0	22	200	24.0	.2	360	1800	784	719	4.0	50	2.00	100
MAY													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
13...	99.0	25	320	28.0	.3	520	256	1110	1060	10.0	140	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
10...	--	--	--	--	--
FEB					
05...	--	--	--	--	--
MAR					
19...	--	--	--	--	--
29...	--	--	--	--	--
APR					
10...	--	--	--	--	--
18...	60.0	.10	4.0	3.0	450
MAY					
01...	--	--	--	--	--
JUN					
22...	--	--	--	--	--
AUG					
13...	80.0	<.10	5.0	4.0	640

05070000 RED RIVER OF THE NORTH NEAR THOMPSON, ND

LOCATION.--Lat 47°45'32", long 96°56'37", in $NW^{1}/_{4}NE^{1}/_{4}$ sec.5, T.149 N.,R.49 W., Grand Forks County, Hydrologic Unit 09020301, on left bank 50 ft upstream of county highway, 7.6 miles east of Thompson, and at river mile 317.7.
DRAINAGE AREA.--Not determined.

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--March 1999 to current year; gage heights and maximum discharge only.

GAGE.--Water stage recorder. Datum of gage is 779.00 ft above sea level (levels by Grand Forks County Highway Department).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 41,000 ft^3/s, Apr. 14, 2001, gage height, 57.66 ft; minimum recorded gage height, 16.87 ft, Dec. 9, 1999.

EXTREMES OUTSIDE PERIOD OF RECORD.--A peak stage from floodmarks of 67.74 ft for Spring 1997 and 63.66 ft for Spring 1979, from U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, about 41,000 ft^3/s, gage height, 57.66 ft on Apr. 14; minimum gage height, 17.16 ft, Sept. 30.

REMARKS.--Gage heights for July 9, 10, Aug. 24 and 27 based on once daily readings by USGS personnel.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.02	20.69	22.84	19.56	19.45	18.64	26.75	43.32	26.63	23.61	---	17.57
2	18.86	21.45	22.63	19.42	19.46	18.61	27.90	42.15	26.56	23.29	---	---
3	18.87	22.86	22.43	19.29	19.46	18.58	29.99	41.00	26.45	23.07	---	---
4	19.05	24.80	22.00	19.21	19.45	18.57	32.43	39.79	26.30	22.95	---	17.66
5	19.14	25.59	---	19.17	19.37	18.54	35.25	38.47	26.12	22.84	---	17.70
6	18.98	25.64	21.66	19.13	19.37	18.36	38.12	37.26	25.81	22.77	---	17.72
7	18.73	26.28	21.32	18.97	19.47	18.32	41.96	36.89	25.41	---	---	17.99
8	18.54	---	21.17	18.90	19.54	18.30	47.96	37.48	25.02	---	---	18.15
9	18.43	33.41	21.20	18.68	19.58	18.36	51.40	37.77	24.72	22.49	---	18.12
10	18.26	35.35	---	18.64	19.49	18.49	54.33	37.45	24.52	22.30	---	18.04
11	18.04	35.47	---	18.75	19.40	18.59	56.15	36.69	24.31	---	---	17.98
12	18.06	34.39	20.79	18.88	19.25	18.73	56.93	35.64	24.16	---	---	17.95
13	18.08	32.55	20.67	19.25	18.85	18.91	---	---	24.47	---	---	17.81
14	18.16	30.49	20.50	19.22	18.69	19.12	57.61	---	25.25	---	---	17.64
15	18.21	28.72	20.30	19.18	18.68	19.30	57.54	---	25.96	---	---	17.54
16	18.29	27.43	20.13	19.20	18.75	19.48	57.34	---	26.55	---	---	17.47
17	18.70	26.11	20.00	19.25	18.81	19.66	57.14	---	27.16	---	---	---
18	19.45	24.89	20.01	19.32	18.80	19.82	56.93	27.79	27.55	---	---	17.32
19	19.78	24.01	20.05	19.31	18.80	19.93	56.67	27.04	27.53	---	---	17.24
20	19.77	23.47	20.09	19.26	18.78	20.05	56.26	26.48	27.19	---	---	17.23
21	19.63	22.68	20.13	19.22	18.77	20.26	55.62	26.07	26.97	---	---	17.21
22	19.43	21.59	20.09	19.22	18.76	20.83	54.81	25.77	26.91	---	---	17.22
23	19.27	21.38	20.03	19.22	18.79	21.88	53.83	25.58	26.85	---	---	17.28
24	19.09	21.89	19.99	19.19	18.81	22.87	52.69	25.47	26.67	---	18.35	17.28
25	19.02	22.12	19.96	19.21	18.82	23.59	51.43	25.51	26.34	---	---	17.27
26	19.19	22.15	19.99	19.25	18.77	24.07	50.13	25.78	25.96	---	---	17.28
27	19.56	22.16	20.01	19.24	18.71	24.41	48.76	26.08	25.52	---	18.08	17.27
28	19.68	22.36	19.99	19.23	18.65	24.89	47.33	26.29	25.03	---	---	17.24
29	19.89	22.64	19.88	19.22	---	25.34	45.93	26.49	24.52	---	17.71	17.20
30	20.11	22.86	19.77	19.32	---	25.71	44.59	26.68	24.02	---	17.69	17.19
31	20.27	---	19.67	19.41	---	26.16	---	26.73	---	---	17.63	---
MEAN	19.02	25.70	20.62	19.17	19.05	20.59	48.41	31.99	25.88	22.92	17.89	17.54
MAX	20.27	35.47	22.84	19.56	19.58	26.16	57.61	43.32	27.55	23.61	18.35	18.15
MIN	18.04	20.69	19.67	18.64	18.65	18.30	26.75	25.47	24.02	22.30	17.63	17.19

Miscellaneous discharge measurement for Red River of the North near Thompson

Date	Discharge	Gage height
April 15, 2001	41,000	57.57

05080000 RED LAKE RIVER AT FISHER, MN

LOCATION.--Lat 47°48'01", long 96°48'31", in $SW^1/_4NE^1/_4$ sec.21, T.150 N., R.48 W., Polk County, Hydrologic Unit 09020303, on left bank 10 ft upstream from bridge on county highway, 0.3 mi west of Fisher, and at river mile 27.6.

DRAINAGE AREA.--5,678 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1999 to current year (gage heights and maximum discharge only), October 1999 to current year.

GAGE.--Water-stage recorder. Datum of gage is 800 ft above sea level (levels by Minnesota Department of Transportation).

REMARKS.--Records good, except those for Oct. 1-26, which are fair and those for estimated daily discharges, which are poor. Runoff from 1,950 mi^2 of Red Lake River Basin above Lower Red Lake outlet is completely controlled by dam at outlet of Lower Red Lake. Flow partially affected by occasional runoff of Thief and Mud Lakes in Thief River Basin.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1010	1700	e1780	e1250	e1150	e1050	e1400	4660	4320	2030	2680	1630
2	1030	2110	e1750	e1230	e1150	e1050	e1600	4380	4290	2010	5490	1600
3	1000	3240	e1700	e1230	e1150	e1050	e1950	4170	4450	1980	6420	1590
4	992	3710	e1680	e1230	e1150	e1050	e2400	4020	4620	1870	6090	1580
5	974	3770	e1600	e1230	e1150	e1050	e3800	4000	4380	1620	5210	1560
6	897	3730	e1400	e1230	e1150	e1050	e5500	3990	3810	1650	4320	1500
7	862	3990	e1450	e1230	e1150	e1030	e8000	3830	3350	1690	3630	1650
8	857	5810	e1580	e1200	e1130	e1030	10400	3760	3220	1680	3300	1870
9	823	7940	e1590	e1200	e1130	e1030	18700	3650	3110	1670	3270	1890
10	837	8280	e1580	e1200	e1130	e1030	22200	3610	2860	1660	3610	1970
11	803	8290	e1550	e1200	e1130	e1030	16300	3590	2610	1620	3770	1920
12	775	7850	e1530	e1200	e1130	e1030	13600	3450	2520	1660	3740	1820
13	727	6740	e1500	e1180	e1100	e1030	12700	3310	2520	1630	3480	1630
14	803	6060	e1480	e1180	e1100	e1030	12100	3240	2550	1650	3290	1550
15	785	5730	e1450	e1180	e1100	e1030	11000	3010	2580	1600	3270	1490
16	856	5100	e1430	e1180	e1100	e1050	9900	2840	2780	1580	3260	1430
17	1280	4580	e1400	e1180	e1100	e1050	8900	2790	2930	1600	3140	1320
18	1510	4050	e1400	e1180	e1100	e1070	8000	2830	2780	1640	3070	1280
19	1530	3960	e1380	e1180	e1100	e1100	7130	2840	2600	1850	3020	1220
20	1470	e3500	e1350	e1180	e1070	e1150	6780	2740	2420	2150	2730	1130
21	1360	e3100	e1350	e1170	e1070	e1200	6700	2650	2310	2130	2550	1200
22	1230	e2850	e1330	e1170	e1070	e1300	6690	2570	2350	2220	2400	1230
23	1190	e2600	e1300	e1170	e1070	e1450	6570	2670	2390	2150	2260	1260
24	1110	e2400	e1300	e1170	e1070	e1400	6300	2940	2440	1960	2180	1250
25	1160	e2250	e1300	e1150	e1070	e1350	6010	3850	2400	1760	2050	1250
26	1160	e2100	e1280	e1150	e1050	e1250	5850	4550	2340	1590	1980	1270
27	1180	e2000	e1280	e1150	e1050	e1230	5690	4760	2270	1470	1820	1290
28	1200	e1930	e1250	e1150	e1050	e1200	5490	4710	2200	1500	1740	1270
29	1430	e1880	e1250	e1150	---	e1200	5240	4830	2130	1630	1700	1230
30	1520	e1850	e1250	e1150	---	e1250	4980	4880	2100	1810	1700	1220
31	1590	---	e1250	e1150	---	e1300	---	4540	---	1870	1660	---
TOTAL	33951	123100	44720	36800	30970	35120	241880	113660	87630	54930	98830	44100
MEAN	1095	4103	1443	1187	1106	1133	8063	3666	2921	1772	3188	1470
MAX	1590	8290	1780	1250	1150	1450	22200	4880	4620	2220	6420	1970
MIN	727	1700	1250	1150	1050	1030	1400	2570	2100	1470	1660	1130
AC-FT	67340	244200	88700	72990	61430	69660	479800	225400	173800	109000	196000	87470
CFSM	.19	.72	.25	.21	.19	.20	1.42	.65	.51	.31	.56	.26
IN.	.22	.81	.29	.24	.20	.23	1.58	.74	.57	.36	.65	.29

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2001, BY WATER YEAR (WY)

MEAN	1678	3024	1383	1137	1104	1706	5161	2611	2846	2145	2097	1164
MAX	2261	4103	1443	1187	1106	2280	8063	3666	2921	2518	3188	1470
(WY)	2000	2001	2001	2001	2001	2000	2001	2001	2001	2000	2001	2001
MIN	1095	1944	1324	1087	1102	1133	2260	1555	2770	1772	1006	858
(WY)	2001	2000	2000	2000	2000	2001	2000	2000	2000	2001	2000	2000

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 2000 - 2001	
ANNUAL TOTAL	672238		945691			
ANNUAL MEAN	1837		2591		2169	
HIGHEST ANNUAL MEAN					2591	2001
LOWEST ANNUAL MEAN					1748	2000
HIGHEST DAILY MEAN	8290	Nov 11	22200	Apr 10	22200	Apr 10 2001
LOWEST DAILY MEAN	589	Sep 21	727	Oct 13	589	Sep 21 2000
ANNUAL SEVEN-DAY MINIMUM	613	Sep 17	793	Oct 9	613	Sep 17 2000
MAXIMUM PEAK FLOW			24500	Apr 10	24500	Apr 10 2001
MAXIMUM PEAK STAGE			38.00	Apr 10	38.00	Apr 10 2001
ANNUAL RUNOFF (AC-FT)	1333000		1876000		1571000	
ANNUAL RUNOFF (CFSM)	.32		.46		.38	
ANNUAL RUNOFF (INCHES)	4.40		6.19		5.19	
10 PERCENT EXCEEDS	3150		5140		3980	
50 PERCENT EXCEEDS	1360		1630		1590	
90 PERCENT EXCEEDS	930		1060		1000	

e Estimated

05080000 RED LAKE RIVER AT FISHER, MN

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 2001 to present.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
MAY													
01...	1515	4660	727	99	9.4	8.1	8.0	419	411	19.2	15.3	250	62.3
JUL													
25...	1330	1760	745	90	7.2	8.0	--e	--e	341	25.5	25.5	190	49.0

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	TUR-BID-ITY FIELD WATER UNFLTRD (NTU) (61028)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	MANGAN-ESE TOTAL RECOVER - ABLE (UG/L) (01123)
MAY													
01...	22.0	4.30	--	<3.0	--	158	5.4	50.4	--	244	96	2920	130
JUL													
25...	17.4	2.90	.1	3.0	3	150	3.0	15.1	857	183	140	M	M

M Presence verified, not quantified
e Required equipment not functional/available

05082500 RED RIVER OF THE NORTH AT GRAND FORKS, ND

LOCATION.--Lat 47°55'39", long 97°01'40", in sec.2, T.151 N., R.50 W., Polk County, MN, Hydrologic Unit 09020301, on right bank 30 ft downstream from the DeMers Avenue bridge, 0.4 mi downstream from Red Lake River, and at mile 297.6.

DRAINAGE AREA.--30,100 mi^2, approximately, including 3,800 mi^2 in closed basins.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1882 to current year. Prior to January 1904 monthly discharge only, published in WSP 1308.

REVISED RECORDS.--WSP 855: 1936(M). WSP 1115: 1942. WSP 1175: 1897(M). WSP 1388: 1904, 1914-15, 1917-19, 1921-22, 1927, 1950. WSP 1728: Drainage area. WRD-ND-81-1: 1882, 1897 (M).

GAGE.--Acoustic doppler velocity meter and water stage recorder. Datum of gage is 779.00 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1983, to Sept. 30, 1986, datum of gage was 780.00 ft at same site. Apr. 14, 1965, to Sept. 30, 1983, water-stage recorder 1.9 mi downstream at a datum of 778.35 ft. Nov. 3, 1933, to Apr. 13, 1965, water-stage recorder 0.3 mi upstream at 778.35 ft datum. See WSP 1728 or 1913 for history of changes prior to Nov. 3, 1933.

REMARKS.--Records good except for periods of estimated discharge, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2850	e4300	e5250	e2800	e2600	e2450	e7250	27000	10800	6920	5820	2800
2	e2700	e5000	e5200	e2800	e2550	e2450	e8500	25200	10700	6580	7590	2810
3	e2400	e6750	e5100	e2750	e2550	e2450	e9500	23500	10600	6500	9420	2820
4	e2420	e8250	e5000	e2700	e2500	e2450	e11500	21900	10700	6360	9660	2800
5	e2500	e9500	e4900	e2700	e2500	e2450	e14000	20200	10500	5990	9000	2830
6	e2500	e9800	e4800	e2700	e2500	e2450	17600	19100	10000	5910	7980	2830
7	e2380	11300	e4600	e2700	e2500	e2450	21700	18700	9350	5950	6840	3020
8	e2200	14000	e4400	e2700	e2500	e2450	29500	19100	8920	5970	6320	3280
9	e2100	17400	e4500	e2700	e2500	e2450	40600	19300	8560	5870	6120	3340
10	e2100	19400	e4400	e2700	e2500	e2450	51100	18900	8370	5720	6300	3330
11	e2050	20500	e4250	e2700	e2500	e2450	55300	18200	7940	5480	6850	3270
12	e2000	20100	e4100	e2700	e2500	e2450	56800	17200	7690	5300	7380	3220
13	e1930	17600	e4000	e2700	e2500	e2450	57200	15700	7790	5170	6920	3010
14	e1930	15400	e3900	e2700	e2500	e2450	57300	14400	8360	5230	6330	2760
15	e1930	13300	e3800	e2650	e2500	e2500	56200	13200	8980	5040	6020	2670
16	e1950	11400	e3700	e2650	e2500	e2500	54800	12100	9330	4840	5700	2610
17	e2000	10400	e3600	e2600	e2500	e2600	53000	11200	10000	4830	5490	2530
18	e2600	9550	e3500	e2600	e2500	e2730	51300	10600	10300	4790	5300	2410
19	e3300	8660	e3400	e2600	e2500	e2950	50200	10100	10300	5190	5010	2280
20	e3400	7680	e3350	e2600	e2500	e3100	47900	9650	9900	5390	4520	2300
21	e3400	7020	e3300	e2600	e2500	e3300	46000	9270	9630	5460	4070	2240
22	e3300	6320	e3200	e2600	e2500	e3520	44200	8900	9530	5710	3860	2220
23	e3100	6100	e3150	e2600	e2500	e3700	42700	8720	9550	6120	3620	2290
24	e2900	e5950	e3100	e2600	e2500	e3900	41300	8780	9420	6320	3640	2280
25	e2800	e5800	e3000	e2600	e2500	e4200	38700	9290	9210	6200	3660	2250
26	e2800	e5700	e3000	e2600	e2500	e4400	36200	10200	8940	5890	3510	2240
27	e2900	e5600	e2950	e2600	e2450	e4700	34200	10700	8490	5750	3370	2260
28	e3050	e5500	e2900	e2600	e2450	e5000	32500	10900	8130	5390	3090	2230
29	e3250	e5500	e2850	e2600	---	e5500	30600	10900	7750	4910	2970	2210
30	e3480	e5350	e2800	e2600	---	e6000	28500	11300	7300	4810	2950	2210
31	e3800	---	e2800	e2600	---	e6750	---	11100	---	5160	2870	---
TOTAL	82020	299130	118800	82350	70100	101650	1126150	455310	277040	174750	172180	79350
MEAN	2646	9971	3832	2656	2504	3279	37540	14690	9235	5637	5554	2645
MAX	3800	20500	5250	2800	2600	6750	57300	27000	10800	6920	9660	3340
MIN	1930	4300	2800	2600	2450	2450	7250	8720	7300	4790	2870	2210
AC-FT	162700	593300	235600	163300	139000	201600	2234000	903100	549500	346600	341500	157400

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2001, BY WATER YEAR (WY)

MEAN	1490	1356	1066	882	865	2795	10350	5601	4192	3613	1863	1574
MAX	5127	9971	3832	2656	3520	15370	56210	36510	19340	25270	17050	11340
(WY)	1995	2001	2001	2001	1998	1995	1997	1950	1962	1975	1993	1999
MIN	12.1	30.5	17.8	18.8	2.87	42.1	954	373	151	88.8	30.6	20.3
(WY)	1937	1937	1937	1937	1937	1937	1938	1934	1934	1936	1934	1936

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1904 - 2001	
ANNUAL TOTAL	1993690		3038830			
ANNUAL MEAN	5447		8326		2955	
HIGHEST ANNUAL MEAN					10070	1997
LOWEST ANNUAL MEAN					244	1934
HIGHEST DAILY MEAN	31400	Jun 26	57300	Apr 14	127000	Apr 18 1997
LOWEST DAILY MEAN	1680	Feb 16	1930	Oct 13	1.80	Sep 2 1977
ANNUAL SEVEN-DAY MINIMUM	1680	Feb 15	1970	Oct 11	2.5	Feb 12 1937
MAXIMUM PEAK FLOW			57800	Apr 14	a 137000	Apr 18 1997
MAXIMUM PEAK STAGE			44.87	Apr 14	b 54.35	Apr 22 1997
ANNUAL RUNOFF (AC-FT)	3954000		6028000		2141000	
10 PERCENT EXCEEDS	10400		18800		6500	
50 PERCENT EXCEEDS	3720		4520		1420	
90 PERCENT EXCEEDS	1930		2450		282	

a Maximum observed, affected by breakout from Red River about 20 miles upstream of gage that entered Red Lake River about 2 miles upstream of confluence with the Red River
b From floodmark
e Estimated

05082500 RED RIVER OF THE NORTH AT GRAND FORKS, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1949, 1956 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
17...	0955	2040	--	--	--	548	10.0	9.5	--	--	--	--	--
JAN													
04...	1325	2710	--	--	--	702	4.0	.00	--	--	--	--	--
FEB													
06...	1410	2500	--	--	--	737	-3.0	.5	--	--	--	--	--
MAR													
08...	0930	2440	--	--	--	667	-3.0	.00	--	--	--	--	--
APR													
10...	1245	51100	--	--	--	270	5.5	1.0	--	--	--	--	--
23...	1615	42600	7.7	7.2	519	508	12.0	6.5	220	51.0	23.0	6.70	.6
MAY													
15...	0830	13500	--	--	--	670	22.5	18.0	--	--	--	--	--
AUG													
08...	1435	6190	8.0	7.8	555	550	33.5	29.0	240	55.0	26.0	4.80	.6
SEP													
13...	1330	2920	--	--	--	533	16.5	18.5	--	--	--	--	--

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	19.0	15	147	18.0	.2	100	39500	343	306	4.0	60	2.00	100
MAY													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
08...	20.0	15	188	9.3	.2	110	6450	386	338	4.0	70	2.00	100
SEP													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
17...	--	--	--	--	--
JAN					
04...	--	--	--	--	--
FEB					
06...	--	--	--	--	--
MAR					
08...	--	--	--	--	--
APR					
10...	--	--	--	--	--
23...	40.0	.10	2.0	3.0	190
MAY					
15...	--	--	--	--	--
AUG					
08...	20.0	<.10	2.0	3.0	210
SEP					
13...	--	--	--	--	--

05082625 TURTLE RIVER AT TURTLE RIVER STATE PARK NEAR ARVILLA, ND

LOCATION.--Lat 47°55'55", long 97°30'51", in NE$^1/_4$NW$^1/_4$NW$^1/_4$ sec.1, T.151 N., R.54 W., Grand Forks County, Hydrologic Unit 09020307, on right bank 200 ft upstream from U.S. Highway 2, $^1/_4$ mi upstream from Turtle River State Park, 1 mi northwest of Arvilla, and 65 mi above mouth.

DRAINAGE AREA.--311 mi^2.

WATER-DISCHARGE RECORDS

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

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

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some regulation by Larimore Dam located 4 mi upstream on the south branch of the Turtle River.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	19	e23	e15	e13	e13	e125	47	23	14	30	8.3
2	9.0	27	e23	e14	e13	e13	e122	45	22	13	31	8.4
3	8.9	38	e22	e14	e13	e13	e122	42	21	13	26	8.4
4	8.8	48	e22	e14	e13	e13	e130	40	20	13	21	8.1
5	8.8	56	e21	e14	e13	e12	e135	39	19	13	17	8.1
6	9.0	68	e21	e14	e13	e12	159	66	19	13	15	8.0
7	9.1	95	e21	e14	e13	e12	246	96	19	13	13	8.3
8	9.1	129	e20	e14	e13	e12	404	112	18	12	13	8.2
9	9.1	128	e20	e14	e13	e12	648	108	18	12	15	8.1
10	9.1	119	e20	e14	e13	e12	440	93	17	12	14	8.4
11	8.9	108	e19	e14	e13	e12	336	81	17	12	15	8.2
12	9.0	103	e19	e14	e13	e12	284	67	17	12	14	8.3
13	9.4	95	e19	e14	e13	e12	253	57	17	12	12	8.1
14	11	e85	e19	e13	e13	e12	231	51	17	12	12	8.1
15	12	e75	e18	e13	e13	e12	206	46	18	12	16	8.5
16	12	e65	e18	e13	e13	e13	177	44	18	12	14	8.6
17	11	e56	e17	e13	e13	e14	153	41	18	13	13	8.7
18	11	e50	e17	e13	e13	e16	138	37	18	13	12	8.6
19	10	e43	e17	e13	e13	e26	119	35	20	12	11	8.5
20	11	e40	e17	e13	e13	e60	104	35	21	13	10	9.2
21	9.5	e38	e17	e13	e13	e180	96	35	21	13	10	9.2
22	9.4	e36	e16	e13	e13	e330	89	34	20	13	9.6	9.7
23	9.3	e34	e16	e13	e13	e310	84	34	19	13	9.3	9.9
24	9.3	e32	e16	e13	e13	e240	77	34	18	12	9.1	9.9
25	9.8	e30	e15	e13	e13	e200	68	33	17	12	9.3	9.6
26	14	e29	e15	e13	e13	e170	62	32	16	12	9.1	9.3
27	18	e27	e15	e13	e13	e150	57	30	16	12	8.9	9.3
28	17	e26	e15	e13	e13	e140	54	29	15	14	8.7	9.0
29	16	e25	e15	e13	---	e130	51	27	15	15	8.6	9.1
30	15	e24	e15	e13	---	e128	49	25	14	14	8.6	9.1
31	14	---	e15	e13	---	e125	---	24	---	17	8.6	---
TOTAL	336.7	1748	563	417	364	2416	5219	1519	548	398	423.8	261.2
MEAN	10.9	58.3	18.2	13.5	13.0	77.9	174	49.0	18.3	12.8	13.7	8.71
MAX	18	129	23	15	13	330	648	112	23	17	31	9.9
MIN	8.8	19	15	13	13	12	49	24	14	12	8.6	8.0
AC-FT	668	3470	1120	827	722	4790	10350	3010	1090	789	841	518

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2001, BY WATER YEAR (WY)

MEAN	17.8	20.5	11.7	9.36	12.2	101	191	63.1	127	57.9	29.2	23.5
MAX	70.0	58.3	18.2	13.5	32.3	250	525	192	923	168	84.4	74.7
(WY)	1995	2001	2001	2001	1998	1995	1997	1999	2000	1997	1993	1993
MIN	5.47	7.71	5.59	3.97	4.59	11.5	18.3	12.5	13.8	12.8	5.47	2.80
(WY)	1993	1993	1993	1993	1993	1996	2000	1993	1993	2001	1998	1998

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1993 - 2001	
ANNUAL TOTAL	36016.4		14213.7			
ANNUAL MEAN	98.4		38.9		55.3	
HIGHEST ANNUAL MEAN					94.7	2000
LOWEST ANNUAL MEAN					30.8	1998
HIGHEST DAILY MEAN	5000	Jun 13	648	Apr 9	5000	Jun 13 2000
LOWEST DAILY MEAN	8.0	Feb 7	8.0	Sep 6	2.5	Sep 25 1998
ANNUAL SEVEN-DAY MINIMUM	8.0	Feb 7	8.2	Sep 3	2.6	Sep 19 1998
MAXIMUM PEAK FLOW			a 703	Apr 9	12400	Jun 13 2000
MAXIMUM PEAK STAGE			b 7.40	Mar 22	c 18.74	Jun 13 2000
ANNUAL RUNOFF (AC-FT)	71440		28190		40080	
10 PERCENT EXCEEDS	103		106		120	
50 PERCENT EXCEEDS	16		14		14	
90 PERCENT EXCEEDS	8.5		9.1		7.6	

e Estimated
a Gage height, 6.16 ft
b Backwater from ice
c From floodmark

05082625 TURTLE RIVER AT TURTLE RIVER STATE PARK NEAR ARVILLA, ND--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
NOV													
20...	1405	40	--	--	--	1500	-1.0	.00	--	--	--	--	--
JAN													
17...	1110	12	--	--	--	1220	-5.0	.00	--	--	--	--	--
MAR													
03...	1505	13	--	--	--	984	-1.0	.00	--	--	--	--	--
22...	1100	349	--	--	--	643	4.5	.5	--	--	--	--	--
28...	1115	144	--	--	--	681	3.0	.5	--	--	--	--	--
APR													
24...	1515	77	8.3	8.0	1210	1090	15.0	12.5	470	110	47.0	6.70	2
JUN													
25...	1035	18	--	--	--	1050	--	23.5	--	--	--	--	--
AUG													
02...	1510	30	8.3	8.5	853	822	26.5	25.5	380	91.0	38.0	4.20	1.0
SEP													
27...	1110	9.2	--	--	--	874	20.0	12.0	--	--	--	--	--

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
NOV													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
24...	91.0	29	257	36.0	.2	370	180	871	816	3.0	70	2.00	100
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
02...	43.0	19	266	21.0	.3	190	50.1	610	548	8.0	110	2.00	100
SEP													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
NOV					
20...	--	--	--	--	--
JAN					
17...	--	--	--	--	--
MAR					
03...	--	--	--	--	--
22...	--	--	--	--	--
28...	--	--	--	--	--
APR					
24...	240	.10	3.0	3.0	420
JUN					
25...	--	--	--	--	--
AUG					
02...	50.0	<.10	3.0	3.0	330
SEP					
27...	--	--	--	--	--

05084000 FOREST RIVER NEAR FORDVILLE, ND

LOCATION.--Lat 48°11'50", long 97°43'49", on line between secs.32 and 33, T.155 N., R.55 W., Walsh County, Hydrologic Unit 09020308, on right bank 50 ft upstream from highway bridge, 0.5 mi downstream from South Branch, and 3 mi southeast of Fordville.

DRAINAGE AREA.--456 mi^2, of which about 120 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 1,035 ft above sea level, from topographic map. Prior to July 21, 1951, nonrecording gage at site 50 ft downstream at same datum.

REMARKS.--Records fair except for periods of estimated discharge, which are poor. Some regulation of high flows by temporary retention in several retarding basins above station. Retarding basins have a combined capacity of about 14,000 acre-ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.9	16	e24	e11	e10	e9.0	e100	78	25	32	e27	6.3
2	8.4	21	e22	e11	e10	e9.2	e105	71	25	28	e40	6.2
3	8.2	27	e22	e11	e9.8	e9.4	e110	64	24	26	e68	7.4
4	9.0	30	e22	e11	e9.7	e9.8	e120	58	23	23	61	7.2
5	9.4	37	e22	e10	e9.6	e10	e160	53	22	21	56	7.2
6	9.6	43	e22	e10	e9.4	e10	e300	57	22	20	46	8.5
7	9.5	56	e20	e10	e9.4	e10	483	75	23	19	38	9.0
8	9.6	65	e20	e10	e9.2	e10	607	86	23	18	33	8.1
9	9.8	61	e18	e10	e9.0	e10	489	77	23	16	35	8.5
10	9.8	e56	e18	e10	e9.0	e10	437	69	22	15	30	8.1
11	10	e52	e17	e10	e9.0	e10	e420	63	22	13	28	7.3
12	10	e48	e16	e10	e9.0	e10	407	58	24	13	25	7.3
13	11	e46	e16	e10	e9.0	e10	396	56	27	13	23	6.7
14	11	e44	e16	e10	e9.0	e10	429	53	25	13	21	6.0
15	11	e42	e15	e10	e9.0	e12	416	52	25	13	20	6.5
16	11	e40	e15	e10	e9.0	e14	362	50	25	13	18	7.1
17	12	e38	e14	e10	e9.0	e16	322	48	24	13	16	7.2
18	12	e36	e14	e10	e9.0	e19	295	44	23	14	15	6.8
19	12	e34	e14	e10	e9.0	e20	272	41	29	14	14	6.2
20	12	e32	e14	e10	e9.0	e80	253	40	32	13	12	7.8
21	11	e30	e14	e10	e9.0	e200	232	39	39	13	12	8.1
22	11	e30	e14	e10	e9.0	e240	208	37	39	14	11	8.0
23	11	e28	e13	e10	e9.0	e190	189	36	43	13	10	8.5
24	11	e28	e13	e10	e9.0	e150	169	35	47	12	11	8.4
25	11	e28	e13	e10	e9.0	e120	153	34	47	11	9.9	7.7
26	14	e26	e12	e10	e9.0	e100	137	33	46	11	8.6	7.7
27	13	e26	e12	e10	e9.0	e90	121	31	42	13	8.1	7.7
28	12	e26	e12	e10	e9.0	e82	107	31	40	e30	7.3	7.8
29	13	e24	e12	e10	---	e80	99	29	39	e25	7.2	7.8
30	13	e24	e11	e10	---	e82	89	28	35	e20	7.1	8.2
31	12	---	e11	e10	---	e90	---	27	---	e24	6.7	---
TOTAL	335.2	1094	498	314	257.1	1722.4	7987	1553	905	536	724.9	225.3
MEAN	10.8	36.5	16.1	10.1	9.18	55.6	266	50.1	30.2	17.3	23.4	7.51
MAX	14	65	24	11	10	240	607	86	47	32	68	9.0
MIN	7.9	16	11	10	9.0	9.0	89	27	22	11	6.7	6.0
AC-FT	665	2170	988	623	510	3420	15840	3080	1800	1060	1440	447

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2001, BY WATER YEAR (WY)

MEAN	10.5	9.80	7.90	6.82	8.07	67.7	211	69.9	34.6	27.8	13.4	8.95
MAX	57.9	36.5	19.3	16.3	38.4	323	1182	1037	255	232	280	53.3
(WY)	1983	2001	1998	1986	1998	1995	1950	1950	1964	1982	1993	1993
MIN	1.52	2.03	2.06	2.70	1.21	4.07	9.46	7.07	2.74	3.34	1.64	.91
(WY)	1941	1941	1941	1941	1963	1941	1991	1961	1940	1941	1945	1940

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1940 - 2001	
ANNUAL TOTAL	5809.1		16151.9			
ANNUAL MEAN	15.9		44.3		40.1	
HIGHEST ANNUAL MEAN					193	1950
LOWEST ANNUAL MEAN					6.37	1990
HIGHEST DAILY MEAN	65	Nov 8	607	Apr 8	10900	Apr 18 1950
LOWEST DAILY MEAN	5.3	Aug 27	6.0	Sep 14	.00	Apr 1 1940
ANNUAL SEVEN-DAY MINIMUM	5.8	Aug 11	6.6	Sep 13	.00	Apr 1 1940
MAXIMUM PEAK FLOW			672	Apr 8	a 16400	Apr 18 1950
MAXIMUM PEAK STAGE			4.20	Apr 8	b 14.48	Apr 18 1950
ANNUAL RUNOFF (AC-FT)	11520		32040		29050	
10 PERCENT EXCEEDS	27		90		54	
50 PERCENT EXCEEDS	13		15		9.0	
90 PERCENT EXCEEDS	7.7		8.5		3.8	

a From rating curve extended above 5,600 ft^3/s on basis of indirect measurement
b From floodmark
e Estimated

05084000 FOREST RIVER NEAR FORDVILLE, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

REMARKS.--Quality assurance sample also collected at this location.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
16...	1625	12	--	--	--	704	16.5	9.0	--	--	--	--	--
DEC													
04...	1345	23	--	--	--	1050	-5.0	.00	--	--	--	--	--
JAN													
26...	1300	10	--	--	--	934	--	.00	--	--	--	--	--
MAR													
16...	1245	12	--	--	--	850	2.0	.5	--	--	--	--	--
APR													
08...	1140	617	--	--	--	617	2.0	3.0	--	--	--	--	--
27...	1030	130	8.3	8.0	869	829	10.0	12.0	320	73.0	34.0	7.50	2
JUN													
25...	1400	50	--	--	--	50	23.0	22.5	--	--	--	--	--
JUL													
12...	1155	14	--	--	--	957	25.5	22.0	--	--	--	--	--
26...	1505	11	--	--	--	868	19.0	23.5	--	--	--	--	--
AUG													
03...	1115	69	8.3	--e	1340	1270	25.5	23.5	490	100	59.0	11.0	2
27...	1200	8.6	--	--	--	844	22.0	20.0	--	--	--	--	--

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
27...	65.0	30	201	17.0	.2	240	213	607	558	3.0	70	2.00	100
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
03...	110	32	249	28.0	.2	480	183	988	938	5.0	120	2.00	100
27...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
16...	--	--	--	--	--
DEC					
04...	--	--	--	--	--
JAN					
26...	--	--	--	--	--
MAR					
16...	--	--	--	--	--
APR					
08...	--	--	--	--	--
27...	240	.10	2.0	3.0	300
JUN					
25...	--	--	--	--	--
JUL					
12...	--	--	--	--	--
26...	--	--	--	--	--
AUG					
03...	90.0	<.10	3.0	3.0	410
27...	--	--	--	--	--

e Required equipment not functional/available

05085000 FOREST RIVER AT MINTO, ND

LOCATION.--Lat 48°16'10", long 97°22'10", in SE$^{1}/_{4}$ sec.31, T.156 N., R.52 W., Walsh County, Hydrologic Unit 09020308, on right bank 30 ft upstream from dam in Minto, 150 ft upstream from Burlington Northern Railway bridge, and 900 ft east of U.S. Highway 81.

DRAINAGE AREA.--740 mi^2, of which about 120 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1944 to current year.

REVISED RECORDS.--WSP 1438: 1948-50. WSP 1728: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 806.95 ft above sea level. Prior to July 15, 1954, nonrecording gage at site 400 ft upstream at same datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Occasionally during high stages, particularly when the channel is filled with snow, overflow occurs 0.5 mi below the municipality of Forest River and bypasses the gage 3 mi south of Minto and flows into Lake Ardoch. Bypass flow is not included in computation of discharge record for station at Minto.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.7	18	e25	e15	e12	e12	e95	88	39	38	32	9.4
2	7.3	24	e24	e15	e12	e12	e102	82	40	36	30	9.4
3	8.0	25	e24	e14	e12	e12	e110	76	39	35	33	8.6
4	13	24	e23	e14	e12	e12	e120	70	38	32	46	8.0
5	11	25	e22	e13	e12	e12	e160	66	36	30	47	8.2
6	12	29	e21	e13	e12	e12	e220	67	e34	29	46	8.8
7	11	50	e21	e13	e12	e12	e320	84	e33	29	43	8.7
8	13	47	e20	e13	e12	e12	e480	97	e35	27	38	7.3
9	14	41	e20	e13	e12	e12	e690	96	e35	26	36	7.0
10	9.6	47	e19	e13	e12	e12	620	95	e34	24	37	7.1
11	12	41	e18	e13	e12	e12	510	85	e32	23	35	7.3
12	11	38	e17	e13	e12	e12	457	78	e30	22	34	6.0
13	14	27	e17	e13	e12	e12	423	74	29	21	32	7.2
14	13	28	e17	e13	e11	e12	418	70	33	21	31	6.0
15	13	36	e17	e13	e11	e12	421	67	32	21	30	6.3
16	7.8	38	e16	e13	e11	e12	413	66	30	21	e28	6.8
17	10	39	e16	e13	e11	e12	355	64	30	21	25	7.6
18	10	36	e16	e13	e11	e12	311	63	32	21	23	8.0
19	11	36	e16	e13	e11	e12	280	60	32	21	22	8.3
20	11	34	e16	e13	e11	e46	259	57	33	19	20	9.0
21	10	33	e15	e12	e11	e82	237	56	35	18	20	11
22	10	32	e15	e12	e11	e195	218	55	39	18	18	11
23	17	31	e15	e12	e11	e210	199	52	40	17	16	9.6
24	26	30	e15	e12	e11	e194	183	49	41	17	16	11
25	27	e29	e15	e12	e11	e180	165	49	43	17	15	11
26	24	e28	e15	e12	e11	e140	148	49	43	16	15	11
27	25	e27	e15	e12	e11	e120	133	48	43	21	14	9.8
28	24	e27	e15	e12	e12	e100	120	44	42	23	12	9.7
29	21	e26	e15	e12	---	e80	108	43	40	24	11	10
30	16	e25	e15	e12	---	e83	97	44	39	25	10	8.0
31	16	---	e15	e12	---	e90	---	41	---	32	9.4	---
TOTAL	436.4	971	550	398	322	1748	8372	2035	1081	745	824.4	257.1
MEAN	14.1	32.4	17.7	12.8	11.5	56.4	279	65.6	36.0	24.0	26.6	8.57
MAX	27	50	25	15	12	210	690	97	43	38	47	11
MIN	7.3	18	15	12	11	12	95	41	29	16	9.4	6.0
AC-FT	866	1930	1090	789	639	3470	16610	4040	2140	1480	1640	510

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 2001, BY WATER YEAR (WY)

MEAN	9.89	9.86	5.81	3.32	3.44	71.4	306	101	47.6	34.2	16.6	9.17
MAX	59.1	32.4	20.9	15.8	50.2	438	1573	1515	267	348	328	69.0
(WY)	1983	2001	1998	1998	1998	1966	1950	1950	1964	1997	1993	1993
MIN	.000	.97	.29	.000	.000	.000	17.8	10.6	4.21	1.87	.000	.000
(WY)	1991	1991	1990	1977	1961	1962	2000	1946	1991	1980	1946	1961

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1944 - 2001	
ANNUAL TOTAL	7642.5		17739.9			
ANNUAL MEAN	20.9		48.6		51.9	
HIGHEST ANNUAL MEAN					268	1950
LOWEST ANNUAL MEAN					4.36	1990
HIGHEST DAILY MEAN	403	Jun 15	690	Apr 9	11600	Apr 19 1950
LOWEST DAILY MEAN	5.7	Sep 21	6.0	Sep 12	.00	Sep 5 1945
ANNUAL SEVEN-DAY MINIMUM	6.6	Sep 15	6.7	Sep 10	.00	Sep 5 1945
MAXIMUM PEAK FLOW			a 710	Apr 9	b 16600	Apr 18 1950
MAXIMUM PEAK STAGE			c 3.27	Apr 10	d 11.80	Apr 18 1950
ANNUAL RUNOFF (AC-FT)	15160		35190		37640	
10 PERCENT EXCEEDS	33		97		77	
50 PERCENT EXCEEDS	15		21		8.7	
90 PERCENT EXCEEDS	8.4		11		.50	

a Estimated, gage height unknown
b From rating curve extended above 7,200 ft^3/s on basis of contracted opening measurement of peak flow
c Maximum observed, may have been higher during period of no gage height record, March 16 to April 10
d From floodmark
e Estimated

05085000 FOREST RIVER AT MINTO, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
20...	1340	11	--	--	--	755	12.0	9.0	--	--	--	--	--
DEC													
07...	1205	18	--	--	--	1160	--	.00	--	--	--	--	--
APR													
10...	1610	628	--	--	--	661	7.5	4.0	--	--	--	--	--
16...	1625	401	--	--	--	808	1.0	4.0	--	--	--	--	--
24...	1225	188	8.3	8.0	852	798	12.5	8.5	320	72.0	34.0	7.60	1
JUL													
03...	1025	35	--	--	--	1090	24.0	20.5	--	--	--	--	--
AUG													
02...	1110	33	8.0	8.1	1070	1020	28.0	25.0	460	98.0	51.0	7.10	1
SEP													
10...	1350	6.9	--	--	--	904	--	18.5	--	--	--	--	--

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	61.0	29	194	19.0	.2	230	302	595	541	3.0	70	2.00	100
JUL													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
02...	51.0	19	215	92.0	.2	240	66.6	747	669	6.0	150	2.00	100
SEP													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
20...	--	--	--	--	--
DEC					
07...	--	--	--	--	--
APR					
10...	--	--	--	--	--
16...	--	--	--	--	--
24...	90.0	.10	2.0	3.0	280
JUL					
03...	--	--	--	--	--
AUG					
02...	110	<.10	3.0	4.0	350
SEP					
10...	--	--	--	--	--

05090000 PARK RIVER AT GRAFTON, ND

LOCATION.--Lat 48°25'29", long 97°24'42", in NE$^1/_4$ sec.13, T.157 N., R.53 W., Walsh County, Hydrologic Unit 09020310, on right bank just upstream of U.S. Highway 81 bridge in Grafton, and 3.5 mi downstream from South Branch Park River.

DRAINAGE AREA.--695 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1931 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 955: 1941. WSP 1438: 1932, 1933(M), 1936-37(M), 1939(M), 1944. WSP 1728: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 811.00 ft above sea level. Prior to Oct. 1, 1984, gage located on right bank 30 ft upstream of Wakeman Avenue bridge. Datum of gage was 807.39 ft. Prior to Sept. 30, 1940, nonrecording gage at site 30 ft downstream at same datum. Oct. 1, 1940, to Sept. 17, 1946, nonrecording gage at site 2 mi downstream above masonry dam at same datum. Sept. 18, 1946, to July 25, 1952, nonrecording gage at site 30 ft downstream at same datum.

REMARKS.--Records good except for periods where discharge is less than 3.0 ft^3/s and those for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.13	.20	e10	e5.0	e3.4	e4.0	e84	214	46	30	78	.00
2	.12	.56	e10	e5.4	e3.8	e4.0	e84	195	42	29	76	.00
3	.10	1.1	e10	e6.0	e4.0	e4.0	e92	178	38	28	108	.00
4	.09	2.1	e10	e6.0	e4.0	e4.0	e100	192	33	26	135	.00
5	.07	3.1	e11	e6.0	e4.0	e4.0	e140	257	29	18	116	.00
6	.05	5.9	e10	e6.0	e4.0	e4.0	e240	272	26	13	92	.00
7	.03	13	e8.0	e6.0	e4.0	e4.0	e500	334	26	10	63	.00
8	.02	11	e7.0	e6.0	e4.0	e4.0	1370	318	25	9.5	34	.00
9	.01	16	e6.0	e6.0	e4.0	e4.0	1800	359	24	8.3	20	.02
10	.01	18	e6.0	e5.0	e4.0	e4.2	1820	371	23	7.6	13	.03
11	.00	18	e6.0	e4.0	e4.0	e4.4	1720	353	22	7.2	9.1	.03
12	.00	15	e5.0	e4.0	e4.0	e4.5	1610	308	21	7.0	6.6	.03
13	.02	15	e5.0	e4.0	e4.0	e4.6	1490	260	20	6.9	5.3	.02
14	.02	13	e5.0	e4.0	e4.0	e4.8	1270	230	19	6.1	4.5	.02
15	.03	12	e5.0	e3.8	e4.0	e5.0	1190	174	29	5.6	4.2	.00
16	.03	17	e5.0	e3.6	e4.0	e5.4	1080	136	37	5.7	4.1	.00
17	.03	15	e5.0	e3.6	e4.0	e6.0	780	111	39	5.1	3.9	.00
18	.02	e15	e5.0	e3.4	e4.0	e6.8	627	104	42	5.1	3.6	.00
19	.02	e14	e5.0	e3.4	e4.0	e8.0	550	94	81	5.7	3.6	.00
20	.02	e14	e5.0	e3.6	e4.0	e11	559	92	100	14	3.4	.00
21	.01	e14	e5.0	e4.8	e4.0	e18	570	85	152	22	3.2	.00
22	.01	e14	e5.0	e6.0	e4.0	e40	711	81	206	29	3.1	.00
23	.01	e14	e5.0	e7.2	e4.0	e70	640	82	241	28	3.0	.00
24	.00	e14	e5.0	e7.0	e4.0	e105	511	81	240	22	2.9	.00
25	.01	e14	e5.0	e6.0	e4.0	e140	433	78	230	13	2.8	.01
26	.02	e13	e5.0	e5.2	e4.0	e120	368	77	143	9.3	2.5	.04
27	.05	e12	e5.0	e4.4	e4.0	e100	324	76	79	14	e5.0	.05
28	.08	e10	e5.0	e4.0	e4.0	e90	291	75	50	19	e5.0	.06
29	.10	e10	e5.0	e4.0	---	e88	262	68	37	13	.00	.05
30	.13	e10	e5.0	e4.0	---	e85	232	60	28	9.1	.00	.05
31	.16	---	e5.0	e3.8	---	e85	---	54	---	30	.00	---
TOTAL	1.40	343.96	194.0	151.2	111.2	1041.7	21448	5369	2128	456.2	810.80	0.41
MEAN	.045	11.5	6.26	4.88	3.97	33.6	715	173	70.9	14.7	26.2	.014
MAX	.16	18	11	7.2	4.0	140	1820	371	241	30	135	.06
MIN	.00	.20	5.0	3.4	3.4	4.0	84	54	19	5.1	.00	.00
AC-FT	2.8	682	385	300	221	2070	42540	10650	4220	905	1610	.8

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2001, BY WATER YEAR (WY)

MEAN	5.04	3.67	2.47	1.44	2.60	77.7	421	118	46.3	33.7	13.7	7.00
MAX	69.9	31.3	17.4	13.9	45.7	654	2051	2071	576	441	569	151
(WY)	1983	1981	1983	1983	1981	1995	1950	1950	1964	1997	1993	1957
MIN	.000	.000	.000	.000	.000	.000	.000	2.05	.000	.000	.000	.000
(WY)	1934	1934	1933	1932	1933	1936	1991	1939	1961	1990	1932	1932

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1931 - 2001	
ANNUAL TOTAL	3187.55		32055.87			
ANNUAL MEAN	8.71		87.8		61.1	
HIGHEST ANNUAL MEAN					353	1950
LOWEST ANNUAL MEAN					1.38	1990
HIGHEST DAILY MEAN	346	Jun 13	1820	Apr 10	11700	Apr 19 1950
LOWEST DAILY MEAN	.00	Oct 11	.00	Oct 11	.00	Aug 10 1931
ANNUAL SEVEN-DAY MINIMUM	.01	Oct 8	.00	Aug 29	.00	Aug 21 1931
MAXIMUM PEAK FLOW			2030	Apr 9	a 12600	Apr 19 1950
MAXIMUM PEAK STAGE			11.45	Apr 9	b 20.13	Apr 19 1950
ANNUAL RUNOFF (AC-FT)	6320		63580		44260	
10 PERCENT EXCEEDS	14		231		79	
50 PERCENT EXCEEDS	4.6		6.0		1.9	
90 PERCENT EXCEEDS	.21		.02		.00	

a From rating curve extended above 9,000 ft^3/s
b Site and datum then in use
e Estimated

05090000 PARK RIVER AT GRAFTON, ND--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
NOV													
16...	1545	20	--	--	--	1940	-1.0	.5	--	--	--	--	--
JAN													
24...	1700	7.0	--	--	--	1390	-10.0	.5	--	--	--	--	--
APR													
08...	1600	1600	--	--	--	385	8.0	1.0	--	--	--	--	--
20...	1335	549	8.2	--	591	544	8.0	10.0	210	53.0	20.0	6.70	1
JUN													
29...	1010	39	--	--	--	1190	22.0	23.0	--	--	--	--	--
AUG													
01...	1420	82	7.9	7.9	1190	1150	26.5	22.5	410	93.0	44.0	9.60	2
28...	1155	7.6	--	--	--	1260	23.0	22.5	--	--	--	--	--

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
NOV													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	36.0	26	143	20.0	.2	130	591	399	352	3.0	110	2.00	100
JUN													
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
01...	96.0	33	243	58.0	.4	300	180	808	748	7.0	30	2.00	100
28...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
NOV					
16...	--	--	--	--	--
JAN					
24...	--	--	--	--	--
APR					
08...	--	--	--	--	--
20...	80.0	.10	3.0	3.0	220
JUN					
29...	--	--	--	--	--
AUG					
01...	820	<.10	5.0	3.0	450
28...	--	--	--	--	--

05092000 RED RIVER OF THE NORTH AT DRAYTON, ND

LOCATION.--Lat 48°34'20", long 97°08'50", in $SE^1/_4SE^1/_4SE^1/_4$ sec.24, T.159 N., R.51 W., Pembina County, Hydrologic Unit 09020311, on downstream side of bridge on North Dakota State Highway 66, at the North Dakota-Minnesota border, 1.5 mi northeast of Drayton, and at mile 206.7.

DRAINAGE AREA.--34,800 mi^2, approximately, includes 3,800 mi^2 in closed basins.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1936 to June 1937, April 1941 to current year (fragmentary prior to April 1949).

REVISED RECORDS.--WSP 1388: 1949-50. WSP 1728: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 755.00 ft above National Geodetic Vertical Datum of 1929 (Minnesota highway bench mark). Prior to Nov. 30, 1954, nonrecording gage at site 1.5 mi upstream at datum 1.59 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of April 1897 reached a stage of about 41 ft at site and datum in use prior to Nov. 30, 1954.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2790	3980	e5500	e2750	e2600	e2500	e8000	37700	13300	8080	7940	e3000
2	2720	4130	e5400	e2700	e2600	e2500	e9000	36900	13100	7630	9210	e2950
3	2590	4590	e5400	e2700	e2600	e2500	e10000	36300	12800	7210	10200	e2900
4	2470	5540	e5300	e2700	e2600	e2500	e12500	35800	12600	6860	11200	e2850
5	2430	7380	e5200	e2700	e2600	e2500	e14300	35200	12400	6600	11700	e2850
6	2480	9420	e5100	e2700	e2600	e2500	e16500	34700	12100	6310	11600	e2870
7	2490	12600	e5000	e2700	e2550	e2500	e20000	34500	11700	6060	10900	e2870
8	2410	15800	e4900	e2700	e2550	e2500	e24000	34100	11000	5920	9910	e2930
9	2270	17900	e4700	e2700	e2550	e2500	e29000	33500	10300	5820	8910	e3100
10	2150	19900	e4600	e2700	e2550	e2500	32000	32800	9630	5720	8110	e3300
11	2110	21600	e4500	e2700	e2550	e2500	33700	32100	9120	5580	7540	e3400
12	2110	22700	e4400	e2700	e2550	e2500	35300	31300	8610	5420	7400	e3400
13	2050	23100	e4250	e2700	e2550	e2500	37400	30400	8160	5250	7490	e3380
14	1970	22700	e4100	e2700	e2550	e2500	40400	29300	7970	5140	7430	e3300
15	1940	21900	e4000	e2700	e2550	e2500	44000	28100	8220	5100	7190	e3200
16	1950	20600	e3900	e2700	e2550	e2600	48500	26500	8700	5030	6880	e3000
17	1960	18900	e3800	e2700	e2550	e2700	53600	24600	9240	4920	6380	e2860
18	2040	e15000	e3650	e2700	e2550	e2800	55000	22400	9960	4810	5960	e2780
19	2410	e12700	e3500	e2650	e2550	e2950	55000	19900	10800	4840	5640	e2700
20	2970	e10500	e3450	e2650	e2550	e3100	54700	17300	11200	5200	5340	e2620
21	3240	e8500	e3350	e2650	e2550	e3400	53900	14800	11200	5330	4970	e2580
22	3260	e7400	e3250	e2650	e2550	e3600	53600	12700	11000	5350	4570	e2560
23	3200	e6800	e3200	e2650	e2550	e3800	52500	12300	10800	5420	e4300	e2550
24	3090	e6400	e3100	e2650	e2550	e4100	51400	11800	10700	5640	e4000	e2540
25	3000	e6200	e3050	e2650	e2550	e4300	49800	11400	10600	5930	e3800	e2520
26	2930	e6000	e3000	e2650	e2550	e4600	46800	11200	10400	6100	e3750	e2500
27	2990	e5900	e2950	e2650	e2550	e5000	44100	11600	9960	6280	e3750	2470
28	3140	e5800	e2900	e2650	e2500	e5400	42000	12100	9470	8060	e3600	2470
29	3350	e5700	e2850	e2650	---	e5800	40100	12400	9000	7950	e3400	2470
30	3620	e5600	e2800	e2650	---	e6400	38800	12800	8550	6690	e3200	2470
31	3850	---	e2800	e2600	---	e7000	---	13100	---	6150	e3080	---
TOTAL	81980	355240	123900	83050	71650	105050	1105900	749600	312590	186400	209350	85390
MEAN	2645	11840	3997	2679	2559	3389	36860	24180	10420	6013	6753	2846
MAX	3850	23100	5500	2750	2600	7000	55000	37700	13300	8080	11700	3400
MIN	1940	3980	2800	2600	2500	2500	8000	11200	7970	4810	3080	2470
AC-FT	162600	704600	245800	164700	142100	208400	2194000	1487000	620000	369700	415200	169400

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2001, BY WATER YEAR (WY)

MEAN	1970	1870	1434	1183	1153	3411	15660	9732	5815	5264	2640	2093
MAX	5194	11840	4168	2679	2598	16290	54710	58890	23420	28240	21580	12140
(WY)	1995	2001	1999	2001	1998	1998	1997	1950	1962	1975	1993	1999
MIN	317	277	149	174	201	280	1275	938	676	348	243	329
(WY)	1991	1977	1977	1990	1977	1962	1981	1977	1977	1988	1977	1988

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1949 - 2001	
ANNUAL TOTAL	2234880		3470100			
ANNUAL MEAN	6106		9507		4375	
HIGHEST ANNUAL MEAN					11280	1997
LOWEST ANNUAL MEAN					536	1977
HIGHEST DAILY MEAN	29300	Jun 30	55000	Apr 18	124000	Apr 24 1997
LOWEST DAILY MEAN	1700	Feb 18	1940	Oct 15	110	Dec 23 1989
ANNUAL SEVEN-DAY MINIMUM	1710	Feb 16	2000	Oct 12	118	Dec 28 1989
MAXIMUM PEAK FLOW			55300	Apr 19	124000	Apr 24 1997
MAXIMUM PEAK STAGE			41.33	Apr 19	45.55	Apr 24 1997
INSTANTANEOUS LOW FLOW					7.7	Oct 16 1936
ANNUAL RUNOFF (AC-FT)	4433000		6883000		3169000	
10 PERCENT EXCEEDS	14400		28500		10100	
50 PERCENT EXCEEDS	3980		4810		1910	
90 PERCENT EXCEEDS	1950		2500		490	

e Estimated

05092000 RED RIVER OF THE NORTH AT DRAYTON, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

REMARKS.--Quality assurance sample also collected at this location.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
OCT													
18...	1115	--	2030	--	--	--	683	6.5	10.0	--	--	--	--
JAN													
03...	1400	--	2730	--	--	--	--	-5.0	.00	--	--	--	--
FEB													
01...	1255	2600	--	--	--	--	--	-23.5	.5	--	--	--	--
MAR													
09...	1025	2500	--	--	--	--	755	-2.0	.00	--	--	--	--
APR													
11...	1245	--	33600	7.8	7.1	429	381	12.5	2.0	170	40.0	17.0	5.60
JUN													
12...	0910	--	8500	--	--	--	696	--	21.5	--	--	--	--
JUL													
30...	1015	--	6630	--	--	--	676	21.0	23.0	--	--	--	--
AUG													
10...	1130	--	8330	8.2	7.8	630	628	24.0	25.5	260	57.0	28.0	5.50
29...	1010	--	3350	--	--	--	674	--	24.0	--	--	--	--

DATE	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
OCT													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
11...	.4	12.0	13	137	19.0	.2	60.0	22800	251	236	4.0	90	2.00
JUN													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
10...	.8	31.0	20	185	25.0	.2	110	9220	410	368	5.0	30	2.00
29...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT						
18...	--	--	--	--	--	--
JAN						
03...	--	--	--	--	--	--
FEB						
01...	--	--	--	--	--	--
MAR						
09...	--	--	--	--	--	--
APR						
11...	100	50.0	.10	2.0	3.0	140
JUN						
12...	--	--	--	--	--	--
JUL						
30...	--	--	--	--	--	--
AUG						
10...	100	20.0	<.10	2.0	3.0	240
29...	--	--	--	--	--	--

05099100 SNOWFLAKE CREEK NEAR SNOWFLAKE, MANITOBA
(International gaging station)

LOCATION.--Lat 49°01'17", long 98°36'13", in SW$^{1}/_{4}$ sec.10, T.1, R.9 W., first meridian, Hydrologic Unit 09020313, at traffic bridge, 2.5 mi east, and 1.5 mi south of Snowflake, Manitoba.

DRAINAGE AREA.--348 mi^{2}.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1961 to current year.

GAGE.--Water-stage recorder since March 1968 and nonrecording gage prior thereto. Datum of gage is Geodetic Survey of Canada Datum of 1929. Prior to Jan. 1, 1987, recording gage at same site at datum of 1221.66 ft above Geodetic Survey of Canada Datum of 1929. Prior to Apr. 2, 1964, nonrecording gage at present site and datum. Apr. 2, 1964, to May 10, 1965, nonrecording gage at site 0.5 mi downstream at present datum.

COOPERATION.--This station is one of the international gaging stations maintained by Canada under agreement with the United States. Records provided by the Water Survey of Canada.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	.00	.04	e.00	e.00	e.00	e.49	477	22	24	e68	e33
2	.00	.07	.04	e.00	e.00	e.00	e.78	406	19	22	e66	e31
3	e.00	.07	.04	e.00	e.00	e.00	e.64	337	17	e21	63	e29
4	.00	.04	e.04	e.00	e.00	e.00	e1.1	293	15	e20	62	e28
5	.00	.04	e.04	e.00	e.00	e.00	e1.9	260	14	e18	60	e26
6	.00	.04	e.04	e.00	e.00	e.00	e14	245	13	17	58	e24
7	.00	e.04	e.00	e.00	e.00	e.00	e26	224	12	16	57	e23
8	.00	.04	e.00	e.00	e.00	e.00	e116	195	10	15	57	e22
9	.00	.04	e.00	e.00	e.00	e.00	e220	172	9.0	15	57	e21
10	.00	.04	e.00	e.00	e.00	e.00	e357	152	8.0	14	56	e20
11	.00	.04	e.00	e.00	e.00	e.00	e367	131	7.7	14	56	e18
12	.00	.04	e.00	e.00	e.00	e.00	e413	122	7.5	14	54	e17
13	.00	.04	e.00	e.00	e.00	e.00	e583	118	7.5	e15	52	e16
14	.00	.04	e.00	e.00	e.00	e.00	706	113	8.4	16	e53	e15
15	.00	.04	e.00	e.00	e.00	e.00	636	106	28	16	e53	e14
16	.00	.04	e.00	e.00	e.00	e.00	572	96	31	174	53	e14
17	.00	.04	e.00	e.00	e.00	e.00	597	88	20	77	53	e13
18	.00	.04	e.00	e.00	e.00	e.64	660	80	18	44	54	e12
19	.00	.04	e.00	e.00	e.00	e1.2	727	72	22	31	52	e11
20	.00	.04	e.00	e.00	e.00	e1.0	897	66	24	29	51	e10
21	.00	.04	e.00	e.00	e.00	e.99	968	60	26	29	49	e16
22	.00	.04	e.00	e.00	e.00	e.71	886	52	25	32	48	e11
23	.00	.04	e.00	e.00	e.00	e.74	858	44	27	34	47	e7.9
24	.00	.04	e.00	e.00	e.00	e.53	805	47	29	34	47	e7.3
25	.00	.04	e.00	e.00	e.00	e.11	791	46	30	36	46	e6.7
26	.00	.04	e.00	e.00	e.00	e.00	717	42	30	177	45	e6.2
27	.00	.04	e.00	e.00	e.00	e.00	671	38	28	124	43	e5.6
28	.00	.04	e.00	e.00	e.00	e.07	643	34	28	106	41	e5.0
29	.00	.04	e.00	e.00	---	e.35	611	30	28	92	e39	e4.4
30	.00	.04	e.00	e.00	---	e.46	533	27	25	75	e37	e3.9
31	.00	---	e.00	e.00	---	e.53	---	25	---	70	e35	---
TOTAL	0.00	1.22	0.24	0.00	0.00	7.33	14378.91	4198	589.1	1421	1612	471.0
MEAN	.000	.041	.008	.000	.000	.24	479	135	19.6	45.8	52.0	15.7
MAX	.00	.07	.04	.00	.00	1.2	968	477	31	177	68	33
MIN	.00	.00	.00	.00	.00	.00	.49	25	7.5	14	35	3.9
AC-FT	.00	2.4	.5	.00	.00	15	28520	8330	1170	2820	3200	934

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2001, BY WATER YEAR (WY)

MEAN	5.50	2.34	.28	.039	.16	8.95	144	91.3	21.8	22.5	10.8	5.93
MAX	70.5	39.9	7.67	1.36	4.90	74.6	668	945	123	529	139	99.7
(WY)	1995	1995	1995	1995	1981	1995	1995	1997	1974	1997	1997	1993
MIN	.000	.000	.000	.000	.000	.000	.22	.061	.000	.000	.000	.000
(WY)	1962	1962	1962	1962	1962	1962	1973	1988	1962	1961	1961	1961

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1961 - 2001	
ANNUAL TOTAL	50.96		22678.80			
ANNUAL MEAN	.14		62.1		26.7	
HIGHEST ANNUAL MEAN					197	1997
LOWEST ANNUAL MEAN					.14	2000
HIGHEST DAILY MEAN	2.5	Mar 5	968	Apr 21	2160	Apr 30 1997
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Mar 1 1961
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Mar 1 1961
MAXIMUM PEAK FLOW			1020	Apr 21	2710	Jul 12 1997
MAXIMUM PEAK STAGE			1227.83	Apr 13	1232.08	Apr 24 1997
ANNUAL RUNOFF (AC-FT)	101		44980		19370	
10 PERCENT EXCEEDS	.50		123		47	
50 PERCENT EXCEEDS	.00		.99		.04	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated

05099150 MOWBRAY CREEK NEAR MOWBRAY, MANITOBA
(International gaging station)

LOCATION.--Lat 49°00'00", long 98°27'15", in SE$^1/_4$ sec.3, T.1, R.8 W., first meridian, Hydrologic Unit 09020313, on downstream side of bridge on Municipal Road on international boundary, and 1.5 mi east of Mowbray, Manitoba.

DRAINAGE AREA.--93.9 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1962 to current year (seasonal records only most years).

GAGE.--Water-stage recorder. Datum of gage is Geodetic Survey of Canada datum of 1929. Nonrecording gage prior to 1971.

COOPERATION.--Records furnished by the Water Survey of Canada.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	1.0	.04	e.00	e.00	e.00	e.00	26	2.2	23	8.9	.11
2	.00	1.5	.04	e.00	e.00	e.00	e.00	22	1.9	20	1.9	.07
3	.00	1.8	.04	e.00	e.00	e.00	e.00	18	1.5	17	4.1	.04
4	.00	2.0	e.00	e.00	e.00	e.00	e.00	16	1.2	15	5.0	.04
5	.00	2.6	e.00	e.00	e.00	e.00	e.00	14	1.0	13	3.8	.04
6	.00	4.0	e.00	e.00	e.00	e.00	e66	16	1.0	12	1.7	.04
7	.00	2.4	e.00	e.00	e.00	e.00	e74	20	.92	9.5	1.9	.04
8	.00	.78	e.00	e.00	e.00	e.00	e136	28	.71	7.5	e1.8	.04
9	.00	.39	e.00	e.00	e.00	e.00	e473	21	.60	6.1	e1.7	.11
10	.00	.42	e.00	e.00	e.00	e.00	e961	14	.57	5.0	e1.6	.04
11	.00	.32	e.00	e.00	e.00	e.00	e848	11	.85	4.3	e1.4	.07
12	.00	.25	e.00	e.00	e.00	e.00	710	8.6	.71	3.7	e1.3	.18
13	.00	.21	e.00	e.00	e.00	e.00	565	7.2	1.1	3.3	e1.2	.11
14	.00	.18	e.00	e.00	e.00	e.00	487	5.8	3.5	3.1	e1.1	.07
15	.00	.18	e.00	e.00	e.00	e.00	396	5.4	24	3.0	e1.0	.07
16	.00	.18	e.00	e.00	e.00	e.00	305	4.7	26	8.2	.92	.04
17	.00	.14	e.00	e.00	e.00	e.00	295	4.5	29	16	.74	.01
18	.00	.14	e.00	e.00	e.00	e.00	253	3.8	36	15	.64	.00
19	.00	.14	e.00	e.00	e.00	e.00	231	3.4	48	14	.60	.00
20	.00	.07	e.00	e.00	e.00	e.00	357	3.4	62	14	.60	.00
21	.00	.07	e.00	e.00	e.00	e.00	316	3.1	121	12	.57	.00
22	.00	.04	e.00	e.00	e.00	e.00	310	2.8	136	10	.46	.04
23	4.7	.04	e.00	e.00	e.00	e.00	258	3.1	121	7.9	.42	.07
24	8.1	.04	e.00	e.00	e.00	e.00	189	3.2	98	5.9	.39	.07
25	6.4	.04	e.00	e.00	e.00	e.00	131	3.0	80	4.3	.42	.04
26	4.6	.04	e.00	e.00	e.00	e.00	94	2.9	62	3.4	.28	.04
27	3.8	.04	e.00	e.00	e.00	e.00	72	2.9	49	11	.25	.04
28	3.1	.04	e.00	e.00	e.00	e.00	58	2.9	41	13	.21	.04
29	2.4	.04	e.00	e.00	---	e.00	44	2.5	32	12	.18	.04
30	1.7	.04	e.00	e.00	---	e.00	32	2.3	27	12	.14	.04
31	1.1	---	e.00	e.00	---	e.00	---	2.3	---	11	.11	---
TOTAL	35.90	19.13	0.12	0.00	0.00	0.00	7661.00	283.8	1009.76	315.2	45.33	1.54
MEAN	1.16	.64	.004	.000	.000	.000	255	9.15	33.7	10.2	1.46	.051
MAX	8.1	4.0	.04	.00	.00	.00	961	28	136	23	8.9	.18
MIN	.00	.04	.00	.00	.00	.00	.00	2.3	.57	3.0	.11	.00
AC-FT	71	38	.2	.00	.00	.00	15200	563	2000	625	90	3.1

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2001, BY WATER YEAR (WY)

MEAN	2.09	.92	.071	.004	.27	15.0	84.6	20.2	7.84	9.51	8.65	1.86
MAX	56.5	16.4	1.35	.080	5.68	122	344	159	58.0	189	161	28.6
(WY)	1995	1995	1995	1995	1981	1995	1997	1974	1995	1997	1995	1995
MIN	.000	.000	.000	.000	.000	.000	.41	.009	.000	.000	.000	.000
(WY)	1963	1963	1963	1963	1963	1962	2000	1973	1968	1968	1962	1962

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1962 - 2001	
ANNUAL TOTAL	312.60		9371.78			
ANNUAL MEAN	.85		25.7		16.1	
HIGHEST ANNUAL MEAN					57.9	1997
LOWEST ANNUAL MEAN					.59	1963
HIGHEST DAILY MEAN	21	Mar 3	961	Apr 10	1350	Apr 24 1997
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Mar 1 1962
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Mar 1 1962
MAXIMUM PEAK FLOW			1110	Apr 10	1470	Apr 23 1997
MAXIMUM PEAK STAGE			1534.55	Apr 10	1534.83	Apr 21 1997
ANNUAL RUNOFF (AC-FT)	620		18590		11630	
10 PERCENT EXCEEDS	2.3		32		21	
50 PERCENT EXCEEDS	.04		.07		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated

05099300 PEMBINA RIVER NEAR WINDYGATES, MANITOBA
(International gaging station)

LOCATION.--Lat 49°01'53", long 98°16'40", in SE$^{1}/_{4}$ sec.13, T.1, R.7 W., first meridian, Hydrologic Unit 09020313, on left bank 0.2 mi downstream from bridge, and 3 mi northeast of Windygates, Manitoba.

DRAINAGE AREA.--3,020 mi^{2}.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is Geodetic Survey of Canada datum of 1929. Prior to Jan. 1, 1985, datum of gage at 1102.02 ft above Geodetic Survey of Canada datum of 1929.

COOPERATION.--This station is one of the international gaging stations maintained by Canada under agreement with the United States. Records provided by Water Survey of Canada.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	10	e7.9	e4.8	e6.5	e3.8	e37	2520	614	312	286	107
2	16	20	e7.6	e5.1	e6.4	e3.8	e41	2410	593	303	264	107
3	16	21	e7.3	e6.2	e6.3	e3.8	e49	2280	576	284	252	103
4	15	19	e7.1	e7.8	e6.2	e3.7	e115	2190	547	270	241	99
5	15	16	e6.5	e8.1	e6.1	e3.7	e187	2080	516	262	226	99
6	15	22	e6.2	e7.8	e6.0	e3.7	e530	2020	498	252	217	98
7	15	e21	e5.9	e7.7	e5.9	e3.6	e530	1970	480	239	206	98
8	19	e19	e5.7	e7.7	e5.9	e3.6	1660	1900	466	229	201	94
9	16	e20	e5.4	e7.7	e5.8	e3.6	2320	1850	445	226	194	93
10	16	e22	e5.1	e7.7	e5.7	e3.7	2930	1790	424	218	176	94
11	16	e22	e4.8	e7.7	e5.5	e4.0	3070	1670	417	209	178	92
12	15	e20	e4.5	e7.7	e5.4	e5.1	2940	1590	399	202	179	86
13	14	e19	e4.3	e7.6	e5.2	e6.2	3000	1510	396	199	163	83
14	14	e18	e4.3	e7.6	e5.1	e7.1	3090	1430	396	200	166	80
15	14	e20	e4.3	e7.6	e4.9	e8.5	2850	1360	487	197	163	78
16	13	e20	e4.3	e7.6	e4.8	e8.8	2530	1310	526	251	161	76
17	13	e19	e4.3	e7.6	e4.7	e9.0	2470	1280	498	292	158	73
18	12	e19	e4.3	e7.6	e4.6	e9.3	2600	1210	459	266	153	70
19	11	e18	e4.0	e7.5	e4.4	e23	2860	1160	466	241	147	67
20	9.0	e18	e4.0	e7.5	e4.3	e37	3350	1110	470	215	144	68
21	7.8	e17	e3.7	e7.3	e4.3	e36	3710	1040	491	203	140	66
22	6.8	e16	e3.7	e7.3	e4.2	e34	3640	989	512	196	137	67
23	5.7	e14	e3.4	e7.2	e4.2	e32	3570	950	498	192	134	66
24	5.2	e13	e3.4	e7.1	e4.1	e28	3420	925	477	182	134	66
25	4.3	e11	e3.1	e7.0	e4.1	e28	3280	876	452	172	131	64
26	3.7	e9.9	e3.4	e6.9	e4.0	e28	3130	833	424	172	126	62
27	3.0	e9.0	e3.4	e6.9	e4.0	e27	3000	788	399	562	121	58
28	3.4	e8.8	e3.7	e6.8	e3.9	e30	2890	745	381	657	123	52
29	3.6	e8.5	e4.0	e6.7	---	e32	2760	703	364	484	116	47
30	3.0	e8.2	e4.2	e6.6	---	e34	2620	664	328	381	114	43
31	3.4	---	e4.5	e6.5	---	e35	---	639	---	313	109	---
TOTAL	340.9	498.4	148.3	222.9	142.5	499.0	69179	43792	13999	8381	5260	2356
MEAN	11.0	16.6	4.78	7.19	5.09	16.1	2306	1413	467	270	170	78.5
MAX	19	22	7.9	8.1	6.5	37	3710	2520	614	657	286	107
MIN	3.0	8.2	3.1	4.8	3.9	3.6	37	639	328	172	109	43
AC-FT	676	989	294	442	283	990	137200	86860	27770	16620	10430	4670

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2001, BY WATER YEAR (WY)

MEAN	56.9	36.8	17.8	9.39	8.34	98.7	1134	878	361	178	114	74.3
MAX	343	391	195	82.7	64.9	949	4257	3616	1752	1128	719	543
(WY)	1969	1995	1995	1995	1995	1995	1998	1974	1999	1997	1993	1993
MIN	.000	.000	.000	.000	.000	.000	21.3	27.0	4.03	.070	.000	.000
(WY)	1989	1989	1989	1965	1963	1964	1977	1988	1988	1988	1988	1988

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1962 - 2001	
ANNUAL TOTAL	15178.6		144819.0			
ANNUAL MEAN	41.5		397		251	
HIGHEST ANNUAL MEAN					936	1995
LOWEST ANNUAL MEAN					9.61	1977
HIGHEST DAILY MEAN	164	Mar 23	3710	Apr 21	13500	Apr 26 1997
LOWEST DAILY MEAN	3.0	Oct 27	3.0	Oct 27	.00	Jan 29 1963
ANNUAL SEVEN-DAY MINIMUM	3.4	Dec 21	3.4	Dec 21	.00	Jan 29 1963
MAXIMUM PEAK FLOW			3850	Apr 21	13700	Apr 26 1997
MAXIMUM PEAK STAGE			1113.87	Apr 21	1122.27	Apr 26 1997
ANNUAL RUNOFF (AC-FT)	30110		287200		181900	
10 PERCENT EXCEEDS	101		1460		617	
50 PERCENT EXCEEDS	25		37		34	
90 PERCENT EXCEEDS	6.7		4.3		.00	

e Estimated

05099400 LITTLE SOUTH PEMBINA RIVER NEAR WALHALLA, ND

LOCATION.--Lat 48°51'55", long 98°00'20", in $SE^1/_4SW^1/_4$ sec.10, T.162 N., R.57 W., Cavalier County, Hydrologic Unit 09020313, on right bank 10 ft upstream from county bridge, 3.5 mi above mouth, and 6 mi southwest of Walhalla.

DRAINAGE AREA.--182 mi^2, of which 10 mi^2 is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1956 to Sept. 1982, March 2001 to Sept. 30, 2001.

REVISED RECORDS.--WSP 1728: Drainage area.

GAGE.--Water-stage recorder. Datum of gage not yet determined. Datum of gage was 1,099.48 (NGVD of 1929) from April 1956 to Sept. 1982. Prior to Sept. 10, 1956, nonrecording gage at bridge 25 ft downstream at same datum.

REMARKS.--Records poor. Discharges for Mar. 29 to Aug. 18 based on once daily observer readings.

EXTREMES OUTSIDE PERIOD OF RECORD.--A discharge of 5,080 ft^3/s, gage height, unknown, was measured on Apr. 24, 1997. A high-water mark 3 ft higher than gage height of measurement was observed.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	e20	70	11	26	17	1.4
2	---	---	---	---	---	---	e25	70	9.5	24	13	1.5
3	---	---	---	---	---	---	e30	59	8.6	20	11	1.3
4	---	---	---	---	---	---	e40	50	e8.0	17	10	1.2
5	---	---	---	---	---	---	e60	45	e7.6	17	9.2	1.3
6	---	---	---	---	---	---	e376	45	e7.5	14	6.5	1.4
7	---	---	---	---	---	---	e1200	95	7.4	13	5.4	1.5
8	---	---	---	---	---	---	e1600	95	6.9	13	5.4	1.5
9	---	---	---	---	---	---	e1900	76	6.5	11	4.5	1.4
10	---	---	---	---	---	---	1350	59	6.5	9.8	3.9	1.3
11	---	---	---	---	---	---	777	50	7.6	9.5	3.6	1.5
12	---	---	---	---	---	---	611	45	8.4	9.2	3.6	1.4
13	---	---	---	---	---	---	538	37	9.5	8.1	2.9	1.4
14	---	---	---	---	---	---	467	37	8.4	8.4	2.8	1.4
15	---	---	---	---	---	---	637	34	23	8.6	3.2	1.4
16	---	---	---	---	---	---	345	34	103	13	2.5	1.4
17	---	---	---	---	---	---	231	36	100	14	2.4	1.4
18	---	---	---	---	---	---	325	31	66	28	2.1	1.4
19	---	---	---	---	---	---	369	29	110	33	2.3	1.2
20	---	---	---	---	---	---	380	28	218	26	2.3	1.7
21	---	---	---	---	---	---	958	24	328	21	2.2	1.6
22	---	---	---	---	---	---	410	24	223	15	2.0	2.2
23	---	---	---	---	---	---	221	28	139	12	1.9	2.1
24	---	---	---	---	---	---	154	28	91	10	1.9	1.9
25	---	---	---	---	---	---	126	24	68	9.5	2.2	1.8
26	---	---	---	---	---	---	132	18	56	6.9	2.2	1.7
27	---	---	---	---	---	---	135	20	51	8.9	1.9	1.6
28	---	---	---	---	---	---	95	16	38	21	1.6	2.1
29	---	---	---	---	---	e10	88	13	33	19	1.6	2.1
30	---	---	---	---	---	e14	76	13	33	23	1.5	2.0
31	---	---	---	---	---	e18	---	11	---	18	1.4	---
TOTAL	---	---	---	---	---	42	13676	1244	1793.4	486.9	134.0	47.1
MEAN	---	---	---	---	---	14.0	456	40.1	59.8	15.7	4.32	1.57
MAX	---	---	---	---	---	18	1900	95	328	33	17	2.2
MIN	---	---	---	---	---	10	20	11	6.5	6.9	1.4	1.2

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2001, BY WATER YEAR (WY)

MEAN	1.60	1.21	.58	.35	1.44	23.2	184	42.6	17.3	9.67	3.16	2.59
MAX	5.45	3.94	1.29	.83	30.1	139	461	255	102	62.6	21.6	17.0
(WY)	1981	1971	1971	1967	1981	1966	1970	1974	1970	1970	1957	1970
MIN	.18	.18	.053	.000	.000	.000	4.92	2.34	.44	.18	.010	.090
(WY)	1962	1962	1977	1973	1961	1962	1973	1958	1958	1961	1961	1961

SUMMARY STATISTICS	FOR 2001 WATER YEAR		WATER YEARS 1956 - 2001	
ANNUAL MEAN			21.8	
HIGHEST ANNUAL MEAN			63.2	1974
LOWEST ANNUAL MEAN			1.78	1958
HIGHEST DAILY MEAN	1900	Apr 9	3260	Apr 10 1969
LOWEST DAILY MEAN	1.2	Sep 4	.00	Jan 4 1958
ANNUAL SEVEN-DAY MINIMUM	1.4	Aug 31	.00	Jan 4 1958
MAXIMUM PEAK FLOW	2500	Apr 9	6600	Apr 25 1970
MAXIMUM PEAK STAGE	87.20	Apr 9	13.95	Apr 25 1970
10 PERCENT EXCEEDS	225		28	
50 PERCENT EXCEEDS	14		1.0	
90 PERCENT EXCEEDS	1.5		.12	

e Estimated

05099400 LITTLE SOUTH PEMBINA RIVER NEAR WALHALLA, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2001 to present.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
APR													
06...	1120	376	--	--	--	339	--	2.0	--	--	--	--	--
12...	1105	626	--	--	--	410	9.0	3.5	--	--	--	--	--
18...	1655	302	8.2	--e	603	572	15.0	11.0	200	53.0	17.0	8.10	1
MAY													
02...	1645	64	--	--	--	778	15.5	16.5	--	--	--	--	--
JUN													
26...	1415	53	--	--	--	842	24.0	24.5	--	--	--	--	--
AUG													
10...	0830	3.8	8.4	8.2	944	932	12.0	17.5	330	87.0	28.0	12.0	2

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
APR													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	43.0	31	124	8.9	.2	160	341	418	365	3.0	50	2.00	100
MAY													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
10...	78.0	33	250	16.0	.4	260	6.97	679	632	5.0	110	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR					
06...	--	--	--	--	--
12...	--	--	--	--	--
18...	60.0	.10	3.0	3.0	280
MAY					
02...	--	--	--	--	--
JUN					
26...	--	--	--	--	--
AUG					
10...	30.0	<.10	8.0	4.0	420

e Required equipment not functional/available

05099600 PEMBINA RIVER AT WALHALLA, ND

LOCATION.--Lat 48°54'48", long 97°55'00", in $SW^1/_4NE^1/_4NE^1/_4$ sec.29, T.163 N., R.56 W., Pembina County, Hydrologic Unit 09020313, on southeast corner of State Highway 32 bridge, 0.5 mi south of Walhalla and 7 mi downstream from Little South Pembina River.

DRAINAGE AREA.--3,350 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1939 to September 1990, April 2000 to current year. Prior to October 1963, published as "near Walhalla".

REVISED RECORDS.--WSP 1388: 1943, 1950(P). WSP 1558: 1957. WSP 1728: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 933.34 ft above sea level. Prior to Nov. 10, 1943, nonrecording gage and Nov. 10, 1943, to Sept. 30, 1963, water stage recorder at site 5.5 mi upstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--A peak gage height of 16.53 ft (from floodmark), discharge not determined, occurred on Apr. 25 or 26, 1997. A measured discharge of 22,500 ft^3/s, gage height, 16.20 ft, occurred on Apr. 26, 1997.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	e24	e16	e16	e12	e9.0	e46	2760	733	360	326	96
2	25	e34	e16	e15	e11	e9.0	e80	2650	710	344	294	95
3	25	e48	e16	e15	e10	e9.0	e140	2470	700	324	271	90
4	24	e40	e16	e15	e10	e9.0	e200	2320	678	300	251	86
5	25	e37	e16	e15	e10	e9.0	e380	2180	645	286	238	82
6	25	e32	e16	e15	e10	e9.0	1300	2150	615	277	224	82
7	24	e30	e16	e15	e10	e9.0	3010	2260	588	262	213	85
8	24	e28	e16	e15	e10	e9.0	3140	2110	572	251	209	82
9	23	e26	e16	e15	e10	e9.0	4390	1980	553	249	212	78
10	24	e26	e16	e15	e9.0	e9.0	3830	1910	539	236	201	76
11	25	e26	e16	e15	e9.0	e9.0	3570	1740	531	225	193	75
12	24	e26	e16	e15	e9.0	e9.0	3290	1620	525	216	196	73
13	23	e25	e16	e15	e9.0	e9.0	3120	1510	539	209	185	69
14	23	e24	e16	e15	e9.0	e9.0	3430	1420	522	209	176	67
15	22	e24	e16	e15	e9.0	e9.0	3620	1350	640	198	176	65
16	22	e22	e16	e15	e9.0	e9.0	2730	1280	700	236	168	63
17	22	e22	e16	e15	e9.0	e9.0	2500	1260	681	295	165	61
18	21	e22	e16	e15	e9.0	e9.0	2760	1210	636	288	164	59
19	21	e22	e16	e15	e9.0	e9.5	3080	1160	846	276	161	57
20	20	e22	e16	e15	e9.0	e10	4320	1130	860	253	157	59
21	20	e21	e16	e15	e9.0	e10	5300	1080	901	224	152	57
22	19	e21	e16	e15	e9.0	e11	4490	1040	814	208	146	63
23	19	e20	e16	e15	e9.0	e11	4160	1010	701	196	140	68
24	19	e20	e16	e15	e9.0	e11	3900	990	635	185	136	64
25	20	e19	e16	e15	e9.0	e12	3630	954	579	182	140	64
26	22	e18	e16	e14	e9.0	e13	3470	912	540	175	131	62
27	20	e17	e16	e14	e9.0	e14	3280	882	491	239	124	60
28	19	e16	e16	e14	e9.0	e16	3140	845	464	647	122	57
29	21	e16	e16	e13	---	e18	3050	810	429	546	125	53
30	25	e16	e16	e12	---	e20	2890	778	391	449	129	51
31	22	---	e16	e12	---	e24	---	754	---	374	116	---
TOTAL	694	744	496	455	264.0	341.5	86246	46525	18758	8719	5641	2099
MEAN	22.4	24.8	16.0	14.7	9.43	11.0	2875	1501	625	281	182	70.0
MAX	26	48	16	16	12	24	5300	2760	901	647	326	96
MIN	19	16	16	12	9.0	9.0	46	754	391	175	116	51
AC-FT	1380	1480	984	902	524	677	171100	92280	37210	17290	11190	4160

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2001, BY WATER YEAR (WY)

MEAN	65.8	44.1	21.2	12.0	9.17	124	1094	796	348	171	116	75.5
MAX	600	454	216	120	68.9	1206	4950	4672	1933	814	960	432
(WY)	1995	1995	1995	1995	1995	1995	1995	1974	1974	1970	1995	1944
MIN	.042	.15	.000	.000	.000	.000	49.6	18.8	2.83	.74	.10	.000
(WY)	1940	1941	1941	1940	1940	1940	1977	1940	1940	1940	1961	1940

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1940 - 2001	
ANNUAL TOTAL			170982.5			
ANNUAL MEAN			468		242	
HIGHEST ANNUAL MEAN					1146	1995
LOWEST ANNUAL MEAN					9.77	1940
HIGHEST DAILY MEAN	124	Apr 13	5300	Apr 21	13800	Apr 18 1950
LOWEST DAILY MEAN	16	Nov 28	9.0	Feb 10	.00	Oct 14 1939
ANNUAL SEVEN-DAY MINIMUM	16	Nov 28	9.0	Feb 10	.00	Oct 14 1939
MAXIMUM PEAK FLOW			5870	Apr 20	a 20400	Apr 18 1950
MAXIMUM PEAK STAGE			11.81	Apr 20	b 16.20	Apr 18 1950
ANNUAL RUNOFF (AC-FT)			339100		175200	
10 PERCENT EXCEEDS	90		1550		579	
50 PERCENT EXCEEDS	36		48		39	
90 PERCENT EXCEEDS	16		9.0		2.0	

a From rating curve extended above 7,000 ft^3/s on basis of contracted-opening measurement of discharge
b Present datum
e Estimated

05099600 PEMBINA RIVER AT WALHALLA, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962-90, 1992-95, 2000 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
19...	1500	19	--	--	--	904	20.5	13.0	--	--	--	--	--
NOV													
22...	1105	21	--	--	--	1120	-5.0	.00	--	--	--	--	--
JAN													
25...	1650	15	--	--	--	1100	-5.0	.00	--	--	--	--	--
APR													
06...	0820	945	--	--	--	609	2.0	1.0	--	--	--	--	--
12...	0825	3350	--	--	--	350	6.0	3.0	--	--	--	--	--
18...	1030	2800	8.2	--e	558	564	10.0	6.5	200	49.0	19.0	9.00	1.0
MAY													
01...	1430	2830	--	--	--	451	15.5	15.0	--	--	--	--	--
JUN													
26...	1025	538	--	--	--	832	25.0	23.5	--	--	--	--	--
AUG													
09...	0835	206	--	--	--	820	23.5	21.0	--	--	--	--	--
09...	0915	206	--e	8.0	825	820	23.5	21.0	170	67.0	.020	12.0	2

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	31.0	24	144	9.1	.2	120	2780	368	324	4.0	60	2.00	100
MAY													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
09...	57.0	40	240	16.0	.3	200	316	569	497	6.0	60	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
19...	--	--	--	--	--
NOV					
22...	--	--	--	--	--
JAN					
25...	--	--	--	--	--
APR					
06...	--	--	--	--	--
12...	--	--	--	--	--
18...	50.0	.10	3.0	3.0	250
MAY					
01...	--	--	--	--	--
JUN					
26...	--	--	--	--	--
AUG					
09...	--	--	--	--	--
09...	33.0	<.10	4.0	3.0	360

e Required equipment not functional/available

05100000 PEMBINA RIVER AT NECHE, ND
(International gaging station)

LOCATION.--Lat 48°59'23", long 97°33'24", in $NW^1/_4NW^1/_4$ sec.31, T.164 N., R.53 W., Pembina County, Hydrologic Unit 09020313, on right bank at bridge on State Highway 18 and at northwest corner of Neche.

DRAINAGE AREA.--3,410 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1903 to September 1908, June 1909 to September 1915, April 1919 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1308: 1904-8, 1910-15, 1920, 1921, 1923, 1924. WSP 1388: 1904(M), 1914, 1915(M), 1931(M), 1933, 1938(M). WSP 1728: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 809.69 ft above sea level. From Apr. 18, 1939, to July 21, 1999, at site 0.8 miles downstream at same datum. May 25, 1932, to Apr. 17, 1939, nonrecording gage on bridge on State Highway 18 at same datum. Prior to May 24, 1932, nonrecording gage at Burlington Northern Railway bridge, 0.1 mi upstream, at same datum.

REMARKS.--Records fair except for periods of estimated discharge, which are poor.

COOPERATION.--This station is one of the international gaging stations maintained by the United States under agreement with Canada.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e33	e26	e21	e18	e16	e11	e40	e3050	789	436	391	145
2	e33	e30	e21	e18	e16	e11	e70	e2900	754	405	345	141
3	e32	e35	e20	e18	e16	e11	e130	e2800	726	380	322	135
4	e32	e43	e20	e17	e16	e11	e195	e2700	699	360	303	131
5	e32	e40	e20	e17	e15	e11	e270	e2650	671	341	290	129
6	e31	e37	e19	e17	e14	e11	e610	e2550	641	329	278	124
7	e31	e33	e19	e17	e14	e11	e1400	e2410	615	319	268	119
8	e30	e31	e19	e17	e14	e11	e2800	e2380	592	310	259	120
9	e30	e30	e19	e17	e13	e11	e4000	e2300	570	296	251	119
10	e30	e29	e19	e17	e12	e11	4370	2240	549	286	248	116
11	e30	e29	e19	e17	e12	e11	4130	2150	538	277	242	111
12	e29	e29	e19	e17	e12	e11	4030	1970	529	245	234	110
13	e29	e29	e19	e17	e12	e11	3840	1870	517	238	228	109
14	e28	e30	e19	e17	e12	e11	3710	1760	511	256	226	106
15	e28	e31	e19	e17	e12	e12	3810	1680	507	255	220	102
16	e28	e31	e19	e17	e12	e12	3900	1550	571	264	217	99
17	e27	e30	e19	e17	e12	e12	3120	1480	636	269	213	96
18	e27	e30	e19	e17	e12	e13	2810	1450	644	304	206	95
19	e26	e29	e19	e17	e12	e14	2980	1380	621	314	202	91
20	e26	e28	e19	e17	e12	e16	3270	1320	793	305	197	91
21	e26	e27	e19	e17	e12	e18	3710	1260	818	292	193	93
22	e25	e26	e19	e17	e12	e20	4310	1200	857	272	190	93
23	e25	e25	e19	e17	e12	e21	4330	1160	785	257	185	91
24	e25	e25	e19	e17	e12	e22	4100	1120	680	242	178	96
25	e24	e24	e19	e16	e12	e23	3940	1090	617	232	173	95
26	e24	e23	e19	e16	e12	e24	e3750	1050	574	227	170	90
27	e24	e23	e19	e16	e12	e24	e3600	1000	536	235	167	88
28	e24	e22	e18	e16	e12	e25	e3450	950	516	251	161	87
29	e24	e22	e18	e16	---	e25	e3380	904	498	480	155	85
30	e24	e21	e18	e16	---	e26	e3150	858	469	498	152	80
31	e26	---	e18	e16	---	e28	---	820	---	449	150	---
TOTAL	863	868	592	523	362	489	87205	54002	18823	9624	7014	3187
MEAN	27.8	28.9	19.1	16.9	12.9	15.8	2907	1742	627	310	226	106
MAX	33	43	21	18	16	28	4370	3050	857	498	391	145
MIN	24	21	18	16	12	11	40	820	469	227	150	80
AC-FT	1710	1720	1170	1040	718	970	173000	107100	37340	19090	13910	6320

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2001, BY WATER YEAR (WY)

MEAN	75.8	49.1	23.9	12.6	9.13	107	931	740	348	191	115	80.6
MAX	643	486	261	120	65.8	1216	4713	4770	1894	1509	946	648
(WY)	1995	1995	1995	1995	1995	1995	1998	1997	1999	1997	1993	1993
MIN	.000	.000	.000	.000	.000	.000	24.7	11.8	6.56	.000	.000	.000
(WY)	1939	1939	1939	1933	1933	1936	1939	1939	1940	1940	1939	1938

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1903 - 2001	
ANNUAL TOTAL	21949		183552			
ANNUAL MEAN	60.0		503		226	
HIGHEST ANNUAL MEAN					1116	1995
LOWEST ANNUAL MEAN					3.96	1939
HIGHEST DAILY MEAN	208	Mar 22	4370	Apr 10	14300	Apr 27 1997
LOWEST DAILY MEAN	18	Dec 28	11	Mar 1	.00	Feb 1 1932
ANNUAL SEVEN-DAY MINIMUM	18	Dec 25	11	Mar 1	.00	Feb 1 1932
MAXIMUM PEAK FLOW			a 4420	Apr 22	15100	Apr 27 1997
MAXIMUM PEAK STAGE			b 19.97	Apr 9	b 24.51	Apr 21 1997
ANNUAL RUNOFF (AC-FT)	43540		364100		163500	
10 PERCENT EXCEEDS	129		1800		510	
50 PERCENT EXCEEDS	44		43		43	
90 PERCENT EXCEEDS	24		13		1.3	

a Gage height, 19.03 ft
b Backwater from ice
e Estimated

05100000 PEMBINA RIVER AT NECHE, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
18...	1635	27	--	--	--	940	16.0	12.0	--	--	--	--	--
DEC													
06...	1440	19	--	--	--	1190	--	.00	--	--	--	--	--
JAN													
19...	0955	17	--	--	--	1160	-9.5	.00	--	--	--	--	--
MAR													
15...	1105	12	--	--	--	1060	-0.5	.00	--	--	--	--	--
APR													
05...	1655	270	--	--	--	972	4.5	1.5	--	--	--	--	--
13...	0800	3790	--	--	--	380	3.5	4.0	--	--	--	--	--
17...	1645	3040	8.1	--e	504	461	5.5	6.5	180	45.0	16.0	7.20	.8
24...	1035	4100	--	--	--	432	9.5	6.0	--	--	--	--	--
MAY													
02...	1320	2910	--	--	--	454	15.0	15.5	--	--	--	--	--
JUN													
27...	1455	526	--	--	--	831	23.0	23.0	--	--	--	--	--
AUG													
09...	1425	245	8.4	8.3	843	837	21.0	23.5	340	77.0	35.0	12.0	1

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	25.0	22	138	7.9	.2	98.0	2650	323	283	4.0	70	2.00	100
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
09...	56.0	26	252	16.0	.3	210	405	613	558	7.0	40	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
18...	--	--	--	--	--
DEC					
06...	--	--	--	--	--
JAN					
19...	--	--	--	--	--
MAR					
15...	--	--	--	--	--
APR					
05...	--	--	--	--	--
13...	--	--	--	--	--
17...	50.0	.10	5.0	3.0	230
24...	--	--	--	--	--
MAY					
02...	--	--	--	--	--
JUN					
27...	--	--	--	--	--
AUG					
09...	10.0	.10	5.0	3.0	350

e Required equipment not functional/available

05101000 TONGUE RIVER AT AKRA, ND

LOCATION.--Lat 48°46'42", long 97°44'43", in SW$^{1}/_{4}$ sec.10, T.161 N., R.55 W., Pembina County, Hydrologic Unit 09020313, on left bank 300 ft downstream from Renwick Dam, 0.9 mi northwest of Akra, and 6 mi west of Cavalier.

DRAINAGE AREA.--160 mi^{2}.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April to June 1950 (WSP 1137-B), October 1951 to current year (seasonal record since 1983).

REVISED RECORDS.--WSP 1728: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 930.00 ft above sea level. Prior to July 10, 1954, nonrecording gage 1.2 mi downstream at datum 30.00 ft lower. July 23, 1954, to Dec. 19, 1973, water stage recorder 2.7 mi downstream at datum 9.10 ft lower.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow regulated by temporary retention in ten retarding basins beginning 300 ft above station, four of which have slow release outlet structures to regulate the flow. Retarding basins were completed during the period l955 to l961 and have a combined capacity of l9,245 acre-ft.

EXTREMES FOR CURRENT YEAR.--Maximum instantaneous discharge, 413 ft^{3}/s, Apr. 9, gage height, 13.80 ft; minimum daily discharge, 5.5 ft^{3}/s, July 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e8.6	30	117	13	14	13	7.0
2	---	---	---	---	---	e8.6	29	107	12	13	13	7.0
3	---	---	---	---	---	e8.6	29	93	11	13	15	6.5
4	---	---	---	---	---	e8.6	29	82	10	12	15	6.3
5	---	---	---	---	---	e8.6	36	74	9.8	11	14	6.3
6	---	---	---	---	---	e8.6	106	78	e9.0	11	13	6.2
7	---	---	---	---	---	e8.6	288	119	8.6	10	12	6.1
8	---	---	---	---	---	e8.6	396	117	8.7	9.8	11	6.0
9	---	---	---	---	---	e8.6	409	116	10	9.4	9.9	6.0
10	---	---	---	---	---	e8.6	407	93	10	9.0	9.0	6.0
11	---	---	---	---	---	e8.6	391	74	10	8.6	8.8	6.1
12	---	---	---	---	---	e8.7	373	60	10	6.8	8.8	6.1
13	---	---	---	---	---	e9.0	368	51	13	5.6	8.7	6.2
14	---	---	---	---	---	e9.3	371	45	15	5.6	8.9	6.2
15	---	---	---	---	---	e9.6	362	38	20	5.5	9.0	6.1
16	---	---	---	---	---	e10	338	9.2	25	5.9	8.8	6.1
17	---	---	---	---	---	e11	307	12	28	6.9	8.5	6.1
18	---	---	---	---	---	e12	279	14	28	8.4	8.2	6.1
19	---	---	---	---	---	e13	259	15	32	12	8.2	6.1
20	---	---	---	---	---	e14	263	16	44	12	8.3	6.5
21	---	---	---	---	---	e15	296	16	54	11	8.5	6.7
22	---	---	---	---	---	e16	296	16	58	11	8.7	7.2
23	---	---	---	---	---	e18	262	17	52	9.3	9.8	7.6
24	---	---	---	---	---	e20	214	18	43	8.7	12	7.5
25	---	---	---	---	---	e22	182	19	35	8.0	13	7.2
26	---	---	---	---	---	e24	162	19	29	7.7	11	6.8
27	---	---	---	---	---	e26	150	20	25	9.1	9.8	6.6
28	---	---	---	---	---	e28	141	19	21	11	8.7	6.3
29	---	---	---	---	---	32	133	17	19	12	8.1	6.2
30	---	---	---	---	---	31	123	15	16	12	7.7	6.0
31	---	---	---	---	---	31	---	14	---	13	7.2	---
TOTAL	---	---	---	---	---	454.2	7029	1520.2	679.1	302.3	315.6	193.1
MEAN	---	---	---	---	---	14.7	234	49.0	22.6	9.75	10.2	6.44
MAX	---	---	---	---	---	32	409	119	58	14	15	7.6
MIN	---	---	---	---	---	8.6	29	9.2	8.6	5.5	7.2	6.0
AC-FT	---	---	---	---	---	901	13940	3020	1350	600	626	383

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2001, BY WATER YEAR (WY)

MEAN	6.29	6.76	4.46	3.16	3.60	24.0	122	63.3	18.9	15.3	7.56	6.40
MAX	30.1	22.7	12.9	7.27	18.7	135	451	587	78.7	216	144	28.3
(WY)	1981	1981	1971	1971	1981	1966	1950	1950	1964	1997	1993	1980
MIN	.51	.56	.065	.51	.24	.22	.43	1.63	.47	.086	.21	.096
(WY)	1962	1976	1953	1953	1953	1964	1991	1980	1988	1978	1988	1989

SUMMARY STATISTICS	WATER YEARS 1950 - 2001	
ANNUAL MEAN	a 21.4	
HIGHEST ANNUAL MEAN	a 50.1	1956
LOWEST ANNUAL MEAN	a 3.11	1961
HIGHEST DAILY MEAN	5240	Apr 18 1950
LOWEST DAILY MEAN	.00	Dec 1 1952
ANNUAL SEVEN-DAY MINIMUM	.00	Dec 1 1952
MAXIMUM PEAK FLOW	b 11800	Apr 18 1950
MAXIMUM PEAK STAGE	c 48.70	Apr 18 1950
ANNUAL RUNOFF (AC-FT)	a 15480	
10 PERCENT EXCEEDS	52	
50 PERCENT EXCEEDS	5.0	
90 PERCENT EXCEEDS	.80	

a Based on complete water years only (1952-82)
b From indirect mesurement of flow
c From floodmarks, site and datum then in use
e Estimated

05101000 TONGUE RIVER AT AKRA, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
APR													
11...	1730	395	--	--	--	320	8.5	2.0	--	--	--	--	--
19...	1035	278	8.1	--e	390	354	10.0	6.0	140	41.0	10.0	4.80	.7
MAY													
08...	1340	142	--	--	--	539	10.0	14.5	--	--	--	--	--
JUN													
27...	1055	24	--	--	--	638	19.5	20.5	--	--	--	--	--
AUG													
08...	1435	10	8.5	8.1	634	628	30.0	28.5	260	68.0	22.0	6.00	.9

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
APR													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
19...	20.0	23	115	7.4	.2	61.0	200	267	214	2.0	90	2.00	100
MAY													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
08...	33.0	21	222	11.0	.3	110	12.4	442	384	8.0	130	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR					
11...	--	--	--	--	--
19...	110	.10	2.0	3.0	170
MAY					
08...	--	--	--	--	--
JUN					
27...	--	--	--	--	--
AUG					
08...	90.0	<.10	3.0	3.0	290

e Required equipment not functional/available

05102490 RED RIVER OF THE NORTH AT PEMBINA, ND

LOCATION.--Lat 48°58'17", long 97°14'16", in NE$^{1}/_{4}$ sec.4, T.163 N., R.51 W., Pembina County, Hydrologic Unit 09020311, at bridge crossing the Red River 0.1 mi north of Pembina.

DRAINAGE AREA.--Approximately 40,200 mi^{2}, includes 3,800 mi^{2} in closed basins.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1994 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
APR 24...	1330	55600	8.0	7.8	448	418	17.0	7.0	190	46.0	19.0	8.00	.4

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
APR 24...	14.0	13	147	13.0	.2	77.0	45300	302	266	3.0	60	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR 24...	20.0	.10	2.0	3.0	160

05102500 RED RIVER OF THE NORTH AT EMERSON, MANITOBA
(International gaging station)

LOCATION.--Lat 49°00'30", long 97°12'40", in sec.2, T.1, R.2 E., Hydrologic Unit 09020311, on right bank 1,500 ft downstream from Canadian National Railway bridge in Emerson, 0.8 mi downstream from international boundary, 3.6 mi downstream from Pembina River, and at mile 154.3.

DRAINAGE AREA.--40,200 mi^2, approximately, includes 3,800 mi^2 in closed basins.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March to November 1902 (gage heights only), May 1912 to September 1929 (monthly discharge only, published in WSP 1308), October 1929 to current year.

GAGE.--Water-stage recorder. Datum of gage is Geodetic Survey of Canada Datum of 1929. See WSP 1728 or 1913 for history of changes prior to Apr. 10, 1953.

COOPERATION.--This station is one of the international gaging stations maintained by Canada under agreement with the United States. Records provided by Water Survey of Canada.

REMARKS.--At the time of publication of this report, there remained some question about discharges during the high-flow period between mid-April and mid-May. If subsequent study determines a substantial change from published figures is necessary, a revision will be published with the 1998 water year data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2500	4630	e5790	e2840	e2560	e2340	e9430	51600	13800	9360	13100	3420
2	2550	5010	e5860	e2810	e2550	e2330	e9920	49800	13700	8830	14200	3230
3	2570	5650	e5650	e2790	e2540	e2330	e10800	48000	13500	8300	15000	3080
4	2550	6710	e5790	e2760	e2540	e2320	e12900	46300	13200	7840	15900	2970
5	2520	8510	e5970	e2730	e2540	e2320	e16100	44800	13000	7450	16500	2880
6	2460	10700	e5900	e2690	e2540	e2310	e20500	43400	12700	7100	16400	2800
7	2400	13500	e5690	e2670	e2530	e2310	e24900	42400	12500	6820	15800	2770
8	2370	17300	e5400	e2670	e2500	e2320	e28700	41300	12000	6570	14500	2770
9	2330	19900	e5090	e2690	e2480	e2330	e32300	40600	11500	6390	13100	2790
10	2290	21900	e4730	e2720	e2470	e2330	34900	39900	11000	6220	11700	2890
11	2240	23500	e4450	e2770	e2470	e2330	36400	38800	10600	6040	10500	3020
12	2230	24600	e4200	e2780	e2480	e2330	37800	38100	10200	5900	9500	3110
13	2230	25400	e4030	e2750	e2480	e2330	38800	37100	9820	5720	8930	3150
14	2240	25800	e3880	e2720	e2480	e2330	40300	36000	9460	5580	8720	3150
15	2250	25600	e3780	e2680	e2470	e2390	41700	34500	9390	5440	8480	3080
16	2260	24600	e3710	e2670	e2450	e2430	43100	32900	9640	5580	8120	2950
17	2260	23200	e3600	e2670	e2430	e2500	44800	31200	10000	5970	7700	2800
18	2280	21300	e3520	e2680	e2420	e2580	47000	29100	10500	5830	7240	2680
19	2320	19000	e3400	e2680	e2420	e2690	49100	26700	11300	5930	6890	2590
20	2380	16400	e3290	e2680	e2420	e2860	51200	24200	12000	5900	6570	2510
21	2520	e13700	e3180	e2680	e2420	e3210	52600	21600	12400	5970	6250	2450
22	2720	e10700	e3080	e2670	e2410	e3640	54400	19100	12500	5970	5930	2430
23	2930	e7490	e3010	e2650	e2400	e4100	56200	17000	12500	5900	5540	2390
24	3110	5930	e2960	e2630	e2390	e4770	57200	15200	12200	5860	5190	2350
25	3260	5370	e2920	e2620	e2380	e5510	57600	13800	11800	5970	4910	2320
26	3370	5120	e2890	e2600	e2370	e6360	57200	13100	11400	6140	4660	2310
27	3450	5190	e2870	e2580	e2370	e7130	56500	12900	11100	6500	4480	2320
28	3530	e5400	e2850	e2580	e2350	e7700	55800	12900	10700	9610	4310	2330
29	3670	e5470	e2850	e2580	---	e8050	54700	13100	10300	11800	4130	2330
30	3880	e5690	e2850	e2580	---	e8400	53300	13500	9850	12400	3880	2330
31	4240	---	e2850	e2580	---	e8930	---	13700	---	12000	3640	---
TOTAL	83910	413270	126040	83200	68860	115810	1186150	942600	344560	220890	281770	82200
MEAN	2707	13780	4066	2684	2459	3736	39540	30410	11490	7125	9089	2740
MAX	4240	25800	5970	2840	2560	8930	57600	51600	13800	12400	16500	3420
MIN	2230	4630	2850	2580	2350	2310	9430	12900	9390	5440	3640	2310
AC-FT	166400	819700	250000	165000	136600	229700	2353000	1870000	683400	438100	558900	163000

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 2001, BY WATER YEAR (WY)

MEAN	1639	1581	1118	891	852	2586	14030	9679	5413	4519	2253	1790
MAX	6015	13780	4257	2684	2459	20490	48890	72820	25430	28020	27000	11480
(WY)	1995	2001	1999	2001	2001	1998	1997	1950	1962	1975	1993	1999
MIN	28.6	23.8	33.4	7.05	1.21	2.25	1282	663	196	121	46.6	23.8
(WY)	1937	1937	1937	1937	1937	1937	1938	1934	1934	1936	1934	1934

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1912 - 2001	
ANNUAL TOTAL	2388150		3949260			
ANNUAL MEAN	6525		10820		3874	
HIGHEST ANNUAL MEAN					12830	1997
LOWEST ANNUAL MEAN					333	1934
HIGHEST DAILY MEAN	31800	Jul 2	57600	Apr 25	133000	Apr 26 1997
LOWEST DAILY MEAN	1610	Feb 21	2230	Oct 12	.90	Feb 6 1937
ANNUAL SEVEN-DAY MINIMUM	1620	Feb 18	2240	Oct 11	.97	Feb 4 1937
MAXIMUM PEAK FLOW			58300	Apr 25	133000	Apr 26 1997
MAXIMUM PEAK STAGE			787.65	Apr 25	792.41	Apr 26 1997
INSTANTANEOUS LOW FLOW					.90	Feb 6 1937
ANNUAL RUNOFF (AC-FT)	4737000		7833000		2806000	
10 PERCENT EXCEEDS	16400		33500		8830	
50 PERCENT EXCEEDS	4240		5440		1540	
90 PERCENT EXCEEDS	1940		2380		280	

e Estimated

05113360 LONG CREEK AT WESTERN CROSSING OF INTERNATIONAL BOUNDARY, SASKATCHEWAN
(International gaging station)

LOCATION.--Lat 49°00'01", long 103°21'08", in SE$^{1}/_{4}$ sec.1, T.1, R.11 W., second meridian, Hydrologic Unit 09010001, on right bank 10 mi south of Outram, Saskatchewan.

DRAINAGE AREA.--1,320 mi^{2}.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1959 to current year.

GAGE.--Water-stage recorder and artificial control. Datum of gage is 1,894.00 ft above sea level (international boundary survey).

REMARKS.--Records good.

COOPERATION.--This station is one of the international gaging stations maintained by Canada under agreement with the United States. Records provided by the Water Survey of Canada.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	2.8	e2.4	e1.2	e.60	e738	44	6.2	1.8	14	.00
2	.00	.78	2.7	e2.3	e1.1	e.60	e738	41	5.9	1.6	12	.00
3	.00	.39	2.7	e2.3	e1.2	e.60	e660	37	5.2	1.3	11	.00
4	.00	.60	2.6	e2.3	e1.2	e.60	e653	33	5.0	1.1	9.3	.00
5	.00	.88	2.7	e2.1	e1.2	e.60	e607	29	5.7	.88	8.0	.00
6	.00	.74	2.5	e2.1	e1.2	e.60	e636	27	6.2	1.6	7.0	.00
7	.00	.78	2.6	e2.0	e1.1	e.60	e530	24	6.4	1.1	6.0	.00
8	.00	1.1	2.5	e2.0	e1.1	e.60	e484	22	5.7	.81	5.6	.00
9	.00	1.5	2.7	e2.0	e1.1	e.60	431	19	4.9	.67	4.9	.00
10	.00	1.3	2.6	e2.0	e1.0	e.64	392	18	4.8	.53	4.3	.00
11	.00	1.2	2.5	e1.9	e.99	e.64	348	16	5.0	.60	3.0	.00
12	.00	1.4	2.4	e1.9	e.92	e.64	302	16	5.0	.67	2.3	.00
13	.00	1.2	2.6	e1.8	e.88	e.74	267	15	4.9	.64	2.8	.00
14	.00	1.2	2.5	e1.8	e.81	e.78	241	14	5.2	.60	2.2	.00
15	.00	1.2	2.4	e1.8	e.85	e.78	215	13	5.3	.56	1.3	.00
16	.00	1.3	2.5	e1.7	e.81	e.85	174	11	5.3	.85	.78	.00
17	.00	1.4	2.2	e1.8	e.74	e1.0	136	11	5.3	3.0	.56	.00
18	.00	1.3	2.6	e1.8	e.74	e1.6	119	10	5.2	58	.35	.00
19	.00	1.2	2.5	e1.6	e.74	e177	107	9.7	5.2	26	.25	.00
20	.00	1.0	2.4	e1.6	e.71	e706	117	9.0	4.8	14	.21	.00
21	.00	.99	2.3	e1.5	e.67	e1340	116	8.8	4.2	48	.18	.00
22	.00	1.0	2.2	e1.5	e.67	1660	106	8.1	3.6	133	.14	.00
23	.00	1.1	2.2	e1.5	e.64	1410	94	7.5	3.2	107	.07	.00
24	.00	1.2	2.4	e1.5	e.60	1290	83	7.0	2.8	84	.07	.00
25	.00	1.3	2.4	e1.5	e.60	989	73	6.8	2.6	63	.04	.00
26	.00	1.4	2.3	e1.3	e.56	992	67	6.6	2.4	47	.00	.00
27	.00	1.7	2.4	e1.3	e.56	883	61	6.4	3.2	36	.00	.00
28	.00	2.2	2.5	e1.2	e.56	731	57	6.0	3.6	27	.00	.00
29	.00	2.2	2.5	e1.3	---	586	53	5.7	2.8	22	.00	.00
30	.00	2.6	2.4	e1.3	---	784	48	6.2	2.2	17	.00	.00
31	.00	---	2.4	e1.2	---	703	---	6.1	---	14	.00	---
TOTAL	0.00	36.16	77.0	54.3	24.45	12264.07	8653	493.9	137.8	714.31	96.35	0.00
MEAN	.000	1.21	2.48	1.75	.87	396	288	15.9	4.59	23.0	3.11	.000
MAX	.00	2.6	2.8	2.4	1.2	1660	738	44	6.4	133	14	.00
MIN	.00	.00	2.2	1.2	.56	.60	48	5.7	2.2	.53	.00	.00
AC-FT	.00	72	153	108	48	24330	17160	980	273	1420	191	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2001, BY WATER YEAR (WY)

MEAN	.96	.32	.24	.12	1.22	85.2	198	52.1	27.9	29.5	6.13	2.61
MAX	25.1	4.17	2.75	1.75	26.5	545	1052	578	360	415	115	61.4
(WY)	1979	1979	1994	2001	1981	1994	1979	1970	1976	1978	1993	1978
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1960	1960	1960	1960	1960	1964	1961	1961	1961	1961	1960	1960

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1960 - 2001	
ANNUAL TOTAL	1323.59		22551.34			
ANNUAL MEAN	3.62		61.8		33.7	
HIGHEST ANNUAL MEAN					150	1976
LOWEST ANNUAL MEAN					.000	1988
HIGHEST DAILY MEAN	27	Jul 20	1660	Mar 22	4350	Apr 1 1976
LOWEST DAILY MEAN	.00	Sep 17	.00	Oct 1	.00	Oct 1 1959
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 17	.00	Oct 1	.00	Oct 1 1959
MAXIMUM PEAK FLOW					4690	Apr 1 1976
MAXIMUM PEAK STAGE			11.53	Mar 21	12.05	Apr 1 1976
ANNUAL RUNOFF (AC-FT)	2630		44730		24390	
10 PERCENT EXCEEDS	11		106		35	
50 PERCENT EXCEEDS	1.7		1.8		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated

05113600 LONG CREEK NEAR NOONAN, ND
(International gaging station)

LOCATION.--Lat 48°58'52", long 103°04'34", near north line of NE$^{1}/_{4}$ sec.1, T.163 N., R.96 W., Divide County, Hydrologic Unit 09010001, on right bank 150 ft upstream from county highway bridge, 1.5 mi upstream from international boundary, and 7 mi northwest of Noonan.

DRAINAGE AREA.--1,790 mi^2, approximately, of which about 1,160 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1959 to current year.

REVISED RECORDS.--WSP 2113: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,840 ft above sea level, from topographic map. Prior to Aug. 18, 1960, nonrecording gage at same site and datum.

REMARKS.--Records good except for periods of estimated discharge, which are fair.

