Water Resources Data
North Dakota
Water Year 2004

Volume 1

Surface Water

By S.M. Robinson, R.F. Lundgren, B.A. Sether, S.W. Norbeck, and J.M. Lambrecht

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

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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 Water Science Center personnel contributed significantly to the collection, processing, and tabulation of the data:

North Dakota Water Science Center

L.A. Cottengaim	L.A. Hall	R.J. Renner	G.B. Wald
W.C. Damschen	C.S. Helgesen	D.R. Rosenkranz	J.D. Wald
V.M. Dressler	S.A. Hellman	L.L. Rutschke	T.J. Williams-Sether

Grand Forks Field Office

K.L. Boespflug	R.A. Nustad
J.B. Kelly	P.M. Scarpari
C.D. Laveau	

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S.M. Robinson, R.F. Lundgren, B.A. Sether, S.W. Norbeck, and J.A. Lambrecht

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Water-resources data for the 2004 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 106 streamflow-gaging stations; stage only for 23 river-stage stations; contents and/or stage for 14 lake or reservoir stations; annual maximum discharge for 31 crest-stage stations; and water-quality for 92 streamflow-gaging stations, 6 river-stage stations, 15 lake or reservoir stations, 22 miscellaneous sample sites on rivers, and 67 miscellaneous sample sites on lakes and wetlands. Data are included for 5 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

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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]

	Station Number	Page
HUDSON BAY BASIN		
Lake Winnipeg (head of Nelson River)		
RED RIVER OF THE NORTH BASIN		
Red River of the North at Wahpeton (dcbm)	05051500	31
Red River of the North at Hickson (dcbm)	05051522	35
WILD RICE RIVER BASIN		
Wild Rice River near Rutland (dc)	05051600	38
Antelope Creek at Dwight (dc)	05052500	42
Wild Rice River near Abercrombie (dcbm)	05053000	44
Red River of the North at Fargo (dcbmts)	05054000	48
SHEYENNE RIVER BASIN		
Sheyenne River above Harvey (dcbm)	05054500	64
Sheyenne River near Warwick (dcbm)	05056000	68
DEVILS LAKE BASIN		
Mauvais Coulee (head of Big Coulee)		
Mauvais Coulee Tributary No. 3 near Cando (dc)	05056060	73
Mauvais Coulee near Cando (dc)	05056100	75
Edmore Coulee near Edmore (dc)	05056200	79
Edmore Coulee Tributary near Webster (dc)	05056215	83
Sweetwater Lake at Sweetwater (cb)	05056220	86
Morrison Lake near Webster (ecb)	05056222	88
Starkweather Coulee near Webster (dc)	05056239	91
Dry Lake near Penn (ecb)	05056241	94
Lake Alice near Churchs Ferry (cb)	05056250	97
Lake Alice-Irvine Channel near Churchs Ferry (e)	05056255	99
Lake Irvine near Churchs Ferry (cb)	05056260	100
Big Coulee below Churchs Ferry (dc)	05056270	102
Little Coulee near Leeds (dc)	05056340	104
Channel A near Penn (dc)	05056410	106
Devils Lake near Devils Lake (e)	05056500	108
Devils Lake outlet to Stump Lake near Lakota (dc)	05056636	109
Eastern Stump Lake near Lakota (ecb)	05056665	112
Western Stump Lake near Lakota (cb)	05056670	116
Sheyenne River near Cooperstown (dcbmt)	05057000	119
Lake Ashtabula:		
Baldhill Creek near Dazey (dc)	05057200	126
Lake Ashtabula at Baldhill Dam (e)	05057500	130
Sheyenne River below Baldhill Dam (dcbmt)	05058000	131
Sheyenne River at Valley City (ec)	05058500	137
Sheyenne River at Lisbon (dcbm)	05058700	139
Iron Springs Creek:		
Ditch 10 above Iron Springs Creek near McLeod (dc)	05058850	143
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Sheyenne River Diversion near Horace (d)	05059310	157
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Maple River below Mapleton (dc)	05060100	173
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Rush River at Amenia (dc)	05060500	179
Red River of the North at Halstad, MN (dcbmt)	05064500	183
GOOSE RIVER BASIN		
Goose River at Hillsboro (dcbm)	05066500	190
Red River of the North near Thompson (d)	05070000	193
Red Lake River at Fisher, MN (d)	05080000	195
Red River of the North at Grand Forks (dcbm)	05082500	197
TURTLE RIVER BASIN		
Turtle River at Turtle River State Park near Arvilla (dc)	05082625	201
Red River of the North at Oslo, MN (ecbm)	05083500	204
FOREST RIVER BASIN		
Forest River near Fordville (dc)	05084000	206
Forest River at Minto (dc)	05085000	210
PARK RIVER BASIN		
Park River at Grafton (dc)	05090000	213
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PEMBINA RIVER BASIN		
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Mowbray Creek near Mowbray, Manitoba (d)	05099150	221
Pembina River near Windygates, Manitoba (d)	05099300	222
Little South Pembina River near Walhalla (dc)	05099400	223
Pembina River at Walhalla (dc)	05099600	226
Pembina River at Neche (dc)	05100000	230
Tongue River near Olga (dcs)	05100460	233
Tongue River below Young Dam near Concrete (dcs)	05100480	235
Tongue River above Renwick Dam near Akra (dcs)	05100800	237
Tongue River at Akra (dcs)	05101000	239
Red River of the North at Pembina (ec)	05102490	243
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Assiniboine River:		
SOURIS RIVER BASIN		
Long Creek at Western Crossing of International Boundary, Saskatchewan (d)	05113360	247
Long Creek near Noonan (dec)	05113600	249
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Des Lacs River at Foxholm (dc)	05116500	269
Souris (Mouse) River above Minot (decbm)	05117500	273
Souris (Mouse) River near Verendrye (dcbm)	05120000	277
Wintering River near Karlsruhe (dc)	05120500	281
Souris River West Outfall at Eaton Dam near Towner (d)	05121000	285
Souris River East Outfall at Eaton Dam near Towner (d)	05121001	286
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MISSOURI RIVER BASIN		
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Missouri River Stage Gage No. 5 at Nohly, MT (e)	06185650	307
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Yellowstone River Stage Gage No. 2 near Cartwright (e)	06329610	311
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Missouri River above Stanton (e)	06339010	351
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Knife River near Golden Valley (dc)	06339500	355
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BURNT CREEK BASIN		
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Heart River above Lake Tschida near Glen Ullin (dc)	06345780	391
Lake Tschida near Glen Ullin (ec)	06346000	395