COOPERATION.--This station is one of the international gaging stations maintained by the United States under agreement with Canada.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.13	3.0	4.5	e2.0	e1.7	e1.1	1160	54	9.9	7.4	e18	.00
2	.18	8.8	4.8	e1.9	e1.8	e1.2	1070	50	9.3	6.4	e16	.00
3	.19	4.5	4.8	e1.8	e1.9	e1.2	960	45	8.2	5.8	15	.00
4	.27	3.6	e4.5	e1.8	e2.0	e1.1	724	42	8.1	5.2	14	.00
5	.36	3.7	e4.1	e1.8	e1.9	e1.1	739	38	8.3	4.6	12	.00
6	.40	4.1	e4.0	e1.8	e1.9	e1.1	804	35	9.0	4.7	10	.00
7	.37	3.7	e4.0	e1.9	e1.8	e1.1	752	34	9.2	4.3	8.1	.00
8	.46	2.2	e3.5	e2.0	e1.8	e1.2	635	30	8.8	3.9	7.2	.00
9	.43	1.8	e3.0	e2.1	e1.7	e1.2	535	26	8.3	4.0	6.4	.00
10	.45	1.5	e2.9	e2.1	e1.6	e1.3	481	26	8.9	3.5	6.5	.01
11	.38	1.9	e3.0	e2.0	e1.6	e1.3	455	24	8.6	3.5	5.5	.05
12	.36	e2.5	e3.0	e2.0	e1.5	e1.4	420	22	8.0	3.6	4.4	e.06
13	.33	e3.0	e3.0	e1.9	e1.5	e1.6	366	22	8.7	3.5	3.8	e.06
14	.36	e2.7	e3.0	e1.9	e1.4	e1.7	331	20	8.8	3.2	3.4	e.06
15	.48	5.2	e3.0	e1.8	e1.4	e1.8	300	20	9.3	2.9	2.7	e.07
16	.39	5.0	e3.1	e1.9	e1.4	e2.0	263	19	8.9	e3.1	1.9	e.07
17	.50	4.9	e3.2	e1.8	e1.5	e3.5	215	18	8.9	e3.8	1.9	e.07
18	.56	4.8	e3.3	e1.8	e1.4	e8.0	180	17	8.5	e4.4	1.4	e.08
19	.47	4.2	e3.2	e1.8	e1.4	e65	158	16	7.9	33	1.6	e.08
20	.41	4.0	e3.0	e1.9	e1.3	e660	157	16	7.4	e70	1.3	e.08
21	.45	3.7	e2.8	e1.9	e1.3	e1700	160	16	7.2	e40	1.1	e.09
22	.43	3.5	e2.6	e2.0	e1.2	e2100	156	14	6.8	e20	1.0	e.09
23	.45	3.6	e2.5	e1.9	e1.2	e1900	147	13	6.2	e90	.71	e.10
24	.46	3.9	e2.5	e1.9	e1.1	e1700	130	12	5.5	e150	.62	e.10
25	.48	5.2	e2.5	e1.8	e1.1	e1500	112	12	5.3	e90	.47	e.10
26	.75	5.3	e2.5	e1.8	e1.0	e1350	95	11	4.9	e60	.31	e.11
27	.66	4.7	e2.5	e1.7	e1.0	e1200	83	11	7.6	e50	.17	.15
28	.68	4.7	e2.5	e1.8	e1.1	e970	74	11	9.7	e35	.17	.35
29	.75	4.1	e2.5	e1.8	---	e850	68	10	12	e25	.05	.47
30	.94	4.6	e2.4	e1.9	---	e900	60	10	9.5	e22	.00	.44
31	1.9	---	e2.2	e1.8	---	e1000	---	10	---	e20	.00	---
TOTAL	15.43	118.4	98.4	58.3	41.5	15927.9	11790	704	247.7	782.8	145.70	2.69
MEAN	.50	3.95	3.17	1.88	1.48	514	393	22.7	8.26	25.3	4.70	.090
MAX	1.9	8.8	4.8	2.1	2.0	2100	1160	54	12	150	18	.47
MIN	.13	1.5	2.2	1.7	1.0	1.1	60	10	4.9	2.9	.00	.00
AC-FT	31	235	195	116	82	31590	23390	1400	491	1550	289	5.3

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2001, BY WATER YEAR (WY)

MEAN	1.54	.87	.65	.42	2.83	109	258	65.4	33.4	38.5	7.99	3.46
MAX	31.0	7.17	4.35	5.11	71.3	600	1396	728	376	452	131	77.2
(WY)	1979	1979	1976	1976	1981	1994	1979	1970	1976	1978	1993	1978
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1960	1961	1961	1961	1961	1965	1990	1990	1961	1961	1960	1960

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1960 - 2001	
ANNUAL TOTAL	2154.53		29932.82			
ANNUAL MEAN	5.89		82.0		43.4	
HIGHEST ANNUAL MEAN					200	1976
LOWEST ANNUAL MEAN					.017	1988
HIGHEST DAILY MEAN	33	Jun 17	2100	Mar 22	5710	Apr 1 1976
LOWEST DAILY MEAN	.13	Oct 1	.00	Aug 30	.00	Oct 1 1959
ANNUAL SEVEN-DAY MINIMUM	.21	Sep 28	.00	Aug 30	.00	Oct 1 1959
MAXIMUM PEAK FLOW			2350	Mar 22	6310	Mar 31 1976
MAXIMUM PEAK STAGE			a 14.13	Mar 22	17.61	Mar 31 1976
ANNUAL RUNOFF (AC-FT)	4270		59370		31460	
10 PERCENT EXCEEDS	16		137		48	
50 PERCENT EXCEEDS	3.4		3.1		.40	
90 PERCENT EXCEEDS	.46		.29		.00	

a Backwater from ice
e Estimated

05113600 LONG CREEK NEAR NOONAN, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
19...	1345	.47	--	--	--	2300	15.0	9.7	--	--	--	--	--
NOV													
15...	1200	5.5	--	--	--	1720	-6.0	.2	--	--	--	--	--
JAN													
04...	1235	1.8	--	--	--	2530	2.5	.00	--	--	--	--	--
MAR													
20...	1315	653	--	--	--	691	5.5	.1	--	--	--	--	--
22...	1230	2120	7.7	--e	404	407	-2.0	.1	100	21.0	12.0	13.0	1
29...	1300	816	--	--	--	535	3.7	.1	--	--	--	--	--
APR													
05...	1230	723	--	--	--	517	8.0	.5	--	--	--	--	--
12...	1130	426	--	--	--	703	2.8	5.0	--	--	--	--	--
24...	1200	129	--	--	--	1240	16.0	9.8	--	--	--	--	--
JUN													
08...	1500	9.1	--	--	--	1370	19.0	14.7	--	--	--	--	--
JUL													
18...	1345	4.4	8.3	--e	1690	1690	27.0	25.8	490	78.0	72.0	14.0	4
AUG													
02...	1800	16	--	--	--	968	29.0	26.0	--	--	--	--	--
SEP													
26...	1545	.10	--	--	--	1150	23.0	17.0	--	--	--	--	--

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	33.0	38	90	8.0	.1	100	1480	259	242	3.0	370	<1.00	20.0
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
18...	190	45	276	28.0	.2	630	14.6	1230	1180	7.0	80	2.00	100
AUG													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--

05113600 LONG CREEK NEAR NOONAN, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY DISSOLVED (UG/L AS HG) (71890)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)
OCT					
19...	--	--	--	--	--
NOV					
15...	--	--	--	--	--
JAN					
04...	--	--	--	--	--
MAR					
20...	--	--	--	--	--
22...	100	<.10	<1.0	2.0	130
29...	--	--	--	--	--
APR					
05...	--	--	--	--	--
12...	--	--	--	--	--
24...	--	--	--	--	--
JUN					
08...	--	--	--	--	--
JUL					
18...	70.0	<.10	2.0	3.0	420
AUG					
02...	--	--	--	--	--
SEP					
26...	--	--	--	--	--

e Required equipment not functional/available

05113750 EAST BRANCH SHORT CREEK RESERVOIR NEAR COLUMBUS, ND

LOCATION.--Lat 48°59'26", long 102°47'07", in $SW^{1}/_{4}NW^{1}/_{4}$ sec.32, T.164 N., R.93 W., Burke County, Hydrologic Unit 09010001, on left bank of reservoir on East Branch Short Creek, 0.5 mi south of international boundary, and 6.0 mi north of Columbus.

DRAINAGE AREA.--280 mi^2, of which 175 mi^2 is probably noncontributing.

MONTHEND-GAGE HEIGHT AND CONTENTS RECORDS

PERIOD OF RECORD.--April 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,860.00 ft above sea level.

REMARKS.--Records good except for estimated periods, which are fair. Reservoir is formed by earth-fill dam; storage began April 1963. Outlet of lake is a fixed-crest concrete dam; average crest elevation, 1,886.90 ft above sea level. Reservoir capacity at crest elevation, 1,200 acre-ft. The reservoir is operated for water supply and recreation. Records of daily reservoir stage and contents are available from files at the Bismarck District office.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,850 acre-ft, Mar. 28, 1976, gage height, 32.13 ft; minimum, 770 acre-ft, Dec. 10, 1988, gage height, 22.57 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,350 acre-ft, Mar. 22, gage height, 28.22 ft; minimum contents, 1,080 acre-ft, Sept. 25, 26, gage height, 25.94 ft.

MONTHEND GAGE HEIGHT AND CONTENTS AT 2400, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

Date	Gage height (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	26.22	1,110	--
Oct. 31	26.20	1,110	0
Nov. 30	26.64	1,160	+50
Dec. 31	26.68	1,160	0
CAL YR 2000	--	--	-40
Jan. 31	26.89	1,190	+30
Feb. 28	*26.84	1,180	-10
Mar. 31	27.61	1,270	+90
Apr. 30	27.32	1,240	-30
May 31	27.00	1,200	-40
June 30	27.11	1,210	+10
July 31	27.18	1,220	+10
Aug. 31	26.27	1,120	-100
Sept.30	25.96	1,090	-30
WTR YR 2001	--	--	-20

* Estimated

05113800 SHORT CREEK BELOW INTERNATIONAL BOUNDARY NEAR ROCHE PERCEE, SASKATCHEWAN
(International gaging station)

LOCATION.--Lat 49°01'42", long 102°51'00", in SW$^{1}/_{4}$ sec.14, T.1, R.7 W., second meridian, Hydrologic Unit 09010001, 4 mi southwest of Roche Percee, Saskatchewan, and 5 mi upstream from mouth.

DRAINAGE AREA.--480 mi^{2}.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder.

COOPERATION.--This station is one of the international gaging stations maintained by Canada under agreement with the United States.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04	.42	e.32	e.04	e.04	e.18	e56	6.6	.14	.11	15	.04
2	.04	e.42	e.32	e.04	e.04	e.21	e50	5.2	.11	.11	10	.04
3	.04	e.28	e.32	e.04	e.04	e.28	42	4.1	.11	.07	7.3	.04
4	.04	e.28	e.35	e.04	e.04	e.35	38	3.4	.11	.04	5.2	.04
5	.04	e.25	e.32	e.04	e.04	e.64	39	2.9	.11	.04	4.2	.04
6	.04	e.21	e.32	e.04	e.04	e.71	43	2.3	.14	.11	3.4	.04
7	.04	e.25	e.28	e.04	e.04	e1.1	48	1.9	.14	.11	2.6	.04
8	.04	e.25	e.28	e.04	e.04	e1.3	65	1.6	.11	.07	2.2	.04
9	.04	e.25	e.28	e.04	e.04	e1.6	64	1.6	.11	.07	1.9	.04
10	.04	e.28	e.28	e.04	e.04	e1.5	61	1.4	.18	.07	1.7	.04
11	.04	e.46	e.28	e.04	e.07	e2.4	55	1.2	.18	.07	1.6	.04
12	.04	e.85	e.21	e.04	e.18	e2.9	46	1.1	.18	.14	1.2	.04
13	.04	e.78	e.18	e.04	e.14	e4.8	40	1.2	.18	.14	.81	.04
14	.04	e.67	e.14	e.04	e.07	e5.8	35	1.2	.21	.25	.64	.04
15	.04	e.56	e.18	e.04	e.07	e4.9	30	1.2	.25	.49	.49	.04
16	.04	e.46	e.14	e.04	e.07	e9.1	25	1.2	.28	.14	.42	.04
17	.04	e.42	e.14	e.04	e.07	e173	22	1.2	.32	.11	.42	.04
18	.04	e.39	e.14	e.04	e.07	e226	21	1.2	.25	.21	.39	.04
19	.04	e.32	e.14	e.04	e.07	e385	19	.78	.25	.21	.35	.07
20	.04	e.35	e.11	e.04	e.07	e294	19	.60	.18	.21	.35	.07
21	.04	e.49	e.11	e.04	e.07	e272	17	.71	.21	.32	.39	.04
22	.04	e.53	e.11	e.04	e.07	e201	18	.67	.18	.25	.32	.04
23	.04	e.46	e.07	e.04	e.07	e125	20	.49	.11	8.8	.25	.04
24	.04	e.39	e.07	e.04	e.07	e110	18	.49	.07	38	.21	.04
25	.00	e.35	e.04	e.04	e.07	e95	16	.46	.07	29	.25	.04
26	.04	e.32	e.04	e.04	e.07	e65	14	.39	.11	23	.18	.04
27	.04	e.32	e.04	e.04	e.11	e46	12	.28	.28	21	.18	.04
28	.04	e.32	e.04	e.04	e.14	e41	9.6	.21	.21	23	.07	.04
29	.11	e.32	e.04	e.04	---	e42	8.4	.18	.11	23	.04	.04
30	.07	e.32	e.04	e.04	---	e48	7.5	.18	.11	20	.11	.04
31	.14	---	e.04	e.04	---	e55	---	.14	---	17	.07	---
TOTAL	1.40	11.97	5.37	1.24	1.95	2215.77	958.5	46.08	5.00	206.14	62.24	1.26
MEAN	.045	.40	.17	.040	.070	71.5	32.0	1.49	.17	6.65	2.01	.042
MAX	.14	.85	.35	.04	.18	385	65	6.6	.32	38	15	.07
MIN	.00	.21	.04	.04	.04	.18	7.5	.14	.07	.04	.04	.04
AC-FT	2.8	24	11	2.5	3.9	4390	1900	91	9.9	409	123	2.5

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2001, BY WATER YEAR (WY)

MEAN	.80	.34	.087	.029	1.34	37.9	62.7	19.6	8.24	6.30	4.07	1.25
MAX	10.9	6.00	1.42	.28	27.9	285	311	169	100	41.1	69.9	16.5
(WY)	1976	1976	1976	1976	1983	1976	1979	1975	1975	1986	1993	1975
MIN	.000	.000	.000	.000	.000	.000	.016	.010	.000	.000	.000	.000
(WY)	1962	1962	1961	1962	1962	1965	1991	1990	1980	1961	1961	1961

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1960 - 2001	
ANNUAL TOTAL	660.36		3516.92			
ANNUAL MEAN	1.80		9.64		11.7	
HIGHEST ANNUAL MEAN					51.9	1976
LOWEST ANNUAL MEAN					.029	1988
HIGHEST DAILY MEAN	34	Jun 17	385	Mar 19	1410	Apr 7 1969
LOWEST DAILY MEAN	.00	Oct 25	.00	Oct 25	.00	Mar 1 1960
ANNUAL SEVEN-DAY MINIMUM	.03	Oct 19	.03	Oct 19	.00	Mar 1 1960
MAXIMUM PEAK FLOW			431	Mar 19	1700	Apr 7 1969
MAXIMUM PEAK STAGE			8.50	Mar 18	14.39	Mar 28 1960
ANNUAL RUNOFF (AC-FT)	1310		6980		8480	
10 PERCENT EXCEEDS	5.2		22		14	
50 PERCENT EXCEEDS	.18		.18		.07	
90 PERCENT EXCEEDS	.04		.04		.00	

e Estimated

05114000 SOURIS (MOUSE) RIVER NEAR SHERWOOD, ND
(International gaging station)

LOCATION.--Lat 48°59'24", long 101°57'28", in NW$^1/_4$SE$^1/_4$NE$^1/_4$ sec.33, T.164 N., R.87 W., Renville County, Hydrologic Unit 09010001, on right bank 0.8 mi downstream from international boundary, 16 mi northwest of Sherwood, and at mile 511.4.

DRAINAGE AREA.--8,940 mi^2, approximately, of which about 5,900 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1930 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1308: 1934, 1945. WSP 2113: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,603.73 ft above sea level. Prior to Apr. 8, 1935, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow is regulated by reservoirs in Canada (Boundary Reservoir, 48,990 acre-ft - 1958; Rafferty Reservoir, 356,400 acre-ft - 1991; and Alameda Reservoir, 85,560 ac-ft - 1992). Total reservoir capacity is about 490,000 acre-ft. Some diversions for irrigation and municipal supply.

COOPERATION.--This station is one of the international gaging stations maintained by the United States under agreement with Canada.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1927 reached a stage of about 22 ft and flood in 1904 reached a stage of about 25.8 ft from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	25	e9.0	e4.4	e3.5	e330	e1150	1840	288	214	142	95
2	7.0	30	e8.5	e4.4	e3.6	e335	952	1960	274	230	143	95
3	6.2	29	e8.0	e4.3	e3.7	e340	825	2030	264	228	139	94
4	6.3	33	e7.0	e4.3	e3.6	e330	798	2070	242	197	122	94
5	5.9	28	e7.5	e4.3	e3.5	e325	806	2130	227	138	112	95
6	5.1	e28	e7.5	e4.3	e3.5	e330	951	2160	223	128	107	96
7	4.9	e27	e7.3	e4.4	e3.4	e330	e1250	2150	219	122	107	95
8	4.6	e25	e7.0	e4.4	e3.3	e335	e1450	2160	234	119	113	95
9	4.3	e25	e6.7	e4.5	e3.3	e340	e1500	2180	233	117	112	100
10	4.1	e50	e6.5	e4.6	e3.2	e350	e1510	2190	236	117	108	107
11	3.9	e110	e6.0	e4.5	e3.2	e340	e1520	2200	235	118	105	112
12	3.7	e100	e6.0	e4.4	e3.1	e340	e1530	2170	215	124	103	113
13	3.8	e100	e5.5	e4.2	e3.1	e330	1540	1930	209	124	101	112
14	3.6	e100	e5.0	e4.1	e3.0	e330	1550	1660	215	123	101	112
15	3.4	e100	e4.5	e4.0	e3.0	e380	1550	1170	218	128	100	112
16	3.4	e100	e4.3	e4.6	e2.9	e500	1550	629	214	136	98	112
17	3.1	e100	e4.1	e4.5	e2.9	e950	1540	544	210	166	98	113
18	2.9	e100	e4.0	e4.3	e2.8	e1200	1480	468	208	162	98	113
19	3.6	e99	e4.0	e4.2	e2.8	e1480	1450	408	207	160	96	114
20	6.7	e98	e4.0	e4.1	e5.0	e1620	1450	384	207	146	98	115
21	6.9	e95	e4.0	e4.0	e75	e1750	1490	370	206	153	98	112
22	7.1	e50	e4.0	e4.1	e150	e1740	1530	356	203	143	98	96
23	7.5	e25	e4.0	e4.2	e250	e1620	1540	347	199	136	96	74
24	7.3	e15	e4.0	e4.1	e330	e1440	1500	313	195	128	97	57
25	7.7	e12	e4.0	e4.0	e340	e1360	1480	307	190	122	96	48
26	8.8	e11	e4.2	e3.9	e335	e1280	1660	313	190	121	94	65
27	11	e10	e4.4	e3.8	e330	e1320	1740	304	197	130	94	94
28	12	e10	e4.5	e3.9	e330	e1350	1790	299	238	155	94	94
29	13	e9.7	e4.5	e3.8	---	e1320	1820	297	234	185	95	94
30	14	e9.0	e4.5	e3.7	---	e1320	1820	302	213	155	95	93
31	18	---	e4.5	e3.6	---	e1290	---	303	---	142	94	---
TOTAL	207.4	1553.7	169.0	129.9	2206.4	26605	42722	35944	6643	4567	3254	2921
MEAN	6.69	51.8	5.45	4.19	78.8	858	1424	1159	221	147	105	97.4
MAX	18	110	9.0	4.6	340	1750	1820	2200	288	230	143	115
MIN	2.9	9.0	4.0	3.6	2.8	325	798	297	190	117	94	48
AC-FT	411	3080	335	258	4380	52770	84740	71290	13180	9060	6450	5790

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2001, BY WATER YEAR (WY)

MEAN	12.7	9.73	4.73	3.03	6.38	139	699	416	127	84.9	27.4	16.5
MAX	121	65.4	47.7	44.5	143	1148	6739	3995	954	1050	324	173
(WY)	1994	1955	1976	1976	1981	1972	1976	1975	1953	1953	1999	1999
MIN	.000	.000	.000	.000	.000	.000	1.82	2.63	.17	.000	.000	.000
(WY)	1932	1935	1932	1931	1931	1936	1988	1988	1988	1937	1931	1931

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1930 - 2001	
ANNUAL TOTAL	7614.0		126922.4			
ANNUAL MEAN	20.8		348		130	
HIGHEST ANNUAL MEAN					878	1976
LOWEST ANNUAL MEAN					.62	1988
HIGHEST DAILY MEAN	117	Jun 30	2200	May 11	13700	Apr 10 1976
LOWEST DAILY MEAN	2.9	Sep 19	2.8	Feb 18	.00	Sep 4 1930
ANNUAL SEVEN-DAY MINIMUM	3.3	Sep 15	2.9	Feb 13	.00	Sep 4 1930
MAXIMUM PEAK FLOW			2200	May 10	14800	Apr 10 1976
MAXIMUM PEAK STAGE			a 15.95	Mar 21	25.15	Apr 10 1976
ANNUAL RUNOFF (AC-FT)	15100		251800		94010	
10 PERCENT EXCEEDS	64		1480		228	
50 PERCENT EXCEEDS	11		107		6.2	
90 PERCENT EXCEEDS	4.3		4.0		.00	

a Backwater from ice
e Estimated

05114000 SOURIS RIVER NEAR SHERWOOD, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1970, 1972 to current year.

REMARKS.-- Quality assurance samples also collected at this location. Environment Canada also collected a sample on Sept. 12.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: August 1983 to current year.

SPECIFIC CONDUCTANCE: August 1983 to current year.

PH: August 1992 to current year.

DISSOLVED OXYGEN: May 1993 to current year.

INSTRUMENTATION.--Water-quality monitor since August 1983.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 29.5°C, July 10, 1998; minimum, 0.0°C several days during winter months each year.

SPECIFIC CONDUCTANCE: Maximum, 3,490 microsiemens, Apr. 28, 1991; minimum, 94 microsiemens, Apr. 5, 1990.

PH: Maximum, 10.4 units, Oct. 19, 1995; minimum, 7.3 units, Jan. 16-23, 2000.

DISSOLVED OXYGEN: Maximum, 19.6 mg/L, Mar. 16-21, 2000; minimum, 1.3 mg/L, Jan. 27, 2000.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 28.8°C, Aug. 7; minimum, 0.1°C several days during the winter.

SPECIFIC CONDUCTANCE: Maximum, 2,730 microsiemens, Feb. 14; minimum, 637 microsiemens, May 1-2.

PH: Maximum, 8.6 units, Oct. 4-9 and Nov. 11; minimum, 7.6 units, Dec. 14 to Feb. 14.

DISSOLVED OXYGEN: Maximum, 11.9 milligrams per liter, Nov. 9; minimum, 1.7 milligrams per liter, Feb. 14.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT													
19...	1615	3.6	--	--	9.5	8.3	--	--	1740	17.5	9.2	--	--
NOV													
20...	1440	98	725	92	12.7	8.3	8.3	1050	1080	-5.0	.00	330	56.8
JAN													
04...	1715	4.3	--	--	2.0	7.6	--	--	2460	--	.00	--	--
FEB													
15...	1250	3.0	--	--	1.6	7.5	--	--	2740	--	.00	--	--
MAR													
09...	1145	340	--	--	12.8	8.2	8.0	977	1000	1.0	.00	360	61.6
22...	1600	1740	--	--	12.3	8.0	7.8	613	622	-4.0	.00	170	33.8
29...	1630	1310	--	--	--	--	--	--	962	9.5	.1	--	--
APR													
05...	1715	804	--	--	--	--	--	--	1000	11.0	4.8	--	--
12...	1515	1530	--	--	10.0	8.1	--	--	820	--	7.3	--	--
24...	1615	1500	--	--	12.1	--e	8.0	692	680	20.0	8.6	180	40.6
MAY													
09...	1130	2180	--	--	--	--	--	--	645	18.0	11.0	--	--
16...	1400	581	--	--	7.0	7.9	--	--	690	21.5	16.1	--	--
JUN													
20...	1330	206	722	90	8.0	8.1	8.1	832	830	--	18.4	280	53.0
JUL													
18...	1900	159	--	--	7.6	8.3	8.1	764	770	28.0	26.2	220	42.1
AUG													
31...	1115	93	718	81	7.2	8.3	--	--	760	16.0	17.8	--	--
SEP													
12...	1430	121	--	--	8.8	8.3	8.2	701	720	18.0	14.4	210	44.8

05114000 SOURIS RIVER NEAR SHERWOOD, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)
OCT													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
20...	46.8	2	95.3	304	23.0	E.2	228	1.5	.114	.092	1.3	1.5	.236
JAN													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
09...	50.2	2	68.7	302	18.1	.2	199	1.4	.046	.337	1.3	1.7	.299
22...	21.0	2	54.9	157	9.6	E.1	133	1.1	.139	.390	.99	1.5	.277
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	19.8	2	62.5	201	15.6	.2	130	--	--	--	--	--	--
MAY													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
20...	35.6	2	69.6	244	19.9	.2	163	1.0	E.034	.097	--	1.1	.144
JUL													
18...	27.5	2	77.2	215	21.7	E.1	152	.85	<.040	<.050	--	--	.162
AUG													
31...	--	--	--	--	--	--	--	.99	E.022	<.050	--	--	.151
SEP													
12...	24.8	2	70.2	222	19.8	.2	122	.92	<.040	E.038	--	--	.130

DATE	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)
OCT													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
20...	17	692	E21	--	--	91	3	66.9	<2.50	128	.41	<1	<2
JAN													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
09...	18	654	E4	--	--	70	3	74.1	<2.50	105	<.11	M	<2
22...	15	403	E3	.7	<.1	464	3	67.6	<2.50	189	.24	2	<2
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	446	E20	9.7	<.1	751	5	93.7	<2.50	277	.23	2	<2
MAY													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
20...	14	546	96	1.5	<.1	259	3	73.5	<2.50	166	E.07	M	<2
JUL													
18...	14	486	290	9.4	.5	592	5	73.3	<2.50	200	<.10	1	E1
AUG													
31...	14	--	120	8.7	.7	--	--	--	--	--	--	--	--
SEP													
12...	13	436	160	3.8	.3	404	3	74.6	<2.50	201	<.10	<1	<2

05114000 SOURIS RIVER NEAR SHERWOOD, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO) (01062)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	TRIAZIN SCREEN (ELISA) WAT,WH REC,AS ATRAZIN (UG/L) (34757)	CARBO-FURAN, SCREEN, TOTAL (UG/L) (99902)	CYANA-ZINE, SCREEN, TOTAL (UG/L) (99904)	2,4-D SCREEN, TOTAL (UG/L) (99906)
OCT											
19...	--	--	--	--	--	--	--	--	--	--	--
NOV											
20...	1.8	190	M	E1.4	2	<3.0	<31	<.1	<.06	<.04	<.700
JAN											
04...	--	--	--	--	--	--	--	--	--	--	--
FEB											
15...	--	--	--	--	--	--	--	--	--	--	--
MAR											
09...	E1.1	210	<1	<1.5	2	<2.6	<31	--	--	--	--
22...	2.9	1050	1	3.6	4	<2.6	<31	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
APR											
05...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
24...	4.1	1630	2	5.0	4	<2.6	<31	--	--	--	--
MAY											
09...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
JUN											
20...	2.8	710	1	E1.4	3	<3.0	<31	--	--	--	--
JUL											
18...	3.2	1310	1	3.0	4	<3.0	<31	<.1	--	--	<.700
AUG											
31...	--	--	--	--	--	--	--	<.1	--	--	<.700
SEP											
12...	4.8	1070	1	4.6	5	<3.0	<31	--	--	--	--

E Estimated value
M Presence verified, not quantified
e Required equipment not functional/available

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	14.8	12.2	13.5	9.2	6.8	8.3	.2	.2	.2	.1	.0	.1
2	13.6	11.4	12.5	6.8	4.8	5.3	.2	.2	.2	.1	.1	.1
3	12.2	8.5	9.7	4.9	3.2	3.9	.2	.2	.2	.1	.1	.1
4	8.6	5.8	6.9	4.0	2.7	3.4	.2	.1	.2	.1	.1	.1
5	5.8	3.9	4.8	3.5	2.0	2.9	.2	.1	.1	.1	.1	.1
6	5.2	4.5	4.9	3.5	.4	1.9	.2	.1	.2	.1	.1	.1
7	4.8	3.3	4.2	.4	.1	.1	.2	.2	.2	.1	.1	.1
8	5.1	3.2	4.2	.2	.1	.1	.2	.1	.2	.1	.1	.1
9	6.4	3.8	4.8	.2	.1	.1	.2	.1	.1	.1	.1	.1
10	7.1	4.9	5.9	.1	.1	.1	.2	.1	.1	.1	.1	.1
11	8.1	5.8	6.8	.1	.1	.1	.2	.1	.1	.1	.1	.1
12	8.1	7.3	7.8	.1	.1	.1	.2	.1	.1	.1	.1	.1
13	8.9	7.4	8.0	.2	.1	.1	.2	.1	.1	.1	.1	.1
14	8.9	8.2	8.5	.2	.1	.1	.2	.1	.1	.1	.1	.1
15	8.5	6.7	7.4	.2	.1	.1	.2	.2	.2	.1	.1	.1
16	8.3	6.6	7.5	.2	.1	.1	.2	.1	.1	.1	.1	.1
17	8.9	7.4	8.0	.2	.1	.1	.2	.1	.1	.1	.1	.1
18	9.9	7.6	8.6	.2	.1	.1	.2	.1	.1	.1	.1	.1
19	9.8	8.8	9.1	.2	.1	.1	.1	.1	.1	.1	.1	.1
20	8.8	6.7	7.7	.2	.1	.1	.1	.1	.1	.1	.1	.1
21	9.1	6.6	7.8	.2	.1	.1	.1	.1	.1	.1	.1	.1
22	9.1	7.2	8.1	.2	.1	.1	.1	.1	.1	.1	.1	.1
23	8.1	5.5	6.9	.2	.1	.2	.1	.1	.1	.1	.1	.1
24	8.8	5.5	7.0	.2	.1	.2	.1	.1	.1	.1	.1	.1
25	9.7	8.6	9.0	.2	.2	.2	.1	.1	.1	.1	.1	.1
26	9.7	8.8	9.3	.2	.1	.2	.1	.1	.1	.1	.1	.1
27	9.0	5.6	6.6	.2	.2	.2	.1	.1	.1	.1	.1	.1
28	6.9	5.1	5.7	.2	.2	.2	---	---	---	.1	.1	.1
29	9.3	6.9	8.3	.2	.2	.2	---	---	---	.1	.1	.1
30	9.8	9.2	9.5	.2	.2	.2	---	---	---	.1	.1	.1
31	9.6	9.2	9.4	---	---	---	.0	.0	.0	.1	.1	.1
MONTH	14.8	3.2	7.7	9.2	.1	1.0	.2	.0	.1	.1	.0	.1

05114000 SOURIS RIVER NEAR SHERWOOD, ND--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	.1	.1	.1	---	---	---	---	---	---	12.1	11.2	11.7
2	.1	.1	.1	---	---	---	---	---	---	11.9	10.9	11.3
3	.1	.1	.1	---	---	---	---	---	---	11.6	10.6	11.2
4	.1	.1	.1	---	---	---	---	---	---	11.8	10.4	11.2
5	.1	.1	.1	---	---	---	---	---	---	12.3	11.3	11.8
6	.1	.1	.1	---	---	---	---	---	---	12.3	11.1	11.6
7	.1	.1	.1	---	---	---	---	---	---	11.4	9.7	10.4
8	.1	.1	.1	---	---	---	---	---	---	11.0	9.7	10.3
9	.1	.1	.1	---	---	---	---	---	---	12.0	10.6	11.2
10	.1	.1	.1	---	---	---	---	---	---	12.1	11.2	11.7
11	.1	.1	.1	---	---	---	---	---	---	12.5	11.5	11.9
12	.1	.1	.1	---	---	---	---	---	---	13.8	11.9	12.6
13	.1	.1	.1	---	---	---	7.6	7.0	7.3	15.3	13.8	14.4
14	.1	.1	.1	---	---	---	7.4	6.8	7.1	16.4	15.1	15.6
15	---	---	---	---	---	---	7.1	6.2	6.6	---	---	---
16	---	---	---	---	---	---	6.2	5.4	5.8	---	---	---
17	---	---	---	---	---	---	6.1	5.1	5.6	16.8	15.3	16.1
18	---	---	---	---	---	---	7.8	6.1	6.8	16.8	15.6	16.2
19	---	---	---	---	---	---	8.9	7.7	8.2	16.4	15.5	16.0
20	---	---	---	---	---	---	8.9	8.4	8.7	15.7	14.1	15.1
21	---	---	---	---	---	---	8.7	7.5	8.1	14.1	12.5	13.3
22	---	---	---	---	---	---	7.7	6.8	7.3	13.8	12.0	12.9
23	---	---	---	---	---	---	8.5	7.0	7.7	13.3	12.2	12.8
24	---	---	---	---	---	---	9.2	7.9	8.5	13.2	12.6	12.8
25	---	---	---	---	---	---	10.1	8.9	9.4	14.8	11.6	13.0
26	---	---	---	---	---	---	10.8	9.5	10.0	16.5	13.5	14.9
27	---	---	---	---	---	---	11.6	10.2	10.8	18.2	15.8	16.9
28	---	---	---	---	---	---	12.4	11.0	11.6	18.7	17.1	17.8
29	---	---	---	---	---	---	12.6	11.9	12.3	19.0	16.9	17.9
30	---	---	---	---	---	---	12.5	11.4	11.9	19.7	17.4	18.4
31	---	---	---	---	---	---	---	---	---	19.1	17.7	18.3
MONTH	.1	.1	.1	---	---	---	12.6	5.1	8.5	19.7	9.7	13.8

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	17.7	16.2	16.9	22.0	20.4	20.9	22.8	20.9	21.8	20.8	17.6	19.0
2	17.8	15.5	16.6	21.8	19.5	20.6	23.9	21.0	22.3	20.7	18.3	19.4
3	17.5	16.1	16.9	22.7	20.6	21.6	26.1	22.5	24.0	20.2	17.1	18.6
4	17.2	15.9	16.7	23.4	21.4	22.4	28.5	25.1	26.4	21.0	17.5	19.0
5	16.9	15.7	16.2	23.8	21.7	22.7	28.6	25.9	27.1	21.2	18.4	19.5
6	17.1	15.3	16.0	25.2	22.5	23.6	28.4	24.8	26.5	20.5	19.0	19.7
7	18.6	16.2	17.2	25.7	22.5	23.9	28.8	25.7	27.1	19.4	17.9	18.5
8	20.7	17.9	19.1	26.9	23.0	24.8	27.1	24.8	26.2	18.3	16.1	17.2
9	20.9	18.9	19.9	28.0	24.2	25.9	24.8	22.1	23.1	17.1	15.4	16.0
10	21.6	19.0	20.3	27.0	24.8	25.9	23.3	20.1	21.6	15.5	13.8	14.6
11	22.0	20.1	21.1	25.4	21.9	23.6	23.6	20.1	21.7	15.3	13.8	14.4
12	21.5	19.3	20.0	21.9	20.0	21.1	24.0	20.7	22.1	15.3	13.3	14.2
13	19.3	17.9	18.5	22.0	20.4	21.1	25.0	21.1	22.7	15.2	13.4	14.3
14	17.9	16.4	17.1	23.7	20.9	21.8	24.9	22.2	23.4	15.5	13.5	14.3
15	17.2	15.6	16.3	22.9	21.9	22.4	24.0	21.6	22.8	14.4	13.2	13.7
16	17.3	16.5	16.8	23.8	22.2	22.7	24.1	20.5	22.2	15.2	13.2	13.9
17	18.1	16.4	17.3	25.0	21.9	23.2	24.1	20.9	22.3	14.9	13.2	13.9
18	18.0	16.7	17.2	26.4	23.7	24.9	23.9	20.5	22.0	15.4	13.3	14.1
19	18.0	15.9	16.9	27.6	24.9	25.9	23.4	19.9	21.5	16.8	13.8	15.0
20	19.0	17.6	18.1	28.0	25.3	26.4	23.1	20.1	21.5	15.7	14.8	15.2
21	20.2	17.7	18.9	27.3	25.5	26.3	24.3	20.4	22.0	15.8	13.5	14.6
22	21.5	19.5	20.3	28.2	25.5	26.6	25.0	21.2	22.8	14.9	13.8	14.3
23	23.6	21.1	22.1	26.8	24.0	25.3	25.4	22.1	23.5	14.0	12.0	13.0
24	24.2	22.5	23.3	24.5	22.0	23.2	25.2	23.0	24.0	13.5	10.8	12.1
25	24.5	23.4	23.8	24.2	22.0	22.9	24.3	21.4	22.8	14.3	11.2	12.6
26	23.6	22.1	22.9	25.1	22.4	23.4	23.3	20.5	21.8	14.6	11.5	13.0
27	22.9	19.1	19.8	25.8	22.4	23.9	23.0	19.4	21.0	15.6	12.5	13.9
28	---	---	---	26.4	23.8	24.9	23.2	19.6	21.2	16.7	13.5	14.9
29	22.7	20.1	21.2	25.8	24.7	25.3	22.1	20.3	21.0	17.3	14.9	15.9
30	22.8	21.6	22.2	25.2	23.9	24.5	21.1	18.6	19.8	16.6	13.9	15.3
31	---	---	---	24.5	22.0	23.2	20.6	17.6	19.1	---	---	---
MONTH	24.5	15.3	19.0	28.2	19.5	23.7	28.8	17.6	22.8	21.2	10.8	15.5

05114000 SOURIS RIVER NEAR SHERWOOD, ND--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	1840	1820	1830	2060	1850	1980	1260	1240	1250	2410	201	1350
2	1840	1830	1830	1850	1730	1760	1280	1260	1270	2440	2410	2420
3	1870	1840	1860	1740	1720	1730	1310	1280	1290	2450	2430	2440
4	1880	1860	1870	1730	1600	1700	1350	1310	1330	2480	2440	2460
5	1870	1860	1860	1600	1530	1550	1390	1350	1380	2480	2460	2470
6	1860	1840	1850	1530	1420	1480	1410	1390	1400	2490	2480	2490
7	1850	1840	1840	1420	1350	1370	1420	1410	1410	2530	2490	2510
8	1840	1830	1840	1350	1300	1330	1440	1420	1430	2560	2530	2540
9	1840	1820	1830	1320	1280	1290	1470	1440	1450	2560	2540	2560
10	1850	1820	1830	1610	1320	1410	1530	1470	1500	2540	2470	2510
11	1830	1820	1830	1950	1610	1840	1560	1530	1550	2470	2420	2440
12	1830	1810	1820	1700	1320	1480	1610	1560	1580	2420	2380	2400
13	1820	1800	1800	1320	1140	1190	1660	1610	1630	2380	2360	2370
14	1800	1790	1800	1140	1120	1140	1720	1660	1690	2360	2350	2360
15	1800	1770	1780	1120	1120	1120	1750	1720	1740	2350	2350	2350
16	1780	1760	1770	1120	1120	1120	1760	1730	1750	2350	2350	2350
17	1780	1750	1760	1130	1110	1120	1820	1760	1790	2350	2350	2350
18	1760	1740	1750	1120	1040	1100	1890	1820	1850	2350	2330	2340
19	1750	1730	1740	1100	1030	1070	1930	1870	1900	2350	2340	2340
20	1750	1730	1740	1100	1090	1090	1960	1920	1950	2370	2350	2360
21	1780	1750	1770	1100	1080	1090	2010	1960	1990	2380	2370	2380
22	1790	1780	1780	1100	1100	1100	2050	2010	2030	2400	2380	2400
23	1800	1790	1800	1120	1100	1110	2090	2050	2070	2420	2400	2410
24	1800	1800	1800	1140	1120	1130	2140	2080	2110	2440	2420	2430
25	1800	1800	1800	1160	1140	1150	2170	2140	2150	2450	2440	2450
26	1830	1800	1810	1170	1160	1170	2190	2160	2170	2460	2450	2450
27	1920	1830	1870	1200	1170	1180	2210	2180	2200	2460	2450	2450
28	1960	1920	1950	1210	1200	1200	---	---	---	2470	2460	2460
29	1970	1950	1960	1230	1210	1220	---	---	---	2480	2460	2470
30	1960	1940	1950	1240	1230	1240	---	---	---	2490	2470	2480
31	1940	1880	1910	---	---	---	201	199	200	2500	2490	2490
MONTH	1970	1730	1830	2060	1030	1320	2210	199	1640	2560	201	2400

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	2540	2500	2520	---	---	---	---	---	---	655	637	646
2	2570	2540	2560	---	---	---	---	---	---	669	637	656
3	2580	2570	2580	---	---	---	---	---	---	666	647	656
4	2580	2580	2580	---	---	---	---	---	---	647	640	642
5	2600	2580	2590	---	---	---	---	---	---	643	639	640
6	2600	2600	2600	---	---	---	---	---	---	673	643	660
7	2620	2600	2610	---	---	---	---	---	---	692	659	676
8	2630	2620	2630	---	---	---	---	---	---	659	655	657
9	2660	2630	2640	---	---	---	---	---	---	674	659	667
10	2680	2660	2670	---	---	---	---	---	---	674	671	672
11	2690	2680	2680	---	---	---	---	---	---	673	670	671
12	2690	2690	2690	---	---	---	---	---	---	674	668	672
13	2700	2690	2690	---	---	---	817	801	811	668	650	655
14	2730	2700	2710	---	---	---	804	790	800	653	648	649
15	---	---	---	---	---	---	793	781	789	---	---	---
16	---	---	---	---	---	---	783	771	779	---	---	---
17	---	---	---	---	---	---	771	766	767	752	705	720
18	---	---	---	---	---	---	767	744	753	789	752	772
19	---	---	---	---	---	---	744	732	738	808	789	800
20	---	---	---	---	---	---	732	707	714	809	805	807
21	---	---	---	---	---	---	715	706	711	808	797	801
22	---	---	---	---	---	---	734	715	725	797	788	793
23	---	---	---	---	---	---	716	705	710	798	790	794
24	---	---	---	---	---	---	714	675	703	820	795	807
25	---	---	---	---	---	---	675	646	653	830	816	821
26	---	---	---	---	---	---	710	648	689	832	823	830
27	---	---	---	---	---	---	725	708	718	823	809	814
28	---	---	---	---	---	---	717	684	695	811	802	805
29	---	---	---	---	---	---	688	660	669	804	799	800
30	---	---	---	---	---	---	665	655	661	800	792	794
31	---	---	---	---	---	---	---	---	---	793	782	786
MONTH	2730	2500	2620	---	---	---	817	646	727	832	637	730

05114000 SOURIS RIVER NEAR SHERWOOD, ND--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	787	782	784	841	828	835	805	742	789	759	751	755
2	792	784	788	839	825	834	781	729	749	760	748	752
3	799	791	794	829	823	827	814	781	802	750	746	748
4	807	798	802	828	822	824	820	805	815	751	744	747
5	811	805	808	853	828	843	816	805	809	745	740	743
6	823	801	812	884	852	867	851	816	835	749	736	740
7	833	821	827	905	883	894	863	840	853	742	732	737
8	836	821	830	912	878	902	874	830	842	736	732	734
9	823	810	819	900	872	888	1100	874	981	738	730	734
10	815	809	813	882	862	871	1360	1100	1240	735	727	731
11	819	808	815	862	836	847	1370	1260	1330	733	720	725
12	830	819	825	836	824	828	1260	1110	1170	725	717	721
13	825	815	822	844	826	835	1110	1040	1060	743	722	730
14	819	815	817	852	843	848	1040	1040	1040	745	734	739
15	826	815	820	852	838	843	1040	1020	1030	737	716	722
16	837	821	829	842	839	841	1030	1000	1020	718	709	713
17	841	833	837	860	839	849	1000	989	995	723	706	712
18	837	831	834	852	748	786	989	973	982	783	723	760
19	831	826	829	789	753	772	975	942	962	776	717	742
20	839	827	833	793	779	787	942	905	923	719	705	710
21	847	837	842	789	778	783	905	880	893	710	703	706
22	845	838	840	786	771	779	880	848	864	712	701	705
23	843	834	839	776	768	773	848	827	837	719	708	714
24	841	834	836	785	775	779	827	809	819	725	712	717
25	845	835	839	794	777	784	810	798	803	737	723	729
26	852	845	848	809	793	801	801	786	792	760	737	747
27	849	810	824	813	763	798	788	776	781	807	760	782
28	---	---	---	812	794	805	776	765	769	812	770	790
29	795	758	774	794	762	778	767	761	764	770	735	746
30	830	763	807	796	761	774	764	755	761	843	758	818
31	---	---	---	821	796	811	761	754	757	---	---	---
MONTH	852	758	820	912	748	822	1370	729	905	843	701	738

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.3	8.3	8.4	8.3	8.0	7.9	7.6	.0	7.6	7.6	---	---
2	8.4	8.3	8.5	8.4	7.9	7.9	7.6	7.6	7.6	7.6	---	---
3	8.5	8.3	8.5	8.4	7.9	7.8	7.6	7.6	7.6	7.6	---	---
4	8.6	8.4	8.5	8.5	7.9	7.8	7.6	7.6	7.6	7.6	---	---
5	8.6	8.5	8.5	8.4	7.8	7.8	7.6	7.6	7.6	7.6	---	---
6	8.6	8.5	8.5	8.4	7.8	7.8	7.6	7.6	7.6	7.6	---	---
7	8.6	8.5	8.5	8.5	7.8	7.8	7.6	7.6	7.6	7.6	---	---
8	8.6	8.5	8.5	8.5	7.8	7.8	7.6	7.6	7.6	7.6	---	---
9	8.6	8.4	8.5	8.5	7.8	7.7	7.6	7.6	7.6	7.6	---	---
10	8.5	8.4	8.5	8.5	7.7	7.7	7.6	7.6	7.6	7.6	---	---
11	8.5	8.3	8.6	8.5	7.7	7.7	7.6	7.6	7.6	7.6	---	---
12	8.4	8.3	8.5	8.4	7.7	7.7	7.6	7.6	7.6	7.6	---	---
13	8.4	8.3	8.4	8.4	7.7	7.7	7.6	7.6	7.6	7.6	---	---
14	8.4	8.3	8.4	8.4	7.7	7.6	7.6	7.6	7.6	7.6	---	---
15	8.4	8.3	8.4	8.4	7.6	7.6	7.6	7.6	---	---	---	---
16	8.5	8.3	8.4	8.4	7.6	7.6	7.6	7.6	---	---	---	---
17	8.5	8.2	8.4	8.4	7.6	7.6	7.6	7.6	---	---	---	---
18	8.4	8.2	8.4	8.3	7.6	7.6	7.6	7.6	---	---	---	---
19	8.3	8.2	8.3	8.3	7.6	7.6	7.6	7.6	---	---	---	---
20	8.4	8.3	8.4	8.3	7.6	7.6	7.6	7.6	---	---	---	---
21	8.4	8.4	8.3	8.3	7.6	7.6	7.6	7.6	---	---	---	---
22	8.4	8.4	8.3	8.3	7.6	7.6	7.6	7.6	---	---	---	---
23	8.5	8.4	8.3	8.3	7.6	7.6	7.6	7.6	---	---	---	---
24	8.5	8.4	8.3	8.2	7.6	7.6	7.6	7.6	---	---	---	---
25	8.4	8.4	8.2	8.2	7.6	7.6	7.6	7.6	---	---	---	---
26	8.4	8.4	8.2	8.2	7.6	7.6	7.6	7.6	---	---	---	---
27	8.5	8.4	8.2	8.1	7.6	7.6	7.6	7.6	---	---	---	---
28	8.6	8.5	8.1	8.1	---	---	7.6	7.6	---	---	---	---
29	8.5	8.4	8.1	8.0	---	---	7.6	7.6	---	---	---	---
30	8.4	8.4	8.0	8.0	---	---	7.6	7.6	---	---	---	---
31	8.4	8.3	---	---	.0	.0	7.6	7.6	---	---	---	---
MONTH	8.6	8.2	8.6	8.0	8.0	.0	7.6	.0	7.6	7.6	---	---

05114000 SOURIS RIVER NEAR SHERWOOD, ND--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	8.3	8.3	8.3	8.2	8.2	8.1	8.2	8.2	8.4	8.3
2	---	---	8.3	8.2	8.2	8.2	8.3	8.2	8.3	8.1	8.4	8.2
3	---	---	8.3	8.2	8.2	8.1	8.3	8.2	8.3	8.1	8.4	8.2
4	---	---	8.3	8.3	8.2	8.1	8.4	8.2	8.3	8.2	8.4	8.3
5	---	---	8.3	8.3	8.2	8.1	8.4	8.2	8.3	8.1	8.4	8.2
6	---	---	8.3	8.2	8.2	8.1	8.3	8.2	8.3	8.2	8.3	8.1
7	---	---	8.2	8.2	8.2	8.1	8.3	8.2	8.3	8.2	8.2	8.1
8	---	---	8.3	8.2	8.1	8.1	8.3	8.2	8.3	8.2	8.3	8.1
9	---	---	8.3	8.2	8.1	8.1	8.3	8.2	8.4	8.2	8.3	8.2
10	---	---	8.3	8.2	8.1	8.1	8.3	8.2	8.5	8.4	8.3	8.2
11	---	---	8.2	8.2	8.1	8.0	8.3	8.2	8.5	8.4	8.4	8.2
12	---	---	8.2	8.2	8.1	8.0	8.2	8.2	8.4	8.4	8.4	8.2
13	8.2	8.1	8.2	8.1	8.1	8.0	8.2	8.1	8.4	8.3	8.4	8.2
14	8.2	8.2	8.1	8.0	8.1	8.0	8.2	8.1	8.3	8.2	8.4	8.2
15	8.2	8.2	---	---	8.1	8.0	8.1	8.1	8.3	8.2	8.3	8.2
16	8.3	8.2	---	---	8.1	8.0	8.1	8.1	8.4	8.2	8.4	8.2
17	8.3	8.2	8.1	7.9	8.1	8.1	8.2	8.1	8.4	8.3	8.4	8.2
18	8.3	8.2	8.1	8.1	8.1	8.1	8.3	8.1	8.4	8.3	8.4	8.2
19	8.2	8.2	8.2	8.1	8.1	8.0	8.3	8.1	8.4	8.3	8.3	8.2
20	8.2	8.2	8.4	8.2	8.1	8.1	8.4	8.1	8.4	8.3	8.3	8.2
21	8.2	8.2	8.5	8.4	8.1	8.1	8.3	8.2	8.3	8.2	8.3	8.2
22	8.2	8.2	8.5	8.5	8.2	8.1	8.3	8.2	8.3	8.2	8.4	8.2
23	8.3	8.2	8.5	8.5	8.2	8.1	8.4	8.2	8.3	8.2	8.4	8.2
24	8.4	8.3	8.5	8.5	8.2	8.1	8.4	8.3	8.3	8.1	8.4	8.2
25	8.4	8.4	8.5	8.4	8.2	8.1	8.4	8.3	8.3	8.2	8.3	8.1
26	8.4	8.3	8.4	8.3	8.2	8.1	8.4	8.3	8.4	8.2	8.3	8.1
27	8.3	8.2	8.3	8.2	8.2	8.1	8.4	8.3	8.4	8.2	8.3	8.2
28	8.2	8.2	8.3	8.2	---	---	8.4	8.3	8.3	8.2	8.4	8.1
29	8.3	8.2	8.3	8.2	8.1	8.0	8.4	8.3	8.3	8.2	8.4	8.1
30	8.3	8.2	8.2	8.2	8.1	8.0	8.4	8.3	8.4	8.2	8.4	8.2
31	---	---	8.2	8.2	---	---	8.3	8.2	8.4	8.2	---	---
MONTH	8.4	8.1	8.5	7.9	8.3	8.0	8.4	8.1	8.5	8.1	8.4	8.1

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	8.2	6.8	7.6	8.7	7.8	8.2	9.3	9.0	9.1	---	---	---
2	---	---	---	10.0	8.7	9.3	9.0	8.8	8.9	2.1	2.0	2.1
3	---	---	---	10.9	9.4	10.1	8.8	8.4	8.6	2.1	2.1	2.1
4	---	---	---	11.2	9.9	10.6	8.6	8.4	8.5	2.1	1.9	2.0
5	---	---	---	11.1	10.2	10.7	8.7	8.2	8.5	2.1	2.0	2.0
6	---	---	---	11.3	10.4	10.9	8.3	8.0	8.2	2.1	2.1	2.1
7	---	---	---	11.7	11.1	11.4	8.1	7.8	7.9	2.3	2.1	2.2
8	---	---	---	11.8	10.8	11.3	8.1	7.8	7.9	2.5	2.3	2.4
9	---	---	---	11.9	11.1	11.5	7.9	7.6	7.8	2.6	2.4	2.5
10	---	---	---	11.5	11.0	11.4	7.7	7.4	7.6	2.7	2.6	2.7
11	---	---	---	11.2	10.9	11.0	7.4	7.2	7.3	2.8	2.7	2.8
12	---	---	---	11.1	10.9	11.0	7.2	6.8	7.0	2.8	2.8	2.8
13	---	---	---	11.0	10.9	10.9	7.0	6.5	6.7	2.9	2.8	2.9
14	---	---	---	11.0	10.8	10.9	6.6	6.2	6.3	2.9	2.9	2.9
15	---	---	---	10.9	10.8	10.9	6.2	5.4	5.8	3.0	2.9	3.0
16	---	---	---	11.0	10.8	10.9	5.4	4.9	5.1	3.0	3.0	3.0
17	---	---	---	11.0	10.9	10.9	4.9	4.5	4.7	3.0	2.9	2.9
18	---	---	---	11.0	10.8	10.9	4.5	4.1	4.3	6.9	2.9	3.1
19	---	---	---	10.9	10.8	10.9	4.1	3.7	3.9	3.0	2.9	2.9
20	9.8	8.4	9.1	11.0	10.8	10.9	3.7	3.3	3.5	3.0	2.9	2.9
21	10.0	8.5	9.4	10.9	10.7	10.8	3.3	3.1	3.2	2.9	2.9	2.9
22	9.9	8.5	9.3	10.9	10.7	10.8	3.1	2.9	3.0	2.9	2.7	2.8
23	10.1	8.6	9.4	10.9	10.6	10.7	3.0	2.7	2.8	2.7	2.7	2.7
24	10.1	8.6	9.4	10.8	10.4	10.5	2.7	2.4	2.5	2.7	2.6	2.6
25	9.9	8.2	8.7	10.6	10.1	10.4	2.4	2.2	2.3	2.8	2.7	2.7
26	8.9	7.2	8.1	10.5	10.0	10.2	2.2	2.1	2.1	2.8	2.7	2.8
27	10.2	8.2	9.1	10.2	9.7	10.0	2.1	2.0	2.0	2.8	2.6	2.7
28	9.8	8.9	9.5	10.0	9.4	9.7	---	---	---	2.6	2.5	2.5
29	8.9	8.1	8.5	9.6	9.3	9.4	---	---	---	2.5	2.4	2.4
30	8.4	8.0	8.2	9.3	9.1	9.2	---	---	---	2.4	2.3	2.3
31	8.2	7.8	8.0	---	---	---	--	---	---	2.4	2.3	2.3
MONTH	10.2	6.8	8.8	11.9	7.8	10.5	9.3	-.2	5.5	6.9	-.2	2.5

05114000 SOURIS RIVER NEAR SHERWOOD, ND--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	2.3	2.1	2.2	---	---	---	---	---	---	9.8	9.2	9.5
2	2.2	2.0	2.1	---	---	---	---	---	---	9.9	9.3	9.6
3	2.1	2.0	2.0	---	---	---	---	---	---	10.1	9.6	9.8
4	2.0	1.9	2.0	---	---	---	---	---	---	10.1	9.6	9.9
5	2.0	1.9	2.0	---	---	---	---	---	---	9.9	9.4	9.7
6	2.0	1.9	1.9	---	---	---	---	---	---	9.5	9.1	9.3
7	2.0	1.9	2.0	---	---	---	---	---	---	9.5	8.9	9.2
8	2.0	2.0	2.0	---	---	---	---	---	---	9.7	9.1	9.4
9	2.0	1.9	2.0	---	---	---	---	---	---	9.5	9.0	9.3
10	1.9	1.8	1.8	---	---	---	---	---	---	9.5	8.9	9.2
11	1.9	1.9	1.9	---	---	---	---	---	---	9.4	8.9	9.1
12	2.0	1.9	1.9	---	---	---	---	---	---	9.2	8.7	9.0
13	2.0	1.9	1.9	---	---	---	10.3	9.9	10.1	8.9	8.1	8.3
14	1.9	1.7	1.8	---	---	---	10.5	10.2	10.3	8.1	7.4	7.8
15	---	---	---	---	---	---	10.8	10.3	10.5	---	---	---
16	---	---	---	---	---	---	11.3	10.7	10.9	---	---	---
17	---	---	---	---	---	---	11.4	11.2	11.3	7.8	7.0	7.3
18	---	---	---	---	---	---	11.4	10.8	11.0	8.1	7.4	7.7
19	---	---	---	---	---	---	10.8	10.5	10.7	8.8	7.8	8.2
20	---	---	---	---	---	---	10.6	10.3	10.5	9.6	8.2	8.9
21	---	---	---	---	---	---	10.6	10.1	10.4	9.9	8.8	9.3
22	---	---	---	---	---	---	10.9	10.3	10.6	9.9	8.9	9.4
23	---	---	---	---	---	---	11.0	10.6	10.8	9.6	8.8	9.2
24	---	---	---	---	---	---	11.2	10.6	10.9	9.3	8.7	9.0
25	---	---	---	---	---	---	11.1	10.5	10.8	9.6	8.9	9.3
26	---	---	---	---	---	---	10.8	10.1	10.5	9.3	8.7	9.0
27	---	---	---	---	---	---	10.4	10.0	10.2	8.8	8.2	8.5
28	---	---	---	---	---	---	10.2	9.8	10.0	8.6	7.9	8.2
29	---	---	---	---	---	---	9.9	9.3	9.6	8.6	7.8	8.1
30	---	---	---	---	---	---	9.5	9.1	9.4	8.5	7.6	8.0
31	---	---	---	---	---	---	---	---	---	8.2	7.7	7.9
MONTH	2.3	1.7	2.0	---	---	---	11.4	9.1	10.5	10.1	7.0	8.9

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	8.3	7.7	8.0	7.9	6.8	7.2	6.9	5.4	6.0	8.1	6.9	7.3
2	8.6	8.1	8.3	8.3	7.2	7.7	7.4	5.8	6.5	8.1	6.8	7.3
3	8.2	7.7	7.9	8.1	6.9	7.4	8.1	5.8	6.7	8.4	6.8	7.4
4	8.2	7.9	8.1	8.0	6.7	7.3	6.9	5.4	6.1	8.3	6.6	7.2
5	8.1	7.7	7.9	7.7	6.6	7.0	6.8	4.8	5.6	8.1	6.5	7.0
6	8.3	5.5	7.4	7.8	6.1	6.8	6.6	5.1	5.7	7.8	6.2	6.7
7	8.3	7.8	8.1	7.8	6.1	6.8	6.2	4.8	5.4	7.5	6.2	6.7
8	8.1	7.5	7.8	8.1	5.6	6.7	5.7	4.8	5.1	8.5	6.6	7.2
9	7.9	7.4	7.6	8.3	5.7	6.8	7.2	5.1	5.9	8.4	6.8	7.5
10	7.7	7.1	7.4	7.7	5.6	6.6	8.2	6.1	7.0	8.4	7.6	8.0
11	7.4	6.9	7.1	6.5	5.7	6.1	8.2	6.3	7.1	8.8	8.0	8.3
12	7.2	6.9	7.1	7.0	6.0	6.4	7.7	6.1	6.8	9.1	8.1	8.4
13	7.6	7.0	7.3	7.0	5.9	6.2	7.2	5.9	6.4	8.9	8.1	8.4
14	7.8	7.3	7.5	7.2	5.6	6.2	6.5	5.5	6.0	9.3	7.7	8.2
15	8.1	7.6	7.8	6.0	5.4	5.7	6.9	5.4	6.1	8.6	7.6	8.1
16	8.2	7.8	8.0	6.6	5.3	5.7	7.3	5.8	6.4	9.4	7.8	8.2
17	8.2	7.9	8.0	7.2	5.3	6.1	7.3	5.9	6.4	9.1	7.7	8.1
18	8.2	7.7	7.9	7.8	5.5	6.5	7.5	6.0	6.5	9.2	7.7	8.1
19	8.3	7.9	8.1	7.7	5.3	6.2	7.5	6.1	6.6	9.1	7.4	8.0
20	8.3	7.8	8.0	8.0	5.2	6.2	7.4	6.1	6.6	8.2	7.3	7.8
21	8.3	7.9	8.1	7.0	5.2	6.0	7.4	6.1	6.6	9.2	7.7	8.2
22	8.1	7.6	7.8	7.0	5.3	6.0	7.4	6.1	6.5	9.1	7.6	7.9
23	8.0	7.2	7.6	6.6	5.1	5.8	7.2	5.9	6.4	10.5	7.5	8.5
24	8.0	7.0	7.4	7.2	5.5	6.2	6.9	5.6	6.1	11.0	7.6	8.5
25	7.5	6.8	7.1	7.4	5.6	6.3	7.3	5.7	6.4	10.6	7.3	8.3
26	7.6	6.6	7.1	7.5	5.9	6.5	7.6	6.0	6.6	9.8	7.2	8.2
27	7.5	7.0	7.2	7.4	5.6	6.3	7.7	6.2	6.8	9.7	7.8	8.5
28	---	---	---	7.4	5.7	6.4	7.7	6.3	6.9	9.8	7.5	8.3
29	7.4	6.8	7.1	7.1	5.5	6.3	7.2	6.3	6.7	9.4	7.2	8.0
30	7.2	6.4	6.8	7.0	5.5	6.2	8.0	6.5	7.1	9.7	7.2	8.0
31	---	---	---	6.2	5.5	5.7	8.1	6.7	7.3	---	---	---
MONTH	8.6	5.5	7.6	8.3	5.1	6.4	8.2	4.8	6.4	11.0	6.2	7.9

05115500 LAKE DARLING NEAR FOXHOLM, ND

LOCATION.--Lat 48°27'29", long 101°35'00", in NE¼NE¼ sec.1, T.157 N., R.85 W., Ward County, Hydrologic Unit 09010001, on embankment of Lake Darling Dam, reservoir of Fish and Wildlife Service, on Souris River about 6 mi north of Foxholm, and at mile 430.0.

DRAINAGE AREA.--9,450 mi^2, approximately, of which about 6,200 mi^2 is probably noncontributing.

MONTHEND-ELEVATION AND CONTENTS RECORDS

PERIOD OF RECORD.--April 1936 to current year (no winter records 1936-39).

REVISED RECORDS.--WSP 1338: 1942. WSP 2113: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,577.00 ft above sea level. April 1936 to Aug. 8, 1963, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by earth dam; storage began in April 1936; dam completed in July 1936. Usable capacity, 118,600 acre-ft between elevation of 1,577 ft, sill of control gages, and 1598 feet, legal full-capacity level. Flood-emergency maximum level is 1,601 ft (148,600 ac-ft). Dead storage below sill at control gages is 144 acre-ft. Figures given herein represent total contents based on capacity table dated April 12, 1995 (provided by U.S. Fish and Wildlife Service). Water is used during periods of low flow at wildlife refuges downstream. Elevations are adjusted for wind effect.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 145,400 acre-ft, Apr. 17, 1976, elevation, 1601.24 ft; minimum observed since April 1943 when reservoir was first filled to spillway level, 31,200 acre-ft, Feb. 18 and 25, 1963, elevation, 1587.04 ft.

EXTREMES FOR CURRENT YEAR.--Maximum daily contents, 108,900 acre-ft, June 18, elevation, 1597.00 ft; minimum daily contents, 91,870 acre-ft, March 8, elevation, 1595.21 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	1595.77	97,140	--
Oct. 31	*1595.78	97,240	+100
Nov. 30	1596.24	101,600	+4,360
Dec. 31	1595.96	98,940	-2,660
CAL YR 2000	--	--	+5,190
Jan. 31	1595.82	97,610	-1,330
Feb. 28	1595.24	92,150	-5,460
Mar. 31	1595.71	96,570	+4,420
Apr. 30	1596.30	102,180	+5,610
May 31	1596.22	101,410	-770
June 30	1596.90	107,930	+6,520
July 31	*1596.90	107,930	0
Aug. 31	1596.33	102,460	-5,470
Sept.30	1595.97	99,040	-3,420
WTR YR 2001	--	--	+1,900

* - Estimated

05115500 LAKE DARLING NEAR FOXHOLM, ND--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
OCT													
11...	1425	--	1.0	855	9.1	250	50.7	30.4	3	94.6	269	24.7	.2
11...	1430	.00	5.0	--	--	--	--	--	--	--	--	--	--
11...	1435	--	6.3	855	9.1	250	50.4	30.5	3	94.3	268	25.1	.2
NOV													
03...	1105	--	1.0	888	8.6	250	48.3	30.2	3	90.8	266	24.6	.2
03...	1110	--	7.3	887	8.6	240	48.0	30.3	3	91.0	266	24.3	.2
03...	1115	.00	2.4	--	--	--	--	--	--	--	--	--	--
MAY													
08...	1045	--	1.0	805	8.3	220	44.4	26.8	2	81.4	207	15.1	.3
08...	1050	.00	4.3	--	--	--	--	--	--	--	--	--	--
08...	1055	--	6.9	810	8.3	230	46.2	28.0	2	84.9	208	15.1	.3
JUN													
20...	0910	--	1.0	721	8.5	220	45.8	25.3	2	67.2	213	16.3	.2
20...	0915	--	6.4	718	8.6	220	45.6	25.1	2	67.7	213	17.0	.2
20...	0920	.00	4.4	--	--	--	--	--	--	--	--	--	--
AUG													
15...	1010	--	1.0	713	8.6	220	45.5	26.0	2	65.6	225	16.8	.2
15...	1015	.00	1.6	--	--	--	--	--	--	--	--	--	--
15...	1020	--	6.2	717	8.7	220	45.5	26.1	2	66.0	225	16.9	.2
SEP													
27...	0955	--	1.0	757	8.2	230	47.3	27.3	2	70.2	220	18.8	.2
27...	1000	.00	1.8	--	--	--	--	--	--	--	--	--	--
27...	1005	--	6.4	761	8.2	230	46.3	27.0	2	69.5	222	18.5	.2

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	PHENOLS TOTAL (UG/L) (32730)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)
OCT													
11...	168	1.4	.051	<.047	1.4	--	.397	13	<16	575	<10	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	2.2	<.1
11...	170	1.8	.075	<.047	1.7	--	.434	14	<16	577	<10	--	--
NOV													
03...	166	.21	.255	.075	--	.28	<.060	14	<16	564	10	--	--
03...	167	1.5	.262	.078	1.3	1.6	.408	14	<16	562	11	--	--
03...	--	--	--	--	--	--	--	--	--	--	--	1.9	<.1
MAY													
08...	184	.89	.059	E.028	.83	--	.132	12	<16	539	<10	--	--
08...	--	--	--	--	--	--	--	--	--	--	--	.4	<.1
08...	186	.92	.060	E.028	.86	--	.134	12	<16	535	<10	--	--
JUN													
20...	136	.93	<.040	<.050	--	--	.254	13	<16	465	<10	--	--
20...	135	.92	<.040	<.050	--	--	.247	12	<16	463	<10	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	1.9	<.1
AUG													
15...	131	1.4	E.025	E.026	--	--	.285	12	E9	473	<10	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	13.0	1.5
15...	130	1.3	E.027	<.050	--	--	.267	14	E11	474	<10	--	--
SEP													
27...	150	.99	<.040	<.050	--	--	.101	15	<16	484	<10	--	--
27...	--	--	--	--	--	--	--	--	--	--	--	5.9	<.1
27...	150	1.1	<.040	<.050	--	--	.119	12	<16	496	<10	--	--

05115500 LAKE DARLING NEAR FOXHOLM, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO) (01062)
OCT													
11...	35	11	65.1	<5.00	265	<.10	M	<2	<2.0	70	<1	<.10	4.6
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	65	12	66.1	<5.00	271	<.11	M	<2	E1.1	120	<1	<.14	4.5
NOV													
03...	81	11	64.1	<2.50	254	<.11	M	<2	2.2	170	<1	<.14	3.3
03...	87	10	62.9	<2.50	248	<.11	M	<2	2.6	180	<1	E.10	4.1
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
20...	35	4	42.8	<2.50	273	<.10	M	<2	1.8	70	<1	.01	5.4
20...	E26	5	42.4	<2.50	266	<.10	M	<2	1.3	70	<1	<.01	4.9
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	TRIAZIN SCREEN (ELISA) WAT,WH REC,AS ATRAZIN (UG/L) (34757)	CARBO-FURAN, SCREEN, TOTAL (UG/L) (99902)	CYANA-ZINE, SCREEN, TOTAL (UG/L) (99904)	2,4-D SCREEN, TOTAL (UG/L) (99906)
OCT							
11...	3	<3.0	<31	<.1	<.06	<.04	.800
11...	--	--	--	--	--	--	--
11...	E2	<2.6	<31	--	--	--	--
NOV							
03...	2	<2.6	<31	<.1	<.06	<.04	1.90
03...	2	<2.6	<31	--	--	--	--
03...	--	--	--	--	--	--	--
MAY							
08...	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--
JUN							
20...	3	<3.0	<31	<.1	--	--	<.700
20...	2	<3.0	<31	--	--	--	--
20...	--	--	--	--	--	--	--
AUG							
15...	--	--	--	.2	--	--	<.700
15...	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--
SEP							
27...	--	--	--	.2	--	--	<.700
27...	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--

05115500 LAKE DARLING NEAR FOXHOLM, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH OF LAKE MAX. METERS (85310)	SAMPLING DEPTH (M) (00098)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	BAROMETRIC PRESSURE (MM OF HG) (00025)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	TEMPERATURE AIR (DEG C) (00020)	WIND DIRECTION (DEG. FROM TRUE NORTH) (00036)	WIND SPEED (MILES PER HOUR) (00035)
OCT													
11...	1415	6.3	.00	890	8.6	7.9	10.9	98	715	98.0	16.1	210	5.0
11...	1416	--	1.0	886	8.7	7.8	10.7	--	--	--	--	--	--
11...	1417	--	2.3	887	8.8	7.7	10.5	--	--	--	--	--	--
11...	1418	--	3.9	886	8.9	7.3	10.1	--	--	--	--	--	--
11...	1419	--	5.4	887	9.0	7.2	9.2	--	--	--	--	--	--
11...	1420	--	6.3	887	9.0	7.2	9.2	--	--	--	--	--	--
NOV													
03...	1055	7.3	.00	896	8.0	5.7	11.2	95	720	47.0	4.0	260	8.0
03...	1056	--	.50	896	8.1	5.7	11.1	--	--	--	--	--	--
03...	1057	--	1.0	895	8.1	5.7	11.1	--	--	--	--	--	--
03...	1058	--	2.0	895	8.2	5.7	11.1	--	--	--	--	--	--
03...	1059	--	3.0	895	8.2	5.7	11.0	--	--	--	--	--	--
03...	1100	--	4.0	895	8.2	5.7	11.1	--	--	--	--	--	--
03...	1101	--	5.0	895	8.3	5.7	11.0	--	--	--	--	--	--
03...	1102	--	6.0	895	8.3	5.7	10.9	--	--	--	--	--	--
03...	1103	--	7.0	896	8.3	5.7	11.0	--	--	--	--	--	--
03...	1104	--	7.3	896	8.4	5.7	11.0	--	--	--	--	--	--
MAY													
08...	1030	6.9	.30	813	8.2	11.1	10.3	--	--	84.0	4.4	240	6.0
08...	1032	--	1.0	814	8.3	11.0	9.8	--	--	--	--	--	--
08...	1034	--	2.0	814	8.4	11.0	9.7	--	--	--	--	--	--
08...	1036	--	3.0	815	8.4	11.0	9.6	--	--	--	--	--	--
08...	1038	--	4.0	816	8.4	11.0	9.6	--	--	--	--	--	--
08...	1040	--	5.0	819	8.4	11.0	9.5	--	--	--	--	--	--
08...	1042	--	6.1	819	8.4	11.0	9.4	--	--	--	--	--	--
08...	1044	--	6.9	820	8.4	10.9	9.3	--	--	--	--	--	--
JUN													
20...	0900	6.4	.00	721	8.2	16.9	9.5	103	726	87.0	16.5	.0	<5.0
20...	0901	--	1.2	722	8.3	16.9	9.3	--	--	--	--	--	--
20...	0902	--	2.0	722	8.3	16.9	9.2	--	--	--	--	--	--
20...	0903	--	3.1	721	8.4	16.9	9.1	--	--	--	--	--	--
20...	0904	--	4.1	725	8.4	16.9	9.1	--	--	--	--	--	--
20...	0905	--	5.4	724	8.4	16.9	8.9	--	--	--	--	--	--
20...	0906	--	6.4	724	8.4	16.9	8.9	--	--	--	--	--	--
AUG													
15...	1000	6.2	.00	710	8.8	22.1	7.7	94	719	31.0	19.5	330	13
15...	1001	--	1.5	710	8.8	22.1	7.7	--	--	--	--	--	--
15...	1002	--	2.5	710	8.8	22.1	7.6	--	--	--	--	--	--
15...	1003	--	3.5	711	8.8	22.1	7.4	--	--	--	--	--	--
15...	1004	--	4.5	710	8.8	22.1	7.3	--	--	--	--	--	--
15...	1005	--	5.5	712	8.8	22.1	7.3	--	--	--	--	--	--
15...	1006	--	6.2	711	8.8	22.1	7.3	--	--	--	--	--	--
SEP													
27...	0945	6.4	.00	767	7.8	14.1	7.4	76	725	35.0	12.5	--	<5.0
27...	0946	--	1.0	768	7.8	14.1	7.4	--	--	--	--	--	--
27...	0947	--	1.9	769	7.8	14.1	7.4	--	--	--	--	--	--
27...	0948	--	2.9	770	7.9	14.0	7.0	--	--	--	--	--	--
27...	0949	--	4.0	772	7.9	14.0	7.0	--	--	--	--	--	--
27...	0950	--	5.0	772	7.8	14.0	6.7	--	--	--	--	--	--
27...	0951	--	6.0	772	7.8	13.8	5.2	--	--	--	--	--	--
27...	0952	--	6.4	774	7.8	13.7	4.7	--	--	--	--	--	--

E Estimated value
M Presence verified, not quantified

05116000 SOURIS (MOUSE) RIVER NEAR FOXHOLM, ND

LOCATION.--Lat 48°22'20", long 101°30'18", in $SW^1/_4SE^1/_4$ sec.34, T.157 N., R.84 W., Ward County, Hydrologic Unit 09010001, on left bank 30 ft upstream from county highway bridge, 3 mi east of Foxholm, 19 mi upstream from Des Lacs River, and at mile 414.5.

DRAINAGE AREA.--9,470 mi^2, approximately, of which about 6,200 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1904 to November 1905, March to July 1906 (gage heights only), October 1936 to current year. Monthly discharge only for some periods, published in WSP 1308. Published as Mouse River near Foxholm, 1904-6.

REVISED RECORDS.--WSP 1308: 1905. WSP 2113: Drainage area.

GAGE.--Water-stage recorder and sheet piling weir. Datum of gage is 1,560.73 ft above sea level. June 23, 1904, to July 31, 1906, nonrecording gage at site 3.2 mi upstream at different datum. Apr. 1, 1937, to Mar. 25, 1938, nonrecording gage at site 600 ft downstream at datum about 0.5 ft higher.

REMARKS.--Records good except for estimated record, which is fair. Flow almost completely regulated since 1936 by Lake Darling (station 05115500), 15 mi upstream, Canadian Reservoirs (Boundary Reservoir, 48,990 acre-ft - 1958; Rafferty Reservoir, 356,400 acre-ft - 1991; and Alameda Reservoir, 85,560 ac-ft - 1992) and several small reservoirs, combined capacity, about 646,000 acre-feet. Some small diversions for irrigation and municipal supply.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.22	62	54	26	e290	512	1710	74	210	108	118
2	.01	.29	62	49	26	e300	501	1790	67	209	108	118
3	.01	.22	61	34	26	e315	509	1970	64	209	113	116
4	.01	.17	60	27	25	e325	522	2100	64	209	124	115
5	.01	.14	60	27	25	e320	590	2140	65	208	125	115
6	.01	.15	52	27	25	e315	692	2200	62	179	123	115
7	.01	.22	44	27	40	e310	854	2210	60	120	123	109
8	.01	.24	52	27	51	e305	1100	2200	60	113	123	107
9	.01	.21	52	27	58	e310	1250	2200	60	92	121	108
10	.01	.18	52	27	71	e315	1370	2190	59	86	121	108
11	.01	.18	52	27	71	e330	1430	2060	60	81	121	108
12	.01	.17	52	27	77	e370	1440	1870	59	80	121	109
13	.01	.15	51	27	e95	e420	1450	1750	60	80	121	117
14	.02	1.4	51	26	e120	460	1460	1730	60	80	121	125
15	.02	11	52	26	e140	567	1470	1710	61	80	121	125
16	.02	13	53	26	e185	682	1470	1650	61	87	120	125
17	.02	20	52	26	e230	666	1470	1430	61	140	120	125
18	.02	40	53	26	e270	693	1470	1230	67	185	120	125
19	.03	41	53	26	e280	1030	1470	1090	67	189	120	125
20	.04	41	53	26	e285	1320	1480	942	89	193	120	125
21	.02	42	54	26	e290	1400	1490	1010	153	197	120	125
22	.02	41	53	26	e295	1410	1500	971	206	195	120	125
23	.02	41	53	26	e295	1420	1560	834	230	170	119	125
24	.05	41	53	26	e300	1420	1590	488	231	140	120	125
25	.05	41	53	26	e300	1420	1650	285	230	139	119	125
26	.05	41	53	26	e295	1390	1710	215	226	124	119	126
27	.05	41	53	26	e290	1270	1780	184	222	109	120	128
28	.05	41	53	26	e280	1040	1810	168	219	110	119	128
29	.06	41	54	26	---	844	1780	112	212	109	120	126
30	.08	51	53	26	---	653	1730	97	212	108	120	121
31	.09	---	53	26	---	480	---	77	---	108	119	---
TOTAL	0.84	590.94	1664	875	4471	22390	39110	40613	3421	4339	3709	3592
MEAN	.027	19.7	53.7	28.2	160	722	1304	1310	114	140	120	120
MAX	.09	51	62	54	300	1420	1810	2210	231	210	125	128
MIN	.01	.14	44	26	25	290	501	77	59	80	108	107
AC-FT	1.7	1170	3300	1740	8870	44410	77570	80560	6790	8610	7360	7120

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 2001, BY WATER YEAR (WY)

MEAN	26.3	25.7	25.6	26.6	32.9	106	506	499	145	102	58.3	38.4
MAX	146	137	144	166	334	1058	5443	4242	1138	1238	440	345
(WY)	2000	1952	1976	1976	1997	1976	1976	1975	1975	1953	1999	1999
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.017	.010	.000	.000
(WY)	1937	1937	1937	1937	1937	1937	1942	1942	1991	1991	1937	1937

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1937 - 2001	
ANNUAL TOTAL	3628.73		124775.78			
ANNUAL MEAN	9.91		342		133	
HIGHEST ANNUAL MEAN					948	1976
LOWEST ANNUAL MEAN					1.13	1989
HIGHEST DAILY MEAN	71	Aug 5	2210	May 7	8500	Apr 17 1976
LOWEST DAILY MEAN	.01	Sep 17	.01	Oct 1	-5.0	Apr 5 1949
ANNUAL SEVEN-DAY MINIMUM	.01	Sep 27	.01	Oct 1	.00	Oct 1 1936
MAXIMUM PEAK FLOW			2210	May 6	8600	Apr 17 1976
MAXIMUM PEAK STAGE			13.81	May 6	17.17	Apr 17 1976
INSTANTANEOUS LOW FLOW					a,b -25	Apr 4 1949
ANNUAL RUNOFF (AC-FT)	7200		247500		96290	
10 PERCENT EXCEEDS	52		1430		250	
50 PERCENT EXCEEDS	.13		115		12	
90 PERCENT EXCEEDS	.02		.18		.00	

a Reverse flow caused by backwater from Des Lacs River
b No flow at times in most years
e Estimated

05116000 SOURIS (MOUSE) RIVER NEAR FOXHOLM, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
12...	1115	.01	--	--	--	1280	9.0	8.2	--	--	--	--	--
NOV													
14...	1410	.12	--	--	--	1360	-1.0	1.1	--	--	--	--	--
21...	1015	41	--	--	--	1430	-5.5	.5	--	--	--	--	--
JAN													
03...	1500	31	--	--	--	1090	3.0	.1	--	--	--	--	--
MAR													
21...	1515	1420	--	--	--	1120	--	6.2	--	--	--	--	--
APR													
14...	0945	1450	8.8	--e	848	863	6.0	4.6	250	47.0	32.0	13.0	2
MAY													
01...	1230	1720	--	--	--	840	15.0	12.4	--	--	--	--	--
23...	1000	898	--	--	--	788	9.0	14.0	--	--	--	--	--
JUN													
27...	1030	221	--	--	--	750	16.0	20.6	--	--	--	--	--
JUL													
20...	1230	194	--	--	--	744	27.0	25.4	--	--	--	--	--
AUG													
30...	1600	119	8.7	--e	788	778	22.0	20.5	230	46.0	29.0	16.0	2

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
14...	82.0	40	244	24.0	.1	180	2130	544	525	6.0	40	<1.00	30.0
MAY													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
30...	74.0	39	215	19.0	.2	150	169	526	464	8.0	50	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
12...	--	--	--	--	--
NOV					
14...	--	--	--	--	--
21...	--	--	--	--	--
JAN					
03...	--	--	--	--	--
MAR					
21...	--	--	--	--	--
APR					
14...	40.0	<.10	2.0	<1.0	230
MAY					
01...	--	--	--	--	--
23...	--	--	--	--	--
JUN					
27...	--	--	--	--	--
JUL					
20...	--	--	--	--	--
AUG					
30...	30.0	<.10	4.0	3.0	280

e Required equipment not functional/available

05116500 DES LACS RIVER AT FOXHOLM, ND

LOCATION.--Lat 48°22'14", long 101°34'11", in $NW^1/_4NE^1/_4NW^1/_4$ sec 2, T.156 N., R.85 W., Ward County, Hydrologic Unit 09010002, on left bank 200 ft upstream from county highway bridge in Foxholm, and at mile 23.0.

DRAINAGE AREA.--939 mi^2, of which about 400 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1904 to July 1906, October 1945 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1728: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,632.98 ft above sea level. June 14 to Oct. 23, 1955, non-recording gage at site 200 ft downstream from present gage at same datum. See WSP 1728 or 1913 for history of changes prior to June 14, 1955.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow is affected by reservoirs of Des Lacs National Wildlife Refuge. Combined reservoir capacity is about 54,000 acre-ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	8.5	4.9	e.83	e.79	e.71	123	11	4.6	4.2	6.9	1.9
2	4.2	12	4.7	e.82	e.81	e.85	100	11	4.4	4.1	6.0	2.2
3	4.0	18	4.7	e.81	e.82	e.92	86	11	4.2	4.0	5.2	2.3
4	3.8	19	4.7	e.80	e.80	e.94	55	10	4.0	3.8	4.6	2.2
5	4.0	16	4.1	e.80	e.79	e.90	39	9.9	3.9	3.7	4.1	2.4
6	4.2	12	3.8	e.82	e.77	e.96	35	9.9	4.5	3.7	3.6	2.4
7	4.2	8.5	3.9	e.83	e.76	e1.0	37	10	5.0	3.5	3.1	2.5
8	4.0	8.0	4.0	e.84	e.74	e1.3	33	10	4.9	3.3	2.8	2.6
9	4.0	8.2	3.9	e.84	e.73	e2.0	31	9.9	4.6	3.1	2.6	3.0
10	3.8	7.2	3.4	e.85	e.73	e4.0	31	9.6	4.4	2.9	2.4	3.7
11	3.8	6.7	2.6	e.84	e.72	e6.5	32	9.4	4.4	2.9	2.3	4.4
12	3.9	6.9	2.2	e.83	e.72	e9.6	33	8.7	4.4	3.2	2.2	4.9
13	5.5	7.0	2.0	e.82	e.71	e17	32	8.3	4.5	3.5	2.1	5.0
14	4.2	6.5	1.8	e.81	e.70	e45	31	7.8	5.2	3.7	2.0	4.9
15	4.1	6.2	1.7	e.80	e.70	e88	31	7.5	5.9	4.1	1.9	4.9
16	4.1	6.0	1.8	e.80	e.70	e110	31	7.3	6.5	4.2	1.8	4.8
17	4.1	5.9	1.7	e.79	e.69	116	30	7.1	7.3	4.2	1.7	4.8
18	4.1	6.0	1.6	e.79	e.68	125	29	7.1	8.6	4.3	1.6	4.9
19	4.2	5.8	1.5	e.78	e.67	122	27	6.9	11	4.6	1.5	5.0
20	4.3	5.1	e1.4	e.80	e.66	116	26	6.7	18	4.6	1.4	5.1
21	4.3	5.0	e1.2	e.81	e.66	94	25	6.1	19	4.7	1.3	5.2
22	4.5	4.7	e1.1	e.82	e.65	66	20	5.7	14	5.1	1.2	5.2
23	4.4	4.6	e.94	e.81	e.65	68	16	5.3	11	10	1.2	5.2
24	4.2	4.8	e.83	e.80	e.64	48	14	5.0	8.8	19	1.1	6.2
25	4.2	4.9	e.76	e.79	e.63	78	13	5.0	7.5	17	1.1	6.1
26	4.7	5.0	e.75	e.80	e.62	100	12	5.1	6.2	12	1.1	6.0
27	4.9	4.9	e.77	e.81	e.64	145	12	5.1	5.4	10	1.1	5.6
28	4.8	4.9	e.79	e.80	e.66	144	11	5.3	4.9	12	1.2	5.4
29	5.3	4.9	e.83	e.79	---	147	11	4.9	4.6	18	1.2	5.2
30	7.4	4.9	e.86	e.78	---	141	11	4.8	4.4	13	1.2	5.1
31	7.8	---	e.84	e.77	---	116	---	4.9	---	9.1	1.5	---
TOTAL	139.4	228.1	70.07	25.08	19.84	1915.68	1017	236.3	206.1	205.5	73.0	129.1
MEAN	4.50	7.60	2.26	.81	.71	61.8	33.9	7.62	6.87	6.63	2.35	4.30
MAX	7.8	19	4.9	.85	.82	147	123	11	19	19	6.9	6.2
MIN	3.8	4.6	.75	.77	.62	.71	11	4.8	3.9	2.9	1.1	1.9
AC-FT	276	452	139	50	39	3800	2020	469	409	408	145	256

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2001, BY WATER YEAR (WY)

MEAN	9.81	6.50	2.96	1.37	4.37	49.2	119	62.2	37.3	23.2	12.1	11.0
MAX	83.5	50.7	16.3	8.52	76.1	362	730	399	228	216	108	97.9
(WY)	1976	1976	2000	2000	1981	1976	1976	1975	1975	1999	1972	1975
MIN	.000	.000	.000	.000	.000	.10	1.77	.30	.020	.000	.000	.000
(WY)	1993	1993	1959	1946	1946	1948	1963	1993	1961	1961	1961	1958

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1904 - 2001	
ANNUAL TOTAL	3107.17		4265.17			
ANNUAL MEAN	8.49		11.7		28.3	
HIGHEST ANNUAL MEAN					148	1976
LOWEST ANNUAL MEAN					.44	1991
HIGHEST DAILY MEAN	109	Jul 4	147	Mar 29	3200	Apr 30 1970
LOWEST DAILY MEAN	.75	Dec 26	.62	Feb 26	.00	Dec 11 1945
ANNUAL SEVEN-DAY MINIMUM	.80	Dec 24	.64	Feb 21	.00	Dec 11 1945
MAXIMUM PEAK FLOW			156	Mar 27	4260	Apr 19 1979
MAXIMUM PEAK STAGE			a 8.02	Mar 14	b 21.23	Apr 19 1979
ANNUAL RUNOFF (AC-FT)	6160		8460		20510	
10 PERCENT EXCEEDS	14		28		60	
50 PERCENT EXCEEDS	5.9		4.4		3.0	
90 PERCENT EXCEEDS	3.7		.79		.00	

a Ice effected
b From high-water mark
e Estimated

05116500 DES LACS RIVER AT FOXHOLM, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1950-51, 1969-70, 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
11...	1550	3.7	--	--	--	1050	21.0	8.0	--	--	--	--	--
NOV													
14...	1520	6.3	--	--	--	1850	-2.0	.00	--	--	--	--	--
JAN													
03...	1330	.81	--	--	--	2660	1.5	.00	--	--	--	--	--
MAR													
21...	1315	91	8.0	--e	720	734	6.0	.5	230	50.0	26.0	11.0	2
APR													
06...	1030	34	--	--	--	1080	--	--	--	--	--	--	--
MAY													
23...	1125	5.4	--	--	--	2070	10.0	11.0	--	--	--	--	--
JUL													
20...	1050	4.7	--	--	--	1660	25.0	25.8	--	--	--	--	--
AUG													
30...	1700	1.2	8.4	--e	1650	1640	22.5	20.5	480	84.0	65.0	13.0	4

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
21...	61.0	35	149	8.7	.1	200	118	480	447	3.0	280	<1.00	20.0
APR													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
30...	200	47	413	29.0	.3	500	4.02	1190	1140	9.0	80	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
11...	--	--	--	--	--
NOV					
14...	--	--	--	--	--
JAN					
03...	--	--	--	--	--
MAR					
21...	110	<.10	<1.0	2.0	210
APR					
06...	--	--	--	--	--
MAY					
23...	--	--	--	--	--
JUL					
20...	--	--	--	--	--
AUG					
30...	40.0	<.10	3.0	3.0	460

e Required equipment not functional/available

05117500 SOURIS (MOUSE) RIVER ABOVE MINOT, ND

LOCATION.--Lat 48°14'45", long 101°22'15", in $NW^1/_4NW^1/_4SE^1/_4$ sec.17, T.155 N., R.83 W., Ward County, Hydrologic Unit 09010001, on right bank 180 ft downstream from county highway bridge, 3.5 mi west of Minot, 7 mi downstream from Des Lacs River, and at mile 388.5.

DRAINAGE AREA.--10,600 mi^2, approximately, of which about 6,700 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1903 to current year. Monthly discharge only for some periods, published in WSP 1308. Published as Mouse River at Minot, 1903-24, Souris River at Minot, 1927-28, 1929-34, and Souris River near Minot, 1928-29.

REVISED RECORDS.--WSP 1308: 1905, 1909-14, 1918, 1924-25, 1927. WSP 1338: 1903-4, 1906, 1917, 1928, 1929(M). WSP 2113: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,545.75 ft above sea level. May 5, 1903, to Sept. 30, 1928; Oct. 1, 1929, to Sept. 30, 1934; nonrecording gages at mile 377.6 in Minot, at datum 12.5 ft lower, Oct. 1, 1928, to Sept. 30, 1929, nonrecording gages at Saugstad bridge at mile 366.8, 5 mi southeast of Minot and at datum 19.2 ft lower than present datum. Records equivalent except those for periods of extreme low flow, as some industrial and sanitary waste enters the river between the sites.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by reservoirs on Souris and Des Lacs Rivers, combined capacity, about 700,000 acre-ft; some small diversions for irrigation and municipal supply.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage in Minot at least 3 ft higher than 1904 peak, in 1881, according to Apr. 20, 1904, issue of Minot Daily Optic. This peak probably occurred in 1882.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	16	71	e70	e28	e295	622	1750	e115	189	122	102
2	13	28	92	e68	e28	e290	632	1730	105	187	116	103
3	18	22	95	e67	e29	e300	614	1770	99	188	115	101
4	20	22	94	e64	e28	e320	626	1880	96	187	119	101
5	18	32	90	e38	e28	e330	610	1960	96	187	142	102
6	12	27	95	e34	e27	e325	689	2020	101	187	141	106
7	9.9	26	90	e33	e32	e320	770	2060	98	173	172	107
8	9.5	18	71	e32	e40	e320	940	2060	88	139	148	101
9	10	13	76	e32	e45	e315	1120	2050	84	124	136	97
10	20	12	70	e31	e52	e310	1240	2050	82	106	133	99
11	17	11	e77	e31	e62	e320	1320	2030	86	99	131	100
12	15	11	e78	e31	e76	e330	1360	1970	83	95	130	100
13	12	10	e76	e30	e92	e380	1370	1860	81	100	130	101
14	13	9.6	e77	e30	e110	e420	1390	1760	89	94	129	116
15	9.8	8.8	e77	e30	e130	e450	1400	1720	86	92	128	128
16	8.7	8.3	e76	e30	e165	e620	1400	1700	83	94	126	126
17	6.9	14	e77	e31	e195	e730	1400	1630	83	99	125	128
18	6.7	25	e79	e30	e230	e820	1390	1430	85	138	124	129
19	6.0	53	e78	e30	e270	e1050	1400	1230	88	174	122	128
20	4.6	64	e77	e29	e290	e1300	1410	1030	90	181	122	128
21	4.2	64	e76	e29	e295	e1420	1410	938	114	189	122	126
22	4.0	64	e74	e30	e290	1410	1410	958	165	190	119	126
23	4.6	67	e73	e30	e295	1400	1420	914	192	187	118	126
24	4.9	67	e71	e29	e300	1400	1450	737	201	173	117	127
25	9.2	66	e70	e29	e305	1400	1490	456	202	163	115	130
26	19	65	e71	e29	e310	1400	1570	278	200	158	112	128
27	12	66	e72	e30	e305	1400	1670	215	197	142	112	131
28	11	66	e72	e30	e300	1330	1740	e190	197	124	112	130
29	7.5	66	e72	e29	---	1120	1790	e160	195	122	109	131
30	6.7	66	e71	e29	---	935	1790	e140	191	126	105	132
31	7.0	---	e70	e28	---	744	---	e125	---	125	101	---
TOTAL	330.2	1087.7	2408	1093	4357	23504	37443	40801	3672	4532	3853	3490
MEAN	10.7	36.3	77.7	35.3	156	758	1248	1316	122	146	124	116
MAX	20	67	95	70	310	1420	1790	2060	202	190	172	132
MIN	4.0	8.3	70	28	27	290	610	125	81	92	101	97
AC-FT	655	2160	4780	2170	8640	46620	74270	80930	7280	8990	7640	6920

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2001, BY WATER YEAR (WY)

MEAN	32.6	27.9	22.9	21.1	28.8	140	656	569	197	125	62.9	46.7
MAX	266	159	164	170	399	1272	6209	4916	1402	1393	480	748
(WY)	1904	1952	1976	1976	1997	1976	1976	1904	1975	1953	1999	1903
MIN	.000	.000	.000	.000	.000	.000	1.27	.31	.000	.000	.000	.000
(WY)	1935	1935	1935	1935	1935	1936	1937	1993	1938	1937	1937	1935

05117500 SOURIS (MOUSE) RIVER ABOVE MINOT, ND--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1903 - 2001	
ANNUAL TOTAL	9314.2		126570.9			
ANNUAL MEAN	25.4		347		160	
HIGHEST ANNUAL MEAN					1105	1976
LOWEST ANNUAL MEAN					1.30	1931
HIGHEST DAILY MEAN	165	Jul 6	2060	May 7	11400	Apr 22 1904
LOWEST DAILY MEAN	2.8	Aug 1	4.0	Oct 22	.00	Sep 26 1917
ANNUAL SEVEN-DAY MINIMUM	3.4	Jul 27	5.0	Oct 18	.00	Sep 26 1917
MAXIMUM PEAK FLOW			2070	May 7	12000	Apr 20 1904
MAXIMUM PEAK STAGE			a 12.52	Mar 20	b,c 21.90	Apr 20 1904
ANNUAL RUNOFF (AC-FT)	18470		251100		116200	
10 PERCENT EXCEEDS	71		1400		320	
50 PERCENT EXCEEDS	14		112		22	
90 PERCENT EXCEEDS	6.7		18		.20	

a Backwater from ice
b At site in Minot, from rating curve extended above 8,000 ft^3/s
c Maximum stage at present site about 23 ft in April 1904
e Estimated

05117500 SOURIS (MOUSE) RIVER ABOVE MINOT, ND--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT													
19...	0930	6.9	--	--	--	--	--	--	1870	7.5	9.8	--	--
NOV													
14...	1200	9.3	719	88	11.8	8.3	8.0	1780	1800	-1.0	.9	500	93.6
JAN													
11...	1215	31	--	--	--	--	--	--	1270	1.0	.00	--	--
MAR													
08...	1730	320	--	--	12.9	8.5	8.3	1080	1100	3.5	.00	300	58.8
21...	1715	1420	--	--	--	--	--	--	1070	-4.0	4.7	--	--
APR													
06...	1215	693	713	110	12.5	8.7	8.5	1110	1120	--	6.7	340	64.8
25...	1000	1480	--	--	10.9	8.5	8.2	879	870	17.5	8.5	260	51.2
JUN													
19...	1430	84	--	--	8.8	8.3	8.2	1010	1020	--	17.9	280	54.8
JUL													
19...	0945	174	--	--	5.3	8.2	8.1	784	794	20.0	26.0	230	44.0
AUG													
30...	1430	104	718	95	7.9	8.5	--	--	794	21.5	21.1	--	--
SEP													
13...	1730	97	727	114	10.7	8.5	8.3	782	794	16.0	15.8	240	46.9

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)
OCT													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
14...	64.2	4	219	457	39.0	.3	477	1.9	.213	.122	1.7	2.0	.223
JAN													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
08...	37.7	3	114	325	32.1	.2	204	1.7	.249	.235	1.4	1.9	.463
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
06...	42.6	3	114	333	31.4	.2	232	1.5	.062	.053	1.5	1.6	.318
25...	32.7	2	87.2	247	20.8	.2	185	--	--	--	--	--	--
JUN													
19...	35.6	3	107	267	23.9	.3	232	1.1	E.028	E.041	--	--	.292
JUL													
19...	28.3	2	78.3	237	19.0	.2	148	1.0	<.040	<.050	--	--	.380
AUG													
30...	--	--	--	--	--	--	--	1.4	<.040	<.050	--	--	.286
SEP													
13...	29.5	2	78.0	238	20.3	.2	149	1.4	<.040	.085	--	1.5	.228

05117500 SOURIS (MOUSE) RIVER ABOVE MINOT, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)
OCT													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
14...	17	1240	<2	--	--	73	5	78.5	<2.50	174	<.11	1	<2
JAN													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
08...	13	704	E2	--	--	72	10	72.5	<2.50	291	<.11	M	<2
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
06...	2.1	762	--	3.0	.1	166	8	71.0	<2.50	244	.12	M	<2
25...	--	587	<2	1.4	<.1	210	5	62.6	<2.50	203	E.07	1	<2
JUN													
19...	13	676	67	18.1	1.6	35	6	25.5	<2.50	285	<.10	<1	<2
JUL													
19...	14	505	E330	6.5	.4	135	8	59.9	<2.50	282	<.10	M	<2
AUG													
30...	15	--	>6000	13.9	2.4	--	--	--	--	--	--	--	--
SEP													
13...	15	508	E39	11.1	1.7	75	7	81.1	<2.50	268	<.10	<1	<2

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO) (01062)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)
OCT							
19...	--	--	--	--	--	--	--
NOV							
14...	E1.6	310	<1	2.9	4	<2.6	<31
JAN							
11...	--	--	--	--	--	--	--
MAR							
08...	E1.7	180	<1	3.5	3	<2.6	<31
21...	--	--	--	--	--	--	--
APR							
06...	2.4	380	M	3.9	4	<2.6	<31
25...	3.3	480	M	2.9	4	<2.6	<31
JUN							
19...	1.2	170	<1	4.6	3	<3.0	<31
JUL							
19...	E1.0	360	M	4.0	3	<3.0	<31
AUG							
30...	--	--	--	--	--	--	--
SEP							
13...	1.7	230	M	5.8	4	<3.0	<31

E Estimated value
M Presence verified, not quantified

05120000 SOURIS (MOUSE) RIVER NEAR VERENDRYE, ND

LOCATION.--Lat 48°09'35", long 100°43'45", in NW$^1/_4$SW$^1/_4$ sec.17, T.154 N., R.78 W., McHenry County, Hydrologic Unit 09010003, on left bank 2.7 mi north of Verendrye, 19 mi upstream from mouth of Wintering River, and at mile 302.0.

DRAINAGE AREA.--11,300 mi^2, approximately, of which about 6,900 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February to June 1933 (gage heights only), April 1937 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 2113: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,464.87 ft above sea level. February to June 1933, at site 4 mi upstream at datum 1.65 ft higher. Apr. 1, 1937, to Mar. 3, 1938, nonrecording gage at present site, at datum 1.97 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by reservoirs on Souris and Des Lacs Rivers, combined capacity about 700,000 acre-ft; some diversions for irrigation and municipal supply.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	30	69	e80	e33	e330	e1400	1760	251	243	135	117
2	20	46	69	e79	e34	e350	1200	1800	200	241	147	123
3	19	75	69	e79	e34	e360	910	1810	178	240	145	120
4	16	134	69	e78	e33	e370	827	1810	159	239	130	119
5	15	149	72	e76	e33	e380	807	1830	147	219	143	119
6	14	135	82	e74	e33	e370	818	1860	143	207	130	115
7	14	105	88	e72	e33	e370	851	1910	144	208	129	115
8	14	50	89	e60	e34	e380	902	1970	144	213	137	116
9	14	45	90	e49	e36	e380	962	2040	141	210	143	118
10	14	66	94	e42	e40	e390	1040	2120	132	195	162	121
11	15	62	93	e40	e45	e400	1200	2160	129	173	157	118
12	16	53	90	e39	e54	e425	1350	2190	137	155	143	113
13	18	47	89	e37	e63	e450	1460	2210	159	155	132	113
14	20	44	89	e37	e72	e490	1540	2200	171	158	132	113
15	21	40	e89	e37	e83	e550	1580	2150	193	138	132	116
16	21	37	e89	e37	e94	e640	1610	2070	232	140	132	117
17	34	36	e88	e36	e105	e700	1620	1990	232	130	131	118
18	39	35	e88	e36	e120	e810	1620	1930	223	131	116	122
19	31	34	e87	e36	e140	e920	1620	1870	239	140	115	124
20	29	32	e87	e36	e150	e1100	1620	1750	349	137	124	124
21	24	31	e86	e36	e170	e1300	1610	1540	368	160	124	123
22	21	31	e85	e35	e210	e1450	1620	1230	267	197	124	123
23	19	37	e84	e35	e230	e1500	1610	1040	200	248	128	123
24	19	53	e84	e35	e270	e1550	1610	979	186	369	135	122
25	20	62	e83	e35	e310	e1600	1610	945	207	331	126	121
26	20	64	e83	e35	e340	e1630	1620	856	235	241	122	121
27	19	66	e82	e34	e350	e1660	1630	692	246	200	114	121
28	21	68	e82	e34	e340	e1680	1660	502	247	185	114	122
29	20	69	e81	e34	---	e1720	1680	383	244	174	115	121
30	19	69	e81	e34	---	e1750	1720	324	243	167	115	121
31	20	---	e80	e33	---	e1600	---	285	---	137	115	---
TOTAL	623	1805	2591	1440	3489	27605	41307	48206	6146	6081	4047	3579
MEAN	20.1	60.2	83.6	46.5	125	890	1377	1555	205	196	131	119
MAX	39	149	94	80	350	1750	1720	2210	368	369	162	124
MIN	14	30	69	33	33	330	807	285	129	130	114	113
AC-FT	1240	3580	5140	2860	6920	54750	81930	95620	12190	12060	8030	7100

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 2001, BY WATER YEAR (WY)

MEAN	51.6	43.5	34.6	30.9	49.2	234	692	692	262	166	87.8	56.6
MAX	225	169	160	171	277	1209	6280	4918	2122	1599	512	363
(WY)	2000	1976	1976	1976	1976	1976	1976	1975	1975	1953	1976	1999
MIN	1.50	1.00	1.00	.50	.50	2.25	11.7	6.80	2.33	.67	.42	.10
(WY)	1938	1938	1938	1938	1938	1940	1937	1938	1938	1937	1937	1937

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1937 - 2001	
ANNUAL TOTAL	18742		146919			
ANNUAL MEAN	51.2		403		203	
HIGHEST ANNUAL MEAN					1185	1976
LOWEST ANNUAL MEAN					18.8	1991
HIGHEST DAILY MEAN	265	May 14	2210	May 13	9700	Apr 20 1976
LOWEST DAILY MEAN	13	Sep 25	14	Oct 6	.10	Sep 1 1937
ANNUAL SEVEN-DAY MINIMUM	13	Sep 24	14	Oct 5	.10	Sep 1 1937
MAXIMUM PEAK FLOW			2220	May 13	9900	Apr 19 1976
MAXIMUM PEAK STAGE			a 14.38	Mar 30	17.84	Apr 19 1976
INSTANTANEOUS LOW FLOW			14	Oct 6		
ANNUAL RUNOFF (AC-FT)	37170		291400		147000	
10 PERCENT EXCEEDS	89		1610		436	
50 PERCENT EXCEEDS	40		129		38	
90 PERCENT EXCEEDS	19		33		3.7	

a Backwater from ice
e Estimated

05120000 SOURIS (MOUSE) RIVER NEAR VERENDRYE, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1950-51, 1957 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
OCT													
18...	1545	--	38	--	--	--	--	--	--	1720	26.0	10.3	--
NOV													
21...	1510	--	31	--	--	9.8	7.8	7.9	1790	1840	--	.1	500
JAN													
10...	1215	--	41	--	--	--	--	--	--	1400	-3.0	.00	--
MAR													
08...	1200	380	--	725	82	11.4	8.3	8.1	1140	1150	.5	.00	320
30...	1315	--	1750	712	112	11.5	--e	8.2	1120	1130	4.8	11.0	320
APR													
04...	1845	--	795	--	--	--	--	--	--	1120	--	--	--
13...	1100	--	1460	--	--	--	--	--	--	1040	--	5.6	--
23...	1800	--	1610	--	--	11.6	--e	7.9	933	945	15.5	7.4	280
JUN													
21...	1145	--	365	--	--	7.1	8.1	8.1	1250	1260	21.0	365	370
JUL													
17...	1400	--	129	--	--	7.4	8.2	8.1	978	991	30.0	25.7	290
AUG													
29...	1645	--	116	--	--	6.7	8.3	--	--	1000	22.0	21.4	--
SEP													
13...	1345	115	--	--	--	8.9	8.3	8.3	954	980	15.0	14.7	270

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, TOTAL (MG/L AS N) (00600)
OCT													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
21...	97.6	62.0	4	200	378	53.1	.2	518	1.5	.495	.586	1.0	2.1
JAN													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
08...	62.5	39.3	3	121	333	38.2	.2	217	1.5	.176	.390	1.4	1.9
30...	64.1	38.3	3	112	332	31.9	.2	233	1.9	E.024	<.047	--	--
APR													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	54.6	34.5	2	92.4	257	22.5	.2	206	--	--	--	--	--
JUN													
21...	73.0	45.8	3	129	255	15.9	.2	394	1.2	.056	1.02	1.1	2.2
JUL													
17...	57.7	34.8	3	104	288	22.6	.2	207	1.1	<.040	.058	--	1.2
AUG													
29...	--	--	--	--	--	--	--	--	1.2	<.040	<.050	--	--
SEP													
13...	52.6	32.9	3	104	265	35.5	.2	201	1.3	<.040	<.050	--	--

05120000 SOURIS (MOUSE) RIVER NEAR VERENDRYE, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)
OCT													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
21...	.124	12	1250	E27	--	--	83	E2	66.9	<2.50	233	<.10	<1
JAN													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
08...	.462	15	752	E21	--	--	144	10	70.7	<2.50	308	.61	M
30...	.518	19	758	E18	9.8	.8	988	10	95.2	<2.50	353	.12	2
APR													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	621	E9	6.8	.2	754	6	77.1	<2.50	194	E.09	2
JUN													
21...	.237	18	890	200	<.1	<.1	731	4	76.0	<2.50	208	<.10	1
JUL													
17...	.300	13	646	E25	4.2	.3	326	9	60.9	<2.50	296	<.10	1
AUG													
29...	.431	17	--	55	20.2	1.2	--	--	--	--	--	--	--
SEP													
13...	.375	17	646	140	12.5	1.0	474	8	70.7	E1.47	285	<.10	M

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO) (01062)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)
OCT								
18...	--	--	--	--	--	--	--	--
NOV								
21...	<2	1.8	310	M	2.2	2	<3.0	<31
JAN								
10...	--	--	--	--	--	--	--	--
MAR								
08...	<2	2.6	360	M	3.6	4	<2.6	<31
30...	E1	4.6	2360	2	2.8	8	<2.6	<31
APR								
04...	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--
23...	<2	3.3	1740	2	2.5	5	<2.6	E17
JUN								
21...	E1	3.8	1720	1	1.7	4	<3.0	<31
JUL								
17...	<2	2.3	740	1	3.7	3	<3.0	<31
AUG								
29...	--	--	--	--	--	--	--	--
SEP								
13...	<2	4.4	1380	2	6.2	6	<3.0	<31

E Estimated value
M Presence verified, not quantified
e Required equipment not functional/available

05120500 WINTERING RIVER NEAR KARLSRUHE, ND

LOCATION.--Lat 48°08'18", long 100°32'22", SW¼SW¼SW¼ sec.23, T.154 N., R.77 W., McHenry County, Hydrologic Unit 09010003, on right bank downstream from county highway bridge, 9 mi upstream from mouth, and 5 mi northeast of Karlsruhe.

DRAINAGE AREA.--705 mi^2, of which about 420 mi^2 is probably noncontributing. (Drainage area shown is for former location 5 river miles downstream. Total drainage area has been reduced about 10 percent, which mostly consists of noncontributing area. New drainage areas will be published, but have not been delineated.)

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1937 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1728: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,500 ft above sea level, from topographic map. Mar. 1937 to Sept. 30, 1994, at site 5 miles downstream, at datum 20 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Some regulation by Fish and Wildlife Service dams on Cottonwood and Wintering Lakes, controlled capacity, about 850 acre-ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	24	54	e7.6	e8.2	e7.8	e220	104	25	27	18	2.6
2	21	28	52	e7.7	e8.1	e7.8	e225	96	24	26	17	2.4
3	19	28	49	e7.8	e8.1	e7.8	e250	85	23	24	16	2.3
4	18	28	51	e7.8	e8.0	e7.9	e265	78	22	22	15	2.2
5	18	26	49	e7.8	e7.9	e8.2	239	74	21	20	14	2.0
6	17	27	45	e8.0	e7.8	e8.5	235	75	22	22	13	2.8
7	17	35	47	e8.2	e7.8	e8.6	217	74	26	20	12	4.3
8	16	44	46	e8.3	e7.7	e8.8	206	66	23	18	12	3.8
9	15	50	e45	e8.5	e7.8	e8.9	206	61	21	17	12	3.6
10	15	51	e40	e8.8	e7.8	e9.2	205	54	20	16	11	3.6
11	15	54	e29	e8.8	e7.6	e9.4	210	50	25	15	10	3.5
12	14	58	e20	e8.8	e7.5	e11	210	49	22	18	9.9	3.3
13	14	62	e17	e8.8	e7.5	e13	212	48	25	16	8.3	2.9
14	15	63	e14	e8.9	e7.5	e17	220	46	29	17	8.3	3.6
15	14	68	e12	e8.9	e7.5	e22	226	44	29	16	7.5	4.0
16	14	73	e11	e8.9	e7.5	e28	217	43	29	17	6.6	4.3
17	13	78	e10	e8.9	e7.5	e38	200	43	26	16	6.2	4.0
18	13	74	e9.7	e8.9	e7.5	e58	204	40	28	14	5.4	4.3
19	13	63	e9.0	e8.9	e7.5	e85	203	38	31	13	5.1	5.9
20	12	63	e8.5	e8.9	e7.5	e120	205	37	36	19	4.7	1.6
21	12	62	e8.2	e8.8	e7.5	e220	192	35	35	17	4.6	3.8
22	12	57	e8.2	e8.9	e7.5	e325	175	32	33	19	4.3	3.8
23	12	56	e7.8	e8.9	e7.5	e370	163	32	33	19	4.0	3.6
24	12	57	e7.7	e8.8	e7.5	e410	157	31	34	15	3.6	3.8
25	13	58	e7.6	e8.8	e7.5	e440	154	30	35	14	3.2	3.6
26	14	60	e7.6	e8.7	e7.6	e390	143	28	34	14	3.5	3.7
27	14	59	e7.6	e8.6	e7.7	e325	133	27	33	19	2.6	3.3
28	14	58	e7.6	e8.5	e7.8	e300	124	26	33	18	3.0	3.3
29	15	56	e7.4	e8.5	---	e270	116	25	32	18	2.6	3.5
30	16	55	e7.4	e8.4	---	e250	109	27	29	18	2.8	3.6
31	19	---	e7.6	e8.4	---	e235	---	26	---	18	2.9	---
TOTAL	468	1575	702.9	264.5	214.9	4019.9	5841	1524	838	562	249.1	103.0
MEAN	15.1	52.5	22.7	8.53	7.67	130	195	49.2	27.9	18.1	8.04	3.43
MAX	22	78	54	8.9	8.2	440	265	104	36	27	18	5.9
MIN	12	24	7.4	7.6	7.5	7.8	109	25	20	13	2.6	1.6
AC-FT	928	3120	1390	525	426	7970	11590	3020	1660	1110	494	204

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 2001, BY WATER YEAR (WY)

MEAN	6.40	6.20	2.48	1.14	1.50	26.5	73.1	34.1	18.0	12.1	7.62	5.79
MAX	109	98.8	22.7	8.53	10.7	343	465	304	194	95.1	87.3	67.3
(WY)	1995	1995	2001	2001	2000	1995	1997	1999	1999	1999	1993	1999
MIN	.034	.50	.000	.000	.000	.000	2.81	1.65	.43	.23	.006	.000
(WY)	1993	1938	1938	1938	1938	1951	1992	1992	1992	1989	1989	1992

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1937 - 2001	
ANNUAL TOTAL	11729.1		16362.3			
ANNUAL MEAN	32.0		44.8		16.5	
HIGHEST ANNUAL MEAN					82.0	1999
LOWEST ANNUAL MEAN					1.36	1992
HIGHEST DAILY MEAN	97	May 24	440	Mar 25	2500	Apr 7 1949
LOWEST DAILY MEAN	3.6	Feb 20	1.6	Sep 20	.00	Mar 1 1937
ANNUAL SEVEN-DAY MINIMUM	3.8	Feb 16	2.5	Aug 30	.00	Mar 1 1937
MAXIMUM PEAK FLOW			a 480	Mar 25	3000	Apr 7 1949
MAXIMUM PEAK STAGE			b 8.21	Mar 21	b 12.00	Apr 7 1949
ANNUAL RUNOFF (AC-FT)	23260		32450		11920	
10 PERCENT EXCEEDS	67		147		33	
50 PERCENT EXCEEDS	29		17		3.4	
90 PERCENT EXCEEDS	4.9		4.3		.10	

a About
b Backwater from ice
e Estimated

05120500 WINTERING RIVER NEAR KARLSRUHE, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1954-56, 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
18...	1730	13	--	--	--	1940	24.0	13.0	--	--	--	--	--
NOV													
16...	1300	71	--	--	--	2630	-7.0	.00	--	--	--	--	--
JAN													
10...	1330	8.7	--	--	--	943	-1.0	.00	--	--	--	--	--
MAR													
08...	1430	8.8	--	--	--	693	3.0	.00	--	--	--	--	--
19...	1545	84	8.0	--e	587	598	7.5	.4	110	20.0	15.0	12.0	3
28...	1415	294	--	--	--	1210	5.0	.5	--	--	--	--	--
APR													
11...	1530	204	--	--	--	1530	9.0	5.6	--	--	--	--	--
JUN													
01...	1230	25	--	--	--	2280	13.0	15.2	--	--	--	--	--
JUL													
17...	1600	15	8.3	8.1	1960	1910	31.0	30.0	370	54.0	57.0	14.0	7
SEP													
13...	1600	2.5	--	--	--	734	15.0	16.8	--	--	--	--	--

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
19...	76.0	57	140	9.0	.1	140	88.3	389	357	--o	270	--o	20.0
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
17...	320	64	612	31.0	.2	450	55.5	1370	1290	9.0	190	2.00	100
SEP													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
18...	--	--	--	--	--
NOV					
16...	--	--	--	--	--
JAN					
10...	--	--	--	--	--
MAR					
08...	--	--	--	--	--
19...	170	<.10	--o	--o	170
28...	--	--	--	--	--
APR					
11...	--	--	--	--	--
JUN					
01...	--	--	--	--	--
JUL					
17...	160	<.10	2.0	280	280
SEP					
13...	--	--	--	--	--

e Required equipment not functional/available
o Insufficient amount of water

05122000 SOURIS (MOUSE) RIVER NEAR BANTRY, ND

LOCATION.--Lat 48°30'20", long 100°26'04", in $SE^1/_4NW^1/_4SE^1/_4$ sec.14, T.158 N., R.76 W., McHenry County, Hydrologic Unit 09010003, on left bank 200 ft upstream from Nelson bridge, 8 mi east of Bantry, 18 mi upstream from Willow Creek, and at mile 228.0.

DRAINAGE AREA.--12,300 mi^2 approximately, of which about 7,600 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1937 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 2113: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,427.56 ft above sea level. Prior to Mar. 16, 1938, nonrecording gage at same site at datum 0.17 ft lower.

REMARKS.--Records good except those for periods of estimated discharge, which are fair. Flow regulated by reservoirs on Souris, Des Lacs, and Wintering Rivers, total capacity, about 700,800 acre-ft. Diversions for irrigation of about 7,600 acres at Eaton Dam about 42 mi above station and other small diversions for irrigation and municipal supply.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	54	e78	e90	e52	e200	e950	1610	995	359	262	113
2	62	66	e79	e90	e51	e230	e1050	1640	939	349	240	113
3	60	73	e81	e88	e51	e300	e1200	1640	891	338	221	111
4	58	83	e83	e87	e51	e370	e1500	1640	840	323	205	113
5	58	102	e86	e86	e50	e420	e2000	1640	789	309	190	115
6	57	126	e87	e83	e50	e430	2260	1660	746	302	178	117
7	57	e160	e88	e80	e49	e440	2040	1700	698	296	170	117
8	56	e170	e90	e78	e49	e450	1830	1740	643	286	173	118
9	54	e185	e92	e75	e48	e460	1700	1730	591	279	171	117
10	52	e195	e95	e73	e48	e470	1610	1720	547	270	164	118
11	50	e175	e96	e72	e48	e480	1470	1710	515	262	161	118
12	49	e160	e97	e70	e47	e490	1330	1720	490	259	162	118
13	48	e150	e99	e68	e47	e500	1320	1720	472	247	168	119
14	52	e140	e100	e66	e47	e510	1410	1720	466	234	172	119
15	53	e130	e102	e65	e46	e520	1490	1720	483	215	168	116
16	53	e125	e100	e63	e46	e540	1500	1760	496	211	e157	114
17	54	e120	e99	e62	e45	e570	1610	1800	499	207	e156	112
18	56	e115	e99	e60	e46	e600	1640	1800	509	200	e156	114
19	57	e110	e98	e59	e47	e670	1630	1780	514	194	e154	116
20	57	e105	e97	e58	e49	e760	1630	1760	512	196	e153	117
21	61	e100	e96	e58	e56	e830	1640	1780	504	198	e142	119
22	66	e94	e96	e57	e65	e880	1630	1750	500	202	e140	122
23	62	e88	e95	e57	e81	e900	1560	1710	507	206	e139	123
24	60	e82	e95	e56	e94	e910	1530	1680	501	220	e138	125
25	57	e77	e95	e56	e110	e920	1560	1640	470	237	e136	125
26	53	e68	e94	e55	e130	e940	1590	1560	428	283	e138	125
27	49	e70	e93	e55	e150	e950	1590	1450	389	348	e145	125
28	48	e71	e92	e54	e170	e940	1540	1330	371	368	e135	125
29	50	e74	e92	e54	---	e930	1520	1210	370	353	e127	124
30	50	e76	e91	e53	---	e920	1550	1120	367	324	119	122
31	51	---	e91	e52	---	e910	---	1060	---	290	113	---
TOTAL	1714	3344	2876	2080	1823	19440	46880	50500	17042	8365	5053	3550
MEAN	55.3	111	92.8	67.1	65.1	627	1563	1629	568	270	163	118
MAX	66	195	102	90	170	950	2260	1800	995	368	262	125
MIN	48	54	78	52	45	200	950	1060	367	194	113	111
AC-FT	3400	6630	5700	4130	3620	38560	92990	100200	33800	16590	10020	7040

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 2001, BY WATER YEAR (WY)

MEAN	66.6	59.3	42.3	33.6	43.0	146	644	821	413	223	124	73.1
MAX	421	219	172	175	388	912	5666	5161	2821	1616	1080	633
(WY)	2000	1976	1976	1976	1997	1995	1976	1979	1975	1953	1999	1999
MIN	.68	.50	1.00	.50	.000	.44	5.60	3.04	11.7	2.73	1.03	.010
(WY)	1941	1941	1938	1938	1938	1937	1990	1937	1992	1992	1992	1939

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1937 - 2001	
ANNUAL TOTAL	40748		162667			
ANNUAL MEAN	111		446		228	
HIGHEST ANNUAL MEAN					1226	1976
LOWEST ANNUAL MEAN					15.9	1938
HIGHEST DAILY MEAN	696	May 13	2260	Apr 6	9260	Apr 23 1976
LOWEST DAILY MEAN	19	Mar 30	45	Feb 17	.00	Mar 1 1937
ANNUAL SEVEN-DAY MINIMUM	20	Mar 29	46	Feb 12	.00	Mar 1 1937
MAXIMUM PEAK FLOW			2330	Apr 6	9330	Apr 23 1976
MAXIMUM PEAK STAGE			12.46	Apr 6	14.59	Apr 23 1976
ANNUAL RUNOFF (AC-FT)	80820		322600		165000	
10 PERCENT EXCEEDS	238		1610		543	
50 PERCENT EXCEEDS	73		145		52	
90 PERCENT EXCEEDS	27		54		5.0	

e Estimated

05122000 SOURIS (MOUSE) RIVER NEAR BANTRY, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1971 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT													
20...	1100	55	--	--	--	--	--	--	1540	8.0	7.9	--	--
31...	0950	51	709	114	11.9	8.0	8.2	1430	1410	13.0	10.2	410	83.0
NOV													
14...	1135	140	740	96	13.6	7.9	8.1	1600	1640	-4.0	.0	390	79.0
21...	1300	101	--	--	--	--	--	--	1740	-5.0	.00	--	--
JAN													
10...	1700	73	--	--	--	--	--	--	1650	-1.0	.00	--	--
MAR													
28...	1645	929	--	--	10.8	8.0	7.9	908	928	6.0	.6	250	48.0
APR													
10...	1445	1620	--	--	--	--	--	--	1070	8.5	5.4	--	--
MAY													
22...	1700	1790	--	--	--	--	--	--	921	15.0	14.0	--	--
JUL													
19...	1330	190	--	--	--	--	--	--	1040	28.0	27.5	--	--
AUG													
29...	1345	124	--	--	--	8.2	--e	1040	992	21.5	22.4	280	54.0

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
31...	50.0	10.0	4	190	49	440	51.0	--	300	.99	.09	.1	.90
NOV													
14...	48.0	11.0	4	180	49	390	62.0	--	450	1.0	.06	.2	.94
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
28...	31.0	14.0	3	100	45	252	20.0	.1	190	--	--	--	--
APR													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
29...	36.0	14.0	3	110	44	307	28.0	.2	200	--	--	--	--

DATE	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	ALUMI-NUM, TOTAL RECOVER-ABLE (UG/L) (01104)	ANTI-MONY, TOTAL (UG/L AS SB) (01097)
OCT													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
31...	1.1	.140	.200	131	--	948	--	<28	<22	25.0	<3.0	460	<1.0
NOV													
14...	1.2	.120	.160	402	--	1060	18.0	60	920	<5.0	<2.0	540	<1.0
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
28...	--	--	--	1520	606	555	--	--	--	--	--	--	--
APR													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
29...	--	--	--	222	662	627	--	--	--	--	--	--	--

05122000 SOURIS (MOUSE) RIVER NEAR BANTRY, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOVER-ABLE (UG/L) (01009)	BERYL-LIUM TOTAL RECOVER-ABLE (UG/L) (00998)	BORON, TOTAL RECOVER-ABLE (UG/L) (00999)	CADMIUM TOTAL RECOVER-ABLE (UG/L) (01113)	CHRO-MIUM, TOTAL RECOVER-ABLE (UG/L) (01118)	COPPER, TOTAL RECOVER-ABLE (UG/L) (01119)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LEAD, TOTAL RECOVER-ABLE (UG/L) (01114)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	7	140	<1	300	<1	<1	2	--	--	--	<1	--
NOV													
14...	--	3	120	<1	300	<1	<1	4	--	650	--	<1	--
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
28...	--o	--	--	--	--	--	--	--	60	--	--o	--	40.0
APR													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
29...	9.0	--	--	--	--	--	--	--	90	--	2.00	--	100

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MANGAN-ESE TOTAL RECOVER - ABLE (UG/L) (01123)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, TOTAL RECOVER-ABLE (UG/L) (01074)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOVER-ABLE (UG/L) (01079)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	THAL-LIUM, TOTAL RECOV-ERABLE (UG/L AS TL) (01128)	ZINC, TOTAL RECOVER-ABLE (UG/L) (01094)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
OCT													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	170	--	--	4	--	10.0	<1	--	<1.00	10	38	5.2
NOV													
14...	--	90	--	--	4	--	<1.0	<1	--	<1.00	20	17	6.4
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
28...	100	--	<.10	--o	--	--o	--	--	320	--	--	--	--
APR													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
29...	10.0	--	<.10	5.0	--	3.0	--	--	310	--	--	--	--

DATE	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT	
20...	--
31...	82
NOV	
14...	88
21...	--
JAN	
10...	--
MAR	
28...	--
APR	
10...	--
MAY	
22...	--
JUL	
19...	--
AUG	
29...	--

e Required equipment not functional/available
o Insufficient amount of water

05123400 WILLOW CREEK NEAR WILLOW CITY, ND

LOCATION.--Lat 48°35'20", long 100°26'30", in NE¼NW¼ sec.23, T.159 N., R.76 W., McHenry County, Hydrologic Unit 09010004, on left bank 50 ft downstream from culverts on county road, 1.5 mi upstream from Snake Creek, and 7 mi west of Willow City.

DRAINAGE AREA.--1,160 mi², approximately, of which about 430 mi² is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1956 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,430 ft above sea level, from topographic map. Prior to Oct. 5, 1956, nonrecording gage at site 50 ft upstream at same datum.

REMARKS.--Records good except for periods of estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2.2	23	e18	e2.7	e1.6	e.58	e71	594	66	30	306	e3.1
2	e2.0	34	e16	e2.6	e1.6	e.55	e95	574	62	27	338	e2.5
3	e1.6	48	e15	e2.6	e1.5	e.52	e125	553	57	23	362	e2.0
4	e1.4	73	e14	e2.5	e1.5	e.50	e165	533	57	20	393	e1.5
5	e1.2	86	e13	e2.5	e1.5	e.51	e210	517	59	17	427	e1.2
6	e.98	101	e10	e2.5	e1.4	e.53	e310	511	56	15	450	e1.1
7	e.83	110	e8.0	e2.4	e1.4	e.55	395	501	51	13	462	e.80
8	e.71	94	e7.0	e2.4	e1.4	e.56	587	487	48	11	457	e.40
9	e.62	e90	e5.5	e2.3	e1.3	e.58	1140	471	49	10	441	e.20
10	e.56	e86	e5.0	e2.3	e1.3	e.60	1730	455	48	7.4	412	e.10
11	e.47	e84	e5.0	e2.3	e1.3	e.65	1770	442	48	5.2	377	e.00
12	e.40	e83	e5.0	e2.2	e1.2	e.72	1520	431	46	6.3	335	e.00
13	e.35	e81	e5.0	e2.2	e1.2	e.88	1280	418	46	6.1	280	e.00
14	e.32	e78	e5.0	e2.1	e1.1	e1.1	1110	404	48	5.7	219	e.00
15	e.28	e76	e5.0	e2.1	e1.1	e1.5	1040	388	51	4.8	169	e.00
16	e.27	e73	e5.0	e2.1	e1.1	e2.4	969	370	53	7.3	134	e.00
17	e.25	e67	e5.5	e2.0	e1.0	e5.0	939	350	57	7.3	111	e.00
18	e.24	e60	e5.0	e2.0	e1.0	e13	967	324	62	9.0	91	e.00
19	e.24	e55	e4.8	e1.9	e.96	e17	912	296	64	13	73	e.00
20	e.23	e50	e4.6	e1.9	e.92	e30	858	264	63	44	59	e.00
21	e.23	e44	e4.4	e1.9	e.88	e34	797	229	64	72	48	e.00
22	e.22	e39	e4.2	e1.8	e.84	e32	763	193	66	74	40	e.00
23	e.21	e35	e4.1	e1.8	e.80	e30	752	162	68	64	31	e.00
24	e.21	e30	e3.8	e1.8	e.76	e29	736	145	67	59	25	e.00
25	e.20	e26	e3.5	e1.8	e.73	e28	721	133	64	58	e17	e.00
26	e.20	e24	e3.4	e1.7	e.69	e27	700	118	58	59	e12	e.00
27	e.50	e22	e3.2	e1.7	e.65	e26	668	106	51	155	e10	e.00
28	e1.0	e21	e3.1	e1.7	e.61	e28	646	95	45	198	e8.0	e.00
29	e5.0	e20	e3.0	e1.6	---	e30	630	83	41	199	e6.0	e.00
30	e15	e19	e2.8	e1.6	---	e40	614	73	36	226	e5.0	e.00
31	e16	---	e2.7	e1.6	---	e53	---	69	---	265	e4.0	---
TOTAL	53.92	1732	199.6	64.6	31.34	434.73	23220	10289	1651	1711.1	6102.0	12.90
MEAN	1.74	57.7	6.44	2.08	1.12	14.0	774	332	55.0	55.2	197	.43
MAX	16	110	18	2.7	1.6	53	1770	594	68	265	462	3.1
MIN	.20	19	2.7	1.6	.61	.50	71	69	36	4.8	4.0	.00
AC-FT	107	3440	396	128	62	862	46060	20410	3270	3390	12100	26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2001, BY WATER YEAR (WY)

MEAN	7.31	7.30	2.15	.31	.62	39.5	267	153	59.1	27.3	22.8	9.00
MAX	71.8	57.7	24.8	4.39	16.4	342	1242	1424	769	255	197	75.5
(WY)	1981	2001	1960	1960	1981	1995	1969	1999	1999	1999	2001	1980
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1957	1957	1957	1957	1958	1959	1977	1959	1959	1958	1957	1957

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1956 - 2001	
ANNUAL TOTAL	20007.28		45502.19			
ANNUAL MEAN	54.7		125		49.5	
HIGHEST ANNUAL MEAN					323	1999
LOWEST ANNUAL MEAN					.005	1990
HIGHEST DAILY MEAN	272	May 19	1770	Apr 11	5310	Apr 12 1969
LOWEST DAILY MEAN	.20	Oct 25	.00	Sep 11	.00	Sep 23 1956
ANNUAL SEVEN-DAY MINIMUM	.21	Oct 20	.00	Sep 11	.00	Sep 23 1956
MAXIMUM PEAK FLOW			1830	Apr 10	5900	Apr 12 1969
MAXIMUM PEAK STAGE			14.23	Apr 10	16.76	Apr 12 1969
ANNUAL RUNOFF (AC-FT)	39680		90250		35890	
10 PERCENT EXCEEDS	142		445		100	
50 PERCENT EXCEEDS	40		14		.00	
90 PERCENT EXCEEDS	.78		.38		.00	

e Estimated

05123400 WILLOW CREEK NEAR WILLOW CITY, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-62, 1964-65, 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
OCT													
20...	1140	--	.23	--	--	--	--	--	--	1750	8.4	6.0	--
31...	1050	16	--	709	115	12.1	8.5	8.4	1780	1800	13.0	9.7	620
NOV													
14...	1250	78	--	740	72	10.1	7.8	7.9	1880	1920	-3.0	.00	520
16...	1130	--	72	--	--	--	--	--	--	1920	-5.0	.00	--
JAN													
10...	1510	--	2.3	--	--	--	--	--	--	1640	.00	.00	--
MAR													
23...	1330	--	29	--	--	--	--	--	--	776	-8.0	.00	--
APR													
10...	1115	--	1760	--	--	--	7.7	--e	575	578	7.0	3.7	160
25...	1315	--	724	--	--	--	--	--	--	943	21.0	12.2	--
JUN													
21...	1000	--	65	--	--	--	--	--	--	1210	17.0	18.1	--
JUL													
19...	1445	--	14	--	--	--	8.6	--e	1310	1240	29.0	29.3	420
AUG													
03...	1300	--	379	--	--	--	--	--	--	916	31.5	24.2	--

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
31...	85.0	100	15.0	4	220	43	460	41.0	--	520	2.0	.17	.1
NOV													
14...	73.0	81.0	.14	4	200	46	430	38.0	--	620	1.8	.14	.3
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
10...	28.0	21.0	12.0	2	56.0	42	134	9.2	.1	150	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
19...	50.0	72.0	11.0	3	120	37	359	20.0	.2	340	--	--	--
AUG													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	ALUMI-NUM, TOTAL RECOVER-ABLE (UG/L) (01104)
OCT													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
31...	1.8	2.1	.100	.100	54.3	--	1260	13.0	82	140	21.0	<3.0	600
NOV													
14...	1.7	2.1	.150	.200	267	--	1270	24.0	56	240	<7.5	<2.5	620
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
10...	--	--	--	--	1880	395	357	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
19...	--	--	--	--	32.3	880	829	--	--	--	--	--	--
AUG													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--

05123400 WILLOW CREEK NEAR WILLOW CITY, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	ANTI-MONY, TOTAL (UG/L AS SB) (01097)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOVER-ABLE (UG/L) (01009)	BERYL-LIUM TOTAL RECOVER-ABLE (UG/L) (00998)	BORON, TOTAL RECOVER-ABLE (UG/L) (00999)	CADMIUM TOTAL RECOVER-ABLE (UG/L) (01113)	CHRO-MIUM, TOTAL RECOVER-ABLE (UG/L) (01118)	COPPER, TOTAL RECOVER-ABLE (UG/L) (01119)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LEAD, TOTAL RECOVER-ABLE (UG/L) (01114)
OCT													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
31...	<1.0	--	8	93	<1	200	<1	1	2	--	810	--	<1
NOV													
14...	<1.0	--	4	78	<1	200	<1	<1	2	--	710	--	<1
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
10...	--	--o	--	--	--	--	--	--	--	350	--	--o	--
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
19...	--	7.0	--	--	--	--	--	--	--	140	--	2.00	--
AUG													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MANGAN-ESE TOTAL RECOVER- ABLE (UG/L) (01123)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, TOTAL RECOVER-ABLE (UG/L) (01074)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOVER-ABLE (UG/L) (01079)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	THAL-LIUM, TOTAL RECOV-ERABLE (UG/L AS TL) (01128)	ZINC, TOTAL RECOVER-ABLE (UG/L) (01094)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
OCT													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	290	--	--	6	--	8.0	<1	--	<1.00	20	42
NOV													
14...	--	--	70	--	--	4	--	<1.0	<1	--	<1.00	10	28
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
10...	40.0	60.0	--	<.10	--o	--	--o	--	--	220	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
19...	110	10.0	--	<.10	2.0	--	3.0	--	--	290	--	--	--
AUG													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT		
20...	--	--
31...	1.8	81
NOV		
14...	5.9	100
16...	--	--
JAN		
10...	--	--
MAR		
23...	--	--
APR		
10...	--	--
25...	--	--
JUN		
21...	--	--
JUL		
19...	--	--
AUG		
03...	--	--

e Required equipment not functional/available
o Insufficient amount of water

05123510 DEEP RIVER NEAR UPHAM, ND

LOCATION.--Lat 48°35'03", long 100°51'44", in SW$^1/_4$NW$^1/_4$ sec.22, T.159 N., R.79 W., McHenry County, Hydrologic Unit 09010005, 60 ft downstream from county highway bridge, 0.8 mi downstream from Little Deep River, and 6.3 mi west of Upham.

DRAINAGE AREA.--975 mi^2, of which about 605 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1957 to September 1980, March 1985 to current year (seasonal records only since 1985).

GAGE.--Water-stage recorder. Elevation of gage is 1,430 ft above sea level, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in April 1951 reached a stage of about 16 ft, discharge, 2,700 ft^3/s, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 284 ft^3/s, July 31, gage height, 10.11 ft, no flow for several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	e.00	e.00	179	51	2.4	.56	278	8.8
2	---	---	---	---	e.00	e.00	158	49	2.1	.55	243	6.1
3	---	---	---	---	e.00	e.00	143	46	1.9	.52	211	4.1
4	---	---	---	---	e.00	e.00	130	43	1.7	.49	184	3.1
5	---	---	---	---	e.00	e.00	126	40	1.5	.45	160	2.3
6	---	---	---	---	e.00	e.02	123	37	1.4	.40	139	1.7
7	---	---	---	---	e.00	e.05	121	35	1.3	.37	121	1.2
8	---	---	---	---	e.00	e.10	118	35	1.3	.35	107	.91
9	---	---	---	---	e.00	e.15	112	38	1.2	.33	95	.75
10	---	---	---	---	e.00	e.20	108	37	1.1	.29	84	.65
11	---	---	---	---	e.00	e.26	107	35	1.0	.26	73	.54
12	---	---	---	---	e.00	e.36	107	32	.95	.24	66	.46
13	---	---	---	---	e.00	e.52	106	29	.90	.24	59	.37
14	---	---	---	---	e.00	e.76	103	26	.85	.24	55	.33
15	---	---	---	---	e.00	e1.0	101	23	.90	.26	55	.30
16	---	---	---	---	e.00	e2.0	99	21	1.1	.28	55	.29
17	---	---	---	---	e.00	e4.4	96	19	1.1	.30	56	.25
18	---	---	---	---	e.00	e7.8	93	17	1.3	.30	55	.24
19	---	---	---	---	e.00	e14	90	15	1.5	.28	53	.21
20	---	---	---	---	e.00	e25	86	14	1.6	.26	51	.19
21	---	---	---	---	e.00	e30	82	12	1.4	.27	48	.18
22	---	---	---	---	e.00	e36	78	11	1.4	.28	47	.17
23	---	---	---	---	e.00	e43	75	9.6	1.2	.28	44	.15
24	---	---	---	---	e.00	e53	73	8.2	1.1	.29	39	.14
25	---	---	---	---	e.00	e60	70	7.4	.98	.27	34	.12
26	---	---	---	---	e.00	e75	68	6.2	.88	.26	29	.11
27	---	---	---	---	e.00	e110	64	5.4	.78	.60	24	.10
28	---	---	---	---	e.00	e140	61	4.5	.71	4.9	21	.09
29	---	---	---	---	---	e155	57	3.8	.65	50	16	.08
30	---	---	---	---	---	201	55	3.2	.62	217	13	.07
31	---	---	---	---	---	197	---	2.8	---	283	11	---
TOTAL	---	---	---	---	0.00	1156.62	2989	716.1	36.82	564.12	2526	34.00
MEAN	---	---	---	---	.000	37.3	99.6	23.1	1.23	18.2	81.5	1.13
MAX	---	---	---	---	.00	201	179	51	2.4	283	278	8.8
MIN	---	---	---	---	.00	.00	55	2.8	.62	.24	11	.07
AC-FT	---	---	---	---	.00	2290	5930	1420	73	1120	5010	67

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2001, BY WATER YEAR (WY)

MEAN	.12	.72	.24	.034	.10	28.8	149	46.0	8.20	4.80	3.50	.23
MAX	1.99	16.1	5.08	.77	2.37	276	1300	469	121	57.6	81.5	6.17
(WY)	1976	1976	1976	1976	1976	1976	1976	1999	1999	2000	2001	1999
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1958	1958	1958	1958	1958	1959	1959	1959	1958	1958	1958	1958

SUMMARY STATISTICS	WATER YEARS 1958 - 2001		
ANNUAL MEAN	a 20.5		
HIGHEST ANNUAL MEAN	a 140		1976
LOWEST ANNUAL MEAN	a .000		1959
HIGHEST DAILY MEAN	5700	Apr 12	1969
LOWEST DAILY MEAN	.00	Oct 1	1957
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 1	1957
MAXIMUM PEAK FLOW	6760	Apr 12	1969
MAXIMUM PEAK STAGE	18.18	Apr 12	1969
ANNUAL RUNOFF (AC-FT)	a 14820		
10 PERCENT EXCEEDS	20		
50 PERCENT EXCEEDS	.00		
90 PERCENT EXCEEDS	.00		

a Based on complete water years only (1958-80)
e Estimated

05123510 DEEP RIVER NEAR UPHAM, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1972-80, 1985 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT													
31...	1220	--	709	115	12.0	8.4	8.4	1120	1120	13.0	10.0	540	78.0
NOV													
15...	1150	--	740	98	13.5	8.0	8.1	1270	1280	-5.0	.9	510	74.0
APR													
13...	1900	106	--	--	--	8.4	--e	622	623	6.0	5.2	240	43.0
JUN													
01...	1430	2.3	--	--	--	--	--	--	1020	15.0	17.5	--	--
JUL													
19...	1530	.28	--	--	--	9.0	--e	1190	1180	30.0	29.0	470	54.0
SEP													
14...	1030	.33	--	--	--	--	--	--	900	10.0	14.0	--	--

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT													
31...	85.0	16.0	1	67.0	21	310	48.0	--	270	1.7	.15	.1	1.6
NOV													
15...	78.0	14.0	1	64.0	21	310	55.0	--	320	1.9	.06	.6	1.8
APR													
13...	31.0	15.0	.9	30.0	20	158	27.0	.1	120	--	--	--	--
JUN													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
19...	82.0	19.0	2	75.0	25	237	58.0	.2	330	--	--	--	--
SEP													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	ALUMI-NUM, TOTAL RECOVER-ABLE (UG/L) (01104)	ANTI-MONY, TOTAL (UG/L AS SB) (01097)
OCT													
31...	1.8	.050	.100	--	--	750	30.0	<19	58	51.0	<4.0	110	<1.0
NOV													
15...	2.5	.020	.060	--	--	791	--	E8	54	24.0	<3.0	130	<1.0
APR													
13...	--	--	--	116	407	361	--	--	--	--	--	--	--
JUN													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
19...	--	--	--	.63	833	761	--	--	--	--	--	--	--
SEP													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOVER-ABLE (UG/L) (01009)	BERYL-LIUM TOTAL RECOVER-ABLE (UG/L) (00998)	BORON, TOTAL RECOVER-ABLE (UG/L) (00999)	CADMIUM TOTAL RECOVER-ABLE (UG/L) (01113)	CHRO-MIUM, TOTAL RECOVER-ABLE (UG/L) (01118)	COPPER, TOTAL RECOVER-ABLE (UG/L) (01119)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LEAD, TOTAL RECOVER-ABLE (UG/L) (01114)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
31...	--	4	100	<1	M	<1	<1	<1	--	140	--	<1	--
NOV													
15...	--	2	100	<1	M	<1	<1	<1	--	140	--	<1	--
APR													
13...	--o	--	--	--	--	--	--	--	30	--	--o	--	30.0
JUN													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
19...	8.0	--	--	--	--	--	--	--	70	--	2.00	--	100
SEP													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--

05123510 DEEP RIVER NEAR UPHAM, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MANGAN-ESE TOTAL RECOVER- ABLE (UG/L) (01123)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, TOTAL RECOVER-ABLE (UG/L) (01074)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOVER-ABLE (UG/L) (01079)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	THAL-LIUM, TOTAL RECOV-ERABLE (UG/L AS TL) (01128)	ZINC, TOTAL RECOVER-ABLE (UG/L) (01094)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT													
31...	--	110	--	--	4	--	5.0	<1	--	<1.00	20	43	74
NOV													
15...	--	60	--	--	4	--	<1.0	<1	--	<1.00	10	--	--
APR													
13...	60.0	--	<.10	--o	--	--o	--	--	240	--	--	--	--
JUN													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
19...	30.0	--	.10	2.0	--	3.0	--	--	240	--	--	--	--
SEP													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--

E Estimated value
M Presence verified, not quantified
e Required equipment not functional/available
o Insufficient amount of water

05123990 J. CLARK SAYLER POOL 357 NEAR WESTHOPE, ND

LOCATION.--Lat 48°58'40", long 100°57'45", in SW$^{1}/_{4}$ sec.31, T.164 N., R.79 W., Bottineau County, Hydrologic Unit 09010003, just upstream from U.S. Fish and Wildlife Service Dam 357, 1.2 mi upstream of International border, 7 mi northeast of Westhope, 10 mi downstream from Boundary Creek and at mile 154.2.

DRAINAGE AREA.--16,900 mi^2, of which about 10,300 mi^2 is probably noncontributing.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1994 to current year.

REVISED RECORDS.--WSP 1728: Drainage area.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTERVAL(IN METERS) (82047)	DEPTH TO BOTTOM OF SAMPLE INTERVAL(IN METERS) (82048)	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STANDARD UNITS) (00403)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SODIUM ADSORPTION RATIO (00931)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
NOV													
01...	0915	.00	.50	1540	8.6	450	63.0	70.0	--	5	230	--	430
01...	0920	.00	.50	1540	8.6	440	62.8	69.9	16.2	5	230	52	427
01...	0930	2.0	2.5	1560	8.4	390	54.3	61.1	--	5	208	--	442
MAY													
08...	1530	--	1.0	1060	8.2	320	57.4	43.5	--	3	117	--	299
08...	1535	.00	1.2	--	--	--	--	--	--	--	--	--	--
08...	1540	--	3.1	1060	8.2	330	58.0	44.1	--	3	118	--	299
JUN													
20...	1705	--	1.0	1070	8.8	320	56.0	43.1	--	3	125	--	328
20...	1710	--	3.1	1070	8.8	320	56.0	43.0	--	3	125	--	328
20...	1715	.00	3.0	--	--	--	--	--	--	--	--	--	--
AUG													
14...	1435	--	1.0	1010	9.3	270	36.3	44.1	--	3	128	--	275
14...	1440	.00	1.8	--	--	--	--	--	--	--	--	--	--
14...	1445	--	2.7	1010	9.2	280	37.9	44.0	--	3	126	--	280
SEP													
26...	1930	--	1.0	1160	9.2	320	44.9	50.5	--	4	151	--	355
26...	1935	.00	1.0	--	--	--	--	--	--	--	--	--	--
26...	1940	--	2.8	1170	9.2	310	41.2	50.1	--	4	152	--	342

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
NOV													
01...	54.0	.4	360	1.9	--	.079	E.026	--	1.8	--	--	.130	38
01...	54.3	--	362	2.0	.12	--	--	M	1.8	2.0	.049	.129	--
01...	48.3	.2	355	1.9	--	.081	<.047	--	1.9	--	--	E.048	33
MAY													
08...	23.7	.2	242	1.3	--	.082	E.034	--	1.2	--	--	.186	19
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
08...	22.7	.2	242	1.4	--	.076	E.033	--	1.3	--	--	.190	20
JUN													
20...	24.5	.2	225	1.4	--	.056	E.025	--	1.3	--	--	.298	19
20...	24.5	.2	226	1.3	--	E.040	<.050	--	--	--	--	.283	19
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
14...	26.8	.2	243	1.8	--	.042	E.024	--	1.8	--	--	.213	23
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	26.3	.2	242	1.7	--	.042	E.026	--	1.6	--	--	.228	21
SEP													
26...	31.9	.2	258	1.7	--	<.040	<.050	--	--	--	--	.174	26
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	32.5	.2	264	1.9	--	<.040	<.050	--	--	--	--	.177	26

05123990 J. CLARK SAYLER POOL 357 NEAR WESTHOPE, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	PHENOLS TOTAL (UG/L) (32730)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	ALUMI-NUM, TOTAL RECOVER-ABLE (UG/L) (01104)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ANTI-MONY, TOTAL (UG/L AS SB) (01097)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)
NOV													
01...	<16	1060	66	--	160	<22	28.8	3.6	--	--	--	11	96.6
01...	--	--	--	1050	--	--	92.0	<10.0	1600	--	<1.0	11	--
01...	<16	1070	70	--	--	--	--	--	--	--	--	6	79.9
MAY													
08...	<16	754	12	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	.8	<.1	--	--	--	--	--
08...	<16	746	<10	--	--	--	--	--	--	--	--	--	--
JUN													
20...	<16	746	<10	--	--	--	--	--	--	47	--	5	64.6
20...	<16	730	<10	--	--	--	--	--	--	34	--	5	64.1
20...	--	--	--	--	--	--	2.3	.2	--	--	--	--	--
AUG													
14...	E8	730	<10	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	2.2	.2	--	--	--	--	--
14...	E12	722	<10	--	--	--	--	--	--	--	--	--	--
SEP													
26...	<16	768	<10	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	17.3	1.3	--	--	--	--	--
26...	<16	760	<10	--	--	--	--	--	--	--	--	--	--

DATE	BARIUM, TOTAL RECOVER-ABLE (UG/L) (01009)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM TOTAL RECOVER-ABLE (UG/L) (00998)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, TOTAL RECOVER-ABLE (UG/L) (00999)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CADMIUM TOTAL RECOVER-ABLE (UG/L) (01113)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, TOTAL RECOVER-ABLE (UG/L) (01118)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, TOTAL RECOVER-ABLE (UG/L) (01119)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)
NOV													
01...	--	<2.50	--	186	--	.12	--	6	--	<2	3.3	--	1120
01...	120	--	<1	--	300	--	<1	--	<1	--	--	4	2160
01...	--	<2.50	--	212	--	<.11	--	<1	--	<2	2.1	--	<10
MAY													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
20...	--	<2.50	--	294	--	<.10	--	M	--	<2	1.6	--	110
20...	--	<2.50	--	289	--	<.10	--	<1	--	<2	1.7	--	110
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, TOTAL RECOVER-ABLE (UG/L) (01114)	MANGAN-ESE TOTAL RECOVER - ABLE (UG/L) (01123)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO) (01062)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, TOTAL RECOVER-ABLE (UG/L) (01074)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOVER-ABLE (UG/L) (01079)	THAL-LIUM, TOTAL RECOV-ERABLE (UG/L AS TL) (01128)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, TOTAL RECOVER-ABLE (UG/L) (01094)	TRIAZIN SCREEN (ELISA) WAT,WH REC,AS ATRAZIN (UG/L) (34757)
NOV													
01...	3	--	--	<.14	2.2	4	--	<2.6	--	--	<31	--	<.1
01...	--	3	270	--	--	--	5	12.6	<1	<1.00	--	20	--
01...	<1	--	--	<.14	3.0	3	--	<2.6	--	--	<31	--	--
MAY													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
20...	<1	--	--	.01	E.9	E2	--	<3.0	--	--	<31	--	.1
20...	<1	--	--	.02	2.7	2	--	<3.0	--	--	<31	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
14...	--	--	--	--	--	--	--	--	--	--	--	--	.2
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
26...	--	--	--	--	--	--	--	--	--	--	--	--	.1
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--

05123990 J. CLARK SAYLER POOL 357 NEAR WESTHOPE, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	CARBO-FURAN, SCREEN, TOTAL (UG/L) (99902)	CYANA-ZINE, SCREEN, TOTAL (UG/L) (99904)	2,4-D SCREEN, TOTAL (UG/L) (99906)
NOV			
01...	<.06	<.04	4.60
01...	--	--	--
01...	--	--	--
MAY			
08...	--	--	--
08...	--	--	--
08...	--	--	--
JUN			
20...	--	--	<.700
20...	--	--	--
20...	--	--	--
AUG			
14...	--	--	<.700
14...	--	--	--
14...	--	--	--
SEP			
26...	--	--	<.700
26...	--	--	--
26...	--	--	--

DATE	TIME	DEPTH OF LAKE MAX. METERS (85310)	SAM-PLING DEPTH (M) (00098)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)	WIND DIREC-TION (DEG. FROM TRUE NORTH) (00036)	WIND SPEED (MILES PER HOUR) (00035)
NOV													
01...	0900	2.5	.30	1540	8.6	8.4	12.7	114	728	--	5.0	--	--
01...	0902	--	1.2	1540	8.6	8.4	12.7	--	--	--	--	--	--
01...	0904	--	2.5	1540	8.6	8.4	12.7	--	--	--	--	--	--
JAN													
23...	1245	--	.00	2800	6.9	.2	1.6	11	739	--	-5.0	--	--
MAY													
08...	1521	--	.00	1080	8.0	11.5	9.6	94	720	24.0	18.3	--	10
08...	1522	--	1.0	1080	8.2	11.4	9.5	--	--	--	--	--	--
08...	1523	--	2.0	1080	8.2	11.4	9.4	--	--	--	--	--	--
08...	1524	--	3.1	1080	8.2	11.4	9.3	--	--	--	--	--	--
JUN													
20...	1655	--	.00	1080	8.6	18.4	11.0	123	730	59.0	20.0	310	5.0
20...	1656	--	1.0	1080	8.6	18.4	10.8	--	--	--	--	--	--
20...	1657	--	1.5	1080	8.6	18.4	10.8	--	--	--	--	--	--
20...	1658	--	2.0	1080	8.6	18.4	10.7	--	--	--	--	--	--
20...	1659	--	2.5	1090	8.6	18.4	10.7	--	--	--	--	--	--
20...	1700	--	3.1	1090	8.6	18.3	10.6	--	--	--	--	--	--
AUG													
14...	1425	--	.00	1000	9.2	22.3	9.0	110	718	36.0	25.5	60	10
14...	1426	--	.50	1010	9.5	22.3	9.2	--	--	--	--	--	--
14...	1427	--	1.0	1000	9.3	22.3	9.5	--	--	--	--	--	--
14...	1428	--	1.7	1010	9.4	22.2	9.2	--	--	--	--	--	--
14...	1429	--	2.4	1010	9.4	22.2	9.2	--	--	--	--	--	--
14...	1430	--	2.7	1010	9.3	22.2	9.1	--	--	--	--	--	--
SEP													
26...	1920	--	.00	1190	8.8	13.9	13.6	139	723	19.2	19.0	120	8.0
26...	1921	--	.50	1190	8.9	13.9	13.3	--	--	--	--	--	--
26...	1922	--	1.0	1200	8.9	13.8	13.0	--	--	--	--	--	--
26...	1923	--	1.6	1190	8.9	13.5	13.0	--	--	--	--	--	--
26...	1924	--	2.3	1190	8.8	13.2	12.2	--	--	--	--	--	--
26...	1925	--	2.8	1190	8.9	12.5	12.1	--	--	--	--	--	--

E Estimated value
M Presence verified, not quantified

05124000 SOURIS (MOUSE) RIVER NEAR WESTHOPE, ND
(International gaging station)

LOCATION.--Lat 48°59'47", long 100°57'29", in $SW^1/_4SE^1/_4$ sec.30, T.164 N., R.79 W., Bottineau County, Hydrologic Unit 09010003, on left bank 1,200 ft upstream from second crossing of international boundary, 1 mi downstream from Fish and Wildlife Service Dam 357, 7 mi northeast of Westhope, 11 mi downstream from Boundary Creek, and at mile 154.5.

DRAINAGE AREA.--16,900 mi^2, approximately, of which about 10,300 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July to October 1929, April 1930 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1338: 1932. WSP 2113: Drainage area.

GAGE.--Water-stage recorder and control. Datum of gage is 1,402.45 ft above sea level. Prior to Mar. 28, 1938, nonrecording gage at site 6.3 mi upstream at datum 2.52 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by dams on Souris River and tributaries, combined capacity, about 321,000 acre-ft. Diversion at Eaton Dam for irrigation of about 7,000 acres and other small diversions for irrigation and municipal supply upstream from station.

COOPERATION.--This station is one of the international gaging stations maintained by the United States under agreement with Canada.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	93	75	112	129	51	52	991	2760	2630	486	445	311
2	94	74	113	129	51	52	1110	2750	2500	484	446	306
3	91	75	114	128	51	52	1330	2730	2460	477	451	298
4	84	76	149	129	52	52	1540	2740	2390	469	453	295
5	84	75	120	128	52	52	1700	2750	2100	453	459	264
6	83	70	114	127	52	72	1990	2760	1880	397	461	206
7	84	75	e115	126	52	e110	2380	2770	1780	388	463	204
8	83	75	e115	126	52	e120	2710	2770	1680	385	467	204
9	83	77	e116	125	52	e130	3110	2780	1590	382	463	203
10	83	77	e117	125	51	e138	3250	2800	1520	380	464	202
11	83	77	e118	125	51	e142	3290	2790	1390	384	467	202
12	82	76	e119	125	51	e145	3220	2820	920	391	468	202
13	82	76	e120	125	51	e147	3040	2770	729	403	472	202
14	82	76	e120	125	51	e148	3060	2840	646	404	472	206
15	83	76	e120	125	51	e150	3100	2820	604	399	472	206
16	83	76	e121	125	52	e160	3030	2770	578	402	472	204
17	83	76	e121	125	52	e180	2950	2770	571	397	471	204
18	83	76	e122	124	52	e195	2940	2740	558	400	472	204
19	82	75	e122	125	52	e210	2950	2740	528	395	474	203
20	82	76	121	125	52	e260	3010	2750	520	378	477	202
21	84	76	123	125	52	e350	2940	2620	520	351	480	200
22	81	76	122	126	52	e400	2860	2520	528	347	481	196
23	81	76	121	127	52	e420	2860	2430	525	343	482	205
24	80	76	e121	98	52	e440	2840	2440	516	341	486	203
25	75	77	121	53	51	e450	2830	2510	511	349	484	194
26	73	77	121	52	51	e460	2800	2580	502	368	479	173
27	75	77	121	52	51	e465	2750	2650	500	384	475	164
28	76	77	123	52	51	e480	2770	2680	501	412	474	153
29	77	77	129	52	---	e580	2800	2660	496	415	465	123
30	76	87	129	52	---	e650	2760	2700	487	422	402	121
31	75	---	129	51	---	e875	---	2700	---	443	318	---
TOTAL	2540	2285	3749	3361	1443	8137	78911	83910	32660	12429	14315	6260
MEAN	81.9	76.2	121	108	51.5	262	2630	2707	1089	401	462	209
MAX	94	87	149	129	52	875	3290	2840	2630	486	486	311
MIN	73	70	112	51	51	52	991	2430	487	341	318	121
AC-FT	5040	4530	7440	6670	2860	16140	156500	166400	64780	24650	28390	12420

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2001, BY WATER YEAR (WY)

MEAN	67.9	55.0	34.1	28.1	26.9	73.4	879	1025	593	285	134	74.8
MAX	473	387	201	191	190	779	8850	5967	4919	1726	1014	657
(WY)	1976	1995	1976	1976	1976	1983	1976	1976	1999	1999	1953	1999
MIN	.000	.000	.000	.000	.000	.000	.010	.000	.000	.000	.000	.000
(WY)	1933	1935	1935	1935	1935	1936	1941	1937	1937	1937	1931	1931

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1929 - 2001	
ANNUAL TOTAL	73323.2		250000			
ANNUAL MEAN	200		685		276	
HIGHEST ANNUAL MEAN					1697	1976
LOWEST ANNUAL MEAN					.15	1937
HIGHEST DAILY MEAN	670	Jul 12	3290	Apr 11	12400	Apr 26 1976
LOWEST DAILY MEAN	8.1	Apr 2	51	Jan 31	.00	Jul 20 1931
ANNUAL SEVEN-DAY MINIMUM	9.2	Mar 30	51	Feb 9	.00	Jul 20 1931
MAXIMUM PEAK FLOW			3360	Apr 11	12600	Apr 26 1976
MAXIMUM PEAK STAGE			a 13.64	Apr 15	19.16	Apr 26 1976
INSTANTANEOUS LOW FLOW					b -35	Apr 8 1943
ANNUAL RUNOFF (AC-FT)	145400		495900		199700	
10 PERCENT EXCEEDS	536		2750		635	
50 PERCENT EXCEEDS	114		203		27	
90 PERCENT EXCEEDS	14		52		.00	

a Backwater from downstream
b Reverse flow caused by backwater from downstream tributary inflow
e Estimated

05124000 SOURIS RIVER NEAR WESTHOPE, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1970, 1972 to current year.

REMARKS.--Environment Canada also collected a sample on Sept. 12.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: June 1992 to current year.

SPECIFIC CONDUCTANCE: June 1992 to current year.

PH: June 1992 to current year.

DISSOLVED OXYGEN: May 1993 to current year.

INSTRUMENTATION.--Water-quality monitor since June 1992.

REMARKS.--Records good. Quality assurance sample also collected at this location.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 28.5°C, July 11, 1998; minimum recorded, -0.4°C, Dec. 20, 1995.

SPECIFIC CONDUCTANCE: Maximum recorded, 3,250 microsiemens, Jan 3, 2001; minimum recorded, 644 microsiemens, April 20, 1994.

PH: Maximum recorded, 10.1 units, July 12, 1993; minimum recorded, 7.4 units, Mar. 11 and 12, 2001.

DISSOLVED OXYGEN: Maximum recorded, 19.1 milligrams per liter, Dec. 29-31, 1999, Jan. 1, 3, 4, 5, 2000; minimum recorded, 0.2 milligrams per liter, Jan. 30 to Mar. 11, 2001.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 27.7°C, Aug. 7; minimum recorded, 0.0°C, on many days.

SPECIFIC CONDUCTANCE: Maximum recorded, 3,250 microsiemens, Jan. 3; minimum recorded, 652 microsiemens, Apr. 8.

PH: Maximum recorded, 9.6 units, July 10-11; minimum recorded, 7.4 units, Mar. 11-12.

DISSOLVED OXYGEN: Maximum recorded, 14.6 milligrams per liter, Apr. 16-17; minimum recorded, 0.2 milligrams per liter, Jan. 30 to Mar. 11.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
OCT													
25...	1300	75	9.0	8.7	--	--	1580	--	9.3	--	--	--	--
NOV													
20...	1700	76	8.3	8.3	--	--	1700	--	1.0	--	--	--	--
JAN													
05...	1200	122	.4	7.7	--	--	3050	--	.3	--	--	--	--
APR													
09...	1715	3110	--	8.0	--e	525	542	3.2	4.0	160	31.0	20.0	14.0
13...	1545	3000	--	--	--	--	590	4.2	.5	--	--	--	--
26...	1145	2800	--	--	--	--	846	17.0	10.2	--	--	--	--
JUN													
26...	1515	503	9.0	9.1	--	--	1060	--	24.1	--	--	--	--
AUG													
14...	1630	474	--	9.0	--e	1070	1060	26.5	22.4	290	41.0	45.0	15.0
SEP													
12...	1200	202	7.3	9.0	8.9	1180	1200	16.0	13.3	340	50.7	50.9	--

DATE	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)
OCT													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
09...	1	42.0	34	134	15.0	.1	100	--	--	--	--	--	2760
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
14...	3	130	48	290	27.0	.2	260	--	--	--	--	--	947
SEP													
12...	4	149	--	372	30.0	.2	256	1.9	<.040	E.031	.335	30	--

05124000 SOURIS RIVER NEAR WESTHOPE, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	CADMIUM WATER UNFLTRD TOTAL (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)
OCT													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
09...	329	303	--	--	--	5.0	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
14...	740	693	--	--	--	6.0	--	--	--	--	--	--	--
SEP													
12...	834	--	6.8	.6	82	--	8	73.2	<2.50	261	<.10	<1	<2

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	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)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO) (01062)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)
OCT													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
09...	--	140	--	<1.00	--	20.0	120	<.10	1.0	--	--	1.0	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
14...	--	60	--	2.00	--	100	30.0	<.10	2.0	--	--	3.0	--
SEP													
12...	2.5	--	150	--	<1	--	--	--	--	3.6	3	--	<3.0

DATE	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)
OCT		
25...	--	--
NOV		
20...	--	--
JAN		
05...	--	--
APR		
09...	150	--
13...	--	--
26...	--	--
JUN		
26...	--	--
AUG		
14...	260	--
SEP		
12...	--	<31

E Estimated value
e Required equipment not functional/available

05124000 SOURIS RIVER NEAR WESTHOPE, ND--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	13.8	12.5	13.2	9.1	6.3	7.9	1.2	.6	1.0	.2	.2	.2
2	13.1	11.8	12.4	6.3	3.6	4.8	.9	.5	.6	.3	.2	.2
3	11.8	8.3	10.1	3.7	2.8	3.3	1.6	.6	1.0	.3	.2	.3
4	8.3	6.3	7.2	3.4	1.5	2.5	1.2	.1	.4	.3	.2	.3
5	6.3	4.8	5.5	3.5	2.0	2.8	.7	.4	.6	.3	.2	.3
6	4.8	3.5	4.1	3.0	.0	1.3	.8	.6	.7	.3	.3	.3
7	4.7	2.3	3.5	.2	.0	.0	.8	.4	.6	.4	.3	.3
8	5.0	2.0	3.5	.2	.1	.2	.7	.5	.6	.3	.2	.3
9	6.2	2.5	4.1	.2	.2	.2	.6	.3	.4	.3	.2	.3
10	7.7	4.2	5.7	.3	.2	.3	.5	.4	.4	.3	.2	.3
11	8.7	5.6	7.0	.3	.3	.3	.4	.3	.4	.3	.2	.3
12	8.4	6.9	7.7	.4	.3	.4	.4	.3	.3	.3	.2	.2
13	9.0	7.9	8.3	.5	.4	.5	.4	.2	.3	.2	.2	.2
14	9.1	7.8	8.3	.6	.5	.5	.3	.2	.2	.3	.2	.3
15	8.8	6.7	7.7	.7	.5	.6	.3	.2	.3	.3	.3	.3
16	8.8	6.8	7.8	.9	.6	.7	.3	.2	.3	.3	.2	.3
17	9.3	7.3	8.2	.9	.6	.7	.3	.2	.2	.3	.2	.3
18	10.2	7.8	8.9	1.1	.5	.9	.3	.2	.2	.3	.2	.3
19	10.0	8.9	9.4	.8	.2	.5	.3	.2	.2	.2	.1	.1
20	9.6	8.1	8.7	1.0	.6	.8	.3	.2	.2	.2	.1	.2
21	8.8	6.8	7.9	1.2	.7	.9	.2	.1	.2	.2	.2	.2
22	8.4	7.3	7.8	1.0	.6	.8	.2	.1	.2	.3	.2	.2
23	7.7	6.1	7.0	1.5	.8	1.1	.2	.1	.1	.3	.2	.2
24	9.1	6.0	7.4	1.5	.7	1.1	.1	.1	.1	.2	.1	.2
25	10.0	8.8	9.4	1.5	.8	1.1	.1	.1	.1	.1	.1	.1
26	9.7	7.8	8.9	1.4	.6	1.0	.1	.1	.1	.2	.1	.1
27	7.8	5.4	6.8	1.6	.9	1.2	.2	.1	.1	.2	.2	.2
28	6.0	4.5	5.0	1.2	.5	.9	.2	.1	.1	.2	.2	.2
29	9.0	6.0	7.8	1.3	.6	1.0	.2	.2	.2	.2	.2	.2
30	9.6	8.9	9.3	1.1	.6	.8	.2	.2	.2	.3	.2	.2
31	9.6	9.1	9.4	---	---	---	.2	.2	.2	.3	.2	.3
MONTH	13.8	2.0	7.7	9.1	.0	1.3	1.6	.1	.3	.4	.1	.2

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	.3	.1	.2	.2	.2	.2	.6	.0	.2	15.8	15.2	15.5
2	.2	.1	.2	.2	.2	.2	.6	.0	.2	15.4	14.1	14.8
3	.4	.2	.3	.2	.2	.2	.3	.0	.1	15.9	14.1	14.9
4	.4	.4	.4	.2	.2	.2	.2	.0	.1	15.5	14.2	14.9
5	.5	.4	.4	.2	.2	.2	1.2	.0	.4	15.2	14.2	14.7
6	.5	.4	.5	.2	.2	.2	1.4	.1	.6	14.6	13.5	14.0
7	.4	.3	.3	.2	.1	.2	.6	.1	.2	13.5	11.4	12.2
8	.3	.3	.3	.1	.1	.1	.5	.0	.2	12.1	10.3	11.2
9	.3	.2	.2	.1	.0	.1	.3	.1	.2	13.3	11.3	12.2
10	.2	.2	.2	.1	.0	.1	.3	.1	.2	13.9	12.1	13.0
11	.2	.2	.2	.1	.0	.0	.4	.1	.2	14.9	12.9	13.9
12	.3	.2	.3	.1	.0	.0	.4	.1	.2	16.6	14.1	15.2
13	.3	.3	.3	.2	.0	.1	.4	.2	.2	18.3	15.8	16.9
14	.3	.2	.2	.2	.0	.1	.7	.2	.4	19.7	17.7	18.5
15	.3	.2	.2	.2	.0	.1	.4	.1	.2	19.6	18.7	19.1
16	.3	.2	.2	.2	.0	.1	.4	.0	.2	18.8	17.7	18.3
17	.2	.2	.2	.2	.0	.1	.7	.1	.4	18.4	16.6	17.5
18	.2	.2	.2	.3	.0	.1	1.2	.4	.8	18.0	16.8	17.5
19	.3	.2	.2	.2	.0	.1	2.5	.9	1.7	18.1	16.7	17.4
20	.3	.1	.2	.3	.0	.1	3.3	2.4	2.9	17.4	15.3	16.5
21	.2	.1	.1	.2	.0	.1	3.4	1.9	2.5	15.3	12.2	13.3
22	.2	.1	.2	.4	.0	.1	5.8	3.3	4.6	12.3	10.8	11.6
23	.2	.1	.1	.4	.0	.1	7.3	5.4	6.3	11.5	10.3	10.6
24	.2	.1	.2	.4	.0	.2	8.8	6.8	7.7	11.2	9.8	10.3
25	.2	.2	.2	.4	.0	.2	10.6	8.2	9.3	14.2	10.4	12.0
26	.2	.1	.2	.4	.0	.2	12.8	10.1	11.2	17.8	13.3	15.2
27	.2	.1	.1	.4	.0	.2	13.0	11.2	12.2	18.7	16.7	17.7
28	.2	.1	.2	.2	.0	.1	14.7	12.3	13.3	19.0	18.0	18.5
29	---	---	---	.5	.0	.2	15.9	14.4	15.1	18.9	17.3	18.2
30	---	---	---	.2	.0	.1	16.0	14.8	15.4	19.8	17.5	18.5
31	---	---	---	.5	.0	.2	---	---	---	18.9	17.7	18.3
MONTH	.5	.1	.2	.5	.0	.1	16.0	.0	3.6	19.8	9.8	15.2

05124000 SOURIS RIVER NEAR WESTHOPE, ND--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	17.8	16.3	16.9	21.2	19.4	20.2	22.0	20.1	21.0	18.7	16.2	17.5
2	18.1	15.6	16.9	21.9	18.5	20.1	23.3	20.3	21.7	18.6	17.4	18.0
3	18.4	16.5	17.4	22.7	20.1	21.4	25.8	21.9	23.6	18.6	16.3	17.5
4	17.7	16.4	17.0	23.0	20.5	21.8	27.5	24.1	25.7	18.5	16.2	17.3
5	17.0	15.0	15.9	22.4	20.1	21.4	27.4	25.8	26.6	18.4	17.3	17.8
6	15.9	14.3	15.1	23.6	21.0	22.2	27.4	24.9	26.2	18.3	17.4	17.9
7	18.9	14.8	16.6	24.4	21.5	22.9	27.7	25.5	26.6	18.2	17.0	17.5
8	20.7	17.4	19.0	25.8	22.3	24.0	26.7	24.2	25.7	17.6	16.2	17.0
9	23.1	19.5	20.9	26.6	23.8	25.3	24.2	21.2	22.0	16.8	14.8	15.7
10	23.3	19.8	21.5	26.3	24.2	25.3	22.1	19.7	20.9	14.8	13.6	14.3
11	23.1	21.3	22.3	25.4	21.0	22.9	22.0	19.9	21.0	14.5	13.7	14.0
12	22.2	19.7	20.6	21.6	20.0	20.7	22.6	20.2	21.3	14.3	12.8	13.6
13	19.7	18.2	18.8	21.9	20.6	21.2	22.9	20.2	21.6	14.1	12.8	13.5
14	18.2	16.5	17.3	23.1	20.9	21.8	22.7	21.4	22.1	14.5	12.9	13.7
15	16.6	14.9	15.8	23.2	21.9	22.6	22.4	20.9	21.5	13.8	12.8	13.2
16	17.7	15.5	16.5	24.1	22.0	23.0	22.4	19.9	21.1	14.0	12.9	13.3
17	18.6	16.4	17.5	26.3	22.8	24.3	22.3	20.7	21.5	14.1	12.7	13.4
18	18.0	15.8	16.7	26.3	23.4	25.0	22.5	20.0	21.2	15.1	13.3	14.1
19	17.7	14.6	16.1	27.6	24.5	26.0	21.8	19.7	20.8	16.2	13.8	15.0
20	19.0	16.6	17.7	27.5	24.3	25.9	22.0	19.9	20.9	15.7	14.8	15.2
21	21.1	17.5	19.2	27.0	24.3	25.8	23.4	20.7	21.9	15.5	13.8	14.6
22	21.3	18.6	20.0	27.5	24.9	26.2	23.9	21.3	22.5	15.0	12.2	13.6
23	23.7	20.0	21.6	26.5	23.1	24.5	23.3	20.7	22.1	12.6	10.9	11.8
24	25.5	22.0	23.6	23.7	21.3	22.6	23.6	21.8	22.6	11.8	10.0	11.0
25	26.1	24.1	25.0	22.8	20.5	21.6	23.4	21.4	22.5	12.4	9.7	11.0
26	25.2	22.8	23.8	23.0	20.8	21.9	22.6	21.1	21.8	13.1	10.9	12.0
27	23.6	20.6	21.6	23.9	21.4	22.5	22.2	20.0	21.1	13.9	11.5	12.6
28	22.0	19.9	20.8	25.2	22.2	23.6	21.9	19.8	20.9	16.1	12.8	14.3
29	24.0	21.1	22.4	24.5	22.3	23.5	21.1	19.7	20.3	15.7	13.9	14.8
30	23.6	20.9	21.9	24.2	22.0	23.1	19.7	18.0	18.7	15.7	13.6	14.7
31	---	---	---	23.5	21.1	21.9	18.9	17.1	18.0	---	---	---
MONTH	26.1	14.3	19.2	27.6	18.5	23.1	27.7	17.1	22.1	18.7	9.7	14.7

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	1580	1340	1430	1490	1350	1420	1920	1800	1850	2980	2900	2940
2	1550	1350	1460	1470	1300	1380	1870	1790	1820	3140	2980	3030
3	1580	1230	1390	1430	1210	1300	1920	1820	1870	3250	2930	3070
4	1580	1340	1460	1350	1210	1290	1980	1850	1900	3020	2940	2970
5	1500	1250	1370	1450	1230	1310	1990	1980	1980	3050	2940	3010
6	1570	1320	1430	1460	1320	1400	2000	1980	1990	3040	3010	3030
7	1580	1370	1470	1550	1310	1400	2030	2000	2020	3030	3010	3020
8	1640	1420	1540	1540	1440	1500	2050	2030	2040	3010	2970	2990
9	1580	1470	1530	1600	1500	1560	2090	2050	2070	2990	2970	2980
10	1660	1450	1560	1580	1460	1510	2120	2090	2100	2980	2960	2970
11	1650	1450	1580	1550	1390	1490	2160	2110	2140	2980	2960	2970
12	1720	1420	1590	1650	1480	1550	2200	2160	2180	2980	2950	2960
13	1760	1540	1640	1540	1440	1490	2230	2200	2220	2960	2910	2930
14	1770	1460	1620	1610	1470	1520	2260	2230	2250	2980	2910	2930
15	1720	1490	1600	1550	1460	1500	2300	2260	2280	2930	2820	2910
16	1730	1450	1600	1560	1480	1520	2360	2300	2330	2920	2900	2910
17	1740	1530	1600	1650	1470	1550	2390	2360	2380	2910	2860	2900
18	1750	1460	1610	1580	1460	1500	2430	2390	2410	2920	2860	2900
19	1910	1580	1670	1650	1480	1550	2460	2430	2450	2920	2860	2890
20	1790	1480	1600	1710	1530	1640	2500	2460	2480	2910	2860	2870
21	1810	1540	1700	1710	1600	1650	2540	2500	2530	2890	2840	2870
22	1730	1530	1640	1690	1560	1630	2570	2540	2560	2920	2860	2890
23	1770	1540	1640	1730	1560	1640	2620	2540	2590	2930	2890	2910
24	1770	1540	1670	1690	1540	1610	2670	2620	2650	2910	2890	2900
25	1750	1440	1580	1770	1630	1690	2700	2600	2670	2950	2900	2920
26	1550	1300	1440	1730	1640	1680	2790	2600	2700	2940	2920	2930
27	1540	1300	1430	1770	1620	1700	2960	2670	2840	2940	2920	2940
28	1520	1310	1390	1860	1680	1740	3030	2720	2850	2930	2890	2920
29	1450	1180	1320	1900	1740	1810	2870	2720	2790	2930	2860	2880
30	1450	1260	1330	1880	1720	1800	3170	2840	2970	2940	2860	2920
31	1490	1200	1350	---	---	---	3210	2890	3060	2950	2910	2940
MONTH	1910	1180	1520	1900	1210	1540	3210	1790	2350	3250	2820	2940

05124000 SOURIS RIVER NEAR WESTHOPE, ND--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	2960	2950	2960	2470	2380	2420	980	955	970	1070	1030	1050
2	2960	2920	2940	2380	2320	2350	963	937	951	1090	1010	1050
3	2940	2920	2930	2320	2260	2280	940	923	932	1080	1040	1050
4	2930	2880	2900	2260	2200	2230	928	890	911	1100	1050	1070
5	2900	2880	2890	2200	2140	2170	911	841	877	1270	1080	1110
6	2970	2900	2930	2140	2100	2120	849	795	820	1150	1110	1130
7	2930	2910	2920	2120	2020	2080	798	710	755	1220	1100	1130
8	2920	2900	2910	2020	1910	1970	786	652	692	1140	1130	1130
9	2900	2860	2870	1910	1780	1840	733	653	674	1150	1140	1140
10	2860	2850	2860	1780	1690	1730	732	672	695	1160	1150	1150
11	2900	2860	2880	1690	1610	1650	790	678	718	1160	1160	1160
12	2900	2770	2850	1610	1560	1580	853	699	777	1170	1160	1170
13	2880	2850	2870	1560	1530	1550	844	695	776	1180	1160	1170
14	2890	2860	2880	1540	1510	1530	811	695	774	1180	1170	1170
15	2890	2860	2880	1580	1500	1540	776	726	758	1200	1170	1180
16	2880	2860	2870	1530	1480	1520	803	740	775	1190	1180	1180
17	2870	2850	2860	1550	1440	1500	815	726	757	1190	1180	1190
18	2900	2830	2860	1460	1420	1440	824	771	803	1190	1190	1190
19	2900	2870	2880	1420	1360	1400	842	792	821	1190	1190	1190
20	2890	2860	2880	1420	1310	1360	828	791	814	1190	1180	1190
21	2930	2880	2900	1310	1240	1280	886	791	828	1190	1180	1180
22	2920	2850	2870	1240	1200	1220	928	851	889	1190	1180	1190
23	2900	2850	2870	1200	1170	1180	960	902	925	1190	1180	1180
24	2900	2740	2820	1240	1200	1210	960	899	933	1180	1170	1180
25	2790	2700	2730	1270	1240	1260	969	918	947	1170	1170	1170
26	2760	2610	2680	1260	1200	1240	976	934	951	1180	1170	1170
27	2610	2490	2550	1200	1150	1170	977	956	965	2300	1160	1420
28	2540	2470	2510	1150	1100	1120	998	977	987	1160	1160	1160
29	---	---	---	1110	1070	1090	1020	998	1010	1200	1150	1160
30	---	---	---	1070	1010	1040	1060	994	1030	1150	1140	1140
31	---	---	---	1010	970	985	---	---	---	1260	1140	1140
MONTH	2970	2470	2850	2470	970	1580	1060	652	850	2300	1010	1160

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	1140	1120	1130	1060	1060	1060	1030	972	1000	1260	1210	1230
2	1120	1120	1120	1070	1060	1060	1020	962	986	1290	1220	1250
3	1120	1110	1110	1070	1060	1070	1010	933	974	1280	1210	1240
4	1300	1110	1130	1080	1060	1080	1040	931	983	1280	1210	1240
5	1130	1110	1110	1110	1080	1100	1070	931	990	1260	1160	1220
6	1110	1110	1110	1100	1100	1100	1080	1030	1050	1270	1180	1220
7	1200	1100	1120	1150	1090	1110	1060	1030	1040	1300	1190	1230
8	1130	1100	1110	1140	1060	1110	1050	1030	1040	1290	1140	1230
9	1110	1020	1080	1170	1090	1110	1050	1020	1040	1320	1180	1270
10	1030	1010	1020	1160	1080	1120	1060	1020	1030	1340	1210	1290
11	1020	1000	1010	1140	1130	1130	1080	1030	1050	1310	1220	1270
12	1010	1000	1010	1140	1130	1130	1080	1030	1060	1300	1150	1230
13	1000	980	1000	1140	1120	1130	1090	1050	1060	1260	1110	1190
14	995	983	991	1120	1120	1120	1070	1030	1050	1210	1100	1160
15	1080	978	1010	1140	1120	1130	1060	1060	1060	1240	1100	1180
16	1080	977	1050	1140	1130	1130	1070	1060	1060	1290	1150	1220
17	1100	1030	1060	1150	1130	1140	1080	1070	1070	1310	1170	1250
18	1070	927	979	1150	1110	1130	1120	1070	1100	1320	1250	1290
19	1130	920	1030	1130	1100	1110	1130	1080	1110	1270	1110	1200
20	1080	1020	1080	1110	1080	1100	1140	1070	1100	1270	1020	1120
21	1080	978	1060	1120	1070	1090	1140	1070	1110	1280	1110	1180
22	1080	972	1000	1090	1080	1080	1160	1100	1120	1230	1060	1150
23	1050	972	982	1090	1050	1070	1150	1070	1120	1150	1010	1080
24	991	973	980	1090	1040	1070	1160	1080	1130	1160	978	1090
25	1100	975	1020	1100	999	1050	1180	1090	1140	1150	967	1040
26	1100	1060	1060	1060	982	1030	1200	1140	1170	1160	901	1020
27	1060	1050	1060	1100	972	1030	1210	1160	1190	1180	970	1040
28	1060	1050	1060	1090	1020	1060	1220	1160	1200	1160	1010	1090
29	1060	1060	1060	1080	1020	1050	1250	1160	1210	1120	913	1000
30	1060	1060	1060	1040	984	1010	1240	1200	1210	1120	933	1010
31	---	---	---	1020	954	992	1220	1200	1210	---	---	---
MONTH	1300	920	1050	1170	954	1090	1250	931	1090	1340	901	1170

05124000 SOURIS RIVER NEAR WESTHOPE, ND--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	9.0	8.9	8.5	8.5	8.2	8.1	7.8	7.8	7.5	7.5	7.5	7.5
2	9.0	9.0	8.5	8.5	8.2	8.1	7.8	7.8	7.5	7.5	7.5	7.5
3	9.0	9.0	8.5	8.4	8.2	8.1	7.8	7.8	7.5	7.5	7.5	7.5
4	9.0	9.0	8.5	8.5	8.2	8.1	7.8	7.7	7.5	7.5	7.5	7.5
5	9.0	9.0	8.5	8.5	8.1	8.0	7.8	7.7	7.5	7.5	7.5	7.5
6	9.0	9.0	8.5	8.4	8.1	8.1	7.7	7.7	7.5	7.5	7.5	7.5
7	9.0	9.0	8.6	8.4	8.1	8.0	7.7	7.7	7.5	7.5	7.5	7.5
8	9.0	8.9	8.6	8.5	8.1	8.0	7.7	7.7	7.5	7.5	7.5	7.5
9	9.0	8.9	8.6	8.5	8.0	8.0	7.7	7.7	7.5	7.5	7.5	7.5
10	9.0	8.9	8.6	8.5	8.0	8.0	7.7	7.7	7.5	7.5	7.5	7.5
11	8.9	8.9	8.5	8.5	8.0	8.0	7.7	7.7	7.5	7.5	7.5	7.4
12	8.9	8.9	8.5	8.4	8.0	7.9	7.7	7.7	7.5	7.5	7.5	7.4
13	8.9	8.9	8.4	8.4	8.0	7.9	7.7	7.7	7.5	7.5	7.5	7.5
14	9.0	8.9	8.4	8.4	8.0	8.0	7.7	7.7	7.5	7.5	7.5	7.5
15	9.0	8.9	8.4	8.4	8.0	8.0	7.7	7.7	7.5	7.5	7.6	7.5
16	9.0	8.9	8.4	8.3	8.0	7.9	7.7	7.7	7.5	7.5	7.6	7.6
17	9.0	8.9	8.3	8.3	7.9	7.9	7.7	7.7	7.5	7.5	7.6	7.6
18	8.9	8.9	8.3	8.3	7.9	7.9	7.7	7.7	7.5	7.5	7.7	7.6
19	8.9	8.9	8.3	8.3	7.9	7.9	7.7	7.7	7.5	7.5	7.7	7.7
20	8.9	8.9	8.3	8.3	7.9	7.9	7.7	7.7	7.5	7.5	7.8	7.7
21	8.9	8.8	8.3	8.3	7.9	7.8	7.7	7.6	7.5	7.5	7.8	7.8
22	8.8	8.8	8.3	8.2	7.8	7.8	7.7	7.6	7.5	7.5	7.8	7.8
23	8.8	8.8	8.3	8.2	7.8	7.8	7.6	7.6	7.5	7.5	7.8	7.8
24	8.8	8.8	8.2	8.2	7.8	7.8	7.6	7.6	7.5	7.5	7.8	7.7
25	8.8	8.7	8.2	8.2	7.8	7.8	7.6	7.6	7.5	7.5	7.7	7.7
26	8.7	8.6	8.2	8.2	7.8	7.7	7.6	7.6	7.5	7.5	7.7	7.7
27	8.7	8.6	8.2	8.2	7.7	7.7	7.6	7.5	7.5	7.5	7.7	7.7
28	8.7	8.7	8.3	8.2	7.8	7.7	7.5	7.5	7.5	7.5	7.7	7.7
29	8.7	8.5	8.3	8.2	7.8	7.8	7.5	7.5	---	---	7.7	7.7
30	8.5	8.5	8.2	8.2	7.8	7.8	7.5	7.5	---	---	7.7	7.7
31	8.5	8.5	---	---	7.8	7.8	7.5	7.5	---	---	7.8	7.7
MONTH	9.0	8.5	8.6	8.2	8.2	7.7	7.8	7.5	7.5	7.5	7.8	7.4

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.8	7.8	8.2	8.0	8.6	8.6	9.3	9.2	9.5	9.4	9.1	9.1
2	7.8	7.8	8.2	8.1	8.7	8.6	9.4	9.3	9.4	9.3	9.2	9.1
3	7.9	7.8	8.2	8.2	8.7	8.6	9.4	9.3	9.4	9.3	9.2	9.1
4	7.9	7.8	8.2	8.2	8.7	8.7	9.4	9.4	9.4	9.3	9.2	9.2
5	7.9	7.8	8.2	8.2	8.7	8.5	9.4	9.4	9.3	9.3	9.2	9.1
6	7.9	7.9	8.2	8.2	8.6	8.5	9.5	9.4	9.3	9.3	9.2	9.1
7	8.1	7.9	8.4	8.2	8.6	8.4	9.5	9.4	9.3	9.2	9.1	9.1
8	8.1	8.0	8.4	8.3	8.6	8.5	9.5	9.5	9.3	9.2	9.1	9.0
9	8.2	8.1	8.4	8.3	8.7	8.5	9.5	9.5	9.3	9.2	9.1	9.0
10	8.2	8.1	8.4	8.3	8.7	8.5	9.6	9.5	9.2	9.2	9.1	9.1
11	8.4	8.2	8.4	8.3	8.7	8.5	9.6	9.5	9.2	9.1	9.1	9.1
12	8.5	8.3	8.4	8.3	8.7	8.4	9.5	9.5	9.2	9.1	9.1	9.1
13	8.7	8.4	8.4	8.4	8.7	8.5	9.5	9.5	9.1	9.1	9.2	9.1
14	8.8	8.6	8.4	8.3	8.7	8.5	9.5	9.4	9.1	9.1	9.2	9.1
15	8.8	8.7	8.4	8.3	8.8	8.6	9.5	9.4	9.2	9.1	9.1	9.1
16	8.8	8.8	8.4	8.4	8.8	8.7	9.4	9.4	9.2	9.1	9.1	9.1
17	8.8	8.8	8.4	8.4	8.9	8.7	9.4	9.4	9.2	9.1	9.1	9.1
18	8.8	8.7	8.4	8.4	8.9	8.8	9.4	9.4	9.1	9.1	9.1	9.1
19	8.8	8.7	8.5	8.4	8.9	8.8	9.5	9.4	9.1	9.1	9.1	9.1
20	8.7	8.7	8.5	8.4	8.9	8.8	9.5	9.4	9.1	9.1	9.2	9.1
21	8.7	8.5	8.6	8.5	8.9	8.9	9.5	9.3	9.1	9.0	9.1	9.1
22	8.5	8.4	8.6	8.5	9.0	8.9	9.4	9.4	9.1	9.0	9.2	9.1
23	8.4	8.3	8.6	8.5	9.0	8.9	9.5	9.4	9.1	9.0	9.1	9.1
24	8.4	8.3	8.6	8.5	9.1	9.0	9.5	9.5	9.1	9.0	9.2	9.1
25	8.3	8.2	8.6	8.5	9.1	9.0	9.5	9.5	9.1	9.1	9.2	9.1
26	8.3	8.1	8.6	8.5	9.1	9.0	9.5	9.4	9.1	9.0	9.2	9.1
27	8.1	8.1	8.6	8.6	9.2	9.1	9.5	9.4	9.1	9.0	9.2	9.1
28	8.1	8.0	8.6	8.5	9.2	9.1	9.4	9.4	9.1	9.0	9.2	9.1
29	8.1	8.0	8.6	8.6	9.2	9.1	9.5	9.4	9.1	9.0	9.3	9.1
30	8.1	8.0	8.6	8.5	9.2	9.2	9.5	9.4	9.1	9.0	9.1	9.1
31	---	---	8.6	8.6	---	---	9.5	9.4	9.1	9.0	---	---
MONTH	8.8	7.8	8.6	8.0	9.2	8.4	9.6	9.2	9.5	9.0	9.3	9.0

05124000 SOURIS RIVER NEAR WESTHOPE, ND--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	9.9	8.8	9.3	10.1	9.4	9.8	5.4	4.1	4.7	.5	.5	.5
2	9.9	8.8	9.3	11.1	10.1	10.6	7.7	5.4	6.7	.5	.4	.5
3	10.5	9.0	9.7	11.9	11.0	11.4	6.4	4.1	5.0	.4	.4	.4
4	10.5	9.6	10.0	12.9	11.8	12.3	7.0	4.3	5.7	.5	.4	.4
5	11.3	10.1	10.6	12.9	12.0	12.4	4.3	3.2	3.5	.7	.5	.6
6	11.9	10.9	11.3	13.3	12.2	12.7	3.9	3.2	3.5	.7	.6	.7
7	12.1	11.4	11.7	13.7	13.0	13.3	4.4	2.9	3.6	.7	.6	.7
8	12.2	11.6	11.9	13.4	13.1	13.2	3.1	2.7	2.9	2.6	.7	1.6
9	11.9	11.4	11.7	13.5	13.2	13.4	3.8	2.7	3.3	2.3	1.7	2.1
10	11.9	11.1	11.5	13.5	13.0	13.2	2.7	2.4	2.6	1.7	1.2	1.5
11	11.9	10.6	11.3	13.0	12.2	12.6	2.5	2.2	2.3	1.2	.7	.9
12	12.1	10.7	11.4	12.2	11.3	11.7	2.2	1.8	2.0	.7	.4	.5
13	12.0	10.8	11.4	11.3	10.7	11.0	1.8	1.5	1.6	.4	.4	.4
14	12.3	10.7	11.4	10.7	10.0	10.4	1.5	1.3	1.4	.4	.3	.3
15	12.7	11.1	11.8	10.0	9.6	9.8	1.3	1.1	1.2	.3	.3	.3
16	12.7	10.9	11.7	9.6	9.0	9.2	1.2	1.0	1.1	.3	.3	.3
17	13.4	11.3	12.2	9.0	8.4	8.7	1.1	1.0	1.0	.3	.3	.3
18	13.0	11.6	12.2	9.0	8.0	8.3	1.1	1.0	1.0	.3	.3	.3
19	13.1	11.3	12.0	9.4	8.2	9.0	1.0	.9	1.0	.3	.3	.3
20	13.3	11.3	12.2	8.3	7.9	8.1	1.1	1.0	1.0	.3	.3	.3
21	12.0	7.8	10.3	8.2	7.7	8.0	1.1	1.0	1.0	.3	.3	.3
22	9.4	7.4	8.4	8.1	7.7	7.9	1.0	.9	1.0	.3	.3	.3
23	11.0	9.1	9.8	7.9	7.4	7.7	.9	.9	.9	.3	.3	.3
24	11.0	9.7	10.2	7.8	7.4	7.6	.9	.8	.8	.3	.3	.3
25	9.8	8.9	9.3	7.6	7.2	7.3	.8	.7	.8	.3	.3	.3
26	10.3	8.8	9.4	7.6	6.7	7.2	.8	.7	.7	.3	.2	.3
27	11.3	9.4	10.3	6.8	6.5	6.7	.7	.6	.7	.3	.2	.3
28	11.2	10.3	10.9	8.0	6.1	6.9	.6	.6	.6	.3	.3	.3
29	10.3	9.3	9.8	7.1	5.0	5.6	.6	.6	.6	.3	.3	.3
30	9.9	9.0	9.3	6.6	4.9	5.6	.6	.5	.5	.3	.2	.2
31	9.9	8.8	9.3	---	---	---	.5	.5	.5	.2	.2	.2
MONTH	13.4	7.4	10.7	13.7	4.9	9.7	7.7	.5	2.0	2.6	.2	.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	.2	.2	.2	.2	.2	.2	6.8	5.8	6.2	8.3	7.7	8.0
2	.2	.2	.2	.2	.2	.2	7.0	6.3	6.6	8.3	7.3	8.0
3	.2	.2	.2	.2	.2	.2	7.5	6.7	7.0	8.3	7.8	8.1
4	.2	.2	.2	.2	.2	.2	7.8	7.2	7.4	8.1	7.7	7.9
5	.2	.2	.2	.2	.2	.2	8.5	7.3	7.8	7.9	7.3	7.6
6	.2	.2	.2	.2	.2	.2	9.2	8.1	8.6	7.7	7.3	7.5
7	.2	.2	.2	.2	.2	.2	10.4	8.9	9.6	9.2	7.6	8.3
8	.2	.2	.2	.2	.2	.2	10.7	9.9	10.4	9.2	8.5	8.8
9	.2	.2	.2	.2	.2	.2	11.2	10.6	10.9	9.0	8.7	8.9
10	.2	.2	.2	.2	.2	.2	11.7	10.9	11.3	9.0	8.4	8.9
11	.2	.2	.2	.4	.2	.3	12.5	11.5	11.9	8.8	8.3	8.6
12	.2	.2	.2	.6	.4	.5	13.3	12.1	12.6	8.6	8.1	8.4
13	.2	.2	.2	1.0	.6	.8	13.8	12.9	13.3	8.4	6.3	7.7
14	.2	.2	.2	1.5	1.0	1.3	14.5	13.4	13.9	6.6	6.2	6.3
15	.2	.2	.2	1.7	1.5	1.6	14.4	13.9	14.2	6.8	6.1	6.4
16	.2	.2	.2	2.0	1.7	1.8	14.6	13.9	14.2	7.0	6.4	6.7
17	.2	.2	.2	2.3	1.9	2.1	14.6	14.0	14.3	7.8	6.7	7.3
18	.2	.2	.2	2.8	2.3	2.5	14.5	14.1	14.3	8.1	7.2	7.6
19	.2	.2	.2	3.6	2.8	3.1	14.2	13.8	14.0	8.3	7.5	7.9
20	.2	.2	.2	4.5	3.4	3.8	13.9	12.9	13.4	8.1	7.4	7.7
21	.2	.2	.2	5.2	4.5	4.9	12.9	11.7	12.4	9.3	8.0	8.8
22	.2	.2	.2	5.0	4.8	4.9	11.7	11.0	11.4	9.7	9.1	9.3
23	.2	.2	.2	5.2	4.9	5.0	12.6	11.6	12.1	10.0	9.1	9.6
24	.2	.2	.2	5.0	4.5	4.8	12.7	12.1	12.4	10.0	9.5	9.8
25	.2	.2	.2	4.9	4.5	4.6	12.4	11.6	12.0	10.3	9.6	9.9
26	.2	.2	.2	5.3	4.9	5.1	11.6	11.1	11.3	10.3	9.7	10.0
27	.2	.2	.2	5.3	5.0	5.1	11.2	9.6	10.3	10.2	8.4	9.6
28	.2	.2	.2	5.2	4.8	5.0	9.6	9.0	9.3	8.6	8.0	8.4
29	---	---	---	5.2	4.6	4.8	9.0	8.3	8.6	8.6	7.8	8.2
30	---	---	---	5.2	4.8	5.0	8.5	8.0	8.3	8.6	7.3	7.9
31	---	---	---	6.0	4.8	5.3	---	---	---	8.4	7.8	8.1
MONTH	.2	.2	.2	6.0	.2	2.4	14.6	5.8	11.0	10.3	6.1	8.3

05124000 SOURIS RIVER NEAR WESTHOPE, ND--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

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

06185500 MISSOURI RIVER NEAR CULBERTSON, MT
(National stream quality accounting network station)

LOCATION.--Lat 48°07'30", long 104°28'20", in $SE^1/_4NW^1/_4$ sec.3, T.27 N., R.56 E., Richland County, Hydrologic Unit 10060005, on right bank at upstream side of bridge on State Highway 16, 2.5 mi southeast of Culbertson, 10 mi downstream from Big Muddy Creek, and at river mile 1,620.76.

DRAINAGE AREA.--91,557 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1941 to December 1951, April 1958 to current year.

REVISED RECORDS.--WSP 1729: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,883.4 ft above sea level (U.S. Army Corps of Engineers bench mark). July 1 to Nov. 6, 1941, water-stage recorder at site 400 ft upstream at datum 0.11 ft higher. Nov. 7, 1941, to Aug. 17, 1950, water-stage recorder at site 580 ft downstream at present datum. Aug. 18, 1950, to Dec. 31, 1951, nonrecording gage on bridge at present datum. Apr. 1, 1958, to Nov. 1, 1967, water-stage recorder at site 580 ft downstream at present datum.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. Flow partly regulated by Fort Peck Lake (station number 06131500) and many other reservoirs upstream from station. Diversions for irrigation of about 1,030,400 acres upstream from station. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5800	5870	e8500	e10700	e12000	e8300	e7200	5080	6460	6640	e6500	6110
2	5870	5990	e8600	e10700	e11800	e7000	7340	4950	6440	6650	e6100	6260
3	5810	5950	e8700	e10500	e12000	e7000	6880	4890	6280	6790	e6100	6390
4	5920	6010	e8700	e10600	e11900	e7000	6800	5660	6250	6880	e6100	6430
5	5810	6030	e9000	e10700	e11600	e6400	6750	7060	6400	6760	e6700	6370
6	5800	6060	e9700	e10500	e10800	e6500	6650	7280	6660	6650	6710	6260
7	5750	6180	e9900	e11300	e10800	e6500	6520	7230	6990	6570	6600	5060
8	5770	5510	e10200	e11500	e10800	e6500	6400	7180	6910	6510	6410	4590
9	5760	5600	e10300	e11400	e11000	e5800	6370	6980	6990	6470	6240	4410
10	5780	7100	e10400	e11400	e10900	e5600	6320	6780	7470	6440	6160	4290
11	5840	7820	e10200	e11200	e11000	e5600	6270	6720	7370	7020	6060	4240
12	5830	7570	e10500	e11700	e9500	e5700	6180	6690	7190	7110	5970	4240
13	5850	7330	e10400	e11600	e9800	e5600	6190	6760	7190	6810	6010	4350
14	5830	7040	e10200	e11500	e9700	e6300	6060	7040	7300	6840	6120	4300
15	5700	7760	e9800	e11600	e9400	e5700	5880	7450	7810	6890	6220	4320
16	5670	e6500	e9900	e11900	e10000	e6100	5800	7410	8140	6830	6070	4260
17	5850	e6300	e9900	e11800	e10000	e6900	5750	7570	7760	6590	6080	4230
18	5870	e6400	e9900	e12100	e9900	e6800	5640	6870	8810	7570	6070	4290
19	5700	e6500	e9700	e12000	e10000	e6500	5740	6550	9740	7720	6010	4290
20	5650	e6400	e10100	e12000	e9900	e6000	5910	6410	9070	7690	6130	4120
21	5640	e6200	e10200	e12000	e10000	e6400	5820	6340	8500	e6500	6260	4140
22	5680	e6400	e9900	e11900	e10100	e6600	5640	6340	8070	e6300	6350	4080
23	5760	e6400	e10100	e12000	e10200	e6600	5530	6340	7630	e6300	6350	4110
24	5710	e6400	e10000	e11900	e9700	e6400	5510	6330	7200	e6900	6150	4020
25	5680	e6400	e10100	e12100	e9800	e6100	5480	6280	7120	e6800	5980	3960
26	5750	e6400	e10200	e11800	e9700	e6000	5440	6190	7020	e6200	5900	3980
27	6000	e7200	e9800	e12100	e9200	e6000	5370	6180	6900	e6800	5980	3940
28	6140	e7600	e10200	e12200	e9200	e6100	5320	6250	6860	e8300	6120	3920
29	5900	e7400	e10300	e12200	---	e6200	5290	6280	6810	e7200	6200	3870
30	5870	e7900	e10700	e12100	---	e6400	5190	6190	6700	e7400	6210	3870
31	5800	---	e10600	e11900	---	e6600	---	6400	---	e7000	6160	---
TOTAL	179790	198220	306700	358900	290700	197200	181240	201680	220040	213130	192020	138700
MEAN	5800	6607	9894	11580	10380	6361	6041	6506	7335	6875	6194	4623
MAX	6140	7900	10700	12200	12000	8300	7340	7570	9740	8300	6710	6430
MIN	5640	5510	8500	10500	9200	5600	5190	4890	6250	6200	5900	3870
AC-FT	356600	393200	608300	711900	576600	391100	359500	400000	436400	422700	380900	275100

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2001, BY WATER YEAR (WY)*

MEAN	10820	9347	9207	10000	10610	10450	10650	9589	9740	10270	11400	11170
MAX	28570	22440	13280	14400	17450	20690	32840	26220	26650	37050	25300	26590
(WY)	1949	1952	1944	1986	1976	1976	1979	1979	1975	1975	1948	1948
MIN	1237	1126	1061	1010	1167	2674	1965	1353	1366	1273	3823	3771
(WY)	1942	1942	1942	1943	1942	1950	1945	1945	1945	1945	1963	1992

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1941 – 2001*	
ANNUAL TOTAL	3048010		2678320			
ANNUAL MEAN	8328		7338		10270	
HIGHEST ANNUAL MEAN					16580	1975
LOWEST ANNUAL MEAN					4083	1942
HIGHEST DAILY MEAN	13500	Jul 11	12200	Jan 28	69200	Mar 27 1943
LOWEST DAILY MEAN	5490	Sep 16	3870	Sep 29	575	Nov 22 1941
ANNUAL SEVEN-DAY MINIMUM	5660	Sep 14	3940	Sep 24	709	Nov 19 1941
MAXIMUN PEAK FLOW			unknown		b78200	Mar 26 1943
INSTANTANEOUS PEAK STAGE			a10.26	Jan 8	a19.66	Apr 14 1979
INSTANTANEOUS LOW FLOW			3840	Sep 29	575	Nov 22 1941
ANNUAL RUNOFF (AC-FT)	6046000		5312000		7441000	
10 PERCENT EXCEEDS	10400		10700		16000	
50 PERCENT EXCEEDS	8740		6520		9510	
90 PERCENT EXCEEDS	5800		5570		4500	

06185500 MISSOURI RIVER NEAR CULBERTSON, MT--Continued

SUMMARY STATISTICS	FOR WATER YEARS 1941-51**		WATER YEARS 1958 - 2001***	
ANNUAL TOTAL				
ANNUAL MEAN	9245		10510	
HIGHEST ANNUAL MEAN	14520	1948	16580	1975
LOWEST ANNUAL MEAN	4083	1942	6121	1963
HIGHEST DAILY MEAN	69200	Mar 27 1943	52000	Apr 18 1979
LOWEST DAILY MEAN	575	Nov 22 1941	2000	Nov 20 1964
ANNUAL SEVEN-DAY MINIMUM	709	Nov 19 1941	2130	Nov 19 1964
INSTANTANEOUS PEAK FLOW	b78200	Mar 26 1943	c55000	Mar 23 1960
INSTANTANEOUS PEAK STAGE	a15.12	Mar 26 1943	a19.66	Apr 14 1979
ANNUAL RUNOFF (AC-FT)	6698000		7614000	
10 PERCENT EXCEEDS	21000		15200	
50 PERCENT EXCEEDS	6910		9750	
90 PERCENT EXCEEDS	1400		5900	

* During period of operation (1941-52, 1958 to current year)
** Before operational level at Fort Peck Lake was reached
*** After operational level at Fort Peck Lake was reached
a Backwater from ice
b Gage height, 14.80 ft, from rating curve extended above 30,000 ft^3/s
c Gage height, 19.14 ft
e Estimated

06185600 MISSOURI RIVER STAGE GAGE NO. 4 NEAR NOHLY, MT

LOCATION.--Lat 48°02'10", long 104°09'40", in NE$^{1}/_{4}$ sec.1, T.26 N., R.58 E., Richland County, Hydrologic Unit 10060005, on right bank 4.5 mi northwest of Nohly, MT, and at mile 1,595.7.

DRAINAGE AREA.--93,000 mi^{2}, approximately.

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--March 1959 to current year (seasonal).

GAGE.--Water-stage recorder. Datum of gage is 1,860.00 ft above sea level. Prior to Apr. 18, 1962, at datum 60.00 ft lower.

REMARKS.--Stage regulated by Fort Peck Lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily gage height recorded, 21.20 ft, Mar. 23, 1960, present datum; minimum daily recorded, 6.87 ft, Apr. 18, 1963.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.11	---	---	---	---	---	---	---	9.26	9.49	9.72	9.08
2	10.13	---	---	---	---	---	---	8.19	9.24	9.51	9.51	9.11
3	10.13	---	---	---	---	---	---	8.15	9.19	9.53	9.49	9.15
4	10.14	---	---	---	---	---	---	8.27	9.15	9.63	9.42	9.21
5	10.13	---	---	---	---	---	---	9.07	9.23	9.58	9.39	9.20
6	10.09	---	---	---	---	---	---	9.64	9.37	9.55	9.51	9.19
7	10.05	---	---	---	---	---	---	9.66	9.56	9.45	9.56	8.92
8	10.03	---	---	---	---	---	---	9.61	9.67	9.42	9.47	8.50
9	10.05	---	---	---	---	---	---	9.61	9.58	9.39	9.35	8.39
10	10.04	---	---	---	---	---	---	9.47	9.79	9.36	9.31	8.29
11	10.07	---	---	---	---	---	---	9.42	9.93	9.51	9.27	8.26
12	10.08	---	---	---	---	---	---	9.39	9.81	9.83	9.22	8.24
13	10.07	---	---	---	---	---	---	9.41	9.85	9.58	9.20	8.26
14	10.07	---	---	---	---	---	---	9.45	9.84	9.60	9.22	8.29
15	10.03	---	---	---	---	---	---	9.72	9.96	9.53	9.27	8.29
16	9.95	---	---	---	---	---	---	9.75	10.25	9.65	9.24	8.28
17	10.00	---	---	---	---	---	---	9.83	10.17	9.43	9.19	8.25
18	10.06	---	---	---	---	---	---	9.69	10.26	9.63	9.17	8.25
19	9.98	---	---	---	---	---	---	9.31	10.83	10.06	9.14	8.31
20	9.93	---	---	---	---	---	---	9.23	10.87	10.04	9.13	8.25
21	9.88	---	---	---	---	---	---	9.17	10.58	9.97	9.18	8.21
22	9.92	---	---	---	---	---	---	9.14	10.36	9.85	9.19	8.21
23	9.92	---	---	---	---	---	---	9.15	10.14	10.08	9.17	8.17
24	---	---	---	---	---	---	---	9.14	9.87	9.94	9.16	8.14
25	---	---	---	---	---	---	---	9.14	9.75	9.76	9.07	8.09
26	---	---	---	---	---	---	---	9.08	9.70	9.51	9.01	8.09
27	---	---	---	---	---	---	---	9.05	9.66	9.68	9.02	8.09
28	---	---	---	---	---	---	---	9.04	9.63	10.40	9.06	8.05
29	---	---	---	---	---	---	---	9.11	9.60	10.17	9.10	8.06
30	---	---	---	---	---	---	---	9.14	9.56	10.11	9.12	8.02
31	---	---	---	---	---	---	---	9.15	---	9.97	9.10	---
MEAN	10.04	---	---	---	---	---	---	9.24	9.82	9.72	9.26	8.43
MAX	10.14	---	---	---	---	---	---	9.83	10.87	10.40	9.72	9.21
MIN	9.88	---	---	---	---	---	---	8.15	9.15	9.36	9.01	8.02

06185650 MISSOURI RIVER STAGE GAGE NO. 5 AT NOHLY, MT

LOCATION.--Lat 48°00'10", long 104°05'30", in SE$^{1}/_{4}$ sec.16, T.26 N., R.59 E., Richland County, Hydrologic Unit 10060005, at downstream side of bridge, 0.2 mi northwest of Nohly, MT, and at mile 1,587.7.

DRAINAGE AREA.--93,000 mi^{2}, approximately.

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--April 1959 to current year (seasonal).

GAGE.--Water-stage recorder. Datum of gage is 1,800.00 ft above sea level.

REMARKS.--Stage regulated by Fort Peck Lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily gage height recorded, 77.22 ft, Mar. 15, 1972; minimum daily recorded, 59.12 ft, Nov. 22, 1964.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63.95	---	---	---	---	---	---	---	63.04	63.48	63.73	62.90
2	63.95	---	---	---	---	---	---	61.79	63.11	63.42	63.50	62.90
3	63.95	---	---	---	---	---	---	61.75	63.12	63.40	63.40	62.96
4	63.95	---	---	---	---	---	---	61.84	62.97	63.50	63.35	63.01
5	63.98	---	---	---	---	---	---	62.57	62.98	63.47	63.28	63.01
6	63.92	---	---	---	---	---	---	63.29	63.20	63.42	63.38	62.98
7	63.89	---	---	---	---	---	---	63.43	63.48	63.31	63.47	62.81
8	63.86	---	---	---	---	---	---	63.39	63.58	63.26	63.38	62.32
9	63.87	---	---	---	---	---	---	63.33	63.39	63.22	63.25	62.16
10	63.87	---	---	---	---	---	---	63.20	63.48	63.18	63.19	62.06
11	63.89	---	---	---	---	---	---	63.11	63.66	63.31	63.15	62.00
12	63.91	---	---	---	---	---	---	63.07	63.57	63.65	63.10	61.99
13	63.90	---	---	---	---	---	---	63.07	63.61	63.49	63.06	61.99
14	63.91	---	---	---	---	---	---	63.11	63.65	63.46	63.07	62.02
15	63.87	---	---	---	---	---	---	63.35	63.78	63.42	63.10	62.02
16	63.79	---	---	---	---	---	---	63.47	64.16	63.52	63.09	62.01
17	63.82	---	---	---	---	---	---	63.53	64.62	63.33	63.03	61.97
18	63.91	---	---	---	---	---	---	63.54	64.67	63.43	63.01	61.96
19	63.83	---	---	---	---	---	---	63.43	64.83	63.93	62.96	62.01
20	63.79	---	---	---	---	---	---	63.46	64.95	63.95	62.95	61.97
21	63.73	---	---	---	---	---	---	63.29	64.70	63.96	62.99	61.92
22	63.76	---	---	---	---	---	---	63.03	64.49	63.77	63.01	61.91
23	63.77	---	---	---	---	---	---	62.91	64.28	63.98	63.00	61.87
24	---	---	---	---	---	---	---	62.87	63.96	63.92	62.99	61.84
25	---	---	---	---	---	---	---	62.85	63.76	63.74	62.90	61.78
26	---	---	---	---	---	---	---	62.76	63.71	63.44	62.83	61.76
27	---	---	---	---	---	---	---	62.70	63.62	63.50	62.82	61.77
28	---	---	---	---	---	---	---	62.68	63.60	64.28	62.85	61.72
29	---	---	---	---	---	---	---	62.75	63.55	64.21	62.89	61.72
30	---	---	---	---	---	---	---	62.83	63.64	64.08	62.92	61.68
31	---	---	---	---	---	---	---	62.91	---	63.97	62.92	---
MEAN	63.87	---	---	---	---	---	---	62.98	63.77	63.61	63.12	62.17
MAX	63.98	---	---	---	---	---	---	63.54	64.95	64.28	63.73	63.01
MIN	63.73	---	---	---	---	---	---	61.75	62.97	63.18	62.82	61.68

06329500 YELLOWSTONE RIVER NEAR SIDNEY, MT
(National stream quality accounting network station)
(National water-quality assessment program)

LOCATION.--Lat 47°40'42", long 104°09'22", in $SW^1/_4NE^1/_4SW^1/_4$ sec.9, T.22 N., R.59 E., Richland County, Hydrologic Unit 10100004,on left bank at Montana-Dakota Utilities Company powerplant, 0.2 mi downstream from bridge on State Highway 23, 2.5 mi south of Sidney, 3.0 mi downstream from Fox Creek, and at river mile 29.2.

DRAINAGE AREA.--69,103 mi^2. Area at site 4.5 mi upstream, 68,812 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1910 to September 1931 (published as "at Intake"), October 1933 to current year. If monthly figures of diversions to Lower Yellowstone Canal at Intake are added to records at this site, records equivalent to those published as Yellowstone River at Glendive (1898-1910, 1931-34) can be obtained. Monthly discharge only for some periods, published in WSP 1309. Monthly figures of diversions into Lower Yellowstone Canal prior to 1951 published in WSP 1309, 1951-60 published in WSP 1729, 1961-65 published in WSP 1916, 1966-70 published in WSP 2116, and 1971 to current year are published in annual reports.

GAGE.--Water-stage recorder. Datum of gage is 1,881.3 ft above sea level (levels by U.S. Army Corps of Engineers). Jan. 1, 1911, to Sept. 30, 1931, nonrecording gage at site 32 miles upstream at different datum. Apr. 9, 1934, water-stage recorder at two sites within 500 ft of highway bridge 0.2 mi upstream and May 17, 1945, to Apr. 3, 1952, nonrecording gage on same bridge at datum 1.36 ft higher. Apr. 4, 1952, to Nov. 19, 1967, water-stage recorder at site 4.5 mi upstream at different datum.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. Flow regulated to some extent by Bighorn Lake, usable capacity, 1,312,000 acre-ft, on the Bighorn River and on other tributary streams in Wyoming and Montana. Diversion for irrigation of about 1,250,000 acres upstream from station. Lower Yellowstone Project Main Canal diverts from left bank in $NW^1/_4$ sec.36, T.18 N., R.56 E., at Lower Yellowstone diversion dam at Intake about 36.6 mi upstream for irrigation of about 52,000 acres of which about one-third lies upstream from station. U. S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6200	6670	e5800	e4900	e4400	e4400	6010	5110	15100	14100	12300	1230
2	6220	8290	e5400	e4500	e4500	e4400	5910	5940	15800	13100	7610	1220
3	6400	7280	e4900	e4700	e4700	e4300	6210	7670	14400	12800	4850	1280
4	6420	6890	e4900	e4900	e4700	e4400	6620	9070	12500	12100	4060	1410
5	6350	6790	e4900	e5000	e4700	e4400	6090	8930	13800	10800	3430	1510
6	6460	6740	e4900	e5200	e4700	e4600	5830	8500	16200	9210	2930	1610
7	7040	6690	e4900	e5200	e4700	e4800	6000	7600	16200	8000	2580	1960
8	7020	5580	e4900	e5200	e4700	e5000	6040	6500	14200	7250	2230	2380
9	6760	4360	e4900	e5200	e4700	e5200	6050	5880	12100	6540	1960	2410
10	6790	5010	e4100	e5200	e4300	e5400	6070	5730	10500	5850	1730	2540
11	6680	4690	e3700	e5200	e4000	e9000	5900	6210	9560	5900	1490	2900
12	6620	4630	e3300	e5200	e3800	e9000	6200	6120	8820	7500	1370	3150
13	6570	3780	e3300	e4800	e4100	e9000	6520	5570	10400	5530	1320	3170
14	6570	3210	e3000	e4900	e4500	e8800	6610	7000	13200	5090	1280	4330
15	6650	3280	e4100	e5000	e4500	e8600	6240	7220	14800	5340	1290	4710
16	6850	3840	e4300	e5000	e4500	e8400	5790	6900	18800	5630	1280	3590
17	6900	4160	e4500	e5000	e4500	e8200	5560	9640	23900	6400	1300	3500
18	6870	4670	e4800	e5000	e4700	e8000	5350	16000	19200	6350	1290	3630
19	6860	5310	e5100	e5000	e4700	e8000	5250	20100	16400	8160	1180	3750
20	6880	5170	e5200	e4900	e4700	e8000	5230	18800	16200	6810	1140	3790
21	6810	6050	e5100	e4600	e4700	e7600	5120	15800	16900	6760	1160	3720
22	6660	6340	e4900	e4700	e4700	e7600	5030	13300	17600	6700	1180	3670
23	5870	6170	e4800	e4900	e4700	e7600	5000	11600	16400	6740	1100	3580
24	6410	e5800	e4500	e4900	e4700	e7600	5060	11600	15200	6070	1080	3520
25	6440	e5800	e4300	e4900	e4700	e8000	5510	10100	14500	5880	1050	3450
26	6530	e5800	e4300	e4900	e4400	8050	5660	8060	14300	6420	1010	3410
27	6510	e5800	e3700	e4900	e4600	8850	5530	7540	15000	5730	1010	3520
28	6510	e5800	e4400	e4900	e4700	8010	5440	9450	15300	9370	1070	3560
29	6500	e5800	e4700	e4900	---	8170	5260	12300	16300	8600	1080	3600
30	6420	e5800	e4900	e4900	---	6390	5110	14700	16700	6670	1100	3590
31	6430	---	e4900	e4900	---	6220	---	15400	---	6130	1200	---
TOTAL	204200	166200	141400	153400	127300	215990	172200	304340	450280	237530	68660	89690
MEAN	6587	5540	4561	4948	4546	6967	5740	9817	15010	7662	2215	2990
MAX	7040	8290	5800	5200	4700	9000	6620	20100	23900	14100	12300	4710
MIN	5870	3210	3000	4500	3800	4300	5000	5110	8820	5090	1010	1220
AC-FT	405000	329700	280500	304300	252500	428400	341600	603700	893100	471100	136200	177900

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 2001, BY WATER YEAR (WY)*

MEAN	8351	7380	5983	5755	6897	11030	10380	18390	38980	23190	8777	7187
MAX	29130	12150	9594	13110	17750	25980	39160	38100	77280	55000	20470	16000
(WY)	1924	1924	1976	1925	1971	1972	1924	1928	1918	1917	1912	1941
MIN	3726	3700	3019	2087	2702	5191	2821	5409	11580	3311	1602	2389
(WY)	1922	1922	1961	1937	1936	1961	1961	1961	1919	1919	1961	1934

06329500 YELLOWSTONE RIVER NEAR SIDNEY, MT--Continued

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1911 – 2001*	
ANNUAL TOTAL	2951480		2331190			
ANNUAL MEAN	8064		6387		12710	
HIGHEST ANNUAL MEAN					21250	1924
LOWEST ANNUAL MEAN					5814	1934
HIGHEST DAILY MEAN	34100	Jun 2	23900	Jun 17	142000	Jun 21 1921
LOWEST DAILY MEAN	2880	Aug 27	1010	Aug 26	570	May 17 1961
ANNUAL SEVEN-DAY MINIMUM	2910	Aug 24	1060	Aug 23	1010	Aug 8 1961
MAXIMUM PEAK FLOW			24900	Jun 17	a159000	Jun 21 1921
MAXIMUM PEAK STAGE			9.49	Jun 17	b24.03	Mar 6 1994
INSTANTANEOUS LOW FLOW			945	Aug 27	c470	May 17 1961
ANNUAL RUNOFF (AC-FT)	5854000		4624000		9205000	
10 PERCENT EXCEEDS	17000		12300		28500	
50 PERCENT EXCEEDS	6190		5440		8090	
90 PERCENT EXCEEDS	3940		2920		4180	

SUMMARY STATISTICS	WATER YEARS 1911 – 1965**		WATER YEARS 1967 - 2001***	
ANNUAL TOTAL				
ANNUAL MEAN	12890		12550	
HIGHEST ANNUAL MEAN	21250	1924	19150	1997
LOWEST ANNUAL MEAN	5814	1934	6387	2001
HIGHEST DAILY MEAN	142000	Jun 21 1921	104000	May 23 1978
LOWEST DAILY MEAN	570	May 17 1961	800	Jan 2 1989
ANNUAL SEVEN-DAY MINIMUM	1010	Aug 8 1961	1060	Aug 23 2001
MAXIMUM PEAK FLOW	a159000	Jun 21 1921	f111000	May 23 1978
MAXIMUM PEAK STAGE	d21.85	Mar 22 1947	b24.03	Mar 6 1994
INSTANTANEOUS LOW FLOW	c470	May 17 1961	c470	May 17 1961
ANNUAL RUNOFF (AC-FT)	9341000		9095000	
10 PERCENT EXCEEDS	29900		27000	
50 PERCENT EXCEEDS	7690		8740	
90 PERCENT EXCEEDS	3820		5000	

* During period of operation 1911-31, 1934 to current year; published as “at Intake” 1911-31
** Prior to Bighorn Lake reaching operational level
*** After Bighorn Lake reached operational level
a Gage height, 12.6 ft, site and datum then in use
b Backwater from ice
c Gage height, 2.73 ft, site and datum then in us
d Backwater from ice, site and datum then in use
e Estimated
f Gage height, 20.02 ft

06329590 YELLOWSTONE RIVER STAGE GAGE NO. 1 NEAR FAIRVIEW, MT

LOCATION.--Lat 47°48'34", long 104°02'36", sec. 18, T.150 N., R.104 W., McKenzie County, Hydrologic Unit 10100004, on left bank 3 mi south of Fairview, MT, and at mile 15.2.

DRAINAGE AREA.--70,000 mi^2, approximately.

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--March 1959 to current year (seasonal).

GAGE.--Water-stage recorder. Datum of gage is 1,860.00 ft above sea level. Prior to Feb. 19, 1962, at datum 60.00 ft lower.

REVISED RECORDS.--WDR ND-82: 1980-81.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily gage height recorded, 23.78 ft, Mar. 21, 1960, present datum; minimum daily recorded, 6.99 ft, Aug. 29, 2001, present datum.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.83	---	---	---	---	---	---	---	---	12.78	---	7.14
2	9.78	---	---	---	---	---	---	9.70	---	12.44	---	7.15
3	9.82	---	---	---	---	---	---	10.33	---	12.27	---	7.17
4	9.85	---	---	---	---	---	---	10.78	---	12.16	---	7.20
5	---	---	---	---	---	---	---	10.88	---	11.83	---	7.28
6	---	---	---	---	---	---	---	10.63	---	11.41	---	7.34
7	---	---	---	---	---	---	---	10.41	---	---	---	7.52
8	---	---	---	---	---	---	---	10.02	---	---	---	7.82
9	---	---	---	---	---	---	---	9.72	---	---	---	8.02
10	---	---	---	---	---	---	---	9.62	---	---	---	8.09
11	---	---	---	---	---	---	---	9.76	---	---	---	8.24
12	---	---	---	---	---	---	---	9.88	---	---	---	8.41
13	---	---	---	---	---	---	---	9.57	---	---	---	8.49
14	---	---	---	---	---	---	---	9.91	---	---	7.37	8.69
15	---	---	---	---	---	---	---	10.21	---	---	7.34	9.46
16	---	---	---	---	---	---	---	10.02	---	---	7.32	8.87
17	---	---	---	---	---	---	---	10.44	---	---	7.29	8.65
18	---	---	---	---	---	---	---	12.27	---	---	7.32	8.65
19	---	---	---	---	---	---	---	13.69	---	---	7.24	8.69
20	---	---	---	---	---	---	---	13.66	---	---	7.18	8.70
21	---	---	---	---	---	---	---	12.93	---	---	7.13	8.70
22	---	---	---	---	---	---	---	12.08	---	---	7.20	8.65
23	---	---	---	---	---	---	---	11.56	---	---	7.15	8.61
24	---	---	---	---	---	---	---	11.41	---	---	7.09	8.59
25	---	---	---	---	---	---	---	11.24	---	---	7.10	8.58
26	---	---	---	---	---	---	---	10.55	12.67	---	7.07	8.56
27	---	---	---	---	---	---	---	10.16	12.83	---	7.06	---
28	---	---	---	---	---	---	---	10.51	13.02	---	7.04	---
29	---	---	---	---	---	---	---	11.34	12.95	---	7.02	---
30	---	---	---	---	---	---	---	11.96	13.71	---	7.03	---
31	---	---	---	---	---	---	---	---	---	---	7.11	---
MEAN	9.82	---	---	---	---	---	---	10.87	13.04	12.15	7.17	8.20
MAX	9.85	---	---	---	---	---	---	13.69	13.71	12.78	7.37	9.46
MIN	9.78	---	---	---	---	---	---	9.57	12.67	11.41	7.02	7.14

06329610 YELLOWSTONE RIVER STAGE GAGE NO. 2 NEAR CARTWRIGHT, ND

LOCATION.--Lat 47°51'43", long 103°57'59", in $NW^1/_4NW^1/_4NW^1/_4$, sec. 35, T.151 N., R.104 W., McKenzie County, Hydrologic Unit 10100004, on bridge on State Highway 200, 2 mi west of Cartwright, and at mile 8.5.

DRAINAGE AREA.--70,000 mi^2, approximately.

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--April 1959 to current year (seasonal).

GAGE.--Water-stage recorder. Datum of gage is 1,800.00 ft above sea level.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily gage height recorded, 87.08 ft, Mar. 23, 1978; minimum daily recorded, 58.58 ft, July 26, 1974.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64.36	---	---	---	---	---	---	63.86	66.82	67.32	65.74	62.43
2	64.31	64.86	---	---	---	---	---	63.98	66.97	66.92	65.87	62.43
3	64.35	64.78	---	---	---	---	---	64.49	66.84	66.74	64.35	62.45
4	64.38	64.52	---	---	---	---	---	64.97	66.30	66.64	63.90	62.47
5	---	64.47	---	---	---	---	---	65.18	66.29	66.31	63.66	62.54
6	64.34	---	---	---	---	---	---	65.04	66.99	65.83	63.44	---
7	---	---	---	---	---	---	---	64.87	67.28	65.38	63.28	62.71
8	64.58	---	---	---	---	---	---	64.47	66.93	65.16	---	62.92
9	64.50	---	---	---	---	---	---	64.21	66.29	64.92	62.97	63.07
10	64.46	---	---	---	---	---	---	64.08	65.84	64.64	62.85	63.10
11	64.45	---	---	---	---	---	---	64.18	65.47	64.63	62.73	63.21
12	64.42	---	---	---	---	---	---	64.26	65.19	65.12	62.63	63.33
13	64.40	---	---	---	---	---	---	64.04	65.42	64.68	62.58	63.39
14	64.39	---	---	---	---	---	---	64.28	66.37	64.36	62.53	63.50
15	64.40	---	---	---	---	---	---	64.60	66.83	64.34	62.50	64.12
16	64.45	---	---	---	---	---	---	64.45	67.39	64.50	62.49	63.68
17	64.50	---	---	---	---	---	---	64.76	69.31	64.64	62.46	63.51
18	64.49	---	---	---	---	---	---	66.53	68.55	64.79	62.47	63.51
19	64.47	---	---	---	---	---	---	68.03	67.67	65.03	62.43	63.55
20	64.48	---	---	---	---	---	---	68.16	67.42	65.09	62.38	63.58
21	64.46	---	---	---	---	---	---	67.51	67.61	64.80	62.34	63.56
22	64.42	---	---	---	---	---	---	66.68	67.84	65.02	62.38	63.54
23	64.26	---	---	---	---	---	---	66.13	67.62	64.75	62.35	63.50
24	64.21	---	---	---	---	---	---	65.92	67.25	64.83	62.32	63.47
25	64.34	---	---	---	---	---	---	65.78	67.13	64.45	62.33	63.45
26	64.36	---	---	---	---	---	---	65.12	67.15	64.79	62.30	63.42
27	64.34	---	---	---	---	---	---	64.75	67.30	64.50	62.30	63.45
28	64.34	---	---	---	---	---	---	65.02	67.51	64.93	62.30	63.48
29	64.35	---	---	---	---	---	---	65.85	67.40	65.77	62.34	63.49
30	64.33	---	---	---	---	---	---	66.50	68.20	65.01	62.34	63.50
31	64.33	---	---	---	---	---	---	66.93	---	64.57	62.38	---
MEAN	64.40	64.66	---	---	---	---	---	65.31	67.04	65.18	62.90	63.25
MAX	64.58	64.86	---	---	---	---	---	68.16	69.31	67.32	65.87	64.12
MIN	64.21	64.47	---	---	---	---	---	63.86	65.19	64.34	62.30	62.43

06329620 YELLOWSTONE RIVER STAGE GAGE NO. 3 NEAR BUFORD, ND

LOCATION.--Lat 47°55'14", long 103°57'56", in SW$^{1}/_{4}$ sec.2, T.151 N., R.104 W., McKenzie County, Hydrologic Unit 10100004, on left bank 4 mi south of Buford, and 6.5 mi southeast of Nohly, MT.

DRAINAGE AREA.--70,000 mi^{2}, approximately.

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--April 1959 to current year (seasonal).

GAGE.--Water-stage recorder. Datum of gage is 1,850.00 ft above sea level. Prior to Apr. 19, 1962, at datum 50.00 ft lower. Prior to Apr. 23, 1987, gage was located 1 mi downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 36.20 ft from floodmark, probably occurred sometime between Mar. 3-10, 1994; minimum daily recorded, 6.18 ft, Aug. 24, 1961, present datum.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.20	---	---	---	---	---	---	---	13.55	13.75	11.65	7.76
2	10.12	---	---	---	---	---	---	9.70	13.68	13.25	12.44	7.79
3	10.17	---	---	---	---	---	---	10.42	13.61	13.00	10.51	7.86
4	10.21	---	---	---	---	---	---	11.10	12.97	12.93	9.83	---
5	10.19	---	---	---	---	---	---	11.44	12.83	12.56	9.50	---
6	10.17	---	---	---	---	---	---	11.35	13.67	12.10	---	---
7	10.35	---	---	---	---	---	---	11.21	14.11	11.63	---	---
8	10.47	---	---	---	---	---	---	10.70	13.78	11.30	---	---
9	10.39	---	---	---	---	---	---	10.34	13.04	11.04	---	---
10	10.33	---	---	---	---	---	---	10.11	12.47	10.74	---	---
11	10.33	---	---	---	---	---	---	10.19	12.05	10.67	---	---
12	10.29	---	---	---	---	---	---	10.36	11.72	11.18	---	---
13	10.25	---	---	---	---	---	---	10.10	11.93	10.85	---	---
14	10.24	---	---	---	---	---	---	10.30	12.99	10.38	7.90	---
15	10.26	---	---	---	---	---	---	10.88	13.54	10.30	7.85	---
16	10.31	---	---	---	---	---	---	10.72	14.08	10.53	7.83	---
17	10.39	---	---	---	---	---	---	10.93	16.27	10.67	7.82	---
18	10.40	---	---	---	---	---	---	12.93	15.79	10.99	7.83	---
19	10.39	---	---	---	---	---	---	14.76	14.68	11.14	7.84	---
20	10.38	---	---	---	---	---	---	15.11	14.21	11.43	7.77	---
21	10.37	---	---	---	---	---	---	14.39	14.33	10.99	7.78	---
22	10.32	---	---	---	---	---	---	13.37	14.58	11.27	7.79	---
23	---	---	---	---	---	---	---	12.70	14.50	10.97	7.82	---
24	---	---	---	---	---	---	---	12.40	14.01	11.06	7.74	---
25	---	---	---	---	---	---	---	12.31	13.75	10.61	7.75	---
26	---	---	---	---	---	---	---	11.56	13.53	10.95	7.67	---
27	---	---	---	---	---	---	---	11.09	13.66	10.63	7.72	---
28	---	---	---	---	---	---	---	11.27	13.91	10.86	7.71	---
29	---	---	---	---	---	---	---	12.21	13.80	12.15	7.73	---
30	---	---	---	---	---	---	---	13.01	14.75	11.23	7.75	---
31	---	---	---	---	---	---	---	13.62	---	10.72	7.74	---
MEAN	10.30	---	---	---	---	---	---	11.69	13.73	11.35	8.43	7.80
MAX	10.47	---	---	---	---	---	---	15.11	16.27	13.75	12.44	7.86
MIN	10.12	---	---	---	---	---	---	9.70	11.72	10.30	7.67	7.76

06329640 MISSOURI RIVER STAGE GAGE NO. 5A AT BUFORD, ND

LOCATION.--Lat 47°59'06", long 103°59'05", in SE$^{1}/_{4}$ sec.15, T.152 N., R.104 W., Williams County, Hydrologic Unit 10110101, on left bank 1.5 mi southwest of Buford, at confluence, and at mile 1,580.7.

DRAINAGE AREA.--164,000 mi^{2}, approximately.

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--April 1960 to current year (seasonal).

GAGE.--Water-stage recorder. Datum of gage is 1,850.00 ft above sea level. Prior to Mar. 8, 1962, at datum 50.00 ft lower.

REMARKS.--Stage regulated by upstream reservoirs.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily gage height recorded, 20.37 ft, June 18, 1997; minimum daily recorded, 2.63 ft, Aug. 15, 16, 1966.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.21	---	---	---	---	---	---	---	10.44	10.57	8.45	5.36
2	7.12	---	---	---	---	---	---	7.11	10.44	10.09	9.47	5.35
3	7.15	---	---	---	---	---	---	7.54	10.39	9.82	7.77	5.42
4	7.19	---	---	---	---	---	---	8.01	9.97	9.84	7.23	5.46
5	7.20	---	---	---	---	---	---	8.64	9.72	9.65	6.87	5.52
6	7.12	---	---	---	---	---	---	8.85	10.42	9.15	6.66	5.56
7	7.25	---	---	---	---	---	---	8.90	11.24	8.68	6.56	5.56
8	7.39	---	---	---	---	---	---	8.47	10.87	8.40	6.51	5.33
9	7.33	---	---	---	---	---	---	8.02	10.09	8.23	6.34	5.36
10	7.24	---	---	---	---	---	---	7.94	9.69	8.00	6.10	5.32
11	7.24	---	---	---	---	---	---	7.92	9.42	7.86	6.03	5.36
12	7.21	---	---	---	---	---	---	7.89	9.08	8.24	5.99	5.48
13	7.18	---	---	---	---	---	---	7.66	9.11	8.22	5.94	5.65
14	7.17	---	---	---	---	---	---	7.65	10.09	7.72	5.89	5.72
15	7.17	---	---	---	---	---	---	8.35	10.61	7.67	5.76	6.41
16	7.17	---	---	---	---	---	---	8.42	11.07	7.79	5.60	6.14
17	7.23	---	---	---	---	---	---	8.34	13.04	7.91	5.52	5.83
18	7.29	---	---	---	---	---	---	9.65	12.81	8.15	5.50	5.74
19	7.25	---	---	---	---	---	---	11.17	11.98	8.37	5.48	5.81
20	7.20	---	---	---	---	---	---	11.71	11.67	8.79	5.47	5.82
21	7.16	---	---	---	---	---	---	11.13	11.74	8.37	5.47	5.83
22	7.13	---	---	---	---	---	---	10.27	11.93	8.43	5.47	5.75
23	7.02	---	---	---	---	---	---	9.60	11.56	8.38	5.47	5.70
24	---	---	---	---	---	---	---	9.28	10.99	8.46	5.46	5.64
25	---	---	---	---	---	---	---	9.26	10.67	8.02	5.45	5.59
26	---	---	---	---	---	---	---	8.66	10.43	8.08	5.46	5.55
27	---	---	---	---	---	---	---	8.24	10.46	7.90	5.45	5.52
28	---	---	---	---	---	---	---	8.32	10.59	8.26	5.44	5.51
29	---	---	---	---	---	---	---	9.02	10.59	9.47	5.46	5.50
30	---	---	---	---	---	---	---	9.63	11.17	8.72	5.47	5.46
31	---	---	---	---	---	---	---	10.26	---	8.18	5.43	---
MEAN	7.20	---	---	---	---	---	---	8.86	10.74	8.56	6.10	5.61
MAX	7.39	---	---	---	---	---	---	11.71	13.04	10.57	9.47	6.41
MIN	7.02	---	---	---	---	---	---	7.11	9.08	7.67	5.43	5.32

06329650 MISSOURI RIVER STAGE GAGE NO. 6 NEAR BUFORD, ND

LOCATION.--Lat 47°57'18", long 103°54'36", in SE$^{1}/_{4}$ sec.30, T.152 N., R.103 W., McKenzie County, Hydrologic Unit 10110101, on right bank 5 mi southeast of Buford, and at mile 1,576.0.

DRAINAGE AREA.--164,000 mi^{2}, approximately.

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--December 1959 to current year (seasonal).

GAGE.--Water-stage recorder. Datum of gage is 1,840.00 ft above sea level. Prior to Apr. 17, 1962, at datum 40.00 ft lower.

REMARKS.--Stage regulated by upstream reservoirs.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily gage height recorded, 27.39 ft, June 24, 1997; minimum daily recorded, 8.23 ft, Aug. 15, 22, 1963.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.36	---	---	---	---	---	---	---	17.21	17.85	15.71	---
2	14.29	---	---	---	---	---	---	13.65	17.29	17.37	16.91	---
3	14.30	---	---	---	---	---	---	14.08	17.35	17.10	15.24	---
4	14.35	---	---	---	---	---	---	14.65	16.93	17.10	14.53	---
5	14.37	---	---	---	---	---	---	15.24	16.69	16.84	14.22	---
6	14.33	---	---	---	---	---	---	15.57	17.27	16.47	14.01	---
7	14.40	---	---	---	---	---	---	15.59	17.86	16.04	13.89	---
8	14.53	---	---	---	---	---	---	15.27	17.80	15.73	13.68	---
9	14.49	---	---	---	---	---	---	14.93	17.24	15.49	13.43	---
10	14.44	---	---	---	---	---	---	14.70	16.76	15.20	13.27	---
11	14.43	---	---	---	---	---	---	14.67	16.50	15.15	13.14	---
12	14.40	---	---	---	---	---	---	14.77	16.22	15.54	13.02	---
13	14.37	---	---	---	---	---	---	14.63	16.27	15.58	12.94	---
14	14.36	---	---	---	---	---	---	14.62	17.04	15.05	---	---
15	14.36	---	---	---	---	---	---	15.15	17.58	14.93	---	---
16	14.35	---	---	---	---	---	---	15.24	18.10	15.08	---	---
17	14.42	---	---	---	---	---	---	15.28	19.63	15.11	---	---
18	14.47	---	---	---	---	---	---	16.48	19.88	15.39	---	---
19	14.44	---	---	---	---	---	---	17.92	19.08	15.65	---	---
20	14.41	---	---	---	---	---	---	18.50	18.73	16.10	---	---
21	14.37	---	---	---	---	---	---	18.09	18.64	15.76	---	---
22	14.34	---	---	---	---	---	---	17.31	18.73	15.79	---	---
23	14.25	---	---	---	---	---	---	16.68	18.72	15.70	---	---
24	---	---	---	---	---	---	---	16.31	18.24	15.77	---	---
25	---	---	---	---	---	---	---	16.27	17.83	15.36	---	---
26	---	---	---	---	---	---	---	15.73	17.60	15.37	---	---
27	---	---	---	---	---	---	---	15.25	17.68	15.22	---	---
28	---	---	---	---	---	---	---	15.24	17.86	15.48	---	---
29	---	---	---	---	---	---	---	15.89	17.78	16.80	---	---
30	---	---	---	---	---	---	---	16.55	18.33	16.12	---	---
31	---	---	---	---	---	---	---	17.11	---	15.58	---	---
MEAN	14.38	---	---	---	---	---	---	15.71	17.76	15.86	14.15	---
MAX	14.53	---	---	---	---	---	---	18.50	19.88	17.85	16.91	---
MIN	14.25	---	---	---	---	---	---	13.65	16.22	14.93	12.94	---

06329660 MISSOURI RIVER STAGE GAGE NO. 7 NEAR TRENTON, ND

LOCATION.--Lat 47°59'21", long 103°47'57", in NE$^{1}/_{4}$ sec.13, T.152 N., R.103 W., McKenzie County, Hydrologic Unit 10110101, on right bank 5 mi south of Trenton, and at mile 1,566.7.