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

	Station Number	Page
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Big Muddy Creek near Almont (dc)	06347500	402
Heart River at Stark Bridge near Judson (dc)	06348300	405
Sweetbriar Creek near Judson (dc)	06348500	409
Heart River near Mandan (dc)	06349000	412
APPLE CREEK BASIN		
Long Lake Creek above Long Lake near Moffit (dc)	06349215	416
Apple Creek near Menoken (dc)	06349500	419
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CANNONBALL RIVER BASIN		
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Cedar Creek near Haynes (dc)	06352000	437
Cedar Creek near Raleigh (dc)	06353000	441
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BEAVER CREEK BASIN		
Beaver Creek below Linton (dc)	06354580	448
Lake Oahe near Pierre, SD (e)	06439980	451
JAMES RIVER BASIN		
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James River above Arrowwood Lake near Kensal (dcsp)	06468250	455
James River near Pingree (csp)	06468500	461
Jamestown Reservoir near Jamestown (e)	06469000	465
Pipestem Creek near Pingree (dc)	06469400	466
Pipestem Reservoir near Jamestown (e)	06469820	470
James River at Jamestown (dc)	06470000	471
James River at LaMoure (dc)	06470500	475
Bear Creek near Oakes (dc)	06470800	479
James River at Oakes (e)	06470830	483
Dakota Lake near Ludden (e)	06470875	484
James River at North Dakota-South Dakota State Line (dc)	06470878	485
Maple River at North Dakota-South Dakota State Line (d)	06471200	487

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

PEMBINA COUNTY

Site 484714097442301, Icelandic State Park 612

STUTSMAN COUNTY

Site 470732099140204, Woodworth 614

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	1,357	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	1958-67
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
Webster Coulee at Webster, ND (d)	05056225	670	1980-82 (e), 1983-87 (e1), 1994
Calio Coulee near Starkweather, ND (d)	05056247	130	1986-88, 1994
Little Coulee at Leeds, ND (d)	05056300	280	1955-67
Little Coulee near Brinsmade, ND (d)	05056390	350	1976-97
Big Coulee near Churchs Ferry, ND (d)	05056400	1,620	1950-97
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	8,000	1995-96, 2002
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 Finley, ND (d)	05064900	160	1965-2003
Beaver Creek near Hatton, ND (d)	05065000	162	1954-57
Goose River near Portland, ND (d)	05065500	517	1940-75, 1981-86

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			
South Branch Goose River near Portland, ND (d)	05066000	362	1940-42
Turtle River at Manvel, ND (d)	05083000	613	1946-70, 1980-82 (e)
Middle Branch Forest River near Whitman, ND (d)	05083600	47.7	1961-90
Forest River near Minto, ND (d)	05084500	578	1932-44
South Branch Park River near Park River, ND (d)	05088000	214	1940-50
Homme Reservoir near Park River, ND (e)	05088500	226	1949-94, 2001-2002 (1)
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
Cut Bank Creek near Upham, ND (d)	05123750	722	1975-80, 1986-91, 1999-2000

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			
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. 7 near Trenton, ND (e)	06329660	164,000	1959-2003
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	1965-81
Little Beaver Creek near Marmarth, ND (d)	06335000	587	1938-79
Hay Creek No. 2 near Wibaux, MT (d)	06336510	11.4	1978-82
Hay Creek near Wibaux, MT (d)	06336515	11.4	1978-82
Little Beaver Creek near Wibaux, MT (d)	06336545	96.2	1978 (1), 1979-81
Deep Creek near Amidon, ND (d)	06335750	250	1978-83
Missouri River near Elbowwoods, ND (d)	06337500	179,800	1940-53
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

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 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
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	1978-83
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
Turtle Creek above Washburn, ND (d)	06341410	350	1987-2003
Painted Woods Creek near Wilton, ND (d)	06341800	427	1958-81, 1983-2003
Square Butte Creek near Hannover, ND (d)	06342040	16.9	1978-81
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	1984 (1), 1985-96
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 (d)	06348000	2,750	1946-95
Missouri River below Mandan, ND (e)	06349070	189,800	1966-94

WATER RESOURCES DATA—NORTH DAKOTA, 2004

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS

Station name	Station number	Drainage area (mi^2)	Period of record
MISSOURI RIVER BASIN--Continued			
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
White Butte Fork Cedar Creek near Scranton, ND (d)	06351680	42.9	1965-67 (1), 1968-95
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
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
North Fork Grand River at Haley, ND (d)	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
Pilot Drain at Oakes, ND (d)	06470833	5.10	1972-82
James River near Hecla, SD (e)	06470980	5,520	1982-85 (1), 1986-91

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	temperature specific conductance sediment pH dissolved oxygen	1983-2003 1983-2003 1975-81 1992-2003 1993-2003
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 pH dissolved oxygen	1974-81, 1992-2003 1974-81, 1992-2003 1956-59, 1989 1992-2003 1993-2003

DISCONTINUED CONTINUOUS-RECORD SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi^2)	Type of record	Period of record (water years)
Missouri River near Williston, ND	06330000	164,500	temperature specific conductance	1952-65 1952-60, 1965
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 106 streamflow-gaging stations; stage only for 23 river-stage stations; contents and/or stage for 14 lake or reservoir stations; annual maximum discharge for 31 crest-stage stations; and water quality for 92 streamflow-gaging stations, 6 river-stage stations, 15 lake or reservoir stations, 22 miscellaneous sample sites on rivers, and 67 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 5 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 1975-95 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, 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-04-1." For archiving and general distribution, the reports for 1971-74 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. Beginning with the 2001 water year, an electronic version of the water-data reports may be accessed from *http://water.usgs.gov/pubs/wdr/#ND/*.

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, Mike Connor, Director; Lower Heart River Water Resources District, Bill Robinson, Chairman; Morton County Water Resources District, A. C. Mork, 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, Curt Zimbleman, 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; Burleigh County Water Resource District, Ken Royce, Chairman; City of Bismarck, John Warford, Mayor; and City of Grand Forks, Michael Brown, Mayor.