DRAINAGE AREA.--164,000 mi^{2}, approximately.

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--March 1959 to current year (seasonal).

GAGE.--Water-stage recorder. Datum of gage is 1,840.00 ft above sea level. Prior to Aug. 7, 1962, at site 0.8 mi upstream. Prior to May 29, 1963, at datum 40.00 ft lower.

REMARKS.--Stage regulated by upstream reservoirs.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily gage height recorded, 23.46 ft, June 24, 1997; minimum daily recorded, 4.34 ft, Aug. 19, 22, 1963.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	13.48	14.28	11.87	7.83
2	---	---	---	---	---	---	---	9.83	13.54	13.74	13.29	7.86
3	---	---	---	---	---	---	---	10.22	13.65	13.45	11.66	7.87
4	---	---	---	---	---	---	---	10.84	13.29	13.42	10.80	7.92
5	---	---	---	---	---	---	---	11.46	12.99	13.18	10.52	7.99
6	---	---	---	---	---	---	---	11.89	13.48	12.81	10.32	8.03
7	---	---	---	---	---	---	---	11.95	14.07	12.36	10.11	8.06
8	---	---	---	---	---	---	---	11.60	14.11	12.01	9.94	7.84
9	---	---	---	---	---	---	---	11.25	13.61	11.75	9.64	7.88
10	---	---	---	---	---	---	---	10.97	13.10	11.44	9.34	7.90
11	---	---	---	---	---	---	---	10.89	12.84	11.34	9.13	7.90
12	---	---	---	---	---	---	---	11.02	12.54	11.69	8.96	7.98
13	---	---	---	---	---	---	---	10.92	12.52	11.93	8.79	8.09
14	---	---	---	---	---	---	---	10.85	13.24	11.27	8.60	8.17
15	---	---	---	---	---	---	---	11.43	13.80	11.13	8.46	8.74
16	---	---	---	---	---	---	---	11.56	14.29	11.27	8.23	8.75
17	---	---	---	---	---	---	---	11.56	15.67	11.33	8.00	8.40
18	---	---	---	---	---	---	---	12.66	16.18	11.61	7.91	8.29
19	---	---	---	---	---	---	---	14.14	15.51	11.85	7.84	8.32
20	---	---	---	---	---	---	---	14.83	15.11	12.42	7.81	8.36
21	---	---	---	---	---	---	---	14.50	14.96	12.06	7.79	8.27
22	---	---	---	---	---	---	---	13.75	14.99	12.06	7.83	8.24
23	---	---	---	---	---	---	---	13.08	15.01	11.98	7.80	8.16
24	---	---	---	---	---	---	---	12.65	14.58	12.04	7.80	8.09
25	---	---	---	---	---	---	---	12.60	14.20	11.63	7.78	8.05
26	---	---	---	---	---	---	---	12.10	13.95	11.59	7.77	---
27	---	---	---	---	---	---	---	11.55	13.98	11.48	7.77	---
28	---	---	---	---	---	---	---	11.45	14.17	11.63	7.79	---
29	---	---	---	---	---	---	---	12.08	14.14	13.11	7.80	---
30	---	---	---	---	---	---	---	12.80	14.55	12.52	7.83	---
31	---	---	---	---	---	---	---	13.35	---	11.91	7.81	---
MEAN	---	---	---	---	---	---	---	11.99	14.05	12.14	8.94	8.12
MAX	---	---	---	---	---	---	---	14.83	16.18	14.28	13.29	8.75
MIN	---	---	---	---	---	---	---	9.83	12.52	11.13	7.77	7.83

06330000 MISSOURI RIVER NEAR WILLISTON, ND

LOCATION.--Lat 48°06'29", long 103°42'51", in NW$^1/_4$NE$^1/_4$ sec.06, T.153 N., R.101 W., McKenzie County, Hydrologic Unit 10110101, on right bank, 5 mi southwest of Williston, 29.3 mi downstream from Yellowstone River, and at mile 1,552.7.

DRAINAGE AREA.--164,500 mi^2, approximately.

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--April 1966 to current year. Operated as a stage-discharge station October 1897 to July 1965.

GAGE.--Water-stage recorder. Datum of gage is 1,830.20 ft above sea level. See WSP 1917 for history of changes prior to April 1966.

REMARKS.--Stage regulated by upstream reservoirs and backwater from Lake Sakakawea.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily gage height observed, 26.60 ft, Mar. 8, 1994; minimum daily recorded, 7.80 ft, Nov. 2, 1966.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.21	14.14	---	---	---	18.60	17.97	13.34	16.27	17.10	---	12.03
2	14.14	14.34	---	---	---	18.48	17.46	13.27	16.39	16.57	---	12.02
3	14.12	14.67	---	---	---	18.40	16.02	13.52	16.55	16.28	---	12.07
4	14.16	14.47	---	---	---	18.40	15.15	14.06	16.38	16.15	---	12.12
5	14.18	14.25	---	---	---	18.35	14.78	14.59	16.11	16.02	---	12.19
6	14.17	---	---	---	---	18.24	14.49	14.89	16.29	15.68	---	12.22
7	14.18	---	---	---	---	18.17	14.41	14.97	16.79	15.30	---	12.27
8	14.30	---	---	---	---	18.27	14.47	14.90	16.99	14.98	13.06	12.13
9	14.30	---	---	---	---	18.31	14.50	14.59	16.63	14.75	12.81	12.05
10	14.24	---	---	---	18.72	18.49	14.38	14.38	16.14	14.52	12.62	12.09
11	14.22	---	---	---	18.60	18.83	14.31	14.27	15.84	14.45	12.48	12.08
12	14.20	---	---	---	18.39	19.22	14.21	14.35	15.58	14.57	12.35	12.19
13	14.17	---	---	---	18.24	19.46	14.25	14.29	15.55	14.90	12.24	12.33
14	14.15	---	---	---	18.25	19.64	14.28	14.14	16.03	14.40	12.19	12.40
15	14.15	---	---	---	18.33	19.92	14.22	14.47	16.59	14.22	12.21	12.76
16	14.14	---	---	---	18.41	20.04	14.06	14.72	17.02	14.25	12.21	13.03
17	14.17	---	---	---	18.43	19.95	13.94	14.71	17.91	14.35	12.17	12.65
18	14.23	---	---	---	18.46	19.84	---	15.39	18.51	---	12.16	12.52
19	14.24	---	---	---	18.47	19.81	---	16.67	18.21	---	12.16	12.50
20	14.21	---	---	---	18.50	19.77	---	17.35	17.89	---	12.09	12.51
21	14.21	---	---	---	18.60	19.69	---	17.36	17.72	---	12.05	12.52
22	14.14	---	---	---	18.61	19.59	---	16.89	17.64	---	12.06	12.47
23	14.11	---	---	---	18.68	19.39	---	16.28	17.62	---	12.13	12.45
24	13.95	---	---	---	18.71	19.14	---	15.85	17.34	---	12.04	12.41
25	14.02	---	---	---	18.72	18.81	---	15.71	16.95	---	11.99	12.32
26	14.07	---	---	---	18.77	18.57	---	15.33	16.70	---	11.93	12.29
27	14.13	---	---	---	18.79	18.38	---	14.83	16.71	---	11.89	12.24
28	14.16	---	---	---	18.73	18.23	---	14.68	16.82	---	---	12.29
29	14.17	---	---	---	---	18.21	---	15.10	16.82	---	11.90	12.22
30	14.12	---	---	---	---	18.23	---	15.59	16.95	---	11.94	12.21
31	14.11	---	---	---	---	17.99	---	16.04	---	---	12.02	---
MEAN	14.16	14.37	---	---	18.55	18.92	14.88	15.05	16.83	15.21	12.20	12.32
MAX	14.30	14.67	---	---	18.79	20.04	17.97	17.36	18.51	17.10	13.06	13.03
MIN	13.95	14.14	---	---	18.24	17.99	13.94	13.27	15.55	14.22	11.89	12.02

06330110 MISSOURI RIVER STAGE GAGE NO. 9 AT WILLISTON, ND

LOCATION.--Lat 48°08'13", long 103°36'16", in NE$^1/_4$NE$^1/_4$ sec.25, T.154 N., R.101 W., Williams County, Hydrologic Unit 10110101, on left bank levee at southeast edge of Williston, 0.5 mi upstream from Little Muddy Creek, and at mile 1,546.2.

DRAINAGE AREA.--164,500 mi, approximately.

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--April 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,820.00 ft above sea level. Prior to May 13, 1969, at site 900 ft downstream. At datum 20.00 ft lower prior to Apr. 7, 1962.

REMARKS.--Stage regulated by upstream reservoirs and backwater from Lake Sakakawea.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily gage height recorded, 34.61 ft, July 6, 1997; minimum daily recorded, 5.44 ft, Aug. 20, 1961, present datum.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.13	23.25	24.49	25.26	26.12	26.79	25.75	22.97	24.56	25.20	23.66	---
2	23.23	23.24	24.55	25.34	26.15	26.75	25.77	22.81	24.65	24.89	24.15	---
3	23.25	23.51	24.52	25.37	26.17	26.69	25.19	22.82	24.82	24.61	23.99	---
4	23.19	23.35	24.53	25.39	26.16	26.64	24.28	23.12	24.79	24.43	23.27	---
5	23.09	23.38	24.59	25.41	26.16	26.66	23.98	23.38	24.58	24.43	---	---
6	23.07	23.42	24.63	25.41	26.23	26.65	23.77	23.59	24.55	24.19	---	---
7	23.08	23.34	24.62	25.42	26.30	26.65	23.60	23.65	24.84	23.86	---	---
8	23.12	23.53	24.64	25.46	26.33	26.68	23.72	23.64	25.04	23.59	---	---
9	23.14	23.66	24.68	25.52	26.33	26.77	23.81	23.52	24.89	23.43	---	---
10	23.11	23.60	24.73	25.58	26.34	26.92	23.69	23.42	24.52	23.35	---	---
11	23.11	23.73	24.74	25.62	26.32	27.14	23.67	23.33	24.23	23.36	---	---
12	23.10	23.86	24.56	25.64	26.25	27.35	23.63	23.29	24.06	23.28	---	---
13	23.08	23.91	24.34	25.66	26.13	27.50	23.60	23.26	24.02	23.46	---	---
14	23.06	23.86	24.20	25.70	26.09	27.66	23.50	23.24	24.24	23.19	---	---
15	23.07	23.86	24.13	25.71	26.14	27.81	23.40	23.38	24.64	23.03	---	---
16	23.05	23.84	24.12	25.72	26.22	27.85	23.50	23.51	24.89	23.07	---	---
17	23.05	23.90	24.14	25.73	26.28	27.84	23.46	23.55	25.39	23.03	---	---
18	23.15	23.98	24.20	25.76	26.33	27.86	23.27	23.79	25.93	23.11	---	---
19	23.15	24.06	24.31	25.78	26.35	27.97	23.23	24.59	25.87	23.34	---	---
20	23.05	24.17	24.26	25.81	26.39	28.00	23.28	25.18	25.65	23.71	---	---
21	23.09	24.21	24.28	25.83	26.47	27.90	23.13	25.28	25.50	23.75	---	---
22	23.02	24.26	24.43	25.84	26.53	27.74	23.11	25.05	25.45	23.67	---	---
23	23.11	24.29	24.66	25.87	26.58	27.59	23.21	24.63	25.42	23.67	---	---
24	23.00	24.29	24.84	25.90	26.64	27.39	23.18	24.33	25.27	23.65	---	---
25	23.12	24.28	24.94	25.93	26.68	27.08	23.16	24.24	25.05	23.65	---	---
26	23.14	24.29	24.97	25.97	26.73	26.84	23.05	24.04	24.86	23.47	---	---
27	23.17	24.33	25.01	25.99	26.77	26.60	23.04	23.66	24.90	23.50	---	---
28	23.14	24.40	25.05	26.00	26.80	26.32	22.96	23.48	24.96	23.40	---	---
29	23.14	24.46	25.07	26.04	---	26.13	22.89	23.76	25.01	23.89	---	---
30	23.12	24.48	25.13	26.09	---	25.98	23.01	24.05	24.97	24.08	---	---
31	23.23	---	25.19	26.12	---	25.79	---	24.36	---	23.82	---	---
MEAN	23.11	23.89	24.60	25.71	26.36	27.08	23.63	23.77	24.92	23.71	23.77	---
MAX	23.25	24.48	25.19	26.12	26.80	28.00	25.77	25.28	25.93	25.20	24.15	---
MIN	23.00	23.24	24.12	25.26	26.09	25.79	22.89	22.81	24.02	23.03	23.27	---

06331000 LITTLE MUDDY RIVER BELOW COW CREEK NEAR WILLISTON, ND

LOCATION.--Lat 48°17'04", long 103°34'21", in NE$^1/_4$NW$^1/_4$ sec.5, T.155 N., R.100 W., Williams County, Hydrologic Unit 10110102, on left bank 37 ft downstream from centerline of highway, 1 mi downstream from Cow Creek, 4 mi upstream from Camp Creek, 10 mi northeast of Williston, and 13 mi upstream from mouth.

DRAINAGE AREA.--875 mi^2, approximately, of which about 100 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1954 to current year (seasonal records only since 1984).

GAGE.--Water-stage recorder. Datum of gage is 1,863.18 ft above sea level.

REMARKS.--Records good except for period of estimated discharge, which are poor. Some small diversions for irrigation. Some regulation by Lake Zahl, Fish and Wildlife Service reservoir, 22 mi upstream and Blacktail Dam about 15 mi upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, about 2,000 ft^3/s, Mar. 14, gage height, 10.05 ft; minimum daily discharge, 4.5 ft^3/s, Feb. 28 and Mar. 1, but may have been less during period of nonoperation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	e5.0	e4.5	93	30	14	37	11	5.2
2	---	---	---	---	e5.1	e4.6	82	26	14	29	10	5.2
3	---	---	---	---	e5.0	e4.7	75	26	14	25	9.9	5.2
4	---	---	---	---	e5.0	e4.9	73	25	14	55	8.8	5.4
5	---	---	---	---	e5.0	e5.1	73	24	15	57	8.5	5.5
6	---	---	---	---	e5.1	e5.5	78	24	18	46	8.2	5.3
7	---	---	---	---	e5.2	e6.2	151	23	17	33	7.9	5.4
8	---	---	---	---	e5.1	e7.5	141	21	18	25	7.9	5.4
9	---	---	---	---	e5.0	e20	126	21	18	20	7.3	5.5
10	---	---	---	---	e5.0	e150	127	20	18	16	7.1	5.9
11	---	---	---	---	e5.1	e215	136	20	17	18	6.9	5.9
12	---	---	---	---	e5.1	e520	111	20	16	16	7.1	5.6
13	---	---	---	---	e5.0	e1100	96	20	21	15	7.1	5.5
14	---	---	---	---	e5.0	e1800	87	19	25	14	6.7	6.1
15	---	---	---	---	e5.0	e1300	77	19	26	13	6.3	6.2
16	---	---	---	---	e5.1	e800	68	18	28	12	6.0	6.3
17	---	---	---	---	e5.0	e600	60	18	29	12	6.1	6.4
18	---	---	---	---	e5.0	e1200	56	18	31	13	6.1	6.5
19	---	---	---	---	e4.9	e1100	66	18	30	11	6.2	6.5
20	---	---	---	---	e4.9	e900	75	18	28	11	6.6	5.8
21	---	---	---	---	e4.9	e990	77	18	25	13	6.3	5.4
22	---	---	---	---	e4.8	e890	75	16	21	16	5.9	5.5
23	---	---	---	---	e4.8	e530	65	15	19	15	5.8	5.7
24	---	---	---	---	e4.7	e370	51	15	17	13	5.4	5.8
25	---	---	---	---	e4.7	353	47	15	15	14	5.0	6.2
26	---	---	---	---	e4.6	224	51	14	14	14	5.1	5.8
27	---	---	---	---	e4.6	149	47	15	29	13	5.5	5.6
28	---	---	---	---	e4.5	113	40	16	97	12	5.6	6.0
29	---	---	---	---	---	97	36	15	81	11	5.5	6.0
30	---	---	---	---	---	112	33	15	49	10	5.2	5.8
31	---	---	---	---	---	134	---	14	---	11	5.2	---
TOTAL	---	---	---	---	138.2	13710.0	2373	596	778	620	212.2	172.6
MEAN	---	---	---	---	4.94	442	79.1	19.2	25.9	20.0	6.85	5.75
MAX	---	---	---	---	5.2	1800	151	30	97	57	11	6.5
MIN	---	---	---	---	4.5	4.5	33	14	14	10	5.0	5.2
AC-FT	---	---	---	---	274	27190	4710	1180	1540	1230	421	342

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2001, BY WATER YEAR (WY)

MEAN	10.2	11.0	8.62	6.98	25.3	181	109	26.2	19.1	25.9	8.19	7.58
MAX	17.4	17.7	12.1	24.5	363	1018	996	114	91.6	170	49.1	18.9
(WY)	1973	1973	1955	1974	1996	1976	1979	1965	1994	1978	1972	1954
MIN	5.28	4.66	3.55	2.33	.91	6.21	10.6	8.44	3.77	2.80	2.51	2.54
(WY)	1962	1961	1961	1962	1959	1965	1990	1958	1988	1988	1988	1990

SUMMARY STATISTICS	WATER YEARS 1954 - 2001	
ANNUAL MEAN	a 38.8	
HIGHEST ANNUAL MEAN	a 110	1976
LOWEST ANNUAL MEAN	a 9.24	1961
HIGHEST DAILY MEAN	6610	Apr 18 1979
LOWEST DAILY MEAN	.50	Feb 17 1959
ANNUAL SEVEN-DAY MINIMUM	.50	Feb 17 1959
MAXIMUM PEAK FLOW	9180	Apr 18 1979
MAXIMUM PEAK STAGE	13.57	Mar 27 1960
ANNUAL RUNOFF (AC-FT)	a 28120	
10 PERCENT EXCEEDS	42	
50 PERCENT EXCEEDS	9.7	
90 PERCENT EXCEEDS	4.5	

a Based on complete water years only (1954-83)
e Estimated

06331000 LITTLE MUDDY RIVER BELOW COW CREEK NEAR WILLISTON, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
MAR													
20...	1400	914	8.2	--e	375	361	4.0	.00	120	25.0	14.0	10.0	1.0
MAY													
01...	1710	28	--	--	--	2020	16.0	17.0	--	--	--	--	--
JUN													
26...	1720	14	--	--	--	2680	25.0	23.0	--	--	--	--	--
AUG													
08...	0830	7.9	7.5	--e	2040	2080	23.0	25.0	410	55.0	66.0	11.0	7

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
MAR													
20...	24.0	28	100	6.5	<.1	79.0	612	248	219	--o	280	--o	10.0
MAY													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
08...	340	64	560	9.8	.3	620	30.7	1440	1440	8.0	50	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
MAR					
20...	90.0	<.10	--o	--o	210
MAY					
01...	--	--	--	--	--
JUN					
26...	--	--	--	--	--
AUG					
08...	80.0	.10	3.0	3.0	730

e Required equipment not functional/available
o Insufficient amount of water

06332515 BEAR DEN CREEK NEAR MANDAREE, ND

LOCATION.--Lat 47°47'14", long 102°46'05", in NW$^{1}/_{4}$ sec.30, T.150 N., R.94 W., McKenzie County, Hydrologic Unit 10110101, on right bank 0.5 mi upstream from county highway culvert, and 5.5 mi northwest of Mandaree.

DRAINAGE AREA.--74 mi^{2}.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1966 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,947.58 ft above sea level.

REMARKS.--Records fair except for periods of estimated discharge, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	20	e.12	e.01	e.01	e.01	e3.2	.24	e.18	e1.3	e.19	.11
2	.08	19	e.11	e.01	e.01	e.15	2.1	.22	e.18	e1.3	e.13	.11
3	.08	.71	e.10	e.01	e.01	e.24	1.8	.22	e.20	e1.1	e.11	.10
4	.12	.48	e.08	e.00	e.01	e.31	2.1	.22	e.32	e.77	e.12	.11
5	.13	.46	e.05	e.00	e.01	e.31	14	.23	e.47	e.48	e.13	.11
6	.13	.37	e.03	e.00	e.01	e.43	63	.24	e.66	e.52	e.12	.14
7	.11	.27	e.03	e.00	e.00	e.46	138	.25	e.93	e.52	e.13	.18
8	.12	.21	e.03	e.00	e.00	e6.3	33	.25	e1.4	e.52	e.14	.19
9	.18	.27	e.03	e.00	e.00	e20	14	.23	e1.8	e.43	.15	.17
10	.16	.18	e.02	e.00	e.00	e40	43	.23	e1.4	e.43	.16	.18
11	.11	.15	e.02	e.00	e.01	e61	6.3	.23	e1.2	e.43	.13	.19
12	.18	e.08	e.03	e.00	e.01	e86	2.1	.24	e1.1	e.35	.13	.19
13	.22	e.03	e.03	e.00	e.01	e227	1.8	.23	e1.7	e.26	.11	.19
14	.23	e.02	e.04	e.00	e.01	e160	e2.0	.22	e2.6	e.26	.11	.26
15	.27	e.05	e.03	e.01	e.01	e73	1.4	.21	e5.7	e.35	.09	.23
16	.34	e.07	e.03	e.00	e.01	e53	.86	.21	e5.3	e1.9	.08	.22
17	.34	e.10	e.03	e.00	e.01	40	.59	.23	e3.8	e1.2	.09	.21
18	.28	e.10	e.02	e.01	e.01	e80	.42	.22	e3.0	e.86	.09	.21
19	.37	e.10	e.02	e.00	e.01	127	.40	.20	e3.1	e.69	.10	.21
20	.34	e.10	e.01	e.00	e.01	57	.60	.20	e8.5	e.52	.09	.22
21	.35	e.08	e.01	e.00	e.01	68	.68	.19	e9.4	e.43	.11	.24
22	.34	e.06	e.01	e.00	e.01	e60	.51	.19	e4.9	e.60	.12	.23
23	.29	e.05	e.01	e.00	e.01	e44	.40	.19	e2.7	e.52	.12	.23
24	.34	e.04	e.02	e.00	e.01	e31	.35	e.19	e1.9	e.77	.11	.22
25	.39	e.03	e.02	e.02	e.01	e15	.32	e.19	e2.5	e2.2	.10	.23
26	.70	e.03	e.02	e.01	e.01	e5.7	.27	e.19	e1.7	e2.7	.10	.22
27	.32	e.05	e.02	e.01	e.01	e3.7	.27	e.25	e1.5	e1.9	.08	.21
28	.27	e.08	e.01	e.01	e.01	e3.6	.27	e.18	e1.1	e.69	.07	.20
29	.52	e.10	e.01	e.01	---	3.4	.29	e.19	e.66	e.38	.11	.20
30	.59	e.12	e.00	e.01	---	e3.5	.25	e.18	e1.2	e.25	.11	.19
31	1.0	---	e.00	e.01	---	e3.5	---	e.16	---	e.25	.11	---
TOTAL	8.99	43.39	0.99	0.13	0.24	1273.61	334.28	6.62	71.10	24.88	3.54	5.70
MEAN	.29	1.45	.032	.004	.009	41.1	11.1	.21	2.37	.80	.11	.19
MAX	1.0	20	.12	.02	.01	227	138	.25	9.4	2.7	.19	.26
MIN	.08	.02	.00	.00	.00	.01	.25	.16	.18	.25	.07	.10
AC-FT	18	86	2.0	.3	.5	2530	663	13	141	49	7.0	11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2001, BY WATER YEAR (WY)

MEAN	1.43	.32	.14	.14	6.63	36.3	20.1	3.88	2.60	3.36	.31	.63
MAX	23.0	1.45	.33	1.51	41.7	217	243	42.0	21.0	40.5	1.52	5.12
(WY)	1983	2001	1974	1974	1983	1982	1975	1970	1994	1993	1974	1973
MIN	.11	.13	.031	.000	.000	.30	.26	.15	.12	.076	.075	.062
(WY)	2000	1968	1985	1967	1967	2000	2000	1981	1987	1968	1988	1999

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1967 - 2001	
ANNUAL TOTAL	117.71		1773.47			
ANNUAL MEAN	.32		4.86		6.32	
HIGHEST ANNUAL MEAN					22.7	1982
LOWEST ANNUAL MEAN					.21	2000
HIGHEST DAILY MEAN	20	Nov 1	227	Mar 13	1110	Mar 14 1972
LOWEST DAILY MEAN	.00	Dec 30	.00	Dec 30	.00	Dec 10 1966
ANNUAL SEVEN-DAY MINIMUM	.01	Dec 25	.00	Jan 4	.00	Dec 25 1966
MAXIMUM PEAK FLOW			a 230	Mar 13	2840	Mar 13 1972
MAXIMUM PEAK STAGE			Unknown		10.03	Apr 6 1969
ANNUAL RUNOFF (AC-FT)	233		3520		4580	
10 PERCENT EXCEEDS	.34		3.5		4.0	
50 PERCENT EXCEEDS	.15		.20		.22	
90 PERCENT EXCEEDS	.04		.01		.01	

e Estimated
a About

06332515 BEAR DEN CREEK NEAR MANDAREE, ND--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
MAR													
28...	1000	3.6	8.0	--e	996	990	-1.0	.00	120	26.0	14.0	14.0	7
APR													
30...	1155	.25	--	--	--	2540	21.0	13.7	--	--	--	--	--
JUN													
19...	1445	2.7	--	--	--	1260	20.0	19.0	--	--	--	--	--
AUG													
08...	1500	.17	8.2	--e	2350	2440	28.5	29.0	140	21.0	22.0	9.80	18

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
MAR													
28...	170	72	246	3.2	.2	240	6.71	681	616	--o	660	--o	20.0
APR													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
08...	500	87	633	4.2	.4	610	.76	1660	1550	5.0	200	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
MAR					
28...	150	<.10	--o	--o	300
APR					
30...	--	--	--	--	--
JUN					
19...	--	--	--	--	--
AUG					
08...	30.0	.10	3.0	3.0	320

e Required equipment not functional/available
o Insufficient amount of water

06332523 EAST FORK SHELL CREEK NEAR PARSHALL, ND

LOCATION.--Lat 47°56'55", long 102°12'52", in $NW^1/_4NW^1/_4NW^1/_4$ sec.33, T.152 N., R.90 W., Mountrail County, Hydrologic Unit 10110101, on right bank 10 ft upstream from bridge on county road and 4 mi west of Parshall.

DRAINAGE AREA.--360 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 1,890 ft above sea level, from topographic map.

REMARKS.--Records poor due to beaver activity.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.23	e1.1	e.06	e.00	e.00	e.01	15	e4.1	e2.5	e.00	e.00	e.00
2	e.22	e2.0	e.05	e.00	e.00	e.01	14	e3.9	e2.1	e.00	e.00	e.00
3	e.22	2.9	e.06	e.00	e.00	e.02	13	e3.7	e1.8	e.00	e.00	e.00
4	e.21	2.9	e.05	e.00	e.00	e.03	13	e3.5	e1.6	e.00	e.00	e.00
5	e.21	2.0	e.05	e.00	e.00	e.07	13	e3.4	e1.5	e.00	e.00	e.00
6	e.20	1.7	e.04	e.00	e.00	e.20	14	e3.5	e1.6	e.00	e.00	e.00
7	e.20	1.4	e.04	e.00	e.00	e.40	16	e3.7	e1.7	e.00	e.01	e.00
8	e.19	e1.2	e.03	e.00	e.00	e1.0	16	e3.4	1.4	e.00	e.01	e.00
9	e.19	e1.0	e.02	e.00	e.00	e2.3	15	e3.1	.88	e.00	e.02	e.00
10	e.18	e.89	e.02	e.00	e.00	e6.0	16	e2.9	.68	e.00	e.02	e.00
11	e.18	e.75	e.02	e.00	e.00	e12	15	e2.7	.69	e.01	e.01	e.00
12	e.17	e.65	e.01	e.00	e.00	e22	13	e2.6	.64	e.02	e.01	e.00
13	e.17	e.55	e.01	e.00	e.00	e50	13	e2.5	.96	e.03	e.00	e.00
14	e.16	e.47	e.01	e.00	e.00	e110	14	e2.4	1.4	e.04	e.00	e.00
15	e.16	e.40	e.01	e.00	e.00	e101	12	e2.3	1.1	e.05	e.00	e.00
16	e.16	e.34	e.00	e.00	e.00	e84	11	e2.2	.65	e.04	e.00	e.00
17	e.16	e.29	e.00	e.00	e.00	e70	9.7	e2.2	.27	e.04	e.00	e.00
18	e.15	e.24	e.00	e.00	e.00	e60	9.0	e2.1	.15	e.03	e.00	e.00
19	e.15	e.21	e.00	e.00	e.00	e52	8.3	e2.0	.04	e.02	e.00	e.00
20	e.14	e.18	e.00	e.00	e.00	45	8.6	e2.0	e.03	e.02	e.00	e.00
21	e.14	e.15	e.00	e.00	e.00	37	9.0	e1.9	e.02	e.01	e.00	e.00
22	e.14	e.13	e.00	e.00	e.00	31	8.2	e1.8	e.02	e.01	e.00	e.00
23	e.13	e.14	e.00	e.00	e.00	27	7.8	e1.8	e.02	e.01	e.00	e.00
24	e.13	e.15	e.00	e.00	e.00	22	6.8	e1.8	e.02	e.00	e.00	e.00
25	e.13	e.14	e.00	e.00	e.00	20	6.1	e1.7	e.01	e.00	e.00	e.00
26	e.13	e.12	e.00	e.00	e.00	18	e5.6	e1.7	e.01	e.00	e.00	e.00
27	e.12	e.10	e.00	e.00	e.00	17	e5.2	e1.7	e.01	e.00	e.00	e.00
28	e.12	e.09	e.00	e.00	e.00	16	e4.9	e1.8	e.01	e.00	e.00	e.00
29	e.14	e.08	e.00	e.00	---	14	e4.6	e1.9	e.00	e.00	e.00	e.00
30	e.30	e.07	e.00	e.00	---	15	e4.4	e2.1	e.00	e.00	e.00	e.00
31	e.60	---	e.00	e.00	---	16	---	e2.3	---	e.00	e.00	---
TOTAL	5.73	22.34	0.48	0.00	0.00	849.04	321.2	78.7	21.81	0.33	0.08	0.00
MEAN	.18	.74	.015	.000	.000	27.4	10.7	2.54	.73	.011	.003	.000
MAX	.60	2.9	.06	.00	.00	110	16	4.1	2.5	.05	.02	.00
MIN	.12	.07	.00	.00	.00	.01	4.4	1.7	.00	.00	.00	.00
AC-FT	11	44	1.0	.00	.00	1680	637	156	43	.7	.2	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2001, BY WATER YEAR (WY)

MEAN	1.57	1.77	.98	.38	.92	42.2	17.0	5.29	4.94	3.52	1.57	.85
MAX	4.71	3.10	1.54	1.22	3.58	134	64.9	16.0	16.4	23.5	11.6	2.66
(WY)	1995	2000	2000	1995	1995	1999	1996	1999	1998	1993	1993	1991
MIN	.18	.74	.015	.000	.000	4.32	2.97	1.64	.66	.011	.003	.000
(WY)	2001	2001	2001	2001	2001	2000	2000	1992	1992	2001	2001	2001

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1991 - 2001	
ANNUAL TOTAL	657.21		1299.71			
ANNUAL MEAN	1.80		3.56		6.82	
HIGHEST ANNUAL MEAN					15.1	1999
LOWEST ANNUAL MEAN					2.19	1992
HIGHEST DAILY MEAN	27	May 12	110	Mar 14	930	Mar 27 1999
LOWEST DAILY MEAN	.00	Dec 16	.00	Dec 16	.00	Sep 2 1991
ANNUAL SEVEN-DAY MINIMUM	.00	Dec 16	.00	Dec 16	.00	Sep 10 1998
MAXIMUM PEAK FLOW			110	Mar 14	1170	Mar 27 1999
MAXIMUM PEAK STAGE			6.06	Mar 14	6.46	Mar 27 1997
ANNUAL RUNOFF (AC-FT)	1300		2580		4940	
10 PERCENT EXCEEDS	4.4		11		9.0	
50 PERCENT EXCEEDS	.60		.03		1.2	
90 PERCENT EXCEEDS	.12		.00		.10	

e Estimated

06332523 EAST FORK SHELL CREEK NEAR PARSHALL, ND--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
MAR													
15...	1150	101	--	--	--	500	--	4.0	.00	--	--	--	--
21...	1530	40	10.5	7.8	8.1	990	976	8.0	1.8	180	31.0	25.0	14.0
JUN													
07...	1310	1.7	--	--	--	3810	--	20.0	19.9	--	--	--	--

DATE	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
MAR													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	5	150	62	209	11.0	.1	270	74.2	680	634	--o	220	--o
JUN													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
MAR						
15...	--	--	--	--	--	--
21...	40.0	140	<.10	--o	--o	490
JUN						
07...	--	--	--	--	--	--

o Insufficient amount of water

06332770 DEEPWATER CREEK AT MOUTH NEAR RAUB, ND

LOCATION.--Lat 47°44'16", long 102°06'26", in $NW^1/_4NW^1/_4SW^1/_4$ sec.8, T.149 N., R.89 W., McLean County, Hydrologic Unit 10110101, on right bank 20 ft upstream from Highway 1804 bridge, 0.6 mi south of junction of State Highway 37 and 1804, 3 mi west and 0.6 mi south of Raub.

DRAINAGE AREA.--220 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 1,832 ft above sea level, from topographic map.

REMARKS.--Records poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.20	6.6	e.35	e.00	e.00	e.01	e35	e6.7	e3.7	1.2	.24	e.00
2	.21	8.8	e.30	e.00	e.00	e.02	e33	e6.4	e3.3	1.2	.13	e.00
3	.16	18	e.23	e.00	e.00	e.02	e30	e6.2	e3.0	1.1	.07	e.00
4	.16	17	e.17	e.00	e.00	e.05	e29	e6.2	e2.7	.92	.07	e.00
5	.19	9.2	e.14	e.00	e.00	e.09	e29	e6.3	e2.5	.79	.09	e.00
6	.20	6.8	e.10	e.00	e.00	e.20	e30	e6.4	e2.3	.68	.08	e.00
7	.18	5.8	e.08	e.00	e.00	e.40	e30	e6.0	e2.4	.68	.04	.00
8	.18	5.9	e.06	e.00	e.00	e.60	e30	e5.5	3.0	.58	.04	.00
9	.19	5.8	e.05	e.00	e.00	e1.4	e28	e5.2	3.2	.63	.00	.00
10	.20	4.8	e.04	e.00	e.00	e3.0	e26	e4.8	3.1	.57	.00	.00
11	6.5	e4.1	e.03	e.00	e.00	e5.0	e24	e4.6	3.3	.56	e.00	.00
12	5.3	e3.4	e.02	e.00	e.00	e12	e22	e4.4	3.6	.51	.00	.00
13	4.1	e3.0	e.01	e.00	e.00	e30	e20	e4.3	4.3	.63	e.00	.00
14	2.9	e2.6	e.01	e.00	e.00	e50	e18	e4.2	6.0	.54	.00	.00
15	2.2	e2.3	e.00	e.00	e.00	e109	e17	e4.1	9.5	2.7	.00	.00
16	1.6	e1.9	e.00	e.00	e.00	e270	e15	e3.9	9.7	1.4	.00	.00
17	1.2	e1.7	e.00	e.00	e.00	e310	e13	e3.8	8.2	1.2	.00	.00
18	e1.3	e1.4	e.00	e.00	e.00	e265	e11	e3.7	6.9	1.1	.00	.00
19	e1.5	e1.2	e.00	e.00	e.00	e220	e12	e3.6	6.7	.82	.00	.00
20	1.4	e1.1	e.00	e.00	e.00	e190	e12	e3.5	15	.70	.00	.00
21	1.4	e.98	e.00	e.00	e.00	e167	e11	e3.4	16	.76	.00	.00
22	2.0	e.90	e.00	e.00	e.00	e145	e10	e3.3	12	1.1	.00	.00
23	2.3	e.96	e.00	e.00	e.00	e125	e9.4	e3.2	8.1	1.0	.00	.00
24	2.2	e.97	e.00	e.00	e.00	e105	e8.9	e3.0	6.2	3.0	.00	.00
25	2.1	e.89	e.00	e.00	e.00	e90	e8.5	e2.9	7.2	3.8	.00	.00
26	2.2	e.78	e.00	e.00	e.00	e78	e8.2	e2.8	3.4	2.8	.00	.00
27	2.5	e.67	e.00	e.00	e.00	e65	e8.0	e2.7	1.6	1.5	.00	.00
28	2.7	e.58	e.00	e.00	e.00	e54	e7.8	e2.7	1.5	.80	e.00	.00
29	3.9	e.48	e.00	e.00	---	e46	e7.5	e2.8	1.4	.61	e.00	.00
30	4.1	e.41	e.00	e.00	---	e37	e7.2	e3.0	1.5	.40	e.00	.00
31	4.7	---	e.00	e.00	---	e34	---	e3.4	---	.36	e.00	---
TOTAL	59.97	119.02	1.59	0.00	0.00	2412.79	550.5	133.0	161.3	34.64	0.76	0.00
MEAN	1.93	3.97	.051	.000	.000	77.8	18.4	4.29	5.38	1.12	.025	.000
MAX	6.5	18	.35	.00	.00	310	35	6.7	16	3.8	.24	.00
MIN	.16	.41	.00	.00	.00	.01	7.2	2.7	1.4	.36	.00	.00
AC-FT	119	236	3.2	.00	.00	4790	1090	264	320	69	1.5	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2001, BY WATER YEAR (WY)

MEAN	1.33	1.90	1.11	.60	1.30	73.9	22.6	6.73	4.72	2.41	.98	.56
MAX	4.15	3.97	2.01	1.81	5.40	279	68.3	21.8	18.3	18.5	5.68	4.49
(WY)	1995	2001	1999	2000	1992	1999	1996	1999	1994	1993	1993	1991
MIN	.000	.16	.051	.000	.000	6.49	4.09	.80	.040	.009	.000	.000
(WY)	1993	1993	2001	1993	2001	2000	2000	1992	1992	1992	1994	1995

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1991 - 2001	
ANNUAL TOTAL	909.43		3473.57			
ANNUAL MEAN	2.48		9.52		9.93	
HIGHEST ANNUAL MEAN					29.8	1999
LOWEST ANNUAL MEAN					2.04	1992
HIGHEST DAILY MEAN	20	May 13	310	Mar 17	1100	Mar 27 1997
LOWEST DAILY MEAN	.00	Dec 15	.00	Dec 15	.00	Jul 27 1991
ANNUAL SEVEN-DAY MINIMUM	.00	Dec 15	.00	Dec 15	.00	Jul 27 1991
MAXIMUM PEAK FLOW			310	Mar 17	a 1300	Mar 27 1997
MAXIMUM PEAK STAGE			8.71	Mar 14	b 13.26	Mar 13 1996
ANNUAL RUNOFF (AC-FT)	1800		6890		7190	
10 PERCENT EXCEEDS	5.4		16		12	
50 PERCENT EXCEEDS	1.7		.67		.83	
90 PERCENT EXCEEDS	.18		.00		.00	

e Estimated
a About
b Backwater from ice

06332770 DEEPWATER CREEK AT MOUTH NEAR RAUB, ND--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
MAR													
15...	1400	109	--	--	--	--	290	4.5	.00	--	--	--	--
21...	1200	167	11.5	7.6	7.3	460	268	15.0	.6	120	22.0	16.0	14.0
JUN													
07...	1115	2.4	--	--	--	--	2210	30.0	17.9	--	--	--	--
AUG													
01...	1045	.18	--	8.3	8.2	2270	2280	23.0	20.0	410	47.0	71.0	12.0

DATE	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
MAR													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	2	43.0	40	131	6.3	.1	86.0	141	313	267	--o	250	--o
JUN													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
01...	9	400	67	623	11.0	.5	690	.81	1660	1610	14.0	60	2.00

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
MAR						
15...	--	--	--	--	--	--
21...	20.0	100	<.10	--o	--o	320
JUN						
07...	--	--	--	--	--	--
AUG						
01...	100	10.0	.10	3.0	3.0	840

o Insufficient amount of water

06335500 LITTLE MISSOURI RIVER AT MARMARTH, ND

LOCATION.--Lat 46°17'44", long 103°55'06", in SW$^{1}/_{4}$ sec.30, T.133 N., R.105 W., Slope County, Hydrologic Unit 10110203, on left bank 90 ft downstream from bridge on U.S. Highway 12 in Marmarth, and 1.5 mi downstream from Little Beaver Creek.

DRAINAGE AREA.--4,640 mi^{2}, approximately.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS (WATER YEARS).--WSP 896: 1938-39. WSP 1086: 1943-44. WSP 1279: 1943(M), 1945-46, 1948. WSP 1439: 1950 (calendar year figures).

GAGE.--Water-stage recorder. Datum of gage is 2,686.32 ft above sea level. Prior to June 23, 1950, various nonrecording gages on former highway bridge at present site and datum. June 23, 1950, to Sept. 2, 1957, nonrecording gage at site 90 ft upstream at present datum.

REMARKS.--Records good except for periods of estimated discharge, which are poor. Small diversions for irrigation upstream from station.

EXTREMES OUTSIDE PERIOD OF RECORD.--According to local residents, the greatest known flood prior to 1953 occurred in June 1907 (stage unknown). Other major floods reached stages of about 21.5 ft in March 1913, 19.7 ft in March 1920, and 20.2 ft in May 1929. These stages are not comparable to stages during period of record, owing to construction of levees.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	e630	e22	e15	e26	e20	319	108	e46	175	1240	22
2	11	e2900	e22	e15	e25	e25	335	103	e40	267	882	22
3	10	e1750	e22	e18	e24	e25	391	100	e37	705	514	20
4	9.3	e390	e22	e20	e24	e30	413	99	e40	281	337	18
5	10	e170	e21	e25	e25	e40	456	96	96	333	241	18
6	11	e120	e21	e29	e25	e60	400	93	148	1060	e180	19
7	11	e118	e21	e33	e24	e500	626	86	117	1060	e150	31
8	11	e100	e20	e34	e23	e2100	950	85	585	812	e125	25
9	9.9	e90	e20	e35	e23	e2300	1800	82	594	590	e105	25
10	9.3	e70	e19	e35	e23	e5000	2410	81	723	372	e90	22
11	9.4	e60	e18	e34	e22	e4800	1930	80	456	771	e80	20
12	9.9	e55	e18	e35	e21	e4600	1490	80	349	e570	e70	19
13	11	e50	e17	e36	e21	e4400	1360	79	1030	e375	e65	19
14	12	e45	e17	e36	e21	e4200	1070	75	1440	e270	60	19
15	13	e40	e16	e35	e21	3280	776	72	2370	e271	56	20
16	13	e38	e16	e35	e21	2350	566	70	1570	e527	54	20
17	13	e36	e15	e34	e21	1950	445	64	2180	e752	54	20
18	13	e35	e15	e34	e20	2580	366	62	3510	e444	52	19
19	14	e34	e15	e33	e20	2480	302	59	2350	e353	48	20
20	14	e32	e14	e33	e20	2650	260	57	1270	839	42	32
21	15	e31	e14	e32	e20	2260	236	e51	846	847	e38	29
22	14	e30	e14	e32	e20	1520	212	e49	619	848	e34	27
23	13	e28	e14	e31	e20	1020	192	e43	429	817	e31	25
24	14	e26	e14	e30	e19	662	175	e43	302	486	e29	24
25	e14	e25	e14	e30	e19	453	158	e39	232	470	e28	24
26	e15	e24	e14	e29	e19	347	144	e38	187	1240	e26	22
27	e16	e24	e14	e29	e19	340	134	e36	160	1220	e25	21
28	e15	e23	e14	e29	e19	289	126	e34	189	e1060	e24	21
29	e18	e23	e14	e29	---	315	120	e33	133	e861	e23	19
30	e17	e23	e15	e28	---	363	113	e31	132	e700	e23	e17
31	e62	---	e15	e28	---	340	---	e49	---	e865	22	---
TOTAL	438.8	7020	527	931	605	51299	18275	2077	22180	20241	4748	659
MEAN	14.2	234	17.0	30.0	21.6	1655	609	67.0	739	653	153	22.0
MAX	62	2900	22	36	26	5000	2410	108	3510	1240	1240	32
MIN	9.3	23	14	15	19	20	113	31	37	175	22	17
AC-FT	870	13920	1050	1850	1200	101800	36250	4120	43990	40150	9420	1310

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2001, BY WATER YEAR (WY)

MEAN	110	39.1	16.9	17.7	197	944	787	596	667	228	82.8	71.0
MAX	1489	250	107	260	2208	5079	6691	3840	4705	1917	400	526
(WY)	1972	1999	1952	1973	1943	1978	1952	1975	1944	1993	1993	1941
MIN	.87	.37	.000	.000	.000	23.1	10.7	4.75	3.51	.10	.16	.000
(WY)	1959	1956	1956	1939	1939	1992	1981	1980	1961	1980	1988	1955

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1938 - 2001	
ANNUAL TOTAL	25036.29		129000.8			
ANNUAL MEAN	68.4		353		315	
HIGHEST ANNUAL MEAN					986	1944
LOWEST ANNUAL MEAN					20.5	1988
HIGHEST DAILY MEAN	2900	Nov 2	5000	Mar 10	28600	Apr 5 1944
LOWEST DAILY MEAN	.89	Sep 10	9.3	Oct 4	.00	Dec 18 1938
ANNUAL SEVEN-DAY MINIMUM	1.4	Sep 4	10	Oct 4	.00	Dec 18 1938
MAXIMUM PEAK FLOW			a 5700	Mar 10	45000	Mar 23 1947
MAXIMUM PEAK STAGE			b 9.74	Mar 10	23.40	Mar 31 1952
ANNUAL RUNOFF (AC-FT)	49660		255900		228000	
10 PERCENT EXCEEDS	123		1040		652	
50 PERCENT EXCEEDS	31		37		34	
90 PERCENT EXCEEDS	3.8		15		1.0	

a About
b Backwater from ice
e Estimated

06335500 LITTLE MISSOURI RIVER AT MARMARTH, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1950-51, 1970 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
04...	1230	9.7	--	--	--	1560	9.5	11.0	--	--	--	--	--
JAN													
23...	1415	31	--	--	--	1250	1.5	.2	--	--	--	--	--
MAR													
14...	1215	4160	--	--	--	342	2.0	.5	--	--	--	--	--
22...	1345	1490	7.3	--e	--e	328	2.0	5.5	110	24.0	12.0	5.80	3
APR													
06...	1245	391	--	--	--	1080	7.5	7.0	--	--	--	--	--
JUN													
04...	1450	38	--	--	--	1990	12.5	12.3	--	--	--	--	--
14...	1515	1350	--	--	--	701	10.0	14.0	--	--	--	--	--
18...	1540	4840	--	--	--	650	18.0	16.0	--	--	--	--	--
JUL													
23...	1555	753	--	--	--	720	28.0	26.5	--	--	--	--	--
AUG													
13...	1535	65	--	--	--	1250	33.0	27.0	--	--	--	--	--
30...	1155	24	7.7	--e	1650	1660	23.0	20.0	170	30.0	23.0	13.0	10

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	66.0	55	91	4.1	.2	150	1370	340	319	3.0	1700	2.00	100
APR													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	310	78	314	10.0	.5	540	71.7	1130	1120	2.0	160	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
04...	--	--	--	--	--
JAN					
23...	--	--	--	--	--
MAR					
14...	--	--	--	--	--
22...	70.0	<.10	2.0	3.0	220
APR					
06...	--	--	--	--	--
JUN					
04...	--	--	--	--	--
14...	--	--	--	--	--
18...	--	--	--	--	--
JUL					
23...	--	--	--	--	--
AUG					
13...	--	--	--	--	--
30...	30.0	.10	12.0	3.0	370

e Required equipment not functional/available

06336000 LITTLE MISSOURI RIVER AT MEDORA, ND

LOCATION.--Lat 46°55'10", long 103°31'40", in NE$^{1}/_{4}$ sec.27, T.140 N., R.102 W., Billings County, Hydrologic Unit 10110203, on left bank 50 ft upstream from bridge on county highway and 1 mi upstream from Andrews Creek and bridge on I-94.

DRAINAGE AREA.--6,190 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1903 to October 1908, October to November 1921, March to June and November to December 1922, May 1923 to September 1924, September 1928 to September 1934, October 1945 to September 1975, March 2001 to September 2001. Monthly discharge only for some periods, published in WSP 1309.

GAGE.--Water-stage recorder on upstream side of highway bridge. Datum of gage is 2,246.75 ft above sea level. Prior to Oct. 9, 1945, nonrecording gages at several sites within 0.2 mi upstream from present site at various datums. Oct. 9, 1945, to Aug. 22, 1951, nonrecording gage at current location at current datum. Sept. 1951 to Sept. 1975 recording gage 600 ft downstream at current datum.

AVERAGE DISCHARGE.--42 years (1903-08, 1923-24, 1928-34, 1945-75), 472 ft^3/s 342,000 acre-ft/yr; medium of yearly mean discharges, 416 ft^3/s 301,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 65,000 ft^3/s Mar. 23, 1947, gage height, 20.5 ft; no flow at times except for periods of estimated discharge, which are poor.

EXTREMES FOR CURRENT YEAR: Daily discharge was estimated for most of the year because observer record was not available; therefore, peak discharge was unknown.

REMARKS.--Records fair except for periods of estimated discharge, which are poor.

REVISIONS (WATER YEARS).--WSP 546: Drainage area. WSP 1279: 1903-7, 1923-24, 1930-31, 1934(M).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e22	e650	e148	e68	e381	e1140	31
2	---	---	---	---	---	e28	e650	e131	e64	e319	e1240	27
3	---	---	---	---	---	e28	e699	e131	e62	e314	e1240	23
4	---	---	---	---	---	e39	e747	e136	e60	e371	e728	22
5	---	---	---	---	---	e61	e812	e127	e72	e653	e558	20
6	---	---	---	---	---	e107	e780	e127	e123	e409	e452	24
7	---	---	---	---	---	e160	e893	e114	e190	e471	e337	40
8	---	---	---	---	---	e241	e1150	e114	e286	e899	e274	45
9	---	---	---	---	---	e442	e1440	e105	e299	e905	e224	42
10	---	---	---	---	---	e1780	e1910	e109	e326	e700	e191	38
11	---	---	---	---	---	e4630	e2740	e105	e358	e600	e171	47
12	---	---	---	---	---	e7840	e2160	e105	e326	e476	e149	57
13	---	---	---	---	---	e7070	e1830	e104	e785	e533	e124	50
14	---	---	---	---	---	e6600	e1590	e105	e1540	e719	e110	241
15	---	---	---	---	---	e6070	e1340	e105	e3220	e614	e101	253
16	---	---	---	---	---	e5710	e1090	e104	e2370	e564	e89	141
17	---	---	---	---	---	e5050	e942	e102	e1870	e459	e76	134
18	---	---	---	---	---	e4730	e839	e95	e1840	e443	e68	90
19	---	---	---	---	---	e4470	e715	e93	e2000	e460	e65	68
20	---	---	---	---	---	e4310	e601	e89	e2600	e843	e57	56
21	---	---	---	---	---	e3860	e504	e81	e1840	e686	e52	46
22	---	---	---	---	---	e3350	e439	e77	e1440	e595	e44	42
23	---	---	---	---	---	e2520	e374	e75	e1110	e562	e40	37
24	---	---	---	---	---	e1830	e310	e66	e880	e575	35	37
25	---	---	---	---	---	e1250	e269	e66	e699	e662	33	34
26	---	---	---	---	---	e976	e220	e66	e529	e757	37	32
27	---	---	---	---	---	e743	e194	e66	e407	e1220	36	31
28	---	---	---	---	---	e710	e176	e64	e357	e1860	38	30
29	---	---	---	---	---	e710	e164	e60	e371	e1620	37	26
30	---	---	---	---	---	e643	e148	e56	e429	e1250	34	23
31	---	---	---	---	---	e650	---	e74	---	e1130	34	---
TOTAL	---	---	---	---	---	76630	26376	3000	26521	22050	7814	1787
MEAN	---	---	---	---	---	2472	879	96.8	884	711	252	59.6
MAX	---	---	---	---	---	7840	2740	148	3220	1860	1240	253
MIN	---	---	---	---	---	22	148	56	60	314	33	20

e Estimated

06336000 LITTLE MISSOURI RIVER AT MEDORA, ND

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 2001 to present.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
MAR													
21...	1430	3780	8.0	--e	591	--	--	8.0	110	23.0	13.0	6.40	3
APR													
27...	1020	192	--	--	--	1650	22.0	16.5	--	--	--	--	--
JUN													
05...	1530	75	--	--	--	2110	16.0	12.6	--	--	--	--	--
19...	0900	1970	--	--	--	878	14.0	16.8	--	--	--	--	--
AUG													
29...	1020	36	7.2	--e	1880	1890	19.0	18.5	240	50.0	29.0	15.0	9

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
MAR													
21...	73.0	57	137	1.6	.1	160	35.0	358	367	3.0	350	3.00	100
APR													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
29...	320	73	316	9.9	.5	680	128	1310	1290	2.0	50	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
MAR					
21...	30.0	<.10	2.0	3.0	230
APR					
27...	--	--	--	--	--
JUN					
05...	--	--	--	--	--
19...	--	--	--	--	--
AUG					
29...	30.0	<.10	10.0	3.0	550

e Required equipment not functional/available

06336600 BEAVER CREEK NEAR TROTTERS, ND

LOCATION.--Lat 47°09'47", long 103°59'32", in $SW^1/_4SW^1/_4NE^1/_4$ sec.33, T.143 N., R.105 W., Golden Valley County, Hydrologic Unit 10110204, on left bank 100 ft upstream from bridge on county road, 2.4 mi east of Montana-North Dakota State line, 13 mi southwest of Trotters, 17 mi north of Beach, 20 mi upstream from Elk Creek, and 27 mi above mouth.

DRAINAGE AREA.--616 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1977 to current year (seasonal records only since 1984).

REVISED RECORDS.--1982: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,371.96 ft above sea level.

REMARKS.--Records fair except for periods of estimated discharge, which are poor.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,200 ft^3/s, Mar. 14, gage height, 14.02 ft, backwater from ice; minimum daily discharge, no flow, Sept. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e4.0	83	19	7.8	e8.9	12	.54
2	---	---	---	---	---	e4.1	107	18	7.8	e8.0	10	.52
3	---	---	---	---	---	e4.5	99	19	8.1	e7.3	6.5	.52
4	---	---	---	---	---	e4.5	93	19	8.0	e6.9	3.7	.52
5	---	---	---	---	---	e4.7	86	18	9.4	e6.4	2.0	.54
6	---	---	---	---	---	e4.8	84	17	9.8	e6.2	1.0	.60
7	---	---	---	---	---	e5.7	91	16	9.9	e5.9	.52	.70
8	---	---	---	---	---	e6.7	89	16	9.5	e5.6	.69	.80
9	---	---	---	---	---	e6.7	90	15	e9.0	e5.4	.90	.95
10	---	---	---	---	---	e70	97	15	e8.8	e5.4	1.5	1.0
11	---	---	---	---	---	e80	95	15	e8.6	e5.3	1.8	.95
12	---	---	---	---	---	e150	83	15	e9.5	e5.2	2.0	.80
13	---	---	---	---	---	e450	76	14	e10	e5.0	2.2	.70
14	---	---	---	---	---	e1020	70	13	e65	e5.0	e2.1	.90
15	---	---	---	---	---	e890	65	13	e91	e4.8	e2.1	1.0
16	---	---	---	---	---	e670	60	12	e100	e4.8	e2.0	.95
17	---	---	---	---	---	e665	55	12	e85	e4.9	e1.9	1.0
18	---	---	---	---	---	e620	51	12	e78	4.6	e1.8	.95
19	---	---	---	---	---	e660	45	12	e83	3.5	e1.7	.80
20	---	---	---	---	---	e650	42	12	e80	3.3	e1.5	.70
21	---	---	---	---	---	e620	38	11	e75	3.9	e1.5	.50
22	---	---	---	---	---	550	34	9.5	e68	e4.0	e1.2	.40
23	---	---	---	---	---	500	31	9.1	e57	e3.5	e1.2	.30
24	---	---	---	---	---	400	29	9.1	e44	e3.0	e1.0	.20
25	---	---	---	---	---	300	27	9.2	e32	e2.7	e.84	.17
26	---	---	---	---	---	e220	25	9.7	e23	1.3	e.84	.14
27	---	---	---	---	---	e160	23	9.8	e18	1.8	e.70	.10
28	---	---	---	---	---	e130	22	8.8	e14	1.7	.67	.05
29	---	---	---	---	---	110	21	8.6	e12	2.4	.61	.01
30	---	---	---	---	---	94	20	8.3	e10	6.4	.58	.00
31	---	---	---	---	---	85	---	8.4	---	14	.56	---
TOTAL	---	---	---	---	---	9139.7	1831	403.5	1051.2	157.1	67.61	17.31
MEAN	---	---	---	---	---	295	61.0	13.0	35.0	5.07	2.18	.58
MAX	---	---	---	---	---	1020	107	19	100	14	12	1.0
MIN	---	---	---	---	---	4.0	20	8.3	7.8	1.3	.52	.00
AC-FT	---	---	---	---	---	18130	3630	800	2090	312	134	34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 2001, BY WATER YEAR (WY)

MEAN	1.10	2.62	2.59	4.40	30.0	117	49.6	16.4	17.4	10.6	2.25	.74
MAX	3.29	6.34	5.13	14.7	141	609	406	50.2	125	64.2	18.4	4.72
(WY)	1983	1983	1979	1983	1983	1978	1979	1999	1982	1997	1993	1986
MIN	.006	.010	.032	.000	.000	1.21	1.11	1.05	.12	.000	.000	.000
(WY)	1982	1982	1982	1982	1989	1991	1991	1981	1992	1988	1985	1981

SUMMARY STATISTICS	WATER YEARS 1978 - 2001	
ANNUAL MEAN	a 33.3	
HIGHEST ANNUAL MEAN	a 79.7	1978
LOWEST ANNUAL MEAN	a 2.77	1981
HIGHEST DAILY MEAN	2500	Mar 22 1978
LOWEST DAILY MEAN	.00	Aug 1 1981
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 10 1981
MAXIMUM PEAK FLOW	2720	Mar 29 1978
MAXIMUM PEAK STAGE	b 19.27	Mar 22 1978
ANNUAL RUNOFF (AC-FT)	a 24110	
10 PERCENT EXCEEDS	42	
50 PERCENT EXCEEDS	3.4	
90 PERCENT EXCEEDS	.00	

a Based on complete water years only (1978-83)
b Backwater from ice
e Estimated

06336600 BEAVER CREEK NEAR TROTTERS, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1978 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
MAR													
21...	0930	625	8.3	--e	571	540	4.0	2.0	170	33.0	21.0	12.0	2
APR													
26...	1410	25	--	--	--	2010	21.0	15.0	--	--	--	--	--
JUN													
05...	1045	9.0	--	--	--	2800	12.0	12.2	--	--	--	--	--
JUL													
17...	1305	4.9	--	--	--	2680	31.5	26.2	--	--	--	--	--
AUG													
28...	1345	.67	--e	--	2550	2570	30.0	21.0	540	74.0	86.0	13.0	8

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
MAR													
21...	46.0	35	122	<.1	.1	150	--	347	--	2.0	1000	1.00	10.0
APR													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
28...	410	62	408	9.3	.3	1000	3.44	1900	1840	2.0	120	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
MAR					
21...	130	<.10	<1.0	1.0	300
APR					
26...	--	--	--	--	--
JUN					
05...	--	--	--	--	--
JUL					
17...	--	--	--	--	--
AUG					
28...	40.0	<.10	5.0	3.0	1200

e Required equipment not functional/available

06337000 LITTLE MISSOURI RIVER NEAR WATFORD CITY, ND

LOCATION.--Lat 47°35'45", long 103°15'45", in $SE^1/_4SE^1/_4NW^1/_4$ sec.35, T.148 N., R.99 W., McKenzie County, Hydrologic Unit 10110205, 0.8 mi upstream from U.S. Highway 85 crossing, 17 mi upstream from Cherry Creek, and 17.5 mi south of Watford City.

DRAINAGE AREA.--8,310 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1934 to current year.

REVISED RECORDS (WATER YEARS).--WSP 926: 1935. WSP 1270: 1943.

GAGE.--Water-stage recorder. Datum of gage is 1,929.03 ft above sea level. From Oct. 2, 1959, to June 17, 1963, and Nov. 28, 1964, to Sept. 30, 1990, water-stage recorder at site at U.S. Highway 85 crossing, 0.8 mi downstream. From June 18, 1963, to Nov. 28, 1964, at site 0.6 mi downstream at present datum. See WSP 1729 or 1917 for history of changes prior to Oct. 2, 1959.

REMARKS.--Records fair except those for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	1100	e70	e24	e33	e28	e1640	e248	94	608	1470	85
2	3.3	1850	e60	e25	e33	e31	1550	e235	96	493	1360	81
3	2.9	1490	e55	e28	e32	e34	1650	e223	95	395	1050	79
4	2.9	1370	e50	e31	e31	e47	1810	212	97	324	1240	75
5	2.9	2150	e45	e35	e31	e82	2060	204	113	287	1200	73
6	3.2	1310	e43	e37	e30	e170	2460	193	127	266	975	72
7	3.1	557	e41	e39	e29	e360	4390	180	130	395	730	77
8	3.6	531	e39	e41	e29	e1300	4050	175	164	659	e600	74
9	3.4	360	e38	e42	e28	e3000	e3370	172	156	417	460	69
10	3.3	424	e36	e44	e27	e5000	e3220	169	236	520	394	68
11	3.2	450	e35	e45	e26	e7000	2860	165	247	925	343	72
12	3.2	414	e34	e45	e26	e8000	2490	163	181	972	307	71
13	e3.3	390	e33	e45	e26	e11000	3440	157	503	690	274	66
14	3.3	359	e32	e45	e26	e9800	3320	150	2880	661	250	98
15	3.3	321	e31	e45	e25	e9200	2770	144	4250	535	227	181
16	e3.2	e270	e30	e46	e25	e8700	e2260	140	2670	784	209	177
17	3.3	e240	e29	e46	e25	e8000	e1990	137	2210	684	194	209
18	3.1	e220	e28	e45	e25	e7400	e1600	133	2320	497	181	155
19	3.0	e200	e27	e44	e25	e6900	e1290	131	2100	382	171	111
20	3.3	e180	e26	e43	e25	e6500	e1040	135	2130	378	162	102
21	3.3	e150	e25	e42	e26	e6000	e860	135	2600	773	152	83
22	3.4	e125	e25	e41	e25	e5440	e720	124	2870	1090	144	69
23	4.5	e110	e24	e41	e26	e4200	e614	121	1730	635	134	62
24	4.8	e125	e24	e40	e26	e3400	e540	118	1340	467	123	56
25	4.9	e120	e24	e39	e26	e2800	e457	115	1030	689	118	52
26	114	e110	e24	e38	e26	e2060	e407	112	844	712	113	49
27	54	e100	e24	e37	e26	e1770	e363	108	693	838	107	45
28	15	e95	e24	e36	e27	e1670	e331	107	590	1480	e100	44
29	41	e85	e24	e36	---	e1640	e295	106	509	2710	96	41
30	72	e75	e23	e35	---	e1730	e269	109	587	2540	92	39
31	258	---	e24	e34	---	e1730	---	98	---	2260	89	---
TOTAL	639.0	15281	1047	1214	765	124992	54116	4719	33592	25066	13065	2535
MEAN	20.6	509	33.8	39.2	27.3	4032	1804	152	1120	809	421	84.5
MAX	258	2150	70	46	33	11000	4390	248	4250	2710	1470	209
MIN	2.9	75	23	24	25	28	269	98	94	266	89	39
AC-FT	1270	30310	2080	2410	1520	247900	107300	9360	66630	49720	25910	5030

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2001, BY WATER YEAR (WY)

MEAN	164	64.6	17.8	11.9	267	1881	1466	754	1071	522	224	166
MAX	2364	509	138	121	3023	10220	12170	4302	5646	2759	1405	1174
(WY)	1972	2001	1947	1983	1943	1972	1952	1975	1944	1993	1937	1941
MIN	.83	.33	.000	.000	.000	22.2	29.5	18.0	14.8	9.26	.023	1.38
(WY)	1989	1989	1989	1935	1935	1964	1981	1981	1988	1980	1988	1936

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1935 - 2001	
ANNUAL TOTAL	49391.7		277031.0			
ANNUAL MEAN	135		759		551	
HIGHEST ANNUAL MEAN					1637	1971
LOWEST ANNUAL MEAN					38.0	1988
HIGHEST DAILY MEAN	2150	Nov 5	11000	Mar 13	55000	Mar 25 1947
LOWEST DAILY MEAN	2.6	Sep 19	2.9	Oct 3	.00	Jan 1 1935
ANNUAL SEVEN-DAY MINIMUM	3.1	Sep 29	3.1	Oct 1	.00	Jan 1 1935
MAXIMUM PEAK FLOW			a 12000	Mar 13	110000	Mar 25 1947
MAXIMUM PEAK STAGE			b	Mar 13	24.00	Mar 25 1947
ANNUAL RUNOFF (AC-FT)	97970		549500		399400	
10 PERCENT EXCEEDS	315		2260		1200	
50 PERCENT EXCEEDS	65		125		75	
90 PERCENT EXCEEDS	3.7		25		.50	

a About
b Unknown, but greater than 9.83 ft
e Estimated

06337000 LITTLE MISSOURI RIVER NEAR WATFORD CITY, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
DEC													
06...	1155	43	--	--	--	2240	10.0	.00	--	--	--	--	--
MAR													
13...	1445	8800	--	--	--	550	15.0	1.0	--	--	--	--	--
MAY													
02...	1000	236	7.4	--e	1840	1790	14.0	13.0	350	71.0	42.0	12.0	6
JUN													
19...	1215	2130	--	--	--	880	19.0	18.0	--	--	--	--	--
AUG													
08...	1300	569	7.4	7.4	759	774	32.0	27.0	150	34.0	15.0	7.10	4

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
DEC													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
02...	270	62	316	13.0	.4	670	816	1280	1270	2.0	90	2.00	100
JUN													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
08...	100	58	112	4.3	.4	260	773	503	489	2.0	70	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
DEC					
06...	--	--	--	--	--
MAR					
13...	--	--	--	--	--
MAY					
02...	20.0	<.10	6.0	3.0	780
JUN					
19...	--	--	--	--	--
AUG					
08...	10.0	<.10	4.0	3.0	360

e Required equipment not functional/available

06338000 LAKE SAKAKAWEA NEAR RIVERDALE, ND

LOCATION.--Lat 47°30'10", long 101°25'50", in S$^{1}/_{2}$ sec.31, T.147 N., R.84 W., Mercer County, Hydrologic Unit 10110101, in control structure of Garrison Dam, 2.5 mi west of Riverdale, 14 mi upstream from Knife River, and at mile 1,389.9.

DRAINAGE AREA.--181,400 mi^{2}, approximately.

MONTHEND-ELEVATION AND CONTENTS RECORDS

PERIOD OF RECORD.--October 1953 to current year. Prior to October 1966, published as Garrison Reservoir near Riverdale.

REVISED RECORDS.--WSP 1559: 1957(M).

GAGE.--Water-stage recorder. Datum of gage is at sea level.

REMARKS.--Reservoir is formed by earth-fill dam; storage began in November 1953. Maximum capacity, 24,200,000 acre-ft below elevation 1,854.0 ft, top of 29-ft gates. Normal maximum, 22,700,000 acre-ft below elevation 1,850.0 ft, of which about 4,300,000 acre-ft is designated for flood control. Elevation of crest of spillway, 1,825.0 ft, surmounted by radial gates. Inactive storage, 5,000,000 acre-ft below elevation 1,775.0 ft. Dead storage, zero at elevation 1,672.0 ft. Snake Creek arm of the reservoir has connecting gate to main reservoir, with sill at elevation 1,810 ft. Figures herein represent total contents.

COOPERATION.--Records furnished by the U.S. Army Corps of Engineers. Elevations are observed elevations at midnight on the last day of each month. Contents are computed based on reservoir inflow, reservoir outflow, evaporation, and rainfall; and are adjusted for wind effect.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 24,368,000 acre-ft, July 25, 1975, elevation, 1,854.6 ft; minimum since first reaching normal maximum level in July of 1969, 12,155,000 acre-ft, May 10, 1991, adjusted for wind effect; minimum elevation, 1,815.0 ft, May 14, 1991.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 17,192,000 acre-ft, Aug. 2, adjusted for wind effect, elevation, 1,834.6 ft, Aug. 8; minimum contents, 15,419,000 acre-ft, Mar. 10, elevation, 1,828.2 ft, Mar. 5.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	1,833.1	16,816,000	--
Oct. 31	1,832.7	16,656,000	-160,000
Nov. 30	1,830.5	16,049,000	-607,000
Dec. 31	1,829.0	15,643,000	-406,000
CAL YR 2000	--	--	-3,435,000
Jan. 31	1,828.7	15,543,000	-100,000
Feb. 28	1,828.2	15,439,000	-104,000
Mar. 31	1,830.4	16,031,000	+592,000
Apr. 30	1,830.8	16,184,000	+153,000
May 31	1,831.6	16,310,000	+126,000
June 30	1,833.8	17,000,000	+690,000
July 31	1,834.4	17,179,000	+179,000
Aug. 31	1,832.8	16,755,000	-424,000
Sept.30	1,831.8	16,409,000	-346,000
WTR YR 2001	--	--	-407,000

06338490 MISSOURI RIVER AT GARRISON DAM, ND

LOCATION.--Lat 47°30'08", long 101°25'50", in S$^{1}/_{2}$ sec.31, T.147 N., R.84 W., Mercer County, Hydrologic Unit 10130101, in control structure of Garrison Dam, 2.5 mi west of Riverdale, 14 mi upstream from Knife River, and at mile 1,389.9.

DRAINAGE AREA.--181,400 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Flow meter and gate readings.

REMARKS.--Records good. Many diversions above station. Flow regulated by Garrison Dam. Prior to October 1969 records were obtained at a site 9.1 mi downstream. Discharges at the downstream site were generally about 7 percent greater than those furnished by the U.S. Army Corps of Engineers for the present site.

COOPERATION.--Records furnished by the U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15000	14000	18500	17800	18400	15100	11700	11200	13700	13900	13800	14200
2	14900	13900	17800	17900	16900	15000	11900	10800	14000	13800	14100	14100
3	15100	14500	17900	17900	17100	14300	12100	11400	13700	13900	13900	14300
4	13600	13200	18200	19000	17300	14300	12100	11000	14000	14000	13900	13300
5	14000	13100	18200	19000	17000	13900	12100	11000	13800	13800	13900	12600
6	14100	16200	18000	18500	17200	13100	12900	11100	13900	13800	14000	12400
7	14100	21100	18100	18800	17200	13400	12900	10600	14000	13900	14000	12500
8	13900	24300	18300	18600	17200	13100	12600	11300	13900	13700	13900	11900
9	14600	27200	18200	18800	17000	13300	12500	11700	14000	13900	14000	11900
10	14000	27000	18000	19100	17400	13000	12900	11200	14000	13700	13900	11900
11	13800	26600	18100	19200	16900	13900	12800	11200	13800	13800	14000	11400
12	14000	26400	18400	18900	17400	13100	12200	11100	13800	13600	14000	11600
13	13900	27100	18000	18500	17200	12900	12900	11000	13900	13900	13800	11200
14	14800	26900	18200	19000	16700	13100	13600	13800	13900	14000	13800	11100
15	14100	26200	18000	18900	16800	13900	12900	11200	13800	13700	13800	11100
16	13800	26500	17600	18900	16900	12800	13300	10700	13700	13800	13700	10700
17	14000	26400	18100	18600	17000	12000	12500	11000	13700	13200	13800	10600
18	13900	23900	18100	19000	17000	11800	12900	10700	13500	13900	13900	10500
19	14600	22700	17800	18700	17100	12000	12800	13500	13800	13800	14100	10200
20	13800	20300	18100	19200	17300	11900	12500	13600	13900	13900	13900	10700
21	13900	21200	18400	18800	17300	11800	12700	13400	14000	13900	14000	10300
22	14000	19900	18000	18900	17200	12300	12200	13900	13700	13700	13900	10400
23	14300	19700	18400	18900	16900	12100	12300	13800	13900	13700	14200	10600
24	14400	19700	18000	19400	17000	11900	12100	13700	13700	13700	14200	10400
25	14200	18300	18600	19000	16000	12400	12200	13900	13800	13600	14000	10500
26	14500	18300	17500	19200	15700	12700	13000	14100	13800	13600	14100	10700
27	14300	18300	18400	18900	16000	12000	12400	13600	13400	13700	14000	11400
28	14200	18300	17900	19000	15000	12000	12500	13900	13900	13900	14000	10200
29	14200	18600	17900	19100	---	12000	11800	13900	13800	14000	14100	10300
30	14300	18400	17800	18900	---	12000	12000	13800	14100	13900	14000	10000
31	14300	---	17800	17700	---	11900	---	14000	---	13800	14200	---
TOTAL	440600	628200	560300	582100	474100	399000	375300	381100	414900	427500	432900	343000
MEAN	14210	20940	18070	18780	16930	12870	12510	12290	13830	13790	13960	11430
MAX	15100	27200	18600	19400	18400	15100	13600	14100	14100	14000	14200	14300
MIN	13600	13100	17500	17700	15000	11800	11700	10600	13400	13200	13700	10000
AC-FT	873900	1246000	1111000	1155000	940400	791400	744400	755900	823000	847900	858700	680300

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 2001, BY WATER YEAR (WY)

MEAN	19960	21160	21090	23870	25070	20220	19640	22300	24250	25620	24980	21220
MAX	49450	42350	29530	30500	31500	28210	37500	38490	42430	61800	54130	46570
(WY)	1998	1998	1970	1979	1976	1983	1972	1972	1997	1975	1975	1997
MIN	9945	10110	13550	14260	13490	10370	10280	10560	11080	13220	13960	10990
(WY)	1994	1993	1994	1994	1994	1993	1993	1986	1995	1995	2001	1990

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1970 - 2001	
ANNUAL TOTAL	7530300		5459000			
ANNUAL MEAN	20570		14960		22440	
HIGHEST ANNUAL MEAN					33000	1975
LOWEST ANNUAL MEAN					13710	1993
HIGHEST DAILY MEAN	27200	Nov 9	27200	Nov 9	65200	Jul 25 1975
LOWEST DAILY MEAN	13100	Nov 5	10000	Sep 30	4100	Mar 25 1997
ANNUAL SEVEN-DAY MINIMUM	13900	Oct 30	10400	Sep 18	7960	Mar 22 1997
ANNUAL RUNOFF (AC-FT)	14940000		10830000		16260000	
10 PERCENT EXCEEDS	24500		18900		32200	
50 PERCENT EXCEEDS	20300		13900		20800	
90 PERCENT EXCEEDS	14800		11700		13100	

06338490 MISSOURI RIVER AT GARRISON DAM, ND--Continued
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WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

REMARKS.--Quality assurance samples also collected at this location.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	UV ABSORB-ANCE 254 NM, WTR FLT (UNITS /CM) (50624)	UV ABSORB-ANCE 280 NM, WTR FLT (UNITS /CM) (61726)
OCT													
04...	1030	13600	--	--	10.1	8.6	8.4	626	628	--	14.8	--	--
NOV													
21...	1130	24800	721	101	12.1	7.7	8.3	635	644	-5.5	5.5	.064	.043
MAR													
21...	1100	9840	720	100	13.2	8.4	8.2	650	662	9.5	1.7	.073	.050
MAY													
16...	1030	9850	711	112	13.1	8.1	8.2	625	643	18.0	5.5	.067	.046
JUN													
28...	1000	20600	716	96	10.2	8.0	8.2	627	639	20.0	9.7	.055	.037
JUL													
19...	1000	12000	715	91	9.5	8.0	8.1	614	648	25.5	10.3	.067	.043
AUG													
23...	1100	12500	710	78	8.0	7.8	8.2	626	603	24.5	11.1	.063	.043

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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	ALKA-LINITY WAT.DIS FET LAB CACO3 (MG/L) (29801)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT													
04...	210	50.0	20.0	4.00	2	52.0	35	170	--	--	--	--	8.9
NOV													
21...	210	50.1	20.3	3.67	2	55.1	36	--	158	154	188	.0	8.4
MAR													
21...	200	49.4	19.6	3.79	2	55.2	36	--	164	138	164	2	8.5
MAY													
16...	200	50.2	19.2	3.53	2	51.2	35	--	160	153	187	.0	8.4
JUN													
28...	200	48.1	19.3	3.60	2	50.4	35	--	159	--	--	--	8.4
JUL													
19...	200	47.8	19.1	3.62	2	50.6	35	--	160	154	188	.0	7.6
AUG													
23...	200	47.6	19.2	3.67	2	52.1	36	--	162	153	187	.0	7.5

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT													
04...	--	--	150	.18	.15	<.01	.040	--	--	.010	M	.14	.11
NOV													
21...	.5	6.3	151	.17	.14	--	.008	<.001	--	.026	--	.16	.13
MAR													
21...	.7	6.4	150	.16	.22	--	.029	.002	.033	.035	--	.13	.19
MAY													
16...	.6	6.1	144	.14	.15	--	.002	<.001	--	.017	--	.13	.14
JUN													
28...	.5	6.4	148	.17	.21	--	.022	.001	.020	.021	--	.15	.19
JUL													
19...	.6	6.3	143	--	--	--	--	--	--	--	--	--	--
AUG													
23...	.5	6.5	147	.17	.14	--	.009	<.001	--	.085	--	.16	.13

06338490 MISSOURI RIVER AT GARRISON DAM, ND--Continued
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WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC PARTIC-ULATE TOTAL (MG/L AS C) (00689)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	TUR-BID-ITY (NTU) (00076)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	ALUMI-NUM, TOTAL RECOVER-ABLE (UG/L) (01104)
OCT													
04...	.17	.19	<.010	--	<.020	--	--	14200	--	387	--	--	70
NOV													
21...	.16	.19	<.006	E.004	.007	2.7	.2	26500	396	388	.7	.9	--
MAR													
21...	.26	.20	E.004	<.007	.006	3.0	<.1	10800	405	377	2.0	.2	--
MAY													
16...	.16	.15	<.006	<.007	.006	2.9	.4	10300	388	376	4.1	1.1	--
JUN													
28...	.23	.20	E.004	<.007	.007	2.5	.2	21600	389	380	--	.5	--
JUL													
19...	--	--	--	--	--	3.1	.2	12700	392	372	--	.4	--
AUG													
23...	.22	.26	E.003	<.007	.006	2.7	.1	13700	405	378	--	<.1	--

DATE	ANTI-MONY, TOTAL (UG/L AS SB) (01097)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOVER-ABLE (UG/L) (01009)	BERYL-LIUM TOTAL RECOVER-ABLE (UG/L) (00998)	BORON, DIS-SOLVED (UG/L AS B) (01020)	BORON, TOTAL RECOVER-ABLE (UG/L) (00999)	CADMIUM TOTAL RECOVER-ABLE (UG/L) (01113)	CHRO-MIUM, TOTAL RECOVER-ABLE (UG/L) (01118)	COPPER, TOTAL RECOVER-ABLE (UG/L) (01119)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOVER-ABLE (UG/L) (01114)
OCT													
04...	<1.0	--	2	55	<1	--	200	<1	<1	2	--	90	<1
NOV													
21...	--	E1.6	--	--	--	104	--	--	--	--	<10	--	--
MAR													
21...	--	1.8	--	--	--	111	--	--	--	--	<10	--	--
MAY													
16...	--	2.3	--	--	--	108	--	--	--	--	<10	--	--
JUN													
28...	--	2.0	--	--	--	106	--	--	--	--	<10	--	--
JUL													
19...	--	1.9	--	--	--	103	--	--	--	--	<10	--	--
AUG													
23...	--	1.9	--	--	--	119	--	--	--	--	<10	--	--

DATE	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGAN-ESE TOTAL RECOVER- ABLE (UG/L) (01123)	NICKEL, TOTAL RECOVER-ABLE (UG/L) (01074)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOVER-ABLE (UG/L) (01079)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	THAL-LIUM, TOTAL RECOV-ERABLE (UG/L AS TL) (01128)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOVER-ABLE (UG/L) (01094)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALPHA BHC DIS-SOLVED (UG/L) (34253)
OCT													
04...	--	<10	2	--	2.0	<1	--	<1.00	--	20	--	--	--
NOV													
21...	43.5	--	--	<2.4	--	--	491	--	<8.0	--	<.004	<.002	<.005
MAR													
21...	40.1	--	--	.8	--	--	475	--	1.8	--	<.004	<.002	<.005
MAY													
16...	39.3	--	--	1.1	--	--	479	--	3.2	--	<.004	<.002	<.005
JUN													
28...	36.5	--	--	.7	--	--	451	--	1.5	--	--w	--w	--w
JUL													
19...	38.9	--	--	.9	--	--	457	--	.9	--	<.004	<.002	<.005
AUG													
23...	38.1	--	--	.5	--	--	485	--	1.0	--	<.004	<.002	<.005

06338490 MISSOURI RIVER AT GARRISON DAM, ND--Continued
(National Stream-Quality Accounting Network Station)

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)
OCT													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
21...	E.003	<.050	<.010	<.002	<.041	<.020	<.005	<.018	<.003	E.004	<.005	<.005	<.002
MAR													
21...	E.003	<.050	<.010	<.002	<.041	<.020	<.005	<.018	<.003	<.006	<.005	<.005	<.002
MAY													
16...	E.004	<.050	<.010	<.002	<.041	<.020	<.005	<.018	<.003	<.006	<.005	<.005	<.002
JUN													
28...	--w	--w	--w	--w	--w	--w	--w	--w	--w	--w	--w	--w	--w
JUL													
19...	E.006	<.050	<.010	<.002	<.041	<.020	<.005	<.018	<.003	E.004	<.005	<.005	<.002
AUG													
23...	E.002	<.050	<.010	<.002	<.041	<.020	<.005	<.018	<.003	<.006	<.005	<.005	<.002

DATE	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	LINDANE DIS-SOLVED (UG/L) (39341)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)
OCT													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
21...	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.006	<.013	<.006	<.002	<.007
MAR													
21...	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.006	<.013	<.006	<.002	<.007
MAY													
16...	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.006	E.001	<.006	<.002	<.007
JUN													
28...	--w	--w	--w	--w	--w	--w	--w	--w	--w	--w	--w	--w	--w
JUL													
19...	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.006	E.004	<.006	<.002	<.007
AUG													
23...	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.006	<.013	<.006	<.002	<.007

DATE	P,P' DDE DISSOLV (UG/L) (34653)	PARA-THION, DIS-SOLVED (UG/L) (39542)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROPA-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)
OCT													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
21...	<.003	<.007	<.002	<.010	<.006	<.011	<.004	<.010	<.011	<.023	<.011	<.016	<.034
MAR													
21...	<.003	<.007	<.002	<.010	<.006	<.011	<.004	<.010	<.011	<.023	<.011	<.016	<.034
MAY													
16...	<.003	<.007	<.002	<.010	<.006	<.011	<.004	<.010	<.011	<.023	<.011	<.016	<.034
JUN													
28...	--w	--w	--w	--w	--w	--w	--w	--w	--w	--w	--w	--w	--w
JUL													
19...	<.003	<.007	<.002	<.010	<.006	<.011	<.004	<.010	<.011	<.023	<.011	<.016	<.034
AUG													
23...	<.003	<.007	<.002	<.010	<.006	<.011	<.004	<.010	<.011	<.023	<.011	<.016	<.034

06338490 MISSOURI RIVER AT GARRISON DAM, ND--Continued
(National Stream-Quality Accounting Network Station)

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	SEDIMENT, SUS-PENDED (MG/L) (80154)	SEDIMENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT							
04...	--	--	--	--	3	110	98
NOV							
21...	<.017	<.005	<.002	<.009	2	134	97
MAR							
21...	<.017	<.005	<.002	<.009	1	27	31
MAY							
16...	<.017	<.005	<.002	<.009	1	27	93
JUN							
28...	--w	--w	--w	--w	--	--	--
JUL							
19...	<.017	<.005	.003	<.009	2	65	96
AUG							
23...	<.017	<.005	<.002	<.009	3	101	82

DATE	TIME	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK) (00009)	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)
OCT						
04...	1032	150	627	8.6	14.8	10.1
04...	1034	450	628	8.6	14.8	9.9
04...	1036	750	628	8.5	14.8	10.2
NOV						
21...	1141	150	644	7.5	5.5	12.1
21...	1142	450	644	7.7	5.5	12.1
21...	1143	750	644	7.8	5.5	11.8
MAR						
21...	1011	150	660	8.6	1.7	13.1
21...	1012	450	662	8.4	1.7	13.1
21...	1013	750	661	8.3	1.8	13.1
MAY						
16...	1041	150	643	8.2	5.5	13.0
16...	1042	450	643	8.2	5.5	13.2
16...	1043	750	642	8.1	5.5	13.3
JUN						
28...	1011	150	638	8.0	9.9	10.2
28...	1012	450	639	8.0	9.7	10.2
28...	1013	750	638	8.0	9.6	10.2
JUL						
19...	1011	150	645	8.0	10.6	9.6
19...	1012	450	648	8.0	10.3	9.5
19...	1013	750	649	8.0	10.4	9.5
AUG						
23...	1111	150	600	7.8	11.3	8.7
23...	1112	450	603	7.8	11.1	8.0
23...	1113	750	602	7.7	11.2	8.1

E Estimated value
M Presence verified, not quantified
w Sample discarded: warm when received

06339010 MISSOURI RIVER ABOVE STANTON, ND

LOCATION.--Lat 47°21'45", long 101°21'25", SE$^1/_4$NE$^1/_4$SE$^1/_4$ sec.22, T.145 N., R.84 W., McLean County, Hydrologic Unit 10130101, on left bank 9 mi south of Riverdale, and at mile 1,379.

DRAINAGE AREA.--181,400 mi^2, approximately.

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--October 1976 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,600.00 ft above sea level.

REMARKS.--Stage regulated completely by releases from Garrison Dam (station 06338490) 13 mi upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily gage height recorded, 73.34 ft, Jan. 13, 2000, backwater from ice, may have been higher during subsequent period of missing winter record; minimum daily recorded, 62.07 ft, Sept. 18, 1991.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64.34	64.40	---	65.13	65.14	64.46	63.87	63.50	64.10	64.21	---	64.35
2	64.37	64.36	---	65.29	64.82	64.41	63.89	63.54	64.11	64.03	---	64.18
3	64.33	64.39	---	65.01	65.01	64.30	64.03	63.65	64.12	64.13	---	64.09
4	64.20	64.28	---	65.14	64.77	64.27	63.97	63.44	64.16	64.10	---	64.11
5	64.22	64.19	---	65.22	65.09	64.34	63.99	63.46	64.13	64.23	---	63.91
6	64.13	64.49	---	65.23	64.90	64.13	64.04	63.54	64.19	64.13	---	63.77
7	64.23	65.44	---	65.10	65.02	64.13	63.98	63.43	64.15	64.18	---	63.85
8	64.19	65.97	---	65.19	64.87	64.19	64.01	63.58	64.20	64.12	---	63.84
9	64.37	66.69	65.09	65.01	64.79	64.22	63.95	63.60	64.19	64.21	---	63.73
10	64.25	66.67	65.06	65.14	64.93	64.18	63.91	63.41	64.18	64.18	---	63.70
11	64.25	66.61	65.08	65.28	64.80	64.21	64.09	63.36	64.13	64.18	---	63.65
12	64.17	66.58	65.15	65.02	64.72	64.35	63.84	63.68	64.21	64.19	---	63.67
13	64.21	66.57	65.04	65.19	64.92	64.22	63.82	63.48	64.13	64.25	---	63.57
14	64.31	66.67	65.01	65.01	64.82	64.32	64.25	64.01	64.20	64.19	---	63.58
15	64.35	66.55	65.22	65.09	64.95	64.60	63.85	63.58	64.21	---	64.00	63.47
16	64.19	66.54	65.23	65.24	64.77	63.88	64.27	63.26	64.13	---	64.02	63.51
17	64.23	66.55	65.66	65.09	64.83	64.31	63.92	63.43	64.20	---	63.99	63.42
18	64.25	66.14	66.24	65.08	64.81	64.08	63.90	63.47	64.20	---	64.02	63.42
19	64.29	65.99	66.04	65.25	64.90	64.14	64.04	63.92	64.17	---	64.02	63.35
20	64.26	---	65.96	65.27	64.94	63.86	63.99	64.01	64.20	---	64.03	63.38
21	64.24	---	67.35	65.25	65.01	63.83	63.90	64.00	64.18	---	64.07	63.33
22	64.32	---	67.36	65.19	64.91	63.78	63.96	63.89	64.16	---	64.17	63.39
23	64.37	---	66.29	65.19	64.91	64.28	63.55	64.01	64.03	---	64.15	63.40
24	64.52	---	66.06	65.14	64.83	63.88	63.90	64.05	64.23	---	64.19	63.35
25	64.37	---	66.27	65.32	64.70	64.03	63.76	64.34	64.07	---	64.22	63.45
26	64.45	---	65.51	65.26	64.64	64.06	64.03	64.11	64.18	---	64.23	63.43
27	64.48	---	65.28	65.16	64.59	64.04	63.97	64.04	64.11	---	64.09	63.53
28	64.40	---	65.25	65.30	64.43	63.94	63.93	64.14	64.20	---	64.14	63.42
29	64.49	---	65.20	65.34	---	63.95	63.50	64.13	64.18	---	64.12	63.34
30	64.42	---	65.11	65.20	---	63.99	63.69	64.07	64.09	---	64.17	63.33
31	64.43	---	65.14	65.07	---	63.90	---	64.10	---	---	64.15	---
MEAN	64.31	65.74	65.63	65.17	64.85	64.14	63.93	63.75	64.16	64.17	64.10	63.62
MAX	64.52	66.69	67.36	65.34	65.14	64.60	64.27	64.34	64.23	64.25	64.23	64.35
MIN	64.13	64.19	65.01	65.01	64.43	63.78	63.50	63.26	64.03	64.03	63.99	63.33

06339100 KNIFE RIVER AT MANNING, ND

LOCATION.--Lat 47°14'10", long 102°46'10", in $SE^1/_4NW^1/_4$ sec.6, T.143 N., R.95 W., Dunn County, Hydrologic Unit 10130201, on left bank 50 ft downstream from bridge on State Highway 22 and 0.4 mi north of Manning.

DRAINAGE AREA.--205 mi^2, approximately.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 2,156.55 ft above sea level.

REMARKS.--Records good except for periods of estimated discharge, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.20	2.8	e1.7	e.45	e.30	e.15	12	2.9	.75	4.9	30	.36
2	.34	5.5	e1.6	e.43	e.28	e.20	16	2.4	.64	5.3	11	.39
3	.33	7.8	e1.6	e.47	e.33	e.30	15	2.2	.68	4.8	7.1	.41
4	.36	7.5	e1.6	e.51	e.34	e.40	13	1.9	.73	4.2	5.1	.38
5	.39	5.2	e1.5	e.60	e.34	e.60	14	1.8	1.2	3.9	4.1	.28
6	.35	4.0	e1.4	e.70	e.32	e.70	18	1.7	2.0	3.9	3.6	.32
7	.35	3.5	e1.6	e.87	e.29	e.80	65	1.5	3.3	3.5	3.2	.55
8	.44	3.0	e1.7	e1.2	e.27	e7.1	201	1.4	3.4	3.1	2.6	.58
9	.50	2.6	e1.7	e1.5	e.24	e50	86	1.3	2.6	2.9	2.1	.57
10	.49	2.1	e1.4	e1.7	e.23	e60	103	1.4	46	2.6	1.8	.56
11	.44	2.0	e.93	e1.5	e.22	e80	110	1.3	20	3.4	1.7	.52
12	.31	1.9	e.77	e1.2	e.21	e210	50	1.5	13	13	1.5	.99
13	.44	1.6	e.69	e1.1	e.19	e540	35	2.6	11	21	1.2	.95
14	.43	1.4	e.61	e.93	e.18	e780	23	1.8	156	9.5	1.1	1.9
15	.50	1.3	e.57	e.77	e.16	e450	17	1.3	1020	6.5	1.1	2.6
16	.62	1.3	e.50	e.69	e.17	e120	14	1.1	374	4.9	1.1	e2.3
17	.55	1.3	e.48	e.62	e.17	e80	11	1.0	61	4.3	1.1	e2.1
18	.53	e1.3	e.49	e.61	e.17	e130	8.9	.96	57	3.7	.93	e1.9
19	.47	e1.2	e.47	e.54	e.17	e230	7.7	1.2	227	3.0	.76	e1.7
20	.50	e1.3	e.45	e.49	e.15	e160	7.0	1.0	119	2.9	.76	e1.5
21	.50	e1.4	e.43	e.50	e.15	e110	6.4	.75	43	3.3	.75	e1.3
22	.43	e1.5	e.39	e.49	e.14	e80	6.0	.68	28	6.9	.70	e1.1
23	.69	e1.5	e.36	e.48	e.12	e60	5.9	.66	18	24	.62	e.96
24	.57	e1.5	e.26	e.46	e.12	e40	6.5	.59	13	22	.54	e.83
25	.52	e1.6	e.26	e.47	e.12	e30	6.9	.71	9.9	16	.47	e.71
26	.52	e1.6	e.32	e.43	e.12	e20	6.1	.86	7.5	11	.45	e.63
27	.65	e1.6	e.36	e.41	e.10	15	5.3	.74	6.3	316	.39	e.56
28	.67	e1.5	e.42	e.40	e.13	12	4.4	.71	5.5	57	.36	e.52
29	1.2	e1.6	e.41	e.38	---	11	4.0	.65	5.7	28	.39	e.47
30	2.5	e1.7	e.45	e.36	---	11	3.4	.84	5.5	17	.38	e.44
31	1.6	---	e.48	e.34	---	11	---	.85	---	45	.38	---
TOTAL	18.39	74.1	25.90	21.60	5.73	3300.25	881.5	40.30	2261.70	657.5	87.28	28.38
MEAN	.59	2.47	.84	.70	.20	106	29.4	1.30	75.4	21.2	2.82	.95
MAX	2.5	7.8	1.7	1.7	.34	780	201	2.9	1020	316	30	2.6
MIN	.20	1.2	.26	.34	.10	.15	3.4	.59	.64	2.6	.36	.28
AC-FT	36	147	51	43	11	6550	1750	80	4490	1300	173	56

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2001, BY WATER YEAR (WY)

MEAN	4.01	1.88	1.36	3.16	16.9	86.2	50.4	15.9	16.5	12.0	2.85	4.19
MAX	54.1	8.43	3.39	30.5	89.5	399	485	104	91.5	100	32.6	68.5
(WY)	1983	1999	1999	1974	1986	1972	1975	1970	1970	1997	1983	1978
MIN	.000	.057	.066	.000	.20	1.37	1.32	.45	.077	.018	.000	.000
(WY)	1991	1991	1991	1991	2001	1990	1990	1993	1992	1992	1988	1990

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1967 - 2001	
ANNUAL TOTAL	1092.62		7402.63			
ANNUAL MEAN	2.99		20.3		18.0	
HIGHEST ANNUAL MEAN					48.1	1975
LOWEST ANNUAL MEAN					.90	1990
HIGHEST DAILY MEAN	204	Feb 25	1020	Jun 15	3500	Mar 21 1997
LOWEST DAILY MEAN	.08	Sep 19	.10	Feb 27	.00	Sep 18 1972
ANNUAL SEVEN-DAY MINIMUM	.09	Sep 15	.12	Feb 22	.00	Aug 17 1973
MAXIMUM PEAK FLOW			1120	Jun 15	a 3600	Mar 21 1997
MAXIMUM PEAK STAGE			13.40	Jun 15	b 17.05	Mar 21 1997
ANNUAL RUNOFF (AC-FT)	2170		14680		13010	
10 PERCENT EXCEEDS	3.6		30		20	
50 PERCENT EXCEEDS	1.1		1.3		1.5	
90 PERCENT EXCEEDS	.13		.33		.13	

a About
b Backwater from ice
e Estimated

06339100 KNIFE RIVER AT MANNING, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
DEC													
09...	1135	1.7	--	--	--	1410	1.0	.00	--	--	--	--	--
JAN													
10...	0910	1.7	--	--	--	3210	3.0	1.0	--	--	--	--	--
MAR													
13...	1250	540	--	--	--	2470	8.5	4.0	--	--	--	--	--
27...	1130	13	8.1	--e	600	601	1.0	1.3	89	20.0	9.50	7.30	4
JUN													
12...	1100	14	--	--	--	1230	18.0	18.5	--	--	--	--	--
AUG													
23...	1200	.61	--e	8.0	1260	--e	25.5	26.1	200	40.0	23.0	10.0	7

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
DEC													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
27...	92.0	67	149	4.6	.2	140	14.4	405	364	--o	740	--o	10.0
JUN													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
23...	220	70	347	6.1	.4	330	1.40	847	838	3.0	240	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
DEC					
09...	--	--	--	--	--
JAN					
10...	--	--	--	--	--
MAR					
13...	--	--	--	--	--
27...	100	<.10	--o	--o	250
JUN					
12...	--	--	--	--	--
AUG					
23...	30.0	<.10	5.0	3.0	450

e Required equipment not functional/available
o Insufficient amount of water

06339500 KNIFE RIVER NEAR GOLDEN VALLEY, ND

LOCATION.--Lat 47°09'40", long 102°03'39", in SE$^{1}/_{4}$ sec.34, T.143 N., R.90 W., Mercer County, Hydrologic Unit 10130201, on right bank 6 ft downstream from highway bridge, 4.5 mi downstream from Elm Creek and 9 mi south of Golden Valley.

DRAINAGE AREA.--1,230 mi^{2}, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1903 to November 1906, April 1907 to November 1915, April 1916 to October 1919, and October 1921 to September 1924 (published as "at Broncho" or "near Broncho"), and April 1943 to current year. Monthly discharge only for some periods published in WSP 1309.

REVISED RECORDS (WATER YEARS).--WSP 1006:0 Drainage area. WSP 1279: 1904, 1914-19(M), 1922-24(M), 1944.

GAGE.--Water-stage recorder. Datum of gage is 1,847.13 ft above sea level. See WSP 1729 or 1917 for history of changes prior to May 1, 1946.

REMARKS.--Records fair.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	11	e6.9	e2.3	e2.3	e1.7	e50	26	7.6	21	141	3.2
2	3.4	19	e7.1	e2.4	e2.2	e1.8	e46	23	7.2	17	90	3.1
3	3.1	24	e7.2	e2.5	e2.2	e2.0	e44	20	6.5	14	61	2.9
4	3.0	37	e7.4	e2.6	e2.1	e2.1	e48	18	6.5	12	60	2.9
5	3.0	41	e7.2	e2.7	e2.1	e4.6	54	17	9.0	11	55	2.9
6	3.5	54	e6.8	e2.9	e2.1	e55	72	20	13	9.4	36	3.0
7	4.0	38	e6.7	e3.0	e2.0	e120	121	19	14	8.8	25	3.4
8	3.5	18	e7.1	e3.2	e2.0	e160	191	17	13	8.5	19	3.7
9	3.5	28	e7.1	e3.4	e2.1	e930	289	17	12	8.1	14	3.9
10	3.6	22	e7.0	e3.3	e2.1	e1200	431	17	16	6.9	11	4.2
11	3.7	15	e6.6	e3.6	e2.2	e1500	363	16	25	6.6	9.4	4.4
12	3.9	12	e6.2	e3.4	e2.2	e1650	323	16	20	6.7	8.1	4.4
13	4.1	10	e4.9	e3.3	e2.1	e1710	278	15	24	7.3	7.4	4.7
14	4.4	8.8	e4.4	e3.2	e2.1	e1750	195	14	66	6.4	6.5	7.8
15	4.7	8.2	e4.1	e3.0	e2.0	e1600	141	13	163	6.2	6.2	8.5
16	4.4	8.1	e3.8	e2.8	e2.1	e1290	108	13	913	6.0	6.1	7.9
17	4.3	7.6	e3.1	e2.6	e2.2	e960	83	16	970	5.8	5.3	8.1
18	4.4	7.1	e2.6	e2.7	e2.1	e850	67	14	908	12	4.8	7.7
19	4.2	7.1	e2.5	e2.5	e2.2	e740	56	13	767	11	4.4	8.1
20	4.3	6.8	e2.4	e2.6	e2.0	e630	49	11	585	7.9	4.2	7.7
21	4.1	6.5	e2.4	e2.7	e2.0	e520	43	11	579	9.0	4.3	7.5
22	4.2	e5.8	e2.2	e2.6	e1.9	e410	39	10	500	122	4.2	6.8
23	4.5	e5.6	e2.2	e2.7	e1.8	e290	37	8.9	270	239	4.1	6.3
24	4.5	e5.7	e2.1	e2.8	e1.8	244	36	8.4	169	175	3.9	6.5
25	4.6	e5.9	e2.1	e2.8	e1.7	215	36	8.4	118	168	3.6	6.7
26	5.3	e5.9	e2.0	e2.7	e1.6	187	33	7.9	82	101	3.5	6.3
27	5.3	e6.1	e2.0	e2.6	e1.7	136	30	7.7	58	114	3.4	6.3
28	5.6	e6.7	e2.1	e2.5	e1.8	95	28	7.1	44	148	3.3	6.5
29	7.0	e6.8	e2.2	e2.6	---	78	28	6.7	34	661	3.3	5.8
30	6.6	e6.8	e2.1	e2.5	---	64	28	8.5	26	428	3.2	5.5
31	7.1	---	e2.0	e2.4	---	e54	---	8.6	---	237	3.2	---
TOTAL	135.1	444.5	134.5	86.9	56.7	17450.2	3347	428.2	6425.8	2594.6	614.4	166.7
MEAN	4.36	14.8	4.34	2.80	2.03	563	112	13.8	214	83.7	19.8	5.56
MAX	7.1	54	7.4	3.6	2.3	1750	431	26	970	661	141	8.5
MIN	3.0	5.6	2.0	2.3	1.6	1.7	28	6.7	6.5	5.8	3.2	2.9
AC-FT	268	882	267	172	112	34610	6640	849	12750	5150	1220	331

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2001, BY WATER YEAR (WY)

MEAN	16.6	11.3	7.24	8.93	42.0	348	302	88.4	139	48.4	33.9	15.0
MAX	245	69.7	23.0	140	299	1729	2448	1031	1193	255	725	97.5
(WY)	1983	1983	1983	1974	1982	1972	1952	1970	1914	1969	1918	1978
MIN	.46	1.93	.52	.026	.000	2.30	6.98	1.42	1.03	1.91	.28	.12
(WY)	1993	1962	1962	1962	1959	1964	1981	1923	1961	1992	1959	1992

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1903 - 2001	
ANNUAL TOTAL	8278.17		31884.6			
ANNUAL MEAN	22.6		87.4		88.1	
HIGHEST ANNUAL MEAN					235	1982
LOWEST ANNUAL MEAN					5.38	1991
HIGHEST DAILY MEAN	500	Feb 27	1750	Mar 14	10300	Apr 17 1950
LOWEST DAILY MEAN	.35	Aug 31	1.6	Feb 26	.00	Sep 6 1905
ANNUAL SEVEN-DAY MINIMUM	.42	Aug 26	1.7	Feb 23	.00	Jan 22 1959
MAXIMUM PEAK FLOW			a 2000	Mar 14	11200	May 9 1970
MAXIMUM PEAK STAGE			b 14.88	Mar 10	c 26.70	Mar 26 1943
ANNUAL RUNOFF (AC-FT)	16420		63240		63850	
10 PERCENT EXCEEDS	34		189		120	
50 PERCENT EXCEEDS	9.0		7.1		10	
90 PERCENT EXCEEDS	1.3		2.2		2.1	

a About
b Backwater from ice
c From floodmark
e Estimated

06339500 KNIFE RIVER NEAR GOLDEN VALLEY, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1950, 1964-65, 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
DEC													
04...	1400	7.6	--	--	--	2530	-10.0	.00	--	--	--	--	--
MAR													
22...	1700	320	8.5	--e	623	613	4.0	1.0	97	19.0	12.0	8.70	4
APR													
05...	1115	50	--	--	--	1210	--	--	--	--	--	--	--
MAY													
11...	1235	16	--	--	--	2170	12.4	14.1	--	--	--	--	--
JUN													
15...	1200	169	--	--	--	1560	--	18.2	--	--	--	--	--
JUL													
24...	1400	154	7.6	--e	1150	1170	27.5	25.0	170	30.0	23.0	11.0	6
SEP													
12...	1235	4.5	--	--	--	1790	18.5	18.0	--	--	--	--	--

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
DEC													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
22...	91.0	65	140	7.5	.2	160	352	407	383	--o	330	--o	10.0
APR													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
24...	190	69	221	4.8	.2	370	337	811	762	3.0	190	2.00	100
SEP													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
DEC					
04...	--	--	--	--	--
MAR					
22...	90.0	<.10	--o	--o	310
APR					
05...	--	--	--	--	--
MAY					
11...	--	--	--	--	--
JUN					
15...	--	--	--	--	--
JUL					
24...	20.0	.10	2.0	3.0	430
SEP					
12...	--	--	--	--	--

e Required equipment not functional/available
o Insufficient amount of water

06340000 SPRING CREEK AT ZAP, ND

LOCATION.--Lat 47°17'10", long 101°55'31", in $SE^1/_4SE^1/_4SW^1/_4$ sec.14, T.144 N., R.89 W., Mercer County, Hydrologic Unit 10130201, on left bank 250 ft downstream from Burlington Northern Railway bridge in Zap and 9 mi upstream from mouth.

DRAINAGE AREA.--549 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March to September 1924, October 1945 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,819.39 ft above sea level. Mar. 4 to Sept. 30, 1924, non-recording gage at site 250 ft upstream at different datum. Oct. 1, 1945, to Sept. 30, 1947, nonrecording gage 250 ft upstream at datum 1.12 ft higher.

REMARKS.--Records good except for period of estimated discharge, which is poor. Flow slightly regulated by Lake Ilo, 56 mi upstream, capacity 7,130 acre-ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known occurred in about 1902, from ice jam. Floods of February 1913 and March 1943 reached a stage of about 20 ft and 19.5 ft, respectively, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	14	9.8	e4.5	e6.2	e7.8	53	18	12	28	13	8.0
2	6.6	27	9.9	e4.8	e6.3	e8.0	52	17	11	28	12	7.9
3	6.5	27	11	e5.0	e6.2	e8.1	51	17	11	26	12	7.5
4	6.6	24	10	e5.3	e6.1	e8.0	53	16	12	24	11	7.5
5	7.4	26	9.8	e5.5	e6.0	e8.1	58	16	15	23	10	7.4
6	7.2	21	9.4	e6.0	e6.1	e8.5	58	17	22	21	9.9	7.5
7	6.9	14	e9.0	e6.5	e6.2	e9.0	71	19	19	20	9.8	8.1
8	6.9	14	e8.5	e6.8	e6.3	e11	76	19	18	19	11	8.8
9	7.0	12	e8.0	e7.0	e6.3	e20	91	20	38	18	11	8.9
10	7.1	12	e7.0	e7.3	e6.2	e50	91	19	110	17	11	8.6
11	7.0	13	e6.0	e7.5	e6.1	e140	102	18	64	16	11	8.4
12	7.1	12	e5.6	e7.8	e6.0	e300	90	17	37	16	21	8.2
13	7.4	12	e5.2	e7.7	e6.2	e700	136	16	44	16	65	8.4
14	8.1	11	e4.9	e7.7	e6.3	e1950	134	18	79	16	67	10
15	7.8	10	e4.6	e7.8	e6.3	1030	123	18	98	15	68	11
16	7.5	10	e4.4	e7.6	e6.4	474	94	16	101	15	66	11
17	7.4	10	e4.3	e7.5	e6.3	403	85	17	80	13	47	11
18	7.5	11	e4.2	e7.3	e6.4	738	68	17	80	12	30	11
19	7.7	10	e4.1	e7.1	e6.5	548	48	16	64	12	23	11
20	7.7	10	e4.0	e7.0	e6.4	373	36	14	58	11	20	12
21	7.6	10	e4.0	e7.0	e6.6	236	30	13	67	13	17	11
22	7.5	9.5	e4.1	e6.8	e6.7	152	27	13	72	18	15	11
23	7.9	9.0	e4.1	e6.9	e6.8	103	25	12	62	20	13	10
24	7.9	9.2	e4.1	e6.7	e6.9	104	24	12	55	32	11	9.7
25	6.5	9.6	e4.2	e6.5	e7.0	70	23	12	47	27	10	9.6
26	8.1	9.6	e4.2	e6.5	e7.0	68	22	12	41	25	9.6	8.8
27	8.9	9.6	e4.2	e6.4	e7.3	67	21	12	37	28	8.9	8.9
28	9.4	9.5	e4.3	e6.3	e7.5	58	20	11	34	32	8.6	8.5
29	10	10	e4.3	e6.2	---	58	19	11	33	21	8.2	8.3
30	12	10	e4.4	e6.1	---	58	18	13	31	17	8.0	8.4
31	11	---	e4.5	e6.1	---	54	---	14	---	15	8.0	---
TOTAL	240.7	396.0	186.1	205.2	180.6	7822.5	1799	480	1452	614	646.0	276.4
MEAN	7.76	13.2	6.00	6.62	6.45	252	60.0	15.5	48.4	19.8	20.8	9.21
MAX	12	27	11	7.8	7.5	1950	136	20	110	32	68	12
MIN	6.5	9.0	4.0	4.5	6.0	7.8	18	11	11	11	8.0	7.4
AC-FT	477	785	369	407	358	15520	3570	952	2880	1220	1280	548

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2001, BY WATER YEAR (WY)

MEAN	10.7	9.79	6.70	5.78	27.4	162	138	36.6	42.4	25.6	10.9	7.81
MAX	74.4	51.9	21.2	30.6	183	933	1044	292	290	178	53.2	16.5
(WY)	1983	1983	1973	1973	1996	1972	1952	1970	1971	1962	1990	1986
MIN	1.76	2.88	.80	.000	.000	3.39	9.41	5.77	3.10	1.84	.96	1.10
(WY)	1959	1962	1962	1959	1949	1949	1992	1992	1961	1961	1961	1958

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1924 - 2001	
ANNUAL TOTAL	5369.6		14298.5			
ANNUAL MEAN	14.7		39.2		40.3	
HIGHEST ANNUAL MEAN					99.5	1972
LOWEST ANNUAL MEAN					6.95	1961
HIGHEST DAILY MEAN	280	Feb 25	1950	Mar 14	5640	Apr 7 1952
LOWEST DAILY MEAN	4.0	Dec 20	4.0	Dec 20	.00	Jan 30 1946
ANNUAL SEVEN-DAY MINIMUM	4.1	Dec 18	4.1	Dec 18	.00	Jan 30 1946
MAXIMUM PEAK FLOW			2190	Mar 14	6130	Apr 7 1952
MAXIMUM PEAK STAGE			b 14.00	Mar 14	20.70	Mar 15 1972
INSTANTANEOUS LOW FLOW					.00	Jan 30 1946
ANNUAL RUNOFF (AC-FT)	10650		28360		29220	
10 PERCENT EXCEEDS	20		67		54	
50 PERCENT EXCEEDS	8.4		11		9.0	
90 PERCENT EXCEEDS	5.2		6.2		3.0	

b Backwater from ice
e Estimated

06340000 SPRING CREEK AT ZAP, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969-70, 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
NOV													
27...	1145	9.8	--	--	--	1910	-4.0	1.0	--	--	--	--	--
JAN													
22...	1445	6.8	--	--	--	2510	3.0	.00	--	--	--	--	--
FEB													
28...	1100	7.5	--	--	--	1930	-10.0	.00	--	--	--	--	--
MAR													
23...	1315	100	8.2	--e	835	860	-4.0	1.0	180	34.0	22.0	11.0	4
APR													
23...	1115	25	--	--	--	1230	5.0	8.0	--	--	--	--	--
JUN													
12...	1350	37	--	--	--	1710	22.0	19.8	--	--	--	--	--
JUL													
17...	1115	13	8.2	8.4	1380	1380	27.0	25.0	320	55.0	44.0	8.60	5
SEP													
11...	1100	8.2	--	--	--	1310	20.0	19.0	--	--	--	--	--

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
NOV													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
23...	120	58	217	9.8	.2	200	150	556	528	--o	180	--o	20.0
APR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
17...	210	58	412	8.2	.4	370	33.8	962	945	3.0	40	2.00	100
SEP													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
NOV					
27...	--	--	--	--	--
JAN					
22...	--	--	--	--	--
FEB					
28...	--	--	--	--	--
MAR					
23...	150	<.10	--o	--o	470
APR					
23...	--	--	--	--	--
JUN					
12...	--	--	--	--	--
JUL					
17...	60.0	.10	2.0	3.0	1100
SEP					
11...	--	--	--	--	--

e Required equipment not functional/available
o Insufficient amount of water

06340500 KNIFE RIVER AT HAZEN, ND

LOCATION.--Lat 47°17'07", long 101°37'18", in $SW^1/_4SE^1/_4SE^1/_4$ sec.18, T.144 N., R.86 W., Mercer County, Hydrologic Unit 10130201, on left bank at downstream side of highway bridge, 0.5 mi south of Hazen, and 3 mi upstream from Antelope Creek.

DRAINAGE AREA.--2,240 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October to November 1928, March 1929 to September 1933, August 1937 to current year. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WSP 1146: 1943. WSP 1279: 1930-31, 1932-33(M). WSP 1917: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,712.35 ft above sea level. Prior to Sept. 25, 1947, nonrecording gages at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Slight regulation by Lake Ilo 81 mi upstream, capacity, 7,130 acre-ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--According to local residents, the floods of 1943 and 1950 were not exceeded during the period 1884 to 1942.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	47	e44	e22	e18	e22	175	81	51	110	252	25
2	22	103	e44	e23	e18	e22	163	79	50	100	154	25
3	22	170	e44	e23	e18	e24	156	77	47	93	113	24
4	22	125	e44	e24	e18	e24	164	73	46	85	91	24
5	24	95	e43	e25	e18	e24	206	71	48	78	78	24
6	25	90	e42	e25	e18	e25	262	74	59	73	79	25
7	25	76	e40	e25	e18	e34	264	75	80	69	67	25
8	25	58	e38	e25	e17	e76	377	74	76	66	60	e25
9	24	76	e35	e25	e17	e205	447	72	91	63	53	26
10	25	67	e31	e25	e17	e448	611	69	243	61	50	26
11	25	63	e30	e24	e17	e915	755	68	155	59	47	26
12	25	61	e28	e24	e17	e1740	610	68	111	58	44	27
13	25	62	e26	e23	e17	2800	548	65	172	59	48	27
14	27	62	e25	e23	e18	4710	513	62	235	58	76	31
15	28	56	e24	e22	e18	3780	405	60	313	59	78	34
16	28	48	e24	e22	e18	2240	311	61	510	58	76	35
17	27	53	e23	e21	e18	1820	249	63	1190	62	73	35
18	27	e47	e22	e21	e18	2170	215	63	1170	60	59	35
19	27	e44	e22	e21	e18	1860	180	62	1190	58	49	35
20	26	e42	e22	e21	e18	1380	156	58	1080	61	42	34
21	27	e41	e21	e21	e18	1080	145	54	807	65	39	34
22	26	e40	e21	e20	e19	919	136	51	772	83	37	33
23	26	e39	e21	e20	e19	676	127	51	640	112	35	33
24	25	e39	e21	e20	e19	469	118	49	410	270	33	32
25	30	e38	e21	e20	e20	354	112	49	288	244	31	31
26	34	e39	e20	e19	e20	301	107	48	220	215	e30	31
27	41	e40	e20	e19	e20	280	101	48	186	164	28	31
28	40	e42	e20	e19	e21	244	95	46	163	152	28	31
29	45	e43	e21	e19	---	218	90	44	139	159	26	30
30	42	e44	e21	e19	---	204	84	51	123	593	26	30
31	40	---	e22	e18	---	191	---	52	---	428	26	---
TOTAL	877	1850	880	678	510	29255	7882	1918	10665	3875	1928	884
MEAN	28.3	61.7	28.4	21.9	18.2	944	263	61.9	356	125	62.2	29.5
MAX	45	170	44	25	21	4710	755	81	1190	593	252	35
MIN	22	38	20	18	17	22	84	44	46	58	26	24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2001, BY WATER YEAR (WY)

MEAN	39.0	32.0	22.4	20.2	97.2	701	511	163	224	118	48.8	34.3
MAX	365	223	83.1	145	927	3228	4293	1530	1041	979	215	143
(WY)	1983	1983	1983	1974	1930	1943	1952	1970	1944	1938	1954	1978
MIN	6.39	7.71	3.79	.70	.000	11.6	26.3	17.0	8.70	10.5	2.00	.50
(WY)	1962	1962	1962	1962	1962	1965	1981	1931	1961	1961	1933	1933

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1929 - 2001	
ANNUAL TOTAL	24836		61202			
ANNUAL MEAN	67.9		168		169	
HIGHEST ANNUAL MEAN					441	1943
LOWEST ANNUAL MEAN					21.7	1991
HIGHEST DAILY MEAN	1100	Feb 26	4710	Mar 14	22400	Mar 27 1943
LOWEST DAILY MEAN	17	Aug 29	17	Feb 8	.00	Jan 21 1933
ANNUAL SEVEN-DAY MINIMUM	17	Aug 26	17	Feb 7	.00	Jan 21 1933
MAXIMUM PEAK FLOW			5050	Mar 14	35300	Jun 24 1966
MAXIMUM PEAK STAGE			18.10	Mar 14	27.01	Jun 24 1966
10 PERCENT EXCEEDS	102		312		250	
50 PERCENT EXCEEDS	38		44		32	
90 PERCENT EXCEEDS	20		20		10	

e Estimated

06340500 KNIFE RIVER AT HAZEN, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1950, 1951, 1969 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
NOV													
27...	1320	41	--	--	--	2330	-2.0	1.0	--	--	--	--	--
FEB													
28...	1305	21	--	--	--	2170	-3.0	.00	--	--	--	--	--
MAR													
23...	1615	629	8.3	--e	791	790	-3.0	--	170	32.0	21.0	9.70	4
APR													
23...	1330	129	--	--	--	1560	15.0	8.0	--	--	--	--	--
JUN													
06...	1135	57	--	--	--	1990	18.0	17.0	--	--	--	--	--
JUL													
17...	1255	62	8.2	8.3	1620	1630	31.0	25.1	360	68.0	46.0	11.0	6
SEP													
11...	1300	27	--	--	--	1420	--	--	--	--	--	--	--

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
NOV													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
23...	110	57	176	5.7	.2	220	892	525	505	--o	170	--o	20.0
APR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
17...	250	59	432	8.7	.4	490	194	1160	1130	2.0	10	2.00	100
SEP													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
NOV					
27...	--	--	--	--	--
FEB					
28...	--	--	--	--	--
MAR					
23...	100	<.10	--o	--o	490
APR					
23...	--	--	--	--	--
JUN					
06...	--	--	--	--	--
JUL					
17...	10.0	.10	3.0	3.0	1100
SEP					
11...	--	--	--	--	--

e Required equipment not functional/available
o Insufficient amount of water

06340700 MISSOURI RIVER NEAR STANTON, ND

LOCATION.--Lat 47°17'14", long 101°20'25", in SW$^{1}/_{4}$ sec.16, T.144 N., R.84 W., Mercer County, Hydrologic Unit 10130101, on right bank 3 mi southeast of Stanton, 0.1 mi below Ft. Clark irrigation pumping station, 0.4 mi above the United Power Association power plant and at mile 1,372.

DRAINAGE AREA.--182,000 mi^{2}, approximately.

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--October 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,650.00 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to Sept. 30, 1964, at datum 50.00 ft lower.

REMARKS.--Stage regulated completely by releases from Garrison Dam (station 06338490) 18 mi upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily gage height recorded, 24.56 ft, Feb. 22, 1965; minimum recorded, 8.33 ft, Nov. 4, 1998.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.92	9.83	---	---	---	---	---	8.96	9.58	9.75	9.55	9.82
2	10.02	9.58	10.65	---	---	---	---	8.99	9.61	9.50	9.69	9.56
3	9.88	9.63	10.51	---	---	---	9.45	9.13	9.66	9.61	9.57	9.42
4	9.76	9.60	10.55	---	---	---	9.34	8.89	9.73	9.52	9.59	9.59
5	9.67	9.47	10.59	---	---	---	9.33	8.96	9.69	9.63	9.59	9.33
6	9.60	9.70	10.57	---	---	---	9.48	9.00	9.73	9.58	9.58	9.09
7	9.74	10.85	10.47	---	---	---	9.32	8.81	9.63	9.62	9.54	9.22
8	9.69	11.57	10.78	---	---	---	9.48	9.00	9.71	9.51	9.58	9.17
9	9.85	---	10.57	---	---	---	9.43	9.03	9.69	9.60	9.55	9.01
10	9.71	---	---	---	---	---	9.38	8.75	9.74	9.54	9.56	9.00
11	9.75	---	---	---	---	---	9.63	8.71	9.67	9.54	9.64	8.91
12	9.61	---	---	---	---	---	9.41	9.12	9.77	9.55	9.58	8.94
13	9.66	---	---	---	---	---	9.29	8.78	9.64	9.60	9.56	8.85
14	9.81	---	---	---	---	---	9.79	9.52	9.71	9.54	9.54	8.90
15	9.81	---	---	---	---	---	9.27	9.01	9.72	9.59	9.51	8.67
16	9.74	---	---	---	---	---	9.87	8.51	9.65	9.50	---	8.77
17	9.69	---	---	---	---	---	9.45	8.72	9.77	9.51	---	8.65
18	9.68	---	---	---	---	---	9.28	8.82	9.93	9.45	---	8.64
19	9.71	---	---	---	---	---	9.60	9.22	9.84	9.53	---	8.57
20	9.76	11.17	---	---	---	---	9.49	9.49	9.90	9.60	---	8.55
21	9.72	11.30	---	---	---	---	9.33	9.43	9.90	9.56	9.52	8.53
22	9.68	11.02	---	---	---	---	9.48	9.24	9.89	9.62	9.55	8.56
23	9.70	10.92	---	---	---	---	8.97	9.47	9.66	9.47	9.52	8.60
24	9.88	10.97	---	---	---	---	9.38	9.54	9.87	9.52	9.58	8.53
25	9.71	10.75	---	---	---	---	9.29	9.85	9.60	9.54	9.62	8.69
26	9.76	---	---	---	---	---	9.46	9.58	9.63	9.54	9.67	8.63
27	9.86	---	---	---	---	---	9.59	9.52	9.57	9.58	9.41	8.66
28	9.67	---	---	---	---	---	9.43	9.63	9.59	9.58	9.53	8.73
29	9.84	---	---	---	---	---	8.93	9.65	9.53	9.63	9.47	8.51
30	9.73	---	---	---	---	---	9.14	9.68	9.57	9.65	9.60	8.50
31	9.74	---	---	---	---	---	---	9.64	---	9.68	9.59	---
MEAN	9.75	10.45	10.59	---	---	---	9.40	9.18	9.71	9.57	9.57	8.89
MAX	10.02	11.57	10.78	---	---	---	9.87	9.85	9.93	9.75	9.69	9.82
MIN	9.60	9.47	10.47	---	---	---	8.93	8.51	9.53	9.45	9.41	8.50

06340900 MISSOURI RIVER NEAR HENSLER, ND

LOCATION.--Lat 47°16'45", long 101°11'03", in SW$^{1}/_{4}$ sec.22, T.144 N., R.83 W., McLean County, Hydrologic Unit 10130101, on left bank about 7.5 mi west of Washburn and at mile 1,362.

DRAINAGE AREA.--183,000 mi^{2}, approximately.

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--May 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,640.00 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to Sept. 30, 1964, at datum 40 ft lower.

REMARKS.--Stage regulated by releases from Garrison Dam (station 06338490) 28 mi upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily gage height recorded, 27.77 ft, Mar. 20, 1965; minimum daily recorded, 13.23 ft, Sept. 15, 2001.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.52	14.39	15.19	18.11	---	14.65	13.91	13.72	14.21	14.34	14.13	14.37
2	14.74	14.29	15.18	18.57	---	14.59	13.84	13.56	14.24	14.16	14.24	14.13
3	14.51	14.19	15.04	17.51	15.29	14.49	14.09	13.65	14.26	14.25	14.14	14.04
4	14.43	14.26	14.89	17.04	14.97	14.41	14.06	13.49	14.33	14.17	14.13	14.18
5	14.29	14.09	14.68	16.62	15.25	14.45	14.02	13.52	14.31	14.22	14.15	13.98
6	14.30	14.09	15.17	16.26	15.00	14.24	14.18	13.58	14.37	14.25	14.10	13.69
7	14.32	15.24	15.03	15.83	15.07	14.14	14.04	13.49	14.27	14.22	14.09	13.81
8	14.32	15.76	15.38	15.65	14.94	14.28	14.13	13.42	14.34	14.13	14.11	13.70
9	14.51	16.68	---	15.47	15.04	14.23	14.14	13.67	14.32	14.21	14.09	13.55
10	14.40	17.20	---	15.50	15.27	14.30	14.16	13.57	14.37	14.14	14.06	13.55
11	14.41	17.00	---	15.54	15.72	14.53	14.24	13.49	14.31	14.14	14.14	13.51
12	14.22	16.89	---	15.39	16.23	14.85	14.18	13.77	14.40	14.16	14.09	13.47
13	14.34	16.87	---	15.60	15.94	14.80	13.97	13.41	14.26	14.17	14.06	13.43
14	14.44	16.90	---	15.20	16.02	15.26	14.40	14.16	14.34	14.13	14.06	13.47
15	14.52	16.92	---	15.36	16.14	15.66	13.96	13.87	14.36	14.18	14.09	13.23
16	14.31	---	---	15.40	16.40	14.96	14.44	13.28	14.28	14.09	14.10	---
17	14.32	---	---	15.36	16.95	14.82	14.15	13.44	14.34	14.14	14.08	---
18	14.29	16.42	---	15.33	16.69	14.59	13.86	13.53	14.56	13.97	14.12	---
19	14.29	16.24	---	15.41	15.76	14.76	14.17	13.67	14.43	14.09	14.15	---
20	14.41	15.77	---	15.55	15.62	14.46	14.13	14.22	14.51	14.20	14.14	---
21	14.24	15.81	---	15.52	15.50	14.20	13.90	14.16	14.53	14.13	14.14	---
22	14.29	15.59	---	15.35	15.44	14.01	14.07	13.96	14.53	14.23	14.15	---
23	14.30	15.43	---	15.36	15.40	14.48	13.67	14.18	14.28	14.04	14.12	---
24	14.43	15.49	---	15.30	15.39	13.94	13.98	14.26	14.52	14.09	14.17	---
25	14.37	15.46	---	15.60	15.20	14.06	13.99	14.51	14.26	14.08	14.20	---
26	14.42	15.17	19.70	15.46	14.94	14.11	13.88	14.27	14.26	14.10	14.29	---
27	14.48	15.13	19.46	15.30	14.89	14.23	14.17	14.21	14.21	14.19	14.02	---
28	14.20	15.04	19.63	15.48	14.84	13.97	13.91	14.30	14.24	14.11	14.11	---
29	14.40	15.17	19.32	15.48	---	14.03	13.61	14.28	14.14	14.20	14.04	---
30	14.36	15.21	18.65	15.41	---	14.11	13.72	14.36	14.20	14.20	14.23	---
31	14.35	---	18.42	---	---	13.82	---	14.27	---	14.24	14.18	---
MEAN	14.38	15.60	16.84	15.83	15.53	14.43	14.03	13.85	14.33	14.16	14.13	13.74
MAX	14.74	17.20	19.70	18.57	16.95	15.66	14.44	14.51	14.56	14.34	14.29	14.37
MIN	14.20	14.09	14.68	15.20	14.84	13.82	13.61	13.28	14.14	13.97	14.02	13.23

06341000 MISSOURI RIVER AT WASHBURN, ND

LOCATION.--Lat 47°17'20", long 101°02'15", in $SE^1/_4SW^1/_4$ sec.14, T.144 N., R.82 W., McLean County, Hydrologic Unit 10130101, on left bank near municipal waterplant in Washburn and at mile 1,355.

DRAINAGE AREA.--184,000 mi^2, approximately.

GAGE-HEIGHT RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 1,640.00 ft above sea level. Prior to Sept. 30, 1964, at datum 40 ft lower.

REMARKS.--Stage regulated by releases from Garrison Dam (station 06338490) 35 mi upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily gage height recorded, 22.76 ft, Jan. 11, 1964; minimum daily recorded, 8.79 ft, May 8, 2001.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.29	9.64	10.57	14.16	10.82	10.46	9.31	9.15	9.57	9.78	9.79	9.97
2	10.44	9.62	10.62	14.53	11.97	10.15	9.25	8.94	9.61	9.68	9.84	9.84
3	9.96	9.50	10.41	14.34	11.78	9.97	9.45	8.99	9.64	9.73	9.82	9.74
4	9.78	9.62	10.50	14.13	10.85	9.83	9.44	8.94	9.69	9.68	9.83	9.79
5	9.61	9.43	10.54	13.79	10.55	9.87	9.39	8.92	9.69	9.72	9.78	9.65
6	10.13	9.36	10.53	13.47	10.36	9.70	9.56	8.96	9.74	9.75	9.77	9.41
7	9.96	10.33	10.36	12.54	10.38	9.57	9.45	8.91	9.66	9.72	9.78	9.49
8	10.05	11.11	10.64	11.84	10.30	9.71	9.49	8.79	9.75	9.66	9.79	9.37
9	10.11	11.96	10.44	11.51	10.49	9.67	9.53	9.03	9.76	---	9.74	9.24
10	10.01	12.31	10.68	11.27	10.93	9.72	9.55	8.99	9.80	---	9.72	9.27
11	9.98	12.13	10.92	11.08	12.68	9.95	9.58	8.92	9.77	---	9.79	9.27
12	9.74	12.01	11.39	10.87	14.24	10.18	9.59	9.07	9.83	---	9.75	9.21
13	9.88	12.04	12.37	---	13.72	10.15	9.38	8.88	9.72	---	9.75	9.22
14	9.92	12.09	13.67	---	13.82	10.54	9.72	9.35	9.79	---	9.70	9.21
15	10.04	12.14	14.90	---	13.70	10.92	9.40	9.30	9.82	---	9.73	9.02
16	9.79	12.08	14.88	---	13.09	10.57	9.68	8.79	9.76	---	9.70	9.11
17	9.83	12.07	14.72	---	13.18	10.26	9.61	8.86	9.83	---	9.65	9.03
18	9.79	11.79	15.48	10.98	13.49	10.08	9.32	8.91	10.04	9.58	9.67	9.03
19	9.67	11.57	15.49	11.07	12.97	10.17	9.51	8.95	9.91	9.68	9.72	8.95
20	10.05	11.17	15.41	11.71	12.67	10.01	9.51	9.50	9.98	9.77	9.69	8.93
21	9.79	11.18	15.09	11.47	12.40	9.77	9.32	9.41	9.95	9.70	9.71	8.95
22	9.81	10.99	15.43	10.93	12.36	9.58	9.43	9.26	9.98	9.81	9.72	8.88
23	9.84	10.83	15.14	10.71	12.15	9.89	9.17	9.41	9.82	9.65	9.71	8.90
24	9.93	10.88	14.97	10.60	12.35	9.40	9.38	9.49	10.00	9.71	9.77	8.89
25	9.92	10.91	15.07	11.00	11.84	9.41	9.42	9.67	9.83	9.71	9.76	9.02
26	9.84	10.59	15.00	10.78	11.22	9.52	9.24	9.56	9.78	9.74	9.86	8.96
27	10.06	10.50	14.71	10.65	11.14	9.62	9.51	9.54	9.72	9.83	9.69	8.95
28	---	10.48	14.75	10.72	11.06	9.37	9.29	9.61	9.71	9.75	9.72	9.17
29	---	10.53	14.62	10.77	---	9.43	9.08	9.63	9.65	9.81	9.72	8.91
30	---	10.56	14.49	10.69	---	9.50	9.10	9.69	9.69	9.81	9.88	8.89
31	9.64	---	14.35	10.58	---	9.21	---	9.64	---	9.92	9.85	---
MEAN	9.92	10.98	13.17	11.78	12.02	9.88	9.42	9.20	9.78	9.74	9.75	9.21
MAX	10.44	12.31	15.49	14.53	14.24	10.92	9.72	9.69	10.04	9.92	9.88	9.97
MIN	9.61	9.36	10.36	10.58	10.30	9.21	9.08	8.79	9.57	9.58	9.65	8.88

Miscellaneous discharge measurements for Missouri River at Washburn

Date	Discharge	Gage height
October 3, 2000	14,800	10.07
April 2, 2001	10,700	8.93
April 25, 2001	13,500	9.46
May 24, 2001	15,000	9.59
June 21, 2001	15,400	9.85
July 13, 2001	15,300	9.97
August 21, 2001	15,800	9.95
September 10, 2001	13,000	9.25

06341000 MISSOURI RIVER AT WASHBURN, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 2000 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
OCT													
03...	1140	14800	9.7	8.5	8.3	628	630	--	14.3	210	50.0	20.0	3.70
APR													
02...	1425	10700	14.8	7.6	8.0	657	669	--	4.4	210	51.0	20.3	3.60
25...	1245	13500	12.6	8.1	8.0	656	659	23.0	6.5	210	49.8	19.7	3.50
MAY													
24...	1300	15000	11.2	8.3	--e	618	642	10.0	8.9	200	48.8	19.3	3.70
JUN													
21...	1200	15400	--	--	7.5	675	--	--	--	210	48.4	20.7	4.10
JUL													
13...	1040	15300	10.5	7.9	--e	633	634	27.0	14.4	200	48.5	19.2	3.50
AUG													
21...	1145	15800	10.8	7.7	--e	617	638	--	14.7	210	50.6	20.1	3.60
SEP													
10...	1220	13000	10.1	7.7	8.0	656	653	21.0	13.4	210	49.8	19.7	3.50

DATE	SODIUM AD-SORP-TION RATIO (00931)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)
OCT													
03...	52	160	8.9	150	.17	.15	<.01	<.010	.010	M	--	.17	.18
APR													
02...	57	165	9.4	157	.14	.15	<.01	<.010	.050	.1	--	.21	.19
25...	54	166	9.5	168	.16	.20	<.01	<.010	.046	.1	--	.26	.21
MAY													
24...	53	165	9.1	155	.18	.23	<.01	<.010	.020	M	--	.25	.20
JUN													
21...	60	158	8.7	182	.22	.23	<.01	<.010	.046	.1	--	.28	.26
JUL													
13...	51	133	8.7	152	.14	.17	.02	<.010	.050	.1	.15	.22	.19
AUG													
21...	54	165	9.2	158	.12	.13	<.01	<.010	.110	.1	--	.22	.23
SEP													
10...	54	162	9.5	168	.16	.20	.01	<.010	.046	.1	.19	.26	.21

DATE	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	ALUMI-NUM, TOTAL RECOVER-ABLE (UG/L) (01104)	ANTI-MONY, TOTAL (UG/L AS SB) (01097)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOVER-ABLE (UG/L) (01009)	BERYL-LIUM TOTAL RECOVER-ABLE (UG/L) (00998)	BORON, TOTAL RECOVER-ABLE (UG/L) (00999)	CADMIUM TOTAL RECOVER-ABLE (UG/L) (01113)	CHRO-MIUM, TOTAL RECOVER-ABLE (UG/L) (01118)	COPPER, TOTAL RECOVER-ABLE (UG/L) (01119)	IRON, DIS-SOLVED (UG/L AS FE) (01046)
OCT													
03...	<.010	<.020	--	180	<1.0	2	56	<1	200	<1	<1	1	M
APR													
02...	<.004	.010	400	120	<1.0	2	57	<1	100	<1	<1	2	--
25...	<.004	.040	407	70	<1.0	2	54	<1	100	<1	<1	2	--
MAY													
24...	.005	.023	391	80	<1.0	2	56	<1	100	<1	<1	2	--
JUN													
21...	<.004	.050	422	1700	<1.0	2	64	<1	200	<1	2	4	--
JUL													
13...	<.004	.046	365	180	<1.0	2	56	<1	200	<1	<1	2	--
AUG													
21...	<.004	.015	397	140	<1.0	2	54	<1	100	<1	<1	1	--
SEP													
10...	<.004	.040	407	90	<1.0	2	49	<1	100	<1	<1	2	--

06341000 MISSOURI RIVER AT WASHBURN, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOVER -ABLE (UG/L) (01114)	MANGAN-ESE TOTAL RECOVER - ABLE (UG/L) (01123)	MOLYB-DENUM TOTAL RECOVER -ABLE (UG/L) (01129)	NICKEL, TOTAL RECOVER -ABLE (UG/L) (01074)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOVER -ABLE (UG/L) (01079)	THAL-LIUM, TOTAL RECOV-ERABLE (UG/L AS TL) (01128)	ZINC, TOTAL RECOVER -ABLE (UG/L) (01094)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT												
03...	310	<1	10	<1	2	1.0	<1	--	10	27	1080	17
APR												
02...	120	<1	<10	--	2	1.9	<2	<1.00	M	7	202	67
25...	420	<1	<10	--	2	<1.0	<1	<1.00	10	32	1170	13
MAY												
24...	900	<1	<10	--	3	<1.0	<1	<1.00	10	41	1660	31
JUN												
21...	1980	<1	M	--	4	<1.0	<1	<1.00	M	--	--	--
JUL												
13...	230	<1	<10	--	3	<1.0	<1	<1.00	20	26	1070	24
AUG												
21...	170	<1	<10	--	3	<1.0	<1	<1.00	10	16	683	38
SEP												
10...	420	<1	<10	--	2	<1.0	<1	<1.00	10	16	562	32

M Presence verified, not quantified
e Required equipment not functional/available

06341410 TURTLE CREEK ABOVE WASHBURN, ND

LOCATION.--Lat 47°23'06", long 100°54'43", in $NW^1/_4NE^1/_4NE^1/_4$ sec.18, T.145 N., R.80 W., McLean County, Hydrologic Unit 10130101, on right bank 250 ft downstream from bridge on county highway, 8.5 mi northeast of Washburn, and 8.8 mi south of Turtle Lake.

DRAINAGE AREA.--350 mi^2, approximately, of which 195 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,780 ft above sea level, from topographic map.

REMARKS.--Records poor. Water from the McClusky Canal is sometimes diverted into the stream at a point upstream from the gage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	26	e4.0	e.75	e.26	e.01	26	34	e42	e44	e43	e3.4
2	17	37	e3.9	e.79	e.25	e.01	29	34	e42	e42	e36	e3.3
3	16	28	e3.9	e.80	e.24	e.01	29	34	e44	e39	e29	e3.2
4	15	24	e4.1	e.81	e.22	e.01	25	33	e48	e37	e23	e3.0
5	16	21	e4.0	e.83	e.20	e.01	64	37	e54	e34	e20	e2.9
6	16	e20	e3.5	e.83	e.15	e.01	83	42	e57	e32	e16	e2.8
7	15	e17	e2.9	e.83	e.11	e.01	71	44	e56	e30	e14	e2.9
8	15	e15	e3.0	e.82	e.09	e.01	53	47	e57	e28	e13	e2.9
9	14	e13	e3.3	e.81	e.08	e.01	54	40	e58	e25	e12	e2.8
10	14	e12	e3.2	e.80	e.06	e.01	66	37	e60	e23	e10	e2.7
11	13	e10	e3.0	e.78	e.05	e.01	54	40	e64	e22	e9.5	e2.6
12	13	e9.2	e2.8	e.75	e.04	e.02	47	43	e70	e22	e8.6	e2.6
13	15	e8.3	e2.4	e.71	e.03	e10	43	41	e80	e22	e7.9	e2.7
14	15	e7.6	e2.1	e.67	e.03	e150	41	40	e86	e24	e7.3	e2.9
15	15	e7.0	e2.0	e.64	e.03	362	39	40	e85	e26	e6.8	e3.0
16	15	e6.6	e1.8	e.60	e.03	339	33	42	e84	e25	e6.5	e3.0
17	14	e6.2	e1.7	e.57	e.03	218	40	44	e88	e24	e6.3	e3.0
18	14	e5.7	e1.6	e.52	e.03	217	38	42	e120	e25	e6.2	e2.9
19	14	e5.3	e1.5	e.50	e.02	223	39	41	e115	e27	e6.0	e2.9
20	13	e5.0	e1.4	e.48	e.02	167	39	42	e110	e30	e5.8	e2.8
21	13	e5.2	e1.3	e.46	e.02	104	39	45	e103	e33	e5.5	e2.8
22	12	e5.4	e1.2	e.44	e.02	68	38	50	e96	e34	e5.6	e2.9
23	12	e5.6	e1.2	e.42	e.02	47	38	e44	e89	e32	e5.3	e2.9
24	12	e5.8	e1.1	e.40	e.02	36	38	e41	e82	e33	e5.0	e2.9
25	13	e5.8	e1.1	e.39	e.02	24	37	e39	e75	e60	e4.7	e2.7
26	14	e5.6	e1.0	e.36	e.02	30	37	e37	e68	e100	e4.4	e2.7
27	15	e5.1	e1.0	e.34	e.02	31	36	e38	e62	e180	e4.3	e2.6
28	14	e4.9	e.93	e.32	e.02	30	34	e38	e57	e215	e4.1	e2.5
29	15	e4.5	e.88	e.30	---	32	33	e39	e52	e180	e4.0	e2.5
30	15	e4.2	e.83	e.29	---	35	34	e40	e47	e115	e3.8	e2.5
31	16	---	e.78	e.28	---	26	---	e41	---	e60	e3.6	---
TOTAL	446	336.0	67.42	18.29	2.13	2149.13	1277	1249	2151	1623	337.2	85.3
MEAN	14.4	11.2	2.17	.59	.076	69.3	42.6	40.3	71.7	52.4	10.9	2.84
MAX	17	37	4.1	.83	.26	362	83	50	120	215	43	3.4
MIN	12	4.2	.78	.28	.02	.01	25	33	42	22	3.6	2.5
AC-FT	885	666	134	36	4.2	4260	2530	2480	4270	3220	669	169

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 2001, BY WATER YEAR (WY)

MEAN	14.5	7.54	1.67	.42	4.65	36.7	22.1	18.4	20.6	20.5	13.6	12.7
MAX	54.3	30.9	7.75	2.67	34.0	116	69.7	51.5	71.7	52.4	36.0	32.8
(WY)	1994	1993	2000	2000	1996	1987	1997	1996	2001	2001	2000	1993
MIN	.092	.043	.000	.000	.000	.22	.28	.069	.009	.000	.033	2.31
(WY)	1990	1990	1990	1989	1989	1990	1990	1992	1989	1988	1991	1988

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1987 - 2001	
ANNUAL TOTAL	6830.72		9741.47			
ANNUAL MEAN	18.7		26.7		14.5	
HIGHEST ANNUAL MEAN					29.3	1996
LOWEST ANNUAL MEAN					1.10	1990
HIGHEST DAILY MEAN	90	Feb 26	362	Mar 15	767	Mar 21 1987
LOWEST DAILY MEAN	.78	Dec 31	.01	Mar 1	.00	Jan 5 1988
ANNUAL SEVEN-DAY MINIMUM	.93	Dec 25	.01	Mar 1	.00	Jan 5 1988
MAXIMUM PEAK FLOW			438	Mar 15	954	Mar 12 1996
MAXIMUM PEAK STAGE			a 6.35	Mar 14	7.28	Mar 12 1996
ANNUAL RUNOFF (AC-FT)	13550		19320		10510	
10 PERCENT EXCEEDS	44		60		37	
50 PERCENT EXCEEDS	14		13		4.0	
90 PERCENT EXCEEDS	2.5		.21		.00	

e Estimated
a Backwater from ice

06341410 TURTLE CREEK ABOVE WASHBURN, ND--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT													
18...	0855	14	711	84	9.5	--e	8.2	1490	1480	17.0	6.9	410	32.0
MAR													
14...	1050	147	--	--	--	--	--	--	218	5.0	.5	--	--
20...	1600	164	--	--	9.6	7.8	7.7	515	459	12.0	2.2	130	17.8
APR													
23...	1120	39	741	103	13.0	8.5	8.3	1030	995	10.0	4.3	280	33.2
MAY													
23...	1030	44	--	--	11.4	8.6	8.5	1330	1230	8.0	6.5	380	37.0
JUL													
09...	1105	25	710	104	7.5	8.3	8.4	1360	1320	28.0	28.0	380	27.9
AUG													
16...	1325	6.5	--	--	9.5	8.6	8.8	1540	1480	25.0	711	370	22.9
SEP													
10...	0940	2.7	711	--	9.8	--e	8.6	1860	--e	13.0	12.0	440	26.6

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)
OCT													
18...	79.0	20.0	4	180	48	610	9.7	.4	7.9	250	--b	--b	--
MAR													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	20.7	14.7	2	50.3	42	173	4.3	E.1	13.2	72.8	.580	.040	.760
APR													
23...	48.9	11.5	3	125	48	393	6.3	E.1	9.2	170	--w	--w	--
MAY													
23...	70.5	15.9	4	165	47	521	8.9	.3	3.8	229	--w	--w	--
JUL													
09...	76.4	18.1	4	179	49	540	8.5	.2	5.3	224	<.040	E.004	--
AUG													
16...	76.2	20.1	5	223	55	596	10.5	.3	2.7	298	E.026	E.003	--
SEP													
10...	91.5	24.4	6	270	55	--o	14.6	.2	3.9	354	.151	.016	--

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	TUR-BID-ITY (NTU) (00076)	BORON, DIS-SOLVED (UG/L AS B) (01020)	IRON, DIS-SOLVED (UG/L AS FE) (01046)
OCT								
18...	--b	--b	36.2	--	945	44	500	M
MAR								
14...	--	--	--	--	--	--	--	--
20...	.800	.592	135	--	304	37	109	230
APR								
23...	--w	--w	67.7	--	640	26	252	30
MAY								
23...	--w	--w	99.4	--	844	23	369	30
JUL								
09...	<.050	.030	60.7	892	865	--	475	30
AUG								
16...	<.050	.027	19.0	1080	1010	--	516	30
SEP								
10...	E.030	<.020	--	--	--	--	664	10

E Estimated value
M Presence verified, not quantified
b Sample broken/spilled in shipment
e Required equipment not functional/available
o Insufficient amount of water
w Sample discarded: warm when received

06341800 PAINTED WOODS CREEK NEAR WILTON, ND

LOCATION.--Lat 47°16'30", long 100°47'30", in $SW^1/_4SW^1/_4$ sec.23, T.144 N., R.80 W., McLean County, Hydrologic Unit 10130101, on right bank 600 ft upstream from county highway bridge, 7 mi upstream from Yanktonai Creek and 8 mi north of Wilton.

DRAINAGE AREA.--427 mi^2, approximately, of which about 310 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1957 to September 1981, August 1982 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,764.93 ft above sea level (levels by U.S. Fish and Wildlife Service).

REMARKS.--Records fair except for period of estimated discharge, which are poor. Since the fall of 1982, Missouri River Basin water has been diverted into the stream at a point several miles upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e12	e43	e8.6	e7.6	e7.8	e7.4	96	35	17	19	84	6.2
2	e12	e54	e8.5	e8.1	e8.0	e7.7	86	34	16	17	57	5.9
3	e11	e57	e8.2	e8.6	e8.1	e7.5	84	33	16	17	42	6.2
4	e12	e49	e8.3	e8.5	e7.8	e7.3	86	32	17	15	34	5.9
5	e12	e43	e8.5	e8.4	e7.7	e7.2	117	31	18	14	28	5.8
6	e12	e39	e8.6	e8.3	e7.6	e7.3	161	32	21	13	24	5.2
7	e12	e30	e8.5	e8.1	e7.4	e7.4	231	35	23	13	20	6.2
8	e13	e24	e8.4	e8.0	e7.3	e7.2	201	34	21	11	18	6.4
9	e12	e20	e8.3	e7.9	e7.2	e7.3	189	32	20	11	17	6.2
10	e12	e17	e8.3	e7.8	e7.1	e7.5	239	30	20	10	15	6.1
11	e12	e14	e8.3	e7.8	e7.0	e7.3	239	29	20	10	13	5.9
12	e13	e12	e8.3	e7.7	e7.0	e7.4	185	28	21	10	12	5.7
13	e13	e11	e8.2	e7.7	e6.9	e9.2	152	26	26	9.9	11	5.6
14	e13	e9.8	e8.2	e7.7	e6.9	e16	132	23	34	9.7	10	5.9
15	e14	e9.3	e8.1	e7.8	e7.0	e33	115	23	39	11	10	6.3
16	e14	e9.0	e8.1	e7.7	e7.0	e50	97	22	38	14	9.9	6.2
17	e14	e8.9	e8.3	e7.5	e7.1	e100	87	21	38	13	8.7	6.4
18	e14	e9.0	e8.5	e7.1	e7.2	e350	80	21	38	12	8.8	6.5
19	e14	e9.2	e8.5	e6.9	e7.3	e850	75	20	55	11	8.6	6.2
20	e15	e9.7	e8.2	e7.2	e7.4	e772	73	19	52	11	9.1	5.8
21	e14	e9.4	e7.9	e7.3	e7.4	e600	69	19	49	14	9.7	6.1
22	e12	e9.0	e7.9	e7.4	e7.4	e500	64	18	49	23	9.5	5.8
23	e14	e8.8	e7.9	e7.5	e7.4	e420	61	18	42	21	9.0	6.5
24	e13	e8.7	e7.6	e7.5	e7.3	e358	57	18	36	20	8.2	5.4
25	e13	e8.7	e7.4	e7.4	e7.2	e280	53	18	32	16	7.7	4.7
26	e20	e8.7	e7.1	e7.3	e7.1	e230	50	17	29	16	8.2	5.4
27	e20	e8.8	e7.3	e7.3	e7.0	201	46	16	26	37	7.8	5.4
28	e24	e8.8	e7.8	e7.3	e7.2	171	43	15	22	66	7.2	5.3
29	e33	e8.9	e8.0	e7.4	---	146	39	15	22	178	6.1	4.9
30	e36	e8.8	e8.0	e7.5	---	137	37	16	20	155	6.9	5.1
31	e38	---	e7.7	e7.6	---	114	---	17	---	117	7.0	---
TOTAL	493	566.5	251.5	237.9	204.8	5425.7	3244	747	877	914.6	527.4	175.2
MEAN	15.9	18.9	8.11	7.67	7.31	175	108	24.1	29.2	29.5	17.0	5.84
MAX	38	57	8.6	8.6	8.1	850	239	35	55	178	84	6.5
MIN	11	8.7	7.1	6.9	6.9	7.2	37	15	16	9.7	6.1	4.7
AC-FT	978	1120	499	472	406	10760	6430	1480	1740	1810	1050	348

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 2001, BY WATER YEAR (WY)

MEAN	20.9	20.7	17.7	15.8	23.4	92.0	71.4	40.2	28.5	35.4	28.7	18.4
MAX	38.4	33.3	33.9	30.5	50.4	188	454	117	96.9	281	138	43.2
(WY)	1987	1990	1987	1990	2000	1997	1997	1999	2000	1993	1999	1986
MIN	.16	2.44	2.58	.61	.004	18.2	8.20	1.08	2.37	1.43	.22	1.52
(WY)	1989	1999	1999	1999	1997	1989	1989	1990	1990	1990	1983	1998

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1983 - 2001	
ANNUAL TOTAL	11167.5		13664.6			
ANNUAL MEAN	30.5		37.4		34.5	
HIGHEST ANNUAL MEAN					68.0	1997
LOWEST ANNUAL MEAN					19.3	1989
HIGHEST DAILY MEAN	496	Feb 27	850	Mar 19	1350	Mar 29 1997
LOWEST DAILY MEAN	2.0	Jan 26	4.7	Sep 25	.00	Feb 2 1997
ANNUAL SEVEN-DAY MINIMUM	2.1	Jan 23	5.2	Sep 24	.00	Feb 2 1997
MAXIMUM PEAK FLOW			a 1000	Mar 19	4050	Apr 19 1979
MAXIMUM PEAK STAGE			b 7.67	Mar 18	9.64	Apr 19 1979
ANNUAL RUNOFF (AC-FT)	22150		27100		25000	
10 PERCENT EXCEEDS	48		82		50	
50 PERCENT EXCEEDS	18		12		23	
90 PERCENT EXCEEDS	2.9		7.0		2.9	

a About
b Backwater from ice
e Estimated

06341800 PAINTED WOODS CREEK NEAR WILTON, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1959-64, 1970 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT													
19...	0925	14	707	79	8.2	7.8	8.0	1880	1880	18.0	10.1	630	89.0
MAR													
14...	0930	16	--	--	--	--	--	--	2700	3.0	.5	--	--
20...	1230	771	--	--	11.4	7.8	7.5	514	2480	12.0	1.2	150	24.5
APR													
24...	1115	58	741	103	11.6	8.3	8.2	1720	1690	19.0	8.6	580	82.6
MAY													
23...	1255	19	707	97	10.4	8.6	8.3	2110	1960	9.0	8.5	410	99.9
JUL													
09...	1345	11	--	--	8.3	8.4	8.3	2190	2000	31.0	26.0	750	89.9
AUG													
16...	1445	9.6	--	--	9.3	8.2	8.4	1940	1880	27.0	22.0	640	81.9
SEP													
10...	1230	5.9	--	--	7.8	--e	8.2	1970	1980	21.5	12.0	660	75.1

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)
OCT													
19...	100	18.0	3	180	37	279	16.0	.2	5.0	760	<.040	<.010	--
MAR													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	22.1	11.3	1	37.6	33	99	3.6	E.1	12.7	132	.347	.033	1.14
APR													
24...	90.0	12.8	3	176	39	358	9.7	E.2	8.9	596	--w	--w	--
MAY													
23...	39.9	17.0	5	221	52	400	14.5	.3	12.2	811	--w	--w	--
JUL													
09...	127	15.9	4	254	42	372	12.0	.2	13.5	876	E.024	E.003	--
AUG													
16...	105	17.2	4	212	41	328	14.1	.2	21.5	761	<.040	<.006	--
SEP													
10...	114	18.4	4	210	40	235	18.4	.2	13.2	856	<.040	E.003	--

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	TUR-BID-ITY (NTU) (00076)	BORON, DIS-SOLVED (UG/L AS B) (01020)	IRON, DIS-SOLVED (UG/L AS FE) (01046)
OCT								
19...	<.050	<.020	50.5	--	1340	5.0	367	M
MAR								
14...	--	--	--	--	--	--	--	--
20...	1.17	.389	647	--	311	9.0	66	200
APR								
24...	--w	--w	185	--	1190	3.0	231	30
MAY								
23...	--w	--w	74.7	--	1460	21	370	80
JUL								
09...	<.050	.018	49.8	1710	1610	--	461	50
AUG								
16...	<.050	.087	38.6	1490	1410	--	425	30
SEP								
10...	<.050	E.014	25.6	1610	1450	--	427	20

E Estimated value
M Presence verified, not quantified
e Required equipment not functional/available
w Sample discarded: warm when received

06342020 MISSOURI RIVER AT PRICE, ND

LOCATION.--Lat 47°04'47", long 100°55'55", in NW$^{1}/_{4}$ sec.34, T.142 N., R.81 W., Oliver County, Hydrologic Unit 10130101, on right bank 0.5 mi south of Price and at mile 1,338.

DRAINAGE AREA.--185,000 mi^{2}, approximately.

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--November 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,620.00 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to Sept. 30, 1964, at datum 20 ft lower.

REMARKS.--Stage regulated by releases from Garrison Dam (station 06338490) 52 mi upstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily gage height recorded, 30.12 ft, Jan. 22, 1967; minimum daily recorded, 16.99 ft, Sept. 22, 2001.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.65	18.46	19.15	---	---	---	17.81	17.58	18.04	18.04	18.08	18.07
2	18.70	18.48	19.16	---	---	---	17.73	17.38	18.04	18.05	18.06	18.08
3	18.60	18.30	19.03	---	---	---	17.85	17.37	18.07	18.01	18.07	17.98
4	18.60	18.41	19.09	---	---	---	17.96	17.42	18.11	18.00	18.02	17.96
5	18.35	18.25	19.07	---	---	---	17.87	17.38	18.13	17.99	18.05	17.92
6	18.39	18.14	19.13	---	---	---	18.03	17.38	18.15	18.07	18.01	17.66
7	18.33	18.77	18.95	---	---	---	18.03	17.41	18.10	18.01	18.01	17.61
8	18.41	19.63	19.10	---	---	18.20	17.97	17.28	18.10	18.00	17.99	17.57
9	18.45	20.43	19.05	---	---	18.09	18.04	17.53	18.12	17.99	17.98	17.47
10	18.53	20.93	19.16	---	---	18.08	18.04	17.57	18.14	17.98	17.96	17.45
11	18.46	20.86	19.32	---	---	18.22	18.03	17.45	18.12	17.97	18.00	17.43
12	18.31	20.72	---	---	---	18.44	18.10	17.46	18.12	17.98	18.00	17.33
13	18.40	20.71	---	---	---	18.45	17.88	17.55	18.06	17.97	17.97	17.34
14	18.43	20.74	---	---	---	18.77	18.05	17.60	18.06	17.98	17.94	17.32
15	18.59	20.81	---	---	---	19.15	18.00	18.01	18.13	18.02	17.95	17.22
16	18.44	20.73	---	---	---	19.11	17.90	17.46	18.07	17.99	17.93	17.24
17	18.43	20.71	---	---	---	18.53	18.08	17.31	18.08	18.00	17.92	17.15
18	18.39	20.54	---	---	---	18.52	17.79	17.36	18.27	17.86	17.93	17.12
19	18.37	20.25	---	---	---	18.55	17.82	17.33	18.26	17.95	17.98	17.08
20	18.50	19.87	---	---	---	18.60	17.91	17.98	18.30	18.06	17.98	17.05
21	18.40	19.74	---	---	---	18.36	17.76	17.98	18.29	18.04	17.96	17.08
22	18.41	19.65	---	---	---	18.12	17.75	17.94	18.29	18.11	17.96	16.99
23	18.38	19.46	---	---	---	18.15	17.68	17.91	18.17	18.00	17.96	17.03
24	18.44	19.46	---	---	---	18.04	17.66	18.03	18.22	17.96	18.00	17.05
25	18.52	19.55	---	---	---	17.93	17.77	18.09	18.16	17.96	17.99	17.10
26	18.52	19.21	---	---	---	18.10	17.59	18.13	18.07	17.99	18.04	17.10
27	18.53	19.08	---	---	---	18.17	17.84	18.08	18.02	18.08	17.99	17.08
28	18.41	19.13	---	---	---	17.91	17.72	18.07	18.04	17.99	17.91	17.29
29	18.49	19.08	---	---	---	17.96	17.73	18.12	18.01	18.03	17.93	17.08
30	18.52	19.15	---	---	---	18.01	17.54	18.18	18.02	18.07	17.97	17.01
31	18.46	---	---	---	---	17.76	---	18.12	---	18.10	17.99	---
MEAN	18.46	19.64	19.11	---	---	18.30	17.86	17.69	18.13	18.01	17.98	17.36
MAX	18.70	20.93	19.32	---	---	19.15	18.10	18.18	18.30	18.11	18.08	18.08
MIN	18.31	18.14	18.95	---	---	17.76	17.54	17.28	18.01	17.86	17.91	16.99

06342260 SQUARE BUTTE CREEK BELOW CENTER, ND

LOCATION.--Lat 47°03'25", long 101°11'35", in SE$^{1}/_{4}$ sec.4, T.141 N., R.83 W., Oliver County, Hydrologic Unit 10130101, on right bank at southeast corner of farmyard and 6 mi southeast of Center.

DRAINAGE AREA.--146 mi^{2}.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 1,865 ft above sea level, from topographic map.

REMARKS.--Records fair except for periods of estimated discharge, which are poor. Flow regulated by Nelson Lake 1.5 mi upstream beginning Aug. 24, 1967, capacity 5,000 acre-ft. The capacity of Nelson Lake was increased to 10,000 acre-ft in Aug. 1975.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	3.6	e1.7	e2.0	e1.7	e14	e50	2.1	4.6	e36	2.2	2.2
2	2.1	3.9	e1.8	e2.1	e1.7	e24	e21	2.2	4.7	e36	1.9	2.1
3	2.1	3.3	e1.8	e2.1	e1.6	e33	e16	2.3	4.5	e33	2.1	2.2
4	2.1	3.0	e1.8	e2.2	e1.6	e48	e16	2.2	3.2	e5.0	2.1	2.2
5	2.1	3.0	e1.9	e2.2	e1.6	e48	e22	2.3	2.4	e2.0	1.9	1.9
6	2.1	3.1	e1.9	e2.4	e1.5	e48	e92	2.3	33	e2.1	2.1	1.6
7	2.4	3.5	e1.9	e2.4	e1.5	e48	e120	2.2	85	e2.2	2.2	2.0
8	2.7	2.5	e2.0	e2.4	e1.5	e76	e125	1.7	1.3	e2.3	2.1	2.0
9	2.8	2.1	e2.0	e2.4	e1.5	e68	e125	1.9	22	e2.2	2.2	1.9
10	2.4	2.1	e1.9	e2.4	e1.4	e48	e190	2.1	128	e2.1	2.2	1.9
11	2.4	2.1	e1.9	e2.3	e1.4	e31	e150	2.2	132	e2.0	2.2	1.9
12	2.1	2.1	e1.8	e2.3	e1.3	e24	e23	2.1	126	e2.1	2.0	2.0
13	2.2	2.0	e1.8	e2.3	e1.3	e70	e2.2	2.0	53	e2.3	2.0	1.9
14	2.6	2.0	e1.7	e2.2	e1.3	e309	e2.1	2.0	5.0	e2.4	2.0	e1.8
15	2.5	2.0	e1.7	e2.2	e1.3	e252	e2.0	2.3	5.2	e2.3	2.0	e1.8
16	2.4	2.0	e1.6	e2.1	e1.2	e240	e1.9	2.3	2.0	e2.2	2.2	e1.7
17	2.4	2.0	e1.6	e2.1	e1.2	e210	e2.0	2.3	116	e2.1	2.0	e1.6
18	2.3	2.0	e1.5	e2.1	e1.2	e360	e17	2.2	131	e2.2	2.3	e1.5
19	2.2	2.0	e1.5	e2.1	e1.2	e480	e47	2.3	130	e2.3	2.2	e1.5
20	2.0	2.0	e1.4	e2.0	e1.2	e370	e50	2.5	74	2.4	2.3	e1.4
21	2.1	e1.9	e1.3	e2.0	e1.2	e130	e50	2.3	e2.4	2.8	1.9	e1.4
22	2.4	e1.9	e1.2	e2.0	e1.1	e109	e50	2.2	e2.2	3.4	2.0	e1.3
23	2.3	e1.9	e1.1	e2.0	e1.1	e96	e34	2.3	e2.2	2.1	1.9	e1.3
24	2.4	e1.8	e1.1	e1.9	e1.1	e96	e16	2.5	e2.3	2.2	2.0	e1.2
25	2.6	e1.8	e1.1	e1.9	e1.1	e96	e16	2.4	e2.2	2.3	1.9	e1.2
26	3.0	e1.8	e1.2	e1.9	e1.2	e20	e16	2.4	e2.1	2.3	2.2	e1.2
27	2.6	e1.8	e1.3	e1.9	e1.2	e2.2	e16	3.0	e2.2	2.6	2.1	e1.2
28	2.6	e1.7	e1.4	e1.9	e1.3	e32	e16	3.5	e2.3	2.1	1.5	e1.1
29	2.8	e1.7	e1.5	e1.8	---	e96	e12	3.6	e2.2	2.2	1.6	e1.1
30	2.7	e1.7	e1.7	e1.8	---	e117	e2.5	4.0	e30	2.1	2.1	e1.1
31	3.1	---	e1.9	e1.8	---	e96	---	4.0	---	2.2	2.1	---
TOTAL	74.5	68.3	50.0	65.2	37.5	3691.2	1302.7	75.7	1113.0	171.5	63.5	49.2
MEAN	2.40	2.28	1.61	2.10	1.34	119	43.4	2.44	37.1	5.53	2.05	1.64
MAX	3.1	3.9	2.0	2.4	1.7	480	190	4.0	132	36	2.3	2.2
MIN	2.0	1.7	1.1	1.8	1.1	2.2	1.9	1.7	1.3	2.0	1.5	1.1
AC-FT	148	135	99	129	74	7320	2580	150	2210	340	126	98

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2001, BY WATER YEAR (WY)

MEAN	1.55	1.45	1.40	1.36	7.38	56.6	37.2	9.61	6.94	10.4	3.03	1.62
MAX	2.98	2.99	3.35	2.10	109	216	223	47.8	65.0	175	34.5	3.64
(WY)	1981	1983	1978	2001	1996	1987	1969	1995	1966	1993	1993	1980
MIN	.24	.19	.21	.20	.089	1.24	1.00	.79	.57	.71	.83	.35
(WY)	1968	1968	1968	1968	1966	1998	1998	1989	1989	1989	1982	1967

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1965 - 2001	
ANNUAL TOTAL	2924.97		6762.3			
ANNUAL MEAN	7.99		18.5		11.6	
HIGHEST ANNUAL MEAN					30.0	1969
LOWEST ANNUAL MEAN					.86	1968
HIGHEST DAILY MEAN	188	Mar 4	480	Mar 19	2670	Jul 18 1969
LOWEST DAILY MEAN	.77	Jun 5	1.1	Dec 23	.00	Feb 14 1966
ANNUAL SEVEN-DAY MINIMUM	.84	Jun 5	1.1	Feb 19	.00	Feb 14 1966
MAXIMUM PEAK FLOW			e 480	Mar 19	9700	Jun 24 1966
MAXIMUM PEAK STAGE			unknown		14.35	Jun 24 1966
INSTANTANEOUS LOW FLOW					.00	Feb 14 1966
ANNUAL RUNOFF (AC-FT)	5800		13410		8400	
10 PERCENT EXCEEDS	17		50		7.5	
50 PERCENT EXCEEDS	2.1		2.2		1.5	
90 PERCENT EXCEEDS	1.3		1.4		.90	

e Estimated

06342260 SQUARE BUTTE CREEK BELOW CENTER, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
02...	1230	1.9	--	--	--	1430	12.9	13.5	--	--	--	--	--
NOV													
20...	1435	2.0	--	--	--	1460	--	--	--	--	--	--	--
JAN													
05...	1400	2.2	--	--	--	--	2.4	1.0	--	--	--	--	--
MAR													
19...	1220	622	7.6	7.9	1350	1380	10.0	3.0	340	56.0	48.0	15.0	4
JUL													
18...	1300	2.2	7.7	--e	1410	1510	30.0	26.0	380	82.0	43.0	8.20	5

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	180	52	253	12.0	.2	460	1600	953	924	--o	80	--o	40.0
JUL													
18...	210	54	372	10.0	.4	410	5.81	978	988	2.0	40	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
02...	--	--	--	--	--
NOV					
20...	--	--	--	--	--
JAN					
05...	--	--	--	--	--
MAR					
19...	70.0	<.10	--o	--o	880
JUL					
18...	70.0	.10	3.0	3.0	1100

e Required equipment not functional/available
o Insufficient amount of water

06342450 BURNT CREEK NEAR BISMARCK, ND

LOCATION.--Lat 46°54'54", long 100°48'48", in $SW^1/_4NW^1/_4SW^1/_4$ sec.29, T.140 N., R.80 W., Burleigh County, Hydrologic Unit 10130101, on right bank, upstream of county highway bridge, and 7 mi northwest of Bismarck.

DRAINAGE AREA.--108 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1967 to current year (seasonal records only since 1982).

GAGE.--Water-stage recorder. Elevation of gage is 1,690 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated periods, which are poor.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 620 ft^3/s, July 27, gage height, 10.28 ft; minimum daily discharge recorded, no flow, March 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e.00	23	7.3	6.3	2.7	24	.26
2	---	---	---	---	---	e.63	21	7.0	5.0	2.2	19	e.30
3	---	---	---	---	---	e1.1	22	6.7	4.0	2.0	15	.38
4	---	---	---	---	---	e1.4	32	6.4	3.5	1.8	12	.38
5	---	---	---	---	---	e2.5	54	6.7	3.8	1.4	9.9	.41
6	---	---	---	---	---	e3.8	76	7.7	5.2	1.0	7.9	.55
7	---	---	---	---	---	e4.1	77	9.4	6.3	.77	6.2	.63
8	---	---	---	---	---	e4.3	59	8.3	5.7	.37	5.1	.60
9	---	---	---	---	---	e4.7	60	7.4	4.8	.43	4.3	.54
10	---	---	---	---	---	e4.9	63	6.7	13	.33	3.5	.38
11	---	---	---	---	---	e5.1	61	6.1	15	.27	2.9	.36
12	---	---	---	---	---	e6.0	48	6.1	12	.25	2.4	.34
13	---	---	---	---	---	e45	36	6.3	13	.25	1.9	.33
14	---	---	---	---	---	145	31	5.8	15	.24	1.8	.33
15	---	---	---	---	---	161	26	5.2	17	.28	1.5	.31
16	---	---	---	---	---	165	22	5.0	15	1.8	1.1	.31
17	---	---	---	---	---	218	20	4.9	12	1.8	.81	.31
18	---	---	---	---	---	385	19	4.7	11	1.6	.57	.30
19	---	---	---	---	---	453	18	4.2	16	.68	.53	.35
20	---	---	---	---	---	423	17	4.0	15	.38	.51	.25
21	---	---	---	---	---	286	17	3.7	12	.99	.48	.32
22	---	---	---	---	---	251	16	3.5	10	11	.49	.32
23	---	---	---	---	---	145	16	3.1	8.6	37	.47	.32
24	---	---	---	---	---	76	15	2.8	7.5	27	.42	.51
25	---	---	---	---	---	75	14	2.8	7.0	17	.37	1.3
26	---	---	---	---	---	53	11	2.8	6.7	17	.35	2.0
27	---	---	---	---	---	38	8.8	2.6	6.0	440	.33	1.8
28	---	---	---	---	---	26	8.2	2.4	5.0	157	.31	1.4
29	---	---	---	---	---	25	8.0	3.1	3.9	65	.29	1.3
30	---	---	---	---	---	26	7.4	4.0	3.3	38	.29	1.2
31	---	---	---	---	---	24	---	6.1	---	30	.29	---
TOTAL	---	---	---	---	---	3058.53	906.4	162.8	268.6	860.54	125.01	18.09
MEAN	---	---	---	---	---	98.7	30.2	5.25	8.95	27.8	4.03	.60
MAX	---	---	---	---	---	453	77	9.4	17	440	24	2.0
MIN	---	---	---	---	---	.00	7.4	2.4	3.3	.24	.29	.25
AC-FT	---	---	---	---	---	6070	1800	323	533	1710	248	36

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2001, BY WATER YEAR (WY)

MEAN	.31	.26	.10	.054	13.3	46.2	31.9	4.79	2.98	3.89	1.31	.41
MAX	1.97	1.19	.66	.45	87.2	170	256	15.0	17.2	72.0	18.1	4.80
(WY)	1981	1981	1978	1979	2000	1987	1969	1995	2000	1993	1999	1999
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1968	1968	1968	1968	1968	1990	1990	1990	1977	1973	1972	1970

SUMMARY STATISTICS WATER YEARS 1968 - 2001

ANNUAL MEAN	a 7.57	
HIGHEST ANNUAL MEAN	a 22.2	1969
LOWEST ANNUAL MEAN	a .55	1977
HIGHEST DAILY MEAN	3900	Apr 18 1979
LOWEST DAILY MEAN	.00	Oct 1 1967
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 1 1967
MAXIMUM PEAK FLOW	b 10000	Apr 18 1979
MAXIMUM PEAK STAGE	16.93	Apr 18 1979
ANNUAL RUNOFF (AC-FT)	a 5490	
10 PERCENT EXCEEDS	11	
50 PERCENT EXCEEDS	.18	
90 PERCENT EXCEEDS	.00	

a Based on complete water years only (1968-81)
b From rating curve extended above 2,200 ft^3/s on basis of culvert and flow over road indirect measurement of peak flow at U.S. Highway 83
e Estimated

06342450 BURNT CREEK NEAR BISMARCK, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
02...	1450	1.0	--	--	--	1700	13.4	12.8	--	--	--	--	--
MAR													
12...	1145	5.9	8.1	--	--	1760	3.0	.00	--	--	--	--	--
14...	1430	153	8.1	7.9	609	618	3.0	.1	200	37.0	27.0	9.70	1
21...	0940	280	--	--	--	284	11.0	.2	--	--	--	--	--
30...	1040	26	--	--	--	806	4.0	2.0	--	--	--	--	--
MAY													
22...	1530	3.5	--	--	--	1430	15.0	15.5	--	--	--	--	--
JUL													
10...	1230	.33	--	--	--	1460	26.0	26.0	--	--	--	--	--
AUG													
15...	1410	1.6	8.0	8.3	1440	1320	26.0	24.5	470	80.0	65.0	8.50	3

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	47.0	32	173	5.4	.1	130	157	379	360	1.0	100	<1.00	30.0
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
15...	140	39	417	8.8	.2	380	4.03	932	934	3.0	130	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
02...	--	--	--	--	--
MAR					
12...	--	--	--	--	--
14...	80.0	<.10	<1.0	1.0	290
21...	--	--	--	--	--
30...	--	--	--	--	--
MAY					
22...	--	--	--	--	--
JUL					
10...	--	--	--	--	--
AUG					
15...	20.0	<.10	2.0	3.0	730

06342500 MISSOURI RIVER AT BISMARCK, ND

LOCATION.--Lat 46°48'51", long 100°49'12", in $SE^1/_4NW^1/_4SE^1/_4$ sec.31, T.139 N., R.80 W., Burleigh County, Hydrologic Unit 10130101, on left bank 40 ft upstream from Bismarck City waterplant, 2,100 ft downstream from Burlington Northern Railway bridge, 1.6 mi northwest of Bismarck Post Office, 3.5 mi upstream from Heart River and at mile 1,314.5.

DRAINAGE AREA.--186,400 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October to November 1927, April 1928 to current year. See WSP 1729 or 1917 for history of data prior to April 1928.

GAGE.--Water-stage recorder. Datum of gage is 1,618.28 ft above sea level, revised. See WSP 1729 or 1917 for history of changes prior to Sept. 30, 1937.

REMARKS.--Records good except for periods of estimated discharge, which are fair. Flow regulated by Lake Sakakawea (station 06338000), 75.4 mi upstream, since November 1953.

EXTREMES PRIOR TO COMPLETION OF GARRISON DAM.--Maximum discharge, 500,000 ft^3/s, Apr. 6, 1952, gage height, 27.90 ft.

EXTREMES SINCE COMPLETION OF GARRISON DAM.--Since completion of Garrison Dam in 1953, maximum discharge, 68,900 ft^3/s, July 13, 1975, gage height, 14.24 ft; maximum gage height, 14.58 ft, Dec. 18, 1979, backwater from ice.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 31.6 ft, Mar. 31, 1881, present site and datum.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15700	14700	18600	e18400	e19600	e16500	13800	12400	14100	14300	15300	14200
2	15400	14900	18600	e18500	e18300	e15700	13800	12200	13900	14600	15000	14900
3	15800	14700	18700	e18400	e19100	e15700	13600	11600	13900	14000	15000	14200
4	15300	14300	18200	e19000	e17500	e15600	14500	11800	14000	14200	14700	13800
5	14900	14300	e18500	e19000	e17700	e14900	14500	11300	14300	13900	14500	14100
6	14400	13800	e18300	e19700	e17900	e14900	14500	11400	14400	14100	14400	13400
7	14400	14500	18700	e19700	e17600	e14500	15100	11600	14500	14200	14100	12200
8	14500	18400	18100	e19200	e17800	e13500	14700	11200	14300	14100	13900	12600
9	14400	22100	19000	e19500	e17800	e14000	14900	11100	14600	13800	13900	12200
10	15000	25900	18900	e19300	e17800	e13900	15100	11700	14800	13900	13800	11600
11	14700	27300	e19000	e19500	e17600	e14400	15100	11400	14900	13700	13800	11600
12	14600	26900	e18800	e19800	e18000	e14500	15300	11100	14600	13700	14100	11300
13	14100	26500	e18900	e20000	e17500	e16200	14900	11900	14900	13800	13900	11100
14	14400	26600	e19100	e19600	e18000	e16500	14200	11200	14500	13900	13800	11000
15	14900	26900	e18800	e19300	e17800	e18800	15400	13200	14800	13900	13700	11100
16	15000	26800	e19000	e19800	e17400	e18800	14100	12600	14700	14200	13700	10400
17	14400	26600	e18700	e19600	e17400	e18600	15100	10600	14500	13800	13700	10600
18	14300	26400	e18300	e19600	e17500	e18400	14300	10800	15000	13800	13700	10200
19	14300	24800	e18800	e19400	e17600	e18800	13500	11000	e14800	13400	13900	10100
20	14300	23400	e18800	e19700	e17600	e19000	14100	11900	e14500	14000	14100	9880
21	14400	21600	e18400	e19400	e17800	e17900	14000	13800	e14300	14600	14000	9760
22	14400	21300	e18900	e19900	e17900	17800	13400	13600	e14700	14800	14000	9680
23	14200	20500	e19100	e19500	e17900	16600	13600	13000	e14900	14700	14100	9580
24	14300	19900	e18800	e19600	e17800	17100	12500	13600	15000	14000	14000	9760
25	14800	20100	e19200	e19600	e17500	15400	13300	13900	e14900	14000	14300	9610
26	14900	19500	e18800	e20200	e17600	15400	13200	14600	14800	14100	14300	10100
27	14800	18600	e19300	e19700	e16500	15400	13100	14100	14600	e14300	14500	9850
28	14800	18500	e18100	e19900	e16200	15300	13700	13800	14400	e14600	13800	9930
29	14400	18200	e19100	e19700	---	14500	13200	14000	14500	e14900	13900	10500
30	14800	18500	e18600	e19700	---	14700	12200	14400	14300	15300	13800	9600
31	14700	---	e18700	e19800	---	14700	---	14500	---	15400	14300	---
TOTAL	455300	626500	580800	604000	496700	498000	422700	385300	436400	440000	438000	338850
MEAN	14690	20880	18740	19480	17740	16060	14090	12430	14550	14190	14130	11300
MAX	15800	27300	19300	20200	19600	19000	15400	14600	15000	15400	15300	14900
MIN	14100	13800	18100	18400	16200	13500	12200	10600	13900	13400	13700	9580
AC-FT	903100	1243000	1152000	1198000	985200	987800	838400	764200	865600	872700	868800	672100

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2001, BY WATER YEAR (WY)

MEAN	21510	21510	20850	22970	25080	22690	21470	22970	24400	25380	25170	22290
MAX	48180	43240	31690	32350	34840	34370	40370	42030	43540	64610	57010	45060
(WY)	1998	1998	1970	1969	1969	1972	1972	1972	1975	1975	1975	1997
MIN	8399	8155	7890	6519	5883	6317	10420	9234	8445	10840	9271	8121
(WY)	1963	1963	1955	1955	1956	1955	1993	1963	1960	1960	1962	1962

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		a WATER YEARS 1954 - 2001	
ANNUAL TOTAL	7887600		5722550			
ANNUAL MEAN	21550		15680		23020	
HIGHEST ANNUAL MEAN					35630	1975
LOWEST ANNUAL MEAN					14320	1960
HIGHEST DAILY MEAN	27300	Nov 11	27300	Nov 11	68800	Jul 13 1975
LOWEST DAILY MEAN	13800	Nov 6	9580	Sep 23	4000	Mar 25 1955
ANNUAL SEVEN-DAY MINIMUM	14300	Oct 18	9760	Sep 21	4860	Mar 21 1955
MAXIMUM PEAK FLOW			27600	Nov 11	68900	Jul 13 1975
MAXIMUM PEAK STAGE			b 10.77	Dec 20	b 14.80	Jan 13 1983
ANNUAL RUNOFF (AC-FT)	15650000		11350000		16670000	
10 PERCENT EXCEEDS	25800		19500		34100	
50 PERCENT EXCEEDS	21800		14700		22000	
90 PERCENT EXCEEDS	15500		11900		12000	

a Since completion of Garrison Dam
b Backwater from ice
e Estimated

06342500 MISSOURI RIVER AT BISMARCK, ND--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT													
02...	1245	--	14800	707	--	--	8.3	8.3	632	620	15.3	210	50.4
MAR													
30...	1000	14700	--	706	65	7.8	7.9	7.8	670	680	4.1	230	53.7
APR													
25...	1215	--	13200	711	--	--e	--e	7.8	691	698	9.3	220	51.7
MAY													
14...	1305	--	11400	--	--	--e	7.7	--e	644	542	14.6	210	50.0
JUN													
21...	1200	--	14000	--	--	--	--	7.0	704	--	--	230	52.7
JUL													
11...	1305	13700	--	--	--	9.4	7.9	--	--	642	18.0	--	--
AUG													
21...	1230	--	14100	--	--	--	--	7.8	635	--	--	200	49.2
28...	0925	13800	--	--	--	--	8.1	--	--	609	17.5	--	--
SEP													
25...	1200	--	9500	717	--	--	8.4	--	--	650	12.6	--	--

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)
OCT													
02...	21.0	3.90	2	53.0	35	150	9.1	154	.16	.14	<.01	--	.010
MAR													
30...	22.3	4.30	62	--	--	164	14.1	163	.15	.19	.02	<.010	.085
APR													
25...	21.3	3.70	57	--	--	166	9.7	175	.17	.20	<.01	<.010	.047
MAY													
14...	20.4	3.70	55	--	--	170	9.6	168	.12	.16	<.01	<.010	.006
JUN													
21...	23.2	4.70	70	--	--	155	8.8	191	.16	.15	<.01	<.010	.065
JUL													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
21...	19.7	3.60	53	--	--	161	9.2	159	.11	.17	<.01	<.010	.076
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	TUR-BID-ITY FIELD WATER UNFLTRD (NTU) (61028)	ALUMI-NUM, TOTAL RECOVER-ABLE (UG/L) (01104)	ANTI-MONY, TOTAL (UG/L AS SB) (01097)	ARSENIC TOTAL (UG/L AS AS) (01002)
OCT													
02...	<.02	--	.15	.17	<.004	<.004	15200	--	381	--	280	<1.0	2
MAR													
30...	.1	.18	.30	.24	<.004	.033	--	421	--	--	340	<1.0	3
APR													
25...	.1	--	.26	.21	<.004	.014	--	421	--	--	180	<1.0	2
MAY													
14...	M	--	.18	.13	<1.00	.025	--	411	--	--	290	<1.0	2
JUN													
21...	.1	--	.23	.22	<.004	.037	--	446	--	--	1700	<1.0	3
JUL													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
21...	.1	--	.26	.19	<.004	.018	--	393	--	--	260	<1.0	2
28...	--	--	--	--	--	--	--	--	--	7.0	--	--	--
SEP													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--

06342500 MISSOURI RIVER AT BISMARCK, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	BARIUM, TOTAL RECOVER -ABLE (UG/L) (01009)	BERYL-LIUM TOTAL RECOVER -ABLE (UG/L) (00998)	BORON, TOTAL RECOVER -ABLE (UG/L) (00999)	CADMIUM TOTAL RECOVER -ABLE (UG/L) (01113)	CHRO-MIUM, TOTAL RECOVER -ABLE (UG/L) (01118)	COPPER, TOTAL RECOVER -ABLE (UG/L) (01119)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOVER -ABLE (UG/L) (01114)	MANGAN-ESE TOTAL RECOVER - ABLE (UG/L) (01123)	MOLYB-DENUM TOTAL RECOVER -ABLE (UG/L) (01129)	NICKEL, TOTAL RECOVER -ABLE (UG/L) (01074)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOVER -ABLE (UG/L) (01079)
OCT													
02...	58	<1	200	<1	<1	1	370	<1	10	<1	2	2.0	<1
MAR													
30...	61	<1	100	<1	<1	4	510	<1	<.01	--	3	2.5	<2
APR													
25...	59	<1	100	<1	<1	2	190	<1	<10	--	3	<1.0	<1
MAY													
14...	61	<1	200	<1	<1	2	380	<1	<10	--	3	1.1	<1
JUN													
21...	74	<1	200	<1	2	4	2020	<1	460	--	5	<1.0	<1
JUL													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
21...	53	<1	100	<1	<1	2	300	3	<10	--	3	<1.0	<1
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	THAL-LIUM, TOTAL RECOV-ERABLE (UG/L AS TL) (01128)	ZINC, TOTAL RECOVER -ABLE (UG/L) (01094)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT					
02...	--	10	--	--	--
MAR					
30...	<1.00	10	32	1270	41
APR					
25...	<1.00	10	24	858	29
MAY					
14...	<1.00	10	58	1780	19
JUN					
21...	<1.00	10	--	--	--
JUL					
11...	--	--	23	851	41
AUG					
21...	<1.00	M	--	--	--
28...	--	--	--	--	--
SEP					
25...	--	--	28	718	35

M Presence verified, not quantified
e Required equipment not functional/available

06343500 E.A. PATTERSON LAKE NEAR DICKINSON, ND

LOCATION.--Lat 46°52'11", long 102°49'37", in NE¼NW¼SW¼ sec.8, T.139 N., R.96 W., Stark County, Hydrologic Unit 10130202, at left edge of spillway, and 2 mi southwest of Dickinson.

DRAINAGE AREA.--400 mi^2, approximately.

MONTHEND-ELEVATION AND CONTENTS RECORDS

PERIOD OF RECORD.--May 1950 to current year. Prior to October 1958, published as Dickinson Reservoir near Dickinson.

GAGE.--Water-stage recorder. Datum of gage is at sea level (levels by Bureau of Reclamation). Prior to Jan. 4, 1961, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by earth-fill dam; storage began May 23, 1950; dam completed Aug. 9, 1950. Total capacity is 24,600 acre-ft at maximum pool, elevation, 2,428.9 ft. Dead storage is 1,000 acre-ft below lowest point of outlet, elevation, 2,404.0 ft. Conservation storage is 9,100 acre-ft between elevations 2,404.0 ft and 2,420.0 ft, crest of spillway. The crest of the spillway was raised 3.5 ft in 1981 from 2,416.5 ft. Figures given herein represent total contents based on capacity table dated 1991. The reservoir is for flood control, irrigation, and municipal supply.

COOPERATION.--Records furnished by U.S. Bureau of Reclamation. Extremes are those observed.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 11,590 acre-ft, June 9, 1982, elevation, 2,421.13 ft; minimum since initial filling of reservoir, 2,080 acre-ft, Feb. 8, 1993, elevation, 2,408.08 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents 9,500 acre-ft, Mar. 13, elevation, 2,420.72 ft; minimum, 4,570 acre-ft, Oct. 22, 23, 24, 27, elevation, 2,415.87 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	2,416.06	4,720	--
Oct. 31	2,416.15	4,790	+70
Nov 30	2,416.47	5,050	+260
Dec. 31	2,416.51	5,090	+40
CAL YR 2000	--	--	-1,250
Jan. 31	2,416.64	5,200	+110
Feb. 28	2,416.70	5,250	+50
Mar. 31	2,420.14	8,780	+3,530
Apr. 30	2,419.52	8,050	-730
May 31	2,418.76	7,210	-840
June 30	2,419.79	8,360	+1,150
July 31	2,420.00	8,610	+250
Aug. 31	2,419.42	7,940	-670
Sept.30	2,419.22	7,710	-230
WTR YR 2001	--	--	+2,990

06343500 E.A. PATTERSON LAKE NEAR DICKINSON, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1971, 1975, 1980 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTERVAL(IN METERS) (82047)	DEPTH TO BOTTOM OF SAMPLE INTERVAL(IN METERS) (82048)	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STANDARD UNITS) (00403)	COLOR (PLATINUM-COBALT UNITS) (00080)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SODIUM ADSORPTION RATIO (00931)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)
FEB													
15...	1055	.80	1.3	2790	8.1	60	490	84.6	67.6	12.8	10	512	69
AUG													
24...	1005	--	1.0	1220	8.3	30	210	39.5	26.6	10.8	6	188	65

DATE	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NITRATE DISSOLVED (MG/L AS N) (00618)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
FEB													
15...	437	19.4	.5	7.9	1140	.392	.010	.536	.546	.182	.179	2240	2110
AUG													
24...	190	5.6	.3	11.5	424	E.213	E.007	--	E.032	.142	E.118	854	821

DATE	BORON, DISSOLVED (UG/L AS B) (01020)
FEB	
15...	532
AUG	
24...	307

DATE	TIME	RESERVOIR DEPTH (FEET) (72025)	SAMPLING DEPTH (M) (00098)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	BAROMETRIC PRESSURE (MM OF HG) (00025)	ICE THICKNESS METERS (82131)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	TEMPERATURE AIR (DEG C) (00020)	WIND DIRECTION (DEG. FROM TRUE NORTH) (00036)
FEB													
15...	1050	19.7	.60	3020	7.6	1.5	4.9	39	696	.60	93.0	-7.0	310
15...	1051	--	1.0	2980	7.6	1.4	4.7	--	--	--	--	--	--
15...	1052	--	2.0	3000	7.6	1.5	4.6	--	--	--	--	--	--
15...	1053	--	4.0	3000	7.5	3.0	2.8	--	--	--	--	--	--
15...	1054	--	6.0	3020	7.4	3.9	1.1	--	--	--	--	--	--
AUG													
24...	0955	18.4	.00	1160	8.2	21.9	5.6	71	694	--	17.0	22.0	160
24...	0956	--	.50	1160	8.2	21.9	5.5	--	--	--	--	--	--
24...	0957	--	1.0	1160	8.2	21.9	5.6	--	--	--	--	--	--
24...	0958	--	2.0	1160	8.2	21.9	5.4	--	--	--	--	--	--
24...	0959	--	4.0	1160	8.2	21.9	5.5	--	--	--	--	--	--
24...	1000	--	5.6	1170	8.2	21.8	5.3	--	--	--	--	--	--

DATE	WIND SPEED (MILES PER HOUR) (00035)
FEB	
15...	5.0
15...	--
15...	--
15...	--
15...	--
AUG	
24...	10
24...	--
24...	--
24...	--
24...	--
24...	--

E Estimated value

06344600 GREEN RIVER NEAR NEW HRADEC, ND

LOCATION.--Lat 47°01'40", long 103°03'10", on line between secs.13 and 14, T.141 N., R.98 W., Billings County, Hydrologic Unit 10130202, on left bank above county highway bridge, and 8 mi west of New Hradec.

DRAINAGE AREA.--152 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1964 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,510 ft above sea level, from topographic map.

REMARKS--Records fair except those for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.33	1.6	1.4	e.89	e.60	e.68	12	3.4	.97	4.0	1.4	.20
2	.31	3.6	1.4	e.95	e.55	e.75	14	3.0	1.0	3.5	1.8	.20
3	.32	4.0	1.4	e1.1	e.51	e.90	15	2.8	1.0	2.8	1.7	.18
4	.32	3.5	1.5	e1.2	e.52	e1.0	14	2.7	1.0	2.3	1.4	.16
5	.37	4.2	1.4	e1.3	e.53	e1.1	14	2.4	1.3	1.7	1.3	.19
6	.41	5.0	1.4	e1.4	e.53	e1.3	34	2.4	1.4	2.1	1.4	.27
7	.43	3.8	1.5	e1.5	e.52	e1.9	410	2.1	2.3	1.8	1.4	.46
8	.47	2.8	1.5	e1.6	e.50	e2.4	230	1.7	3.0	1.6	1.1	.53
9	.58	2.2	1.5	e1.6	e.48	e15	142	1.5	2.9	1.3	.83	.55
10	.60	2.3	e1.4	e1.6	e.46	e40	277	1.2	3.1	1.0	.71	.54
11	.80	2.2	e1.4	e1.5	e.44	e75	134	1.3	3.7	1.0	.66	.48
12	.64	2.0	e1.3	e1.5	e.43	e130	62	1.4	4.9	1.3	.56	.41
13	.50	1.7	e1.2	e1.4	e.42	e280	37	1.4	8.3	1.3	.45	.36
14	.64	1.6	e1.2	e1.2	e.40	e850	25	1.5	115	1.3	.44	.64
15	.62	1.6	e1.1	e1.1	e.40	e500	19	1.3	467	1.2	.53	.59
16	.52	1.6	e1.0	e1.0	e.39	250	15	1.4	152	1.2	.53	.56
17	.51	1.6	e.94	e.95	e.39	264	12	1.6	107	1.1	.55	.59
18	.48	1.6	e.89	e.88	e.38	535	11	1.5	78	1.0	.54	.67
19	.46	1.5	e.87	e.83	e.37	542	9.5	1.5	228	1.0	.60	.57
20	.48	1.5	e.84	e.78	e.37	300	9.3	1.4	106	1.2	.57	.41
21	.59	1.6	e.80	e.75	e.36	191	9.2	1.2	60	1.3	.58	.32
22	.61	1.7	e.79	e.73	e.35	147	8.7	1.1	38	1.5	.66	.30
23	.52	1.6	e.77	e.71	e.34	88	7.9	1.1	27	1.4	.70	.26
24	.54	1.5	e.68	e.71	e.34	45	7.7	.89	20	1.4	.68	.18
25	.60	1.5	e.65	e.71	e.33	30	7.0	.55	16	.91	.61	.17
26	.62	1.5	e.69	e.73	e.32	21	6.1	.46	12	1.1	.51	.14
27	.66	1.5	e.73	e.73	e.30	16	5.6	.46	9.7	15	.45	.10
28	.68	1.6	e.76	e.71	e.46	14	5.0	.48	7.7	9.1	.45	.08
29	.79	1.4	e.81	e.68	---	13	4.5	.58	5.9	5.7	.38	.08
30	.82	1.4	e.83	e.66	---	12	4.0	.76	4.5	3.1	.25	.10
31	.85	---	e.87	e.65	---	11	---	.86	---	1.8	.21	---
TOTAL	17.07	65.2	33.52	32.05	11.99	4379.03	1561.5	45.94	1488.67	76.01	23.95	10.29
MEAN	.55	2.17	1.08	1.03	.43	141	52.0	1.48	49.6	2.45	.77	.34
MAX	.85	5.0	1.5	1.6	.60	850	410	3.4	467	15	1.8	.67
MIN	.31	1.4	.65	.65	.30	.68	4.0	.46	.97	.91	.21	.08
AC-FT	34	129	66	64	24	8690	3100	91	2950	151	48	20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2001, BY WATER YEAR (WY)

MEAN	3.18	1.74	1.00	1.33	8.86	62.1	40.6	17.6	19.6	12.5	3.62	1.71
MAX	47.7	10.6	3.40	14.3	67.4	323	314	141	101	123	29.5	21.1
(WY)	1983	1999	1999	1974	1983	1972	1975	1970	1970	1964	1981	1986
MIN	.076	.31	.13	.000	.000	.33	.71	.60	.067	.000	.000	.000
(WY)	1993	1993	1993	1993	1993	1964	1990	1992	1988	1988	1988	1994

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1964 - 2001	
ANNUAL TOTAL	785.03		7745.22			
ANNUAL MEAN	2.14		21.2		14.5	
HIGHEST ANNUAL MEAN					35.9	1972
LOWEST ANNUAL MEAN					.74	1992
HIGHEST DAILY MEAN	82	Feb 25	850	Mar 14	2700	Mar 13 1972
LOWEST DAILY MEAN	.00	Aug 24	.08	Sep 28	.00	May 25 1964
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 22	.12	Sep 24	.00	May 31 1964
MAXIMUM PEAK FLOW			1000	Mar 14	4120	May 9 1970
MAXIMUM PEAK STAGE			a 13.11	Mar 14	a 19.58	Mar 21 1997
INSTANTANEOUS LOW FLOW					.00	May 25 1964
ANNUAL RUNOFF (AC-FT)	1560		15360		10470	
10 PERCENT EXCEEDS	2.9		20		14	
50 PERCENT EXCEEDS	1.0		1.2		1.1	
90 PERCENT EXCEEDS	.20		.39		.19	

e Estimated
a Backwater from ice

06344600 GREEN RIVER NEAR NEW HRADEC, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1984 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
03...	0950	.03	--	--	--	880	7.0	11.5	--	--	--	--	--
NOV													
15...	1010	1.6	--	--	--	1720	-5.0	.5	--	--	--	--	--
JAN													
09...	1540	1.6	--	--	--	--	4.0	.8	--	--	--	--	--
MAR													
13...	1015	234	--	--	--	2640	4.0	1.0	--	--	--	--	--
21...	1640	177	7.1	--e	217	210	--	--	48	10.0	5.50	5.70	1
MAY													
02...	1520	3.0	--	--	--	965	15.0	14.0	--	--	--	--	--
JUN													
07...	0925	2.1	--	--	--	1070	19.0	16.0	--	--	--	--	--
15...	1010	548	--	--	--	497	16.0	13.0	--	--	--	--	--
JUL													
17...	1630	1.1	--	--	--	928	32.0	28.2	--	--	--	--	--
AUG													
29...	1300	.38	7.6	--e	1300	1310	19.0	21.0	220	40.0	29.0	9.20	6

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	20.0	44	72	<.1	.1	28.0	--	131	--	1.0	290	<1.00	10.0
MAY													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
29...	210	66	376	9.1	.2	320	.90	876	844	2.0	60	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
03...	--	--	--	--	--
NOV					
15...	--	--	--	--	--
JAN					
09...	--	--	--	--	--
MAR					
13...	--	--	--	--	--
21...	70.0	<.10	<1.0	1.0	110
MAY					
02...	--	--	--	--	--
JUN					
07...	--	--	--	--	--
15...	--	--	--	--	--
JUL					
17...	--	--	--	--	--
AUG					
29...	50.0	<.10	7.0	3.0	350

e Required equipment not functional/available

06345500 HEART RIVER NEAR RICHARDTON, ND

LOCATION.--Lat 46°44'46", long 102°18'27", in NE$^1/_4$NW$^1/_4$ sec.29, T.138 N., R.92 W., Stark County, Hydrologic Unit 10130202, on right bank 50 ft upstream from bridge on State Highway 8, 0.5 mi downstream from Plum Creek and 9.5 mi south of Richardton.

DRAINAGE AREA.--1,240 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1903 to September 1922, April 1943 to current year. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS (WATER YEARS).--WSP 1209: Drainage area. WSP 1239: 1906, 1918(M), 1947(M).

GAGE.--Water-stage recorder. Datum of gage is 2,153.67 ft above sea level. May 18, 1903, to Sept. 30, 1922, nonrecording gage at 3 sites in 1 mi reach below present site at different datums. Apr. 14, 1943, to July 7, 1947, nonrecording gage at present site and datum.

REMARKS.--Records good except for periods of estimated discharge, which are poor. Flow is regulated by E.A. Patterson Lake (station 06343500), 85 river miles upstream, since 1950. Some diversions for irrigation and water supply at low flow.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 5, 1938, reached a stage of about 26 ft, from information by local residents, discharge, 16,000 ft^3/s; flood of Mar. 25, 1943, reached a stage of 24.2 ft from floodmarks, discharge, 11,700 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.4	e33	e9.6	e6.9	e9.1	e5.5	116	102	24	95	184	10
2	5.3	38	e11	e6.9	e9.1	e6.0	106	81	29	93	97	11
3	6.4	63	e12	e7.0	e9.0	e9.0	103	79	28	e86	66	11
4	6.8	51	e12	e7.0	e8.9	e35	108	73	28	e73	51	10
5	7.0	36	e12	e7.1	e8.6	e70	e120	71	32	e61	42	9.7
6	8.0	29	e11	e7.0	e8.5	e110	133	75	37	e52	36	10
7	8.8	15	e11	e6.9	e8.4	e180	156	77	49	e39	33	12
8	8.5	18	e10	e6.8	e8.1	e280	237	77	58	e36	30	13
9	9.0	20	e9.0	e6.7	e8.0	e400	713	68	46	e33	27	13
10	9.8	e19	e8.6	e6.8	e7.9	e600	881	66	49	e30	25	16
11	9.3	e18	e8.2	e8.0	e7.8	e850	760	64	98	e32	23	18
12	9.0	e18	e7.7	e10	e7.6	e1200	731	62	91	e30	23	16
13	10	e18	e7.6	e11	e7.4	e2200	514	59	85	e26	24	15
14	11	16	e7.1	e11	e7.3	e2800	345	48	161	e23	21	20
15	11	16	e7.0	e11	e7.3	e2600	269	37	2380	e25	18	26
16	11	16	e7.0	e11	e7.2	e2400	216	31	1920	e29	18	38
17	11	16	e7.1	e11	e7.1	e1700	179	29	1390	e26	17	31
18	11	16	e7.2	e11	e7.1	e1900	149	34	989	e23	16	27
19	11	16	e7.2	e11	e7.1	1520	130	40	847	22	15	26
20	12	e15	e7.3	e11	e7.1	1350	123	34	633	20	14	25
21	14	e15	e7.6	e11	e7.1	1130	118	28	512	21	14	26
22	16	e14	e7.6	e11	e7.0	792	131	24	428	47	15	23
23	15	e13	e7.4	e11	e6.8	556	123	22	284	56	14	21
24	16	e13	e7.4	e11	e6.7	419	115	21	225	74	13	20
25	17	e13	e7.4	e11	e6.1	339	111	21	191	53	12	20
26	16	e13	e7.2	e10	e5.9	261	109	19	166	44	12	19
27	18	e11	e7.1	e10	e5.8	212	109	17	283	694	11	19
28	17	e10	e7.1	e10	e5.6	180	109	16	188	612	11	18
29	21	e10	e7.1	e9.6	---	159	112	17	128	1300	11	17
30	23	e10	e7.0	e9.3	---	144	112	22	103	856	11	14
31	e32	---	e6.9	e9.2	---	128	---	25	---	370	11	---
TOTAL	387.3	609	259.4	288.2	209.6	24535.5	7238	1439	11482	4981	915	554.7
MEAN	12.5	20.3	8.37	9.30	7.49	791	241	46.4	383	161	29.5	18.5
MAX	32	63	12	11	9.1	2800	881	102	2380	1300	184	38
MIN	5.3	10	6.9	6.7	5.6	5.5	103	16	24	20	11	9.7
AC-FT	768	1210	515	572	416	48670	14360	2850	22770	9880	1810	1100

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2001, BY WATER YEAR (WY)

MEAN	17.0	13.8	9.04	8.85	45.6	378	324	103	164	69.6	30.1	11.9
MAX	240	114	52.5	112	643	2125	2160	1318	1225	584	401	86.4
(WY)	1983	1983	1983	1973	1982	1945	1950	1970	1906	1969	1909	1986
MIN	.10	1.93	1.00	.000	.000	1.66	5.77	2.78	.37	.40	.000	.000
(WY)	1961	1961	1920	1962	1950	1964	1905	1992	1961	1919	1991	1958

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1903 - 2001	
ANNUAL TOTAL	5591.67		52898.7			
ANNUAL MEAN	15.3		145		98.7	
HIGHEST ANNUAL MEAN					316	1982
LOWEST ANNUAL MEAN					5.18	1961
HIGHEST DAILY MEAN	81	Mar 1	2800	Mar 14	17000	Apr 17 1950
LOWEST DAILY MEAN	.56	Sep 11	5.3	Oct 2	.00	Jul 26 1903
ANNUAL SEVEN-DAY MINIMUM	.92	Sep 8	5.9	Feb 24	.00	Jul 26 1903
MAXIMUM PEAK FLOW			3340	Jun 15	23400	Apr 16 1950
MAXIMUM PEAK STAGE			a 17.18	Mar 14	28.05	Apr 16 1950
INSTANTANEOUS LOW FLOW					.00	Jul 26 1903
ANNUAL RUNOFF (AC-FT)	11090		104900		71510	
10 PERCENT EXCEEDS	27		306		128	
50 PERCENT EXCEEDS	13		19		12	
90 PERCENT EXCEEDS	7.1		7.1		2.0	

e Estimated
a Backwater from ice

06345500 HEART RIVER NEAR RICHARDTON, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1950, 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
02...	1415	5.6	--	--	--	1340	21.5	16.0	--	--	--	--	--
NOV													
13...	1115	18	--	--	--	1820	-5.0	.00	--	--	--	--	--
JAN													
08...	1140	6.7	--	--	--	1210	3.0	.4	--	--	--	--	--
APR													
05...	1140	119	--e	7.8	1040	1100	7.5	6.0	280	56.0	33.0	9.50	4
JUN													
07...	1300	45	--	--	--	1750	24.5	19.5	--	--	--	--	--
15...	1425	2360	--	--	--	910	20.5	15.2	--	--	--	--	--
20...	0930	616	--	--	--	1200	18.0	17.2	--	--	--	--	--
JUL													
18...	1055	23	--	--	--	1730	26.0	26.5	--	--	--	--	--
27...	1345	1470	--	--	--	680	--	19.5	--	--	--	--	--
AUG													
27...	1535	11	--e	8.1	1750	1780	30.0	26.0	420	75.0	56.0	13.0	5

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
05...	140	51	166	8.6	.2	360	236	736	708	2.0	230	2.00	100
JUN													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
27...	250	56	322	17.0	.4	640	37.5	1230	1250	3.0	180	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
02...	--	--	--	--	--
NOV					
13...	--	--	--	--	--
JAN					
08...	--	--	--	--	--
APR					
05...	130	<.10	2.0	3.0	700
JUN					
07...	--	--	--	--	--
15...	--	--	--	--	--
20...	--	--	--	--	--
JUL					
18...	--	--	--	--	--
27...	--	--	--	--	--
AUG					
27...	40.0	<.10	6.0	3.0	1100

e Required equipment not functional/available

06345780 HEART RIVER ABOVE LAKE TSCHIDA NEAR GLEN ULLIN, ND

LOCATION.--Lat 46°39'24", Long 102°04'40", in SW$^{1}/_{4}$NE$^{1}/_{4}$NE$^{1}/_{4}$ sec.30, T.137 N., R.90 W., Grant County, Hydrologic Unit 10130202, on right bank 100 ft downstream from bridge on county road, and 16 mi south and 1 mi west of Hebron.

DRAINAGE AREA.--1,530 mi^{2}, approximately.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 2,090 ft above sea level, from topographic map.

REMARKS.--Records good. Flow is regulated by E.A. Patterson Lake (station 06343500) about 90 river mi upstream from station, and some diversions for irrigation and water supply at low flow.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	37	e13	e8.0	e11	e7.0	150	84	20	104	358	e15
2	8.7	68	e13	e8.0	e11	e7.0	134	77	15	86	253	e14
3	7.3	64	e13	e8.0	e11	e10	129	77	15	71	181	e13
4	6.0	98	e13	e9.0	e10	e30	130	75	15	62	140	e12
5	6.7	84	e13	e9.0	e10	e50	155	73	18	54	116	e11
6	6.1	58	e13	e10	e10	e80	202	75	20	49	95	9.5
7	6.4	36	e13	e11	e9.0	e120	299	76	25	43	79	10
8	5.9	52	e12	e12	e9.0	e180	416	78	28	40	70	13
9	7.7	33	e11	e12	e9.0	e300	541	71	38	37	62	17
10	8.7	34	e10	e12	e9.0	e400	1120	60	30	36	56	18
11	8.2	33	e10	e12	e9.0	e750	824	58	44	35	52	18
12	9.1	28	e10	e12	e9.0	e1300	707	55	97	37	47	32
13	10	28	e10	e12	e8.0	e1900	608	53	88	31	41	27
14	12	26	e10	e12	e8.0	e3000	436	51	109	28	40	36
15	12	23	e10	e12	e8.0	3780	352	40	1770	31	38	39
16	13	21	e10	e12	e8.0	3480	289	29	2570	36	35	49
17	12	19	e10	e12	e8.0	3480	240	24	1480	40	35	68
18	11	19	e10	e12	e8.0	2840	201	21	1000	31	32	61
19	11	18	e9.0	e12	e8.0	2450	168	26	812	29	e30	52
20	9.9	18	e9.0	e12	e8.0	1560	152	34	672	25	e28	48
21	8.2	18	e9.0	e12	e8.0	1230	138	29	508	25	e26	45
22	8.2	17	e9.0	e12	e8.0	893	134	21	487	33	e24	46
23	16	16	e9.0	e12	e8.0	633	142	17	380	84	e23	41
24	20	15	e9.0	e12	e8.0	483	128	16	308	90	e22	37
25	21	e14	e9.0	e12	e7.0	410	119	15	262	125	e21	34
26	22	e14	e9.0	e12	e7.0	349	112	15	216	107	e19	33
27	23	e14	e9.0	e12	e7.0	290	106	14	213	1520	e19	33
28	26	e13	e9.0	e12	e7.0	245	100	12	260	1030	e18	31
29	25	e13	e8.0	e11	---	215	94	11	189	1050	e17	30
30	27	e13	e8.0	e11	---	192	91	18	139	1010	e16	28
31	28	---	e8.0	e11	---	169	---	18	---	534	e15	---
TOTAL	407.1	944	318.0	348.0	241.0	30833.0	8417	1323	11828	6513	2008	920.5
MEAN	13.1	31.5	10.3	11.2	8.61	995	281	42.7	394	210	64.8	30.7
MAX	28	98	13	12	11	3780	1120	84	2570	1520	358	68
MIN	5.9	13	8.0	8.0	7.0	7.0	91	11	15	25	15	9.5
AC-FT	807	1870	631	690	478	61160	16700	2620	23460	12920	3980	1830

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2001, BY WATER YEAR (WY)

MEAN	22.3	22.2	14.4	10.1	43.2	375	143	86.7	111	82.1	53.0	13.5
MAX	104	95.3	57.7	25.2	205	1587	582	391	394	265	252	44.2
(WY)	1999	1999	1999	1996	1996	1997	1997	1995	2001	1993	1995	1995
MIN	2.23	6.52	4.14	.32	3.41	18.5	9.90	6.20	7.21	3.16	.050	.10
(WY)	1992	1991	1993	1991	1989	1990	1992	1992	1992	1989	1991	1991

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1988 - 2001	
ANNUAL TOTAL	10512.68		64100.6			
ANNUAL MEAN	28.7		176		82.7	
HIGHEST ANNUAL MEAN					229	1997
LOWEST ANNUAL MEAN					9.17	1992
HIGHEST DAILY MEAN	195	Mar 2	3780	Mar 15	11000	Mar 22 1997
LOWEST DAILY MEAN	.64	Sep 20	5.9	Oct 8	.00	Sep 1 1991
ANNUAL SEVEN-DAY MINIMUM	.83	Sep 14	6.6	Oct 3	.00	Aug 30 1991
MAXIMUM PEAK FLOW			4180	Mar 15	a 11500	Mar 22 1997
MAXIMUM PEAK STAGE			15.00	Mar 15	b 26.74	Mar 21 1997
ANNUAL RUNOFF (AC-FT)	20850		127100		59910	
10 PERCENT EXCEEDS	53		388		126	
50 PERCENT EXCEEDS	20		26		17	
90 PERCENT EXCEEDS	8.2		8.9		2.4	

a About
b Backwater from ice
e Estimated

06345780 HEART RIVER ABOVE LAKE TSCHIDA NEAR GLEN ULLIN, ND--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
02...	1220	9.2	--	--	--	1110	17.5	13.5	--	--	--	--	--
NOV													
15...	1410	22	--	--	--	1930	-1.5	.5	--	--	--	--	--
JAN													
11...	1155	12	--	--	--	1190	3.0	.5	--	--	--	--	--
MAR													
12...	1245	1290	--	--	--	422	6.0	.5	--	--	--	--	--
21...	1730	1220	8.0	--e	441	--e	15.0	5.0	98	21.0	11.0	8.30	2
MAY													
03...	1620	76	--	--	--	1550	21.5	15.5	--	--	--	--	--
JUL													
24...	1445	86	--	--	--	1680	22.0	24.0	--	--	--	--	--
27...	1700	2320	--	--	--	620	26.0	20.6	--	--	--	--	--
AUG													
27...	1245	18	--e	8.1	1780	1790	28.0	20.5	420	77.0	55.0	13.0	6

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	40.0	45	111	4.8	.1	98.0	847	257	250	2.0	320	2.00	100
MAY													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
27...	260	57	358	11.0	.4	630	59.7	1250	1260	3.0	150	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
02...	--	--	--	--	--
NOV					
15...	--	--	--	--	--
JAN					
11...	--	--	--	--	--
MAR					
12...	--	--	--	--	--
21...	80.0	<.10	2.0	3.0	230
MAY					
03...	--	--	--	--	--
JUL					
24...	--	--	--	--	--
27...	--	--	--	--	--
AUG					
27...	30.0	.10	6.0	3.0	1100

e Required equipment not functional/available

06346000 LAKE TSCHIDA NEAR GLEN ULLIN, ND

LOCATION.--Lat 46°35'43", long 101°48'34", in SW¼ NE¼ sec.13, T.136 N., R.89 W., Grant County, Hydrologic Unit 10130202, 10 mi upstream from Heart Butte Creek, and 14 mi north of Elgin.

DRAINAGE AREA.--1,710 mi^2, approximately.

MONTHEND-ELEVATION AND CONTENTS RECORDS

PERIOD OF RECORD.--August 1949 to current year. Prior to October 1957, published as Heart Butte Reservoir near Glen Ullin.

GAGE.--Water-stage recorder. Datum of gage is at sea level (levels by Bureau of Reclamation).

REMARKS.--Reservoir is formed by earth-fill dam; storage began Sept. 29, 1949; dam completed Dec. 9, 1949. Total capacity is 430,000 acre-ft at maximum pool, elevation, 2,118.2 ft. Dead storage is 6,750 acre-ft below lowest point of outlet, elevation, 2,030.0 ft. Active conservation storage is 69,030 acre-ft between elevations 2,030.0 ft and 2,064.5 ft, crest of spillway. Figures given herein represent total contents based on capacity table dated August 1992.

Controlled releases are through 4 by 5 ft slide gate. The spillway is uncontrolled "glory hole" type and discharges through a conduit 14 ft in diameter. The reservoir is for flood control, irrigation, and incidental water supply.

COOPERATION.--Records furnished by U.S. Bureau of Reclamation. Extremes are those observed.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 174,000 acre-ft, Apr. 9, 1952, elevation, 2,086.23 ft; minimum since first reaching spillway level, 32,820 acre-ft, Oct. 25, 1991, elevation, 2,049.00 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 79,360 acre-ft, Mar. 19, elevation, 2,068.04 ft; minimum, 51,760 acre-ft, Mar. 2-3; elevation, 2,059.51 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	2,060.90	55,830	--
Oct. 31	2,061.03	56,220	+390
Nov. 30	2,061.01	56,160	-60
Dec. 31	2,060.47	54,550	-1,610
CAL YR 2000	--	--	-4,430
Jan. 31	2,059.94	53,000	-1,550
Feb. 28	2,059.52	51,790	-1,210
Mar. 31	2,064.82	68,200	+16,410
Apr. 30	2,064.86	68,340	+140
May 31	2,063.92	65,240	-3,100
June 30	2,064.97	68,700	+3,460
July 31	2,066.18	72,810	+4,110
Aug. 31	2,062.60	61,030	-11,780
Sept.30	2,061.58	57,880	-3,150
WTR YR 2001	--	--	+2,050

06346000 LAKE TSCHIDA NEAR GLEN ULLIN, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1971, 1980 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTERVAL(IN METERS) (82047)	DEPTH TO BOTTOM OF SAMPLE INTERVAL(IN METERS) (82048)	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STANDARD UNITS) (00403)	COLOR (PLATINUM-COBALT UNITS) (00080)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SODIUM ADSORPTION RATIO (00931)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)
FEB													
15...	1230	.80	1.3	2030	8.2	40	480	77.0	68.8	11.0	6	283	56
AUG													
24...	1155	--	1.0	1170	8.5	10	290	51.6	38.6	9.96	4	152	52

DATE	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	BORON, DISSOLVED (UG/L AS B) (01020)
FEB													
15...	325	16.5	.4	2.5	747	.126	E.003	.145	E.039	.025	1480	1400	425
AUG													
24...	202	7.5	.3	7.8	409	.080	E.005	.058	E.034	E.015	814	798	247

DATE	TIME	RESERVOIR DEPTH (FEET) (72025)	SAMPLING DEPTH (M) (00098)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	BAROMETRIC PRESSURE (MM OF HG) (00025)	ICE THICKNESS METERS (82131)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	TEMPERATURE AIR (DEG C) (00020)	WIND DIRECTION (DEG. FROM TRUE NORTH) (00036)
FEB													
15...	1220	43.0	.70	2100	8.0	1.9	11.4	90	703	.60	96.0	-9.0	310
15...	1221	--	2.0	2090	8.0	2.2	11.0	--	--	--	--	--	--
15...	1222	--	4.0	2090	8.0	2.2	10.8	--	--	--	--	--	--
15...	1223	--	6.0	2080	7.9	3.2	8.5	--	--	--	--	--	--
15...	1224	--	8.0	2070	7.9	3.2	9.2	--	--	--	--	--	--
15...	1225	--	10.0	2090	7.9	3.5	9.3	--	--	--	--	--	--
15...	1226	--	12.0	2110	7.8	3.6	8.3	--	--	--	--	--	--
15...	1227	--	13.1	2100	7.7	3.7	7.5	--	--	--	--	--	--
AUG													
24...	1140	44.9	.00	1120	8.3	22.5	6.7	85	698	--	40.0	25.0	170
24...	1141	--	1.0	1120	8.3	22.5	6.7	--	--	--	--	--	--
24...	1142	--	2.0	1120	8.3	22.5	6.6	--	--	--	--	--	--
24...	1143	--	3.0	1120	8.4	22.5	6.5	--	--	--	--	--	--
24...	1144	--	5.0	1120	8.4	22.5	6.5	--	--	--	--	--	--
24...	1145	--	7.0	1120	8.4	22.5	6.4	--	--	--	--	--	--
24...	1146	--	8.0	1120	8.4	22.5	6.2	--	--	--	--	--	--
24...	1147	--	10.0	1130	7.8	22.1	2.6	--	--	--	--	--	--
24...	1148	--	12.0	1160	7.6	18.5	.3	--	--	--	--	--	--
24...	1149	--	13.7	1170	7.5	17.4	.6	--	--	--	--	--	--

DATE	WIND SPEED (MILES PER HOUR) (00035)
FEB	
15...	10
15...	--
15...	--
15...	--
15...	--
15...	--
15...	--
15...	--
AUG	
24...	14
24...	--
24...	--
24...	--
24...	--
24...	--
24...	--
24...	--
24...	--
24...	--

E Estimated value

06347000 ANTELOPE CREEK NEAR CARSON, ND

LOCATION.--Lat 46°32'43", long 101°38'42", in NE$^1/_4$NE$^1/_4$NW$^1/_4$ sec.5, T.135 N., R.87 W., Grant County, Hydrologic Unit 10130203, on right bank 90 ft upstream from bridge on county road, and 9 mi northwest of Carson.

DRAINAGE AREA.--221 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1948 to October 1975, February 1999 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,960 ft above sea level, from topographic map. Prior to June 23, 1958, wire weight gage at site 1 mile upstream and June 24, 1958, to Sept. 30, 1975, 1.15 miles upstream at datum 14 ft higher.

REMARKS.--Records good.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, about 2,790 ft^3/s, July 27, gage height, 16.67 ft; minimum daily discharge, 0.55 ft^3/s, Sept. 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	e2.7	e2.6	7.9	7.6	7.2	6.8	76	.93
2	---	---	---	---	e2.7	e2.4	7.7	7.2	6.6	6.0	56	.84
3	---	---	---	---	e2.7	e2.9	7.5	7.0	5.8	5.5	40	.70
4	---	---	---	---	e2.6	e3.0	13	8.1	5.9	4.7	29	.81
5	---	---	---	---	e2.6	e4.0	14	8.2	9.2	4.1	21	.66
6	---	---	---	---	e2.6	e6.0	15	10	9.2	3.8	19	.55
7	---	---	---	---	e2.6	e40	26	9.7	8.9	3.4	14	1.1
8	---	---	---	---	e2.6	e120	24	8.7	8.9	3.0	13	1.3
9	---	---	---	---	e2.6	e210	33	8.7	8.6	2.5	11	1.7
10	---	---	---	---	e2.6	e430	40	8.7	11	2.1	8.8	1.2
11	---	---	---	---	e2.6	e380	59	8.4	9.2	2.1	7.1	1.4
12	---	---	---	---	e2.6	e330	61	7.9	7.4	1.9	5.9	1.4
13	---	---	---	---	e2.6	e220	47	7.4	7.5	2.3	5.3	1.4
14	---	---	---	---	e2.6	e280	33	6.8	11	2.7	4.5	8.6
15	---	---	---	---	e2.6	e240	24	6.3	21	2.6	3.8	10
16	---	---	---	---	e2.6	189	19	5.8	21	3.3	3.5	7.9
17	---	---	---	---	e2.5	132	15	5.7	104	3.5	3.5	6.8
18	---	---	---	---	e2.6	110	13	5.3	79	2.6	3.2	6.2
19	---	---	---	---	e2.5	95	12	5.2	57	2.4	3.3	4.9
20	---	---	---	---	e2.5	71	12	5.4	49	2.9	3.0	5.0
21	---	---	---	---	e2.5	65	11	5.2	83	7.6	2.8	4.5
22	---	---	---	---	e2.5	45	11	4.8	52	7.4	3.0	4.2
23	---	---	---	---	e2.5	38	10	4.6	35	7.2	2.6	2.8
24	---	---	---	---	e2.5	37	10	5.0	26	4.8	2.0	2.1
25	---	---	---	---	e2.5	31	9.7	4.9	22	8.1	1.9	2.4
26	---	---	---	---	e2.5	30	9.3	4.5	18	210	1.7	2.5
27	---	---	---	---	e2.5	26	9.2	4.3	14	955	1.4	2.7
28	---	---	---	---	e2.6	18	9.1	4.2	12	620	1.4	2.6
29	---	---	---	---	---	18	8.3	4.1	9.5	411	1.2	2.6
30	---	---	---	---	---	17	7.6	8.6	8.2	183	1.2	2.8
31	---	---	---	---	---	8.7	---	8.6	---	112	1.0	---
TOTAL	---	---	---	---	72.1	3201.6	578.3	206.9	727.1	2594.3	351.1	92.59
MEAN	---	---	---	---	2.58	103	19.3	6.67	24.2	83.7	11.3	3.09
MAX	---	---	---	---	2.7	430	61	10	104	955	76	10
MIN	---	---	---	---	2.5	2.4	7.5	4.1	5.8	1.9	1.0	.55

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 2001, BY WATER YEAR (WY)

MEAN	1.36	2.10	1.45	2.11	7.31	52.3	59.4	24.3	23.5	13.0	4.01	1.18
MAX	6.44	9.41	5.79	32.6	65.1	183	422	208	96.3	155	52.2	6.40
(WY)	1973	1973	2000	1973	1999	1951	1950	1970	1971	1969	1952	1955
MIN	.000	.32	.15	.000	.000	1.48	2.00	1.56	1.84	.003	.000	.000
(WY)	1960	1960	1962	1950	1949	1965	1961	1961	1959	1961	1958	1948

SUMMARY STATISTICS	WATER YEARS 1948 - 2001	
ANNUAL MEAN	a 15.6	
HIGHEST ANNUAL MEAN	a 47.1	1952
LOWEST ANNUAL MEAN	a 2.78	1961
HIGHEST DAILY MEAN	4400	Apr 17 1950
LOWEST DAILY MEAN	.00	Aug 24 1948
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 24 1948
MAXIMUM PEAK FLOW	b 11100	Apr 16 1950
MAXIMUM PEAK STAGE	b 17.95	Apr 16,1950
10 PERCENT EXCEEDS	20	
50 PERCENT EXCEEDS	1.7	
90 PERCENT EXCEEDS	.00	

e Estimated
a Based on complete water years only (1949-75, 2000)
b Former site, 1 mile upstream, from floodmark, from rating curve extended above 1,100 ft^3/s on basis of slope-area measurement of peak flow

06347000 ANTELOPE CREEK NEAR CARSON, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
16...	1535	2.6	--	--	--	755	13.0	10.5	--	--	--	--	--
DEC													
04...	1310	7.8	--	--	--	695	-5.0	.00	--	--	--	--	--
MAR													
19...	1400	116	--	--	--	543	14.5	2.3	--	--	--	--	--
30...	1410	17	8.2	8.1	772	--	7.0	2.0	280	52.0	36.0	8.30	2
MAY													
08...	1615	8.5	--	--	--	1340	25.0	16.0	--	--	--	--	--
JUN													
26...	1715	16	--	--	--	1430	26.0	26.0	--	--	--	--	--
JUL													
26...	1345	15	--	--	--	870	30.0	23.5	--	--	--	--	--
AUG													
23...	1350	3.2	7.4	--e	1180	1220	29.5	26.0	430	73.0	59.0	12.0	2

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	63.0	32	224	4.9	.2	190	22.1	492	490	2.0	90	2.00	100
MAY													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
23...	110	35	349	9.5	.3	320	7.02	812	794	2.0	200	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
16...	--	--	--	--	--
DEC					
04...	--	--	--	--	--
MAR					
19...	--	--	--	--	--
30...	60.0	<.10	2.0	3.0	580
MAY					
08...	--	--	--	--	--
JUN					
26...	--	--	--	--	--
JUL					
26...	--	--	--	--	--
AUG					
23...	40.0	<.10	3.0	3.0	880

e Required equipment not functional/available

06347500 BIG MUDDY CREEK NEAR ALMONT, ND

LOCATION.--Lat 46°41'40", long 101°28'01", in NE$^1/_4$NE$^1/_4$SE$^1/_4$ sec.12, T.137 N., R.86 W., Morton County, Hydrologic Unit 10130203, on left bank 50 ft downstream from county highway bridge, 2 mi downstream from Hailstone Creek, 3 mi southeast of Almont and 12 mi upstream from mouth.

DRAINAGE AREA.--456 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1945 to September 1970, October 1970 to September 1973 (annual maximum discharge), February 1991 to current year (seasonal records only since February 1991).

GAGE.--Water-stage recorder. Elevation of gage is 1,864 ft above sea level, by barometer. Prior to Sept. 5, 1952, nonrecording gage at same site and datum.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,080 ft^3/s, March 15, gage height, 13.60 ft; minimum daily discharge recorded, 0.95 ft^3/s, Sept. 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	---	---	---	e3.7	e3.6	30	14	11	22	32	e1.4
2	1.5	---	---	---	e3.7	e3.3	30	13	8.8	20	25	e1.3
3	1.3	---	---	---	e3.7	e3.9	29	12	7.5	18	e21	e1.1
4	1.1	---	---	---	e3.6	e3.7	36	11	7.5	16	e18	e1.3
5	1.8	---	---	---	e3.5	e4.2	84	10	10	14	e15	e1.1
6	1.8	---	---	---	e3.5	e6.7	123	10	21	13	12	e.95
7	2.0	---	---	---	e3.6	e44	117	9.1	27	11	11	e1.5
8	1.8	---	---	---	e3.6	e187	107	7.9	31	11	e10	e1.8
9	1.9	---	---	---	e3.6	e407	134	7.4	35	9.9	e9.0	e2.2
10	2.0	---	---	---	e3.5	e600	e184	6.6	24	9.0	e8.1	e1.8
11	2.0	---	---	---	e3.5	e550	e195	6.7	20	8.1	e7.3	e2.8
12	2.4	---	---	---	e3.5	e500	e145	7.1	23	8.1	e6.6	e3.0
13	3.0	---	---	---	e3.6	e550	96	6.8	30	e8.7	e6.1	e3.3
14	3.3	---	---	---	e3.5	859	69	6.3	31	e9.2	e5.5	e11
15	3.2	---	---	---	e3.5	870	54	5.7	44	e9.3	e5.1	e12
16	---	---	---	---	e3.6	e580	45	5.5	66	e9.3	e4.8	e11
17	---	---	---	---	e3.4	e350	39	5.4	105	e9.7	e4.5	e9.0
18	---	---	---	---	e3.6	e250	33	5.1	81	e8.7	e4.2	e7.8
19	---	---	---	---	e3.4	e185	30	5.0	86	e8.2	e4.0	e6.5
20	---	---	---	---	e3.4	e149	31	5.0	176	e9.5	e3.8	e5.7
21	---	---	---	---	e3.5	e132	30	5.0	116	e13	e3.6	e5.2
22	---	---	---	---	e3.5	e108	27	4.7	85	16	e3.5	e5.0
23	---	---	---	---	e3.5	e82	25	e4.4	69	23	e3.1	e4.4
24	---	---	---	---	e3.4	64	23	e4.6	55	65	e2.8	e3.0
25	---	---	---	---	e3.4	59	20	4.6	46	65	e2.6	e3.3
26	---	---	---	---	e3.4	51	19	4.7	39	e49	e2.3	e3.4
27	---	---	---	---	e3.4	42	18	5.4	35	e59	e2.2	e3.5
28	---	---	---	---	e3.6	37	17	5.5	35	73	e2.0	e3.5
29	---	---	---	---	---	33	16	5.4	30	193	e1.9	e3.5
30	---	---	---	---	---	33	15	10	25	81	e1.8	e3.5
31	---	---	---	---	---	32	---	12	---	45	e1.6	---
TOTAL	30.6	---	---	---	98.7	6779.4	1821	225.9	1379.8	914.7	240.4	124.85
MEAN	2.04	---	---	---	3.52	219	60.7	7.29	46.0	29.5	7.75	4.16
MAX	3.3	---	---	---	3.7	870	195	14	176	193	32	12
MIN	1.1	---	---	---	3.4	3.3	15	4.4	7.5	8.1	1.6	.95
AC-FT	61	---	---	---	196	13450	3610	448	2740	1810	477	248

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2001, BY WATER YEAR (WY)

MEAN	1.20	1.60	1.33	1.08	20.6	151	152	47.4	40.7	44.1	8.74	2.98
MAX	2.61	3.19	2.48	4.59	220	909	1160	540	405	1042	75.4	15.2
(WY)	1952	1952	1952	1947	1995	1997	1950	1970	1966	1993	1998	1953
MIN	.39	.58	.35	.065	.000	.73	1.48	1.01	.43	.042	.12	.35
(WY)	1962	1961	1949	1949	1966	1965	1992	1961	1961	1961	1961	1991

SUMMARY STATISTICS	WATER YEARS 1946 - 2001	
ANNUAL MEAN	a 37.0	
HIGHEST ANNUAL MEAN	a 112	1950
LOWEST ANNUAL MEAN	a 1.41	1961
HIGHEST DAILY MEAN	15000	Apr 17 1950
LOWEST DAILY MEAN	.00	Jan 28 1946
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 28 1946
MAXIMUM PEAK FLOW	20200	Apr 17 1950
MAXIMUM PEAK STAGE	30.99	Jul 23 1993
ANNUAL RUNOFF (AC-FT)	a 26790	
10 PERCENT EXCEEDS	47	
50 PERCENT EXCEEDS	2.1	
90 PERCENT EXCEEDS	.40	

a Based on complete water years only (1946-70)
e Estimated

06347500 BIG MUDDY CREEK NEAR ALMONT, ND--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
16...	1300	4.8	--	--	--	1370	16.0	9.0	--	--	--	--	--
APR													
02...	1145	31	7.3	7.6	1590	980	5.0	2.5	300	52.0	40.0	12.0	6
MAY													
10...	1410	6.6	--	--	--	2490	18.0	15.5	--	--	--	--	--
JUN													
20...	1445	186	--	--	--	2620	24.0	19.5	--	--	--	--	--
JUL													
26...	1140	48	--	--	--	1840	24.0	23.0	--	--	--	--	--
AUG													
23...	1105	2.9	7.7	--e	2140	2160	25.5	24.0	290	48.0	41.0	12.0	10

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
02...	250	64	337	5.5	.3	510	92.6	1110	1070	3.0	240	2.00	100
MAY													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
23...	400	74	626	5.5	.8	580	11.5	1470	1460	7.0	50	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
16...	--	--	--	--	--
APR					
02...	150	<.10	2.0	3.0	650
MAY					
10...	--	--	--	--	--
JUN					
20...	--	--	--	--	--
JUL					
26...	--	--	--	--	--
AUG					
23...	30.0	<.10	7.0	3.0	690

e Required equipment not functional/available

06348300 HEART RIVER AT STARK BRIDGE NEAR JUDSON, ND

LOCATION.--Lat 46°42'11", long 101°12'37", in $SE^1/_4SW^1/_4SW^1/_4$ sec.6, T.137 N., R.83 W., Morton County, Hydrologic Unit 10130203, on right bank 50 ft upstream from county bridge, and 9.5 mi southeast of Judson.

DRAINAGE AREA.--2,930 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1986 to September 1988 (annual maximum discharges only), October 1988 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,720 ft above sea level, from topographic map.

REMARKS.--Records good except for periods of estimated discharge, which are poor. Flow regulated by Lake Tschida (06346000) since 1949.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	31	e42	e41	e37	e39	727	211	e110	261	1540	124
2	25	37	e41	e42	e37	e39	679	187	e108	231	1320	97
3	23	43	e40	e45	e39	e40	639	174	e104	208	1160	92
4	22	81	e40	e48	e39	e43	656	155	e109	191	1050	90
5	23	94	e40	e46	e38	e46	654	e160	e118	174	872	87
6	24	95	e40	e45	e38	e60	471	e175	e127	158	428	85
7	24	102	e40	e44	e38	e110	498	e190	e114	142	332	88
8	24	87	e40	e43	e38	e200	492	e170	e111	128	288	94
9	23	e82	e40	e42	e38	e500	498	e155	e103	111	259	93
10	23	e78	e40	e41	e38	e550	555	e140	e108	98	242	91
11	23	e74	e40	e40	e37	e600	771	e130	e111	85	232	91
12	23	e70	e40	e40	e37	e780	918	e124	e102	79	220	89
13	25	e67	e40	e40	e37	e1000	893	e118	101	112	212	88
14	25	e64	e40	e40	e37	e1300	868	e111	109	103	202	103
15	26	e62	e40	e39	e37	e1600	831	e104	144	136	193	115
16	25	e60	e40	e39	e37	e1900	770	e102	245	157	185	114
17	25	e58	e40	e39	e37	e2100	697	e99	303	148	180	106
18	24	e56	e40	e39	e37	e2500	615	e98	657	127	170	101
19	25	e55	e40	e39	e37	2450	546	e97	1050	126	164	97
20	25	e54	e40	e39	e37	2360	501	e95	1170	166	163	97
21	23	e53	e40	e39	e37	2170	460	e98	1260	163	162	79
22	e23	e52	e40	e39	e37	1980	418	e113	1180	202	163	95
23	e22	e51	e40	e39	e37	1790	369	e119	1060	204	162	95
24	22	e50	e40	e39	e37	1640	328	e111	1010	190	158	94
25	23	e50	e40	e39	e37	1530	305	e106	968	228	154	92
26	24	e49	e40	e39	e37	1380	279	e94	885	285	152	92
27	24	e48	e40	e38	e37	1180	259	e92	944	5470	151	91
28	23	e46	e40	e38	e38	1050	243	e89	917	2390	145	91
29	25	e45	e40	e38	---	931	232	e91	852	1630	144	90
30	25	e43	e40	e38	---	849	215	e99	353	1480	142	90
31	27	---	e40	e38	---	792	---	e106	---	1440	142	---
TOTAL	744	1837	1243	1255	1047	33509	16387	3913	14533	16623	11087	2851
MEAN	24.0	61.2	40.1	40.5	37.4	1081	546	126	484	536	358	95.0
MAX	27	102	42	48	39	2500	918	211	1260	5470	1540	124
MIN	22	31	40	38	37	39	215	89	101	79	142	79

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2001, BY WATER YEAR (WY)

MEAN	65.1	46.5	31.9	24.1	106	703	410	213	157	259	157	70.4
MAX	254	131	94.9	59.0	578	3050	2468	800	484	1479	674	192
(WY)	1995	1999	1999	1996	1995	1997	1997	1995	2001	1993	1998	1995
MIN	12.3	14.1	7.07	.34	4.19	37.1	15.0	16.3	14.5	28.8	19.7	11.7
(WY)	1993	1989	1991	1991	1993	1990	1990	1992	1990	1990	1992	1992

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1989 - 2001	
ANNUAL TOTAL	25086		105029			
ANNUAL MEAN	68.5		288		188	
HIGHEST ANNUAL MEAN					569	1997
LOWEST ANNUAL MEAN					22.3	1990
HIGHEST DAILY MEAN	600	Mar 4	5470	Jul 27	15000	Mar 23 1997
LOWEST DAILY MEAN	22	Oct 4	22	Oct 4	.21	Jan 1 1991
ANNUAL SEVEN-DAY MINIMUM	23	Oct 21	23	Oct 21	.22	Dec 31 1990
MAXIMUM PEAK FLOW			8210	Jul 27	a 18000	Mar 23 1997
MAXIMUM PEAK STAGE			15.34	Jul 27	b,c 21.90	Mar 23 1997
10 PERCENT EXCEEDS	99		903		373	
50 PERCENT EXCEEDS	51		95		49	
90 PERCENT EXCEEDS	31		37		11	

a About
b Backwater from ice
c Maximum recorded
e Estimated

06348300 HEART RIVER AT STARK BRIDGE NEAR JUDSON, ND--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
17...	1140	25	--	--	--	1070	15.5	9.0	--	--	--	--	--
JAN													
22...	1450	39	--	--	--	1010	3.0	.2	--	--	--	--	--
MAR													
17...	1600	2030	--	--	--	1030	11.0	2.5	--	--	--	--	--
21...	1125	2230	7.6	7.7	1050	1040	12.0	4.0	240	43.0	33.0	12.0	4
APR													
24...	1220	327	--	--	--	1170	20.0	11.0	--	--	--	--	--
JUN													
12...	1200	100	--	--	--	1550	23.0	22.5	--	--	--	--	--
22...	1430	1100	--	--	--	1430	26.0	22.4	--	--	--	--	--
AUG													
20...	1145	163	--e	8.3	1360	1370	22.0	21.8	330	63.0	42.0	12.0	4
SEP													
26...	1350	90	--	--	--	1380	23.0	16.0	--	--	--	--	--

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	130	52	185	8.5	.2	340	4200	698	679	2.0	390	2.00	100
APR													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
20...	170	52	281	9.6	.3	450	419	951	916	2.0	50	2.00	100
SEP													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
17...	--	--	--	--	--
JAN					
22...	--	--	--	--	--
MAR					
17...	--	--	--	--	--
21...	50.0	<.10	2.0	3.0	540
APR					
24...	--	--	--	--	--
JUN					
12...	--	--	--	--	--
22...	--	--	--	--	--
AUG					
20...	40.0	<.10	4.0	3.0	760
SEP					
26...	--	--	--	--	--

e Required equipment not functional/available

06349000 HEART RIVER NEAR MANDAN, ND

LOCATION.--Lat 46°50'02", long 100°58'27", in NW$^1/_4$NE$^1/_4$ sec.25, T.139 N., R.82 W., Morton County, Hydrologic Unit 10130203, on left bank near downstream wingwall of bridge on county highway, 3 mi west of Mandan and 4 mi downstream from Sweetbriar Creek.

DRAINAGE AREA.--3,310 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April to September 1924, March 1928 to June 1933, August 1937 to current year. Published as "at Sunny" 1924, 1928-33.

REVISED RECORDS.--WSP 926: 1938. WSP 1209: Drainage area. WSP 1239: 1924, 1928-29, 1948.

GAGE.--Water-stage recorder. Datum of gage is 1,638.70 ft above sea level and 1,623.03 ft above Burlington Northern Railway datum. See WSP 1729 or 1917 for history of changes prior to June 30, 1958.