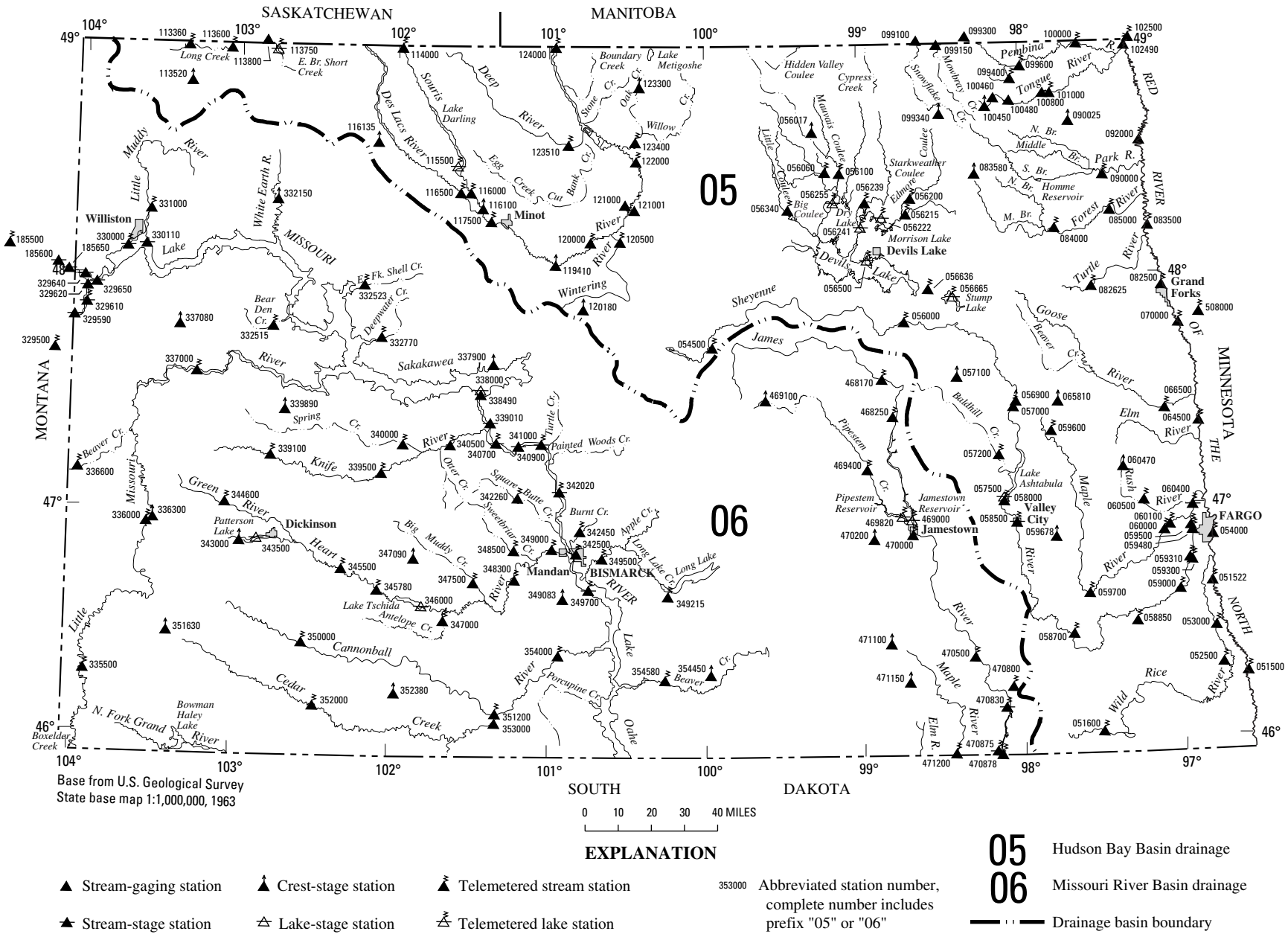

Figure 1. Location of active surface-water gaging stations.

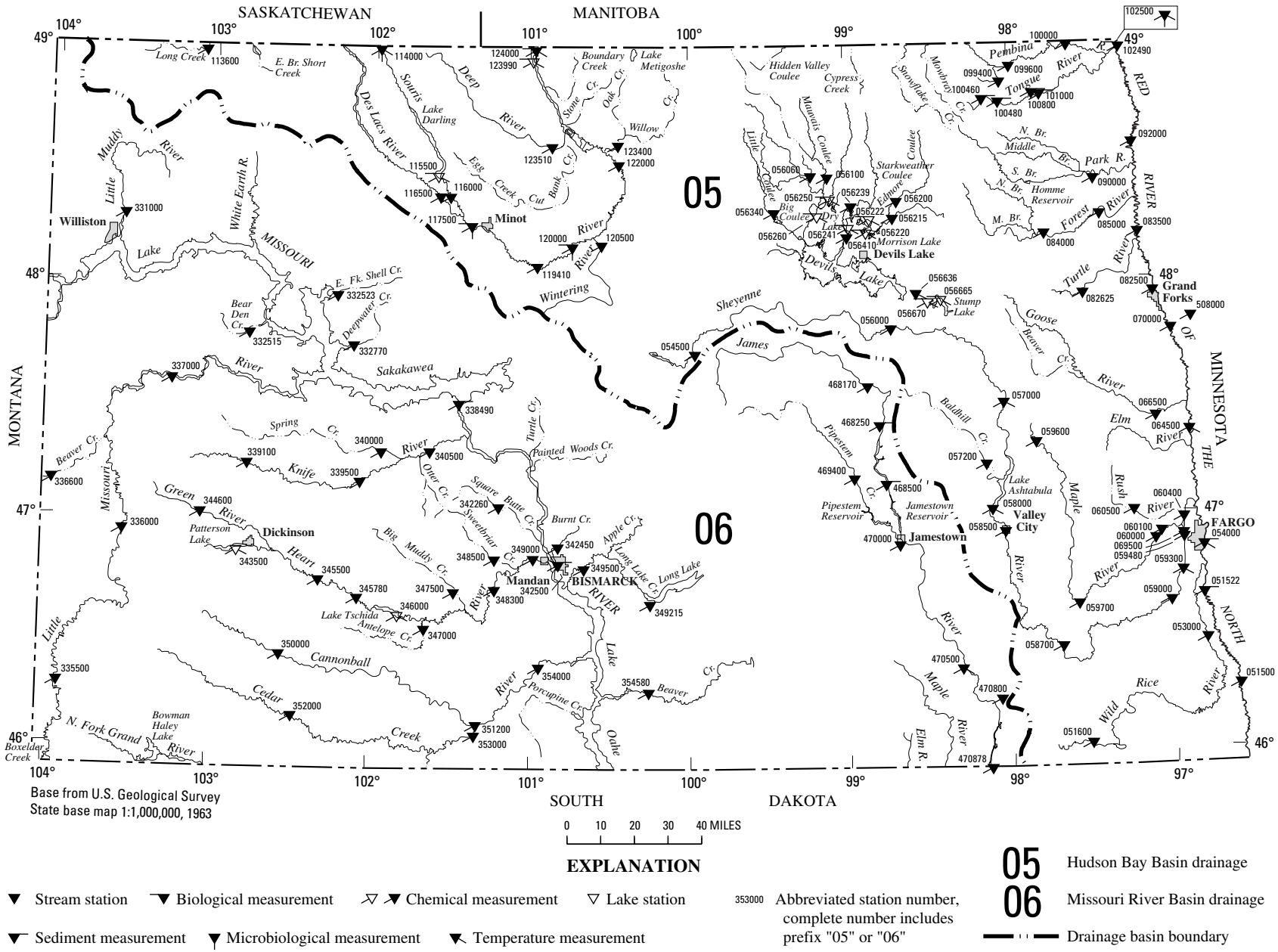

Figure 2. Location of active surface-water-quality stations.

Assistance with funds or services was given by the U.S. Army Corps of Engineers, the Bureau of Reclamation, the International Joint Commission of the U.S. State Department, the U.S. Fish and Wildlife Service, the National Park Service, and the U.S. Forest Service.

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 13 inches in the west-central part of the State to about 22 inches in the southeastern part of the State (U.S. Department of Commerce, 2002, Monthly station normals of temperature, precipitation, and heating and cooling degree days, 1971-2000, 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 1971 through 2000. 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, 2003, 2004, Climatological data, North Dakota: Asheville, North Carolina, v. 111, no. 10-12, and v. 112, no. 1-9).

North Dakota is divided into nine climatological divisions (fig. 3). Precipitation during water year 2004 generally was above normal for all of the climatological divisions except the west-central, southwest, and south-central divisions where precipitation was below normal. A comparison of monthly precipitation for water year 2004 to normal monthly precipitation for 1971-2000 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.

Statewide monthly precipitation was 74 percent of normal from October through February and ranged from 29 percent of normal in November to 133 percent of normal in December. Precipitation was less than normal in all nine climatological divisions in October, November, January, and February.

Statewide total monthly precipitation was 107 percent of normal and ranged from 44 percent of normal in April to 179 percent of normal in March. Precipitation was less than normal in all nine climatological divisions in October and April.

During November, statewide precipitation was 95 percent of normal. Total precipitation ranged from 0.37 inch (57 percent) in both the east-central and central divisions to 0.68 inch (154 percent) in the northwest division.

During December and January, all nine climatological divisions had greater-than-normal precipitation except for the southeast division where precipitation was slightly less than normal during January (0.46 inch, 98 percent). During February, all nine climatological divisions had less-than-normal precipitation except for the southwest division where precipitation was greater than normal (0.46 inch, 139 percent).

During late March, a large precipitation event pushed all nine climatological divisions to greater-than-normal precipitation except for the northwest division where precipitation was slightly less than normal (0.64 inch, 98 percent). The greatest amount of precipitation was 2.28 inches (268 percent) in the northeast division.

During April, statewide precipitation was 44 percent of normal, and all nine climatological divisions had less-than-normal precipitation. Total precipitation ranged from 0.46 inch (32 percent) in the northwest division to 1.05 inches (80 percent) in the northeast.

During May, statewide precipitation was 173 percent of normal, and six of the nine climatological divisions had greater-than-normal precipitation. Total precipitation ranged from 1.25 inches (48 percent) in the southwest division to 5.65 inches (233 percent) in the east-central division.

During June, when statewide precipitation usually is greatest, seven of the nine climatological divisions reported less-than-normal precipitation. Only the northwest and north-central divisions had greater-than-normal precipitation. Total precipitation was 4.15 inches (141 percent) in the northwest division and 3.34 inches (118 percent) in the north-central division.

Statewide precipitation during July was less than normal for five of the nine climatological divisions. Total precipitation ranged from 1.81 inches (76 percent) in the west-central division to 3.35 inches (118 percent) in the east-central division.

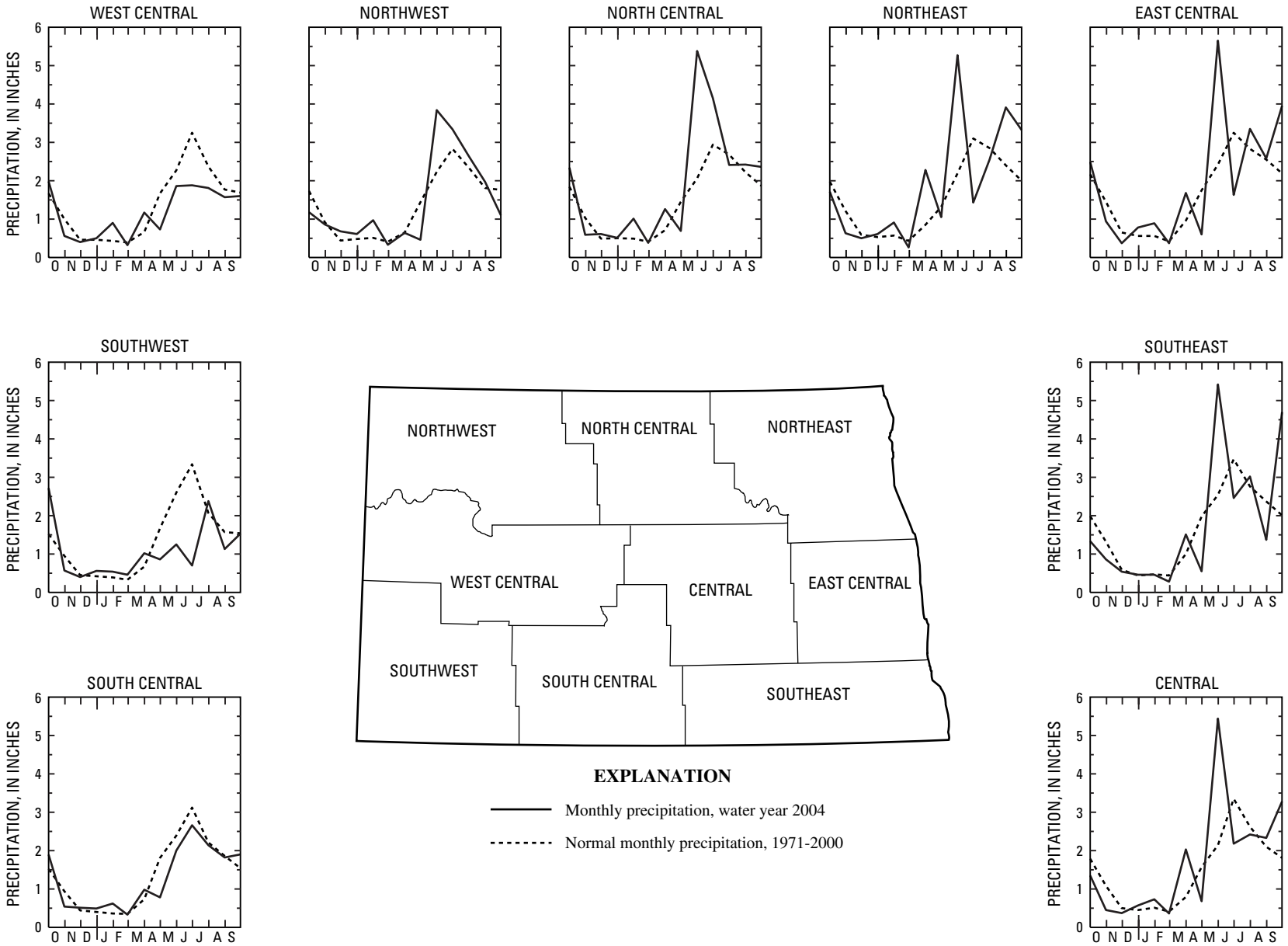

Figure 3. Comparison, by climatological division, of monthly precipitation, water year 2004, to normal monthly precipitation, 1971-2000.