REMARKS.--Records good except for periods of estimated discharge, which are poor. Flow regulated by Lake Tschida (station 06346000), 105 mi upstream, since 1949. Some diversions above station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	49	e53	e49	e44	e40	1030	357	164	462	2040	207
2	34	58	e52	e49	e45	e40	962	342	172	377	1890	179
3	29	71	e51	e50	e45	e41	914	e305	169	331	1640	137
4	26	78	e51	e52	e44	e44	917	e282	164	294	1430	128
5	23	121	e50	e53	e44	e47	982	e261	176	266	1270	122
6	21	158	e50	e55	e44	e111	945	e274	196	238	917	112
7	22	154	e49	e55	e43	e151	889	e294	216	212	568	114
8	56	e123	e49	e53	e43	e182	868	e320	205	184	485	125
9	25	e109	e49	e51	e42	e222	862	e284	226	165	434	127
10	27	e104	e49	e50	e41	e324	909	e259	284	143	399	123
11	29	e100	e49	e50	e40	e435	1130	237	266	120	380	121
12	29	e97	e49	e49	e39	e726	1230	230	277	101	362	117
13	31	e90	e49	e48	e39	e1110	1200	220	254	87	345	113
14	31	e87	e49	e48	e39	e1470	1120	212	235	124	329	125
15	34	e85	49	e47	e39	e1770	1060	203	269	116	316	145
16	33	e81	e49	e47	e39	e2130	987	187	307	167	303	154
17	32	e79	e49	e47	e39	e2400	911	186	464	186	295	151
18	31	e77	e49	e47	e39	e2850	830	184	524	172	291	137
19	35	e77	e49	e47	e39	e3390	753	180	922	142	277	128
20	39	e76	e49	e47	e38	e4320	700	176	1300	162	271	126
21	43	e75	e49	e47	e38	e3530	654	160	1460	215	268	116
22	45	e73	e49	e47	e39	2760	613	152	1480	231	264	91
23	44	e72	e49	e47	e39	2450	562	170	1340	266	257	102
24	43	e72	e49	e46	e39	2210	520	185	1240	254	253	105
25	46	e70	e49	e46	e38	e2020	486	170	1180	243	241	102
26	47	e67	e49	e46	e38	e1900	458	163	1090	307	234	103
27	47	e66	e49	e46	e38	e1640	437	155	1050	3060	226	108
28	48	e64	e49	e45	e39	e1450	414	151	1090	5610	225	110
29	50	e61	e49	e45	---	e1300	390	145	1050	2260	208	113
30	49	e57	e49	e45	---	1200	368	159	847	2080	208	112
31	53	---	e49	e45	---	1110	---	156	---	1740	211	---
TOTAL	1146	2551	1532	1499	1133	43373	24101	6759	18617	20315	16837	3753
MEAN	37.0	85.0	49.4	48.4	40.5	1399	803	218	621	655	543	125
MAX	56	158	53	55	45	4320	1230	357	1480	5610	2040	207
MIN	21	49	49	45	38	40	368	145	164	87	208	91
AC-FT	2270	5060	3040	2970	2250	86030	47800	13410	36930	40290	33400	7440

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2001, BY WATER YEAR (WY)

MEAN	57.2	44.1	26.0	17.4	110	962	890	333	340	241	99.8	65.6
MAX	337	383	155	145	1046	4029	5885	3610	1925	2433	763	231
(WY)	1995	1983	1983	1983	1930	1997	1950	1970	1941	1993	1998	1995
MIN	5.41	6.95	.21	.000	.000	.28	25.2	18.5	23.4	11.3	3.65	1.43
(WY)	1940	1938	1938	1938	1940	1965	1990	1992	1961	1990	1932	1932

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1924 - 2001	
ANNUAL TOTAL	39478		141616			
ANNUAL MEAN	108		388		267	
HIGHEST ANNUAL MEAN					898	1982
LOWEST ANNUAL MEAN					19.2	1990
HIGHEST DAILY MEAN	900	Mar 5	5610	Jul 28	28400	Apr 18 1950
LOWEST DAILY MEAN	21	Oct 6	21	Oct 6	.00	Aug 20 1929
ANNUAL SEVEN-DAY MINIMUM	28	Oct 1	28	Oct 1	.00	Feb 1 1930
MAXIMUM PEAK FLOW			a 8310	Jul 28	b 30500	Apr 19 1950
MAXIMUM PEAK STAGE			c 16.03	Mar 18	25.75	Apr 4 1952
ANNUAL RUNOFF (AC-FT)	78300		280900		193800	
10 PERCENT EXCEEDS	193		1120		435	
50 PERCENT EXCEEDS	70		128		51	
90 PERCENT EXCEEDS	47		40		6.0	

a Gage height, 12.51 ft
b About
c Backwater from ice
e Estimated

06349000 HEART RIVER NEAR MANDAN, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1946-50, 1971-76, 1978 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
OCT													
10...	1600	30	--	--	1300	20.5	13.5	--	--	--	--	--	--
MAR													
21...	1625	3340	8.4	999	948	15.0	7.5	230	41.0	30.0	12.0	3	120
29...	1225	1320	--	--	738	12.0	5.0	--	--	--	--	--	--
APR													
24...	1510	521	--	--	1220	22.0	12.2	--	--	--	--	--	--
JUN													
22...	1115	1490	--	--	1530	23.0	20.7	--	--	--	--	--	--
JUL													
28...	1630	4080	--	--	470	28.0	22.0	--	--	--	--	--	--
AUG													
20...	1500	276	7.0	1390	1390	33.5	25.0	340	65.0	43.0	12.0	4	180
SEP													
25...	1440	103	--	--	1460	15.7	24.0	--	--	--	--	--	--

DATE	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	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)
OCT													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
21...	52	174	8.1	.2	310	5840	648	627	2.0	280	2.00	100	60.0
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
20...	52	298	10.0	.3	450	701	941	940	2.0	50	2.00	100	40.0
SEP													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT				
10...	--	--	--	--
MAR				
21...	.10	2.0	3.0	490
29...	--	--	--	--
APR				
24...	--	--	--	--
JUN				
22...	--	--	--	--
JUL				
28...	--	--	--	--
AUG				
20...	<.10	4.0	3.0	780
SEP				
25...	--	--	--	--

06349215 LONG LAKE CREEK ABOVE LONG LAKE NEAR MOFFIT, ND

LOCATION.--Lat 46°37'59", long 100°14'29", in $NE^1/_4NE^1/_4NW^1/_4$ sec.4, T.136 N., R.76 W., Emmons County, Hydrologic Unit 10130103, on left bank 2.5 mi upstream from Long Lake, and 4.5 mi southeast of Moffit.

DRAINAGE AREA.--280 mi^2 approximately, revised (based on information provided by U.S. Fish and Wildlife Service).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 1,720 ft above sea level, from topographic map.

REMARKS.--Records fair except for periods of estimated discharge, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	11	10	11	10	e7.8	e66	31	17	e120	105	e9.9
2	3.6	12	11	12	9.9	e7.8	e56	28	16	e110	96	e9.6
3	3.6	12	9.7	9.2	8.6	e7.8	e48	28	15	e105	80	e9.6
4	3.8	18	9.8	8.3	7.6	e7.8	e43	26	14	e100	67	e9.3
5	4.1	16	9.3	8.4	7.5	e7.7	e58	26	16	e95	55	e9.1
6	3.9	14	9.8	8.0	7.3	e7.1	e78	28	20	e90	46	e8.8
7	3.9	13	11	7.9	e7.2	e6.4	170	34	20	e86	38	e8.8
8	4.5	13	11	8.0	e7.2	e6.4	207	39	21	e81	31	e8.5
9	4.5	13	11	7.9	e7.0	e7.1	196	39	25	e78	28	e8.4
10	4.3	13	12	8.0	e7.0	e7.8	188	35	28	e73	26	e8.4
11	4.1	13	11	8.8	e6.9	e8.0	177	32	36	e69	24	e8.2
12	4.0	12	12	7.8	e6.9	e8.3	149	31	37	e66	22	e8.2
13	4.8	12	12	7.7	e6.8	e8.5	125	29	33	e61	20	e8.4
14	6.2	13	9.3	7.6	e6.9	e8.7	107	30	32	e54	18	e8.5
15	6.5	13	9.8	7.7	e6.9	e9.9	96	33	36	e45	17	e8.3
16	5.9	13	10	7.5	e7.0	e14	82	30	44	e48	16	e7.9
17	5.4	12	11	7.8	e7.1	e18	66	27	57	e51	15	e7.6
18	4.5	12	12	7.7	e7.1	e26	61	23	68	47	15	e7.3
19	5.0	12	11	8.6	e7.1	e47	57	24	e220	42	15	e7.0
20	5.5	11	10	9.5	e7.1	e94	54	24	e240	35	14	e6.9
21	5.2	11	11	8.8	e7.1	e200	52	22	e240	34	13	e6.7
22	4.2	9.9	8.5	9.2	e7.0	e400	49	21	e220	36	e13	e6.5
23	4.4	10	7.4	8.3	e7.0	e600	46	20	e200	39	e13	e6.2
24	6.7	11	7.6	8.0	e6.9	e420	45	20	e185	41	e12	e6.0
25	8.6	11	6.8	8.2	e6.9	e280	42	20	e170	41	e12	e5.8
26	7.0	9.9	6.7	8.1	e6.8	e180	40	19	e160	37	e12	e5.5
27	6.5	9.9	5.5	8.2	e6.5	e115	38	19	e150	44	e11	e5.3
28	6.5	9.8	6.0	8.8	e7.1	e80	36	18	e140	101	e11	e5.1
29	6.4	9.6	6.4	9.1	---	e48	34	17	e130	153	e11	e5.0
30	6.9	10	6.9	8.4	---	e50	32	17	e120	149	e10	e4.9
31	9.5	---	8.6	8.5	---	e58	---	17	---	118	e10	---
TOTAL	163.9	360.1	294.1	263.0	204.4	2747.1	2498	807	2710	2249	876	225.7
MEAN	5.29	12.0	9.49	8.48	7.30	88.6	83.3	26.0	90.3	72.5	28.3	7.52
MAX	9.5	18	12	12	10	600	207	39	240	153	105	9.9
MIN	3.6	9.6	5.5	7.5	6.5	6.4	32	17	14	34	10	4.9
AC-FT	325	714	583	522	405	5450	4950	1600	5380	4460	1740	448

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2001, BY WATER YEAR (WY)

MEAN	6.12	6.72	5.40	3.69	9.14	122	98.1	42.7	25.0	42.3	14.0	5.82
MAX	15.2	15.7	14.4	8.48	42.0	367	730	179	90.3	220	39.4	14.2
(WY)	1999	1999	1999	2001	1996	1997	1997	1999	2001	1993	1993	1999
MIN	.24	.34	.22	.053	.000	3.67	5.74	2.19	.63	.32	.12	.15
(WY)	1993	1991	1991	1991	1997	1991	1990	1992	1992	1989	1990	1990

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1989 - 2001	
ANNUAL TOTAL	6495.1		13398.3			
ANNUAL MEAN	17.7		36.7		31.9	
HIGHEST ANNUAL MEAN					112	1997
LOWEST ANNUAL MEAN					3.06	1992
HIGHEST DAILY MEAN	130	Feb 26	600	Mar 23	3200	Mar 29 1997
LOWEST DAILY MEAN	2.5	Sep 15	3.6	Oct 2	.00	Dec 30 1990
ANNUAL SEVEN-DAY MINIMUM	2.5	Sep 14	3.8	Oct 1	.00	Jan 11 1997
MAXIMUM PEAK FLOW			a 700	Mar 23	3200	Mar 29 1997
MAXIMUM PEAK STAGE			b 7.16	Mar 23	12.99	Mar 29 1997
INSTANTANEOUS LOW FLOW					.00	Dec 30 1990
ANNUAL RUNOFF (AC-FT)	12880		26580		23120	
10 PERCENT EXCEEDS	40		98		57	
50 PERCENT EXCEEDS	9.8		12		7.0	
90 PERCENT EXCEEDS	3.7		6.5		.35	

a About
b Backwater from ice
e Estimated

06349215 LONG LAKE CREEK ABOVE LONG LAKE NEAR MOFFIT, ND--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
10...	1020	4.3	--	--	--	1470	9.0	6.0	--	--	--	--	--
NOV													
16...	1400	13	--	--	--	1470	-3.0	.00	--	--	--	--	--
FEB													
05...	1410	7.6	--	--	--	1390	-1.0	.4	--	--	--	--	--
MAR													
16...	1530	14	--	--	--	989	5.5	.00	--	--	--	--	--
APR													
09...	1155	197	--	--	--	706	4.0	3.5	--	--	--	--	--
MAY													
01...	1005	31	8.3	8.2	--e	1160	14.0	15.0	320	59.0	41.0	22.0	4
AUG													
08...	1255	33	8.1	7.9	1190	1150	31.0	27.5	270	42.0	41.0	24.0	4

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
01...	170	52	419	10.0	.3	280	72.7	869	834	4.0	150	3.00	180
AUG													
08...	170	55	416	9.6	.3	240	76.5	853	778	9.0	850	2.00	180

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
10...	--	--	--	--	--
NOV					
16...	--	--	--	--	--
FEB					
05...	--	--	--	--	--
MAR					
16...	--	--	--	--	--
APR					
09...	--	--	--	--	--
MAY					
01...	130	.10	2.0	3.0	360
AUG					
08...	80.0	<.10	2.0	3.0	320

e Required equipment not functional/available

06349500 APPLE CREEK NEAR MENOKEN, ND

LOCATION.--Lat 46°47'40", long 100°39'25", in NW$^1/_4$NE$^1/_4$ sec.9, T.138 N., R.79 W., Burleigh County, Hydrologic Unit 10130103, on left bank 75 ft downstream from bridge on county highway, 4 mi upstream from Hay Creek, 6.3 mi west of Menoken, and 6.4 mi east of Bismarck.

DRAINAGE AREA.--1,680 mi^2, approximately, of which about 500 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March to June 1905, October 1945 to current year. Published as "near Bismarck" 1905.

REVISED RECORDS.--WSP 1209: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,638.61 ft above sea level. See WSP 1729 or 1917 for history of changes prior to Sept. 30, 1953.

REMARKS.--Records good except for periods of estimated discharge, which are fair.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	68	20	e5.2	e8.2	e7.2	416	203	53	103	141	24
2	7.0	75	21	e5.2	e8.2	e7.9	415	190	47	103	128	26
3	6.7	83	21	e5.4	e8.2	e7.9	415	184	52	96	123	21
4	6.9	69	22	e5.7	e8.2	e7.9	418	175	52	91	109	17
5	6.7	66	22	e5.9	e8.1	e7.9	434	166	52	88	100	19
6	6.7	61	21	e6.4	e8.1	e7.2	510	160	57	88	93	18
7	6.7	49	e21	e6.9	e7.9	e6.5	592	147	54	81	90	19
8	6.9	32	e21	e7.6	e7.9	e6.5	628	137	52	75	87	14
9	6.8	37	e19	e7.9	e7.7	e7.2	615	150	63	71	82	15
10	6.5	44	e16	e8.1	e7.7	e7.9	594	139	168	66	75	16
11	6.6	36	e14	e8.1	e7.5	e9.2	591	145	194	60	78	15
12	6.7	32	e13	e8.1	e7.5	e9.2	543	139	206	55	76	15
13	7.5	29	e11	e7.9	e7.3	e23	500	129	217	52	72	13
14	8.1	27	e9.8	e7.9	e7.5	e66	472	122	209	48	70	14
15	8.6	26	e9.0	e8.1	e7.5	e171	438	108	214	47	65	16
16	8.5	27	e8.4	e8.1	e7.7	e230	404	96	214	49	57	14
17	8.5	27	e7.8	e8.6	e7.8	e261	380	99	209	50	59	13
18	8.5	26	e6.9	e9.0	e7.8	e319	372	94	203	39	56	13
19	8.3	25	e6.5	e9.2	e7.8	e405	357	94	189	39	54	13
20	8.6	24	e6.4	e9.5	e7.8	e524	343	92	181	51	52	14
21	8.0	22	e5.9	e9.7	e7.8	e889	321	80	172	52	47	15
22	8.2	20	e6.1	e9.9	e7.5	e1140	304	61	156	63	45	13
23	8.7	20	e5.9	e9.9	e7.5	e1000	298	65	145	66	42	13
24	45	19	e5.7	e9.9	e7.3	903	286	68	137	e73	41	12
25	22	19	e5.4	e9.3	e7.2	702	276	78	130	e75	39	11
26	16	19	e5.2	e9.2	e7.2	617	263	67	122	e150	34	13
27	28	19	e5.7	e9.0	e6.5	567	252	57	117	e200	31	11
28	31	20	e5.7	e8.6	e6.5	518	241	57	117	e280	30	9.9
29	42	20	e5.4	e8.6	---	477	231	52	111	e320	29	8.8
30	69	20	e5.2	e8.4	---	449	220	57	104	e260	27	8.4
31	74	---	e5.2	e8.2	---	430	---	54	---	177	23	---
TOTAL	499.6	1061	358.2	249.5	213.9	9783.5	12129	3465	3997	3068	2055	444.1
MEAN	16.1	35.4	11.6	8.05	7.64	316	404	112	133	99.0	66.3	14.8
MAX	74	83	22	9.9	8.2	1140	628	203	217	320	141	26
MIN	6.5	19	5.2	5.2	6.5	6.5	220	52	47	39	23	8.4
AC-FT	991	2100	710	495	424	19410	24060	6870	7930	6090	4080	881

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2001, BY WATER YEAR (WY)

MEAN	6.46	5.18	3.69	2.26	13.1	119	209	82.1	45.1	30.4	17.9	9.31
MAX	67.6	40.1	30.8	15.2	316	557	1606	1038	346	372	292	130
(WY)	2000	2000	1998	2000	2000	1987	1997	1950	1953	1993	1999	1999
MIN	.047	.062	.057	.040	.095	.99	.53	.23	.066	.025	.030	.030
(WY)	1991	1990	1992	1977	1975	1977	1990	1977	1977	1977	1991	1990

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1946 - 2001	
ANNUAL TOTAL	44088.8		37323.8			
ANNUAL MEAN	120		102		45.4	
HIGHEST ANNUAL MEAN					268	1997
LOWEST ANNUAL MEAN					.31	1990
HIGHEST DAILY MEAN	3100	Feb 27	1140	Mar 22	5590	Apr 18 1950
LOWEST DAILY MEAN	5.0	Sep 20	5.2	Dec 26	.00	Aug 25 1946
ANNUAL SEVEN-DAY MINIMUM	5.4	Dec 25	5.3	Dec 28	.00	Aug 25 1946
MAXIMUM PEAK FLOW			a 1300	Mar 22	6750	Apr 18 1950
MAXIMUM PEAK STAGE			b 14.96	Mar 22	17.46	Apr 19 1979
ANNUAL RUNOFF (AC-FT)	87450		74030		32860	
10 PERCENT EXCEEDS	286		310		80	
50 PERCENT EXCEEDS	43		31		2.3	
90 PERCENT EXCEEDS	7.0		7.0		.14	

a About
b Backwater from ice
e Estimated

06349500 APPLE CREEK NEAR MENOKEN, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
NOV													
13...	1515	30	--	--	--	1760	-4.0	3.0	--	--	--	--	--
JAN													
25...	1240	9.4	--	--	--	1800	-1.0	.00	--	--	--	--	--
MAR													
16...	1015	232	--	--	--	557	1.0	.5	--	--	--	--	--
20...	0940	521	--	--	--	385	3.0	.5	--	--	--	--	--
22...	0945	1150	--	--	--	321	-5.0	3.5	--	--	--	--	--
30...	1420	460	--	--	--	881	8.0	3.0	--	--	--	--	--
JUN													
05...	0920	51	--	--	--	1810	--	16.5	--	--	--	--	--
AUG													
08...	1020	87	8.4	--e	2010	1850	28.5	28.0	300	42.0	48.0	25.0	8

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
NOV													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
08...	330	68	524	20.0	.3	520	318	1360	1300	15.0	200	2.00	210

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
NOV					
13...	--	--	--	--	--
JAN					
25...	--	--	--	--	--
MAR					
16...	--	--	--	--	--
20...	--	--	--	--	--
22...	--	--	--	--	--
30...	--	--	--	--	--
JUN					
05...	--	--	--	--	--
AUG					
08...	30.0	<.10	3.0	3.0	370

e Required equipment not functional/available

06349700 MISSOURI RIVER NEAR SCHMIDT, ND

LOCATION.--Lat 46°39'22", long 100°44'18", in SW$^{1}/_{4}$NE$^{1}/_{4}$ sec.26, T.137 N., R.80 W., Morton County, Hydrologic Unit 10130102, on right bank 2 mi southeast of abandoned townsite of Schmidt, 13 mi southeast of Mandan and at mile 1,298.

DRAINAGE AREA.--191,700 mi^{2}, approximately.

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--September 1966 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,600.00 ft above sea level.

REMARKS.--Stage regulated by releases from Garrison Dam (station 06338490) 91.1 mi upstream and by backwater from Lake Oahe.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily gage height recorded, 23.56 ft, Dec. 9, 1976; minimum daily recorded, 7.92 ft, May 30, 1967.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.58	13.33	14.44	17.97	17.17	16.83	13.28	12.64	13.36	13.53	13.93	13.26
2	13.46	13.27	14.43	17.75	16.19	16.77	13.25	12.69	13.31	13.63	13.95	13.32
3	13.59	13.37	14.44	17.85	16.38	16.75	13.16	12.51	13.37	13.53	13.91	13.24
4	13.48	13.21	14.31	17.98	17.21	16.67	13.37	12.50	13.45	13.46	13.81	13.12
5	13.44	13.23	14.38	17.96	17.59	16.50	13.48	12.49	13.48	13.46	13.71	13.11
6	13.23	13.08	14.56	18.07	17.67	16.43	13.47	12.44	13.51	13.51	13.62	13.08
7	13.22	13.10	14.51	18.06	17.34	16.37	13.65	12.44	13.51	13.45	13.54	12.69
8	13.18	13.94	14.26	18.01	17.04	16.26	13.64	12.46	13.44	13.40	13.46	12.72
9	13.21	14.97	14.45	17.87	16.72	16.40	13.67	12.33	13.45	13.38	13.35	12.67
10	13.31	15.96	14.31	17.78	16.57	16.53	13.72	12.51	13.59	13.37	13.39	12.55
11	13.31	16.50	15.19	17.79	16.22	16.64	13.75	12.48	13.60	13.38	13.42	12.51
12	13.25	16.50	16.43	17.84	16.05	17.01	13.77	12.41	13.59	13.38	13.43	12.43
13	13.08	16.41	17.08	17.75	16.68	17.66	13.74	12.54	13.67	13.38	13.44	12.35
14	13.17	16.42	17.76	17.69	17.17	18.63	13.46	12.47	13.58	13.38	13.44	12.39
15	13.27	16.45	18.26	17.39	17.01	19.61	13.66	12.68	13.64	13.39	13.33	12.37
16	13.39	16.48	18.32	17.44	17.07	19.16	13.49	12.92	13.65	13.52	13.29	12.20
17	13.20	16.40	18.31	17.45	16.79	17.75	13.55	12.34	13.58	13.40	13.29	12.22
18	13.16	16.34	17.79	17.47	16.81	16.67	13.54	12.29	13.64	13.40	13.25	12.09
19	13.10	16.07	18.18	17.39	17.29	16.09	13.20	12.36	13.89	13.21	13.29	12.04
20	13.09	15.73	18.58	16.93	17.29	15.82	13.22	12.44	13.98	13.38	13.35	11.96
21	13.20	15.26	18.67	17.25	17.34	15.43	13.27	12.99	14.05	13.52	13.31	11.91
22	13.12	15.12	18.49	17.64	17.20	14.95	13.12	13.08	14.05	13.57	13.26	11.91
23	13.14	14.98	18.48	17.66	17.26	14.50	13.13	12.98	14.05	13.59	13.25	11.84
24	13.14	14.78	18.66	17.49	17.17	14.47	12.92	13.09	13.82	13.40	13.25	11.88
25	13.22	14.78	18.53	17.30	17.08	14.02	12.95	13.24	13.86	13.41	13.29	11.87
26	13.33	14.78	18.51	17.45	17.17	13.79	13.00	13.34	13.72	13.47	13.26	11.96
27	13.33	14.50	18.58	17.55	16.97	13.77	12.86	13.31	13.66	14.84	13.30	11.91
28	13.33	14.38	18.33	17.42	16.74	13.74	13.08	13.24	13.67	15.81	13.20	11.87
29	13.22	14.37	18.24	17.41	---	13.50	12.97	13.28	13.59	14.47	13.16	12.04
30	13.29	14.43	18.17	17.48	---	13.48	12.72	13.40	13.54	14.01	13.12	11.81
31	13.31	---	18.07	17.50	---	13.52	---	13.48	---	14.00	13.23	---
MEAN	13.27	14.94	16.86	17.63	16.97	15.99	13.34	12.75	13.64	13.63	13.41	12.38
MAX	13.59	16.50	18.67	18.07	17.67	19.61	13.77	13.48	14.05	15.81	13.95	13.32
MIN	13.08	13.08	14.26	16.93	16.05	13.48	12.72	12.29	13.31	13.21	13.12	11.81

06350000 CANNONBALL RIVER AT REGENT, ND

LOCATION.--Lat 46°25'36", long 102°33'05", in $NE^1/_4NE^1/_4$ sec.13, T.134 N., R.95 W., Hettinger County, Hydrologic Unit 10130204, on right bank 400 ft from bridge on county highway, and 0.3 mi north of Regent.

DRAINAGE AREA.--580 mi^2, approximately.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 2,422.90 ft above sea level.

REMARKS.--Records good except for periods of estimated discharge, which are fair.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since 1914, 26.1 ft, Apr. 16, 1950, from floodmarks, discharge, 20,300 ft^3/s, on basis of slope-area measurement at site 4 mi downstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	7.5	e3.1	e2.0	e2.4	e2.0	49	e27	e9.3	11	28	2.8
2	3.8	12	e3.1	e2.1	e2.4	e2.0	44	e26	e9.0	9.8	19	2.7
3	3.8	12	e3.1	e2.2	e2.4	e2.5	46	e24	e9.2	9.1	16	2.5
4	3.8	11	e3.0	e2.4	e2.4	e3.0	53	e23	e9.2	8.3	23	2.4
5	3.7	9.4	e3.0	e2.5	e2.4	e4.0	69	e23	e9.9	7.7	20	2.4
6	3.6	6.5	e3.0	e2.7	e2.4	e5.0	86	e22	e10	7.6	17	2.5
7	3.7	5.0	e3.0	e2.8	e2.4	e8.0	190	e23	9.4	7.1	14	3.1
8	3.9	4.5	e2.8	e2.8	e2.4	e44	337	e23	9.0	6.7	12	3.8
9	3.9	4.0	e2.7	e2.9	e2.3	e53	378	e23	8.9	6.3	9.3	4.1
10	3.9	3.9	e2.5	e2.9	e2.3	e75	352	e22	8.4	5.9	7.7	4.1
11	3.9	4.1	e2.4	e2.9	e2.2	e84	271	e21	7.6	5.9	6.8	4.1
12	3.9	4.2	e2.3	e2.8	e2.1	e110	199	e20	7.1	5.9	6.2	4.1
13	3.9	4.2	e2.3	e2.8	e2.1	e163	149	e19	7.4	8.2	5.5	4.2
14	3.9	3.9	e2.2	e2.8	e2.1	e355	118	e18	8.9	8.1	5.2	6.5
15	4.0	3.7	e2.1	e2.8	e2.1	e460	97	e18	12	8.6	4.9	7.1
16	4.0	e3.6	e2.1	e2.8	e2.1	e689	84	e16	13	9.4	4.5	6.5
17	3.9	e3.5	e2.1	e2.8	e2.1	e858	73	e15	15	7.7	4.3	6.9
18	3.9	e3.5	e2.1	e2.9	e2.1	1120	67	e14	19	6.3	4.0	6.6
19	3.8	e3.4	e2.0	e2.9	e2.1	541	e61	e13	26	7.1	3.9	6.5
20	3.8	e3.4	e2.0	e2.8	e2.1	843	e56	e11	42	8.8	3.8	6.4
21	3.8	e3.4	e2.0	e2.8	e2.1	745	e51	e9.4	36	8.5	3.7	5.3
22	3.8	e3.4	e2.0	e2.8	e2.1	572	e48	e9.2	34	7.7	3.6	4.6
23	3.8	e3.3	e2.0	e2.8	e2.2	412	e46	e9.6	30	7.5	3.4	4.2
24	3.8	e3.3	e2.0	e2.8	e2.2	321	e43	e9.2	25	7.0	3.3	4.0
25	3.8	e3.3	e1.9	e2.7	e2.2	204	e42	e9.0	21	7.0	3.2	3.9
26	3.7	e3.3	e1.9	e2.7	e2.1	143	e40	e8.9	18	7.7	3.1	3.8
27	3.7	e3.2	e1.9	e2.6	e2.1	109	e37	e8.9	16	708	3.0	3.8
28	3.8	e3.2	e1.9	e2.6	e2.1	86	e35	e8.5	14	471	2.9	3.6
29	4.4	e3.1	e2.0	e2.5	---	71	e32	e8.6	13	126	2.9	3.4
30	4.8	e3.1	e2.0	e2.5	---	62	e30	e9.2	12	67	2.8	3.3
31	5.2	---	e2.0	e2.5	---	55	---	e9.6	---	42	2.7	---
TOTAL	121.4	145.9	72.5	82.9	62.0	8201.5	3183	501.1	469.3	1614.9	249.7	129.2
MEAN	3.92	4.86	2.34	2.67	2.21	265	106	16.2	15.6	52.1	8.05	4.31
MAX	5.2	12	3.1	2.9	2.4	1120	378	27	42	708	28	7.1
MIN	3.6	3.1	1.9	2.0	2.1	2.0	30	8.5	7.1	5.9	2.7	2.4
AC-FT	241	289	144	164	123	16270	6310	994	931	3200	495	256

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2001, BY WATER YEAR (WY)

MEAN	8.89	5.97	4.18	4.98	23.3	141	119	63.1	79.0	26.9	17.4	5.07
MAX	124	51.6	15.7	63.2	393	963	1128	523	512	331	299	20.5
(WY)	1983	1983	1983	1973	1982	1978	1952	1972	1957	1969	1981	1986
MIN	1.25	1.87	.52	.000	.000	3.23	3.80	2.94	1.57	.78	.67	.70
(WY)	1961	1961	1951	1952	1959	1964	1961	1992	1990	1989	1959	1960

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1951 - 2001	
ANNUAL TOTAL	2425.5		14833.4			
ANNUAL MEAN	6.63		40.6		41.6	
HIGHEST ANNUAL MEAN					168	1982
LOWEST ANNUAL MEAN					3.11	1992
HIGHEST DAILY MEAN	70	Jul 10	1120	Mar 18	7880	Mar 27 1978
LOWEST DAILY MEAN	1.5	Aug 30	1.9	Dec 25	.00	Dec 5 1950
ANNUAL SEVEN-DAY MINIMUM	1.7	Aug 26	1.9	Dec 22	.00	Dec 5 1950
MAXIMUM PEAK FLOW			1640	Jul 27	10000	Mar 27 1978
MAXIMUM PEAK STAGE			9.73	Jul 27	a 21.01	Mar 21 1997
ANNUAL RUNOFF (AC-FT)	4810		29420		30140	
10 PERCENT EXCEEDS	11		68		46	
50 PERCENT EXCEEDS	5.2		4.5		5.2	
90 PERCENT EXCEEDS	2.2		2.2		1.5	

a Backwater from ice
e Estimated

06350000 CANNONBALL RIVER AT REGENT, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964-66, 1971 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
05...	1100	3.7	--	--	--	1290	2.5	9.0	--	--	--	--	--
NOV													
14...	1415	3.8	--	--	--	1710	-1.0	.00	--	--	--	--	--
JAN													
08...	1440	2.8	--	--	--	1330	3.5	.8	--	--	--	--	--
MAR													
20...	1245	815	--	--	--	630	10.0	2.5	--	--	--	--	--
APR													
05...	1530	73	7.1	--e	1490	1470	13.0	8.5	340	61.0	46.0	12.0	5
12...	1455	188	--	--	--	1660	8.5	7.5	--	--	--	--	--
JUN													
06...	1005	11	--	--	--	1910	18.0	15.0	--	--	--	--	--
JUL													
18...	1345	6.4	--	--	--	2140	31.0	27.5	--	--	--	--	--
28...	1345	333	--	--	--	580	29.0	23.5	--	--	--	--	--
AUG													
29...	1600	2.8	7.4	--e	2550	2630	19.5	25.0	520	84.0	74.0	12.0	8

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
05...	210	56	227	9.5	.2	550	206	1040	1030	2.0	540	2.00	100
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
29...	430	64	414	10.0	.5	1000	14.5	1920	1860	2.0	130	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
05...	--	--	--	--	--
NOV					
14...	--	--	--	--	--
JAN					
08...	--	--	--	--	--
MAR					
20...	--	--	--	--	--
APR					
05...	190	<.10	2.0	3.0	720
12...	--	--	--	--	--
JUN					
06...	--	--	--	--	--
JUL					
18...	--	--	--	--	--
28...	--	--	--	--	--
AUG					
29...	30.0	<.10	7.0	3.0	1300

e Required equipment not functional/available

06351200 CANNONBALL RIVER NEAR RALEIGH, ND

LOCATION.--Lat 46°07'37", long 101°19'58", in $SW^1/_4SW^1/_4NW^1/_4$ sec.33, T.131 N., R.85 W., Grant County, Hydrologic Unit 10130204, on left bank at upstream side of bridge on State Highway 31, and 20 miles south of Raleigh.

DRAINAGE AREA.--1,640 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 2001 to September 2001.

GAGE.--Water-stage recorder. Datum of gage is 1,890 ft above sea level, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, about 3,000 ft^3/s, Mar. 13, maximum gage height observed, 12.45 ft, Mar. 12, backwater from ice; minimum daily discharge, 4.8 ft^3/s, Sept. 12.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge about 15,000 ft^3/sec, Mar. 20, 1997, gage height, 16 ft, from high-water mark, was probably higher in 1950.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e16	e190	e57	e25	66	705	10
2	---	---	---	---	---	e18	e169	e51	e23	59	447	9.6
3	---	---	---	---	---	e22	e156	e49	e22	55	321	8.4
4	---	---	---	---	---	e24	e240	e49	e25	50	247	7.9
5	---	---	---	---	---	e29	e177	e46	e29	46	189	6.7
6	---	---	---	---	---	e38	e177	e49	e37	42	144	6.3
7	---	---	---	---	---	e60	e212	e45	e33	38	113	6.1
8	---	---	---	---	---	e130	e240	e43	e31	34	93	6.2
9	---	---	---	---	---	e300	e324	e41	e45	32	77	5.6
10	---	---	---	---	---	e750	e417	e40	e67	29	66	5.1
11	---	---	---	---	---	e1100	e727	e40	e60	29	56	5.0
12	---	---	---	---	---	e1600	e747	e38	e52	27	45	4.8
13	---	---	---	---	---	e2600	e659	e36	e70	26	39	5.2
14	---	---	---	---	---	e1900	e530	e34	e90	28	35	25
15	---	---	---	---	---	e1700	e417	e32	104	28	32	24
16	---	---	---	---	---	e1500	e342	e31	51	47	27	14
17	---	---	---	---	---	e1650	e264	e30	62	25	25	13
18	---	---	---	---	---	e1900	e225	e29	150	23	24	13
19	---	---	---	---	---	e1750	e198	e27	161	23	22	12
20	---	---	---	---	---	e1670	e169	e28	113	58	21	12
21	---	---	---	---	---	e1570	e150	e26	154	34	20	11
22	---	---	---	---	---	e1290	e135	e23	231	30	20	13
23	---	---	---	---	---	e1100	e125	e21	178	29	19	15
24	---	---	---	---	---	e896	e115	e20	160	24	18	14
25	---	---	---	---	---	e712	e106	e21	146	70	16	13
26	---	---	---	---	---	e534	e97	e23	128	41	15	13
27	---	---	---	---	---	e450	e89	e22	109	1200	14	12
28	---	---	---	---	---	e366	e77	e21	93	142	13	11
29	---	---	---	---	---	e302	e71	e21	83	153	12	11
30	---	---	---	---	---	e254	e64	e59	75	941	12	11
31	---	---	---	---	---	e216	---	e27	---	1340	11	---
MEAN	---	---	---	---	---	853	254	34.8	86.9	154	93.5	10.8
MAX	---	---	---	---	---	2600	747	59	231	1340	705	25
MIN	---	---	---	---	---	16	64	20	22	23	11	4.8
AC-FT	---	---	---	---	---	52460	15090	2140	5170	9460	5750	642

e Estimated

06351200 CANNONBALL RIVER NEAR RALEIGH, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 2001 to August 2001.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
MAR													
20...	1720	1690	--	--	--	490	14.0	3.8	--	--	--	--	--
28...	1555	360	--	--	--	470	12.5	7.0	--	--	--	--	--
APR													
13...	1445	646	--	--	--	1370	15.0	9.0	--	--	--	--	--
MAY													
09...	1350	42	--	--	--	1910	26.0	19.3	--	--	--	--	--
JUN													
25...	1450	143	--	--	--	1830	33.0	29.9	--	--	--	--	--
JUL													
20...	1410	74	--	--	--	1030	33.0	27.0	--	--	--	--	--
28...	1255	134	--	--	--	910	25.0	22.5	--	--	--	--	--
AUG													
22...	1130	19	7.1	--e	1750	1780	29.5	25.0	460	78.0	63.0	17.0	5

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
MAR													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22...	240	52	302	8.8	.3	680	67.6	1290	1270	3.0	180	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
MAR					
20...	--	--	--	--	--
28...	--	--	--	--	--
APR					
13...	--	--	--	--	--
MAY					
09...	--	--	--	--	--
JUN					
25...	--	--	--	--	--
JUL					
20...	--	--	--	--	--
28...	--	--	--	--	--
AUG					
22...	20.0	<.10	5.0	3.0	1100

e Required equipment not functional/available

06352000 CEDAR CREEK NEAR HAYNES, ND

LOCATION.--Lat 46°09'15", long 102°28'25", in W1/2 sec.20, T.131 N., R.94 W., Adams County, Hydrologic Unit 10130205, on left bank 30 ft downstream from bridge on State Highway 8, and 12.5 mi north of Haynes.

DRAINAGE AREA.--553 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 2,472.90 ft above sea level (North Dakota Highway Department benchmark). Prior to May 20, 1951, nonrecording gage on former bridge 400 ft upstream at same datum.

REMARKS.--Records good.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 17, 1950, reached a stage of about 23 ft, discharge, 26,900 ft^3/s, by slope-area measurement at site 9 mi upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.8	e2.8	e1.4	e1.8	e1.7	48	19	5.4	19	161	2.0
2	1.3	2.1	e2.8	e1.4	e1.8	e1.7	42	17	4.8	17	120	1.8
3	1.3	2.4	e2.8	e1.4	e1.8	e2.0	39	16	4.7	15	85	1.8
4	1.3	2.6	e2.7	e1.5	e1.8	e5.0	38	16	5.2	14	67	1.7
5	1.3	2.7	e2.7	e1.5	e1.8	e8.0	42	14	5.7	13	50	1.5
6	1.3	2.9	e2.7	e1.6	e1.8	e10	87	15	5.8	12	39	1.5
7	1.3	4.2	e2.6	e1.7	e1.8	e50	120	15	5.9	11	31	1.8
8	1.3	3.2	e2.5	e1.8	e1.8	e200	232	13	6.1	11	25	2.0
9	1.3	3.7	e2.4	e1.8	e1.8	e500	303	13	6.2	9.9	20	2.1
10	1.3	4.7	e2.2	e1.9	e1.7	e700	309	12	6.3	9.4	17	2.3
11	1.3	3.8	e2.1	e1.9	e1.7	e600	278	12	5.9	9.0	14	2.3
12	1.3	3.6	e2.1	e2.0	e1.7	e500	220	12	5.8	9.0	12	2.3
13	1.3	3.5	e2.0	e2.0	e1.7	e600	174	12	5.7	8.9	11	2.3
14	1.3	3.1	e2.0	e2.0	e1.7	e700	132	12	6.9	9.5	10	2.3
15	1.3	3.1	e1.9	e2.0	e1.7	e1200	104	11	7.2	10	9.3	2.3
16	1.3	3.1	e1.8	e2.0	e1.7	1500	80	9.7	7.3	11	9.0	2.5
17	1.3	e3.1	e1.7	e2.0	e1.7	1100	67	8.6	6.7	11	7.4	2.5
18	1.3	e3.0	e1.6	e2.0	e1.7	814	56	7.5	7.7	12	6.8	2.7
19	1.3	e3.0	e1.5	e2.0	e1.7	760	46	7.2	8.8	e15	6.3	2.7
20	1.3	e3.0	e1.5	e2.0	e1.7	827	41	6.8	37	e10	6.1	2.7
21	1.3	e2.9	e1.5	e2.0	e1.7	742	39	6.2	110	e8.0	5.8	2.9
22	1.3	e2.9	e1.5	e2.0	e1.7	526	36	5.8	139	e6.0	5.0	2.9
23	1.3	e2.9	e1.4	e2.0	e1.7	365	36	6.2	117	e5.0	4.7	2.7
24	1.3	e2.9	e1.4	e2.0	e1.7	256	35	5.6	80	e4.5	4.5	2.7
25	1.3	e2.9	e1.4	e2.0	e1.6	205	32	5.4	61	5.8	4.0	2.5
26	1.3	e2.8	e1.4	e2.0	e1.6	165	30	5.2	45	7.4	3.6	2.5
27	1.3	e2.8	e1.4	e2.0	e1.7	121	27	4.9	34	9.3	2.9	2.3
28	1.4	e2.8	e1.4	e2.0	e1.7	94	25	4.7	28	411	2.9	2.3
29	1.5	e2.8	e1.4	e1.9	---	76	23	4.6	24	1130	2.7	2.3
30	1.5	e2.8	e1.4	e1.9	---	65	21	5.2	21	461	2.5	2.1
31	1.7	---	e1.4	e1.8	---	55	---	5.7	---	239	2.0	---
TOTAL	41.1	91.1	60.0	57.5	48.3	12749.4	2762	308.3	814.1	2523.7	747.5	68.3
MEAN	1.33	3.04	1.94	1.85	1.73	411	92.1	9.95	27.1	81.4	24.1	2.28
MAX	1.7	4.7	2.8	2.0	1.8	1500	309	19	139	1130	161	2.9
MIN	1.2	1.8	1.4	1.4	1.6	1.7	21	4.6	4.7	4.5	2.0	1.5
AC-FT	82	181	119	114	96	25290	5480	612	1610	5010	1480	135

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2001, BY WATER YEAR (WY)

MEAN	4.73	5.17	3.65	4.34	15.0	124	113	55.9	54.7	18.0	10.8	3.60
MAX	43.2	54.4	20.4	59.4	242	837	1159	522	339	177	94.1	21.7
(WY)	1983	1983	1983	1973	1982	1978	1952	1975	1964	1969	1981	1995
MIN	.25	.60	.22	.000	.000	1.05	1.58	1.66	.77	.000	.000	.000
(WY)	1961	1962	1962	1962	1962	1964	1961	1961	1956	1961	1959	1960

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1951 - 2001	
ANNUAL TOTAL	2031.05		20271.3			
ANNUAL MEAN	5.55		55.5		34.5	
HIGHEST ANNUAL MEAN					122	1972
LOWEST ANNUAL MEAN					1.04	1961
HIGHEST DAILY MEAN	27	Mar 12	1500	Mar 16	7060	Apr 8 1952
LOWEST DAILY MEAN	.65	Sep 1	1.2	Oct 1	.00	Jan 29 1957
ANNUAL SEVEN-DAY MINIMUM	.66	Aug 26	1.3	Oct 1	.00	Jul 26 1959
MAXIMUM PEAK FLOW			1680	Jul 29	7870	Apr 7 1952
MAXIMUM PEAK STAGE			14.90	Jul 29	a 22.05	Mar 28 1978
ANNUAL RUNOFF (AC-FT)	4030		40210		24980	
10 PERCENT EXCEEDS	11		113		42	
50 PERCENT EXCEEDS	5.4		3.2		3.6	
90 PERCENT EXCEEDS	.87		1.4		.70	

a Backwater from ice
e Estimated

06352000 CEDAR CREEK NEAR HAYNES, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1971 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
05...	1315	1.3	--	--	--	1350	3.0	7.0	--	--	--	--	--
10...	1540	2.7	--	--	--	1740	8.5	10.5	--	--	--	--	--
NOV													
13...	1430	3.6	--	--	--	1750	-4.0	.00	--	--	--	--	--
MAR													
15...	1250	1330	--	--	--	415	2.0	1.5	--	--	--	--	--
APR													
27...	1440	27	7.9	--e	2180	2260	28.0	18.0	640	100	95.0	12.0	5
JUN													
06...	1310	5.7	--	--	--	2230	22.5	17.5	--	--	--	--	--
JUL													
24...	0935	4.4	--	--	--	2060	17.0	23.3	--	--	--	--	--
AUG													
31...	1235	2.1	7.3	--e	1780	1810	25.5	20.0	440	61.0	70.0	13.0	5

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
27...	300	50	228	9.9	.3	970	120	1640	1630	3.0	90	2.00	100
JUN													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
31...	260	55	340	9.1	.3	660	7.20	1270	1280	3.0	160	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
05...	--	--	--	--	--
10...	--	--	--	--	--
NOV					
13...	--	--	--	--	--
MAR					
15...	--	--	--	--	--
APR					
27...	50.0	.10	3.0	3.0	1400
JUN					
06...	--	--	--	--	--
JUL					
24...	--	--	--	--	--
AUG					
31...	40.0	<.10	6.0	3.0	1000

e Required equipment not functional/available

06353000 CEDAR CREEK NEAR RALEIGH, ND

LOCATION.--Lat 46°05'30", long 101°20'00", in NE$^1/_4$SE$^1/_4$ sec.8, T.130 N., R.85 W., Grant County, Hydrologic Unit 10130205, on left bank at upstream side of bridge on N.D. Highway 31, 6 mi upstream from mouth, and 19 mi south of Raleigh.

DRAINAGE AREA.--1,750 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April to September 1939, March 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,881.23 ft above sea level. Prior to June 6, 1962, nonrecording gage at same site and datum, and June 6, 1962, to Sept. 7, 1972, at site 1 mi upstream at datum 9.58 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since 1950, about 18 ft, Apr. 18, 1950; discharge 45,000 ft^3/s, on basis of slope-area measurement 5 mi upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	1.8	e8.0	e2.8	e8.9	e6.5	240	71	21	65	230	5.2
2	.06	116	e7.7	e3.1	e8.9	e6.5	213	66	20	56	429	4.6
3	.05	60	e8.0	e3.9	e8.8	e8.1	195	63	19	50	301	4.3
4	.06	23	e7.8	e4.8	e8.8	e11	197	60	19	55	214	3.6
5	.06	40	e7.8	e6.9	e8.8	e16	244	57	22	41	157	3.5
6	.05	55	e7.8	e8.1	e8.9	e34	290	56	21	32	128	2.8
7	.04	40	e8.1	e8.7	e8.8	e57	354	52	22	27	106	2.9
8	.05	63	e7.7	e9.3	e8.8	e138	428	50	23	22	85	3.0
9	.05	28	e7.7	e9.8	e8.8	e663	381	46	34	18	75	2.3
10	.05	26	e6.9	e10	e8.8	e1010	368	44	56	15	61	2.1
11	.05	22	e6.6	e11	e8.8	e1320	380	44	30	14	53	1.8
12	.05	21	e6.3	e10	e8.8	e1650	471	43	21	14	45	1.7
13	.06	17	e6.0	e11	e8.6	e2050	e460	40	34	14	38	1.6
14	.07	15	e5.8	e11	e8.6	e2450	438	37	40	11	33	5.1
15	.08	14	e5.4	e11	e8.5	1740	389	34	60	11	29	12
16	.08	13	e4.9	e11	e8.6	1620	340	32	34	556	27	7.1
17	.07	12	e4.5	e11	e8.3	1560	296	31	25	289	24	6.7
18	.07	e11	e4.0	e11	e8.4	1990	254	29	36	80	20	5.0
19	.10	e10	e3.4	e11	e8.2	1790	217	27	39	39	18	4.1
20	.13	e9.9	e3.4	e11	e8.1	1350	189	26	27	52	20	4.0
21	.16	e8.9	e3.1	e10	e8.0	1020	165	23	25	77	18	3.6
22	.18	e8.6	e2.9	e10	e8.1	893	144	22	21	57	17	3.2
23	.23	e8.3	e2.6	e9.7	e8.1	894	131	21	20	34	15	2.4
24	.28	e8.6	e2.8	e9.2	e7.7	806	120	21	22	28	14	2.7
25	.30	e8.3	e2.8	e9.2	e7.5	671	109	21	23	59	13	2.1
26	.30	e8.6	e3.1	e9.2	e7.3	562	102	20	27	76	11	1.8
27	.33	e8.4	e3.1	e9.3	e7.3	472	94	19	24	945	10	1.5
28	.36	e8.3	e2.9	e9.4	e7.3	400	87	18	71	343	8.9	1.3
29	.50	e8.1	e2.9	e9.1	---	352	80	18	88	164	7.4	1.3
30	.46	e8.0	e2.6	e9.2	---	312	76	30	76	92	6.7	1.7
31	.58	---	e2.6	e9.0	---	270	---	26	---	75	6.0	---
TOTAL	4.96	681.8	159.2	279.7	234.5	26122.1	7452	1147	1000	3411	2220.0	105.0
MEAN	.16	22.7	5.14	9.02	8.38	843	248	37.0	33.3	110	71.6	3.50
MAX	.58	116	8.1	11	8.9	2450	471	71	88	945	429	12
MIN	.04	1.8	2.6	2.8	7.3	6.5	76	18	19	11	6.0	1.3
AC-FT	9.8	1350	316	555	465	51810	14780	2280	1980	6770	4400	208

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2001, BY WATER YEAR (WY)

MEAN	11.1	9.83	7.21	11.1	44.4	395	262	171	98.0	72.4	22.2	8.65
MAX	66.4	48.8	31.3	217	664	2368	1526	1043	605	545	96.9	76.5
(WY)	1978	1983	1983	1973	1982	1997	1997	1975	1964	1993	1984	1995
MIN	.000	.000	.000	.000	.000	.25	.35	.89	2.03	.25	.000	.000
(WY)	1965	1964	1964	1964	1964	1964	1991	1992	1992	1990	1974	1939

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1939 - 2001	
ANNUAL TOTAL	6955.26		42817.26			
ANNUAL MEAN	19.0		117		94.7	
HIGHEST ANNUAL MEAN					369	1997
LOWEST ANNUAL MEAN					1.91	1991
HIGHEST DAILY MEAN	292	Mar 9	2450	Mar 14	11900	Mar 24 1997
LOWEST DAILY MEAN	.00	Jul 27	.04	Oct 7	.00	Aug 1 1939
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 27	.05	Oct 6	.00	Aug 20 1939
MAXIMUM PEAK FLOW			a 3280	Mar 14	14600	Mar 24 1997
MAXIMUM PEAK STAGE			b 8.07	Mar 13	b 17.05	Mar 24 1997
ANNUAL RUNOFF (AC-FT)	13800		84930		68610	
10 PERCENT EXCEEDS	45		305		159	
50 PERCENT EXCEEDS	10		14		10	
90 PERCENT EXCEEDS	.05		1.7		.00	

a Gage height, 7.76 ft
b Backwater from ice
e Estimated

06353000 CEDAR CREEK NEAR RALEIGH, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
06...	1240	.05	--	--	--	1340	6.0	7.5	--	--	--	--	--
NOV													
16...	1330	13	--	--	--	1340	-4.0	.5	--	--	--	--	--
JAN													
10...	1510	10	--	--	--	1290	4.5	.5	--	--	--	--	--
APR													
13...	1215	465	7.9	--e	1600	1620	11.0	8.0	490	85.0	68.0	13.0	4
MAY													
09...	1135	48	--	--	--	2180	24.5	15.7	--	--	--	--	--
JUN													
25...	1215	22	--	--	--	2290	30.0	27.6	--	--	--	--	--
JUL													
28...	1125	317	--	--	--	840	25.0	21.8	--	--	--	--	--
AUG													
22...	1350	17	7.5	--e	1370	1380	33.0	26.5	360	61.0	49.0	14.0	4

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
13...	180	44	222	10.0	.2	630	1480	1180	1120	2.0	160	2.00	100
MAY													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22...	180	51	291	7.9	.4	460	44.5	975	948	3.0	180	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
06...	--	--	--	--	--
NOV					
16...	--	--	--	--	--
JAN					
10...	--	--	--	--	--
APR					
13...	20.0	<.10	3.0	3.0	1100
MAY					
09...	--	--	--	--	--
JUN					
25...	--	--	--	--	--
JUL					
28...	--	--	--	--	--
AUG					
22...	20.0	<.10	5.0	3.0	810

e Required equipment not functional/available

06354000 CANNONBALL RIVER AT BREIEN, ND

LOCATION.--Lat 46°22'33", long 100°56'03", in sec.36, T.134 N., R.82 W., Morton County, Hydrologic Unit 10130206, on left bank at downstream side of bridge on State Highway 6, 1,100 ft downstream from Dogtooth Creek, and 0.6 mi southeast of Breien.

DRAINAGE AREA.--4,100 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1934 to current year.

REVISED RECORDS.--WSP 786: 1934. WSP 1146: 1943. WSP 1279: 1936-37(M), 1947(M). WSP 1509: 1955(M).

GAGE.--Water-stage recorder. Datum of gage is 1,673.54 ft above sea level. From June 12, 1973, to July 1, 1985, at site 450 ft downstream. Prior to June 12, 1973, at site 50 ft upstream at datum 3.00 ft higher. June 13, 1973, to April 8, 1980, at datum 2.00 ft higher.

REMARKS.--Records good except for periods of estimated discharge, which are poor. Some storage in several small lakes above station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	18	e35	e21	e27	e25	440	158	91	131	1180	e23
2	3.5	40	e35	e21	e27	e26	392	149	66	113	830	e22
3	3.1	100	e35	e21	e27	e30	357	140	59	100	689	e21
4	3.4	100	e35	e22	e26	e40	397	135	57	89	465	e20
5	3.4	59	e35	e22	e26	e60	454	131	65	84	351	18
6	3.6	43	e35	e23	e26	e100	467	135	69	75	281	16
7	3.6	38	e34	e24	e26	e200	544	125	77	63	239	15
8	3.5	113	e33	e25	e25	e500	796	119	72	61	201	16
9	2.3	66	e32	e26	e25	e1000	926	113	67	58	171	15
10	3.1	e60	e30	e27	e25	e1700	850	107	86	52	150	13
11	4.1	e50	e30	e27	e25	e2300	976	103	109	44	133	13
12	e4.0	e47	e29	e28	e25	e2900	1300	102	92	41	119	14
13	e4.2	e45	e28	e28	e24	e4300	1360	99	84	42	104	14
14	6.8	e43	e27	e28	e24	e5800	1210	94	109	43	93	19
15	8.1	e41	e25	e28	e24	e4400	987	89	279	47	84	23
16	e8.1	e40	e24	e28	e24	e3200	772	85	312	54	77	37
17	7.9	e40	e24	e28	e24	e3000	611	82	193	856	68	42
18	8.0	e38	e23	e28	e24	e3700	506	79	190	347	63	32
19	7.5	e38	e23	e28	e24	e4700	436	76	277	161	60	29
20	7.5	e38	e22	e28	e24	4050	379	73	256	109	57	32
21	8.1	e38	e22	e28	e24	3370	336	68	203	100	54	28
22	7.7	e38	e22	e28	e24	2780	301	65	193	108	51	25
23	7.6	e37	e21	e28	e24	2450	276	62	238	104	50	23
24	8.5	e37	e21	e28	e24	e2200	255	62	196	74	48	23
25	8.4	e37	e21	e28	e23	e1900	238	60	172	99	42	25
26	9.1	e36	e21	e28	e23	e1600	223	58	158	147	e35	24
27	10	e36	e21	e28	e24	e1300	211	57	144	4020	e30	23
28	10	e36	e21	e28	e24	e950	197	55	125	3460	e28	22
29	13	e36	e21	e27	---	732	177	56	125	823	e26	21
30	12	e35	e21	e27	---	593	161	76	151	402	e25	20
31	13	---	e21	e27	---	506	---	100	---	1280	e24	---
TOTAL	206.5	1423	827	816	692	60412	16535	2913	4315	13187	5828	668
MEAN	6.66	47.4	26.7	26.3	24.7	1949	551	94.0	144	425	188	22.3
MAX	13	113	35	28	27	5800	1360	158	312	4020	1180	42
MIN	2.3	18	21	21	23	25	161	55	57	41	24	13
AC-FT	410	2820	1640	1620	1370	119800	32800	5780	8560	26160	11560	1320

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 2001, BY WATER YEAR (WY)

MEAN	35.2	28.9	17.4	15.8	77.3	908	863	350	376	201	69.0	33.7
MAX	281	238	98.8	342	1058	5428	10070	2399	2384	1409	459	267
(WY)	1978	1983	1999	1973	1982	1997	1950	1975	1937	1969	1999	1977
MIN	.21	.63	.38	.000	.000	3.29	17.1	6.48	3.10	.17	.12	.010
(WY)	1961	1961	1935	1941	1935	1965	1961	1992	1936	1936	1974	1974

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1934 - 2001	
ANNUAL TOTAL	23369.4		107822.5			
ANNUAL MEAN	63.9		295		248	
HIGHEST ANNUAL MEAN					994	1950
LOWEST ANNUAL MEAN					9.90	1961
HIGHEST DAILY MEAN	827	Mar 9	5800	Mar 14	63100	Apr 19 1950
LOWEST DAILY MEAN	1.7	Sep 20	2.3	Oct 9	.00	Jan 11 1935
ANNUAL SEVEN-DAY MINIMUM	2.6	Sep 15	3.3	Oct 3	.00	Jan 11 1935
MAXIMUM PEAK FLOW			6760	Jul 27	a 94800	Apr 19 1950
MAXIMUM PEAK STAGE			b 11.72	Mar 14	c 22.30	Apr 19 1950
ANNUAL RUNOFF (AC-FT)	46350		213900		180000	
10 PERCENT EXCEEDS	150		748		419	
50 PERCENT EXCEEDS	38		42		30	
90 PERCENT EXCEEDS	4.0		15		.80	

a From rating extended above 16,000 ft^3/s on basis of indirect measurement of peak flow
b Backwater from ice
c From floodmark
e Estimated

06354000 CANNONBALL RIVER AT BREIEN, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1946-50, 1970-72, 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
OCT													
10...	1205	3.3	--	--	1210	14.5	9.0	--	--	--	--	--	--
NOV													
16...	1620	40	--	--	1240	-3.0	.00	--	--	--	--	--	--
MAR													
13...	1700	4460	8.0	420	382	12.0	.4	100	20.0	12.0	9.00	2	37.0
28...	1325	970	--	--	450	6.0	3.0	--	--	--	--	--	--
MAY													
08...	1230	119	--	--	1930	20.0	13.3	--	--	--	--	--	--
JUN													
26...	1200	157	--	--	1880	25.0	25.7	--	--	--	--	--	--
AUG													
01...	1215	1160	--	--	1620	24.0	25.0	--	--	--	--	--	--
21...	1135	55	7.3	1480	1460	24.0	23.5	370	64.0	50.0	15.0	4	190
SEP													
24...	1250	23	--	--	1440	17.0	14.2	--	--	--	--	--	--

DATE	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	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)
OCT													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
13...	42	131	1.5	.1	91.0	2840	236	250	2.0	330	2.00	100	70.0
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	52	311	8.9	.4	500	154	1040	1020	2.0	50	2.00	100	30.0
SEP													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT				
10...	--	--	--	--
NOV				
16...	--	--	--	--
MAR				
13...	<.10	2.0	3.0	210
28...	--	--	--	--
MAY				
08...	--	--	--	--
JUN				
26...	--	--	--	--
AUG				
01...	--	--	--	--
21...	<.10	7.0	3.0	840
SEP				
24...	--	--	--	--

06354580 BEAVER CREEK BELOW LINTON, ND

LOCATION.--Lat 46°16'07", long 100°15'05", in NW$^1/_4$NW$^1/_4$SW$^1/_4$ sec.7, T.132 N., R.76 W., Emmons County, Hydrologic Unit 10130104, on left bank 25 ft upstream from bridge on county road, 0.7 mi west of Linton, and 0.5 mi downstream from Spring Creek.

DRAINAGE AREA.--765 mi^2, of which about 100 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1989 to current year. Records for August 1949 to September 1989 at site 1.5 mi upstream published as "at Linton, ND" (station 06354500) are not equivalent because of difference in drainage area.

GAGE.--Water-stage recorder and artificial control. Elevation of gage is 1,690 ft above sea level, from topographic map.

REMARKS.--Records poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	8.7	e9.3	e7.6	e6.1	e5.6	264	92	33	60	137	25
2	3.3	8.7	e9.2	e7.9	e6.3	e5.7	318	88	31	56	116	23
3	2.4	8.9	e9.0	e7.2	e5.9	e5.7	523	83	29	52	99	21
4	3.1	8.7	e8.9	e6.9	e5.5	e5.7	450	80	28	48	86	20
5	3.1	8.4	e8.7	e6.7	e5.1	e5.6	366	80	27	41	76	18
6	3.0	8.6	e8.8	e6.6	e5.0	e5.5	379	89	29	37	67	e19
7	2.9	9.4	e9.1	e6.5	e5.0	e5.2	541	88	30	39	61	19
8	3.3	9.3	e9.4	e6.5	e5.0	e5.2	686	85	31	34	56	19
9	3.4	9.5	e9.7	e6.5	e4.9	e5.1	757	90	33	32	53	19
10	3.7	9.7	e9.9	e6.4	e4.9	e5.1	731	89	35	36	49	17
11	3.4	9.7	e9.6	e6.4	e4.8	e5.2	417	82	36	34	47	16
12	4.9	9.8	e9.2	e6.4	e4.8	e5.3	351	75	42	33	46	16
13	8.0	9.5	e8.7	e6.5	e4.8	e5.4	315	70	59	32	44	15
14	7.5	9.4	e8.3	e6.4	e4.9	e5.4	279	65	48	35	43	18
15	7.2	9.2	e8.5	e6.2	e5.0	e5.6	249	62	51	40	41	19
16	6.8	e9.1	e8.7	e6.0	e5.2	e5.7	223	60	52	60	40	19
17	6.2	e9.7	e9.2	e6.0	e5.3	e10	204	58	58	51	39	18
18	6.0	e9.4	e9.3	e5.9	e5.3	e18	185	54	101	43	38	18
19	5.3	e9.3	e8.7	e5.9	e5.3	e30	171	52	146	46	37	18
20	5.1	e9.2	e8.0	e6.0	e5.2	e60	165	48	130	51	36	17
21	5.0	e9.1	e7.6	e6.0	e5.2	e105	157	48	118	49	35	16
22	4.8	e9.0	e7.2	e6.2	e5.1	e200	150	46	106	50	33	16
23	5.6	e9.3	e6.9	e6.5	e5.1	e310	145	47	97	44	32	15
24	6.2	e9.5	e6.4	e6.8	e5.0	257	142	46	89	41	31	14
25	6.7	e9.3	e6.0	e6.5	e4.9	194	135	45	84	43	30	14
26	7.9	e9.1	e5.6	e6.3	e4.9	153	126	43	81	45	29	13
27	12	e8.8	e5.4	e6.2	e5.2	162	118	42	76	124	28	13
28	11	e8.8	e5.6	e6.2	e5.4	156	110	39	72	98	27	12
29	9.4	e8.9	e5.9	e6.3	---	133	102	36	67	102	27	12
30	9.1	e9.0	e6.3	e6.4	---	199	96	36	64	127	26	12
31	8.8	---	e6.9	e6.0	---	224	---	35	---	115	25	---
TOTAL	178.6	275.0	250.0	199.9	145.1	2298.0	8855	1953	1883	1698	1534	511
MEAN	5.76	9.17	8.06	6.45	5.18	74.1	295	63.0	62.8	54.8	49.5	17.0
MAX	12	9.8	9.9	7.9	6.3	310	757	92	146	127	137	25
MIN	2.4	8.4	5.4	5.9	4.8	5.1	96	35	27	32	25	12
AC-FT	354	545	496	397	288	4560	17560	3870	3730	3370	3040	1010

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2001, BY WATER YEAR (WY)

MEAN	13.2	14.0	11.1	7.37	42.4	257	273	78.2	56.5	76.8	35.1	18.0
MAX	26.5	35.3	34.6	15.9	206	693	1840	231	194	330	174	73.8
(WY)	2000	1999	1999	2000	1996	1997	1997	1999	1996	1993	1993	1999
MIN	.16	.31	.36	.30	1.32	5.05	6.32	2.76	1.25	.80	.12	.063
(WY)	1991	1991	1991	1991	1991	1991	1991	1992	1992	1992	1990	1991

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1990 - 2001	
ANNUAL TOTAL	10035.5		19780.6			
ANNUAL MEAN	27.4		54.2		73.7	
HIGHEST ANNUAL MEAN					237	1997
LOWEST ANNUAL MEAN					4.76	1990
HIGHEST DAILY MEAN	184	Feb 26	757	Apr 9	6080	Apr 2 1997
LOWEST DAILY MEAN	1.6	Aug 12	2.4	Oct 3	.00	Aug 12 1990
ANNUAL SEVEN-DAY MINIMUM	2.7	Aug 7	3.0	Oct 2	.00	Aug 12 1990
MAXIMUM PEAK FLOW			935	Apr 9	6780	Mar 31 1997
MAXIMUM PEAK STAGE			8.36	Apr 9	15.34	Mar 31 1997
ANNUAL RUNOFF (AC-FT)	19910		39230		53370	
10 PERCENT EXCEEDS	84		134		131	
50 PERCENT EXCEEDS	9.9		17		14	
90 PERCENT EXCEEDS	3.8		5.2		1.0	

e Estimated

06354580 BEAVER CREEK BELOW LINTON, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
10...	1410	3.4	--	--	--	1260	21.5	8.5	--	--	--	--	--
NOV													
16...	1400	9.1	--	--	--	1470	3.0	.00	--	--	--	--	--
FEB													
05...	1110	5.1	--	--	--	1400	<-1.0	.00	--	--	--	--	--
MAR													
29...	1300	133	--	--	--	1360	4.0	.5	--	--	--	--	--
APR													
09...	1430	719	--	--	--	670	7.5	3.5	--	--	--	--	--
MAY													
01...	1310	95	8.2	8.2	994	914	19.0	17.3	330	64.0	41.0	14.0	2
JUN													
05...	1300	27	--	--	--	1100	--	16.5	--	--	--	--	--
19...	1330	145	--	--	--	1120	26.0	19.0	--	--	--	--	--
AUG													
10...	1005	49	8.3	--e	931	922	22.0	22.0	270	53.0	34.0	18.0	3

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
01...	97.0	38	300	26.0	.2	240	174	676	663	4.0	60	<1.00	100
JUN													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
10...	100	42	297	11.0	.2	200	85.5	644	595	10.0	130	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
10...	--	--	--	--	--
NOV					
16...	--	--	--	--	--
FEB					
05...	--	--	--	--	--
MAR					
29...	--	--	--	--	--
APR					
09...	--	--	--	--	--
MAY					
01...	60.0	.10	<1.0	1.0	390
JUN					
05...	--	--	--	--	--
19...	--	--	--	--	--
AUG					
10...	50.0	.10	2.0	3.0	330

e Required equipment not functional/available

06439980 LAKE OAHE NEAR PIERRE, SD

LOCATION.--Lat 44°27'30", long 100°23'29", in NE$^{1}/_{4}$ sec.1, T.111 N., R.80 W., 5th principal meridian, Hughes County, Hydrologic Unit 10130105, in Pier A of Control Tower No. 1 of powerhouse intake structure of dam on Missouri River, 6.0 mi northwest of Pierre, 7.1 mi upstream from Bad River, and at mile 1,072.3.

DRAINAGE AREA.--243,500 mi^{2}, approximately.

PERIOD OF RECORD.--August 1958 to current year (monthend contents only). Prior to October 1967, published as Oahe Reservoir near Pierre.

GAGE.--Water-stage recorder. Datum of gage is above sea level. Prior to Jan. 14, 1958, nonrecording gages at various locations upstream from outlet works, Jan. 14, 1959, to Sept. 30, 1962, recorder in Tower No. 1 of outlet works, all at same datum.

REVISED RECORDS.--WDR SD-88-1: September monthend elevation.

REMARKS.--Reservoir is formed by an earthfill dam; storage began in August 1958. Maximum capacity, 23,338,000 acre-ft below elevation 1,620.0 ft (top of spillway gates). Normal maximum, 22,240,000 acre-ft below 1,617.0 ft, of which about 2,390,000 acre-ft is designated for flood control. Inactive storage, 5,451,000 acre-ft below elevation 1,540.0 ft. Dead storage, 1,970 acre-ft below elevation 1,425.0 ft (invert of lowest outlet tunnel). Figures given herein represent elevations at powerhouse intake structure and total contents adjusted for wind effect.

The spillway consists of a gated chute with flat crest at elevation 1,596.5 ft, 8 gates, 50 by 23.5 ft each; design capacity, 300,000 ft^{3}/s. The outlet works consist of 7 turbines with a generating capacity of 85,000 kilowatts each. Water is used for flood control, navigation, power, and incidental uses.

COOPERATION.--Records of elevation and contents provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 22,764,000 acre-ft, May 14, 1986, affected by wind; maximum elevation, 1,618.71 ft, June 25, 1995; minimum since initial filling, 12,071,000 acre-ft, Oct. 30, 1989, Nov. 1, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 19,170,000 acre-ft, July 4; minimum contents, 15,744,000 acre-ft, Dec. 14.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	1,599.51	16,469,000	--
Oct. 31	1,598.30	16,137,000	-332,000
Nov. 30	1,597.29	15,827,000	-310,000
Dec. 31	1,597.07	15,801,000	-26,000
CAL YR 2000	--	--	-2,828,000
Jan. 31	1,597.71	15,987,000	+186,000
Feb. 28	1,598.39	16,164,000	+177,000
Mar. 31	1,601.85	17,144,000	+980,000
Apr. 30	1,604.84	18,063,000	+919,000
May 31	1,607.66	18,848,000	+785,000
June 30	1,608.84	19,156,000	+308,000
July 31	1,608.65	19,147,000	-9,000
Aug. 31	1,605.77	18,391,000	-756,000
Sept.30	1,602.95	17,465,000	-926,000
WTR YR 2001	--	--	+996,000

NOTE.--Lake frozen over Dec. 24 to Apr. 7.

06468170 JAMES RIVER NEAR GRACE CITY, ND

LOCATION.--Lat 47°33'29", long 98°51'45", in NW¼NW¼NW¼ sec.17, T.147 N., R.64 W., Foster County, Hydrologic Unit 10160001, on left bank on upstream side of county highway bridge, and 2.5 mi northwest of Grace City.

DRAINAGE AREA.--1,060 mi², approximately, of which about 650 mi² is probably noncontributing.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 1,457.60 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are fair.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	126	e66	e1.9	e3.8	e2.2	e1550	276	46	284	309	29
2	61	126	e64	e2.0	e3.9	e2.2	e1500	253	45	246	348	28
3	57	135	e62	e1.9	e3.8	e2.2	e1440	231	45	189	295	27
4	56	152	e53	e1.9	e3.9	e2.2	e1370	207	41	185	234	24
5	51	167	e51	e2.0	e4.1	e2.2	e1300	193	39	165	183	22
6	48	186	e49	e2.0	e4.1	e2.5	e1330	188	40	144	152	19
7	46	194	e48	e2.0	e4.1	e2.6	1360	205	39	130	128	18
8	44	239	e41	e2.0	e4.0	e2.9	1440	227	38	115	114	16
9	43	284	e35	e2.1	e3.9	e3.4	1430	233	38	99	92	15
10	41	265	e30	e2.1	e3.9	e4.0	1460	232	35	86	80	14
11	39	176	e26	e2.3	e3.7	e5.3	1390	220	34	74	71	13
12	37	162	e22	e2.3	e3.5	e9.0	1340	202	34	66	63	12
13	38	156	e18	e2.3	e3.3	e14	1330	183	47	58	55	11
14	48	133	e15	e2.3	e3.2	e19	1300	158	53	53	48	11
15	59	128	e12	e2.3	e3.2	e31	1210	136	70	57	70	10
16	75	113	e9.8	e2.5	e3.1	e48	1140	128	101	68	56	9.7
17	88	e100	e7.9	e2.6	e3.0	e78	995	120	139	72	46	9.4
18	98	e96	e6.2	e2.5	e2.9	e109	907	117	155	101	39	9.6
19	101	e94	e5.3	e2.6	e2.8	e162	809	109	211	94	34	9.2
20	101	e92	e4.3	e2.7	e2.6	e238	734	101	312	102	31	8.5
21	103	e90	e3.9	e2.8	e2.6	e324	714	90	396	116	28	8.4
22	93	e86	e3.2	e2.9	e2.5	e399	703	83	440	182	26	8.7
23	86	e84	e2.4	e3.0	e2.5	e441	640	83	454	199	24	8.2
24	77	e80	e2.3	e3.2	e2.5	e641	536	84	449	173	21	8.2
25	73	e79	e2.1	e3.2	e2.5	e798	474	78	428	169	30	7.7
26	80	e78	e2.0	e3.3	e2.3	e1060	433	70	403	164	26	7.3
27	78	e76	e2.0	e3.4	e2.2	e1350	403	65	397	212	22	6.8
28	80	e75	e2.0	e3.4	e2.2	e1800	360	59	380	234	21	7.1
29	100	e72	e1.9	e3.6	---	e1720	319	54	357	232	19	6.7
30	112	e68	e1.9	e3.7	---	e1630	297	48	325	201	19	6.0
31	115	---	e1.9	e3.7	---	e1590	---	48	---	217	22	---
TOTAL	2192	3912	651.1	80.5	90.1	12492.7	30214	4481	5591	4487	2706	390.5
MEAN	70.7	130	21.0	2.60	3.22	403	1007	145	186	145	87.3	13.0
MAX	115	284	66	3.7	4.1	1800	1550	276	454	284	348	29
MIN	37	68	1.9	1.9	2.2	2.2	297	48	34	53	19	6.0
AC-FT	4350	7760	1290	160	179	24780	59930	8890	11090	8900	5370	775

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2001, BY WATER YEAR (WY)

MEAN	6.75	9.66	2.37	.64	3.17	139	295	90.0	38.6	57.2	31.8	11.4
MAX	70.7	130	21.0	4.22	49.9	724	1854	446	335	750	498	156
(WY)	2001	2001	2001	1994	1981	1995	1997	1997	2000	2000	1993	2000
MIN	.000	.000	.000	.000	.000	.000	.29	.18	.11	.022	.000	.000
(WY)	1977	1977	1977	1969	1969	1969	1977	1991	1973	1973	1988	1976

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1968 - 2001	
ANNUAL TOTAL	55134.9		67287.9			
ANNUAL MEAN	151		184		57.5	
HIGHEST ANNUAL MEAN					200	1997
LOWEST ANNUAL MEAN					.21	1977
HIGHEST DAILY MEAN	1490	Jul 15	1800	Mar 28	3600	Apr 3 1997
LOWEST DAILY MEAN	1.9	Feb 13	1.9	Dec 29	.00	Jan 1 1969
ANNUAL SEVEN-DAY MINIMUM	1.9	Feb 13	1.9	Dec 29	.00	Jan 1 1969
MAXIMUM PEAK FLOW			a 2000	Mar 28	4000	Apr 3 1997
MAXIMUM PEAK STAGE			b 13.65	Mar 28	b 16.18	Mar 21 1996
ANNUAL RUNOFF (AC-FT)	109400		133500		41670	
10 PERCENT EXCEEDS	494		440		99	
50 PERCENT EXCEEDS	38		58		1.1	
90 PERCENT EXCEEDS	2.3		2.5		.00	

a About
b Backwater from ice
e Estimated

06468170 JAMES RIVER NEAR GRACE CITY, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1972 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
OCT													
02...	1530	58	--	--	876	17.0	15.0	--	--	--	--	--	--
NOV													
02...	0950	126	--	--	985	4.5	9.5	--	--	--	--	--	--
15...	1340	14	--	--	1420	18.0	9.0	--	--	--	--	--	--
DEC													
07...	1530	48	--	--	1570	-4.5	.00	--	--	--	--	--	--
MAR													
28...	1100	1740	--	--	3000	3.5	1.0	--	--	--	--	--	--
APR													
03...	1315	1450	8.1	547	486	3.0	5.0	190	38.0	24.0	12.0	1	32.0
12...	1025	1320	--	--	652	10.0	3.5	--	--	--	--	--	--
18...	1420	903	--	--	720	16.0	5.5	--	--	--	--	--	--
23...	1350	587	--	--	800	15.0	6.5	--	--	--	--	--	--
JUN													
08...	0940	39	--	--	1130	22.0	19.0	--	--	--	--	--	--
JUL													
23...	1525	179	8.1	996	982	26.0	25.6	360	58.0	52.0	14.0	2	84.0
SEP													
12...	1345	12	--	--	1150	19.0	18.0	--	--	--	--	--	--

DATE	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	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)
OCT													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
03...	25	164	7.4	.1	110	1390	354	322	3.0	150	2.00	100	110
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
23...	33	257	10.0	.2	280	339	701	653	6.0	60	2.00	100	30.0
SEP													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT				
02...	--	--	--	--
NOV				
02...	--	--	--	--
15...	--	--	--	--
DEC				
07...	--	--	--	--
MAR				
28...	--	--	--	--
APR				
03...	.10	2.0	3.0	180
12...	--	--	--	--
18...	--	--	--	--
23...	--	--	--	--
JUN				
08...	--	--	--	--
JUL				
23...	.40	2.0	3.0	300
SEP				
12...	--	--	--	--

06468250 JAMES RIVER ABOVE ARROWWOOD LAKE NEAR KENSAL, ND

LOCATION.--Lat 47°23'59", long 98°47'50", in $SW^1/_4SW^1/_4SW^1/_4$ sec.2, T.145 N., R.64 W., Foster County, Hydrologic Unit 10160001, on right bank 20 ft upstream from bridge.

DRAINAGE AREA.--1,200 mi^2, approximately, of which about 750 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 1,440 ft above sea level, from topographc map.

REMARKS.--Records fair except those for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73	132	85	e4.9	e6.0	e3.4	1360	398	59	318	317	30
2	72	132	82	e5.0	e6.1	e3.3	1280	360	59	278	389	34
3	68	141	83	e5.1	e6.1	e3.2	1370	316	54	240	431	38
4	65	152	81	e5.1	e6.2	e3.2	1440	288	52	205	413	36
5	64	163	e71	e5.0	e6.2	e3.2	1420	267	50	173	356	33
6	61	193	e67	e5.0	e6.2	e3.3	1430	266	51	149	295	30
7	59	272	e64	e5.0	e6.1	e3.4	1400	258	54	137	240	33
8	56	218	e62	e4.9	e5.8	e3.5	1370	259	52	120	205	29
9	52	209	e56	e4.9	e5.3	e4.0	1420	264	49	106	177	26
10	51	182	e49	e4.9	e4.4	e4.7	1430	261	50	94	141	24
11	50	218	e43	e4.9	e4.2	e7.9	1460	251	50	83	118	26
12	49	206	e36	e4.8	e4.2	e12	1420	237	48	75	103	24
13	51	208	e32	e4.8	e4.3	e17	1370	219	57	69	87	22
14	62	223	e26	e4.7	e4.3	e23	1300	199	61	65	76	20
15	62	192	e22	e4.6	e4.2	51	1260	181	67	62	83	19
16	62	172	e19	e4.5	e4.0	77	1180	155	77	64	85	19
17	69	159	e16	e4.7	e3.9	138	1100	141	88	67	77	18
18	79	140	e14	e4.9	e3.7	191	1020	134	115	73	67	18
19	89	150	e12	e5.3	e3.6	224	944	122	147	87	58	16
20	95	147	e10	e5.4	e3.6	310	885	120	185	91	52	16
21	95	133	e8.7	e5.2	e3.6	467	830	115	269	105	49	15
22	91	125	e7.0	e5.2	e3.6	622	785	105	353	121	46	15
23	95	119	e5.3	e5.4	e3.5	726	733	100	396	152	42	16
24	90	116	e5.2	e5.5	e3.4	901	680	87	420	195	38	13
25	84	110	e5.2	e5.6	e3.4	1080	637	83	427	173	41	10
26	101	105	e4.9	e5.7	e3.4	1510	597	80	418	163	46	10
27	125	102	e4.8	e5.7	e3.4	2300	554	74	395	177	43	10
28	107	97	e4.5	e5.9	e3.4	2030	520	70	378	335	38	9.3
29	95	96	e4.6	e5.9	---	1760	484	67	376	351	34	8.3
30	105	90	e4.7	e6.0	---	1560	437	62	358	305	33	8.0
31	120	---	e4.8	e6.0	---	1480	---	60	---	286	32	---
TOTAL	2397	4702	989.7	160.5	126.1	15522.1	32116	5599	5215	4919	4212	625.6
MEAN	77.3	157	31.9	5.18	4.50	501	1071	181	174	159	136	20.9
MAX	125	272	85	6.0	6.2	2300	1460	398	427	351	431	38
MIN	49	90	4.5	4.5	3.4	3.2	437	60	48	62	32	8.0
AC-FT	4750	9330	1960	318	250	30790	63700	11110	10340	9760	8350	1240

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2001, BY WATER YEAR (WY)

MEAN	13.4	21.9	7.34	2.08	3.00	235	476	141	58.9	106	84.0	27.2
MAX	77.3	157	47.5	10.6	19.4	781	2188	625	305	814	688	175
(WY)	2001	2001	1995	1995	1998	1995	1997	1997	2000	2000	1993	2000
MIN	.000	.000	.000	.000	.000	.21	2.59	2.24	.077	.000	.000	.000
(WY)	1989	1989	1989	1989	1989	1990	1991	1991	1991	1991	1988	1988

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1986 - 2001	
ANNUAL TOTAL	60481.3		76584.0			
ANNUAL MEAN	165		210		98.2	
HIGHEST ANNUAL MEAN					245	1997
LOWEST ANNUAL MEAN					.52	1991
HIGHEST DAILY MEAN	1290	Jul 16	2300	Mar 27	4400	Apr 5 1997
LOWEST DAILY MEAN	3.9	Feb 11	3.2	Mar 3	.00	Oct 1 1985
ANNUAL SEVEN-DAY MINIMUM	4.1	Feb 10	3.3	Feb 28	.00	Oct 1 1985
MAXIMUM PEAK FLOW			2990	Mar 27	a 4700	Apr 5 1997
MAXIMUM PEAK STAGE			10.41	Mar 27	a,b 13.00	Apr 5 1997
ANNUAL RUNOFF (AC-FT)	120000		151900		71130	
10 PERCENT EXCEEDS	574		571		230	
50 PERCENT EXCEEDS	44		70		4.8	
90 PERCENT EXCEEDS	4.8		4.8		.00	

a About
b Backwater from ice
e Estimated

06468250 JAMES RIVER ABOVE ARROWWOOD LAKE NEAR KENSAL, ND--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT													
02...	1255	73	710	96	9.5	8.4	8.3	933	871	17.5	12.5	370	69.1
NOV													
01...	1510	134	--	--	9.5	8.7	8.1	1010	910	16.0	9.5	410	74.5
DEC													
08...	1030	62	--	--	--	--	--	--	1460	--	.00	--	--
MAR													
08...	1315	3.5	721	88	12.1	7.9	7.8	1540	1550	--	.00	620	122
APR													
03...	1620	1410	722	101	12.3	7.7	7.8	551	485	4.0	4.5	190	37.6
09...	1535	1420	--	--	--	--	--	--	535	3.5	4.0	--	--
12...	1305	1420	--	--	--	--	--	--	605	8.0	6.0	--	--
MAY													
03...	1145	315	725	89	9.0	8.3	8.2	954	894	17.0	12.6	360	66.2
JUN													
25...	1245	424	709	92	7.0	8.3	8.2	1240	1100	28.0	25.5	480	79.3
JUL													
24...	1005	201	717	83	6.6	8.5	8.5	1320	1300	19.0	23.2	470	75.1
SEP													
06...	1015	28	708	74	6.3	8.3	8.4	1130	1130	26.0	19.5	420	70.9
24...	1255	12	726	87	9.3	8.3	8.5	1200	1120	15.0	10.0	460	80.6

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
OCT													
02...	46.9	15.1	1	63.2	26	352	13.3	.2	13.5	156	1.4	--	E.023
NOV													
01...	53.3	14.0	2	70.9	27	319	14.1	.2	11.6	223	--	--	--
DEC													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
08...	75.7	13.3	2	135	32	564	34.6	.3	25.3	316	1.0	--	.083
APR													
03...	23.9	10.9	1	34.8	27	161	6.1	E.2	13.6	104	1.5	1.8	.384
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
03...	48.3	15.8	2	69.9	28	282	11.2	.2	5.2	229	1.2	1.5	E.023
JUN													
25...	68.1	15.1	2	95.9	30	303	15.1	.2	11.8	354	1.7	--	E.029
JUL													
24...	68.9	15.1	3	125	36	362	13.1	.2	6.6	365	1.7	2.1	<.040
SEP													
06...	58.9	13.2	2	102	34	371	18.7	.2	20.9	257	1.6	--	<.040
24...	62.7	13.1	2	105	32	393	19.8	.3	17.9	293	1.4	--	<.040

06468250 JAMES RIVER ABOVE ARROWWOOD LAKE NEAR KENSAL, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
OCT													
02...	E.003	--	.165	--	--	--	1.5	.171	.133	--	125	630	590
NOV													
01...	--	--	--	--	--	--	--	--	--	--	242	670	653
DEC													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
08...	E.003	--	.307	.96	--	--	1.3	E.036	.027	--	10.6	1130	1060
APR													
03...	.059	1.07	1.13	1.1	1.4	2.9	2.6	.356	.267	.424	1400	368	334
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
03...	<.006	--	<.047	--	--	--	--	.132	.095	.215	560	658	616
JUN													
25...	.024	.202	.226	--	--	--	1.9	.275	.250	--	1020	890	823
JUL													
24...	<.006	--	E.024	--	--	--	--	.309	.269	.493	517	952	887
SEP													
06...	<.006	--	<.050	--	--	--	--	.303	.257	--	62.4	814	766
24...	<.006	--	<.050	--	--	--	--	.187	.156	--	27.3	830	828

DATE	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	ARSENIC TOTAL (UG/L AS AS) (01002)	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)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	TRIAZIN SCREEN (ELISA) WAT,WH REC,AS ATRAZIN (UG/L) (34757)
OCT													
02...	4.2	--	96	M	76.6	<.23	<2.4	--	--	--	--	--	<.1
NOV													
01...	3.2	--	92	10	34.7	<.23	<2.4	--	--	--	--	--	<.1
DEC													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
08...	E1.5	--	173	20	233	--	<2.4	--	--	--	--	--	--
APR													
03...	2.5	--	43	150	72.8	--	<2.4	--	<.004	<.002	<.005	<.007	<.1
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
03...	4.0	5	85	40	32.6	--	<2.4	<2.6	--	--	--	--	--
JUN													
25...	E5.8	--	103	80	42.9	--	<12.0	--	--	--	--	--	.1
JUL													
24...	E8.2	8	151	30	26.2	--	<12.0	<3.0	<.004	<.002	<.005	.014	--
SEP													
06...	7.8	--	150	50	42.9	<.01	<2.0	--	--	--	--	--	M
24...	6.0	--	141	<10	4.2	<.01	<2.0	--	--	--	--	--	--

DATE	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CARBO-FURAN, SCREEN, TOTAL (UG/L) (99902)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	CYANA-ZINE, SCREEN, TOTAL (UG/L) (99904)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)
OCT													
02...	--	--	--	--	--	<.06	--	--	<.04	--	--	--	--
NOV													
01...	--	--	--	--	--	<.06	--	--	<.04	--	--	--	--
DEC													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
03...	<.050	<.010	<.002	<.041	<.020	--	<.005	<.018	--	<.003	<.006	<.005	<.005
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
24...	<.050	<.010	<.002	<.041	<.020	--	<.005	<.018	--	<.003	E.006	<.005	<.005
SEP													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--	--

06468250 JAMES RIVER ABOVE ARROWWOOD LAKE NEAR KENSAL, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	LINDANE DIS-SOLVED (UG/L) (39341)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)
OCT													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
03...	<.002	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.006	<.013	<.006	<.002
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
24...	<.002	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.006	<.013	<.006	<.002
SEP													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	P,P' DDE DISSOLV (UG/L) (34653)	PARA-THION, DIS-SOLVED (UG/L) (39542)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROPA-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)
OCT													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
03...	<.007	<.003	<.007	<.002	<.010	<.006	<.011	<.004	<.010	<.011	<.023	<.011	<.016
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
24...	<.007	<.003	<.007	<.002	<.010	<.006	<.011	<.004	<.010	<.011	<.023	<.011	E.008
SEP													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	2,4-D SCREEN, TOTAL (UG/L) (99906)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT									
02...	--	--	--	--	--	2.50	45	9.0	91
NOV									
01...	--	--	--	--	--	1.60	20	7.2	91
DEC									
08...	--	--	--	--	--	--	--	--	--
MAR									
08...	--	--	--	--	--	--	145	1.4	51
APR									
03...	<.034	<.017	<.005	.007	<.009	<.700	35	133	95
09...	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--
MAY									
03...	--	--	--	--	--	--	22	19	86
JUN									
25...	--	--	--	--	--	<.700	38	44	94
JUL									
24...	<.034	<.017	<.005	<.002	<.009	--	55	30	92
SEP									
06...	--	--	--	--	--	<.700	94	7.2	98
24...	--	--	--	--	--	--	87	2.9	94

E Estimated value
M Presence verified, not quantified

06468500 JAMES RIVER NEAR PINGREE, ND

LOCATION.--Lat 47°08'30", long 98°47'00", in $SW^1/_4SW^1/_4$ sec.3, T.142 N., R.64 W., Stutsman County, Hydrologic Unit 10160001, on right bank 500 ft upstream from dam at outlet of DePuy Marsh, 6.5 mi southeast of Pingree, and 6.25 mi northeast of Buchanan.

DRAINAGE AREA.--1,670 mi^2, approximately, of which about 900 mi^2 is probably noncontributing.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1959-60, 1962, 1965, 1979-89, 1993 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT													
03...	0800	--	718	86	9.2	--e	8.4	781	727	7.5	9.4	300	57.0
NOV													
01...	1200	--	705	103	10.9	--e	8.3	835	764	17.0	9.5	330	62.8
APR													
04...	0830	446	721	76	10.3	8.2	8.1	611	587	2.0	.5	210	39.8
MAY													
03...	0830	--	723	75	7.7	8.6	8.4	696	650	10.5	11.8	260	49.0
JUN													
20...	1200	--	722	101	9.3	8.4	8.4	1070	974	21.0	16.5	400	75.2
JUL													
24...	1115	--	717	86	6.9	8.6	8.5	1160	1170	21.0	23.0	430	74.2
SEP													
06...	1230	--	708	129	10.4	8.9	8.9	1120	1100	28.0	22.0	410	69.9
24...	1430	--	726	119	12.0	8.3	8.4	1180	1170	16.5	12.5	410	66.8

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
OCT													
03...	38.3	14.1	1	53.1	27	300	10.4	E.1	12.7	116	1.3	--	.057
NOV													
01...	42.8	13.1	1	60.0	27	304	11.4	.2	8.2	145	--	--	--
APR													
04...	25.8	12.3	1	39.0	28	168	7.0	E.2	13.2	125	1.8	1.9	.551
MAY													
03...	32.3	12.9	1	45.3	27	199	9.0	E.1	7.2	155	.99	1.2	E.029
JUN													
20...	51.5	15.8	2	85.8	31	311	16.2	.2	12.6	250	1.1	--	E.021
JUL													
24...	58.6	16.1	2	102	33	317	15.2	.2	11.2	313	1.3	2.0	<.040
SEP													
06...	57.8	13.5	2	107	35	372	14.5	.2	19.5	268	1.6	--	<.040
24...	58.7	13.9	2	109	36	367	16.6	.2	18.7	284	1.6	--	.065

DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N) (00607)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN DIS-SOLVED (MG/L AS N) (00602)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
OCT													
03...	.013	.598	.611	1.3	--	--	1.9	.205	.165	--	--	519	485
NOV													
01...	--	--	--	--	--	--	--	--	--	--	--	544	526
APR													
04...	.052	1.40	1.45	1.3	1.4	3.4	3.3	.396	.313	.470	482	400	371
MAY													
03...	<.006	--	<.047	--	--	--	--	<.060	<.018	.086	--	482	430
JUN													
20...	E.005	--	<.050	--	--	--	--	.074	.050	--	--	736	694
JUL													
24...	<.006	--	E.034	--	--	--	--	.246	.213	.417	--	806	781
SEP													
06...	<.006	--	<.050	--	--	--	--	.729	.683	--	--	832	776
24...	<.006	--	<.050	1.5	--	--	--	.307	.272	--	--	830	790

06468500 JAMES RIVER NEAR PINGREE, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	ARSENIC TOTAL (UG/L AS AS) (01002)	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)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	TRIAZIN SCREEN (ELISA) WAT,WH REC,AS ATRAZIN (UG/L) (34757)
OCT													
03...	4.3	--	105	M	112	--	<2.4	--	--	--	--	--	<.1
NOV													
01...	2.2	--	103	<10	16.1	<.23	<2.4	--	--	--	--	--	<.1
APR													
04...	E1.9	--	49	110	106	--	<2.4	--	<.004	<.002	<.005	<.007	--
MAY													
03...	2.1	3	62	20	25.8	--	<2.4	<2.6	--	--	--	--	--
JUN													
20...	3.9	--	116	<10	391	--	<2.0	--	--	--	--	--	<.1
JUL													
24...	E8.8	9	139	20	739	--	<12.0	<3.0	--	--	--	--	.1
SEP													
06...	14.7	--	145	<10	181	.01	<2.0	--	<.004	<.002	<.005	.012	.1
24...	6.1	--	133	30	81.8	.26	<2.0	--	--	--	--	--	.2

DATE	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CARBO-FURAN, SCREEN, TOTAL (UG/L) (99902)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	CYANA-ZINE, SCREEN, TOTAL (UG/L) (99904)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)
OCT													
03...	--	--	--	--	--	<.06	--	--	<.04	--	--	--	--
NOV													
01...	--	--	--	--	--	<.06	--	--	<.04	--	--	--	--
APR													
04...	<.050	<.010	<.002	<.041	<.020	--	<.005	<.018	--	<.003	<.006	<.005	<.005
MAY													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
06...	<.050	<.010	<.002	<.041	<.020	--	<.005	<.018	--	<.003	E.009	<.005	<.005
24...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	LINDANE DIS-SOLVED (UG/L) (39341)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)
OCT													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
04...	<.002	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.006	<.013	<.006	<.002
MAY													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
06...	<.002	<.021	<.002	<.009	<.005	<.003	<.004	<.035	<.027	<.006	<.013	<.006	<.002
24...	--	--	--	--	--	--	--	--	--	--	--	--	--

06468500 JAMES RIVER NEAR PINGREE, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	P,P' DDE DISSOLV (UG/L) (34653)	PARA-THION, DIS-SOLVED (UG/L) (39542)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROPA-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)
OCT													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
04...	<.007	<.003	<.007	<.002	<.010	<.006	<.011	<.004	<.010	<.011	<.023	<.011	<.016
MAY													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
06...	<.007	<.003	<.007	<.002	<.010	<.006	<.011	<.004	<.010	<.011	<.023	<.011	<.016
24...	--	--	--	--	--	--	--	--	--	--	--	--	--

DATE	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	2,4-D SCREEN TOTAL (UG/L) (99906)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT									
03...	--	--	--	--	--	1.60	32	--	93
NOV									
01...	--	--	--	--	--	1.10	8	--	90
APR									
04...	<.034	<.017	<.005	.008	<.009	--	14	17	90
MAY									
03...	--	--	--	--	--	--	12	--	84
JUN									
20...	--	--	--	--	--	<.700	47	--	93
JUL									
24...	--	--	--	--	--	<.700	74	--	92
SEP									
06...	<.034	<.017	<.005	<.002	<.009	<.700	108	--	97
24...	--	--	--	--	--	<.700	18	--	85

E Estimated value
M Presence verified, not quantified
e Required equipment not functional/available

06469000 JAMESTOWN RESERVOIR NEAR JAMESTOWN, ND

LOCATION.--Lat 46°55'50", long 98°42'23", in SE$^{1}/_{4}$NW$^{1}/_{4}$ sec.24, T.140 N., R.64 W., Stutsman County, Hydrologic Unit 10160001, on left bank in control house below Jamestown Dam on James River, 1.7 mi north of Jamestown Post Office, and 3.3 mi upstream from Pipestem Creek.

DRAINAGE AREA.--1,760 mi^{2}, approximately, of which about 1,010 mi^{2} is probably noncontributing.

MONTHEND-ELEVATION AND CONTENTS RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 1,400.00 ft above sea level; gage readings have been converted to sea level. From June 22, 1959, to June 3, 1971, site was located 0.2 mi upstream at same datum. Prior to June 22, 1959, nonrecording gages at different locations. Water-stage recorder discontinued July 15, 1999. Data provided from the Bureau of Reclamation will be published in 2000 data report.

REMARKS.--Reservoir is formed by earth-fill dam, completed Oct. 1, 1953. Closure made May 7, 1953, and filling of dead storage started. Gates initially closed Feb. 8, 1954. Usable capacity, 229,470 acre-ft between elevations 1,400 ft, sill of outlet, and 1,454 ft, crest of spillway. Dead storage below elevation 1,400 ft, 820 acre-ft. Maximum design pool, 389,000 acre-ft, elevation, 1,464.6 ft. Figures given herein represent total contents based on capacity table dated Oct. 1, 1965. Reservoir is used for flood control and municipal supply. Elevations are adjusted for wind effect.

COOPERATION.--Records furnished by the U.S. Bureau of Reclamation. Elevations affected by wind.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 124,900 acre-ft, May 2, 1997, elevation, 1,445.80 ft; minimum since initial filling of reservoir, 14,420 acre-ft, Mar. 1, 1993, elevation, 1,420.90 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 95,890 acre-ft, Apr. 22, elevation, 1,442.83 ft; minimum, 21,240 acre-ft, Dec. 27, elevation, 1,425.62 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	1,432.93	36,200	--
Oct. 31	1,428.23	25,800	-10,400
Nov. 30	1,427.28	24,060	-1,740
Dec. 31	1,425.70	21,370	-2,690
CAL YR 2000	--	--	-520
Jan. 31	1,426.52	22,740	+1,370
Feb. 28	1,426.93	23,440	+700
Mar. 31	1,432.78	35,820	+12,380
Apr. 30	1,441.92	87,630	+51,810
May 31	1,436.82	48,810	-38,820
June 30	1,432.20	34,360	-14,450
July 31	1,431.82	33,430	-930
Aug. 31	1,430.44	30,280	-3,150
Sept.30	1,428.16	25,660	-4,620
WTR YR 2001	--	--	-10,540

06469400 PIPESTEM CREEK NEAR PINGREE, ND

LOCATION.--Lat 47°10'03", long 98°58'07", in NE¼NE¼NW¼ sec.31, T.143 N., R.65 W., Stutsman County, Hydrologic Unit 10160002, on right bank on downstream side of State Highway 36 bridge, and 3 mi west of Pingree.

DRAINAGE AREA.--700 mi², of which about 440 mi² is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1973 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,500.63 ft above sea level.

REMARKS.--Records good except those for estimated daily discharges, which are fair.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	119	e58	e4.6	e8.5	e4.0	e480	156	68	125	294	28
2	14	119	e56	e4.5	e8.4	e4.0	e446	146	66	109	231	28
3	13	116	e52	e4.4	e8.6	e4.2	e440	137	64	99	204	25
4	11	111	e50	e4.3	e8.6	e4.4	e420	128	62	91	215	22
5	12	102	e47	e4.2	e8.5	e4.6	e460	123	61	83	221	20
6	10	101	e45	e4.2	e8.3	e4.8	e500	130	75	79	207	21
7	10	101	e42	e4.2	e8.0	e5.0	e600	143	92	74	187	18
8	10	73	e39	e4.3	e7.8	e6.0	e680	162	80	70	178	17
9	9.8	85	e36	e4.5	e7.6	e7.0	e763	183	75	67	182	16
10	10	100	e33	e4.6	e7.4	e12	814	165	81	63	147	16
11	10	93	e30	e4.6	e7.2	e16	749	150	82	60	117	15
12	12	87	e28	e4.8	e7.0	e18	695	149	80	59	98	14
13	12	89	e25	e4.9	e6.8	e30	643	139	89	57	86	12
14	19	87	e23	e5.0	e6.6	e50	614	127	110	58	78	13
15	21	87	e20	e5.2	e6.4	e70	561	117	147	58	72	14
16	24	86	e19	e5.4	e6.2	e100	497	110	186	62	66	14
17	25	87	e17	e5.6	e6.0	e150	458	106	246	64	62	12
18	26	84	e15	e5.7	e5.8	e220	383	100	352	62	58	10
19	30	88	e13	e5.8	e5.6	e340	342	95	487	59	54	11
20	33	95	e11	e6.0	e5.4	e446	323	93	560	62	51	12
21	31	94	e10	e6.2	e5.2	e580	314	94	598	69	50	12
22	32	87	e9.3	e6.4	e5.0	e660	295	92	634	77	47	11
23	34	76	e8.5	e6.6	e4.8	e940	269	88	634	106	45	8.7
24	40	65	e8.0	e6.8	e4.7	e900	246	87	587	105	42	8.3
25	42	65	e7.3	e7.0	e4.6	e840	226	85	532	87	43	8.4
26	54	64	e6.8	e7.2	e4.4	e780	210	81	481	99	40	8.3
27	70	62	e6.0	e7.4	e4.2	e700	198	78	383	152	40	8.1
28	89	62	e5.6	e7.6	e4.0	e630	184	74	285	294	37	7.2
29	99	61	e5.0	e7.8	---	e580	173	71	210	397	36	6.9
30	118	e60	e4.9	e8.1	---	e530	163	70	159	426	33	8.2
31	122	---	e4.7	e8.3	---	e500	---	69	---	366	29	---
TOTAL	1059.8	2606	735.1	176.2	181.6	9136.0	13146	3548	7566	3639	3250	425.1
MEAN	34.2	86.9	23.7	5.68	6.49	295	438	114	252	117	105	14.2
MAX	122	119	58	8.3	8.6	940	814	183	634	426	294	28
MIN	9.8	60	4.7	4.2	4.0	4.0	163	69	61	57	29	6.9
AC-FT	2100	5170	1460	349	360	18120	26080	7040	15010	7220	6450	843

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2001, BY WATER YEAR (WY)

MEAN	9.40	9.48	4.33	1.09	6.00	144	193	60.5	34.4	52.8	25.3	15.6
MAX	133	86.9	29.1	9.72	45.9	572	1300	414	252	389	190	153
(WY)	1995	2001	1995	2000	1998	1995	1997	1999	2001	1993	1999	1994
MIN	.000	.000	.000	.000	.000	.003	.096	.038	.017	.000	.000	.000
(WY)	1974	1977	1977	1974	1974	1991	1991	1977	1977	1985	1976	1976

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1974 - 2001	
ANNUAL TOTAL	30922.9		45468.8			
ANNUAL MEAN	84.5		125		46.5	
HIGHEST ANNUAL MEAN					149	1997
LOWEST ANNUAL MEAN					.035	1977
HIGHEST DAILY MEAN	835	Jul 17	940	Mar 23	2760	Apr 19 1997
LOWEST DAILY MEAN	4.7	Dec 31	4.0	Feb 28	.00	Oct 1 1973
ANNUAL SEVEN-DAY MINIMUM	5.8	Dec 25	4.2	Feb 26	.00	Oct 1 1973
MAXIMUM PEAK FLOW			940	Mar 23	3400	Apr 19 1997
MAXIMUM PEAK STAGE			11.07	Mar 23	11.70	Mar 17 1995
ANNUAL RUNOFF (AC-FT)	61340		90190		33700	
10 PERCENT EXCEEDS	184		432		95	
50 PERCENT EXCEEDS	50		61		2.1	
90 PERCENT EXCEEDS	7.2		5.6		.00	

e Estimated

06469400 PIPESTEM CREEK NEAR PINGREE, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1974 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
03...	1020	14	--	--	--	1010	7.0	10.5	--	--	--	--	--
NOV													
01...	0915	119	--	--	--	1230	11.0	11.0	--	--	--	--	--
JAN													
29...	1545	780	--	--	--	1650	-2.0	.00	--	--	--	--	--
APR													
02...	1405	446	7.9	--e	724	686	5.5	.5	260	47.0	35.0	12.0	1
09...	1230	763	--	--	--	817	5.0	5.0	--	--	--	--	--
12...	1625	697	--	--	--	830	9.0	6.0	--	--	--	--	--
18...	1645	372	--	--	--	960	18.0	7.0	--	--	--	--	--
JUN													
07...	1025	96	--	--	--	1440	--	15.3	--	--	--	--	--
JUL													
24...	1330	103	--	--	--	1230	21.0	24.2	--	--	--	--	--
SEP													
06...	1425	20	8.3	--e	1410	1370	28.0	25.0	520	81.0	77.0	21.0	2

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
02...	50.0	28	185	7.8	.1	180	571	474	443	4.0	40	<1.00	40.0
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
06...	130	34	413	21.0	.2	380	54.8	1010	959	10.0	80	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
03...	--	--	--	--	--
NOV					
01...	--	--	--	--	--
JAN					
29...	--	--	--	--	--
APR					
02...	90.0	.20	<1.0	<1.0	250
09...	--	--	--	--	--
12...	--	--	--	--	--
18...	--	--	--	--	--
JUN					
07...	--	--	--	--	--
JUL					
24...	--	--	--	--	--
SEP					
06...	100	.10	2.0	3.0	420

e Required equipment not functional/available

06469820 PIPESTEM RESERVOIR NEAR JAMESTOWN, ND

LOCATION.--Lat 46°57'44", long 98°45'11", in NW¼NW¼ sec.10, T.140 N., R.64 W., Stutsman County, Hydrologic Unit 10160002, on left bank in control house above Pipestem Dam 2.5 mi northwest of Jamestown Post Office, and 3.5 mi upstream from James River.

DRAINAGE AREA.--1,010 mi^2, approximately, of which about 610 mi^2 is probably noncontributing.

MONTHEND-ELEVATION AND CONTENTS RECORDS

PERIOD OF RECORD.--March 1974 to current year. Prior to October 1991, records are available from the U.S. Army Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is at sea level.

REMARKS.--Reservoir is formed by earth-fill dam; storage began in July 1973; dam completed in 1973. Total capacity is 147,000 acre-ft at maximum pool, elevation 1,496.3 ft. Figures given herein represent total contents based on capacity table for the 1990 survey. The reservoir is used for flood control, fish and wildlife, and recreation.

COOPERATION.--Records furnished by U.S. Army Corps of Engineers, capacity table dated January 1993. Elevations affected by wind.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 103,820 acre-ft, May 10, 1997, elevation, 1,487.01 ft; minimum contents, 6,730 acre-ft, Feb. 17, 1993, elevation, 1,439.65 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 67,230 acre-ft, May 9, 10, elevation, 1,474.17 ft; minimum contents, 9,440 acre-ft, Sept. 10, elevation, 1,441.92 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30	1,463.17	38,540	--
Oct. 31	1,454.67	25,600	-12,940
Nov. 30	1,444.65	12,030	-13,570
Dec. 31	1,442.93	10,340	-1,690
CAL YR 2000	--	--	+1,030
Jan. 31	1,442.90	10,310	-30
Feb. 28	1,442.85	10,270	-40
Mar. 31	1,460.61	36,240	+25,970
Apr. 30	1,473.73	66,060	+29,820
May 31	1,470.19	57,090	-8,970
June 30	1,457.40	30,270	-26,820
July 31	1,444.87	12,260	-18,010
Aug. 31	1,442.46	9,920	-2,340
Sept.30	1,442.12	9,620	-300
WTR YR 2001	--	--	-28,920

06470000 JAMES RIVER AT JAMESTOWN, ND

LOCATION.--Lat 46°53'22", long 98°40'58", in NW¼NE¼ sec.6, T.139 N., R.63 W., Stutsman County, Hydrologic Unit 10160003, on left bank 200 ft upstream from Interstate 94 bridge at southeast corner of Jamestown and 3 mi downstream from Pipestem Creek.

DRAINAGE AREA.--2,820 mi², approximately, of which about 1,650 mi² is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1928 to September 1933, March to May 1935, August 1937 to September 1939, April 1943 to current year. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WSP 1239: 1938(M). WSP 1917: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,373.27 ft above sea level. Oct. 1, 1949, to Sept. 30, 1965, at former bridge 0.5 mi upstream at datum 2.00 ft higher. See WSP 1729 or 1917 for history of changes prior to Oct. 1, 1949.

REMARKS.--Records good except for periods of estimated discharge, which are fair. Flow regulated by Arrowwood, Jim, and Pipestem Lakes, and Jamestown Reservoir, combined capacity, 393,000 acre-ft. Regulation by Jamestown Reservoir (station 06469000) 6 mi upstream since 1953 and by Pipestem Lake, capacity 147,000 acre-ft, since 1973.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	608	e540	457	e24	e27	e22	103	1090	1090	1120	634	155
2	600	555	359	e24	e27	e21	134	1180	1220	1110	622	153
3	608	548	308	e24	e28	e21	270	1240	1210	1020	616	152
4	569	544	267	e25	e28	e21	341	1270	1210	1010	609	144
5	612	542	316	e25	e27	e21	378	1290	1210	1010	634	115
6	607	550	252	e26	e26	e21	445	1320	1170	976	707	115
7	612	585	228	e26	e24	e21	684	1280	1060	906	799	114
8	605	563	220	e27	e24	e21	625	1270	1220	899	e900	114
9	603	558	211	e27	e24	e20	601	1270	1210	858	779	113
10	601	553	e195	e28	e24	e20	707	948	1220	734	751	111
11	600	551	e180	e29	e23	20	828	791	1250	664	737	101
12	599	550	e165	e29	e23	22	788	1250	1210	659	721	100
13	621	544	e150	e30	e23	31	712	1260	1170	655	704	100
14	640	559	e135	e30	e23	35	811	1250	1230	657	629	115
15	599	613	e120	e31	e23	32	807	1250	1210	652	e640	105
16	595	610	e110	e32	e23	37	858	e1240	1190	671	e590	103
17	592	609	e97	e32	e23	52	944	e1230	1190	674	e570	103
18	588	609	e88	e32	e23	69	944	e920	1190	659	e550	157
19	582	603	e80	e33	e23	158	945	e710	1180	668	e540	230
20	581	602	e72	e33	e23	233	947	e480	1180	731	e520	225
21	587	600	e66	e33	e23	275	944	e340	1190	711	e350	230
22	580	598	e60	e33	e22	251	940	364	1230	655	e330	228
23	578	596	e55	e33	e22	125	947	1200	1230	607	e330	224
24	575	596	e49	e32	e22	87	944	1230	1250	502	e280	225
25	574	593	e44	e32	e22	100	946	1220	1240	491	e220	225
26	623	591	e40	e31	e22	91	946	1230	1240	492	e130	223
27	551	544	e36	e31	e22	64	946	1230	1230	515	e90	222
28	560	520	e32	e30	e22	62	945	1220	1130	494	e70	221
29	561	514	e29	e30	---	89	943	1210	1200	487	e90	221
30	556	508	e27	e29	---	127	987	1220	1140	538	e120	219
31	e530	---	e25	e27	---	117	---	1230	---	694	152	---
TOTAL	18297	17048	4473	908	666	2286	22360	34233	35900	22519	15414	4863
MEAN	590	568	144	29.3	23.8	73.7	745	1104	1197	726	497	162
MAX	640	613	457	33	28	275	987	1320	1250	1120	900	230
MIN	530	508	25	24	22	20	103	340	1060	487	70	100
AC-FT	36290	33810	8870	1800	1320	4530	44350	67900	71210	44670	30570	9650

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 2001, BY WATER YEAR (WY)

MEAN	69.7	37.0	11.6	5.67	11.8	85.4	280	238	179	121	98.1	80.8
MAX	946	568	144	47.9	111	731	2434	2559	1266	1024	761	908
(WY)	1994	2001	2001	1995	1930	1966	1950	1950	1997	1995	1995	1993
MIN	.29	.35	.66	.29	.60	1.74	1.00	1.06	1.27	.67	.23	.20
(WY)	1990	1939	1939	1991	1939	1944	1939	1939	1931	1933	1933	1933

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1928 - 2001	
ANNUAL TOTAL	93544		178967			
ANNUAL MEAN	256		490		102	
HIGHEST ANNUAL MEAN					521	1997
LOWEST ANNUAL MEAN					2.38	1938
HIGHEST DAILY MEAN	640	Oct 14	1320	May 6	6170	May 13 1950
LOWEST DAILY MEAN	14	Feb 4	20	Mar 9	.00	Jun 28 1933
ANNUAL SEVEN-DAY MINIMUM	15	Feb 2	21	Mar 5	.00	Oct 26 1989
MAXIMUM PEAK FLOW			1350	May 8	6390	May 13 1950
MAXIMUM PEAK STAGE			10.29	May 8	a 15.82	May 13 1950
INSTANTANEOUS LOW FLOW					.00	Jun 28 1933
ANNUAL RUNOFF (AC-FT)	185500		355000		73590	
10 PERCENT EXCEEDS	598		1210		313	
50 PERCENT EXCEEDS	135		538		8.7	
90 PERCENT EXCEEDS	23		24		1.3	

a Site and datum then in use
e Estimated

06470000 JAMES RIVER AT JAMESTOWN, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1950-51, 1958 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
03...	1305	595	--	--	--	686	9.0	14.0	--	--	--	--	--
18...	1320	44	--	--	--	1090	14.5	11.0	--	--	--	--	--
31...	1600	530	--	--	--	910	14.5	11.0	--	--	--	--	--
DEC													
07...	0925	227	--	--	--	1070	.00	1.0	--	--	--	--	--
JAN													
31...	1330	27	--	--	--	1330	-2.0	.00	--	--	--	--	--
APR													
04...	1140	336	--	--	--	1210	--	3.0	--	--	--	--	--
10...	1605	686	7.9	7.8	1050	888	8.0	7.5	410	77.0	52.0	16.0	2
MAY													
17...	1220	1230	--	--	--	605	23.5	14.0	--	--	--	--	--
JUN													
26...	1305	1250	--	--	--	824	25.5	20.5	--	--	--	--	--
JUL													
24...	1645	520	--	--	--	1100	--	24.8	--	--	--	--	--
SEP													
07...	0855	111	8.2	--	1200	1210	26.0	19.0	430	76.0	57.0	16.0	2

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
31...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
10...	76.0	28	339	17.0	.2	230	1310	709	673	3.0	90	2.00	100
MAY													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
07...	110	35	326	18.0	.2	320	257	859	794	9.0	110	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
03...	--	--	--	--	--
18...	--	--	--	--	--
31...	--	--	--	--	--
DEC					
07...	--	--	--	--	--
JAN					
31...	--	--	--	--	--
APR					
04...	--	--	--	--	--
10...	650	.10	2.0	3.0	360
MAY					
17...	--	--	--	--	--
JUN					
26...	--	--	--	--	--
JUL					
24...	--	--	--	--	--
SEP					
07...	950	<.10	2.0	3.0	380

06470500 JAMES RIVER AT LAMOURE, ND

LOCATION.--Lat 46°21'20", long 98°18'15", in $NE^{1}/_{4}NE^{1}/_{4}$ sec.11, T.133 N., R.61 W., LaMoure County, Hydrologic Unit 10160003, on left bank 80 ft downstream from bridge on State Highway 13, 0.5 mi west of LaMoure and 12 mi upstream from Cottonwood Creek.

DRAINAGE AREA.--4,390 mi^2, approximately, of which about 2,600 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April to July 1903 (gage-height record only), April 1950 to current year. Gage-height records for 1902-11 are contained in reports of the National Oceanic and Atmospheric Administration.

REVISED RECORDS.--WSP 1917: Drainage area.

GAGE.--Water-stage recorder and rubble-masonry control. Datum of gage is 1,290.00 ft above sea level. See WSP 1729 or 1917 for history of changes prior to Apr. 19, 1950.

REMARKS.--Records good except for periods of estimated discharge, which are poor. Flow regulated by Arrowwood, Jim, and Pipestem Lakes and Jamestown Reservoir, combined capacity, 393,000 acre-ft. Regulation by Jamestown Reservoir (station 06469000) 85 mi upstream since 1953 and by Pipestem Lake, capacity 147,000 acre-ft, since 1973.