Statewide precipitation during August was less than normal for four of the nine climatological divisions. Total precipitation ranged from 1.13 inches (72 percent) in the southwest division to 3.91 inches (163 percent) in the northeast division.

Statewide monthly mean precipitation during September was greater than normal for six of the nine climatological divisions. Total precipitation ranged from 1.10 inches (62 percent) in the northwest division to 4.70 inches (234 percent) in the southeast division. Total yearly precipitation was less than normal for the southwest division (71 percent), west-central division (81 percent), and south-central division (91 percent). Total yearly precipitation was greater than normal in the remaining six divisions and ranged from 110 percent of normal in the northwest division to 129 percent of normal in the north-central division.

Temperatures during October were above normal statewide. During November through April, statewide monthly mean temperatures were well below normal for November (-7.6°F) and January (-4.0°F); well above normal for December (7.8°F); and slightly above normal for February (1.4°F), March (4.0°F), and April (1.6°F). The slightly warmer temperatures did not result in an earlier than normal spring breakup. The influence of temperatures on streamflow in North Dakota is diminished substantially after the snowpack has melted. 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 (1971-2000), but mean monthly discharge is computed using data for the period of record at each streamflow-gaging station--59 years (1946-2004) in the case of Apple Creek near Menoken.

According to the National Weather Service "Weekly Palmer Drought Index Report" (written commun., 2004), western North Dakota experienced drought conditions at the beginning of the water year while central and eastern North Dakota were moist. Conditions were classified as moderate to severe drought in the southwest climatological division to normally dry in the rest of the state.

Near normal to greater-than-normal precipitation combined with below normal and near normal temperatures caused a considerable snowpack to develop by the end of February, especially in the north-central and northwest climatological division where water equivalents were 3 to 4 inches or greater. The snowpack combined with late March precipitation resulted in greater-than-normal discharges, except for discharges recorded in the south-central, north-central, and west-central divisions where average monthly discharges were less than normal. Discharges in the northeast division were greater than normal because of March 27 precipitation that fell on an unmelted snowpack and frozen ground. The event pushed streamflows on the Forest River, located in the northeast climatological division, to levels only exceeded by floods in 1948 and 1950.

By May, spring precipitation and snowmelt had brought the State out of drought status, except for the southwest portion of the State. The southwest portion remained classified as abnormally dry to severe drought and the rest of the State was classified as moist.

During June, the area west of the Missouri River was classified as moderate to severe drought, and the southwest portion of the State remained classified as dry. Decreased rainfall and near normal temperatures in July resulted in the entire western half of the State to be classified as mild to severe drought while the rest of the State remained classified as moist.

The State continued to dry out in August as precipitation continued to favor the northeast and east-central portions of the State. The driest parts of the State were the southwest and west-central portions, which remained classified as severe drought. The rest of the State was classified as normal except for the northeast and east-central portions, which were classified as unusually moist.

Widespread rainfall in September caused the eastern half of the State to be classified as unusually moist to very moist. The rest of the State was classified as normal, except for the southwest and west-central portions, which were classified as severe drought.

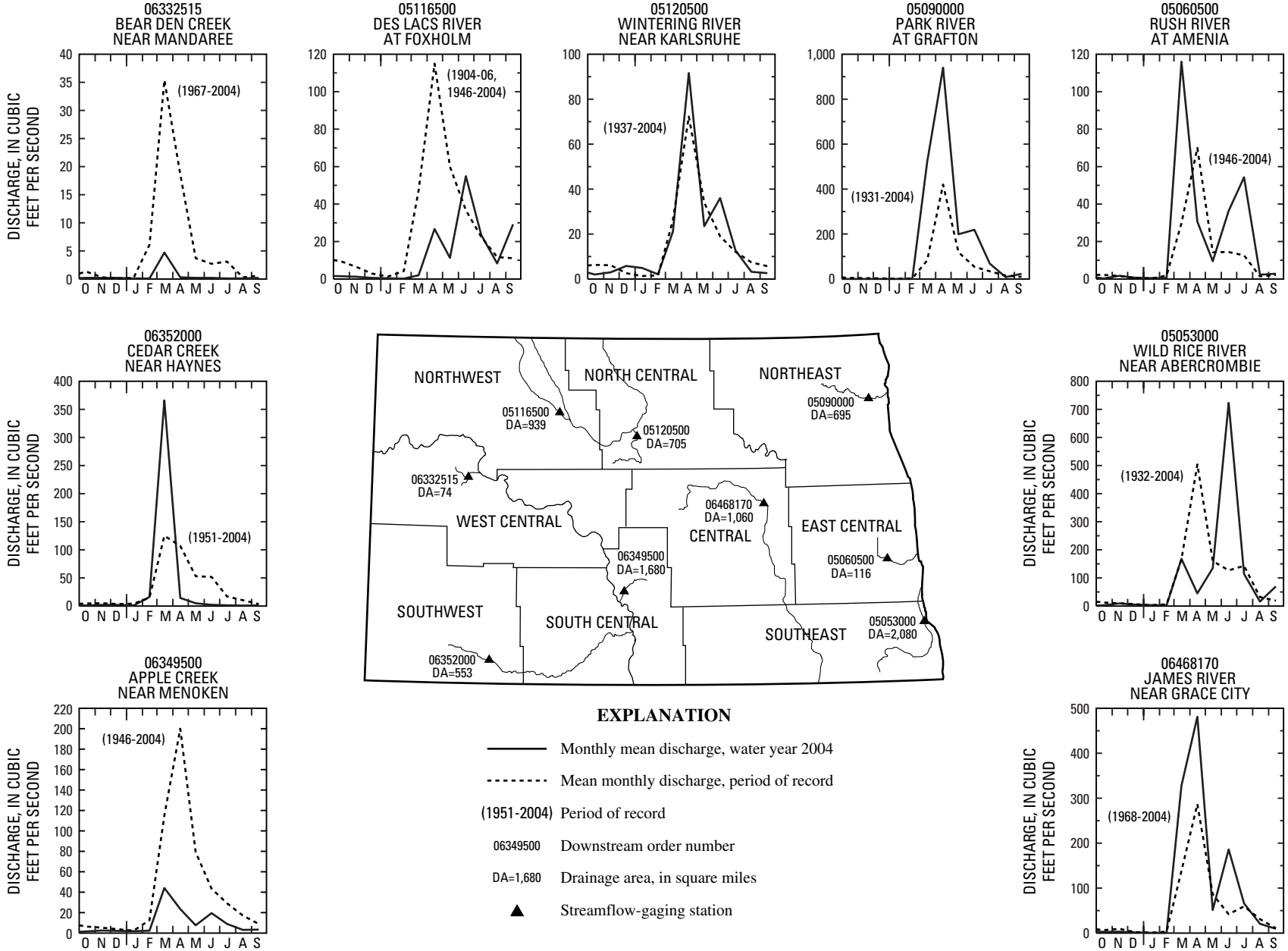

Figure 4. Comparison of monthly mean discharge during water year 2004 to mean monthly discharge for the period of record.

Very few summer peaks exceeded the snowmelt peaks. Summer peaks that exceeded snowmelt peaks are shown in figure 4 in the hydrographs for Des Lacs River at Foxholm and Wild Rice River near Abercrombie.

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 the basin. During 2000, for the first time since 1993, the maximum water level did not exceed the maximum from the previous year. During 2004, a new period of record daily maximum of 1,449.1 feet occurred on June 17, 2004, which surpassed the previous record of 1,448.3 feet set on July 21, 2001.

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, whereas at an elevation of 1,449 feet, the surface area of the lake is about 137,000 acres.

During water year 2001, 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). Flow from Devils Lake to Stump Lake occurred again during the summer of 2004. The maximum daily discharge of 250 cubic feet per second occurred on June 12, 2004. The maximum daily elevation for Stump Lake during water year 2004 was 22.97 feet, about 25 feet lower than Devils Lake, and occurred on September 30, 2004.

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 low 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 2004 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 (05082500) 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 during the irrigation season (April through October) was medium or high in the months when specific-conductance 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 (05114000) 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 during the irrigation season (April through October) was high in the months when specific-conductance measurements were made.

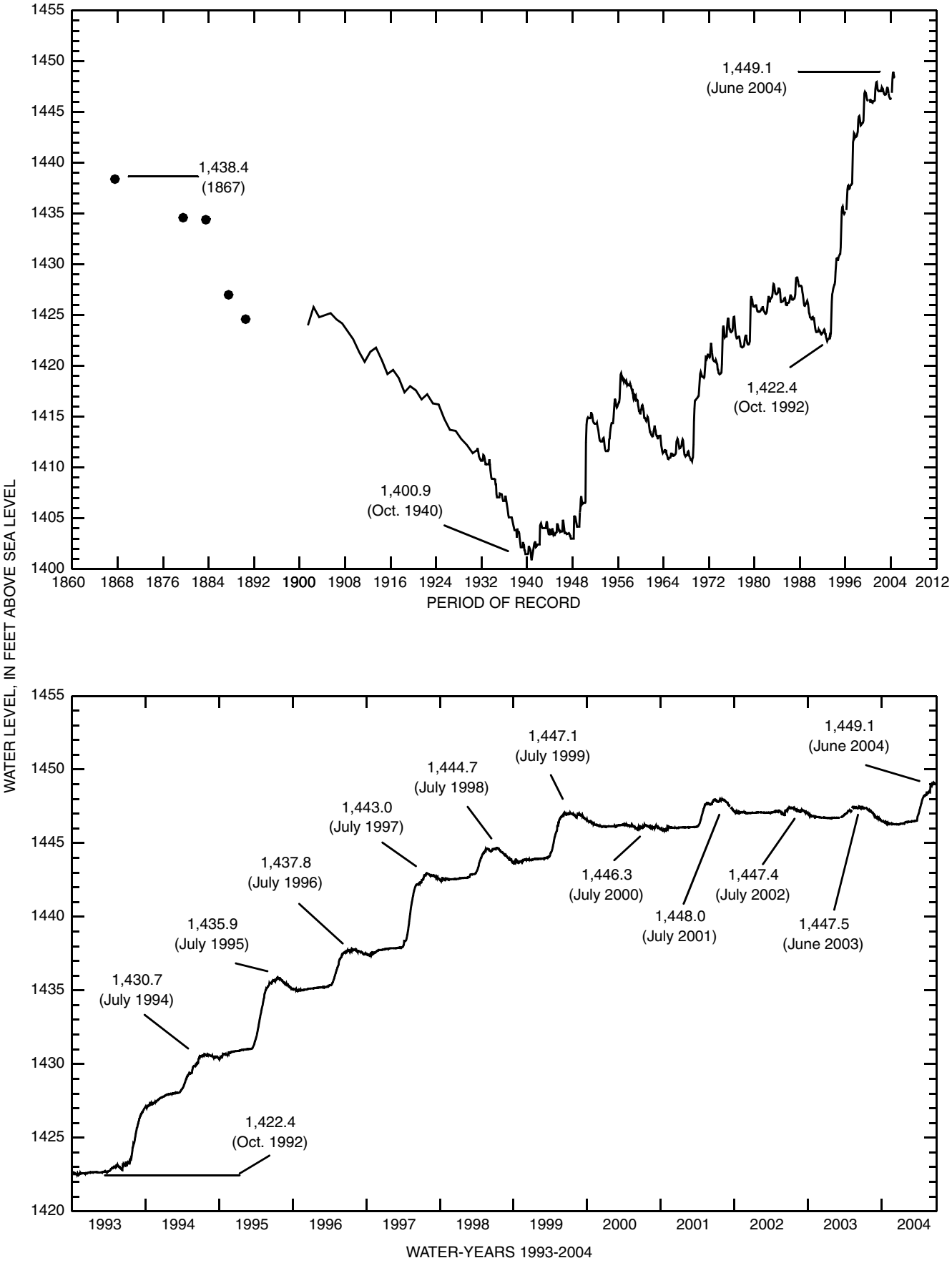

Figure 5. Devils Lake water levels for the period of record and for water years 1993-2004.