EXTREMES OUTSIDE PERIOD OF RECORD.--Prior to flood of Apr. 14, 1969, a long-time resident said that the flood of May 16, 1950, was the highest since 1881, with stage in either 1942 or 1943 being almost as high owing to large ice jam.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	616	e569	e470	e37	e34	e26	e330	1210	1340	1310	713	105
2	615	e569	e410	e35	e34	e26	e350	1200	1340	1300	846	186
3	632	e570	e350	e33	e34	e26	e450	1230	1290	1250	861	204
4	616	e560	e310	e31	e34	e25	e550	1290	1300	1220	825	202
5	642	e560	e340	e31	e33	e25	e720	1350	1330	1170	e790	194
6	605	e570	e310	e31	e32	e26	1070	1420	1350	1140	e820	213
7	605	e590	e290	e32	e32	e27	1290	1430	1380	1110	e890	217
8	628	e600	e270	e33	e31	e27	1500	1450	1360	1080	e940	173
9	643	e585	e230	e34	e29	e28	2100	1470	1280	1020	e990	165
10	647	e575	e210	e35	e29	e29	2610	1460	1330	985	905	161
11	630	e560	e200	e35	e29	e31	2560	1440	1370	957	898	161
12	638	e550	e190	e36	e28	e32	2290	1370	1380	873	877	161
13	636	e555	e170	e36	e28	e34	2170	1120	1420	e780	845	152
14	641	e570	e150	e37	e28	e37	2030	1250	1440	752	820	151
15	656	e575	e140	e37	e27	e40	1800	1340	1440	748	818	159
16	714	e580	e120	e38	e27	e45	1600	1360	1440	757	741	163
17	655	e590	e110	e38	e27	e50	1490	1360	1490	744	753	164
18	610	e595	e100	e39	e27	e60	1430	1370	1490	751	757	155
19	599	e600	e94	e40	e27	e80	1420	1360	1470	776	717	147
20	584	e600	e87	e40	e27	e130	1410	1270	1470	803	699	162
21	556	e597	e82	e41	e27	e200	1370	1030	1450	826	688	237
22	561	e595	e76	e41	e27	e300	1350	827	1440	881	647	266
23	556	e592	e71	e41	e27	e500	1320	582	1430	899	493	249
24	544	e590	e66	e41	e27	e400	1310	467	1440	842	452	249
25	553	e580	e62	e41	e26	e300	1300	1020	1450	762	441	248
26	578	e570	e57	e40	e26	e310	1270	1250	1450	668	409	246
27	581	e565	e54	e40	e26	e330	1260	1300	1430	661	335	243
28	576	e560	e50	e39	e26	e300	1250	1320	1430	686	288	237
29	569	e540	e47	e38	---	e280	1280	1330	1400	727	196	235
30	568	e515	e43	e37	---	e290	1220	1330	1350	703	129	239
31	e566	---	e40	e35	---	e310	---	1330	---	679	103	---
TOTAL	18820	17227	5199	1142	809	4324	42100	38536	41980	27860	20686	5844
MEAN	607	574	168	36.8	28.9	139	1403	1243	1399	899	667	195
MAX	714	600	470	41	34	500	2610	1470	1490	1310	990	266
MIN	544	515	40	31	26	25	330	467	1280	661	103	105
AC-FT	37330	34170	10310	2270	1600	8580	83510	76440	83270	55260	41030	11590

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2001, BY WATER YEAR (WY)

MEAN	111	69.0	27.6	16.3	21.6	197	451	356	272	218	148	123
MAX	1008	574	168	75.1	135	1202	3209	3114	1399	1165	894	939
(WY)	1994	2001	2001	1995	2000	1966	1997	1950	2001	1995	1995	1993
MIN	5.32	8.42	6.83	3.69	1.90	4.57	18.0	12.4	8.10	1.93	3.20	2.56
(WY)	1991	1962	1989	1959	1959	1969	1991	1977	1973	1973	1961	1990

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1950 - 2001	
ANNUAL TOTAL	116239		224527			
ANNUAL MEAN	318		615		163	
HIGHEST ANNUAL MEAN					786	1997
LOWEST ANNUAL MEAN					11.7	1990
HIGHEST DAILY MEAN	1590	Feb 29	2610	Apr 10	6420	Apr 14 1969
LOWEST DAILY MEAN	32	Jan 26	25	Mar 4	.00	Jul 15 1973
ANNUAL SEVEN-DAY MINIMUM	32	Jan 26	26	Feb 27	.01	Jul 17 1973
MAXIMUM PEAK FLOW			2770	Apr 10	6800	Apr 14 1969
MAXIMUM PEAK STAGE			11.34	Apr 10	16.17	Apr 14 1969
INSTANTANEOUS LOW FLOW					.00	Jul 15 1973
ANNUAL RUNOFF (AC-FT)	230600		445300		118400	
10 PERCENT EXCEEDS	611		1390		492	
50 PERCENT EXCEEDS	232		569		31	
90 PERCENT EXCEEDS	37		32		7.3	

e Estimated

06470500 JAMES RIVER AT LAMOURE, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1957 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
04...	1020	621	--	--	--	704	8.5	12.2	--	--	--	--	--
APR													
10...	1120	2700	--	--	--	630	6.5	5.0	--	--	--	--	--
15...	0920	716	--	--	--	640	6.0	.5	--	--	--	--	--
MAY													
02...	1115	1190	8.6	8.2	768	710	16.0	12.5	280	55.0	35.0	13.0	1
JUL													
25...	1050	766	--	--	--	1100	25.5	24.5	--	--	--	--	--
SEP													
25...	1045	248	8.1	7.7	1180	1170	13.5	14.0	420	79.0	53.0	20.0	2

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
02...	55.0	29	235	14.0	.1	170	1600	498	484	3.0	120	2.00	100
JUL													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
25...	100	33	335	21.0	.2	300	558	833	775	8.0	140	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
04...	--	--	--	--	--
APR					
10...	--	--	--	--	--
15...	--	--	--	--	--
MAY					
02...	70.0	.10	2.0	3.0	250
JUL					
25...	--	--	--	--	--
SEP					
25...	350	<.10	2.0	3.0	380

06470800 BEAR CREEK NEAR OAKES, ND

LOCATION.--Lat 46°13'31", long 98°04'17", in $NE^1/_4NE^1/_4$ sec.28, T.132 N., R.59 W., Dickey County, Hydrologic Unit 10160003, on right bank 80 ft downstream from bridge on ND Highway 13, 6 mi north and 1 mi east of Oakes.

DRAINAGE AREA.--357 mi^2, of which about 255 mi^2 is noncontributing, revised.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1976 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,291.30 ft above sea level.

REMARKS.--Records fair except those for estimated daily discharges, which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 1, 1975, reached a stage of 15.00 ft present datum, from floodmark, discharge 4,590 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.13	e2.3	e5.3	e.78	e.29	e.36	e110	54	7.1	5.2	1.1	.26
2	e.13	e2.2	e5.2	e.76	e.28	e.39	e120	50	6.1	4.4	.90	.30
3	e.14	e2.1	e4.9	e.73	e.27	e.42	e130	46	5.4	4.1	.78	.26
4	e.14	e2.0	e4.7	e.70	e.28	e.45	e150	42	4.6	3.9	.66	.23
5	e.14	e1.9	e4.4	e.68	e.28	e.49	e125	39	4.4	3.4	.55	.20
6	e.14	e2.0	e3.8	e.65	e.28	e.54	e120	49	4.6	3.5	.50	.18
7	e.14	e2.1	e3.5	e.63	e.28	e.59	e240	62	5.3	3.6	.40	.45
8	e.14	e2.0	e3.2	e.61	e.29	e.65	385	64	5.0	3.0	.36	.51
9	e.14	e1.9	e2.9	e.58	e.29	e.71	292	61	4.5	2.6	.47	.51
10	e.14	e1.9	e2.7	e.56	e.29	e.79	228	55	5.6	2.4	.37	.47
11	e.15	e2.2	e2.6	e.53	e.30	e.90	186	48	5.1	2.1	.33	.42
12	e.18	e2.2	e2.1	e.51	e.30	e1.0	226	43	4.3	2.0	.31	.37
13	e.44	e2.1	e1.9	e.50	e.31	e1.1	242	40	5.8	1.9	.26	.36
14	e1.3	e2.1	e1.7	e.48	e.32	e1.4	219	37	8.6	1.7	.24	.39
15	e1.3	e2.2	e1.7	e.46	e.32	e1.6	189	33	9.3	1.9	.27	.50
16	e1.4	e2.6	e1.6	e.44	e.32	e1.9	159	29	10	2.3	.24	.57
17	e1.5	e2.9	e1.5	e.42	e.32	e2.2	137	24	10	2.0	.22	.58
18	e1.6	e3.1	e1.5	e.40	e.33	e2.8	124	20	11	1.8	.21	.56
19	e1.6	e3.1	e1.4	e.40	e.33	e4.0	115	18	10	1.6	.18	.54
20	e1.9	e3.0	e1.3	e.40	e.33	e11	104	17	9.8	1.5	.17	.83
21	e2.0	e2.9	e1.2	e.40	e.33	e40	98	18	15	1.5	.18	1.2
22	e2.0	e2.9	e1.2	e.40	e.34	e170	93	16	11	1.4	.17	1.1
23	e1.8	e3.2	e1.1	e.40	e.34	e120	92	14	9.2	1.3	.15	.85
24	e1.7	e3.5	e1.1	e.40	e.34	e110	98	12	8.8	1.2	.15	.67
25	e1.7	e3.8	e1.1	e.40	e.34	e110	102	11	8.7	1.1	.31	.59
26	e1.7	e4.0	e1.0	e.39	e.34	e100	93	10	8.3	1.1	.43	.52
27	e1.7	e4.2	e.98	e.37	e.35	e100	81	9.3	7.8	1.9	.40	.48
28	e1.8	e4.7	e.94	e.36	e.35	e110	72	8.8	7.1	2.4	.39	.45
29	e1.9	e4.9	e.90	e.35	---	e120	63	7.9	6.8	2.0	.47	.39
30	e2.1	e5.0	e.86	e.33	---	e110	60	7.2	6.2	1.8	.33	.39
31	e2.3	---	e.82	e.31	---	e100	---	6.9	---	1.4	.26	---
TOTAL	33.45	85.0	69.10	15.33	8.74	1223.29	4453	952.1	225.4	72.0	11.76	15.13
MEAN	1.08	2.83	2.23	.49	.31	39.5	148	30.7	7.51	2.32	.38	.50
MAX	2.3	5.0	5.3	.78	.35	170	385	64	15	5.2	1.1	1.2
MIN	.13	1.9	.82	.31	.27	.36	60	6.9	4.3	1.1	.15	.18
AC-FT	66	169	137	30	17	2430	8830	1890	447	143	23	30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2001, BY WATER YEAR (WY)

MEAN	2.38	2.49	3.12	.57	1.03	42.7	90.1	25.2	12.6	19.5	5.01	3.67
MAX	32.9	45.1	66.7	10.7	11.3	142	679	168	142	179	60.7	32.8
(WY)	1999	1999	1999	1999	1998	1987	1997	1999	1998	1993	1993	1999
MIN	.000	.000	.000	.000	.000	.032	.11	.000	.005	.000	.000	.000
(WY)	1977	1977	1977	1977	1977	1981	1985	1981	1977	1977	1977	1977

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1977 - 2001	
ANNUAL TOTAL	4213.06		7164.30			
ANNUAL MEAN	11.5		19.6		17.4	
HIGHEST ANNUAL MEAN					74.3	1997
LOWEST ANNUAL MEAN					.042	1977
HIGHEST DAILY MEAN	80	Mar 4	385	Apr 8	1490	Jun 28 1998
LOWEST DAILY MEAN	.12	Aug 18	.13	Oct 1	.00	Oct 1 1976
ANNUAL SEVEN-DAY MINIMUM	.12	Aug 18	.14	Oct 1	.00	Oct 1 1976
MAXIMUM PEAK FLOW			534	Apr 7	1730	Jun 28 1998
MAXIMUM PEAK STAGE			9.57	Apr 7	a 13.24	Apr 3 1997
ANNUAL RUNOFF (AC-FT)	8360		14210		12590	
10 PERCENT EXCEEDS	41		85		37	
50 PERCENT EXCEEDS	2.0		1.7		.22	
90 PERCENT EXCEEDS	.14		.29		.00	

e Estimated
a Backwater from ice

06470800 BEAR CREEK NEAR OAKES, ND--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1976 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
04...	1250	.14	--	--	--	1300	11.5	10.5	--	--	--	--	--
30...	1500	2.1	--	--	--	1420	15.0	14.5	--	--	--	--	--
DEC													
05...	1100	4.5	--	--	--	2030	7.5	.5	--	--	--	--	--
APR													
05...	1140	125	--	--	--	655	3.0	.5	--	--	--	--	--
11...	1340	182	--	--	--	747	4.0	3.5	--	--	--	--	--
MAY													
02...	1410	49	8.2	8.0	1330	1200	18.0	16.5	510	93.0	68.0	17.0	2
JUL													
25...	1235	1.1	--	--	--	1620	25.0	25.0	--	--	--	--	--
SEP													
13...	1130	.30	8.0	--e	--e	1580	15.0	17.0	640	98.0	95.0	16.0	2

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
02...	100	29	306	41.0	.2	370	124	930	874	5.0	30	<1.00	70.0
JUL													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
13...	140	32	373	53.0	.3	500	.99	1220	1130	15.0	230	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
04...	--	--	--	--	--
30...	--	--	--	--	--
DEC					
05...	--	--	--	--	--
APR					
05...	--	--	--	--	--
11...	--	--	--	--	--
MAY					
02...	260	.10	<1.0	1.0	470
JUL					
25...	--	--	--	--	--
SEP					
13...	210	<.10	2.0	4.0	600

e Required equipment not functional/available

06470830 JAMES RIVER AT OAKES, ND

LOCATION.--Lat 46°08'20", long 98°06'55", in $NW^1/_4NE^1/_4NE^1/_4$ sec.30, T.131 N., R.59 W., Dickey County, Hydrologic Unit 10160003, on left bank 10 ft downstream from bridge 1.0 mi west of Oakes.

DRAINAGE AREA.--5,320 mi^2, of which about 3,300 mi^2 is probably noncontributing.

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--October 1982 to current year.

REMARKS.--Records fair.

GAGE.--Water-stage recorder. Datum of gage is 1,200.00 ft above sea level. Flow regulated by Jamestown Reservoir (station 06469000).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 98.77 ft, Apr. 4, 1997; minimum, 88.11 ft, Sept. 4, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum gage height recorded, 95.42 ft, Apr. 13; minimum recorded, 91.28 ft, Jan. 13.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	91.55	91.81	92.43	91.48	91.42	91.70	94.67	94.11	93.08	93.35	---	---
2	91.58	92.02	92.39	91.45	91.42	91.72	94.69	93.97	93.10	93.38	---	---
3	91.54	91.85	92.35	91.44	---	91.73	94.71	93.86	93.15	93.32	---	---
4	91.58	91.80	92.31	91.42	91.45	91.73	94.69	93.79	93.14	93.24	---	---
5	91.51	91.83	92.20	91.40	91.46	91.74	94.67	93.77	93.17	93.20	---	---
6	91.50	91.70	92.07	91.38	91.47	91.75	94.61	93.87	93.21	93.21	---	---
7	91.49	91.55	91.92	91.36	91.48	91.75	94.78	93.95	93.24	93.11	---	---
8	91.56	91.60	91.74	91.35	91.51	91.75	94.97	93.96	93.29	93.01	---	---
9	91.70	91.64	91.65	91.34	91.52	91.75	95.00	93.96	93.28	92.94	---	---
10	91.74	91.70	91.63	91.33	91.52	91.76	95.09	93.92	93.36	92.82	---	---
11	91.76	91.81	91.60	91.32	91.53	91.76	95.14	93.89	93.32	92.73	---	---
12	91.70	91.72	91.55	91.30	91.54	91.77	95.27	93.91	93.32	92.63	---	---
13	91.64	91.63	91.48	91.29	91.56	91.78	95.38	93.87	93.30	92.53	---	---
14	91.58	91.85	91.42	91.29	91.56	91.79	---	93.77	93.38	92.44	---	---
15	91.60	92.01	91.41	91.30	91.57	91.82	---	93.70	93.47	92.31	---	---
16	91.63	92.06	91.42	91.29	91.59	91.87	95.15	93.68	93.49	92.28	---	---
17	91.71	92.07	91.42	91.29	91.59	91.92	95.01	93.64	93.48	---	---	---
18	91.69	92.08	91.44	91.30	91.60	91.97	94.91	93.63	93.47	---	---	---
19	91.68	92.08	91.42	91.30	91.62	92.03	94.79	93.61	93.50	---	---	---
20	91.64	92.07	91.39	91.31	91.63	92.21	94.66	93.58	93.51	---	---	---
21	91.68	92.12	91.37	91.32	91.63	92.60	94.49	93.47	93.52	---	---	---
22	91.72	92.10	---	91.33	91.64	93.02	94.40	93.22	93.54	---	---	---
23	91.62	92.09	---	91.35	91.65	93.24	94.29	92.80	93.58	---	---	---
24	91.63	92.18	---	91.36	91.66	93.49	94.33	92.60	93.55	---	---	---
25	91.66	92.30	---	91.36	91.69	93.75	94.33	92.37	93.61	---	---	---
26	91.65	92.38	---	---	91.70	93.97	94.27	92.45	93.50	---	---	---
27	91.58	92.42	---	91.38	91.70	94.15	94.20	92.69	93.52	---	---	---
28	91.70	92.45	---	91.39	91.70	94.36	94.17	92.82	93.58	---	---	---
29	91.78	92.47	---	91.40	---	94.53	94.36	92.94	93.49	---	---	---
30	91.77	92.46	---	91.41	---	94.63	94.17	93.00	93.42	---	---	---
31	91.69	---	91.51	91.41	---	94.69	---	93.08	---	---	---	---
MEAN	91.64	92.00	91.73	91.35	91.57	92.54	94.69	93.48	93.39	92.91	---	---
MAX	91.78	92.47	92.43	91.48	91.70	94.69	95.38	94.11	93.61	93.38	---	---
MIN	91.49	91.55	91.37	91.29	91.42	91.70	94.17	92.37	93.08	92.28	---	---

06470875 JAMES RIVER AT DAKOTA LAKE DAM NEAR LUDDEN, ND

LOCATION.--Lat 45°56'52", long 98°10'29", in $SE^1/_4NE^1/_4NE^1/_4$ sec.34, T.129 N., R.60 W., Dickey County, Hydrologic Unit 10160003, on left bank, 10 ft upstream from dam, 4.5 mi southwest of Ludden and 0.8 mi upstream from North Dakota-South Dakota state line.

DRAINAGE AREA.--5,480 mi^2, of which about 3,300 mi^2 are probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1981 to current year.

GAGE.--Water-stage recorder and concrete dam control. Datum of gage is 1,280.00 ft above sea level.

REMARKS.--Records poor. Flow regulated by upstream reservoirs, Jamestown Reservoir (station 06469000), Pipestem Lake, capacity 147,000 acre-ft, and Lake LaMoure.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	568	575	e580	e54	e35	e28	e440	1640	1270	e1360	578	e196
2	543	554	e560	e53	e35	e28	e460	1640	1290	e1320	556	e152
3	555	624	e545	e50	e35	e28	e490	1610	1270	e1320	525	e102
4	e543	601	e530	e49	e35	e28	e570	1580	1260	1370	535	e101
5	e550	582	e510	e46	e34	e28	e710	1560	1270	1090	500	e132
6	e530	633	e490	e42	e33	e28	e1020	1560	e1230	1270	527	e194
7	e545	663	e435	e40	e33	e28	e1250	1570	e1260	1270	495	e207
8	e550	e640	e390	e40	e33	e28	e1500	1560	e1360	1230	e641	e196
9	e540	e630	e310	e41	e32	e29	e1780	1550	e1400	1200	e747	e193
10	e550	e610	e310	e42	e30	e29	e2150	1560	e1340	1160	e905	e212
11	e540	e600	e280	e43	e30	e29	e2740	1360	e1390	1110	e950	e168
12	e550	e600	e240	e44	e30	e31	e2600	1480	e1400	1070	e981	e163
13	e560	e605	e220	e44	e29	e32	e2530	1470	e1450	1010	e957	e160
14	e570	e610	e210	e44	e29	e35	e2400	1420	e1460	949	e905	e159
15	e580	e610	e195	e44	e29	e40	e2350	1390	e1460	906	e849	e159
16	e600	e615	e185	e45	e29	e60	e2300	1350	e1460	870	e829	e157
17	e610	e615	e153	e45	e29	e70	e2200	1340	e1500	845	e816	e148
18	e630	e620	e147	e45	e29	e90	e2150	1310	e1510	794	e796	e150
19	e670	e620	e123	e45	e29	e120	e2100	1290	e1510	768	e765	e159
20	e700	e625	e115	e45	e29	e150	2020	1280	e1490	763	e753	e160
21	e680	e625	e110	e45	e29	e220	2000	1090	e1490	767	e747	e153
22	e660	e625	e102	e45	e29	e280	1960	947	e1470	754	e735	e146
23	631	e625	e97	e44	e29	e400	1930	799	e1450	737	e723	e157
24	613	e625	e91	e44	e29	e540	1840	1070	e1450	721	e695	e196
25	584	e625	e83	e44	e29	e490	1790	928	e1450	698	e646	e247
26	570	e620	e78	e44	e28	e420	1770	876	e1460	676	e488	e264
27	589	e615	e74	e42	e28	e410	1740	980	e1460	688	e437	e255
28	561	e610	e70	e40	e28	e430	1710	1060	e1440	707	e403	e247
29	589	e600	e67	e39	---	e425	1550	1100	e1440	662	e378	e243
30	622	e590	e63	e38	---	e410	1650	1170	e1390	636	e304	e241
31	e626	---	e57	e36	---	e420	---	1210	---	601	e257	---
TOTAL	18209	18392	7420	1362	856	5384	51700	40750	42080	29322	20423	5417
MEAN	587	613	239	43.9	30.6	174	1723	1315	1403	946	659	181
MAX	700	663	580	54	35	540	2740	1640	1510	1370	981	264
MIN	530	554	57	36	28	28	440	799	1230	601	257	101
AC-FT	36120	36480	14720	2700	1700	10680	102500	80830	83470	58160	40510	10740

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 2001, BY WATER YEAR (WY)

MEAN	210	149	67.2	28.0	29.6	354	881	631	479	404	325	260
MAX	867	613	239	77.1	88.1	853	4617	2316	1447	1181	1143	1003
(WY)	1994	2001	2001	1995	2000	1995	1997	1997	1997	1995	1993	1999
MIN	1.86	.20	.28	.056	.62	26.0	33.4	9.92	2.12	.015	.000	.011
(WY)	1989	1991	1991	1991	1989	1990	1990	1990	1988	1988	1988	1990

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1982 - 2001	
ANNUAL TOTAL	129464		241315			
ANNUAL MEAN	354		661		319	
HIGHEST ANNUAL MEAN					969	1997
LOWEST ANNUAL MEAN					10.3	1990
HIGHEST DAILY MEAN	998	Mar 8	2740	Apr 11	7500	Apr 6 1997
LOWEST DAILY MEAN	41	Jun 9	28	Feb 26	.00	Oct 8 1981
ANNUAL SEVEN-DAY MINIMUM	44	Jan 22	28	Feb 26	.00	Jul 10 1985
MAXIMUM PEAK FLOW			2800	Apr 11	7500	Apr 6 1997
MAXIMUM PEAK STAGE			.00	Apr 11	17.86	Apr 6 1997
INSTANTANEOUS LOW FLOW					.00	Oct 2 1981
ANNUAL RUNOFF (AC-FT)	256800		478600		231100	
10 PERCENT EXCEEDS	614		1490		995	
50 PERCENT EXCEEDS	365		570		96	
90 PERCENT EXCEEDS	63		34		.34	

e Estimated

06470875 JAMES RIVER AT DAKOTA LAKE DAM NEAR LUDDEN, ND--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
OCT													
04...	1530	543	--	--	--	758	9.0	10.5	--	--	--	--	--
31...	1030	626	--	--	--	826	12.0	11.0	--	--	--	--	--
APR													
11...	1055	2440	--	--	--	640	4.0	3.0	--	--	--	--	--
19...	1155	2100	7.9	--e	794	740	22.0	7.0	290	57.0	36.0	15.0	1
JUN													
06...	1050	1220	--	--	--	725	13.5	16.5	--	--	--	--	--
JUL													
07...	1035	684	--	--	--	1110	21.5	23.5	--	--	--	--	--
AUG													
29...	1150	389	8.3	8.0	1200	1120	26.0	24.0	410	75.0	53.0	18.0	2

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
19...	52.0	27	207	19.0	.1	190	3000	529	494	3.0	140	2.00	100
JUN													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
29...	96.0	33	326	20.0	.2	290	838	798	749	9.0	150	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT					
04...	--	--	--	--	--
31...	--	--	--	--	--
APR					
11...	--	--	--	--	--
19...	50.0	.20	2.0	3.0	250
JUN					
06...	--	--	--	--	--
JUL					
07...	--	--	--	--	--
AUG					
29...	580	<.10	2.0	3.0	360

e Required equipment not functional/available

06471200 MAPLE RIVER AT NORTH DAKOTA-SOUTH DAKOTA STATE LINE

LOCATION.--Lat 45°56'20", long 98°27'08", in $SW^1/_4SE^1/_4$ sec.33, T.129 N., R.62 W., Dickey County, ND, Hydrologic Unit 10160004, on left bank 0.4 mi upstream from state line, 7.8 mi northeast of Frederick, SD, and 15.7 mi upstream from mouth.

DRAINAGE AREA.--716 mi^2, of which about 332 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1956 to current year.

REVISED RECORDS.--WDR SD-86-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,365 ft above sea level, from topographic map. Prior to June 14, 1962, nonrecording gage at site 0.4 mi downstream at datum 0.94 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	3.0	e4.0	e.85	e.70	e.57	e240	96	22	11	6.3	.11
2	.01	2.5	e3.9	e.82	e.60	e.61	e210	87	19	10	5.7	.11
3	.01	1.6	e3.8	e.80	e.60	e.60	e200	78	17	9.1	5.4	.08
4	.02	1.1	e3.8	e.85	e.64	e.58	e190	70	15	8.3	4.0	.04
5	.10	1.1	e3.7	e.88	e.66	e.59	e185	67	14	7.3	2.8	.01
6	.08	3.5	e3.7	e.90	e.66	e.59	e190	72	14	7.0	2.1	.00
7	.08	8.8	e3.6	e.94	e.71	e.58	e400	77	15	6.7	1.6	.00
8	.07	6.3	e3.5	e.95	e.77	e.54	e700	77	14	6.0	1.3	.00
9	.06	e6.0	e3.4	e.98	e.73	e.59	e950	88	13	5.8	1.2	.00
10	.06	e6.0	e3.2	e1.0	e.64	e.66	1370	143	14	5.3	.88	.00
11	.05	e6.0	e3.0	e1.0	e.61	e.71	1290	165	14	4.7	1.1	.00
12	.06	e6.5	e2.8	e1.0	e.63	e.78	779	146	14	4.0	1.7	.00
13	.08	e6.5	e2.6	e.98	e.67	e.99	566	127	16	2.3	1.8	.00
14	.09	e6.0	e2.3	e.95	e.62	e1.6	590	106	20	1.6	1.8	.00
15	.06	e5.6	e2.3	e.98	e.62	e2.0	582	e85	31	2.1	2.0	.00
16	.06	e5.3	e2.5	e.92	e.60	e2.5	433	e70	41	2.4	1.3	.00
17	.05	e4.9	e2.5	e.93	e.57	e3.0	311	e55	42	2.3	1.2	.00
18	.05	e4.5	e2.5	e.99	e.53	e3.0	233	e45	39	2.2	1.1	.00
19	.05	e5.0	e2.2	e1.0	e.58	e3.5	191	e40	37	2.4	1.1	.00
20	.05	e4.8	e2.0	e.93	e.59	e4.0	171	e36	41	3.0	1.8	.02
21	.02	e4.5	e1.7	e.88	e.57	e5.5	158	e33	43	3.3	2.2	.01
22	.02	e4.1	e1.4	e.86	e.52	e13	146	e30	40	3.8	1.8	.01
23	.03	e3.8	e1.3	e.86	e.50	e20	141	28	36	4.2	1.4	.00
24	.02	e3.6	e1.2	e.76	e.53	e50	141	24	33	3.3	1.2	.00
25	.02	e3.3	e1.1	e.72	e.58	e100	142	22	28	2.7	.99	.00
26	.42	e3.0	e1.0	e.77	e.55	e500	142	22	24	3.3	.76	.00
27	.52	e2.9	e.95	e.73	e.55	e420	143	22	19	5.1	.54	.00
28	.38	e3.0	e.95	e.70	e.56	e380	136	22	17	6.3	.42	.00
29	.39	e3.4	e.90	e.68	---	e360	121	23	15	7.6	.38	.00
30	.39	e3.9	e.85	e.75	---	e320	113	24	14	9.8	.31	.00
31	.42	---	e.85	e.73	---	e280	---	22	---	7.8	.20	---
TOTAL	3.75	130.5	73.50	27.09	17.09	2476.49	11164	2002	721	160.7	56.38	0.39
MEAN	.12	4.35	2.37	.87	.61	79.9	372	64.6	24.0	5.18	1.82	.013
MAX	.52	8.8	4.0	1.0	.77	500	1370	165	43	11	6.3	.11
MIN	.01	1.1	.85	.68	.50	.54	113	22	13	1.6	.20	.00
AC-FT	7.4	259	146	54	34	4910	22140	3970	1430	319	112	.8

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2001, BY WATER YEAR (WY)

MEAN	3.16	2.16	2.10	.37	1.00	89.4	117	40.9	18.0	30.7	6.48	3.72
MAX	68.8	50.1	68.1	6.61	12.0	419	840	418	131	446	142	91.1
(WY)	1999	1999	1999	1999	1998	1966	1997	1999	1964	1962	1966	1999
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1957	1957	1957	1957	1957	1957	1959	1959	1959	1959	1959	1958

SUMMARY STATISTICS	FOR 2000 CALENDAR YEAR		FOR 2001 WATER YEAR		WATER YEARS 1957 - 2001	
ANNUAL TOTAL	6369.64		16832.89			
ANNUAL MEAN	17.4		46.1		a 26.4	
HIGHEST ANNUAL MEAN					116	1997
LOWEST ANNUAL MEAN					b .000	1959
HIGHEST DAILY MEAN	233	Mar 26	1370	Apr 10	5500	Apr 11 1969
LOWEST DAILY MEAN	.01	Oct 2	.00	Sep 6	c .00	Oct 1 1956
ANNUAL SEVEN-DAY MINIMUM	.02	Sep 28	.00	Sep 6	.00	Oct 1 1956
MAXIMUM PEAK FLOW			d 1470	Apr 10	f 5930	Apr 11 1969
MAXIMUM PEAK STAGE			g 10.42	Mar 26	g 16.19	Mar 29 1997
ANNUAL RUNOFF (AC-FT)	12630		33390		19100	
10 PERCENT EXCEEDS	42		138		37	
50 PERCENT EXCEEDS	3.9		2.3		.10	
90 PERCENT EXCEEDS	.08		.05		.00	

e Estimated
a Median of annual mean discharges, 16 ft^3/s
b Also 1988 and 1990
c No flow for long periods in most years
d Gage height, 9.97 ft
f Gage height, 16.05 ft, backwater from ice
g Backwater from ice

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 U.S. 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 a table of annual maximum discharge and stage. Discharge measurements made at miscellaneous sites for both low flows and high flows are given in a second table.

Crest-stage partial-record stations

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

Annual maximum discharge at crest-stage stations

Station number	Station name	Location	Drainage area (mi^2)	Period of record	Water year 2001 maximum			Period of record maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
				RED RIVER OF THE NORTH BASIN						
05052500	Antelope Creek at Dwight, ND	Lat 46°18'52", long 97°03'10", in $SE^1/_4$ sec.20, T.133 N., R.48 W., Richland County, Hydrologic Unit 09020105, at bridge on former U.S. Highway 81, about 0.5 mi north of Dwight.	293	1944-49# 1950-73 1975 1995-2001	04-07-01	939.73	4,100	04-10-69	943.90	9,000
05056017	Mauvais Coulee tributary above Brumba pool near Rock Lake, ND	Lat 48°43'29", Long 99°15'47", in $NE^1/_4NE^1/_4SE^1/_4$ sec.36, T.161 N., R.67 W., Towner County, Hydrologic Unit 09020201, on State Highway 281, 1 mi west and 4.8 mi south of Rock Lake.	7.1	1998-2001	[1]04-05-01	[2,3]45.69	[4]100	05-12-99 04-05-01	44.44 [3]45.69	210 --
05056900	Sheyenne River tributary near Cooperstown, ND	Lat 47°27'25", long 98°00'25", in $NW^1/_4NW^1/_4NW^1/_4$ sec.24, T.146 N., R.58 W., Griggs County, Hydrologic Unit 09020203, on county highway, 1.4 mi north of State Highway 200 and 5 mi east of Cooperstown.	15.2	1959-73 1995-2001	04-07-01	5.03	480	04-01-69	9.80	1,000
05057100	Baldhill Creek near Binford, ND	Lat 47°33'56", long 98°22'56", in $SE^1/_4SW^1/_4SE^1/_4$ sec.12, T.147 N., R.61 W., Griggs County, Hydrologic Unit 09020203, approximately 1.5 mi west of Binford on State Highway 65.	--	1996-2001	04-08-01	17.40	[4]30	03-29-99	18.58	140

Annual maximum discharge at crest-stage stations--Continued

Station number	Station name	Location	Drainage area (mi^2)	Period of record	Water year 2001 maximum			Period of record maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
RED RIVER OF THE NORTH BASIN--Continued										
05059678	Unnamed tributary south of Tower City, ND	Lat 46°52'28", long 97°41'40", in $SE^1/_4SW^1/_4$ sec.36, T.140 N., R.56 W., Barnes County, Hydrologic Unit 09020205, 2 mi south of Tower City.	--	2000-01	[1]04-08-01	43.88	[4]400	[1]04-08-01	43.88	[4]400
05060470	Rush River near Hunter, ND	Lat 47°09'07", long 97°20'22", in $SE^1/_4SW^1/_4SW^1/_4$ sec.36, T.143 N., R.53 W., Cass County, Hydrologic Unit 09020204, on county highway, 2 mi south and 5.75 mi west of Hunter.	22.1	1996-2001	04-07-01	18.73	[1]250	04-07-01	18.73	[1]250
05065810	Middle Branch Goose River tributary near Pickert, ND	Lat 47°25'03", long 97°42'30", in $SE^1/_4SE^1/_4$ sec.36, T.146 N., R.56 W., Steele County, Hydrologic Unit 09020109, on county highway 11, 5 mi southeast of Pickert.	--	[5]1996-2001	04-07-01	36.98	310	04-07-01	36.98	310
05082500	Red River of the North at Grand Forks, ND	Lat 47°56'34", long 97°03'10", in $SW^1/_4NE^1/_4$ sec.33, T.152 N., R.50 W., Grand Forks County, Hydrologic Unit 09020301, on left bank 2.3 mi downstream from Red Lake River (previous site of Red River at Grand Forks.	30,100	1882-1983# 1987-2001	04-14-01	44.07	57,800	04-18-97	([6])	137,000
05083500	Red River of the North at Oslo, MN	Lat 48°11'40", long 97°08'30", in $SW^1/_4SW^1/_4$ sec.36, T.155 N., R.51 W., Walsh County, Hydrologic Unit 09020306, on bridge crossing the Red River 0.5 mi west of Oslo, Minn.	31,200	1936-37# 1941-43# 1945-60# 1974-76# 1985-2001	[1]04-16-01	[4]37	[4]51,000	[1]04-23-97	[7]38.00	[4]120,000

Annual maximum discharge at crest-stage stations--Continued

Station number	Station name	Location	Drainage area (mi^2)	Period of record	Water year 2001 maximum			Period of record maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
				RED RIVER OF THE NORTH BASIN--Continued						
05083580	Middle Branch Forest River tributary near Adams, ND	Lat 48°22'10", long 98°09'00", in NW1/4NW1/4NE1/4 sec.6, T.156 N., R.58 W., Walsh County, Hydrologic Unit 09020308, approximately 3 mi south and 3.4 mi west of Adams.	--	1999-2001	04-06-01	[3]43.04	[8]50	04-08-99 04-06-01	42.52 43.04	[4]100 ([3])
05090025	Willow Creek near Hensel, ND	Lat 48°39'50", long 97°38'39", in SE1/4NE1/4SE1/4 sec.19, T.160 N., R.54 W., Pembina County, Hydrologic Unit 09020310, approximately 1.8 mi south and 1 mi east of Hensel.	--	1999-2001	[1]04-07-01 07-31-01	15.66 14.91	[4]20 [4]70	03-29-99	15.85	([9])
05099340	Unnamed tributary near Langdon, ND	Lat 48°41'43", long 98°27'30", in NW1/4SW1/4NW1/4 sec.12, T.160 N., R.61 W., Cavalier County, Hydrologic Unit 09020313, on county road, 4.25 mi south and 5 mi west of Langdon.	--	1996-2001	[1]04-08-01	21.06	[4]250	04-97	--	[4]370
05100450	Tongue River near Osnabrock, ND	Lat 48°43'25", long 98°09'19", in SE1/4NE1/4SE1/4 sec.33, T.161 N., R.58 W., Cavalier County, Hydrologic Unit 09020313, approximately 3.5 mi north of Osnabrock.	--	1996-2001	[1]04-08-01 [1]04-13-01	[3]18.51 16.00	([9]) 135	[1]04-08-01	[3]18.51	([9])
05102490	Red River of the North at Pembina, ND	Lat 48°58'17", long 97°14'16", in NE1/4 sec.4, T.163 N., R.51 W., Pembina County, Hydrologic Unit 09020311, on bridge crossing the Red River 0.2 mi north of Pembina.	40,200	1985-2001	04-25-01	[7]788.88	[4]56,000	04-26-97	794.39	141,000

Annual maximum discharge at crest-stage stations--Continued

Station number	Station name	Location	Drainage area (mi^2)	Period of record	Water year 2001 maximum			Period of record maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
				RED RIVER OF THE NORTH BASIN--Continued						
05113520	Long Creek tributary near Crosby, ND	Lat 48°50'11", long 103°19'19", on north line sec.30, T.162 N., R.97 W., Divide County, Hydrologic Unit 09010001, 0.5 mi west of State Highway 42 and 5 mi south of Crosby.	0.40	1960-73 1995-2001	03-20-01	4.96	30	06-69	7.15	65
05116100	Souris River tributary near Burlington, ND	Lat 48°18'04", long 101°25'13", in $SW^1/_4$ sec.25, T.156 N., R.84 W., Ward County, Hydrologic Unit 09010001, at culvert on county highway, 1.8 mi north of Burlington.	0.13	1959-73 1995-2001	03-18-01	4.92	[4]20	03-25-97	8.22	[4]67
05116135	Tasker Coulee tributary near Kenaston, ND	Lat 46°38'00", long 102°07'30", in $NE^1/_4NE^1/_4$ sec.2, T.159 N., R.89 W., Ward County, Hydrologic Unit 09010002, at culvert on gravel road 1.5 mi northwest of Kenaston.	4.62	1996-2001	03-18-01	([10])	<1	04-10-96	1,295.70	450
05119410	Bonnes Coulee near Velva, ND	Lat 48°03'30", long 100°57'00", in $NE^1/_4SW^1/_4$ sec.21, T.153 N., R.80 W., McHenry County, Hydrologic Unit 09010001, at culvert on U.S. Highway 52, 0.5 mi west of Velva.	53.0	1962 1965 1971-73 1976-77 1987-2001	03-19-01	2.68	[4]220	07-27-93	6.71	[11]1,000
05120180	Wintering River tributary near Kongsberg, ND	Lat 47°51'45", long 100°45'33", in $NE^1/_4NE^1/_4NE^1/_4$ sec.34, T.151 N., R.79 W., McHenry County, Hydrologic Unit 09010003, at culvert on gravel road 1 mi north and 1.9 mi east of Kongsberg.	1.54	1998-2001	[1]03-29-01	8.60	[4]6	06-14-99	11.18	[4]100

Annual maximum discharge at crest-stage stations--Continued

Station number	Station name	Location	Drainage area (mi^2)	Period of record	Water year 2001 maximum			Period of record maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
				RED RIVER OF THE NORTH BASIN--Continued						
05123300	Oak Creek tributary near Bottineau, ND	Lat 48°49'14", long 100°24'38", in $SW^1/_4SW^1/_4SE^1/_4$ sec.29, T.162 N., R.75 W., Bottineau County, Hydrologic Unit 09010004, on State Highway 5, 1.5 mi east of Bottineau.	3.10	1955 1959-73 1995-2001	03-07-01	10.83	[4]200	07-06-55	16.52	851
				MISSOURI RIVER BASIN						
06332150	White Earth River tributary near White Earth, ND	Lat 48°19'55", long 102°45'10", in $S^1/_2$ sec.15, T.156 N., R.94 W., Mountrail County, Hydrologic Unit 10110101, at culvert on U.S. Highway 2, 3 mi south of White Earth.	0.32	1960-73 1995-2001	[1]03-17-01	6.70	[4]55	06-05-63	8.40	107
06336300	Little Missouri River tributary near Medora, ND	Lat 46°57'05", long 103°30'20", in $SE^1/_4$ sec.11, T.140 N., R.102 W., Billings County, Hydrologic Unit 10110203, at Culvert on Theodore Roosevelt National Park highway, 3 mi north of Medora.	0.32	1955-73 1995-2001	[1]03-13-01	([10])	[4]5	06-20-60	10.90	200
06337080	Cherry Creek tributary near Arnegard, ND	Lat 47°47'49", long 103°22'08", in $SE^1/_4SE^1/_4NE^1/_4$ sec.20, T.150 N., R.99 W., McKenzie County, Hydrologic Unit 10110205, at culverts 4 mi west and 0.5 mi south of Watford City.	10.41	1999-2001	[1]03-13-01	998.38	[4]270	03-15-99	999.62	[4]285
06337900	Snake Creek tributary near Garrison, ND	Lat 47°37'55", long 101°21'00", on south line sec. 14, T.148 N., R.84 W., McLean County, Hydrologic Unit 10110101, at culvert on county highway, 1 mi south of State Highway 37 and 3 mi southeast of Garrison.	1.22	1959-73 1995-2001	03-13-01	4.56	[4]8	06-07-99	7.32	[4]150

Annual maximum discharge at crest-stage stations--Continued

Station number	Station name	Location	Drainage area (mi^2)	Period of record	Water year 2001 maximum			Period of record maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
				MISSOURI RIVER BASIN--Continued						
06339890	North Creek near Werner, ND	Lat 47°24'37", long 102°30'10", in NE¼SE¼NE¼ sec.3, T.145 N., R.93 W., Dunn County, Hydrologic Unit 10130201, at box culverts 3.5 mi north and 5.5 mi east of Dunn Center.	17.6	1998-2001	[1]03-13-01	996.31	[4]150	03-16-99	995.56	620
06343000	Heart River near South Heart, ND	Lat 46°51'56", long 102°56'53", in NE¼SE¼SW¼ sec.8, T.139 N., R.97 W., Stark County, Hydrologic Unit 10130202, on left bank 1.7 mi downstream from North Creek, 2 mi east of South Heart, and 5.5 mi upstream from Edward Arthur Patterson Lake.	311	1965-84# 1985-2001	03-14-01 07-28-01	12.73 11.19	([10,3]) 1,080	05-09-70	22.77	8,080
06347090	Tavis Creek near Glen Ullin, ND	Lat 46°47'57", long 101°51'26", in NW¼SE¼NW¼ sec.01, T.138 N., R.89 W., Morton County, Hydrologic Unit 10130203, on State Highway 49, 1.5 mi southwest of Glen Ullin.	--	2000-01	07-27-01	8.26	[4]70	07-27-01	8.26	[4]70
06349083	Southeast Branch Little Heart River at Saint Anthony, ND	Lat 46°37'12", long 100°54'12", in SW¼SW¼ sec.5, T.136 N., R.81 W., Morton County, Hydrologic Unit 10130102, at culvert on State Highway 6, 0.75 mi northwest of St. Anthony.	[4]40.2	1996-2001	03-22-01	1,693.43	400	08-22-98	1,692.69	[4]480
06351630	Middle Fork Cedar Creek tributary near Amidon, ND	Lat 46°20'17", long 103°17'35", in SW¼SE¼SW¼ sec.7, T.133 N., R.100 W., Slope County, Hydrologic Unit 10130205, at culvert 1 mi east and 10 mi south of Amidon.	1.70	1998-2001	03-13-01	[3]15.19	[4]30	08-12-99	13.03	70

Annual maximum discharge at crest-stage stations--Continued

Station number	Station name	Location	Drainage area (mi^2)	Period of record	Water year 2001 maximum			Period of record maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
				MISSOURI RIVER BASIN--Continued						
06352380	Timber Creek tributary near New Leipzig, ND	Lat 46°12'36", long 101°57'36", in $NW^1/_4SW^1/_4$ sec.33 T.132 N., R.90 W., Grant County, Hydrologic Unit 10130205, at culvert on State Highway 49, 11.75 mi south of New Leipzig.	[4]2.8	1996-2001	[1]03-14-01	1,593.18	[4]80	07-01-97	1,597.02	740
06354450	Beaver Creek tributary near Linton, ND	Lat 46°14'48", long 100°04'47", in $SW^1/_4SE^1/_4SW^1/_4$ sec.16, T.132 N., R.75 W., Emmons County, Hydrologic Unit 10130104, at culverts on State Highway 13, 7.25 mi east of Linton.	4.07	1998-2001	06-26-98 03-08-00 06-10-01	5.47 5.40 5.66	([12]) ([12]) ([12])	07-04-99	6.44	([12])
06469100	Pipestem Creek tributary near Heaton, ND	Lat 47°27'27", long 99°34'58", in $NE^1/_4NW^1/_4NW^1/_4$ sec.22, T.146 N., R.70 W., Wells County, Hydrologic Unit 10160002, at culverts on State Highway 52, 1.5 mi south and 1.8 mi west of Heaton.	3.59	1998-2001	[1]06-13-01	7.91	148	06-14-00	12.05	780
06470200	Beaver Creek tributary near Eldridge, ND	Lat 46°52'15", long 98°55'30", on east line sec.7, T.139 N., R. 65 W., Stutsman County, Hydrologic Unit 10160003, at culvert on county highway, 4 mi southwest of Eldridge.	0.19	1955-73 1995-2001	[1]03-20-01	2.06	[4]11	1973	5.88	49
06471100	Maple Creek tributary near Edgeley, ND	Lat 46°25'00", long 98°49'42", in $NE^1/_4SE^1/_4SE^1/_4$ sec.15, T.134 N., R.65 W., LaMoure County, Hydrologic Unit 10160004, at culvert on gravel road 10.25 mi northwest of Edgeley.	[4]5.25	1996-2001	04-01-01	1,098.57	[4]20	03-25-97	1,100.73	[4]400

Annual maximum discharge at crest-stage stations--Continued

Station number	Station name	Location	Drainage area (mi^2)	Period of record	Water year 2001 maximum			Period of record maximum		
					Date	Gage height (feet)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
				MISSOURI RIVER BASIN--Continued						
06471150	South Fork Maple River tributary near Merricourt, ND	Lat 46°14'54", long 98°42'48", in $NE^1/_4NE^1/_4SW^1/_4$ sec.17, T.132 N., R.64 W., Dickey County, Hydrologic Unit 10160004, at culvert on gravel road 5.5 mi northeast of Merricourt.	[4]5.5	1996-2001	06-09-01	1,194.60	22	03-25-97	1,199.71	[4]160

[#]Operated as a continuous-record gaging station.

[1]On or about.

[2]New box culvert installed and original benchmarks destroyed. Gage height may not correspond exactly with gage heights from 1998-99 water years.

[3]Backwater from ice and snow.

[4]Approximately.

[5]Relocated to current site in February 2000, previously 2.3 miles upstream.

[6]Maximum gage height from high-water mark, 52.43 feet, probably occurred on April 22, 1997. Gage height at time of maximum discharge not known.

[7]Observed.

[8]Less than 50 cubic feet per second on or about April 8, 2001.

[9]Not determined.

[10]Unknown.

[11]Estimated.

[12]Additional culvert/channel geometry required prior to determination of maximum discharge. Actual value will be published next water year.

Miscellaneous discharge measurement sites

Measurements of streamflow at points other than gaging stations are given in the following table.

Discharge measurements made at miscellaneous sites during water year 2001

Station number	Station name	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		RED RIVER OF THE NORTH BASIN				
--	Bois de Sioux River at Wahpeton, ND	Lat 46°15'50", long 96°35'57", in $SE^1/_4NE^1/_4NE^1/_4$ sec.8, T.132 N., R.47 W., Richland County, Hydrologic Unit 09020101, at bridge crossing the Bois de Sioux River, just upstream of confluence of the Ottertail River in Wahpeton.	--	2001	04-12-01 04-16-01 04-18-01 04-20-01	5,550 6,410 5,970 5,390
05046502	Ottertail River at Breckenridge, MN	Lat 46°16'22", long 96°35'18", in $SW^1/_4NE^1/_4SW^1/_4$ sec.4, T.132 N., R.47 W., Wilkin County, MN, Hydrologic Unit 09020103, at bridge crossing Ottertail River, about 1 mi upstream of Red River of the North, at north side of Breckenridge, MN.	--	2001	04-08-01 04-12-01 04-13-01 04-14-01 04-16-01 04-18-01 09-11-01 09-25-01	7,450 2,800 2,820 1,700 1,490 1,360 713 696
--	Breakout flow from the Bois de Sioux River to the Wild Rice River above Wahpeton, ND	Lat 46°22'30", long 96°38'51", in $SE^1/_4SE^1/_4NW^1/_4$ sec.12, T.132 N., R.48 W., Richland County, Hydrologic Unit 09020105, at bridge 1.5 mi west of junction of Highway 127 and Highway 13.	--	2001	04-14-01 04-15-01 04-18-01 04-20-01	149 254 313 227
--	Breakout flow from the Bois de Sioux River to the Wild Rice River above Wahpeton, ND	Lat 46°15'40", long 96°40'30", in $SW^1/_4SW^1/_4NE^1/_4$ sec.11, T.132 N., R.48 W., Richland County, Hydrologic Unit 09020105, at bridge 2.8 mi west of junction of Highway 127 and Highway 13.	--	2001	04-18-01	78
05056247	Calio Coulee near Starkweather, ND	Lat 48°23'58", long 99°02'46", in $NW^1/_4$ sec.28, T.157 N., R.65 W., Towner County, Hydrologic Unit 09020201, at bridge 6 mi southwest of Starkweather.	--	2001	04-13-01 04-18-01 06-21-01	332 171 55.7
05056085	Mauvais Coulee Tributary No. 4 near Cando, ND	Lat 48°29'10", long 99°14'48", in $SE^1/_4SW^1/_4SW^1/_4$ sec.36, T.158 N., R.67 W., Towner County, Hydrologic Unit 09020201, at bridge on county road 1.5 mi southwest of Cando.	--	2001	04-14-01 04-19-01 06-21-01	322 155 5.09
		MISSOURI RIVER BASIN				
--	Lightning Creek near Haley, ND	Lat 46°00'27", long 103°04'41", in $SW^1/_4NE^1/_4SW^1/_4$ sec.9, T.129 N., R.99 W., Bowman County, Hydrologic Unit 10130301, at culvert 7.7 mi south of Gascoyne.	--	2001	03-09-01 03-14-01	229 82.9
--	Buffalo Creek near Reeder, ND	Lat 45°59'19", long 102°54'21", in $SW^1/_4SE^1/_4SW^1/_4$ sec.14, T.129 N., R.98 W., Adams County, Hydrologic Unit 10130301, at bridge 8 mi south and 2.3 mi east of Reeder.	--	2001	03-10-01 03-15-01	479 180

Water-quality partial-record stations are particular sites where chemical-quality, biological and/or sediment data are collected systematically over a period of years for use in hydrologic analyses. These data are collected usually less than quarterly. Samples collected at sites other than gaging stations and partial-record stations to give better areal coverage in a river basin are referred to as miscellaneous sites.

05052500 ANTELOPE CREEK AT DWIGHT, ND (LAT 46 18 42N LONG 97 03 10W)

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
APR 18...	1120	105	8.1	7.9	800	780	8.0	9.5	330	72.0	37.0	10.0	.8

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
APR 18...	32.0	17	199	17.0	.2	190	142	500	478	4.0	30	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR 18...	70.0	<.10	2.0	3.0	350

05083500 RED RIVER OF THE NORTH AT OSLO, MN (LAT 48 11 40N LONG 97 08 30W)

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
APR 16...	1245	--	50600	8.3	--	--	405	.5	3.0	--	--	--	--
JUL 30...	1350	5000	--	7.9	7.8	647	650	24.5	23.5	340	73.0	38.0	6.10

DATE	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
APR 16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL 30...	.6	25.0	14	198	18.0	.2	130	5710	423	415	7.0	6000	4.00

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
APR 16...	--	--	--	--	--	--
JUL 30...	100	80.0	<.10	2.0	3.0	270

05119410 BONNES COULEE NEAR VELVA, ND (LAT 48 03 30N LONG 100 57 00W)

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
MAR 23...	0945	24	8.1	7.9	1130	1140	-9.0	.00	310	61.0	37.0	11.0	3

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
MAR 23...	140	49	223	8.0	.1	370	50.3	793	762	--o	140	--o	50.0

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
MAR 23...	100	<.10	--o	--o	540

06343000 HEART RIVER NEAR SOUTH HEART, ND (LAT 46 51 56N LONG 102 56 53W)

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)
MAR 23...	1100	73	7.1	6.8	745	--e	-3.0	.9	120	25.0	15.0	8.50	4

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
MAR 23...	100	62	108	4.4	.1	240	96.5	487	459	2.0	450	2.00	100

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
MAR 23...	110	<.10	2.0	3.0	230

o Insufficient amount of water
e Required equipment not functional/available

05055500 SHEYENNE RIVER AT SHEYENNE, ND

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
NOV 15...	1000	--e	--e	7.9	1680	--e	--e	500	76.3	74.1	14.4	4	200

DATE	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, TOTAL (MG/L AS N) (00600)
NOV 15...	46	505	23.9	.2	24.1	413	1.5	.070	.006	.139	.145	1.4	1.6

DATE	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ACIFL-UORFEN WATER, FLTRD, GF 0.7U REC (UG/L) (49315)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALDI-CARB SULFONE WAT,FLT GF 0.7U REC (UG/L) (49313)	ALDICA-RB SUL-FOXIDE, WAT,FLT GF 0.7U REC (UG/L) (49314)	ALDI-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (49312)	ALPHA BHC DIS-SOLVED (UG/L) (34253)
NOV 15...	.129	.182	1190	1130	50	42.5	<.004	<.06	<.002	<.16	<.03	<.08	<.005

DATE	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	BENDIO-CARB, WATER FLTRD REC (UG/L) (50299)	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BENOMYL WATER FLTRD REC (UG/L) (50300)	BEN-SUL-FURON METHYL WAT FLT REC (UG/L) (61693)	BENTA-ZON, WATER, FLTRD, GF 0.7U REC (UG/L) (38711)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAR-BARYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49310)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN, WATER, FLTRD, GF 0.7U REC (UG/L) (49309)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	3HYDRXY CARBO-FURAN WAT,FLT GF 0.7U REC (UG/L) (49308)
NOV 15...	<.007	<.050	<.061	<.010	<.022	<.0482	<.02	<.002	<.06	<.041	<.06	<.020	<.06

DATE	3-KETO CARBO-FURAN WATER FLTRD REC (UG/L) (50295)	CHLOR-AMBEN, METHYL ESTER WATER FLTRD (UG/L) (61188)	CHLORI-MURON, WATER FLTRD REC (UG/L) (50306)	CHLORO-THALO-NIL, WAT,FLT GF 0.7U REC (UG/L) (49306)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CLOPYR-ALID, WATER, FLTRD, GF 0.7U REC (UG/L) (49305)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	SI-CLOATE, WATER, DISS, REC (UG/L) (04031)	DACTHAL MONO-ACID, WAT,FLT GF 0.7U REC (UG/L) (49304)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DEETHYL DEISO-PROPYL ATRAZIN DISS, REC (UG/L) (04039)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)
NOV 15...	<.072	<.11	<.037	<.05	<.005	<.04	<.018	<.05	<.07	<.003	<.006	<.06	<.07

DATE	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DICAMBA WATER, FLTRD, GF 0.7U REC (UG/L) (38442)	DICHLOR PROP, WATER, FLTRD, GF 0.7U REC (UG/L) (49302)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	DINOSEB WATER, FLTRD, GF 0.7U REC (UG/L) (49301)	DIPHEN-AMID, WATER, DISS, REC (UG/L) (04033)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	DIURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49300)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FEN-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49297)
NOV 15...	<.005	<.10	<.05	<.005	<.002	<.04	<.06	<.021	<.08	<.002	<.009	<.005	<.07

DATE	FLUMET-SULAM WATER FLTRD REC (UG/L) (61694)	FLUO-METURON WATER, FLTRD, GF 0.7U REC (UG/L) (38811)	FONOFOS WATER DISS REC (UG/L) (04095)	HYDROXY ATRA-ZINE WATER FLTRD REC (UG/L) (50355)	IMAZ-AQUIN WATER FLTRD REC (UG/L) (50356)	IMAZE-THAPYR WATER FLTRD REC (UG/L) (50407)	IMID-ACLOP-RID WATER FLTRD REC (UG/L) (61695)	LINDANE DIS-SOLVED (UG/L) (39341)	LINURON WATER, FLTRD, GF 0.7U REC (UG/L) (38478)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	MCPA, WATER, FLTRD, GF 0.7U REC (UG/L) (38482)	MCPB, WATER, FLTRD, GF 0.7U REC (UG/L) (38487)
NOV 15...	<.0866	<.06	<.003	<.193	<.103	<.088	<.1060	<.004	<.07	<.035	<.027	<.06	<.06

05055500 SHEYENNE RIVER AT SHEYENNE, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	METAL-AXYL WATER FLTRD REC (UG/L) (50359)	METHIO-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (38501)	METH-OMYL OXIME WATER FLTRD REC (UG/L) (61696)	METH-OMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49296)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MET-SUL-FURON METHYL WAT FLT REC (UG/L) (61697)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	NEB-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49294)	NICOSUL FURON WATER FLTRD REC (UG/L) (50364)	NORFLUR AZON, WATER, FLTRD, GF 0.7U REC (UG/L) (49293)
NOV 15...	<.057	<.08	<.0102	<.08	<.006	<.013	<.006	<.1138	<.002	<.007	<.07	<.065	<.08

DATE	ORY-ZALIN, WATER, FLTRD, GF 0.7U REC (UG/L) (49292)	OXAMYL OXIME WATER FLTRD REC (UG/L) (50410)	OXAMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (38866)	P,P' DDE DISSOLV (UG/L) (34653)	PARA-THION, DIS-SOLVED (UG/L) (39542)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PIC-LORAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49291)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROPA-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)
NOV 15...	<.07	<.064	<.02	<.003	<.007	<.002	<.010	<.006	<.011	<.07	<.004	<.010	<.011

DATE	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PRO-PHAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49236)	PROP-ICONA-ZOLE , WATER FLTRD REC (UG/L) (50471)	PRO-POXUR, WATER, FLTRD, GF 0.7U REC (UG/L) (38538)	SIDURON WATER FLTRD REC (UG/L) (38548)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	SULFO-MET-RURON METHYL WTR FLT REC (UG/L) (50337)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL, WATER, DISS, REC (UG/L) (04032)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)
NOV 15...	<.023	<.07	<.064	<.06	<.093	<.011	<.039	<.016	<.10	<.034	<.017	<.005	<.002

DATE	TRI-BENURON METHYL WATER FLTRD (UG/L) (61159)	TRI-CLOPYR, WATER, FLTRD, GF 0.7U REC (UG/L) (49235)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	UREA 3(4-CHLOROPHENYL METHYL WAT FLT REC (UG/L) (61692)	2,4-D METHYL ESTER, WATER FLTRD REC (UG/L) (50470)	2,4-D, DIS-SOLVED (UG/L) (39732)	2,4-DB WATER, FLTRD, GF 0.7U REC (UG/L) (38746)
NOV 15...	<.07	<.10	<.009	<.0915	<.086	<.08	<.05

e Required equipment not functional/available

475001098560300 SHEYENNE RIVER NO. 2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
NOV 15...	1030	8.0	1640	490	78.8	71.9	13.9	4	190	45	484	25.9	.3

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
NOV 15...	24.9	401	1.4	.072	.006	.177	.183	1.4	1.6	.134	.176	1140	1100

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
NOV 15...	40	46.1

474740098351500 SHEYENNE RIVER NO. 3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
NOV 15...	1330	14.2	--e	8.0	1600	1590	.1	480	80.4	68.6	13.2	4	180

DATE	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, TOTAL (MG/L AS N) (00600)
NOV 15...	44	461	25.6	.2	25.9	404	1.5	.072	.007	.220	.227	1.4	1.7

DATE	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ACIFL-UORFEN WATER, FLTRD, GF 0.7U REC (UG/L) (49315)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALDI-CARB SULFONE WAT,FLT GF 0.7U REC (UG/L) (49313)	ALDICA-RB SUL-FOXIDE, WAT,FLT GF 0.7U REC (UG/L) (49314)	ALDI-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (49312)	ALPHA BHC DIS-SOLVED (UG/L) (34253)
NOV 15...	.137	.213	1120	1080	30	55.7	<.004	<.06	<.002	<.16	<.03	<.08	<.005

DATE	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	BENDIO-CARB, WATER FLTRD REC (UG/L) (50299)	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BENOMYL WATER FLTRD REC (UG/L) (50300)	BEN-SUL-FURON METHYL WAT FLT REC (UG/L) (61693)	BENTA-ZON, WATER, FLTRD, GF 0.7U REC (UG/L) (38711)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAF-FEINE, WATER FLTRD REC (UG/L) (50305)	CAR-BARYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49310)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN, WATER, FLTRD, GF 0.7U REC (UG/L) (49309)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)
NOV 15...	<.007	<.050	<.061	<.010	<.022	<.0482	<.02	<.002	<.081	<.06	<.041	<.06	<.020

DATE	3HYDRXY CARBO-FURAN WAT,FLT GF 0.7U REC (UG/L) (49308)	3-KETO CARBO-FURAN WATER FLTRD REC (UG/L) (50295)	CHLOR-AMBEN, METHYL ESTER WATER FLTRD (UG/L) (61188)	CHLORI-MURON, WATER FLTRD REC (UG/L) (50306)	CHLORO-THALO-NIL, WAT,FLT GF 0.7U REC (UG/L) (49306)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CLOPYR-ALID, WATER, FLTRD, GF 0.7U REC (UG/L) (49305)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	SI-CLOATE, WATER, DISS, REC (UG/L) (04031)	DACTHAL MONO-ACID, WAT,FLT GF 0.7U REC (UG/L) (49304)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DEETHYL DEISO-PROPYL ATRAZIN DISS, REC (UG/L) (04039)
NOV 15...	<.06	<.072	<.11	<.037	<.05	<.005	<.04	<.018	<.05	<.07	<.003	<.006	<.06

DATE	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DICAMBA WATER, FLTRD, GF 0.7U REC (UG/L) (38442)	DICHLOR PROP, WATER, FLTRD, GF 0.7U REC (UG/L) (49302)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	DINOSEB WATER, FLTRD, GF 0.7U REC (UG/L) (49301)	DIPHEN-AMID, WATER, DISS, REC (UG/L) (04033)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	DIURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49300)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)
NOV 15...	<.07	<.005	<.10	<.05	<.005	<.002	<.04	<.06	<.021	<.08	<.002	<.009	<.005

DATE	FEN-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49297)	FLUMET-SULAM WATER FLTRD REC (UG/L) (61694)	FLUO-METURON WATER, FLTRD, GF 0.7U REC (UG/L) (38811)	FONOFOS WATER DISS REC (UG/L) (04095)	HYDROXY ATRA-ZINE WATER FLTRD REC (UG/L) (50355)	IMAZ-AQUIN WATER FLTRD REC (UG/L) (50356)	IMAZE-THAPYR WATER FLTRD REC (UG/L) (50407)	IMID-ACLOP-RID WATER FLTRD REC (UG/L) (61695)	LINDANE DIS-SOLVED (UG/L) (39341)	LINURON WATER, FLTRD, GF 0.7U REC (UG/L) (38478)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	MCPA, WATER, FLTRD, GF 0.7U REC (UG/L) (38482)
NOV 15...	<.07	<.0866	<.06	<.003	<.193	<.103	<.088	<.1060	<.004	<.07	<.035	<.027	<.06

474740098351500 SHEYENNE RIVER NO. 3--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	MCPB, WATER, FLTRD, GF 0.7U REC (UG/L) (38487)	METAL-AXYL WATER FLTRD REC (UG/L) (50359)	METHIO-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (38501)	METH-OMYL OXIME WATER FLTRD REC (UG/L) (61696)	METH-OMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49296)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MET-SUL-FURON METHYL WAT FLT REC (UG/L) (61697)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	NEB-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49294)	NICOSUL FURON WATER FLTRD REC (UG/L) (50364)
NOV 15...	<.06	<.057	<.08	<.0102	<.08	<.006	<.013	<.006	<.1138	<.002	<.007	<.07	<.065

DATE	NORFLUR AZON, WATER, FLTRD, GF 0.7U REC (UG/L) (49293)	ORY-ZALIN, WATER, FLTRD, GF 0.7U REC (UG/L) (49292)	OXAMYL OXIME WATER FLTRD REC (UG/L) (50410)	OXAMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (38866)	P,P' DDE DISSOLV (UG/L) (34653)	PARA-THION, DIS-SOLVED (UG/L) (39542)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PIC-LORAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49291)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROPA-CHLOR, WATER, DISS, REC (UG/L) (04024)
NOV 15...	<.08	<.07	<.064	<.02	<.003	<.007	<.002	<.010	<.006	<.011	<.07	<.004	<.010

DATE	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PRO-PHAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49236)	PROP-ICONA-ZOLE , WATER FLTRD REC (UG/L) (50471)	PRO-POXUR, WATER, FLTRD, GF 0.7U REC (UG/L) (38538)	SIDURON WATER FLTRD REC (UG/L) (38548)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	SULFO-MET-RURON METHYL WTR FLT REC (UG/L) (50337)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL, WATER, DISS, REC (UG/L) (04032)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)
NOV 15...	<.011	<.023	<.07	<.064	<.06	<.093	<.011	<.039	<.016	<.10	<.034	<.017	<.005

DATE	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-BENURON METHYL WATER FLTRD (UG/L) (61159)	TRI-CLOPYR, WATER, FLTRD, GF 0.7U REC (UG/L) (49235)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	UREA 3(4-CHLOR OPHENYL METHYL WAT FLT REC (UG/L) (61692)	2,4-D METHYL ESTER, WATER FLTRD REC (UG/L) (50470)	2,4-D, DIS-SOLVED (UG/L) (39732)	2,4-DB WATER, FLTRD, GF 0.7U REC (UG/L) (38746)
NOV 15...	<.002	<.07	<.10	<.009	<.0915	<.086	<.08	<.05

e Required equipment not functional/available

480329099125100 DEVILS LAKE, MINNEWAUKEN FLATS 1

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JAN 22...	1415	.70	1.8	2220	8.5	550	85.4	81.8	44.0	5	274	50	399

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)
JAN 22...	114	.2	9.0	615	2.0	E.024	<.006	<.047	.146	.242	1560	1460	6.5

DATE	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ACIFL-UORFEN WATER, FLTRD, GF 0.7U REC (UG/L) (49315)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALDI-CARB SULFONE WAT,FLT GF 0.7U REC (UG/L) (49313)	ALDICA-RB SUL-FOXIDE, WAT,FLT GF 0.7U REC (UG/L) (49314)	ALDI-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (49312)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	BENDIO-CARB, WATER FLTRD REC (UG/L) (50299)
JAN 22...	.7	<30	E3.0	<.004	<.06	<.002	<.16	<.03	<.08	<.005	.014	<.050	<.061

DATE	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BENOMYL WATER FLTRD REC (UG/L) (50300)	BEN-SUL-FURON METHYL WAT FLT REC (UG/L) (61693)	BENTA-ZON, WATER, FLTRD, GF 0.7U REC (UG/L) (38711)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAF-FEINE, WATER FLTRD REC (UG/L) (50305)	CAR-BARYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49310)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN, WATER, FLTRD, GF 0.7U REC (UG/L) (49309)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	3HYDRXY CARBO-FURAN WAT,FLT GF 0.7U REC (UG/L) (49308)	3-KETO CARBO-FURAN WATER FLTRD REC (UG/L) (50295)	CHLOR-AMBEN, METHYL ESTER WATER FLTRD (UG/L) (61188)
JAN 22...	<.010	E.006	<.0482	E.01	<.002	<.081	<.06	<.041	<.06	<.020	<.06	<.072	<.11

DATE	CHLORI-MURON, WATER FLTRD REC (UG/L) (50306)	CHLORO-THALO-NIL, WAT,FLT GF 0.7U REC (UG/L) (49306)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CLOPYR-ALID, WATER, FLTRD, GF 0.7U REC (UG/L) (49305)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	SI-CLOATE, WATER, DISS, REC (UG/L) (04031)	DACTHAL MONO-ACID, WAT,FLT GF 0.7U REC (UG/L) (49304)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DEETHYL DEISO-PROPYL ATRAZIN DISS, REC (UG/L) (04039)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DICAMBA WATER, FLTRD, GF 0.7U REC (UG/L) (38442)
JAN 22...	<.037	<.05	<.005	<.04	<.018	<.05	<.07	<.003	E.006	<.06	<.07	<.005	<.10

DATE	DICHLOR PROP, WATER, FLTRD, GF 0.7U REC (UG/L) (49302)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	DINOSEB WATER, FLTRD, GF 0.7U REC (UG/L) (49301)	DIPHEN-AMID, WATER, DISS, REC (UG/L) (04033)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	DIURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49300)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FEN-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49297)	FLUMET-SULAM WATER FLTRD REC (UG/L) (61694)	FLUO-METURON WATER, FLTRD, GF 0.7U REC (UG/L) (38811)
JAN 22...	<.05	<.005	<.002	<.04	<.06	<.021	<.08	<.002	<.009	<.005	<.07	<.0866	<.06

DATE	FONOFOS WATER DISS REC (UG/L) (04095)	HYDROXY ATRA-ZINE WATER FLTRD REC (UG/L) (50355)	IMAZ-AQUIN WATER FLTRD REC (UG/L) (50356)	IMAZE-THAPYR WATER FLTRD REC (UG/L) (50407)	IMID-ACLOP-RID WATER FLTRD REC (UG/L) (61695)	LINDANE DIS-SOLVED (UG/L) (39341)	LINURON WATER, FLTRD, GF 0.7U REC (UG/L) (38478)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	MCPA, WATER, FLTRD, GF 0.7U REC (UG/L) (38482)	MCPB, WATER, FLTRD, GF 0.7U REC (UG/L) (38487)	METAL-AXYL WATER FLTRD REC (UG/L) (50359)	METHIO-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (38501)
JAN 22...	<.003	<.193	<.103	<.088	<.1060	<.004	<.07	<.035	<.027	<.06	<.06	<.057	<.08

480329099125100 DEVILS LAKE, MINNEWAUKEN FLATS 1--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	METH-OMYL OXIME WATER FLTRD REC (UG/L) (61696)	METH-OMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49296)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MET-SUL-FURON METHYL WAT FLT REC (UG/L) (61697)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	NEB-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49294)	NICOSUL FURON WATER FLTRD REC (UG/L) (50364)	NORFLUR AZON, WATER, FLTRD, GF 0.7U REC (UG/L) (49293)	ORY-ZALIN, WATER, FLTRD, GF 0.7U REC (UG/L) (49292)	OXAMYL OXIME WATER FLTRD REC (UG/L) (50410)
JAN													
22...	<.0102	<.08	<.006	<.013	<.006	<.1138	<.002	<.007	<.07	<.065	<.08	<.07	<.064

DATE	OXAMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (38866)	P,P' DDE DISSOLV (UG/L) (34653)	PARA-THION, DIS-SOLVED (UG/L) (39542)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PIC-LORAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49291)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROPA-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PRO-PHAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49236)
JAN													
22...	<.02	<.003	<.007	<.002	<.010	<.006	<.011	<.07	<.004	<.010	<.011	<.023	<.07

DATE	PROP-ICONA-ZOLE , WATER FLTRD REC (UG/L) (50471)	PRO-POXUR, WATER, FLTRD, GF 0.7U REC (UG/L) (38538)	SIDURON WATER FLTRD REC (UG/L) (38548)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	SULFO-MET-RURON METHYL WTR FLT REC (UG/L) (50337)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL, WATER, DISS, REC (UG/L) (04032)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-BENURON METHYL WATER FLTRD (UG/L) (61159)	TRI-CLOPYR, WATER, FLTRD, GF 0.7U REC (UG/L) (49235)
JAN													
22...	<.064	<.06	<.093	<.011	<.039	<.016	<.10	<.034	<.017	<.005	<.002	<.07	<.10

DATE	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	UREA 3(4-CHLOR OPHENYL METHYL WAT FLT REC (UG/L) (61692)	2,4-D METHYL ESTER, WATER FLTRD REC (UG/L) (50470)	2,4-D, DIS-SOLVED (UG/L) (39732)	2,4-DB WATER, FLTRD, GF 0.7U REC (UG/L) (38746)
JAN					
22...	<.009	<.0915	<.086	E.06	<.05

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (M) (00098)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	ICE THICK-NESS METERS (82131)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)	WIND DIREC-TION (DEG. FROM TRUE NORTH) (00036)
JAN													
22...	1400	15.1	.70	2240	7.8	.5	15.3	112	728	.68	35.0	.00	300
22...	1402	--	2.0	2200	8.0	.8	15.0	--	--	--	--	--	--
22...	1404	--	3.0	2200	8.1	1.0	14.9	--	--	--	--	--	--
22...	1406	--	4.0	2200	8.0	1.4	14.9	--	--	--	--	--	--
22...	1408	--	4.6	2180	8.2	1.5	14.8	--	--	--	--	--	--

DATE	WIND SPEED (MILES PER HOUR) (00035)
JAN	
22...	20
22...	--
22...	--
22...	--
22...	--

E Estimated value

480529099070100 DEVILS LAKE, MINNEWAUKEN FLATS 2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JAN													
23...	1100	.00	1.8	2140	8.3	550	86.9	80.0	44.7	5	261	48	399

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
JAN													
23...	106	.2	11.7	589	1.9	.141	<.006	E.032	1.8	.203	.284	1490	1420

DATE	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
JAN				
23...	1.2	.1	<30	99.5

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (M) (00098)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	ICE THICK-NESS METERS (82131)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)	WIND DIREC-TION (DEG. FROM TRUE NORTH) (00036)
JAN													
23...	1050	18.0	.80	2180	8.0	.1	14.2	102	732	.70	32.0	2.0	290
23...	1051	--	2.0	2150	8.1	.8	12.8	--	--	--	--	--	--
23...	1052	--	3.0	2150	8.1	1.1	12.2	--	--	--	--	--	--
23...	1053	--	4.0	2130	8.1	2.0	11.4	--	--	--	--	--	--
23...	1054	--	5.0	2100	8.1	2.8	10.3	--	--	--	--	--	--
23...	1055	--	5.5	2140	8.0	3.3	5.6	--	--	--	--	--	--

DATE	WIND SPEED (MILES PER HOUR) (00035)
JAN	
23...	6.0
23...	--
23...	--
23...	--
23...	--
23...	--

E Estimated value

ANALYSES OF SAMPLES COLLECTED AT SPIRIT LAKE RESERVATION WATER-QUALITY SITES

480523099105700 DEVILS LAKE, MINNEWAUKEN FLATS 3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JAN													
22...	1515	.69	2.3	2200	8.5	550	85.0	81.9	43.1	5	275	50	393

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)
JAN													
22...	113	E.2	8.8	616	1.7	<.041	<.006	E.029	.156	.215	1540	1460	6.3

DATE	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
JAN			
22...	.7	<30	E3.0

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (M) (00098)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)	WIND DIREC-TION (DEG. FROM TRUE NORTH) (00036)	WIND SPEED (MILES PER HOUR) (00035)
JAN													
22...	1500	20.7	.90	2240	8.2	.2	16.8	122	729	46.0	3.0	300	14
22...	1502	--	2.0	2220	8.2	.7	16.1	--	--	--	--	--	--
22...	1504	--	3.0	2220	8.2	.7	16.0	--	--	--	--	--	--
22...	1506	--	4.0	2220	8.2	.7	15.9	--	--	--	--	--	--
22...	1508	--	5.0	2220	8.3	.8	15.8	--	--	--	--	--	--
22...	1510	--	6.0	2230	8.2	1.6	14.4	--	--	--	--	--	--
22...	1512	--	6.3	2230	8.1	2.1	11.8	--	--	--	--	--	--

E Estimated value

480110099061000 DEVILS LAKE, MINNEWAUKEN FLATS 4

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JAN													
23...	0925	.00	2.4	2170	8.3	530	80.9	79.8	44.7	5	272	50	380

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
JAN													
23...	114	.2	7.6	612	1.6	.051	<.006	E.025	1.6	.149	.197	1510	1440

DATE	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
JAN				
23...	3.6	.3	<30	<3.2

DATE	TIME	DEPTH OF LAKE MAX. METERS (85310)	SAM-PLING DEPTH (M) (00098)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	ICE THICK-NESS (FEET) (82130)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)	WIND DIREC-TION (DEG. FROM TRUE NORTH) (00036)
JAN													
23...	0915	8.4	.70	2230	8.1	.3	13.3	96	731	2.10	47.0	2.0	315
23...	0916	--	2.0	2200	8.2	.5	13.5	--	--	--	--	--	--
23...	0917	--	3.0	2200	8.2	1.0	13.0	--	--	--	--	--	--
23...	0918	--	4.0	2200	8.2	1.0	12.7	--	--	--	--	--	--
23...	0919	--	5.0	2210	8.2	1.2	11.9	--	--	--	--	--	--
23...	0920	--	6.0	2220	8.2	2.1	9.7	--	--	--	--	--	--
23...	0921	--	7.0	2210	2.3	1.7	11.2	--	--	--	--	--	--
23...	0922	--	8.4	8820	8.2	2.3	8.5	--	--	--	--	--	--

DATE	WIND SPEED (MILES PER HOUR) (00035)
JAN	
23...	7.0
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--

E Estimated value

ANALYSES OF SAMPLES COLLECTED AT SPIRIT LAKE RESERVATION WATER-QUALITY SITES

480239099023500 DEVILS LAKE, GHRAMS ISLAND

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JAN													
23...	1005	.00	2.3	2180	8.4	530	81.6	80.3	45.6	5	275	50	381

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
JAN													
23...	113	.3	7.3	616	1.7	.046	<.006	E.034	1.6	.142	.194	1520	1450

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
JAN		
23...	<30	11.2

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (M) (00098)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	ICE THICK-NESS (FEET) (82130)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	WIND DIREC-TION (DEG. FROM TRUE NORTH) (00036)	WIND SPEED (MILES PER HOUR) (00035)
JAN													
23...	0955	31.5	.70	2210	8.0	.1	15.2	110	732	2.10	45.0	270	7.0
23...	0956	--	2.0	2210	8.2	.5	15.0	--	--	--	--	--	--
23...	0957	--	3.0	2250	8.3	.7	14.2	--	--	--	--	--	--
23...	0958	--	4.0	2290	8.2	.7	14.6	--	--	--	--	--	--
23...	0959	--	5.0	2290	8.4	.7	14.5	--	--	--	--	--	--
23...	1000	--	6.0	2320	8.4	.7	14.3	--	--	--	--	--	--
23...	1001	--	7.0	2360	8.4	.7	14.3	--	--	--	--	--	--
23...	1002	--	8.0	2300	8.4	.8	14.0	--	--	--	--	--	--
23...	1003	--	9.0	2300	8.2	1.1	13.4	--	--	--	--	--	--
23...	1004	--	9.6	2340	8.2	2.2	9.1	--	--	--	--	--	--

E Estimated value

480623099013400 DEVILS LAKE, SIXMILE BAY

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JAN													
23...	1155	.00	3.7	2270	8.4	550	79.1	84.4	49.8	6	298	52	374

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
JAN													
23...	122	.2	2.2	650	1.6	.041	<.006	.051	1.6	1.6	.146	.183	1560

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
JAN					
23...	1510	1.3	.1	<30	<3.2

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (M) (00098)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	ICE THICK-NESS METERS (82131)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)	WIND DIREC-TION (DEG. FROM TRUE NORTH) (00036)
JAN													
23...	1140	34.1	.70	2310	8.0	.1	15.0	108	733	.66	73.0	4.0	270
23...	1141	--	2.0	2320	8.2	.1	13.6	--	--	--	--	--	--
23...	1142	--	3.0	2310	8.3	.2	13.3	--	--	--	--	--	--
23...	1143	--	4.0	2320	8.3	.1	13.2	--	--	--	--	--	--
23...	1144	--	5.0	2320	8.3	.2	13.0	--	--	--	--	--	--
23...	1145	--	6.0	2300	8.3	.4	12.9	--	--	--	--	--	--
23...	1146	--	7.0	2330	8.3	.5	12.8	--	--	--	--	--	--
23...	1147	--	8.0	2290	8.3	.8	12.3	--	--	--	--	--	--
23...	1148	--	9.0	2280	8.3	1.4	11.2	--	--	--	--	--	--
23...	1149	--	10.0	2260	8.2	2.1	8.0	--	--	--	--	--	--
23...	1150	--	10.4	2300	8.0	3.2	3.0	--	--	--	--	--	--

DATE	WIND SPEED (MILES PER HOUR) (00035)
JAN	
23...	6.0
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--

ANALYSES OF SAMPLES COLLECTED AT SPIRIT LAKE RESERVATION WATER-QUALITY SITES

480500098561000 DEVILS LAKE, CREEL BAY

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JAN													
23...	1315	.00	5.8	2260	8.5	540	78.1	84.2	49.0	6	299	52	369

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)
JAN													
23...	123	.2	.6	650	1.6	<.041	<.006	<.047	.127	.179	1580	1510	1.3

DATE	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
JAN			
23...	.2	<30	<3.2

DATE	TIME	DEPTH OF LAKE MAX. METERS (85310)	SAM-PLING DEPTH (M) (00098)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	ICE THICK-NESS (FEET) (82130)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)	WIND DIREC-TION (DEG. FROM TRUE NORTH) (00036)
JAN													
23...	1300	13	.80	2330	8.2	.4	15.1	110	731	2.10	114	1.0	315
23...	1301	--	2.0	2300	8.4	.4	14.9	--	--	--	--	--	--
23...	1302	--	3.0	2300	8.4	.5	14.7	--	--	--	--	--	--
23...	1303	--	4.0	2290	8.4	.4	14.6	--	--	--	--	--	--
23...	1304	--	5.0	2300	8.4	.4	14.6	--	--	--	--	--	--
23...	1305	--	6.0	2300	8.4	.4	14.6	--	--	--	--	--	--
23...	1306	--	7.0	2310	8.4	.4	14.4	--	--	--	--	--	--
23...	1307	--	8.0	2310	8.4	.5	14.2	--	--	--	--	--	--
23...	1308	--	9.0	2300	8.4	.6	13.8	--	--	--	--	--	--
23...	1309	--	10.0	2310	8.4	.7	13.5	--	--	--	--	--	--
23...	1310	--	11.0	2310	8.4	.9	12.7	--	--	--	--	--	--
23...	1311	--	12.0	2300	8.3	1.6	10.0	--	--	--	--	--	--
23...	1312	--	12.7	2310	8.1	2.0	6.3	--	--	--	--	--	--

DATE	WIND SPEED (MILES PER HOUR) (00035)
JAN	
23...	<5.0
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--

480147098572200 DEVILS LAKE, MAIN BAY

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JAN													
23...	1410	.00	3.8	2260	8.5	530	76.6	81.9	45.8	6	291	52	370
MAR													
14...	1030	--	1.8	2270	8.6	590	83.8	92.3	47.2	6	318	52	362
14...	1100	--	13.2	2430	8.4	610	83.3	97.9	49.8	6	350	53	372
AUG													
01...	0845	--	14.0	2050	--	490	71.2	74.9	38.7	5	256	51	347

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)
JAN													
23...	122	.2	.6	649	1.5	E.024	<.006	<.047	.126	.160	1590	1490	1.1
MAR													
14...	122	--	--	687	--	--	--	--	--	--	--	1570	--
14...	133	--	--	716	--	--	--	--	--	--	--	1650	--
AUG													
01...	109	--	--	557	--	--	--	--	--	--	--	1320	--

DATE	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MANGAN-ESE TOTAL RECOVER - ABLE (UG/L) (01123)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
JAN							
23...	.1	<30	--	E2.5	--	--	--
MAR							
14...	--	--	10	--	<10	2	91
14...	--	--	30	--	230	3	96
AUG							
01...	--	--	<10	--	20	2	88

480147098572200 DEVILS LAKE, MAIN BAY--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH OF LAKE MAX. METERS (85310)	SAMPLING DEPTH (M) (00098)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY FIELD WATER UNFLTRD (NTU) (61028)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	BAROMETRIC PRESSURE (MM OF HG) (00025)	ICE THICKNESS (FEET) (82130)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	TEMPERATURE AIR (DEG C) (00020)
JAN													
23...	1350	14	.70	2310	8.2	.3	--	15.2	110	731	2.10	33.0	4.0
23...	1351	--	2.0	2300	8.4	.2	--	15.0	--	--	--	--	--
23...	1352	--	3.0	2290	8.4	.3	--	14.7	--	--	--	--	--
23...	1353	--	4.0	2310	8.4	.3	--	14.6	--	--	--	--	--
23...	1354	--	5.0	2270	8.4	.4	--	14.4	--	--	--	--	--
23...	1355	--	6.0	2300	8.4	.3	--	14.4	--	--	--	--	--
23...	1356	--	7.0	2340	8.4	.3	--	14.3	--	--	--	--	--
23...	1357	--	8.0	2310	8.4	.3	--	14.3	--	--	--	--	--
23...	1358	--	9.0	2310	8.4	.5	--	14.0	--	--	--	--	--
23...	1359	--	10.0	2300	8.4	1.0	--	12.9	--	--	--	--	--
23...	1400	--	11.0	2280	8.3	1.4	--	11.5	--	--	--	--	--
23...	1401	--	12.0	2310	8.2	1.8	--	9.5	--	--	--	--	--
23...	1402	--	13.0	2380	8.1	2.5	--	6.2	--	--	--	--	--
23...	1403	--	14.0	2540	8.0	2.8	--	4.7	--	--	--	--	--
23...	1404	--	14.3	2630	8.0	2.9	--	4.3	--	--	--	--	--
MAR													
14...	1000	14	.80	2280	8.3	-0.1	.00	12.6	92	720	2.50	89.0	-2.5
14...	1001	--	1.8	2270	8.3	-0.1	.00	12.6	--	--	--	--	--
14...	1002	--	3.0	2270	8.3	-0.1	.00	12.5	--	--	--	--	--
14...	1003	--	4.0	2270	8.3	-0.1	.00	12.5	--	--	--	--	--
14...	1004	--	5.0	2270	8.3	-0.1	.00	12.5	--	--	--	--	--
14...	1005	--	6.0	2270	8.3	-0.1	.00	12.4	--	--	--	--	--
14...	1006	--	7.0	2260	8.3	.00	.00	12.4	--	--	--	--	--
14...	1007	--	8.0	2260	8.3	.4	.00	12.3	--	--	--	--	--
14...	1008	--	9.0	2250	8.3	.9	.00	11.4	--	--	--	--	--
14...	1009	--	10.0	2240	8.3	1.3	.00	9.6	--	--	--	--	--
14...	1010	--	11.0	2250	8.3	1.7	.00	7.4	--	--	--	--	--
14...	1011	--	12.0	2290	8.3	2.3	.00	4.7	--	--	--	--	--
14...	1012	--	13.0	2420	8.2	2.8	.00	3.2	--	--	--	--	--
14...	1013	--	13.9	2500	8.2	4.1	.00	.4	--	--	--	--	--
AUG													
01...	0815	15	.00	2040	8.2	22.0	--	8.1	98	725	--	--	19.0
01...	0816	--	1.0	2040	8.3	22.0	--	7.8	--	--	--	--	--
01...	0817	--	2.0	2040	8.4	22.0	--	7.7	--	--	--	--	--
01...	0818	--	4.0	2050	8.4	22.0	--	7.7	--	--	--	--	--
01...	0819	--	6.0	2050	8.4	22.0	--	7.7	--	--	--	--	--
01...	0820	--	8.0	2050	8.4	22.0	--	7.7	--	--	--	--	--
01...	0821	--	10.0	2050	8.4	22.0	--	7.6	--	--	--	--	--
01...	0827	--	12.0	2050	8.4	21.9	--	7.3	--	--	--	--	--
01...	0828	--	14.0	2100	8.1	18.2	--	.5	--	--	--	--	--
01...	0829	--	14.9	2100	8.0	18.0	--	.4	--	--	--	--	--

480147098572200 DEVILS LAKE, MAIN BAY--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WIND DIREC-TION (DEG. FROM TRUE NORTH) (00036)	WIND SPEED (MILES PER HOUR) (00035)
JAN		
23...	255	<5.0
23...	--	--
23...	--	--
23...	--	--
23...	--	--
23...	--	--
23...	--	--
23...	--	--
23...	--	--
23...	--	--
23...	--	--
23...	--	--
23...	--	--
23...	--	--
23...	--	--
MAR		
14...	350	7.0
14...	--	--
14...	--	--
14...	--	--
14...	--	--
14...	--	--
14...	--	--
14...	--	--
14...	--	--
14...	--	--
14...	--	--
14...	--	--
14...	--	--
14...	--	--
AUG		
01...	270	8.0
01...	--	--
01...	--	--
01...	--	--
01...	--	--
01...	--	--
01...	--	--
01...	--	--
01...	--	--
01...	--	--

E Estimated value

ANALYSES OF SAMPLES COLLECTED AT SPIRIT LAKE RESERVATION WATER-QUALITY SITES

480022098551400 DEVILS LAKE, CASINO MARINA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JAN													
23...	1455	.00	5.6	2250	8.5	540	77.5	83.4	47.4	6	298	52	366

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)
JAN													
23...	122	.2	.6	648	1.5	E.023	<.006	<.047	.125	.165	1570	1500	.3

DATE	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
JAN			
23...	<.1	<30	<3.2

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	DEPTH OF LAKE MAX. METERS (85310)	SAM-PLING DEPTH (M) (00098)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	ICE THICK-NESS (FEET) (82130)	TEMPER-ATURE AIR (DEG C) (00020)	WIND DIREC-TION (DEG. FROM TRUE NORTH) (00036)
JAN													
23...	1440	14.1	14	.80	2320	8.2	.2	14.9	108	730	.60	2.0	285
23...	1441	--	--	2.0	2320	8.4	.3	14.6	--	--	--	--	--
23...	1442	--	--	3.0	2280	8.4	.4	14.4	--	--	--	--	--
23...	1443	--	--	4.0	2200	8.4	.4	14.4	--	--	--	--	--
23...	1444	--	--	5.0	2190	8.4	.4	13.8	--	--	--	--	--
23...	1445	--	--	6.0	2260	8.4	.4	14.2	--	--	--	--	--
23...	1446	--	--	7.0	2250	8.4	.4	14.1	--	--	--	--	--
23...	1447	--	--	8.0	2250	8.4	.7	13.8	--	--	--	--	--
23...	1448	--	--	9.0	2390	8.2	1.0	12.9	--	--	--	--	--
23...	1449	--	--	10.0	2340	8.3	1.3	11.9	--	--	--	--	--
23...	1450	--	--	11.0	2400	8.3	1.7	10.4	--	--	--	--	--
23...	1451	--	--	12.0	2200	8.2	2.2	7.9	--	--	--	--	--
23...	1452	--	--	13.0	2210	8.1	2.6	5.9	--	--	--	--	--
23...	1453	--	--	14.1	2300	7.9	3.5	1.9	--	--	--	--	--

DATE	WIND SPEED (MILES PER HOUR) (00035)
JAN	
23...	5.0
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--

E Estimated value

480525099062000 DEVILS LAKE, EAST BAY, SHELVERS GROVE

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JAN 24...	1000	.00	3.7	3570	8.4	720	78.5	127	41.6	9	536	60	435

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
JAN 24...	229	E.2	7.2	1100	2.1	.134	E.005	.209	2.0	2.3	.171	.240	2570

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ACIFL-UORFEN WATER, FLTRD, GF 0.7U REC (UG/L) (49315)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALDI-CARB SULFONE WAT,FLT GF 0.7U REC (UG/L) (49313)	ALDICA-RB SUL-FOXIDE, WAT,FLT GF 0.7U REC (UG/L) (49314)	ALDI-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (49312)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)
JAN 24...	2390	1.4	.2	<30	<3.2	<.004	<.06	<.002	<.16	<.03	<.08	<.005	.016

DATE	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	BENDIO-CARB, WATER FLTRD REC (UG/L) (50299)	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BENOMYL WATER FLTRD REC (UG/L) (50300)	BEN-SUL-FURON METHYL WAT FLT REC (UG/L) (61693)	BENTA-ZON, WATER, FLTRD, GF 0.7U REC (UG/L) (38711)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAF-FEINE, WATER FLTRD REC (UG/L) (50305)	CAR-BARYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49310)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN, WATER, FLTRD, GF 0.7U REC (UG/L) (49309)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	3HYDRXY CARBO-FURAN WAT,FLT GF 0.7U REC (UG/L) (49308)
JAN 24...	<.050	<.061	<.010	E.046	<.0482	E.01	<.002	<.081	<.06	<.041	<.06	<.020	<.06

DATE	3-KETO CARBO-FURAN WATER FLTRD REC (UG/L) (50295)	CHLOR-AMBEN, METHYL ESTER WATER FLTRD (UG/L) (61188)	CHLORI-MURON, WATER FLTRD REC (UG/L) (50306)	CHLORO-THALO-NIL, WAT,FLT GF 0.7U REC (UG/L) (49306)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CLOPYR-ALID, WATER, FLTRD, GF 0.7U REC (UG/L) (49305)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	SI-CLOATE, WATER, DISS, REC (UG/L) (04031)	DACTHAL MONO-ACID, WAT,FLT GF 0.7U REC (UG/L) (49304)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DEETHYL DEISO-PROPYL ATRAZIN DISS, REC (UG/L) (04039)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)
JAN 24...	<.072	<.11	<.037	<.05	<.005	<.04	<.018	<.05	<.07	<.003	E.008	<.06	<.07

DATE	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DICAMBA WATER, FLTRD, GF 0.7U REC (UG/L) (38442)	DICHLOR PROP, WATER, FLTRD, GF 0.7U REC (UG/L) (49302)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	DINOSEB WATER, FLTRD, GF 0.7U REC (UG/L) (49301)	DIPHEN-AMID, WATER, DISS, REC (UG/L) (04033)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	DIURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49300)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FEN-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49297)
JAN 24...	<.005	<.10	<.05	<.005	<.002	<.04	<.06	<.021	<.08	<.002	<.009	<.005	<.07

DATE	FLUMET-SULAM WATER FLTRD REC (UG/L) (61694)	FLUO-METURON WATER, FLTRD, GF 0.7U REC (UG/L) (38811)	FONOFOS WATER DISS REC (UG/L) (04095)	HYDROXY ATRA-ZINE WATER FLTRD REC (UG/L) (50355)	IMAZ-AQUIN WATER FLTRD REC (UG/L) (50356)	IMAZE-THAPYR WATER FLTRD REC (UG/L) (50407)	IMID-ACLOP-RID WATER FLTRD REC (UG/L) (61695)	LINDANE DIS-SOLVED (UG/L) (39341)	LINURON WATER, FLTRD, GF 0.7U REC (UG/L) (38478)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	MCPA, WATER, FLTRD, GF 0.7U REC (UG/L) (38482)	MCPB, WATER, FLTRD, GF 0.7U REC (UG/L) (38487)
JAN 24...	<.0866	<.06	<.003	E.006	<.103	<.088	<.1060	<.004	<.07	<.035	<.027	<.06	<.06

480525099062000 DEVILS LAKE, EAST BAY, SHELVERS GROVE--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	METAL-AXYL WATER FLTRD REC (UG/L) (50359)	METHIO-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (38501)	METH-OMYL OXIME WATER FLTRD REC (UG/L) (61696)	METH-OMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49296)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MET-SUL-FURON METHYL WAT FLT REC (UG/L) (61697)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	NEB-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49294)	NICOSUL FURON WATER FLTRD REC (UG/L) (50364)	NORFLUR AZON, WATER, FLTRD, GF 0.7U REC (UG/L) (49293)
JAN													
24...	<.057	<.08	<.0102	<.08	<.006	<.013	<.006	<.1138	<.002	<.007	<.07	<.065	<.08

DATE	ORY-ZALIN, WATER, FLTRD, GF 0.7U REC (UG/L) (49292)	OXAMYL OXIME WATER FLTRD REC (UG/L) (50410)	OXAMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (38866)	P,P' DDE DISSOLV (UG/L) (34653)	PARA-THION, DIS-SOLVED (UG/L) (39542)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PIC-LORAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49291)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROPA-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)
JAN													
24...	<.07	<.064	<.02	<.003	<.007	<.002	<.010	<.006	<.011	<.07	<.004	<.010	<.011

DATE	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PRO-PHAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49236)	PROP-ICONA-ZOLE , WATER FLTRD REC (UG/L) (50471)	PRO-POXUR, WATER, FLTRD, GF 0.7U REC (UG/L) (38538)	SIDURON WATER FLTRD REC (UG/L) (38548)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	SULFO-MET-RURON METHYL WTR FLT REC (UG/L) (50337)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL, WATER, DISS, REC (UG/L) (04032)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)
JAN													
24...	<.023	<.07	<.064	<.06	<.093	<.011	<.039	<.016	<.10	<.034	<.017	<.005	<.002

DATE	TRI-BENURON METHYL WATER FLTRD (UG/L) (61159)	TRI-CLOPYR, WATER, FLTRD, GF 0.7U REC (UG/L) (49235)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	UREA 3(4-CHLOR OPHENYL METHYL WAT FLT REC (UG/L) (61692)	2,4-D METHYL ESTER, WATER FLTRD REC (UG/L) (50470)	2,4-D, DIS-SOLVED (UG/L) (39732)	2,4-DB WATER, FLTRD, GF 0.7U REC (UG/L) (38746)
JAN							
24...	<.07	<.10	<.009	<.0915	<.086	E.07	<.05

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	DEPTH OF LAKE MAX. METERS (85310)	SAM-PLING DEPTH (M) (00098)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	ICE THICK-NESS METERS (82131)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
JAN													
24...	0950	27.6	8.4	.70	3580	--e	.1	11.5	82	741	.60	73.0	-13.0
24...	0951	--	--	2.0	3630	--e	.1	11.1	--	--	--	--	--
24...	0952	--	--	3.0	3610	--e	.3	11.0	--	--	--	--	--
24...	0953	--	--	4.0	3600	--e	.3	10.5	--	--	--	--	--
24...	0954	--	--	5.0	3620	--e	.5	10.6	--	--	--	--	--
24...	0955	--	--	6.0	3610	--e	.8	10.5	--	--	--	--	--
24...	0956	--	--	7.0	3680	--e	.7	10.7	--	--	--	--	--
24...	0957	--	--	8.0	3680	--e	.7	10.4	--	--	--	--	--
24...	0958	--	--	8.4	3690	--e	.8	10.6	--	--	--	--	--

DATE	WIND DIREC-TION (DEG. FROM TRUE NORTH) (00036)	WIND SPEED (MILES PER HOUR) (00035)
JAN		
24...	245	<5.0
24...	--	--
24...	--	--
24...	--	--
24...	--	--
24...	--	--
24...	--	--
24...	--	--
24...	--	--

E Estimated value
e Required equipment not functional/available

480032098430900 DEVILS LAKE, EAST BAY

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JAN													
24...	1110	.00	3.6	3660	8.5	740	78.6	131	57.0	9	556	60	438

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
JAN													
24...	249	E.1	6.8	1190	2.1	.100	E.003	.194	2.0	2.3	.171	.208	2640

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
JAN					
24...	2540	6.4	.5	<30	E4.5

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (M) (00098)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)	WIND DIREC-TION (DEG. FROM TRUE NORTH) (00036)	WIND SPEED (MILES PER HOUR) (00035)
JAN													
24...	1055	37.1	.70	3720	8.0	.1	13.2	94	742	71.0	-4.0	245	<5.0
24...	1056	--	2.0	3710	8.1	.1	13.0	--	--	--	--	--	--
24...	1057	--	3.0	3700	8.1	.1	12.9	--	--	--	--	--	--
24...	1058	--	4.0	3700	8.2	.1	12.9	--	--	--	--	--	--
24...	1059	--	5.0	3700	8.2	.1	12.8	--	--	--	--	--	--
24...	1100	--	6.0	3690	8.2	.1	12.8	--	--	--	--	--	--
24...	1101	--	7.0	3680	8.2	.1	12.8	--	--	--	--	--	--
24...	1102	--	8.0	3680	8.2	.3	12.5	--	--	--	--	--	--
24...	1103	--	9.0	3630	8.2	.7	11.9	--	--	--	--	--	--
24...	1104	--	10.0	3720	8.1	1.1	11.0	--	--	--	--	--	--
24...	1105	--	11.0	3870	8.0	1.5	4.8	--	--	--	--	--	--

E Estimated value

ANALYSES OF SAMPLES COLLECTED AT SPIRIT LAKE RESERVATION WATER-QUALITY SITES

475746098470000 DEVILS LAKE, BLACK TIGER BAY

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JAN													
24...	1220	.00	3.6	3680	8.8	730	78.3	130	81.9	9	554	59	440

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
JAN													
24...	248	.2	6.2	1200	2.2	.088	E.003	.177	2.1	2.4	.164	.214	2670

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
JAN					
24...	2560	1.0	<.1	<30	<3.2

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (M) (00098)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	ICE THICK-NESS METERS (82131)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)	WIND DIREC-TION (DEG. FROM TRUE NORTH) (00036)
JAN													
24...	1205	36.1	.60	3760	--e	.1	14.5	95	741	.49	72.0	-3.0	260
24...	1206	--	2.0	3730	--e	.1	15.6	--	--	--	--	--	--
24...	1207	--	3.0	3730	--e	.1	13.2	--	--	--	--	--	--
24...	1208	--	4.0	3710	--e	.0	13.1	--	--	--	--	--	--
24...	1209	--	5.0	3700	--e	.0	12.6	--	--	--	--	--	--
24...	1210	--	6.0	3760	--e	.00	12.9	--	--	--	--	--	--
24...	1211	--	7.0	3690	--e	.1	12.8	--	--	--	--	--	--
24...	1212	--	8.0	3660	--e	.4	12.5	--	--	--	--	--	--
24...	1213	--	9.0	3750	--e	.6	11.7	--	--	--	--	--	--
24...	1214	--	10.0	3670	--e	1.0	10.7	--	--	--	--	--	--
24...	1215	--	11.0	3690	--e	2.1	8.5	--	--	--	--	--	--

DATE	WIND SPEED (MILES PER HOUR) (00035)
JAN	
24...	5.0
24...	--
24...	--
24...	--
24...	--
24...	--
24...	--
24...	--
24...	--
24...	--
24...	--

E Estimated value
e Required equipment not functional/available

475740098381600 DEVILS LAKE, EAST DEVILS LAKE

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JAN													
24...	1335	.00	3.0	6880	8.5	1200	89.0	244	140	15	1210	65	553
MAR													
14...	1615	--	1.9	6760	8.5	1400	94.1	271	146	15	1270	64	527
14...	1645	--	14.5	6770	8.5	1300	89.4	256	138	15	1250	65	540
AUG													
02...	0935	1.0	--	6060	8.8	1100	81.1	223	119	14	1060	64	567
02...	0940	14.7	--	6180	8.6	1200	84.3	230	123	14	1100	65	585

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)
JAN													
24...	541	E.1	8.7	2580	3.0	.200	.010	.356	.366	2.8	3.3	.314	.359
MAR													
14...	525	--	--	2670	--	--	--	--	--	--	--	--	--
14...	530	--	--	2730	--	--	--	--	--	--	--	--	--
AUG													
02...	494	--	--	2350	--	--	--	--	--	--	--	--	--
02...	488	--	--	2230	--	--	--	--	--	--	--	--	--

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MANGAN-ESE TOTAL RECOVER - ABLE (UG/L) (01123)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
JAN										
24...	5330	5140	.5	<.1	<50	--	E2.5	--	--	--
MAR										
14...	--	5290	--	--	--	40	--	<10	4	99
14...	--	5320	--	--	--	40	--	10	--	--
AUG										
02...	--	4670	--	--	--	<10	--	<10	29	100
02...	--	4710	--	--	--	<10	--	320	154	100

475740098381600 DEVILS LAKE, EAST DEVILS LAKE--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH OF LAKE MAX. METERS (85310)	SAMPLING DEPTH (M) (00098)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY FIELD WATER UNFLTRD (NTU) (61028)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	BAROMETRIC PRESSURE (MM OF HG) (00025)	ICE THICKNESS (FEET) (82130)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	TEMPERATURE AIR (DEG C) (00020)
JAN													
24...	1315	16	.60	7070	8.3	.2	--	12.8	93	739	1.90	59.0	1.0
24...	1316	--	2.0	6940	8.3	.2	--	11.5	--	--	--	--	--
24...	1317	--	3.0	6930	8.3	.1	--	11.2	--	--	--	--	--
24...	1318	--	4.0	6950	8.3	.00	--	11.0	--	--	--	--	--
24...	1319	--	5.0	6940	8.3	-0.5	--	11.1	--	--	--	--	--
24...	1320	--	6.0	6890	8.3	.0	--	11.0	--	--	--	--	--
24...	1321	--	7.0	6910	8.3	-0.1	--	11.0	--	--	--	--	--
24...	1322	--	8.0	6910	8.3	-0.1	--	11.0	--	--	--	--	--
24...	1323	--	9.0	6920	8.3	-0.1	--	10.9	--	--	--	--	--
24...	1324	--	10.0	6930	8.3	-0.1	--	11.0	--	--	--	--	--
24...	1325	--	11.0	6920	8.3	.4	--	10.4	--	--	--	--	--
24...	1326	--	12.0	6920	8.3	.7	--	9.5	--	--	--	--	--
24...	1327	--	13.0	6800	8.3	.9	--	9.3	--	--	--	--	--
24...	1328	--	14.0	6940	8.3	1.1	--	9.1	--	--	--	--	--
24...	1329	--	15.0	7120	8.2	1.9	--	7.6	--	--	--	--	--
24...	1330	--	15.7	6910	8.2	2.7	--	3.0	--	--	--	--	--
MAR													
14...	1525	15	.90	6930	8.4	-0.2	3.0	9.3	68	724	2.75	60.0	4.0
14...	1526	--	1.9	6860	8.4	-0.2	3.0	9.0	--	--	--	--	--
14...	1527	--	3.0	6840	8.4	-0.3	3.0	8.9	--	--	--	--	--
14...	1528	--	4.0	6830	8.5	-0.3	3.0	8.8	--	--	--	--	--
14...	1529	--	5.0	6830	8.5	-0.3	3.0	8.8	--	--	--	--	--
14...	1530	--	6.0	6840	8.5	-0.3	3.0	8.7	--	--	--	--	--
14...	1531	--	7.0	6840	8.5	-0.3	3.0	8.7	--	--	--	--	--
14...	1532	--	8.0	6840	8.5	-0.3	3.0	8.7	--	--	--	--	--
14...	1533	--	9.0	6830	8.5	-0.3	3.0	8.7	--	--	--	--	--
14...	1534	--	10.0	6800	8.5	-0.1	3.0	8.7	--	--	--	--	--
14...	1535	--	11.0	6820	8.5	.1	3.0	8.7	--	--	--	--	--
14...	1536	--	12.0	6830	8.5	.2	3.0	8.7	--	--	--	--	--
14...	1537	--	13.0	6830	8.5	.3	3.0	8.7	--	--	--	--	--
14...	1538	--	14.0	6850	8.5	.8	3.0	7.8	--	--	--	--	--
14...	1539	--	15.0	6760	8.5	1.7	4.0	4.6	--	--	--	--	--
AUG													
02...	0920	16	.00	6000	8.3	21.9	--	9.5	115	731	--	--	22.0
02...	0921	--	1.0	6080	8.5	21.9	--	8.0	--	--	--	--	--
02...	0922	--	2.0	6080	8.5	21.9	--	7.8	--	--	--	--	--
02...	0923	--	4.0	6090	8.6	21.9	--	7.7	--	--	--	--	--
02...	0924	--	6.0	6090	8.6	21.9	--	7.6	--	--	--	--	--
02...	0925	--	8.0	6090	8.6	21.9	--	7.5	--	--	--	--	--
02...	0926	--	10.0	6080	8.6	21.9	--	7.5	--	--	--	--	--
02...	0927	--	12.0	6180	8.5	19.6	--	4.0	--	--	--	--	--
02...	0928	--	14.0	6280	8.3	16.0	--	.6	--	--	--	--	--
02...	0929	--	15.7	6280	8.3	15.2	--	.5	--	--	--	--	--

475740098381600 DEVILS LAKE, EAST DEVILS LAKE--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WIND DIRECTION (DEG. FROM TRUE NORTH) (00036)	WIND SPEED (MILES PER HOUR) (00035)
JAN		
24...	225	<5.0
24...	--	--
24...	--	--
24...	--	--
24...	--	--
24...	--	--
24...	--	--
24...	--	--
24...	--	--
24...	--	--
24...	--	--
24...	--	--
24...	--	--
24...	--	--
24...	--	--
24...	--	--
MAR		
14...	345	10
14...	--	--
14...	--	--
14...	--	--
14...	--	--
14...	--	--
14...	--	--
14...	--	--
14...	--	--
14...	--	--
14...	--	--
14...	--	--
14...	--	--
14...	--	--
14...	--	--
AUG		
02...	120	<5.0
02...	--	--
02...	--	--
02...	--	--
02...	--	--
02...	--	--
02...	--	--
02...	--	--
02...	--	--
02...	--	--

E Estimated value

480552098145300 McHUGH SLOUGH NEAR LAKOTA, ND

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
OCT													
11...	1640	.00	2.0	1510	8.0	380	44.0	65.0	35.0	4	190	49	455
FEB													
13...	0915	.80	2.0	2660	7.5	710	87.0	120	56.0	6	340	49	828
MAY													
10...	0900	.00	2.2	1300	8.2	330	41.0	55.0	27.0	4	160	49	403
JUL													
17...	0850	.00	2.3	1450	7.9	370	49.0	60.0	35.0	4	170	47	440

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
OCT													
11...	49.0	.2	280	4.0	E.025	<.006	--	<.050	--	--	<.020	.255	1010
FEB													
13...	100	.2	530	6.2	1.02	E.004	--	.130	5.2	6.3	.198	.320	1890
MAY													
10...	46.0	.1	250	2.9	<.041	.009	--	E.024	--	--	<.018	.159	883
JUL													
17...	50.0	.1	260	--w	1.34	.102	.054	.156	--	--	.392	--w	989

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT												
11...	937	13.3	1.8	7.0	120	1.00	120	20.0	<.10	1.0	<1.0	420
FEB												
13...	1730	19.4	.8	9.0	60	1.00	180	660	<.10	1.0	<1.0	660
MAY												
10...	821	15.8	1.9	4.0	30	2.00	100	10.0	<.10	2.0	3.0	300
JUL												
17...	892	--w	--w	6.0	90	2.00	100	180	.10	2.0	3.0	420

DATE	TIME	DEPTH OF LAKE MAX. METERS (85310)	SAM-PLING DEPTH (M) (00098)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	ICE THICK-NESS METERS (82131)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)	WIND DIREC-TION (DEG. FROM TRUE NORTH) (00036)
OCT													
11...	1635	2.0	.00	1460	8.8	7.1	12.2	107	720	--	9.40	17.0	150
11...	1636	--	.60	1460	8.8	7.1	12.1	--	--	--	--	--	--
11...	1637	--	1.0	1460	8.8	7.1	12.1	--	--	--	--	--	--
11...	1638	--	1.5	1460	8.8	7.1	12.0	--	--	--	--	--	--
11...	1639	--	2.0	1460	8.8	7.1	12.0	--	--	--	--	--	--
FEB													
13...	0900	1.9	.80	2550	7.5	1.1	2.8	21	729	.82	13.0	-16.0	290
13...	0905	--	1.3	2550	7.5	.7	2.8	--	--	--	--	--	--
13...	0910	--	2.0	2540	7.5	1.6	2.9	--	--	--	--	--	--
MAY													
10...	0855	2.2	.00	1280	8.8	11.8	10.6	104	723	--	16.0	7.5	330
10...	0856	--	.80	1280	8.8	11.8	10.4	--	--	--	--	--	--
10...	0857	--	1.6	1290	8.8	77.8	10.4	--	--	--	--	--	--
10...	0858	--	2.2	1290	8.8	11.8	10.3	--	--	--	--	--	--
JUL													
17...	0845	2.3	.00	1440	8.1	24.7	5.0	65	716	--	32.0	24.5	60
17...	0846	--	.50	1440	8.1	24.7	5.0	--	--	--	--	--	--
17...	0847	--	1.0	1440	8.1	24.7	4.8	--	--	--	--	--	--
17...	0848	--	1.5	1440	8.1	24.6	4.6	--	--	--	--	--	--
17...	0849	--	2.3	1440	8.1	24.5	4.1	--	--	--	--	--	--

480552098145300 McHUGH SLOUGH NEAR LAKOTA, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WIND SPEED (MILES PER HOUR) (00035)
OCT	
11...	15
11...	--
11...	--
11...	--
11...	--
FEB	
13...	10
13...	--
13...	--
MAY	
10...	8.0
10...	--
10...	--
10...	--
JUL	
17...	6.0
17...	--
17...	--
17...	--
17...	--

E Estimated value
w Sample discarded: warm when received

480339098101300 LAKE LORETTA NEAR MICHIGAN, ND

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
OCT													
11...	1730	.00	7.1	2380	8.3	560	67.0	95.0	40.0	6	340	55	389
FEB													
13...	1040	.80	6.9	2840	7.7	650	78.0	110	46.0	7	390	55	433
MAY													
10...	1035	.00	7.0	2290	8.3	530	64.0	90.0	38.0	6	310	54	386
JUL													
17...	1005	.00	7.2	2320	8.5	530	67.0	89.0	36.0	6	330	55	389

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
OCT													
11...	130	.1	750	2.6	.051	<.006	E.040	2.5	--	.081	.197	1660	1660
FEB													
13...	140	.2	810	2.4	.120	E.003	.180	2.2	2.5	.124	.206	2010	1840
MAY													
10...	120	.1	730	2.0	<.041	E.003	<.047	--	--	.093	.188	1610	1580
JUL													
17...	130	.1	730	--w	.128	E.005	<.050	--	--	.247	--w	1690	1620

DATE	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT											
11...	9.2	<.1	13.0	30	<1.00	110	30.0	<.10	1.0	<1.0	570
FEB											
13...	5.2	.3	12.0	20	2.00	150	30.0	<.10	2.0	<1.0	620
MAY											
10...	.2	.1	8.0	60	2.00	130	10.0	<.10	2.0	4.0	530
JUL											
17...	3.2	.2	11.0	60	2.00	140	210	.10	2.0	3.0	600

480339098101300 LAKE LORETTA NEAR MICHIGAN, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH OF LAKE MAX. METERS (85310)	SAMPLING DEPTH (M) (00098)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	BAROMETRIC PRESSURE (MM OF HG) (00025)	ICE THICKNESS METERS (82131)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	TEMPERATURE AIR (DEG C) (00020)	WIND DIRECTION (DEG. FROM TRUE NORTH) (00036)
OCT													
11...	1720	7.1	.00	2370	8.7	7.8	10.8	97	720	--	26.0	17.0	160
11...	1721	--	1.5	2370	8.7	7.8	10.7	--	--	--	--	--	--
11...	1722	--	3.0	2380	8.7	7.8	10.6	--	--	--	--	--	--
11...	1723	--	4.5	2390	8.7	7.8	10.5	--	--	--	--	--	--
11...	1724	--	6.1	2400	8.7	7.8	10.4	--	--	--	--	--	--
11...	1725	--	7.1	2390	8.7	7.8	10.4	--	--	--	--	--	--
FEB													
13...	1030	6.9	.80	2800	8.0	.6	12.6	92	730	.80	30.0	-15.0	305
13...	1031	--	2.0	2800	8.0	.6	12.7	--	--	--	--	--	--
13...	1032	--	3.0	2790	8.0	.7	12.5	--	--	--	--	--	--
13...	1033	--	4.0	2780	8.0	1.2	12.0	--	--	--	--	--	--
13...	1034	--	5.0	2770	7.9	1.8	11.3	--	--	--	--	--	--
13...	1035	--	6.0	2770	7.9	2.2	10.6	--	--	--	--	--	--
13...	1036	--	6.9	2770	7.8	2.6	7.3	--	--	--	--	--	--
MAY													
10...	1025	7.0	.00	2320	8.4	11.2	10.0	97	721	--	24.0	13.0	.0
10...	1026	--	1.0	2310	8.4	11.2	10.0	--	--	--	--	--	--
10...	1027	--	2.0	2320	8.4	11.2	10.0	--	--	--	--	--	--
10...	1028	--	3.1	2310	8.4	11.1	9.8	--	--	--	--	--	--
10...	1029	--	4.1	2320	8.4	11.1	9.9	--	--	--	--	--	--
10...	1030	--	5.0	2320	8.4	11.1	9.9	--	--	--	--	--	--
10...	1031	--	6.1	2320	8.4	11.1	9.6	--	--	--	--	--	--
10...	1032	--	7.0	2330	8.4	11.1	9.5	--	--	--	--	--	--
JUL													
17...	0955	7.2	.00	2360	8.7	24.2	8.5	109	715	--	77.0	21.5	70
17...	0956	--	1.0	2360	8.7	24.2	8.4	--	--	--	--	--	--
17...	0957	--	2.0	2350	8.6	24.0	7.9	--	--	--	--	--	--
17...	0958	--	3.1	2360	8.6	23.9	7.7	--	--	--	--	--	--
17...	0959	--	4.0	2360	8.6	23.8	6.9	--	--	--	--	--	--
17...	1000	--	5.1	2370	8.6	23.1	3.6	--	--	--	--	--	--
17...	1001	--	6.0	2380	8.4	21.6	8.4	--	--	--	--	--	--
17...	1002	--	7.2	2380	8.4	20.9	.5	--	--	--	--	--	--

DATE	WIND SPEED (MILES PER HOUR) (00035)
OCT	
11...	9.0
11...	--
11...	--
11...	--
11...	--
11...	--
FEB	
13...	5.0
13...	--
13...	--
13...	--
13...	--
13...	--
13...	--
MAY	
10...	10
10...	--
10...	--
10...	--
10...	--
10...	--
10...	--
10...	--
JUL	
17...	6.0
17...	--
17...	--
17...	--
17...	--
17...	--
17...	--
17...	--

E Estimated value
w Sample discarded: warm when received

474953098470600 Wetland 14

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JUL 20...	1345	.00	.00	3940	8.8	360	28.3	71.4	82.3	17	750	78	611

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
JUL 20...	381	E.1	15.6	958	2.3	.069	E.003	E.027	2.3	<.020	<.300	2780	2650

DATE	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
JUL 20...	11.4	.3	<30	<10.0

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
JUL											
20...	1347	11.0	.000	4060	--e	28.6	12.9	178	724	42.0	28.2
20...	1349	--	2.00	4050	--e	27.7	14.3	--	--	--	--
20...	1351	--	4.00	4050	--e	27.4	14.4	--	--	--	--
20...	1353	--	6.00	4050	--e	25.4	7.4	--	--	--	--
20...	1355	--	8.00	4070	--e	23.9	3.5	--	--	--	--
20...	1357	--	10.0	4070	--e	22.2	1.4	--	--	--	--
20...	1359	--	11.0	4050	--e	22.0	.8	--	--	--	--

E Estimated value
e Required equipment not functional/available

475159098455900 Wetland 16

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JUL 20...	1210	.00	.00	489	7.4	210	32.1	32.6	7.57	.7	22.6	18	267

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)
JUL 20...	3.1	.2	7.5	3.1	1.1	E.021	E.003	E.029	<.020	<.060	299	269	.6

DATE	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
JUL 20...	.1	20	110

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
JUL											
20...	1212	5.00	.000	492	--e	26.4	5.5	72	722	41.0	23.8
20...	1214	--	2.00	490	--e	25.5	5.1	--	--	--	--
20...	1216	--	4.00	544	--e	23.3	1.7	--	--	--	--
20...	1218	--	5.00	640	--e	21.4	.9	--	--	--	--

E Estimated value
e Required equipment not functional/available

475234098414300 Wetland 18

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 02...	1320	.00	.00	799	7.8	290	39.5	46.9	29.4	2	73.5	33	435

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)
AUG 02...	14.3	.3	23.7	1.8	2.4	E.033	<.006	<.050	<.020	.085	501	490	7.1

DATE	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
AUG 02...	.8	100	175

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
AUG											
02...	1322	2.30	.000	840	8.1	23.3	7.5	93	729	28.0	22.6
02...	1324	--	1.00	841	8.1	23.3	6.5	--	--	--	--
02...	1326	--	2.00	842	8.1	23.2	6.5	--	--	--	--
02...	1328	--	2.50	842	8.0	23.0	6.1	--	--	--	--

E Estimated value

475303098401600 Wetland 20

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 02...	1245	.00	.70	629	7.6	290	50.5	39.4	5.83	.9	34.7	20	349

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
AUG 02...	3.3	.2	35.5	3.5	1.5	.076	<.006	<.050	1.4	<.020	<.060	402	382

DATE	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
AUG 02...	.5	<.1	40	116

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
AUG											
02...	1247	2.50	.000	681	8.0	24.6	6.0	76	728	29.0	20.8
02...	1249	--	1.00	672	7.8	23.0	3.5	--	--	--	--
02...	1251	--	2.50	682	7.6	21.9	2.1	--	--	--	--

475237098374300 Wetland 21

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 02...	1200	.00	.90	797	7.9	220	47.9	25.2	10.1	3	98.0	47	414

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
AUG 02...	7.2	.3	36.1	24.4	1.9	.046	E.004	<.050	1.9	.059	.143	535	498

DATE	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
AUG 02...	33.8	4.9	60	387

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
AUG											
02...	1202	2.80	.000	840	8.2	23.3	6.6	81	728	25.0	20.8
02...	1204	--	2.00	840	8.1	22.8	5.8	--	--	--	--
02...	1206	--	2.80	861	7.6	22.2	3.0	--	--	--	--

E Estimated value

475325098341600 Wetland 22

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 02...	0930	.00	.86	628	7.8	300	31.9	53.3	9.93	.6	22.2	13	286

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
AUG 02...	5.1	.2	18.6	55.6	1.6	.044	<.006	<.050	1.5	.025	.066	404	369

DATE	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
AUG 02...	8.7	1.9	20	280

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
AUG											
02...	0932	2.80	.000	667	8.0	22.2	5.4	65	728	31.0	18.6
02...	0934	--	2.00	657	7.7	21.5	2.1	--	--	--	--
02...	0936	--	2.80	662	7.7	21.5	1.2	--	--	--	--

475127098444200 Wetland 24

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JUL 19...	1135	.00	.00	337	7.9	170	37.2	17.7	4.74	.3	7.5	9	182

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)
JUL 19...	1.4	.2	10.4	.7	.98	E.022	.009	<.050	.018	E.048	213	189	.4

DATE	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
JUL 19...	.1	50	60.9

DATE	TIME	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TEMPER-ATURE AIR (DEG C) (00020)
JUL 19...	1137	.000	346	--e	26.2	8.1	106	724	23.7
19...	1139	2.00	341	--e	26.1	7.5	--	--	--
19...	1141	4.00	343	--e	25.4	6.2	--	--	--
19...	1143	6.00	372	--e	24.6	2.5	--	--	--
19...	1145	7.00	435	--e	23.8	1.2	--	--	--

E Estimated value
e Required equipment not functional/available

475031098440500 Wetland 25

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 03...	1100	.00	1.3	495	8.1	220	34.3	32.6	9.05	.6	22.0	17	266

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
AUG 03...	3.5	.2	11.6	2.8	1.5	.041	<.006	<.050	1.4	<.020	E.043	294	276

DATE	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
AUG 03...	1.9	.2	10	17.3

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
AUG											
03...	1105	4.20	.000	524	8.4	25.0	8.3	106	726	42.0	25.9
03...	1107	--	2.00	527	8.3	23.5	6.7	--	--	--	--
03...	1109	--	4.00	541	7.8	22.1	2.3	--	--	--	--

E Estimated value

475055098424500 Wetland 26

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JUL 19...	1100	.00	1.5	499	8.6	220	23.6	39.4	17.4	.7	22.6	17	274

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
JUL 19...	13.1	.2	3.9	.4	3.8	.144	.010	<.050	3.6	E.016	.328	318	285

DATE	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
JUL 19...	89.3	4.8	180	232

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
JUL											
19...	1102	5.75	.000	490	--e	26.3	12.1	159	723	33.0	26.4
19...	1104	--	1.00	488	--e	26.3	12.7	--	--	--	--
19...	1106	--	3.00	498	--e	25.2	12.1	--	--	--	--
19...	1108	--	5.00	579	--e	23.1	4.4	--	--	--	--

E Estimated value
e Required equipment not functional/available

475001098450600 Wetland 27

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JUL 20...	1300	.00	.00	830	7.6	310	28.9	58.1	20.1	2	67.8	30	464

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)
JUL 20...	9.1	E.1	12.1	2.3	1.9	E.033	E.004	E.028	<.020	E.050	548	476	1.8

DATE	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
JUL 20...	1.5	10	61.5

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
JUL											
20...	1302	2.00	.000	833	--e	27.2	6.6	88	723	24.0	25.4
20...	1304	--	2.00	1070	--e	21.6	2.7	--	--	--	--

E Estimated value
e Required equipment not functional/available

474956098390500 Wetland 28

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 03...	1140	.00	2.2	650	8.1	330	36.8	58.8	8.12	.4	17.0	10	375

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)
AUG 03...	4.5	.2	21.2	.5	1.6	E.030	<.006	<.050	<.020	E.038	401	372	2.4

DATE	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
AUG 03...	.3	40	17.1

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
AUG											
03...	1145	7.10	.000	687	8.5	25.2	9.1	116	727	85.0	27.8
03...	1147	--	2.00	682	8.5	23.8	9.5	--	--	--	--
03...	1149	--	4.00	684	8.4	23.3	8.7	--	--	--	--
03...	1151	--	6.00	686	8.4	23.1	8.0	--	--	--	--
03...	1153	--	7.10	689	8.4	23.1	7.5	--	--	--	--

E Estimated value

475600098454800 WL516306

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAMPLING DEPTH (FEET) (00003)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	BAROMETRIC PRESSURE (MM OF HG) (00025)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	TEMPERATURE AIR (DEG C) (00020)
AUG											
23...	1428	5.30	.000	8050	8.7	24.5	1.7	22	727	64.0	26.6
23...	1430	--	2.00	8040	8.7	24.6	1.9	--	--	--	--
23...	1432	--	4.00	8030	8.7	24.6	2.0	--	--	--	--
23...	1434	--	5.30	8040	8.7	24.6	2.0	--	--	--	--

475303098465700 WL516424

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JAN 24...	1455	.00	1.8	1120	8.0	340	33.3	62.8	24.7	3	115	40	586

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
JAN 24...	15.8	.4	21.7	30.3	2.6	.599	<.006	<.047	2.0	<.018	.062	680	657

DATE	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ACIFL-UORFEN WATER, FLTRD, GF 0.7U REC (UG/L) (49315)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALDI-CARB SULFONE WAT,FLT GF 0.7U REC (UG/L) (49313)	ALDICA-RB SUL-FOXIDE, WAT,FLT GF 0.7U REC (UG/L) (49314)	ALDI-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (49312)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)
JAN 24...	6.9	.4	10	214	<.004	<.06	<.002	<.16	<.03	<.08	<.005	.008	<.050

DATE	BENDIO-CARB, WATER FLTRD REC (UG/L) (50299)	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BENOMYL WATER FLTRD REC (UG/L) (50300)	BEN-SUL-FURON METHYL WAT FLT REC (UG/L) (61693)	BENTA-ZON, WATER, FLTRD, GF 0.7U REC (UG/L) (38711)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAF-FEINE, WATER FLTRD REC (UG/L) (50305)	CAR-BARYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49310)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN, WATER, FLTRD, GF 0.7U REC (UG/L) (49309)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	3HYDRXY CARBO-FURAN WAT,FLT GF 0.7U REC (UG/L) (49308)	3-KETO CARBO-FURAN WATER FLTRD REC (UG/L) (50295)
JAN 24...	<.061	<.010	<.022	<.0482	<.02	<.002	E.011	<.06	<.041	<.06	<.020	<.06	<.072

DATE	CHLOR-AMBEN, METHYL ESTER WATER FLTRD (UG/L) (61188)	CHLORI-MURON, WATER FLTRD REC (UG/L) (50306)	CHLORO-THALO-NIL, WAT,FLT GF 0.7U REC (UG/L) (49306)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CLOPYR-ALID, WATER, FLTRD, GF 0.7U REC (UG/L) (49305)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	SI-CLOATE, WATER, DISS, REC (UG/L) (04031)	DACTHAL MONO-ACID, WAT,FLT GF 0.7U REC (UG/L) (49304)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	DEETHYL DEISO-PROPYL ATRAZIN DISS, REC (UG/L) (04039)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DI-AZINON, DIS-SOLVED (UG/L) (39572)
JAN 24...	<.11	<.037	<.05	<.005	<.04	<.018	<.05	<.07	<.003	E.006	<.06	<.07	<.005

DATE	DICAMBA WATER, FLTRD, GF 0.7U REC (UG/L) (38442)	DICHLOR PROP, WATER, FLTRD, GF 0.7U REC (UG/L) (49302)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	DINOSEB WATER, FLTRD, GF 0.7U REC (UG/L) (49301)	DIPHEN-AMID, WATER, DISS, REC (UG/L) (04033)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	DIURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49300)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FEN-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49297)	FLUMET-SULAM WATER FLTRD REC (UG/L) (61694)
JAN 24...	<.10	<.05	<.005	<.002	<.04	<.06	<.021	<.08	<.002	<.009	<.005	<.07	<.0866

DATE	FLUO-METURON WATER, FLTRD, GF 0.7U REC (UG/L) (38811)	FONOFOS WATER DISS REC (UG/L) (04095)	HYDROXY ATRA-ZINE WATER FLTRD REC (UG/L) (50355)	IMAZ-AQUIN WATER FLTRD REC (UG/L) (50356)	IMAZE-THAPYR WATER FLTRD REC (UG/L) (50407)	IMID-ACLOP-RID WATER FLTRD REC (UG/L) (61695)	LINDANE DIS-SOLVED (UG/L) (39341)	LINURON WATER, FLTRD, GF 0.7U REC (UG/L) (38478)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	MCPA, WATER, FLTRD, GF 0.7U REC (UG/L) (38482)	MCPB, WATER, FLTRD, GF 0.7U REC (UG/L) (38487)	METAL-AXYL WATER FLTRD REC (UG/L) (50359)
JAN 24...	<.06	<.003	<.193	<.103	<.088	<.1060	<.004	<.07	<.035	<.027	<.06	<.06	<.057

475303098465700 WL516424--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	METHIO-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (38501)	METH-OMYL OXIME WATER FLTRD REC (UG/L) (61696)	METH-OMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49296)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MET-SUL-FURON METHYL WAT FLT REC (UG/L) (61697)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	NEB-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49294)	NICOSUL FURON WATER FLTRD REC (UG/L) (50364)	NORFLUR AZON, WATER, FLTRD, GF 0.7U REC (UG/L) (49293)	ORY-ZALIN, WATER, FLTRD, GF 0.7U REC (UG/L) (49292)
JAN													
24...	<.08	<.0102	<.08	<.006	<.013	<.006	<.1138	<.002	<.007	<.07	<.065	<.08	<.07

DATE	OXAMYL OXIME WATER FLTRD REC (UG/L) (50410)	OXAMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (38866)	P,P' DDE DISSOLV (UG/L) (34653)	PARA-THION, DIS-SOLVED (UG/L) (39542)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PIC-LORAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49291)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROPA-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)
JAN													
24...	<.064	<.02	<.003	<.007	<.002	E.005	<.006	<.011	<.07	<.004	<.010	<.011	<.023

DATE	PRO-PHAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49236)	PROP-ICONA-ZOLE , WATER FLTRD REC (UG/L) (50471)	PRO-POXUR, WATER, FLTRD, GF 0.7U REC (UG/L) (38538)	SIDURON WATER FLTRD REC (UG/L) (38548)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	SULFO-MET-RURON METHYL WTR FLT REC (UG/L) (50337)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL, WATER, DISS, REC (UG/L) (04032)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-BENURON METHYL WATER FLTRD (UG/L) (61159)
JAN													
24...	<.07	<.064	<.06	<.093	<.011	<.039	<.016	<.10	<.034	<.017	<.005	<.002	<.07

DATE	TRI-CLOPYR, WATER, FLTRD, GF 0.7U REC (UG/L) (49235)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	UREA 3(4-CHLOR OPHENYL METHYL WAT FLT REC (UG/L) (61692)	2,4-D METHYL ESTER, WATER FLTRD REC (UG/L) (50470)	2,4-D, DIS-SOLVED (UG/L) (39732)	2,4-DB WATER, FLTRD, GF 0.7U REC (UG/L) (38746)
JAN						
24...	<.10	<.009	<.0915	<.086	<.08	<.05

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (M) (00098)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	ICE THICK-NESS METERS (82131)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)	WIND DIREC-TION (DEG. FROM TRUE NORTH) (00036)
JAN													
24...	1450	10.8	.70	1110	--e	.9	1.6	12	736	.70	35.0	-4.0	210
24...	1451	--	2.0	1110	--e	2.0	1.1	--	--	--	--	--	--
24...	1452	--	3.0	1090	--e	3.4	.8	--	--	--	--	--	--
24...	1453	--	3.3	1100	--e	3.6	.7	--	--	--	--	--	--

DATE	WIND SPEED (MILES PER HOUR) (00035)
JAN	
24...	6.0
24...	--
24...	--
24...	--

E Estimated value
e Required equipment not functional/available

475751098513400 WL526421

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAMPLING DEPTH (FEET) (00003)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	BAROMETRIC PRESSURE (MM OF HG) (00025)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	TEMPERATURE AIR (DEG C) (00020)
AUG											
23...	1117	7.00	.000	5170	9.4	22.8	1.7	21	726	68.0	22.1
23...	1119	--	2.00	5170	9.4	22.8	1.9	--	--	--	--
23...	1121	--	4.00	5160	9.4	22.7	2.0	--	--	--	--
23...	1123	--	6.00	5160	9.4	22.6	2.2	--	--	--	--
23...	1125	--	7.00	5170	9.3	22.2	1.6	--	--	--	--

475824098502500 WL526422

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)
AUG					
22...	1210	.00	1.7	32.3	<.1

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
AUG											
22...	1211	7.50	.000	7410	8.8	23.7	6.7	86	724	33.0	23.3
22...	1212	--	2.00	7410	8.8	23.7	7.2	--	--	--	--
22...	1214	--	4.00	7410	8.8	23.6	7.2	--	--	--	--
22...	1216	--	6.00	7410	8.8	23.6	7.3	--	--	--	--
22...	1218	--	7.50	7400	8.8	23.5	7.3	--	--	--	--

475817098480800 WL526423

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)
AUG					
22...	1325	.00	2.7	5.4	<.1

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)	WIND DIREC-TION (DEG. FROM TRUE NORTH) (00036)
AUG										
22...	1330	14.5	.000	7890	8.5	24.4	5.9	54.0	23.0	726
22...	1332	--	2.00	7890	8.5	24.4	6.0	--	--	--
22...	1334	--	4.00	7880	8.5	24.3	6.0	--	--	--
22...	1336	--	6.00	7880	8.5	24.2	5.9	--	--	--
22...	1338	--	8.00	7880	8.5	24.1	5.8	--	--	--
22...	1340	--	10.0	7860	8.5	22.5	4.0	--	--	--
22...	1342	--	12.0	7930	8.4	21.8	2.7	--	--	--
22...	1344	--	14.0	11300	7.4	15.1	.4	--	--	--
22...	1346	--	14.5	11400	7.3	14.8	.4	--	--	--

475635098523600 WL526432

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)
AUG 23...	1200	.00	1.6	5.1	.7

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
AUG											
23...	1202	6.00	.000	2110	8.8	24.0	1.4	18	724	31.0	23.3
23...	1204	--	2.00	2110	8.8	23.9	1.4	--	--	--	--
23...	1206	--	4.00	2110	8.8	23.8	1.4	--	--	--	--
23...	1208	--	6.00	2110	8.8	23.5	1.2	--	--	--	--

475611098472200 WL526436

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)
SEP					
19...	1515	.00	1.8	17.0	.2

DATE	TIME	SAM-PLING DEPTH (FEET) (00003)	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)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
SEP								
19...	1516	.000	3340	8.9	17.8	2.7	14.0	20.1
19...	1517	2.00	3340	8.9	17.4	3.0	--	--
19...	1519	4.00	3330	8.9	17.3	3.0	--	--

480022099004500 WL5264508

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 17...	0855	.00	2.1	2000	8.7	480	69.8	74.3	37.9	5	252	51	340

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)
AUG 17...	114	.2	8.6	583	1.6	<.040	<.006	<.050	E.245	.317	1420	1340	7.4

DATE	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
AUG 17...	<.1	<10	3.5

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
AUG											
17...	0900	11.4	.000	2080	9.0	22.2	8.2	100	722	42.0	17.7
17...	0902	--	2.00	2080	9.0	22.2	8.2	--	--	--	--
17...	0904	--	4.00	2080	9.0	22.2	8.2	--	--	--	--
17...	0906	--	6.00	2080	8.9	22.2	8.2	--	--	--	--
17...	0908	--	8.00	2080	8.9	22.2	8.1	--	--	--	--
17...	0910	--	10.0	2080	8.9	22.2	7.6	--	--	--	--
17...	0912	--	11.3	2080	8.9	22.2	7.0	--	--	--	--

E Estimated value

475928099004400 WL5264517

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 17...	0930	.00	1.2	1400	8.4	500	65.5	82.2	13.7	2	122	34	290

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)
AUG 17...	37.3	.2	19.5	452	<.040	<.006	<.050	<.020	1030	967	11.1	2.1	<10

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
AUG 17...	98.2

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
AUG 17...	0940	14.0	.000	1450	9.1	22.6	11.3	139	721	24.0	18.4
17...	0942	--	2.00	1450	9.1	22.6	11.7	--	--	--	--
17...	0944	--	4.00	1450	9.1	22.6	11.8	--	--	--	--
17...	0946	--	6.00	1450	9.0	22.6	11.7	--	--	--	--
17...	0948	--	8.00	1450	9.0	22.6	10.9	--	--	--	--
17...	0950	--	10.0	1450	8.9	22.4	9.2	--	--	--	--
17...	0952	--	12.0	1460	8.7	22.3	6.2	--	--	--	--
17...	0954	--	14.0	1460	8.2	22.1	2.8	--	--	--	--

475946099084500 WL526608

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 16...	1120	.00	13.0	2210	8.7	600	84.7	94.4	25.2	5	285	49	405

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)
AUG 16...	91.0	E.1	10.3	712	2.4	E.056	<.006	<.050	E.232	.407	1630	1540	5.2

DATE	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
AUG 16...	<.1	M	225

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
AUG											
16...	1125	4.00	.000	2300	8.8	21.8	8.7	105	725	20.0	22.1
16...	1127	--	1.00	2300	8.8	21.7	8.5	--	--	--	--
16...	1129	--	2.00	2300	8.4	21.7	8.9	--	--	--	--
16...	1131	--	3.00	2300	8.9	20.9	7.7	--	--	--	--
16...	1133	--	4.00	2310	8.3	20.5	3.3	--	--	--	--

E Estimated value
M Presence verified, not quantified

475824099102200 WL526619

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 16...	1000	.00	1.5	1480	8.1	530	67.0	88.3	25.9	2	124	32	212

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)
AUG 16...	29.1	E.1	37.7	570	2.6	E.053	<.006	<.050	<.020	.125	1130	1070	24.9

DATE	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
AUG 16...	E.4	<10	12.7

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
AUG											
16...	1005	13.1	.000	6960	8.5	22.4	8.1	101	723	29.0	18.1
16...	1007	--	2.00	6960	8.5	22.3	7.4	--	--	--	--
16...	1009	--	4.00	6960	8.6	22.2	7.1	--	--	--	--
16...	1011	--	6.00	6950	8.6	22.2	6.8	--	--	--	--
16...	1013	--	8.00	6950	8.7	22.2	6.8	--	--	--	--
16...	1015	--	10.0	6950	8.7	22.2	6.7	--	--	--	--
16...	1017	--	12.0	6950	8.7	22.1	6.6	--	--	--	--
16...	1019	--	13.0	6950	8.7	22.0	6.1	--	--	--	--

E Estimated value

475756099092800 WL526724

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 16...	1035	.00	.50	6790	8.6	1900	143	383	90.2	10	1060	53	390

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
AUG 16...	317	E.1	22.8	3440	1.8	.110	E.003	E.023	1.7	E.244	.262	6050	5690

DATE	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
AUG 16...	10.9	<.1	<10	7.0

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
AUG											
16...	1037	9.60	.000	1540	8.6	22.0	8.8	107	723	9.00	19.8
16...	1039	--	2.00	1540	8.6	21.8	8.5	--	--	--	--
16...	1041	--	4.00	1540	8.6	21.4	7.8	--	--	--	--
16...	1043	--	6.00	1540	8.6	21.5	7.1	--	--	--	--
16...	1045	--	8.00	1530	8.4	21.3	5.9	--	--	--	--

E Estimated value

474844098363800 BATTLE LAKE

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTERVAL(IN METERS) (82047)	DEPTH TO BOTTOM OF SAMPLE INTERVAL(IN METERS) (82048)	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STANDARD UNITS) (00403)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SODIUM ADSORPTION RATIO (00931)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 03...	1240	.00	3.8	382	8.6	180	23.0	30.6	8.84	.3	10.6	11	202

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	CHLOR-A PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTOPLANKTON CHROMO FLUOROM (UG/L) (70954)	IRON, DISSOLVED (UG/L AS FE) (01046)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)
AUG 03...	5.2	.2	35.9	6.4	255	242	3.6	.2	<10	3.8

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAMPLING DEPTH (FEET) (00003)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	BAROMETRIC PRESSURE (MM OF HG) (00025)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	TEMPERATURE AIR (DEG C) (00020)
AUG											
03...	1246	7.90	.000	407	9.0	27.6	11.5	154	726	23.0	26.7
03...	1247	--	2.00	407	9.0	25.4	12.6	--	--	--	--
03...	1249	--	4.00	408	9.0	24.1	12.5	--	--	--	--
03...	1251	--	6.00	412	9.0	23.4	11.4	--	--	--	--
03...	1253	--	8.00	420	8.9	23.1	9.5	--	--	--	--

475406098442900 ELBOW LAKE

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JUL 19...	0900	.00	1.2	1520	8.8	270	17.8	54.3	4.70	7	254	67	751

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
JUL 19...	43.5	.3	17.7	68.9	1.9	.063	.010	E.023	1.8	<.020	<.060	1020	912

DATE	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
JUL 19...	8.6	.6	<10	21.0

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
JUL											
19...	0902	6.50	.000	1520	--e	25.5	6.8	88	723	24.0	23.1
19...	0904	--	2.00	1520	--e	25.4	6.8	--	--	--	--
19...	0906	--	4.00	1520	--e	25.4	6.8	--	--	--	--
19...	0908	--	6.00	1530	--e	25.1	5.0	--	--	--	--
19...	0910	--	6.50	1530	--e	25.0	5.0	--	--	--	--

E Estimated value
e Required equipment not functional/available

475410098442400 FREE PEOPLES LAKE

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JUL 18...	1530	.00	2.0	7270	9.1	350	15.8	75.9	106	40	1740	89	1130

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)
JUL 18...	549	.2	13.6	2250	2.6	E.029	.011	<.050	<.020	E.040	5750	5430	3.5

DATE	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
JUL 18...	.2	<50	36.0

DATE	TIME	SAM-PLING DEPTH (FEET) (00003)	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)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)
JUL							
18...	1533	.000	7700	--e	24.8	5.2	62.0
18...	1534	2.00	7700	--e	24.8	5.0	--
18...	1536	4.00	7700	--e	24.8	4.8	--
18...	1538	6.00	7670	--e	24.6	4.2	--

E Estimated value
e Required equipment not functional/available

475502098473300 GRAVES LAKE

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG													
03...	1010	.00	1.1	1130	8.8	340	13.7	73.4	52.1	3	135	42	597

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
AUG													
03...	20.9	.2	14.7	48.2	1.8	.045	<.006	<.050	1.7	<.020	E.035	708	716

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
AUG		
03...	<10	E2.2

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
AUG											
03...	1015	11.8	.000	1170	9.1	23.8	9.8	123	724	22.0	23.8
03...	1017	--	2.00	1170	9.1	23.8	10.1	--	--	--	--
03...	1019	--	4.00	1170	9.1	23.6	10.1	--	--	--	--
03...	1021	--	6.00	1170	9.1	23.5	9.8	--	--	--	--
03...	1023	--	8.00	1170	8.5	23.4	3.4	--	--	--	--
03...	1025	--	10.0	1170	8.4	23.4	1.3	--	--	--	--
03...	1027	--	11.8	1170	8.4	23.4	1.1	--	--	--	--

E Estimated value

475012098475200 HORSESHOE LAKE

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 03...	1320	.00	4.2	4900	8.8	190	26.0	30.8	88.9	33	1060	88	825

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
AUG 03...	367	.2	18.4	1250	2.6	.118	E.005	<.050	2.5	.025	.083	3440	3340

DATE	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
AUG 03...	9.1	.1	<30	11.2

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
AUG											
03...	1326	11.5	.000	5030	9.1	29.3	8.9	124	726	82.0	27.1
03...	1327	--	2.00	5020	9.1	27.5	8.6	--	--	--	--
03...	1329	--	4.00	4980	9.1	24.4	8.9	--	--	--	--
03...	1331	--	6.00	4970	9.1	23.8	8.6	--	--	--	--
03...	1333	--	8.00	4970	9.1	23.6	8.1	--	--	--	--
03...	1335	--	10.0	4970	9.1	23.6	7.9	--	--	--	--
03...	1337	--	11.5	4960	9.1	23.5	7.6	--	--	--	--

E Estimated value

475943098514000 MISSION BAY LAKE

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)
AUG 22...	1120	.00	2.9	12.2	<.1

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
AUG											
22...	1121	9.50	.000	7670	8.8	22.6	6.0	75	724	87.0	21.4
22...	1122	--	2.00	7680	8.8	22.4	5.9	--	--	--	--
22...	1124	--	4.00	7660	8.7	22.1	5.4	--	--	--	--
22...	1126	--	6.00	7660	8.7	22.1	5.1	--	--	--	--
22...	1128	--	8.00	7660	8.7	22.0	4.9	--	--	--	--
22...	1130	--	9.50	7650	8.7	22.0	4.7	--	--	--	--

475450099054800 PLAINVIEW LAKE

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 17...	1020	.00	.40	1630	8.4	460	50.1	80.3	29.7	4	188	45	322

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)
AUG 17...	56.0	E.1	42.0	493	2.9	<.040	<.006	<.050	<.020	.194	1190	1130	8.00

DATE	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
AUG 17...	18.0	<.1	20	E2.2

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
AUG											
17...	1020	5.70	.000	1680	8.9	21.6	8.3	100	722	8.00	18.4
17...	1022	--	2.00	1690	8.9	21.6	8.9	--	--	--	--
17...	1024	--	4.00	1690	8.9	21.6	7.9	--	--	--	--
17...	1026	--	5.70	1680	8.6	21.6	6.3	--	--	--	--

E Estimated value

480134099134001 ROUND LAKE

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 16...	0915	.00	.90	1870	8.4	630	79.0	105	25.1	3	187	38	315

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)
AUG 16...	46.2	E.1	22.2	692	2.7	E.171	E.006	<.050	E.142	.264	1440	1350	22.0

DATE	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
AUG 16...	1.1	<10	17.5

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)	WIND DIREC-TION (DEG. FROM TRUE NORTH) (00036)
AUG										
16...	0923	6.60	.000	1950	8.4	21.8	8.4	18.0	17.3	725
16...	0925	--	2.00	1950	8.5	21.5	7.7	--	--	--
16...	0927	--	4.00	1970	8.5	21.2	5.6	--	--	--
16...	0929	--	6.00	1970	8.5	21.0	4.0	--	--	--
16...	0931	--	6.60	1970	8.4	21.1	2.6	--	--	--

E Estimated value

475159098415900 SHINBONE LAKE

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JUL 19...	1030	.00	6.0	1880	9.0	180	14.0	35.3	52.3	12	355	76	831

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)
JUL 19...	145	.2	5.3	32.3	2.6	<.040	.010	<.050	<.020	E.053	1260	1140	2.5

DATE	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
JUL 19...	.4	<10	<3.0

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
JUL											
19...	1031	6.20	.000	1950	--e	25.5	10.9	141	724	48.0	22.3
19...	1032	--	2.00	1940	--e	25.4	9.8	--	--	--	--
19...	1034	--	4.00	1940	--e	25.1	8.1	--	--	--	--
19...	1036	--	6.00	1950	--e	24.9	6.2	--	--	--	--

E Estimated value
e Required equipment not functional/available

475645098473000 SPRING LAKE

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 03...	0910	.00	1.1	2740	8.6	610	50.7	118	12.1	7	390	57	463

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)
AUG 03...	164	.2	27.5	824	3.0	E.038	<.006	<.050	.091	.215	1950	1860	10.1

DATE	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
AUG 03...	.2	<30	E2.7

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
AUG											
03...	0920	12.6	.000	2790	8.8	23.2	9.6	120	724	22.0	22.6
03...	0922	--	2.00	2790	8.9	23.2	9.5	--	--	--	--
03...	0924	--	4.00	2790	8.9	23.2	9.4	--	--	--	--
03...	0926	--	6.00	2790	8.9	23.2	9.3	--	--	--	--
03...	0928	--	8.00	2790	8.9	23.2	9.3	--	--	--	--
03...	0929	--	10.0	2790	9.0	23.2	9.2	--	--	--	--
03...	0932	--	12.0	2790	9.0	23.2	9.1	--	--	--	--

E Estimated value

475750099054101 TWIN LAKES

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 16...	1420	.00	.40	1470	8.5	460	52.0	79.7	23.8	3	151	40	372

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)
AUG 16...	46.5	E.1	33.6	387	3.2	E.028	<.006	<.050	<.020	.262	1020	997	25.3

DATE	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
AUG 16...	<.1	<10	4.1

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
AUG											
16...	1430	11.1	.000	1660	8.7	23.9	9.7	122	724	7.00	21.3
16...	1432	--	2.00	1660	8.7	23.7	9.9	--	--	--	--
16...	1434	--	4.00	1660	8.7	23.5	9.5	--	--	--	--
16...	1436	--	6.00	1660	8.6	22.0	6.2	--	--	--	--
16...	1438	--	8.00	1650	8.6	21.9	4.9	--	--	--	--
16...	1440	--	10.0	1650	8.6	21.5	4.1	--	--	--	--
16...	1442	--	11.1	1720	7.6	21.4	1.9	--	--	--	--

E Estimated value

475147098374900 WETLAND B1

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 02...	1120	.00	.80	1870	9.0	200	20.0	35.7	12.3	12	381	80	821

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)
AUG 02...	29.8	E.1	27.7	197	3.6	E.040	<.006	<.050	.736	.893	1300	1200	27.2

DATE	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
AUG 02...	.5	20	8.3

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
AUG											
02...	1130	4.50	.000	1920	9.2	22.6	11.0	134	728	16.0	20.2
02...	1132	--	2.00	1920	9.2	22.6	11.1	--	--	--	--
02...	1134	--	4.00	1920	9.2	22.6	11.1	--	--	--	--
02...	1136	--	4.50	1920	9.2	22.5	7.4	--	--	--	--

E Estimated value

475258098454700 WETLAND B2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JUL 20...	1045	.00	.00	799	7.5	250	27.3	45.2	16.4	2	79.6	39	413

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)
JUL 20...	11.4	.3	10.4	21.4	1.6	E.037	E.003	E.030	<.020	E.031	489	460	1.0

DATE	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
JUL 20...	.1	<10	4.6

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
JUL											
20...	1050	8.00	.000	788	--e	26.4	6.1	80	724	5.00	21.9
20...	1052	--	2.00	788	--e	26.4	6.1	--	--	--	--
20...	1054	--	4.00	785	--e	26.2	6.4	--	--	--	--
20...	1056	--	6.00	785	--e	26.0	6.7	--	--	--	--
20...	1058	--	8.00	787	--e	25.9	6.5	--	--	--	--

E Estimated value
e Required equipment not functional/available

475350098501300 WOOD LAKE

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JUL 19...	1500	.00	.00	394	7.3	180	27.0	26.3	2.58	.4	11.5	12	193

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)
JUL 19...	4.3	.2	11.6	16.1	.85	<.040	<.006	E.025	<.020	<.060	237	215	3.4

DATE	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
JUL 19...	<.1	<10	E1.6

DATE	TIME	DEPTH OF LAKE MAXIMUM (FEET) (82016)	SAM-PLING DEPTH (FEET) (00003)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
JUL											
19...	1502	9.00	.000	385	--e	28.0	10.1	137	722	42.0	24.0
19...	1504	--	2.00	385	--e	28.0	10.2	--	--	--	--
19...	1506	--	4.00	385	--e	27.7	10.3	--	--	--	--
19...	1508	--	6.00	369	--e	26.1	13.3	--	--	--	--
19...	1510	--	7.00	368	--e	25.8	13.5	--	--	--	--

E Estimated value
e Required equipment not functional/available

ANALYSES OF SAMPLES COLLECTED AT TURTLE MOUNTAIN RESERVATION WATER-QUALITY SITES

480345103493500 LAKE TRENTON NO. 1

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JUN													
a26...	1110	.00	.40	698	8.3	200	46.1	19.4	4.62	2	73.2	44	166
AUG													
14...	0925	.00	.40	859	8.2	210	46.8	22.6	5.42	3	108	52	189

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)
JUN													
a26...	8.1	.6	5.7	173	.57	<.040	.008	E.025	<.020	.086	444	431	<1
AUG													
14...	9.5	.7	11.3	236	.56	E.021	<.006	<.050	<.020	.083	569	553	E4

DATE	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	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)	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)	IRON, DIS-SOLVED (UG/L AS FE) (01046)
JUN													
a26...	E4	24.1	1.1	--	--	--	--	--	--	--	--	--	M
AUG													
14...	E5	19.7	.4	12	.70	5.4	73.1	<.06	E.03	<.8	.13	4.5	<10

DATE	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	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)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
JUN							
a26...	--	<3.0	--	--	--	--	--
AUG							
14...	<.08	.2	4.4	1.00	<2.0	<1.0	3

DATE	TIME	DEPTH OF LAKE MAX. METERS (85310)	SAM-PLING DEPTH (M) (00098)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)	WIND DIREC-TION (DEG. FROM TRUE NORTH) (00036)	WIND SPEED (MILES PER HOUR) (00035)
JUN													
26...	1105	1.9	.10	699	8.2	23.0	6.3	78	718	7.00	19.5	40	<5.0
26...	1106	--	.70	699	8.2	22.9	6.2	--	--	--	--	--	--
26...	1107	--	1.4	701	8.2	22.7	6.1	--	--	--	--	--	--
26...	1108	--	1.9	711	8.2	22.5	5.4	--	--	--	--	--	--
AUG													
14...	0920	1.5	.10	863	8.2	23.7	10.3	132	708	8.00	23.0	230	5.0
14...	0921	--	1.0	865	8.2	23.7	10.2	--	--	--	--	--	--

a Quality assuracne samples collected with this sample
E Estimated value
M Presence verified, not quantified

480354103502800 LAKE TRENTON NO. 2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JUN 26...	1055	.00	.40	729	8.4	200	47.3	20.1	4.75	2	74.8	44	171
AUG a14...	0905	.00	.40	824	7.8	210	44.8	22.7	5.52	3	101	51	181

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)
JUN 26...	8.5	.6	5.1	183	.65	E.030	.008	E.023	<.020	.101	463	447	E10
AUG a14...	9.5	.7	10.0	223	.65	<.040	<.006	<.050	<.020	.085	540	526	<2

DATE	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	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)	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)	IRON, DIS-SOLVED (UG/L AS FE) (01046)
JUN 26...	E9	15.6	.7	--	--	--	--	--	--	--	--	--	<10
AUG a14...	E19k	32.1	<.1	16	.75	4.7	67.7	<.06	.06	<.8	.13	4.4	M

DATE	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	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)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ACIFL-UORFEN WATER, FLTRD, GF 0.7U REC (UG/L) (49315)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALDI-CARB SULFONE WAT,FLT GF 0.7U REC (UG/L) (49313)	ALDICA-RB SUL-FOXIDE, WAT,FLT GF 0.7U REC (UG/L) (49314)	ALDI-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (49312)
JUN 26...	--	<3.0	--	--	--	--	--	<.004	<.01	<.002	<.02	<.01	<.04
AUG a14...	<.08	.5	4.3	.92	<2.0	<1.0	3	<.004	<.01	<.002	<.02	<.01	<.04

DATE	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	BENDIO-CARB, WATER FLTRD REC (UG/L) (50299)	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BENOMYL WATER FLTRD REC (UG/L) (50300)	BEN-SUL-FURON METHYL WAT FLT REC (UG/L) (61693)	BENTA-ZON, WATER, FLTRD, GF 0.7U REC (UG/L) (38711)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAF-FEINE, WATER FLTRD REC (UG/L) (50305)	CAR-BARYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49310)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN, WATER, FLTRD, GF 0.7U REC (UG/L) (49309)
JUN 26...	<.005	E.005	<.050	<.025	<.010	<.004	<.0158	M	<.002	<.010	<.03	<.041	<.01
AUG a14...	<.005	M	<.050	<.025	<.010	.022	<.0158	<.01	<.002	<.010	<.03	<.041	<.01

DATE	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	3HYDRXY CARBO-FURAN WAT,FLT GF 0.7U REC (UG/L) (49308)	3-KETO CARBO-FURAN WATER FLTRD REC (UG/L) (50295)	CHLOR-AMBEN, METHYL ESTER WATER FLTRD REC (UG/L) (61188)	CHLORI-MURON, WATER FLTRD REC (UG/L) (50306)	CHLORO-THALO-NIL, WAT,FLT GF 0.7U REC (UG/L) (49306)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CLOPYR-ALID, WATER, FLTRD, GF 0.7U REC (UG/L) (49305)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	SI-CLOATE, WATER, DISS, REC (UG/L) (04031)	DACTHAL MONO-ACID, WAT,FLT GF 0.7U REC (UG/L) (49304)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)
JUN 26...	<.020	<.01	<1.50	<.02	<.010	<.04	<.005	.06	<.018	<.01	<.01	<.003	<.006
AUG a14...	<.020	<.01	<1.50	<.02	<.010	<.04	<.005	<.01	<.018	<.01	<.01	<.003	E.002

480354103502800 LAKE TRENTON NO. 2--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	DEETHYL DEISO-PROPYL ATRAZIN DISS, REC (UG/L) (04039)	DEISO-PROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DICAMBA WATER, FLTRD, GF 0.7U REC (UG/L) (38442)	DICHLOR PROP, WATER, FLTRD, GF 0.7U REC (UG/L) (49302)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	DINOSEB WATER, FLTRD, GF 0.7U REC (UG/L) (49301)	DIPHEN-AMID, WATER, DISS, REC (UG/L) (04033)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	DIURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49300)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)
JUN													
26...	<.01	<.04	<.005	.07	<.01	<.005	<.002	<.01	<.03	<.021	E.01	<.002	<.009
AUG													
a14...	<.01	<.04	<.005	<.01	<.01	<.005	<.002	<.01	<.03	<.021	<.01	<.002	<.009

DATE	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FEN-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49297)	FLUMET-SULAM WATER FLTRD REC (UG/L) (61694)	FLUO-METURON WATER, FLTRD, GF 0.7U REC (UG/L) (38811)	FONOFOS WATER DISS REC (UG/L) (04095)	HYDROXY ATRA-ZINE WATER FLTRD REC (UG/L) (50355)	IMAZ-AQUIN WATER FLTRD REC (UG/L) (50356)	IMAZE-THAPYR WATER FLTRD REC (UG/L) (50407)	IMID-ACLOP-RID WATER FLTRD REC (UG/L) (61695)	LINDANE DIS-SOLVED (UG/L) (39341)	LINURON WATER, FLTRD, GF 0.7U REC (UG/L) (38478)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)
JUN													
26...	<.005	<.03	<.0110	<.03	<.003	<.008	<.016	<.017	<.0068	<.004	<.01	<.035	<.027
AUG													
a14...	<.005	<.03	<.0110	<.03	<.003	<.008	<.016	<.017	<.0068	<.004	<.01	<.035	<.027

DATE	MCPA, WATER, FLTRD, GF 0.7U REC (UG/L) (38482)	MCPB, WATER, FLTRD, GF 0.7U REC (UG/L) (38487)	METAL-AXYL WATER FLTRD REC (UG/L) (50359)	METHIO-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (38501)	METH-OMYL OXIME WATER FLTRD REC (UG/L) (61696)	METH-OMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49296)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MET-SUL-FURON METHYL WAT FLT REC (UG/L) (61697)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	NEB-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49294)
JUN													
26...	.33	<.01	<.020	<.01	<.0110	<.0044	<.006	<.013	<.006	<.0250	<.002	<.007	<.01
AUG													
a14...	.04	<.01	<.020	<.01	<.0110	<.0044	<.006	<.013	<.006	<.0250	<.002	<.007	<.01

DATE	NICOSUL-FURON WATER FLTRD REC (UG/L) (50364)	NORFLUR-AZON, WATER, FLTRD, GF 0.7U REC (UG/L) (49293)	ORY-ZALIN, WATER, FLTRD, GF 0.7U REC (UG/L) (49292)	OXAMYL OXIME WATER FLTRD REC (UG/L) (50410)	OXAMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (38866)	P,P' DDE DISSOLV (UG/L) (34653)	PARA-THION, DIS-SOLVED (UG/L) (39542)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PIC-LORAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49291)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)
JUN													
26...	<.013	<.02	<.02	<.013	<.01	<.003	<.007	<.002	<.010	<.006	<.011	<.02	<.004
AUG													
a14...	<.013	<.02	<.02	<.013	<.01	<.003	<.007	<.002	<.010	<.006	<.011	<.02	<.004

DATE	PROPA-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	PRO-PHAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49236)	PROP-ICONA-ZOLE , WATER FLTRD REC (UG/L) (50471)	PRO-POXUR, WATER, FLTRD, GF 0.7U REC (UG/L) (38538)	SIDURON WATER FLTRD REC (UG/L) (38548)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	SULFO-MET-RURON METHYL WTR FLT REC (UG/L) (50337)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL, WATER, DISS, REC (UG/L) (04032)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)
JUN													
26...	<.010	<.011	<.023	<.01	<.008	<.01	<.017	<.011	<.009	E.006	<.01	<.034	<.017
AUG													
a14...	<.010	<.011	<.023	<.01	<.007	<.01	<.017	<.011	<.009	<.016	<.01	<.034	<.017

DATE	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-BENURON METHYL WATER FLTRD (UG/L) (61159)	TRI-CLOPYR, WATER, FLTRD, GF 0.7U REC (UG/L) (49235)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	UREA 3(4-CHLOR OPHENYL METHYL WAT FLT REC (UG/L) (61692)	2,4-D METHYL ESTER, WATER FLTRD REC (UG/L) (50470)	2,4-D, DIS-SOLVED (UG/L) (39732)	2,4-DB WATER, FLTRD, GF 0.7U REC (UG/L) (38746)
JUN									
26...	<.005	E.001	<.01	<.02	<.009	<.0242	<.009	.28	<.02
AUG									
a14...	<.005	<.002	<.01	<.02	<.009	<.0242	<.009	.09	<.02

480354103502800 LAKE TRENTON NO. 2--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH OF LAKE MAX. METERS (85310)	SAM-PLING DEPTH (M) (00098)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)	WIND DIREC-TION (DEG. FROM TRUE NORTH) (00036)	WIND SPEED (MILES PER HOUR) (00035)
JUN													
26...	1050	2.0	.10	723	8.2	22.0	6.8	83	719	7.00	20.0	40	<5.0
26...	1051	--	.60	726	8.2	22.1	6.8	--	--	--	--	--	--
26...	1052	--	1.2	727	8.2	22.1	6.7	--	--	--	--	--	--
26...	1053	--	1.8	711	8.2	22.1	6.7	--	--	--	--	--	--
26...	1054	--	2.0	711	8.2	22.1	6.7	--	--	--	--	--	--
AUG													
14...	0900	1.6	.10	823	8.0	23.9	10.0	128	709	7.00	21.0	230	5.0
14...	0901	--	.50	820	8.1	23.9	9.9	--	--	--	--	--	--
14...	0902	--	1.0	827	8.1	23.8	9.3	--	--	--	--	--	--
14...	0903	--	1.6	865	7.9	23.3	4.4	--	--	--	--	--	--

a Quality assuracne samples collected with this sample
E Estimated value
k Counts outside acceptable range
M Presence verified, not quantified

480318103503100 LAKE TRENTON NO. 3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
JUN													
26...	1030	.00	.40	770	8.3	220	51.8	21.3	4.67	2	81.0	44	178
AUG													
14...	0835	.00	.40	817	8.2	220	50.5	23.0	5.53	3	94.2	47	194

DATE	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)
JUN													
26...	8.4	.6	5.8	199	.63	E.026	.009	E.023	<.020	.100	495	479	E4
AUG													
14...	9.8	.8	9.8	213	.65	<.040	<.006	<.050	<.020	.080	533	524	E9

DATE	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	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)	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)	IRON, DIS-SOLVED (UG/L AS FE) (01046)
JUN													
26...	E4	20.0	1.2	--	--	--	--	--	--	--	--	--	20
AUG													
14...	140	17.1	.6	6	.65	4.0	73.8	<.06	E.02	<.8	.13	4.0	<10

DATE	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	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)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
JUN							
26...	--	E2.3	--	--	--	--	--
AUG							
14...	<.08	.1	4.2	.82	<2.0	<1.0	2

DATE	TIME	DEPTH OF LAKE MAX. METERS (85310)	SAM-PLING DEPTH (M) (00098)	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)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)	WIND DIREC-TION (DEG. FROM TRUE NORTH) (00036)	WIND SPEED (MILES PER HOUR) (00035)
JUN													
26...	1025	1.6	.10	764	8.1	21.7	6.6	80	719	8.00	17.0	30	<5.0
26...	1026	--	.70	760	8.1	21.6	6.7	--	--	--	--	--	--
26...	1027	--	1.4	761	8.1	21.4	6.3	--	--	--	--	--	--
26...	1028	--	1.6	760	8.1	21.3	6.2	--	--	--	--	--	--
AUG													
14...	0830	.70	.10	825	7.9	22.4	8.6	107	708	7.00	22.0	230	<5.0
14...	0831	--	.50	825	8.0	22.4	8.4	--	--	--	--	--	--
14...	0832	--	.70	825	8.0	22.4	7.9	--	--	--	--	--	--

E Estimated value

480220103500800 LAKE TRENTON INFLOW DITCH

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	TEMPER-ATURE AIR (DEG C) (00020)	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)
JUN 26...	0905	.82	719	43	4.3	7.2	1940	1970	15.0	12.6	560	135	53.2
AUG 14...	1035	18	708	102	8.5	7.5	700	723	24.9	20.4	230	58.1	21.5

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	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)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)
JUN 26...	8.83	4	237	48	578	13.4	.4	11.6	501	1.1	.489	.008	--
AUG 14...	7.26	2	62.3	36	194	10.3	.8	9.0	154	.75	<.040	.033	.271

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	TUR-BID-ITY FIELD WATER UNFLTRD (NTU) (61028)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)
JUN 26...	<.050	.57	--	<.020	E.059	2.95	1330	1310	10	520	E10000k	2.5	.1
AUG 14...	.304	--	1.1	.024	.135	22.0	448	442	--	1100	37000	9.5	1.0

DATE	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	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)	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)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)
JUN 26...	--	--	--	--	--	--	--	--	--	280	--	1200	--
AUG 14...	6	.51	3.1	76.1	<.06	.06	<.8	.25	4.0	10	<.08	70.5	3.6

DATE	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)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ACIFL-UORFEN WATER, FLTRD, GF 0.7U REC (UG/L) (49315)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALDI-CARB SULFONE WAT,FLT GF 0.7U REC (UG/L) (49313)	ALDICA-RB SUL-FOXIDE, WAT,FLT GF 0.7U REC (UG/L) (49314)	ALDI-CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (49312)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)
JUN 26...	--	--	--	--	<.004	<.01	<.002	<.02	<.01	<.04	<.005	<.007	<.050
AUG 14...	.80	<2.0	<1.0	2	<.004	<.01	<.002	<.02	<.01	<.04	<.005	<.007	<.050

DATE	BENDIO-CARB, WATER FLTRD REC (UG/L) (50299)	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BENOMYL WATER FLTRD REC (UG/L) (50300)	BEN-SUL-FURON METHYL WAT FLT REC (UG/L) (61693)	BENTA-ZON, WATER, FLTRD, GF 0.7U REC (UG/L) (38711)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAF-FEINE, WATER FLTRD REC (UG/L) (50305)	CAR-BARYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49310)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN, WATER, FLTRD, GF 0.7U REC (UG/L) (49309)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	3HYDRXY CARBO-FURAN WAT,FLT GF 0.7U REC (UG/L) (49308)	3-KETO CARBO-FURAN WATER FLTRD REC (UG/L) (50295)
JUN 26...	<.025	<.010	.013	<.0158	<.0020	<.002	<.010	<.03	<.041	<.01	<.020	<.01	<1.50
AUG 14...	<.025	<.010	.585	<.0158	<.01	<.002	<.010	<.03	<.041	<.01	<.020	<.01	<1.50

480220103500800 LAKE TRENTON INFLOW DITCH--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	CHLORAMBEN, METHYL ESTER WATER FLTRD (UG/L) (61188)	CHLORIMURON, WATER FLTRD REC (UG/L) (50306)	CHLOROTHALONIL, WAT,FLT GF 0.7U REC (UG/L) (49306)	CHLORPYRIFOS DISSOLVED (UG/L) (38933)	CLOPYRALID, WATER, FLTRD, GF 0.7U REC (UG/L) (49305)	CYANAZINE, WATER, DISS, REC (UG/L) (04041)	SICLOATE, WATER, DISS, REC (UG/L) (04031)	DACTHAL MONOACID, WAT,FLT GF 0.7U REC (UG/L) (49304)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRAZINE, WATER, DISS, REC (UG/L) (04040)	DEETHYL DEISOPROPYL ATRAZIN DISS, REC (UG/L) (04039)	DEISOPROPYL ATRAZIN WATER, DISS, REC (UG/L) (04038)	DIAZINON, DISSOLVED (UG/L) (39572)
JUN 26...	<.02	<.010	<.04	<.005	.11	<.018	<.01	<.01	<.003	<.006	<.01	<.04	<.005
AUG 14...	<.02	<.010	<.04	<.005	<.01	<.018	E.04	<.01	<.003	<.006	<.01	<.04	<.005

DATE	DICAMBA WATER, FLTRD, GF 0.7U REC (UG/L) (38442)	DICHLORPROP, WATER, FLTRD, GF 0.7U REC (UG/L) (49302)	DIELDRIN DISSOLVED (UG/L) (39381)	2,6-DIETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	DINOSEB WATER, FLTRD, GF 0.7U REC (UG/L) (49301)	DIPHENAMID, WATER, DISS, REC (UG/L) (04033)	DISULFOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	DIURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49300)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHALFLURALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHOPROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FENURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49297)	FLUMETSULAM WATER FLTRD REC (UG/L) (61694)
JUN 26...	<.01	<.01	<.005	<.002	<.01	<.03	<.021	<.01	<.002	<.009	<.005	<.03	<.0110
AUG 14...	<.01	<.01	<.005	<.002	<.01	<.03	<.021	<.0035	<.002	<.009	<.005	<.03	<.0110

DATE	FLUOMETURON WATER, FLTRD, GF 0.7U REC (UG/L) (38811)	FONOFOS WATER DISS REC (UG/L) (04095)	HYDROXYATRAZINE WATER FLTRD REC (UG/L) (50355)	IMAZAQUIN WATER FLTRD REC (UG/L) (50356)	IMAZETHAPYR WATER FLTRD REC (UG/L) (50407)	IMIDACLOPRID WATER FLTRD REC (UG/L) (61695)	LINDANE DISSOLVED (UG/L) (39341)	LINURON WATER, FLTRD, GF 0.7U REC (UG/L) (38478)	LINURON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALATHION, DISSOLVED (UG/L) (39532)	MCPA, WATER, FLTRD, GF 0.7U REC (UG/L) (38482)	MCPB, WATER, FLTRD, GF 0.7U REC (UG/L) (38487)	METALAXYL WATER FLTRD REC (UG/L) (50359)
JUN 26...	<.03	<.003	<.008	<.016	<.017	<.0068	<.004	<.01	<.035	<.027	.02	<.01	<.020
AUG 14...	<.03	<.003	<.008	<.016	<.017	<.0068	<.004	<.01	<.035	<.027	<.02	<.01	<.020

DATE	METHIOCARB, WATER, FLTRD, GF 0.7U REC (UG/L) (38501)	METHOMYL OXIME WATER FLTRD REC (UG/L) (61696)	METHOMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49296)	METHYL PARATHION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METOLACHLOR WATER DISSOLV (UG/L) (39415)	METRIBUZIN SENCOR WATER DISSOLV (UG/L) (82630)	METSULFURON METHYL WAT FLT REC (UG/L) (61697)	MOLINATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROPAMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	NEBURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49294)	NICOSULFURON WATER FLTRD REC (UG/L) (50364)	NORFLURAZON, WATER, FLTRD, GF 0.7U REC (UG/L) (49293)	ORYZALIN, WATER, FLTRD, GF 0.7U REC (UG/L) (49292)
JUN 26...	<.01	<.0110	<.0044	<.006	<.013	<.006	<.0250	<.002	<.007	<.01	<.013	<.02	<.02
AUG 14...	<.01	<.0110	<.0044	<.006	<.013	<.006	<.0250	<.002	<.007	<.01	<.013	<.02	<.02

DATE	OXAMYL OXIME WATER FLTRD REC (UG/L) (50410)	OXAMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (38866)	P,P' DDE DISSOLV (UG/L) (34653)	PARATHION, DISSOLVED (UG/L) (39542)	PEBULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDIMETHALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PERMETHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PICLORAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49291)	PRONAMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROPACHLOR, WATER, DISS, REC (UG/L) (04024)	PROPANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PROPARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)
JUN 26...	<.013	<.01	<.003	<.007	<.002	<.010	<.006	<.011	<.02	<.004	<.010	<.011	<.023
AUG 14...	<.013	<.01	<.003	<.007	<.002	<.010	<.006	<.011	<.02	<.004	<.010	<.011	<.023

DATE	PROPHAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49236)	PROPICONAZOLE , WATER FLTRD REC (UG/L) (50471)	PROPOXUR, WATER, FLTRD, GF 0.7U REC (UG/L) (38538)	SIDURON WATER FLTRD REC (UG/L) (38548)	SIMAZINE, WATER, DISS, REC (UG/L) (04035)	SULFOMETRURON METHYL WTR FLT REC (UG/L) (50337)	TEBUTHIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TERBACIL, WATER, DISS, REC (UG/L) (04032)	TERBACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TERBUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIOBENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIALLATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRIBENURON METHYL WATER FLTRD (UG/L) (61159)
JUN 26...	<.01	<.011	<.01	<.017	<.011	<.009	<.016	<.01	<.034	<.017	<.005	E.001	<.01
AUG 14...	<.01	<.008	<.01	<.017	<.011	<.009	<.016	<.01	<.034	<.017	<.005	<.010	<.01

480220103500800 LAKE TRENTON INFLOW DITCH--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TRI-CLOPYR, WATER, FLTRD, GF 0.7U REC (UG/L) (49235)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)	UREA 3(4-CHLOROPHENYL METHYL WAT FLT REC (UG/L) (61692)	2,4-D METHYL ESTER, WATER FLTRD REC (UG/L) (50470)	2,4-D, DIS-SOLVED (UG/L) (39732)	2,4-DB WATER, FLTRD, GF 0.7U REC (UG/L) (38746)
JUN						
26...	<.02	<.009	<.0242	.039	.18	<.02
AUG						
14...	<.02	<.009	<.0242	.035	.15	<.02

E Estimated value
k Counts outside acceptable range

ANALYSES OF SAMPLES COLLECTED AT LAKE SAKAKAWEA WATER-QUALITY SITES

473633101161400 LAKE SAKAKAWEA NEAR LAKE AUDUBON

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
OCT													
11...	1140	.00	--	631	8.4	200	48.8	19.7	3.73	2	56.0	37	160
11...	1145	.00	3.6	--	--	--	--	--	--	--	--	--	--
11...	1150	17.1	--	657	8.4	210	48.2	20.5	3.85	2	59.6	38	164
JAN													
18...	1020	.00	.30	680	8.3	220	51.6	21.0	4.03	2	55.9	36	173
18...	1025	13.4	13.6	682	8.3	220	52.4	21.2	4.05	2	57.7	36	174
18...	1030	16.4	16.7	1110	7.8	330	81.4	31.1	5.06	3	110	42	252
18...	1035	.00	11.6	--	--	--	--	--	--	--	--	--	--
FEB													
28...	1155	.00	.50	665	8.2	210	50.9	20.2	3.77	2	55.6	36	174
28...	1200	12.5	13.0	677	8.2	210	50.6	20.0	3.90	2	56.5	37	170
28...	1205	16.2	16.7	1410	7.8	380	92.9	35.0	5.30	4	157	47	313
28...	1210	.00	2.6	--	--	--	--	--	--	--	--	--	--
MAY													
08...	0945	16.3	16.8	--	--	--	--	--	--	--	--	--	--
08...	0950	.00	.40	601	8.2	200	47.5	19.3	3.67	2	51.8	36	154
08...	0955	18.0	18.3	603	8.2	200	47.3	19.5	3.67	2	52.6	36	153
08...	1000	.00	3.5	--	--	--	--	--	--	--	--	--	--
JUN													
20...	0915	.00	.50	619	8.3	190	46.7	18.8	3.56	2	54.6	37	158
20...	0920	18.0	18.5	633	8.1	190	46.7	18.8	3.69	2	54.2	37	160
20...	0925	.00	2.4	--	--	--	--	--	--	--	--	--	--
JUL													
23...	1100	.00	--	612	8.4	200	47.9	19.5	3.83	2	52.3	36	159
23...	1105	10.0	--	609	8.4	200	47.8	19.4	3.62	2	51.6	35	159
23...	1110	16.0	--	613	8.2	200	48.0	19.3	3.74	2	52.9	36	162
23...	1115	18.0	--	625	8.2	200	49.3	19.8	3.74	2	54.8	36	164
23...	1120	16.0	--	--	--	--	--	--	--	--	--	--	--
AUG													
22...	1035	.00	.30	624	8.5	200	48.9	19.7	3.63	2	53.5	36	163
22...	1040	15.6	15.9	638	8.3	210	49.7	19.7	3.63	2	55.0	36	165
22...	1045	16.6	16.9	653	7.9	200	48.7	20.2	3.74	2	58.7	38	171
22...	1050	.00	3.5	--	--	--	--	--	--	--	--	--	--
22...	1055	14.6	14.9	--	--	--	--	--	--	--	--	--	--
SEP													
07...	1115	.00	--	623	8.5	210	50.2	20.4	3.98	2	54.8	36	164
07...	1120	.00	6.0	--	--	--	--	--	--	--	--	--	--
07...	1125	13.9	--	626	8.5	210	50.7	20.3	3.90	2	54.4	35	162
27...	1050	.00	.50	639	8.4	210	49.9	20.2	3.84	2	54.0	36	164
27...	1055	17.5	18.0	637	8.4	210	50.6	20.3	3.88	2	54.9	36	164
27...	1100	.00	4.0	--	--	--	--	--	--	--	--	--	--
27...	1105	16.0	16.5	--	--	--	--	--	--	--	--	--	--

473633101161400 LAKE SAKAKAWEA NEAR LAKE AUDUBON--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NITRATE DISSOLVED (MG/L AS N) (00618)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	PHOSPHORUS TOTAL (MG/L AS P) (00665)
OCT													
11...	8.6	.5	6.1	157	.22	<.041	<.006	--	<.047	--	--	<.018	<.060
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	8.8	.5	6.0	163	.35	<.041	<.006	--	<.047	--	--	<.018	<.060
JAN													
18...	9.0	.6	6.3	163	.22	<.040	<.006	--	<.050	--	--	<.020	<.060
18...	9.3	.6	6.3	167	.15	<.041	E.003	--	E.027	--	--	<.018	<.060
18...	10.5	.6	8.6	326	.29	.069	<.006	--	.052	.23	.35	<.018	<.060
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
28...	9.0	.6	6.9	158	.20	<.041	E.003	--	<.047	--	--	<.018	<.060
28...	8.9	.6	7.0	164	.23	<.041	E.003	--	E.027	--	--	<.018	<.060
28...	11.6	.5	12.1	428	.41	.226	.009	.080	.089	.18	.49	<.018	<.060
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
08...	8.2	.5	6.0	141	.20	<.041	E.003	--	<.047	--	--	<.018	<.060
08...	7.9	.5	6.0	140	.22	<.041	E.004	--	<.047	--	--	<.018	<.060
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
20...	7.8	.6	6.4	145	.22	<.040	E.005	--	<.050	--	--	<.020	<.060
20...	7.6	.6	6.6	147	.37	E.021	E.005	--	E.026	--	--	<.020	<.060
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
23...	8.7	.5	5.8	146	.29	E.025	<.006	--	E.023	--	--	<.020	<.060
23...	8.5	.6	6.0	146	.21	<.040	<.006	--	E.024	--	--	<.020	<.060
23...	8.8	.6	6.4	148	.23	E.025	<.006	--	E.035	--	--	<.020	<.060
23...	8.4	.6	6.6	149	.26	E.025	<.006	--	E.036	--	--	<.020	<.060
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22...	8.7	.5	6.1	150	.23	<.040	<.006	--	<.050	--	--	<.020	<.060
22...	8.7	.6	6.9	153	.30	E.025	E.005	--	E.035	--	--	<.020	<.060
22...	8.4	.6	7.8	157	.42	<.040	<.006	--	E.153	--	--	<.020	.108
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
07...	8.8	.5	6.1	151	.24	<.040	<.006	--	<.050	--	--	<.020	<.060
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
07...	8.7	.5	6.1	151	.23	E.022	<.006	--	<.050	--	--	<.020	<.060
27...	9.0	.6	6.4	154	.26	<.040	<.006	--	<.050	--	--	<.020	<.060
27...	8.9	.6	6.3	153	.28	<.040	<.006	--	<.050	--	--	<.020	<.060
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--	--	--

ANALYSES OF SAMPLES COLLECTED AT LAKE SAKAKAWEA WATER-QUALITY SITES

473633101161400 LAKE SAKAKAWEA NEAR LAKE AUDUBON--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	TUR-BID-ITY (NTU) (00076)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	GIARDIA METHOD 1623, WATER (CYSTS/ 10 L) (99597)	CRYPTO-SPORID-IUM, MTH1623 WATER (OOCYST /10 L) (99599)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
OCT										
11...	2.8	405	396	1.4	--	--	--	--	<10	<3.2
11...	--	--	--	--	.3	<.1	--	--	--	--
11...	3.2	420	409	2.7	--	--	--	--	<10	3.8
JAN										
18...	6.1	432	415	1.4	--	--	--	--	<10	E2.3
18...	3.6	437	423	1.0	--	--	--	--	<10	7.6
18...	5.0	750	725	--	--	--	--	--	<10	222
18...	--	--	--	--	.3	<.1	--	--	--	--
FEB										
28...	2.9	417	409	.4	--	--	--	--	<10	<3.2
28...	3.6	425	413	.4	--	--	--	--	<10	9.5
28...	7.9	970	932	.9	--	--	--	--	<10	228
28...	--	--	--	--	.8	<.1	--	--	--	--
MAY										
08...	--	--	--	--	--	--	<1c	<1c	--	--
08...	3.3	386	370	7.6	--	--	--	--	<10	3.5
08...	3.4	399	369	6.2	--	--	--	--	<10	5.4
08...	--	--	--	--	.6	<.1	--	--	--	--
JUN										
20...	3.3	389	378	--	--	--	--	--	<10	<3.0
20...	4.3	395	381	--	--	--	--	--	<10	13.9
20...	--	--	--	--	.9	<.1	--	--	--	--
JUL										
23...	3.0	391	380	--	.4	<.1	--	--	<10	E1.7
23...	3.1	394	379	--	--	--	--	--	<10	<3.0
23...	3.0	397	385	--	--	--	--	--	<10	<3.0
23...	3.6	402	390	--	--	--	--	--	<10	6.3
23...	--	--	--	--	--	--	<1c	<1c	--	--
AUG										
22...	3.4	402	388	--	--	--	--	--	<10	<3.0
22...	3.9	410	396	--	--	--	--	--	<10	18.7
22...	6.7	424	408	--	--	--	--	--	10	50.9
22...	--	--	--	--	.5	<.1	--	--	--	--
22...	--	--	--	--	--	--	<1c	<1c	--	--
SEP										
07...	8.9	412	395	--	--	--	--	--	M	3.5
07...	--	--	--	--	.4	<.1	--	--	--	--
07...	8.6	414	393	--	--	--	--	--	<10	E2.4
27...	4.9	410	396	--	--	--	--	--	<10	<3.0
27...	3.6	406	397	--	--	--	--	--	<10	E1.6
27...	--	--	--	--	.3	<.1	--	--	--	--
27...	--	--	--	--	--	--	<1c	<1c	--	--

473633101161400 LAKE SAKAKAWEA NEAR LAKE AUDUBON--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH OF LAKE MAX. METERS (85310)	SAM-PLING DEPTH (M) (00098)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY FIELD WATER UNFLTRD (NTU) (61028)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	ICE THICK-NESS METERS (82131)	TRANS-PAR-ENCY (SECCHI DISK) (IN) (00077)	TEMPER-ATURE AIR (DEG C) (00020)
OCT													
11...	1130	17	.00	645	8.0	11.1	.00	10.2	100	710	--	71.0	10.0
11...	1131	--	1.0	646	8.0	11.1	.00	10.1	--	--	--	--	--
11...	1132	--	3.0	647	8.0	11.1	.00	10.1	--	--	--	--	--
11...	1133	--	4.4	649	8.1	11.0	.00	9.8	--	--	--	--	--
11...	1134	--	6.8	652	8.1	11.0	.00	9.9	--	--	--	--	--
11...	1135	--	9.0	651	8.1	11.0	.00	9.8	--	--	--	--	--
11...	1136	--	11.3	653	8.2	10.9	.00	9.7	--	--	--	--	--
11...	1137	--	13.1	658	8.2	10.9	.00	9.6	--	--	--	--	--
11...	1138	--	15.2	693	8.2	10.8	.00	9.5	--	--	--	--	--
11...	1139	--	17.1	730	8.2	10.7	.00	9.3	--	--	--	--	--
JAN													
18...	1000	17	.60	688	7.9	.2	12	14.1	103	718	.55	229	-10.0
18...	1001	--	1.7	661	7.9	.7	10	13.8	--	--	--	--	--
18...	1002	--	2.7	659	7.9	.7	9.0	13.9	--	--	--	--	--
18...	1003	--	4.1	662	7.9	.8	9.0	13.7	--	--	--	--	--
18...	1004	--	5.0	661	7.9	.8	9.0	13.6	--	--	--	--	--
18...	1006	--	7.0	664	7.9	.8	8.0	13.6	--	--	--	--	--
18...	1007	--	8.0	668	7.9	.7	8.0	13.5	--	--	--	--	--
18...	1008	--	9.1	670	7.9	.7	8.0	13.6	--	--	--	--	--
18...	1009	--	10.3	674	7.9	.7	8.0	13.5	--	--	--	--	--
18...	1010	--	11.5	676	7.9	.7	8.0	13.5	--	--	--	--	--
18...	1011	--	12.3	675	8.0	.8	8.0	13.4	--	--	--	--	--
18...	1012	--	13.4	972	7.9	1.2	10	9.8	--	--	--	--	--
18...	1013	--	15.0	1170	7.7	2.1	10	7.0	--	--	--	--	--
18...	1014	--	16.0	1260	7.6	2.4	9.0	6.7	--	--	--	--	--
18...	1015	--	17.0	1390	7.5	3.2	11	1.5	--	--	--	--	--
FEB													
28...	1135	17	.90	682	9.1	.3	4.0	14.4	106	714	.85	102	1.0
28...	1136	--	2.0	667	9.1	.6	4.0	14.1	--	--	--	--	--
28...	1137	--	3.0	661	9.0	.9	3.0	13.9	--	--	--	--	--
28...	1138	--	4.0	661	9.0	.9	3.0	13.8	--	--	--	--	--
28...	1139	--	5.0	662	9.0	.9	3.0	13.7	--	--	--	--	--
28...	1140	--	6.0	670	8.9	.8	.00	13.8	--	--	--	--	--
28...	1141	--	7.0	675	8.9	.7	.00	13.8	--	--	--	--	--
28...	1142	--	8.0	682	8.9	.7	.00	13.8	--	--	--	--	--
28...	1143	--	9.0	684	8.8	.7	.00	13.8	--	--	--	--	--
28...	1144	--	10.0	687	8.8	.7	.00	13.8	--	--	--	--	--
28...	1145	--	11.0	686	8.8	.7	.00	13.8	--	--	--	--	--
28...	1146	--	12.0	686	8.8	.8	.00	13.6	--	--	--	--	--
28...	1147	--	13.0	719	8.7	1.0	.00	13.3	--	--	--	--	--
28...	1148	--	14.0	1260	8.4	2.0	.00	7.7	--	--	--	--	--
28...	1149	--	15.0	1360	8.3	3.0	3.0	6.0	--	--	--	--	--
28...	1150	--	16.0	1530	8.3	4.0	7.0	1.6	--	--	--	--	--
28...	1151	--	16.7	1670	8.1	4.0	15	.3	--	--	--	--	--
MAY													
08...	0935	18	.00	617	8.2	8.3	.00	11.3	102	723	--	70.0	9.0
08...	0936	--	2.0	617	8.2	8.2	19	11.2	--	--	--	--	--
08...	0937	--	4.0	616	8.2	8.1	22	11.2	--	--	--	--	--
08...	0938	--	6.0	615	8.2	8.0	21	11.3	--	--	--	--	--
08...	0939	--	8.1	615	8.2	8.0	21	11.3	--	--	--	--	--
08...	0940	--	10.0	615	8.2	8.0	21	11.3	--	--	--	--	--
08...	0941	--	12.0	616	8.2	8.0	23	11.3	--	--	--	--	--
08...	0942	--	14.0	616	8.2	8.0	24	11.3	--	--	--	--	--
08...	0943	--	16.0	616	8.2	8.0	24	11.2	--	--	--	--	--
08...	0944	--	18.3	616	8.2	7.9	30	10.9	--	--	--	--	--
JUN													
20...	0855	18	.00	632	8.1	12.9	.00	10.1	102	719	--	46.0	15.5
20...	0856	--	1.0	632	8.1	13.2	.00	9.7	--	--	--	--	--
20...	0857	--	2.1	632	8.1	13.2	.00	9.7	--	--	--	--	--
20...	0858	--	3.0	633	8.1	13.2	.00	9.6	--	--	--	--	--
20...	0859	--	4.0	632	8.1	13.2	.00	9.4	--	--	--	--	--
20...	0900	--	5.0	632	8.1	13.1	.00	9.4	--	--	--	--	--
20...	0901	--	6.0	633	8.1	13.1	.00	9.5	--	--	--	--	--
20...	0902	--	7.0	634	8.1	13.1	.00	9.5	--	--	--	--	--
20...	0903	--	8.0	634	8.1	13.1	2.0	9.4	--	--	--	--	--
20...	0904	--	9.0	635	8.1	13.0	1.0	9.3	--	--	--	--	--
20...	0905	--	10.0	636	8.1	12.9	1.0	9.4	--	--	--	--	--
20...	0906	--	11.0	636	8.1	12.9	.00	9.3	--	--	--	--	--
20...	0907	--	12.0	636	8.1	12.6	.00	9.3	--	--	--	--	--
20...	0908	--	13.0	639	8.1	12.4	1.0	9.3	--	--	--	--	--
20...	0909	--	14.0	639	8.1	12.3	1.0	9.2	--	--	--	--	--
20...	0910	--	15.0	644	8.0	11.9	3.0	9.0	--	--	--	--	--
20...	0911	--	16.0	644	8.0	11.8	4.0	8.8	--	--	--	--	--
20...	0912	--	17.0	650	7.9	11.7	10	8.5	--	--	--	--	--
20...	0913	--	18.0	660	7.9	11.7	21	8.3	--	--	--	--	--
20...	0914	--	18.5	690	7.8	11.7	29	7.7	--	--	--	--	--

473633101161400 LAKE SAKAKAWEA NEAR LAKE AUDUBON--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WIND DIRECTION (DEG. FROM TRUE NORTH) (00036)	WIND SPEED (MILES PER HOUR) (00035)
OCT		
11...	180	6.0
11...	--	--
11...	--	--
11...	--	--
11...	--	--
11...	--	--
11...	--	--
11...	--	--
11...	--	--
11...	--	--
JAN		
18...	360	10
18...	--	--
18...	--	--
18...	--	--
18...	--	--
18...	--	--
18...	--	--
18...	--	--
18...	--	--
18...	--	--
18...	--	--
18...	--	--
18...	--	--
18...	--	--
18...	--	--
FEB		
28...	230	<5.0
28...	--	--
28...	--	--
28...	--	--
28...	--	--
28...	--	--
28...	--	--
28...	--	--
28...	--	--
28...	--	--
28...	--	--
28...	--	--
28...	--	--
28...	--	--
28...	--	--
28...	--	--
MAY		
08...	220	<5.0
08...	--	--
08...	--	--
08...	--	--
08...	--	--
08...	--	--
08...	--	--
08...	--	--
08...	--	--
08...	--	--
JUN		
20...	220	<5.0
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--

473633101161400 LAKE SAKAKAWEA NEAR LAKE AUDUBON--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH OF LAKE MAX. METERS (85310)	SAMPLING DEPTH (M) (00098)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY FIELD WATER UNFLTRD (NTU) (61028)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	BAROMETRIC PRESSURE (MM OF HG) (00025)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	TEMPERATURE AIR (DEG C) (00020)	WIND DIRECTION (DEG. FROM TRUE NORTH) (00036)
JUL													
23...	1130	19	.00	612	8.2	21.0	.00	8.3	100	710	86.0	25.5	280
23...	1132	--	1.0	613	8.3	21.0	.00	7.9	--	--	--	--	--
23...	1134	--	2.0	612	8.3	21.0	.00	7.9	--	--	--	--	--
23...	1136	--	3.0	612	8.3	20.9	.00	7.9	--	--	--	--	--
23...	1138	--	4.0	614	8.3	20.7	2.0	7.9	--	--	--	--	--
23...	1140	--	6.0	613	8.3	20.4	.00	8.0	--	--	--	--	--
23...	1142	--	8.0	613	8.2	20.0	1.0	8.1	--	--	--	--	--
23...	1144	--	10.0	614	8.2	19.7	1.0	8.0	--	--	--	--	--
23...	1146	--	12.0	619	8.2	18.2	4.0	7.6	--	--	--	--	--
23...	1148	--	14.0	628	8.0	16.2	12	7.6	--	--	--	--	--
23...	1150	--	16.0	627	8.0	15.5	27	7.0	--	--	--	--	--
23...	1152	--	18.0	635	7.9	15.4	68	6.6	--	--	--	--	--
23...	1154	--	18.6	633	7.8	15.2	92	6.0	--	--	--	--	--
AUG													
22...	1025	17	.00	600	8.4	21.6	.00	8.0	98	710	71.0	21.5	60
22...	1026	--	2.0	600	8.4	21.5	.00	7.6	--	--	--	--	--
22...	1027	--	4.0	600	8.4	21.4	.00	7.5	--	--	--	--	--
22...	1028	--	6.0	600	8.4	21.4	.00	7.4	--	--	--	--	--
22...	1029	--	8.1	601	8.4	21.3	1.0	7.3	--	--	--	--	--
22...	1030	--	10.0	601	8.4	21.2	1.0	7.1	--	--	--	--	--
22...	1031	--	12.0	615	8.3	20.9	12	6.1	--	--	--	--	--
22...	1032	--	14.1	612	8.1	20.1	30	4.6	--	--	--	--	--
22...	1033	--	15.9	640	7.6	18.6	50	2.4	--	--	--	--	--
22...	1034	--	16.9	642	7.5	17.5	48	1.8	--	--	--	--	--
SEP													
07...	1100	14	.10	623	8.3	20.2	.00	7.4	89	699	59.0	17.0	290
07...	1101	--	1.0	625	8.3	20.2	.00	7.4	--	--	--	--	--
07...	1102	--	3.1	627	8.3	20.3	.00	7.3	--	--	--	--	--
07...	1103	--	5.0	626	8.3	20.2	1.0	7.2	--	--	--	--	--
07...	1104	--	7.0	626	8.3	20.2	1.0	7.2	--	--	--	--	--
07...	1105	--	9.1	626	8.3	20.2	1.0	7.2	--	--	--	--	--
07...	1106	--	11.0	626	8.3	20.2	1.0	7.1	--	--	--	--	--
07...	1107	--	13.0	627	8.3	20.1	2.0	7.1	--	--	--	--	--
07...	1108	--	13.9	628	8.3	20.1	4.0	7.0	--	--	--	--	--
27...	1040	18	.00	640	8.4	15.3	2.0	9.5	101	715	73.0	21.0	150
27...	1041	--	2.0	640	8.4	15.3	1.0	9.4	--	--	--	--	--
27...	1042	--	4.0	639	8.5	15.2	.00	9.3	--	--	--	--	--
27...	1043	--	6.0	641	8.5	15.2	1.0	9.2	--	--	--	--	--
27...	1044	--	8.0	640	8.5	15.1	.00	9.2	--	--	--	--	--
27...	1045	--	10.0	640	8.5	15.1	.00	9.2	--	--	--	--	--
27...	1046	--	12.0	640	8.5	15.1	1.0	9.2	--	--	--	--	--
27...	1047	--	14.0	640	8.5	15.1	.00	9.1	--	--	--	--	--
27...	1048	--	16.0	641	8.5	15.0	5.0	9.0	--	--	--	--	--
27...	1049	--	18.0	642	8.5	15.0	25	8.7	--	--	--	--	--

473633101161400 LAKE SAKAKAWEA NEAR LAKE AUDUBON--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WIND SPEED (MILES PER HOUR) (00035)
JUL	
23...	5.0
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
AUG	
22...	5.0
22...	--
22...	--
22...	--
22...	--
22...	--
22...	--
22...	--
22...	--
22...	--
22...	--
SEP	
07...	<5.0
07...	--
07...	--
07...	--
07...	--
07...	--
07...	--
07...	--
07...	--
27...	<5.0
27...	--
27...	--
27...	--
27...	--
27...	--
27...	--
27...	--
27...	--
27...	--

E Estimated value
c See laboratory comment
M Presence verified, not quantified

473629101154100 LAKE AUDUBON NEAR SNAKE CREEK PUMP PLANT

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH TO TOP OF SAMPLE INTER-VAL(IN METERS) (82047)	DEPTH TO BOT-TOM OF SAMPLE INTER-VAL(IN METERS) (82048)	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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SODIUM AD-SORP-TION RATIO (00931)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
OCT													
11...	1010	.00	--	906	8.6	240	39.8	34.0	4.58	3	109	49	211
11...	1015	.00	3.6	--	--	--	--	--	--	--	--	--	--
11...	1020	12.8	--	906	8.5	240	40.1	34.0	4.63	3	109	49	212
DEC													
27...	1040	.00	.30	1010	8.5	260	43.6	37.8	6.71	3	112	47	234
27...	1045	15.7	16.0	1030	8.2	270	45.2	38.5	6.44	3	113	47	239
27...	1050	.00	7.2	--	--	--	--	--	--	--	--	--	--
JAN													
18...	1115	.00	.30	1020	8.5	270	42.5	38.9	7.03	3	116	48	241
18...	1120	14.8	15.1	1020	8.4	270	42.5	38.7	7.00	3	114	47	241
18...	1125	.00	9.2	--	--	--	--	--	--	--	--	--	--
FEB													
28...	1110	.00	.50	1060	8.4	270	43.4	39.5	7.15	3	120	48	255
28...	1115	7.0	7.5	1040	8.3	270	43.1	38.9	6.60	3	116	48	244
28...	1120	.00	4.0	--	--	--	--	--	--	--	--	--	--
MAR													
20...	0940	.00	.50	780	8.4	190	31.7	28.1	5.15	3	85.5	48	175
20...	0945	14.6	15.1	1080	8.1	280	45.2	40.1	7.02	3	120	48	256
20...	0950	.00	11.0	--	--	--	--	--	--	--	--	--	--
MAY													
08...	1205	.00	.40	872	8.3	240	42.2	33.7	5.61	3	102	47	210
08...	1210	16.4	16.7	881	8.3	240	41.8	33.4	5.56	3	101	47	209
08...	1215	.00	6.0	--	--	--	--	--	--	--	--	--	--
JUN													
20...	1005	.00	.50	909	8.5	230	39.5	32.7	5.71	3	106	49	209
20...	1010	16.2	16.7	907	8.4	240	41.1	34.0	5.76	3	102	47	209
20...	1015	.00	3.0	--	--	--	--	--	--	--	--	--	--
JUL													
23...	1255	.00	--	886	8.5	240	40.0	33.9	5.89	3	100	47	204
23...	1300	13.0	--	878	8.1	240	41.0	33.5	5.96	3	98.5	46	210
23...	1305	.00	5.0	--	--	--	--	--	--	--	--	--	--
AUG													
22...	1150	.00	.30	895	8.6	240	40.0	33.8	5.74	3	102	47	212
22...	1155	16.4	16.7	896	8.5	240	39.2	34.8	5.97	3	104	48	212
22...	1200	.00	5.2	--	--	--	--	--	--	--	--	--	--
SEP													
07...	1200	.00	.30	931	8.6	250	41.5	35.4	6.66	3	108	48	215
07...	1205	.00	3.3	--	--	--	--	--	--	--	--	--	--
07...	1210	14.3	15.1	935	8.6	250	41.2	34.9	6.45	3	105	47	211
27...	1205	.00	.50	929	8.5	250	40.7	35.7	5.85	3	109	48	217
27...	1210	13.3	13.8	935	8.5	240	39.7	35.3	6.20	3	107	48	218
27...	1215	.00	3.2	--	--	--	--	--	--	--	--	--	--

ANALYSES OF SAMPLES COLLECTED AT LAKE SAKAKAWEA WATER-QUALITY SITES

473629101154100 LAKE AUDUBON NEAR SNAKE CREEK PUMP PLANT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, NITRITE DISSOLVED (MG/L AS N) (00613)	NITROGEN, NITRATE DISSOLVED (MG/L AS N) (00618)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	PHOSPHORUS TOTAL (MG/L AS P) (00665)
OCT													
11...	12.2	.6	1.6	253	.47	<.040	<.006	--	<.050	--	--	<.020	<.060
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	12.1	.6	1.6	254	.45	<.040	<.006	--	<.050	--	--	<.020	<.060
DEC													
27...	13.6	.6	.7	275	.52	<.041	<.006	--	<.047	--	--	<.018	<.060
27...	12.9	.6	3.8	274	.95	.190	<.006	--	<.047	.76	--	E.012	.060
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
18...	13.6	.7	E.3	278	.49	<.041	<.006	--	<.047	--	--	<.018	<.060
18...	13.6	.7	1.4	276	.57	.053	<.006	--	<.047	.52	--	<.018	<.060
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
28...	14.0	.7	.9	288	.54	<.041	<.006	--	<.047	--	--	<.018	<.060
28...	13.7	.7	1.8	282	.56	E.039	E.003	--	<.047	--	--	<.018	<.060
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
20...	9.8	.5	.7	200	.51	.061	<.006	--	.089	.45	.60	<.018	<.060
20...	13.4	.6	4.0	284	.64	.065	.006	.073	.079	.57	.72	<.018	<.060
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
08...	11.2	.6	2.6	231	.44	<.041	E.004	--	<.047	--	--	<.018	<.060
08...	11.5	.6	2.6	231	.48	<.041	E.003	--	E.023	--	--	<.018	E.031
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
20...	11.1	.7	E.3	238	.43	<.040	E.004	--	<.050	--	--	<.020	<.060
20...	11.0	.6	E.3	239	.50	E.026	<.006	--	<.050	--	--	<.020	<.060
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
23...	12.3	.6	1.3	243	.38	<.040	<.006	--	<.050	--	--	<.020	<.060
23...	12.5	.6	2.1	239	.44	E.025	<.006	--	E.042	--	--	<.020	<.060
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
22...	12.2	.6	2.6	243	.46	<.040	E.003	--	<.050	--	--	<.020	<.060
22...	11.5	.6	2.9	250	.55	E.051	<.006	--	E.025	--	--	<.020	E.044
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
07...	12.4	.6	2.8	250	.62	<.040	E.004	--	E.038	--	--	<.020	E.036
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
07...	12.0	.6	2.9	252	.50	<.040	E.004	--	E.043	--	--	<.020	<.060
27...	12.6	.6	3.5	253	.52	<.040	<.008	--	E.035	--	--	<.020	<.060
27...	12.7	.6	3.3	254	.51	<.040	<.006	--	E.024	--	--	<.020	<.060
27...	--	--	--	--	--	--	--	--	--	--	--	--	--

473629101154100 LAKE AUDUBON NEAR SNAKE CREEK PUMP PLANT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	TUR-BID-ITY (NTU) (00076)	CHLOR-A PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70953)	CHLOR-B PHYTO-PLANK-TON CHROMO FLUOROM (UG/L) (70954)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
OCT								
11...	5.4	599	581	2.1	--	--	M	3.8
11...	--	--	--	--	1.2	.2	--	--
11...	4.8	595	582	2.4	--	--	M	E1.7
DEC								
27...	6.5	644	630	.4	--	--	<10	<3.2
27...	6.5	652	639	3.0	--	--	<10	318
27...	--	--	--	--	.2	<.01	--	--
JAN								
18...	7.4	666	641	.6	--	--	<10	E2.6
18...	6.2	662	639	.5	--	--	<10	94.8
18...	--	--	--	--	.7	<.1	--	--
FEB								
28...	7.0	678	667	.6	--	--	<10	<3.2
28...	7.1	666	650	.6	--	--	<10	13.5
28...	--	--	--	--	1.4	<.1	--	--
MAR								
20...	5.4	492	467	.5	--	--	M	4.8
20...	6.4	696	668	.9	--	--	M	69.6
20...	--	--	--	--	.4	<.1	--	--
MAY								
08...	5.1	582	554	6.5	--	--	20	3.8
08...	5.5	577	552	6.6	--	--	<10	6.1
08...	--	--	--	--	--r	--r	--	--
JUN								
20...	5.5	577	560	--	--	--	<10	<3.0
20...	6.2	576	558	--	--	--	<10	<3.0
20...	--	--	--	--	.8	<.1	--	--
JUL								
23...	9.5	587	560	--	--	--	<10	<3.0
23...	5.7	575	559	--	--	--	<10	5.0
23...	--	--	--	--	.7	<.1	--	--
AUG								
22...	5.6	591	567	--	--	--	<10	<3.0
22...	6.6	597	576	--	--	--	<10	10.2
22...	--	--	--	--	.8	<.1	--	--
SEP								
07...	6.0	605	586	--	--	--	<10	<3.0
07...	--	--	--	--	1.0	.1	--	--
07...	5.7	607	581	--	--	--	<10	<3.0
27...	5.9	614	591	--	--	--	<10	E2.9
27...	5.7	612	589	--	--	--	<10	<3.0
27...	--	--	--	--	.8	<.1	--	--

473629101154100 LAKE AUDUBON NEAR SNAKE CREEK PUMP PLANT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH OF LAKE MAX. METERS (85310)	SAMPLING DEPTH (M) (00098)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY FIELD WATER UNFLTRD (NTU) (61028)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	BAROMETRIC PRESSURE (MM OF HG) (00025)	ICE THICKNESS METERS (82131)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	TEMPERATURE AIR (DEG C) (00020)
OCT													
11...	1000	13	.00	930	8.0	9.6	.00	10.6	100	710	--	71.0	10.0
11...	1001	--	1.0	931	8.0	9.6	.00	10.5	--	--	--	--	--
11...	1002	--	2.0	931	8.1	9.6	.00	10.5	--	--	--	--	--
11...	1003	--	4.0	931	8.2	9.6	.00	10.3	--	--	--	--	--
11...	1004	--	5.7	932	8.3	9.6	.00	10.3	--	--	--	--	--
11...	1005	--	7.8	932	8.3	9.6	1.0	10.4	--	--	--	--	--
11...	1006	--	10.1	932	8.4	9.6	1.0	10.3	--	--	--	--	--
11...	1007	--	12.4	932	8.4	9.6	1.0	10.2	--	--	--	--	--
11...	1008	--	12.8	932	8.4	9.6	1.0	10.1	--	--	--	--	--
DEC													
27...	1025	16	.50	1080	7.4	1.4	35	17.5	133	717	.50	143	-10.0
27...	1026	--	1.1	1040	7.4	1.6	32	17.0	--	--	--	--	--
27...	1027	--	2.4	1030	7.4	1.7	30	16.9	--	--	--	--	--
27...	1028	--	3.7	1020	7.4	2.1	32	16.5	--	--	--	--	--
27...	1029	--	5.0	1010	7.4	2.1	27	16.2	--	--	--	--	--
27...	1030	--	6.2	1010	7.4	2.2	24	16.0	--	--	--	--	--
27...	1031	--	7.3	1010	7.4	2.3	24	14.4	--	--	--	--	--
27...	1032	--	8.6	1020	7.4	2.3	23	14.3	--	--	--	--	--
27...	1033	--	10.1	1020	7.4	2.3	22	14.4	--	--	--	--	--
27...	1034	--	11.6	1020	7.4	2.3	21	14.5	--	--	--	--	--
27...	1035	--	13.0	1020	7.4	2.6	20	13.4	--	--	--	--	--
27...	1036	--	14.0	1020	7.4	2.8	20	11.7	--	--	--	--	--
27...	1037	--	15.2	1030	7.4	3.0	20	10.0	--	--	--	--	--
27...	1038	--	16.1	1030	7.4	3.2	19	7.2	--	--	--	--	--
JAN													
18...	1100	15	.60	1020	8.1	.3	12	15.5	114	720	.60	181	-9.0
18...	1101	--	1.3	993	8.2	1.1	11	15.4	--	--	--	--	--
18...	1102	--	2.3	976	8.2	2.3	11	14.3	--	--	--	--	--
18...	1103	--	3.3	978	8.2	2.6	10	13.8	--	--	--	--	--
18...	1104	--	4.6	981	8.3	2.6	11	13.3	--	--	--	--	--
18...	1105	--	5.7	984	8.3	2.6	10	13.1	--	--	--	--	--
18...	1106	--	7.3	990	8.3	2.8	11	13.0	--	--	--	--	--
18...	1107	--	8.4	992	8.3	2.8	10	12.9	--	--	--	--	--
18...	1108	--	9.6	994	8.3	2.9	11	12.5	--	--	--	--	--
18...	1109	--	10.5	995	8.3	3.0	11	12.1	--	--	--	--	--
18...	1110	--	11.7	999	8.3	3.0	10	12.1	--	--	--	--	--
18...	1111	--	12.7	1000	8.3	3.1	11	11.8	--	--	--	--	--
18...	1112	--	13.9	1000	8.3	3.3	11	10.2	--	--	--	--	--
18...	1113	--	15.1	1010	8.3	3.7	12	7.0	--	--	--	--	--
FEB													
28...	1100	7.8	.90	1080	8.9	.9	24	15.2	114	713	.88	80.0	-1.0
28...	1101	--	2.0	1040	8.9	2.4	23	13.8	--	--	--	--	--
28...	1102	--	3.0	1050	8.8	3.2	21	12.9	--	--	--	--	--
28...	1103	--	4.0	1050	8.8	3.1	23	12.9	--	--	--	--	--
28...	1104	--	5.0	1060	8.7	2.9	20	12.8	--	--	--	--	--
28...	1105	--	6.0	1060	8.7	3.0	19	12.6	--	--	--	--	--
28...	1106	--	7.0	1050	8.7	3.4	18	11.7	--	--	--	--	--
28...	1107	--	7.8	1060	8.7	3.4	17	10.9	--	--	--	--	--
MAR													
20...	0924	15	.80	1060	8.1	2.2	1.0	14.0	109	717	.50	203	7.0
20...	0925	--	2.0	1060	8.0	3.9	1.0	12.8	--	--	--	--	--
20...	0926	--	3.0	1060	8.0	3.9	1.0	12.8	--	--	--	--	--
20...	0927	--	4.0	1060	8.0	4.0	1.0	12.5	--	--	--	--	--
20...	0928	--	5.0	1070	8.0	3.8	1.0	12.3	--	--	--	--	--
20...	0929	--	6.0	1070	8.0	3.7	2.0	12.2	--	--	--	--	--
20...	0930	--	7.0	1070	8.0	3.6	2.0	11.7	--	--	--	--	--
20...	0931	--	8.0	1070	8.0	3.6	2.0	11.2	--	--	--	--	--
20...	0932	--	9.0	1070	8.0	3.6	2.0	11.0	--	--	--	--	--
20...	0933	--	10.0	1080	8.0	3.7	2.0	10.7	--	--	--	--	--
20...	0934	--	11.0	1080	8.0	3.7	2.0	10.4	--	--	--	--	--
20...	0935	--	12.0	1080	8.0	3.7	2.0	10.1	--	--	--	--	--
20...	0936	--	13.0	1080	8.0	3.8	2.0	9.8	--	--	--	--	--
20...	0937	--	14.0	1080	7.9	3.9	2.0	8.8	--	--	--	--	--
20...	0938	--	15.1	1090	7.9	4.1	4.0	7.0	--	--	--	--	--

473629101154100 LAKE AUDUBON NEAR SNAKE CREEK PUMP PLANT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WIND DIRECTION (DEG. FROM TRUE NORTH) (00036)	WIND SPEED (MILES PER HOUR) (00035)
OCT		
11...	140	8.0
11...	--	--
11...	--	--
11...	--	--
11...	--	--
11...	--	--
11...	--	--
11...	--	--
11...	--	--
DEC		
27...	45	6.0
27...	--	--
27...	--	--
27...	--	--
27...	--	--
27...	--	--
27...	--	--
27...	--	--
27...	--	--
27...	--	--
27...	--	--
27...	--	--
27...	--	--
JAN		
18...	360	6.0
18...	--	--
18...	--	--
18...	--	--
18...	--	--
18...	--	--
18...	--	--
18...	--	--
18...	--	--
18...	--	--
18...	--	--
18...	--	--
18...	--	--
18...	--	--
FEB		
28...	240	6.0
28...	--	--
28...	--	--
28...	--	--
28...	--	--
28...	--	--
28...	--	--
28...	--	--
28...	--	--
MAR		
20...	315	<5.0
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--
20...	--	--

473629101154100 LAKE AUDUBON NEAR SNAKE CREEK PUMP PLANT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	TIME	DEPTH OF LAKE MAX. METERS (85310)	SAMPLING DEPTH (M) (00098)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY FIELD WATER UNFLTRD (NTU) (61028)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	BAROMETRIC PRESSURE (MM OF HG) (00025)	TRANSPARENCY (SECCHI DISK) (IN) (00077)	TEMPERATURE AIR (DEG C) (00020)	WIND DIRECTION (DEG. FROM TRUE NORTH) (00036)
MAY													
08...	1145	17	.00	900	8.3	9.4	.00	10.6	99	715	122	13.5	210
08...	1146	--	1.1	901	8.3	9.3	3.0	10.5	--	--	--	--	--
08...	1147	--	2.1	902	8.3	9.2	3.0	10.4	--	--	--	--	--
08...	1148	--	3.0	901	8.3	9.1	4.0	10.4	--	--	--	--	--
08...	1149	--	4.0	902	8.3	9.1	4.0	10.3	--	--	--	--	--
08...	1150	--	5.0	901	8.3	9.1	4.0	10.4	--	--	--	--	--
08...	1151	--	6.1	901	8.3	9.1	4.0	10.3	--	--	--	--	--
08...	1152	--	7.0	901	8.3	9.1	7.0	10.3	--	--	--	--	--
08...	1153	--	8.0	901	8.3	9.1	6.0	10.3	--	--	--	--	--
08...	1154	--	9.0	901	8.3	9.1	6.0	10.2	--	--	--	--	--
08...	1155	--	10.0	902	8.3	9.0	6.0	10.2	--	--	--	--	--
08...	1156	--	11.0	902	8.3	9.0	5.0	10.2	--	--	--	--	--
08...	1157	--	12.1	901	8.3	9.0	5.0	10.3	--	--	--	--	--
08...	1158	--	13.1	903	8.3	9.0	6.0	10.2	--	--	--	--	--
08...	1159	--	14.1	902	8.3	9.0	6.0	10.2	--	--	--	--	--
08...	1200	--	15.0	901	8.4	9.0	8.0	10.1	--	--	--	--	--
08...	1201	--	16.1	902	8.3	9.1	11	10.1	--	--	--	--	--
08...	1202	--	16.7	903	8.3	9.0	20	9.9	--	--	--	--	--
JUN													
20...	0955	17	.00	918	8.3	16.2	.00	8.6	93	719	60.0	15.5	225
20...	0956	--	2.0	918	8.3	16.2	.00	8.6	--	--	--	--	--
20...	0957	--	4.0	918	8.3	16.2	.00	8.4	--	--	--	--	--
20...	0958	--	6.0	919	8.3	16.1	.00	8.3	--	--	--	--	--
20...	0959	--	8.0	918	8.3	16.1	.00	8.2	--	--	--	--	--
20...	1000	--	10.0	918	8.3	16.1	.00	8.4	--	--	--	--	--
20...	1001	--	12.0	918	8.3	16.1	.00	8.2	--	--	--	--	--
20...	1002	--	14.0	918	8.3	16.1	.00	8.2	--	--	--	--	--
20...	1003	--	16.0	919	8.3	16.1	.00	8.2	--	--	--	--	--
20...	1004	--	16.7	920	8.3	16.0	2.0	7.9	--	--	--	--	--
JUL													
23...	1245	13	.00	876	8.4	23.8	.00	6.9	88	709	92.0	25.5	300
23...	1246	--	1.0	880	8.4	23.9	5.0	7.0	--	--	--	--	--
23...	1247	--	2.0	880	8.4	23.8	8.0	7.2	--	--	--	--	--
23...	1248	--	4.0	882	8.4	23.6	8.0	6.8	--	--	--	--	--
23...	1249	--	6.0	884	8.4	23.4	9.0	6.6	--	--	--	--	--
23...	1250	--	8.0	883	8.4	23.4	10	6.3	--	--	--	--	--
23...	1251	--	10.0	884	8.3	23.3	11	5.5	--	--	--	--	--
23...	1252	--	12.0	683	8.3	22.0	13	5.0	--	--	--	--	--
23...	1253	--	13.3	681	8.1	21.1	25	4.3	--	--	--	--	--
AUG													
22...	1140	16	.00	857	8.5	22.9	.00	7.3	92	711	103	24.5	80
22...	1141	--	2.1	859	8.5	22.6	.00	7.2	--	--	--	--	--
22...	1142	--	4.0	860	8.5	22.6	.00	7.2	--	--	--	--	--
22...	1143	--	6.0	861	8.5	22.5	.00	7.1	--	--	--	--	--
22...	1144	--	8.0	861	8.5	22.4	.00	7.0	--	--	--	--	--
22...	1145	--	9.9	862	8.5	22.4	.00	6.9	--	--	--	--	--
22...	1146	--	12.0	862	8.5	22.3	1.0	6.6	--	--	--	--	--
22...	1147	--	14.0	863	8.4	22.1	4.0	6.2	--	--	--	--	--
22...	1148	--	16.1	863	8.4	22.1	12	5.9	--	--	--	--	--
22...	1149	--	16.4	864	8.4	22.1	20	5.9	--	--	--	--	--
SEP													
07...	1150	15	.30	905	8.5	20.5	.00	7.2	88	699	64.0	18.0	23
07...	1151	--	1.0	905	8.5	20.5	.00	7.2	--	--	--	--	--
07...	1152	--	3.0	905	8.5	20.4	.00	7.2	--	--	--	--	--
07...	1153	--	5.0	907	8.5	20.4	.00	7.2	--	--	--	--	--
07...	1154	--	7.0	906	8.5	20.4	.00	7.1	--	--	--	--	--
07...	1155	--	9.0	906	8.5	20.4	1.0	7.1	--	--	--	--	--
07...	1156	--	11.0	906	8.5	20.4	1.0	7.1	--	--	--	--	--
07...	1157	--	12.9	906	8.5	20.4	1.0	7.0	--	--	--	--	--
07...	1158	--	15.1	906	8.5	20.4	4.0	6.9	--	--	--	--	--
27...	1155	14	.00	934	8.6	14.8	1.0	9.8	104	715	66.0	20.4	100
27...	1156	--	2.0	935	8.6	14.7	.00	9.6	--	--	--	--	--
27...	1157	--	4.0	935	8.6	14.6	.00	9.5	--	--	--	--	--
27...	1158	--	6.0	936	8.6	14.6	4.0	9.5	--	--	--	--	--
27...	1159	--	8.0	936	8.6	14.6	1.0	9.4	--	--	--	--	--
27...	1200	--	10.0	937	8.6	14.6	1.0	9.5	--	--	--	--	--
27...	1201	--	12.0	937	8.6	14.6	2.0	9.4	--	--	--	--	--
27...	1202	--	13.8	937	8.6	14.6	1.0	9.4	--	--	--	--	--

473629101154100 LAKE AUDUBON NEAR SNAKE CREEK PUMP PLANT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

DATE	WIND SPEED (MILES PER HOUR) (00035)
MAY	
08...	<5.0
08...	--
08...	--
08...	--
08...	--
08...	--
08...	--
08...	--
08...	--
08...	--
08...	--
08...	--
08...	--
08...	--
08...	--
08...	--
08...	--
08...	--
JUN	
20...	<5.0
20...	--
20...	--
20...	--
20...	--
20...	--
20...	--
20...	--
20...	--
20...	--
20...	--
JUL	
23...	5.0
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
23...	--
AUG	
22...	<5.0
22...	--
22...	--
22...	--
22...	--
22...	--
22...	--
22...	--
22...	--
22...	--
22...	--
SEP	
07...	<5.0
07...	--
07...	--
07...	--
07...	--
07...	--
07...	--
07...	--
07...	--
07...	--
27...	<5.0
27...	--
27...	--
27...	--
27...	--
27...	--
27...	--
27...	--
27...	--

E Estimated value
M Presence verified, not quantified
r Sample ruined in preparation

RED RIVER OF THE NORTH BASIN

484714097442301 ICELANDIC STATE PARK, ND
(National Trends Network precipitation-quality station)

LOCATION.--Lat 48°47'14", long 97°44'23", in $SW^1/_4NW^1/_4SW^1/_4$ sec. 10, T.161 N., R.55 W., Pembina County, Hydrologic Unit 09020313, at Icelandic State Park 5.6 mi west of Cavalier.

PERIOD OF RECORD.--October 1983 to current year (weekly composite).

INSTRUMENTATION.--The composite sample collector is an Aerochem Metrics[1] model 301 wet/dry precipitation collector mounted on ground surface. Precipitation quantity is determined by a Belfort[1] model 5-780 recording rain gage equipped with an event recorder and an Alter-type wind screen. The recording rain gage is installed 20 ft east of the sample collector with gage mouth and collector bucket elevations of 50.75 in above land surface.

REMARKS.--Data presented are provisional analyses by the Central Analytical Laboratory of the Illinois State Water Survey and have not completed quality-assurance review by the National Atmospheric Deposition Program. Analyses are determined from water taken from the sample collector.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

PERIOD OF COLLECTION	PRECIP-ITATION TOTAL INCHES/ WEEK (00046)	COL-LECTOR EFFI-CIENCY WET DEPOS. PERCENT (82284)	SPE-CIFIC CON-DUCT-ANCE (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)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
09/19 to 10/03	.54	87	--	30	--	7.0	.281	.082
10/03 to 10/10	.16	112	--	6	--	6.1	.252	.050
10/10 to 10/17	.05	100	--	18	--	6.8	1.03	.191
10/17 to 10/24	b.00	--	--	--	--	--	--	--
10/24 to 10/31	1.37	91	5	5	5.8	6.0	.036	.006
10/31 to 11/07	2.8	92	6	4	5.8	5.5	.021	<.003
11/07 to 11/14	.85	--	--	--	--	--	--	--
11/14 to 11/20	b.17	--	--	--	--	--	--	--
11/20 to 11/28	b--	--	--	--	--	--	--	--
11/28 to 12/05	--	--	--	--	--	--	--	--
12/05 to 12/12	--	--	--	--	--	--	--	--
12/12 to 12/19	.17	29	--	10	--	4.8	.140	.026
12/19 to 12/26	b.70	--	--	--	--	--	--	--
12/26 to 01/02	1.35	4	4	4	--	5.1	.028	.007
01/02 to 01/09	b.00	--	--	4	--	5.2	--	--
01/09 to 01/16	b.00	--	--	--	--	--	--	--
01/16 to 01/23	.05	20	--	a5	--	a5.4	a.179	a.040
01/23 to 01/30	.00	>600	--	2	--	5.4	--	--
01/30 to 02/06	.00	--	--	--	--	--	--	--
02/06 to 02/13	.00	--	--	--	--	--	--	--
02/13 to 02/20	b.00	--	--	--	--	--	--	--
02/20 to 02/27	.25	64	10	10	4.7	4.8	.036	.007
02/27 to 03/06	.00	--	--	--	--	--	--	--
03/06 to 03/13	<.001	>200	--	a20	--	a5.0	a.272	a.058
03/13 to 03/20	.10	60	--	7	--	5.8	.048	.007
03/20 to 03/27	.03	33	--	a9	--	a5.8	a.327	a.054
03/27 to 04/03	.30	60	12	10	6.2	6.1	.110	.021
04/03 to 04/10	.80	94	6	6	5.1	5.2	.053	.006
04/10 to 04/17	.72	83	4	4	5.9	5.7	.046	.005
04/17 to 04/24	.30	87	29	24	6.5	6.9	.942	.098
04/24 to 05/01	<.001	>200	--	a44	--	a6.8	a2.23	a.466
05/01 to 05/08	1.27	97	4	4	5.7	6.1	.121	.014
05/08 to 05/15	.00	--	--	--	--	--	--	--
05/15 to 05/22	.38	92	14	14	6.4	6.6	.596	.114
05/22 to 05/29	.72	89	6	6	6.1	6.3	.147	.034
05/29 to 06/05	.10	100	--	20	--	6.8	.729	.165
06/05 to 06/12	--	--	7	6	5.4	5.7	.199	.035
06/12 to 06/19	2.35	98	4	3	5.5	6.0	.104	.029
06/19 to 06/26	.18	122	--	7	--	5.8	.227	.048
06/26 to 07/03	.20	70	10	10	5.9	6.4	.393	.082
07/03 to 07/10	.02	50	--	a39	--	a6.9	a.936	a.191
07/10 to 07/17	1.98	91	6	6	5.5	6.0	.159	.028
07/17 to 07/24	.69	88	15	15	6.5	6.6	.532	.087
07/24 to 07/31	1.77	93	6	6	5.4	6.0	.161	.034
07/31 to 08/07	.50	90	7	7	5.0	5.4	.125	.018
08/07 to 08/14	.19	89	15	15	6.3	6.2	.583	.108
08/14 to 08/21	--	--	--	12	--	6.5	.485	.120
08/21 to 08/28	.20	100	6	6	5.7	6.0	.202	.038
08/28 to 09/04	.00	--	--	--	--	--	--	--
09/04 to 09/11	.08	75	--	28	--	6.8	1.59	.260
09/11 to 09/18	.00	--	--	--	--	--	--	--
09/18 to 09/25	1.05	104	10	8	5.4	6.0	.151	.027

484714097442301 ICELANDIC STATE PARK, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

PERIOD OF COLLECTION	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)
09/19 to 10/03	.176	.820	1.2	.62	.120	2.31	.214
10/03 to 10/10	.016	.042	.27	.06	.190	.230	<.001
10/10 to 10/17	.033	.066	.81	.11	.560	.920	<.001
10/17 to 10/24	--	--	--	--	--	--	--
10/24 to 10/31	.011	.012	.27	<.03	.176	.390	<.001
10/31 to 11/07	.009	.004	.42	<.01	.132	.230	<.001
11/07 to 11/14	--	--	--	--	--	--	--
11/14 to 11/20	--	--	--	--	--	--	--
11/20 to 11/28	--	--	--	--	--	--	--
11/28 to 12/05	--	--	--	--	--	--	--
12/05 to 12/12	--	--	--	--	--	--	--
12/12 to 12/19	.020	.006	.38	.05	.330	.070	--
12/19 to 12/26	--	--	--	--	--	--	--
12/26 to 01/02	.005	.004	.06	<.03	.119	.040	<.001
01/02 to 01/09	--	--	--	--	--	--	--
01/09 to 01/16	--	--	--	--	--	--	--
01/16 to 01/23	a.046	a.026	a.71	a<.20	a.118	a<10.0	a<.007
01/23 to 01/30	--	--	--	--	--	--	--
01/30 to 02/06	--	--	--	--	--	--	--
02/06 to 02/13	--	--	--	--	--	--	--
02/13 to 02/20	--	--	--	--	--	--	--
02/20 to 02/27	.012	<.003	.08	<.03	.330	.020	<.001
02/27 to 03/06	--	--	--	--	--	--	--
03/06 to 03/13	a.045	a<.010	a2.6	a<.10	a.767	a1.03	a<.004
03/13 to 03/20	.011	<.003	.56	.03	.279	.570	<.001
03/20 to 03/27	a.062	a<.012	a.88	a.15	a.287	a.400	a<.004
03/27 to 04/03	.013	.007	1.2	<.03	.360	.760	<.001
04/03 to 04/10	.011	.004	.68	<.03	.101	.410	<.001
04/10 to 04/17	.005	.004	.40	<.03	.096	.230	<.001
04/17 to 04/24	.088	.039	2.0	.06	.799	1.68	<.001
04/24 to 05/01	a.380	a.104	a6.4	a.28	a1.30	a2.22	a<.004
05/01 to 05/08	.012	.008	.31	.02	.091	.250	<.003
05/08 to 05/15	--	--	--	--	--	--	--
05/15 to 05/22	.106	.048	1.1	.06	.427	.810	<.003
05/22 to 05/29	.014	.046	.31	.03	.080	.430	<.003
05/29 to 06/05	.106	.104	1.9	.09	.723	1.30	<.003
06/05 to 06/12	.020	.047	.55	.04	.227	.280	<.003
06/12 to 06/19	.008	.009	.20	.02	.089	.170	<.003
06/19 to 06/26	.028	.024	.62	.06	.255	.350	<.003
06/26 to 07/03	.052	.053	.74	.07	.368	.550	<.003
07/03 to 07/10	a.168	a.450	a2.5	a.45	a1.53	a2.82	a<.014
07/10 to 07/17	.004	.012	.61	.03	.209	.360	<.003
07/17 to 07/24	.048	.046	1.2	.09	.507	.900	<.003
07/24 to 07/31	.011	.013	.48	.04	.210	.320	<.003
07/31 to 08/07	.047	.013	.50	.07	.232	.290	<.003
08/07 to 08/14	.037	.055	1.6	.11	.588	.800	<.003
08/14 to 08/21	.021	.089	.93	.08	.342	.710	<.003
08/21 to 08/28	.012	.027	.59	.04	.143	.360	<.003
08/28 to 09/04	--	--	--	--	--	--	--
09/04 to 09/11	.140	.160	2.6	.24	.946	1.34	<.003
09/11 to 09/18	--	--	--	--	--	--	--
09/18 to 09/25	.034	.051	1.0	.07	.245	.530	<.003

1 The use of brand names in this report is for identification purposes only and does not imply endorsement by the U.S. Geological Survey.

a To provide for an adequate sample, 50 milliliters of dilution water was added.

b Trace of water collected in field sampler.

JAMES RIVER BASIN

470732099140204 WOODWORTH, ND
(National Trends Network precipitation-quality station)

LOCATION.--Lat 47°14'32", long 99°14'02", in $SE^1/_4SW^1/_4SW^1/_4$ sec.12, T.142 N., R.68 W., Stutsman County, Hydrologic Unit 10160002, at U.S. Fish and Wildlife Service Northern Prairie Wildlife Research Center, at Woodworth Experiment Station 2.8 mi east and 1 mi south of Woodworth.

PERIOD OF RECORD.--November 1983 to current year (weekly composite).

INSTRUMENTATION.--The composite sample collector is an Aerochem Metrics[1] model 301 wet/dry precipitation collector mounted on ground surface. Precipitation quantity is determined by a Belfort[1] model 5-780 recording rain gage equipped with an event recorder and an Alter-type wind screen. The recording rain gage is installed 17 ft east of the sample collector with gage mouth and collector bucket elevations of 50.75 in above land surface.

REMARKS.--The station is located 300 ft west of an event sample-collection station which was operated by the North Dakota State Health Department (station discontinued 1987). Continuously recording meteorological instrumentation for air temperature, wind speed, and wind direction were installed 9.8 ft above land surface at the event station. Data presented are provisional analyses by the Central Analytical Laboratory of the Illinois State Water Survey and have not completed quality-assurance review by the National Atmospheric Deposition Program. Analyses are determined from water taken from the sample collector.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

PERIOD OF COLLECTION	PRECIP-ITATION TOTAL INCHES/ WEEK (00046)	COL-LECTOR EFFI-CIENCY WET DEPOS. PERCENT (82284)	SPE-CIFIC CON-DUCT-ANCE (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)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
09/26 to 10/03	.05	20	--	a10	--	a6.3	a.542	a.051
10/03 to 10/10	b.03	<33	--	--	--	--	--	--
10/10 to 10/17	.55	78	10	9	5.3	6.0	.413	.049
10/17 to 10/24	.00	--	--	--	--	--	--	--
10/24 to 10/31	2.09	--	4	4	6.0	5.9	.044	.019
10/31 to 11/07	--	--	--	--	--	--	--	--
11/07 to 11/15	--	--	--	--	--	--	--	--
11/15 to 11/21	b--	--	--	--	--	--	--	--
11/21 to 11/28	.02	--	--	a6	--	a5.2	a.166	a.022
11/28 to 12/05	--	--	--	a6	--	a5.4	a.130	a.030
12/05 to 12/12	b--	--	--	--	--	--	--	--
12/12 to 12/19	--	--	--	--	--	--	--	--
12/19 to 12/26	--	--	--	--	--	--	--	--
12/26 to 01/02	b.00	--	--	32	--	4.5	--	--
01/02 to 01/09	b.00	--	--	55	--	5.9	--	--
01/09 to 01/16	.15	40	15	16	4.7	4.7	.101	.008
01/16 to 01/23	--	--	--	--	--	--	--	--
01/23 to 01/30	.00	--	--	--	--	--	--	--
01/30 to 02/06	b.02	>200	--	--	--	--	--	--
02/06 to 02/13	.00	--	--	--	--	--	--	--
02/13 to 02/20	.00	--	--	--	--	--	--	--
02/20 to 02/27	.00	--	--	--	--	--	--	--
02/27 to 03/06	.00	--	--	--	--	--	--	--
03/06 to 03/13	b.00	--	--	13	--	5.4	--	--
03/13 to 03/20	.00	--	7	8	5.7	5.7	.128	.022
03/20 to 03/27	.00	--	--	--	--	--	--	--
03/27 to 04/03	--	--	9	9	5.8	6.3	.141	.024
04/03 to 04/10	.63	140	8	8	5.5	5.6	.061	.012
04/10 to 04/17	.08	62	16	15	5.5	6.5	.190	.027
04/17 to 04/24	b.01	<100	--	--	--	--	--	--
04/24 to 05/01	.00	--	--	--	--	--	--	--
05/01 to 05/08	1.3	95	6	7	5.9	6.2	.058	.008
05/08 to 05/15	.00	--	--	--	--	--	--	--
05/15 to 05/22	.78	106	7	8	6.0	6.5	.236	.030
05/22 to 05/29	.20	85	6	5	5.9	6.3	.127	.022
05/29 to 06/05	.47	85	6	6	5.7	6.0	.129	.022
06/05 to 06/12	2.33	94	7	7	6.0	6.0	.083	.010
06/12 to 06/19	1.48	101	5	6	5.8	5.6	.143	.024
06/19 to 06/26	.45	100	11	12	5.7	6.1	.268	.027
06/26 to 07/03	b.00	--	--	--	--	--	--	--
07/03 to 07/10	.20	95	12	13	6.0	6.5	.344	.048
07/10 to 07/17	2.4	100	8	7	5.9	5.9	.146	.024
07/17 to 07/24	2.25	110	7	7	6.1	6.2	.141	.029
07/24 to 07/31	1.89	101	6	5	5.9	5.8	.101	.019
07/31 to 08/07	--	--	14	14	6.4	6.2	.440	.046
08/07 to 08/14	.17	112	13	14	6.3	6.4	.536	.079
08/14 to 08/21	.35	103	14	13	6.0	5.9	.513	.086
08/21 to 08/28	.30	100	8	8	6.0	6.3	.285	.033
08/28 to 09/04	.60	98	8	9	5.8	6.2	.338	.028
09/04 to 09/11	.23	100	10	11	5.8	6.4	.303	.050
09/11 to 09/18	.12	83	8	7	5.3	5.5	.157	.033
09/18 to 09/25	.14	121	7	8	5.6	5.7	.134	.026

470732099140204 WOODWORTH, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

PERIOD OF COLLECTION	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)
09/26 to 10/03	a.300	a.185	a1.4	a<.19	a.160	a.310	a<.006
10/03 to 10/10	--	--	--	--	--	--	--
10/10 to 10/17	.022	.038	.82	.06	.450	.490	<.001
10/17 to 10/24	--	--	--	--	--	--	--
10/24 to 10/31	.118	.011	.48	.18	.067	.050	<.001
10/31 to 11/07	--	--	--	--	--	--	--
11/07 to 11/15	--	--	--	--	--	--	--
11/15 to 11/21	--	--	--	--	--	--	--
11/21 to 11/28	a.022	a.014	a.34	a.04	a.276	a.090	--
11/28 to 12/05	a.036	a.030	a.42	a<.03	a.203	a.130	--
12/05 to 12/12	--	--	--	--	--	--	--
12/12 to 12/19	--	--	--	--	--	--	--
12/19 to 12/26	--	--	--	--	--	--	--
12/26 to 01/02	--	--	--	--	--	--	--
01/02 to 01/09	--	--	--	--	--	--	--
01/09 to 01/16	.026	.072	1.0	.11	.594	.520	<.001
01/16 to 01/23	--	--	--	--	--	--	--
01/23 to 01/30	--	--	--	--	--	--	--
01/30 to 02/06	--	--	--	--	--	--	--
02/06 to 02/13	--	--	--	--	--	--	--
02/13 to 02/20	--	--	--	--	--	--	--
02/20 to 02/27	--	--	--	--	--	--	--
02027 to 03/06	--	--	--	--	--	--	--
03/06 to 03/13	--	--	--	--	--	--	--
03/13 to 03/20	.042	.016	.77	.04	.246	.460	<.001
03/20 to 03/27	--	--	--	--	--	--	--
03/27 to 04/03	.035	.013	.80	.05	.332	.680	<.001
04/03 to 04/10	.020	.007	.95	.03	.294	.490	<.001
04/10 to 04/17	.031	.021	1.9	.05	.511	1.20	<.001
04/17 to 04/24	--	--	--	--	--	--	--
04/24 to 05/01	--	--	--	--	--	--	--
05/01 to 05/08	.010	.014	.56	.03	.200	.540	<.003
05/08 to 05/15	--	--	--	--	--	--	--
05/15 to 05/22	.034	.026	.66	.05	.207	.580	<.003
05/22 to 05/29	.011	.014	.31	.04	.105	.340	<.003
05/29 to 06/05	.009	.009	.56	.04	.225	.360	<.003
06/05 to 06/12	.029	.045	.49	.05	.246	.500	<.003
06/12 to 06/19	.016	.017	.58	.04	.200	.260	<.003
06/19 to 06/26	.054	.065	1.4	.10	.393	.680	.005
06/26 to 07/03	--	--	--	--	--	--	--
07/03 to 07/10	.061	.064	.84	.11	.481	.840	<.003
07/10 to 07/17	.007	.021	.69	.04	.287	.430	<.003
07/17 to 07/24	.021	.015	.52	.05	.204	.420	<.003
07/24 to 07/31	.005	.016	.42	.03	.186	.300	<.003
07/31 to 08/07	.082	.070	1.2	.10	.529	.550	<.003
08/07 to 08/14	.034	.051	1.1	.09	.416	.840	<.003
08/14 to 08/21	.018	.096	1.8	.07	.459	.650	<.003
08/21 to 08/28	.024	.028	.56	.05	.250	.540	<.003
08/28 to 09/04	.036	.040	.71	.04	.281	.470	<.003
09/04 to 09/11	.025	.043	.97	.06	.270	.810	<.003
09/11 to 09/18	.025	.036	.63	.06	.262	.230	<.003
09/18 to 09/25	.304	.040	1.3	.07	.176	.310	<.003

1 The use of brand names in this report is for identification purposes only and does not imply endorsement by the U.S. Geological Survey.

a To provide for an adequate sample, 50 milliliters of dilution water was added.

b Trace of water collected in field sampler.

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CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
	Length	
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
	Area	
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
	Volume	
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
	Flow	
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
	Mass	
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.