Table 1. Statistical summary of specific-conductance values for the period of record and listing of measured specific-conductance values for water year 2004

[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 2004	Period of record
05082500 Red River of the North at Grand Forks (period of record, water years 1949, 1956-2004)														
Mean	523	623	643	606	589	515	464	582	565	506	526	516	691	539
Maximum	700	925	985	1,040	900	910	757	943	949	908	787	792	917	1,040
Minimum	399	440	468	275	400	247	200	325	348	280	266	340	247	200
Number of values	73	46	51	57	53	81	184	102	84	88	69	58	12	946
Measured values for water year 2004	--	--	917	881	--	785 247	503	690 670 569	719 844	908	--	559	--	--
05114000 Souris River near Sherwood (period of record, water years 1970, 1972-2004)														
Mean	1,236	1,377	1,631	1,763	1,781	1,163	808	935	1,056	1,091	1,119	1,154	1,382	1,182
Maximum	2,240	2,460	2,230	2,770	2,920	3,500	2,510	2,460	1,530	1,650	2,060	1,960	2150	3,500
Minimum	710	925	1,250	1,280	540	200	277	345	310	540	128	720	990	128
Number of values	39	38	14	29	32	55	78	37	43	39	44	29	12	477
Measured values for water year 2004	--	1,200	--	1,480	1,510	2,150	1,720 1,090	1,210	1,350	990	1,320	1,280 1,290	--	--
06337000 Little Missouri River near Watford City (period of record, water years 1972-2004)														
Mean	2,026	2,523	2,603	2,611	1,397	997	1,545	1,594	1,550	1,737	1,476	1,924	2,313	1,675
Maximum	3,100	4,000	5,000	3,640	3,020	2,000	2,700	3,100	2,780	3,000	2,550	2,570	3,640	5,000
Minimum	720	814	1,720	1,290	640	400	515	780	750	695	680	900	1,590	400
Number of values	86	54	22	17	8	102	70	68	71	42	122	17	7	679
Measured values for water year 2004	1,970	3,240	--	3,640	--	--	1,710	--	2,210	1,830	--	1,590	--	--
06354000 Cannonball River at Breien (period of record, water years 1946-50, 1971-2004)														
Mean	1,640	2,007	2,546	2,412	1,836	847	1,270	1,961	1,939	1,494	1,423	1,585	1,764	1,670
Maximum	2,400	3,140	3,290	3,800	4,860	3,100	2,260	2,930	3,020	3,000	2,800	2,300	3,140	4,860
Minimum	650	1,240	284	680	190	190	300	481	288	440	500	730	376	190
Number of values	31	41	23	36	34	62	64	49	72	32	52	49	8	545
Measured values for water year 2004	2,230	3,140	--	--	--	376	1,500	--	1,380	1,740	--	1,850 1,900	--	--
06470500 James River at LaMoure (period of record, water years 1957-2004)														
Mean	853	987	1,193	1,489	1,320	657	571	812	799	799	768	882	1,113	861
Maximum	1,210	1,330	1,550	2,580	1,780	1,570	987	1,210	1,250	1,280	1,260	1,220	1,700	2,580
Minimum	480	540	890	340	700	185	160	500	170	170	485	480	504	160
Number of values	38	27	12	33	21	45	63	37	31	28	54	28	8	417
Measured values for water year 2004	--	1,330	1,440	1,700	1,350	646 504	--	--	--	841	1,090	--	--	--

The Little Missouri River drains parts of southwestern North Dakota, northwestern South Dakota, northeastern Wyoming, and southeastern Montana. The Cannonball River drains parts of southwestern North Dakota and northwestern South Dakota. Of the five stations listed in table 1, the Little Missouri River near Watford City (06337000) and the Cannonball River at Breien (06354000) have the largest mean specific-conductance values for the period of record. The salinity hazard of stream water during the irrigation season (April through October) was high in the months when specific-conductance measurements were made at each of these stations.

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 for the James River at LaMoure (06470500) generally are smallest from March through October during high flow or when the stored runoff water is released. The salinity hazard of stream water during the irrigation season (April through October) was high in the months when measurements were made.

DOWNSTREAM ORDER AND STATION NUMBER

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

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These station numbers are in the same downstream order used in this report. In assigning a station number, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list composed of both types of stations. Gaps are consecutive. The complete 8-digit (or 10-digit) number for each station such as 06342500, which appears just to the left of the station name, includes a 2-digit part number “06” plus the 6-digit (or 8-digit) downstream order number “342500.” In areas of high station density, an additional two digits may be added to the station identification number to yield a 10-digit number. The stations are numbered in downstream order as described above between stations of consecutive 8-digit numbers.

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

The USGS well and miscellaneous site-numbering system is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, and the next 7 digits denote degrees, minutes, and seconds of longitude; the last 2 digits are a sequential number for wells within a 1-second grid. In the event that the latitude-longitude coordinates for a well and miscellaneous site are the same, a sequential number such as “01,” “02,” and so forth, would be assigned as one would for wells (see fig. 6). The 8-digit, downstream order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are taken. During water year 2003, the true latitude and longitude listed in the LOCATION paragraph was changed slightly at some locations. The change was made based on new information and does not signify a change in the gage location unless otherwise noted.

In addition to the well number that is based on the latitude and longitude for each well, another well number may be provided which in many states is based on the Public Land Survey System, a set of rectangular surveys that is used to identify land parcels. This well number is familiar to the water users of North Dakota and shows the location of the well by quadrant, township, range section, and position within the section (see fig. 7). The capital letter at the beginning of the location number indicates the quadrant in which the well is located. Four quadrants are formed by the intersection of the base line and the principal meridian—A indicates the northeast quadrant, B the northwest, C the southwest, and D the southeast. The first numeral indicates the township, the second the range, and the third the section in which the well is located. Lowercase letters following the section number locate the well within the section. The first letter denotes the quarter section, the second the quarter-quarter section, and the third the quarter-quarter-quarter section. The letters are assigned within the section in a counter-clockwise direction beginning with (a) in the northeast quarter of the section. Letters are assigned within each quarter section and quarter-quarter section in the same manner. Where two or more wells are located within the smallest subdivision, consecutive numbers beginning with 1 are added to the letters in the order in which the wells are inventoried. For example, site 138-077-22AAD is in the $SE^1/_4NE^1/_4NE^1/_4$ sec.22, T.138 N., R.077 W. Consecutive terminal numbers are added if more than one site is recorded within a 10-acre tract.

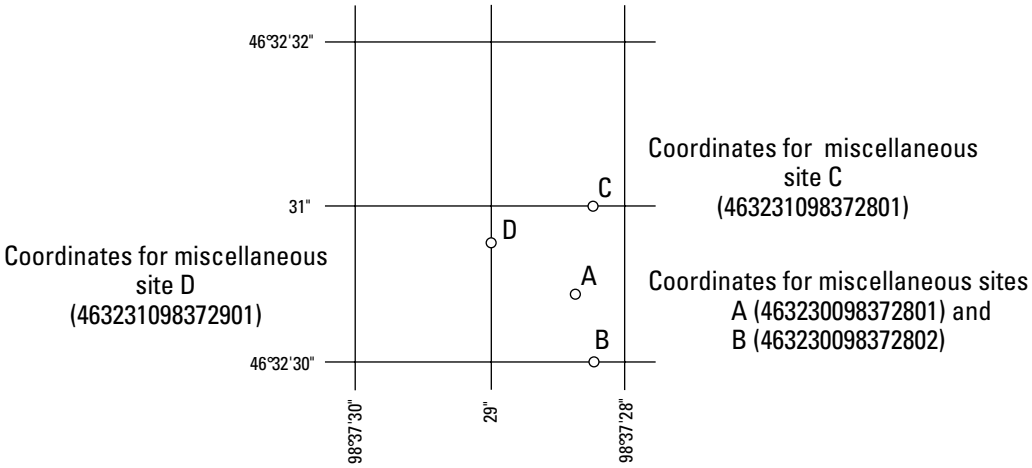

Figure 6. System for numbering miscellaneous sites (latitude and longitude).

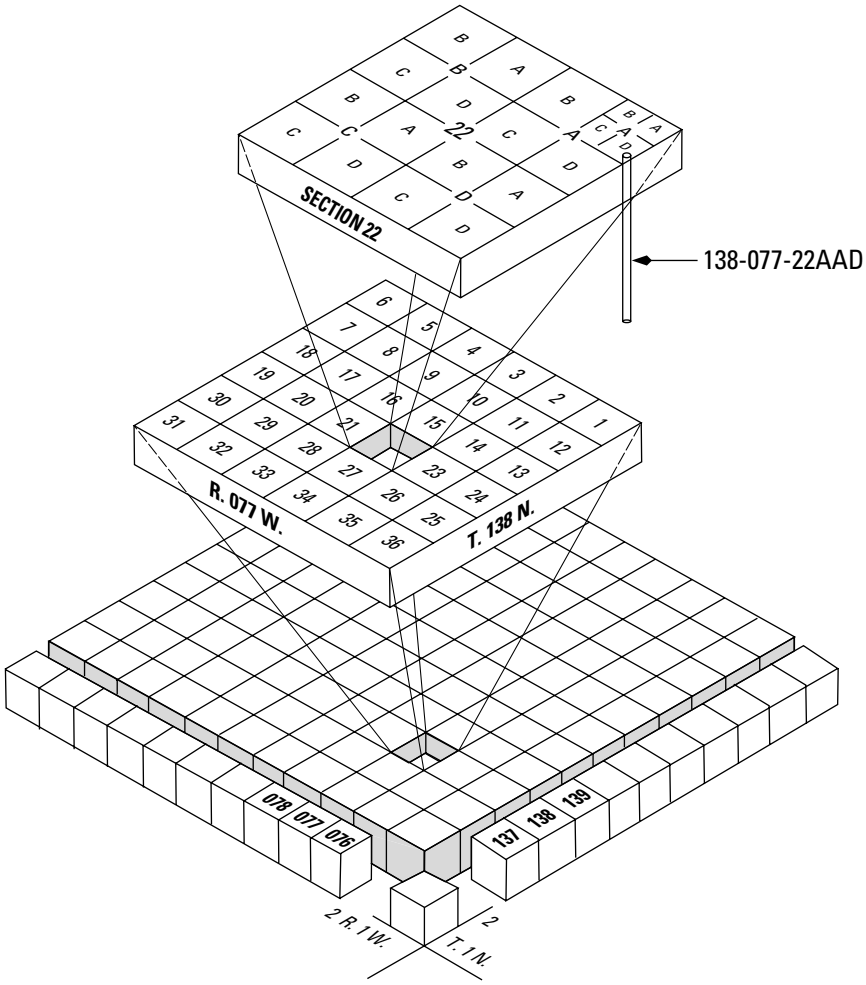

Figure 7. System for numbering miscellaneous sites (township and range).

SPECIAL NETWORKS AND PROGRAMS

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

National Stream-Quality Accounting Network (NASQAN) is a network of sites used to monitor the water quality of large rivers within the Nation's largest river basins. From 1995 through 1999, a network of approximately 40 stations was operated in the Mississippi, Columbia, Colorado, and Rio Grande River Basins. For the period 2000 through 2004, sampling was reduced to a few index stations on the Colorado and Columbia Rivers so that a network of 5 stations could be implemented on the Yukon River. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents; (2) to test findings of the National Water-Quality Assessment (NAWQA) Program; (3) to characterize processes unique to large-river systems such as storage and re-mobilization of sediments and associated contaminants; and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals. Additional information about the NASQAN Program may be accessed from *http://water.usgs.gov/nasqan/*.

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

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

Assessment activities are being conducted in 42 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents is measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for water-resources managers to use in making decisions and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

Communication and coordination between USGS personnel and other local, State, and Federal interests are critical components of the NAWQA Program. Each study unit has a local liaison committee consisting of representatives from key Federal, State, and local water-resources agencies, Indian nations, and universities in the study unit. Liaison committees typically meet semiannually to discuss their information needs, monitoring plans and progress, desired information products, and opportunities to collaborate efforts among the agencies. Additional information about the NAWQA Program may be accessed from *http://water.usgs.gov/nawqa/*.

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

EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS

Data Collection and Computation

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

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

The stage-discharge relation at some stream-gaging stations is affected by backwater from reservoirs, tributary streams, or other sources. Such an occurrence necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage at some distance from the base gage.

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

At some stations, stage-discharge relation is affected by changing stage. At these stations, the rate of change in stage is used as a factor in computing discharge.

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

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

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

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

Data Presentation

The records published for each continuous-record surface-water discharge station (stream-gaging station) consist of four parts: (1) the station manuscript or description; (2) the data table of daily mean values of discharge for the

current water year with summary data; (3) a tabular statistical summary of monthly mean flow data for a designated period, by water year; and (4) a summary statistics table that includes statistical data of annual, daily, and instantaneous flows as well as data pertaining to annual runoff, 7-day low-flow minimums, and flow duration.

Station Manuscript

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

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

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

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

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

GAGE.—The type of gage in current use, the datum of the current gage referred to a standard datum, and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.—All periods of estimated daily discharge either will be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily discharge table. (See section titled Identifying Estimated Daily Discharge.) Information is presented relative to the accuracy of the records, to special methods of computation, and to conditions that affect natural flow at the station. In addition, information may be presented pertaining to average discharge data for the period of record; to extremes data for the period of record and the current year; and, possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, the outlet works and spillway, and the purpose and use of the reservoir.

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

EXTREMES OUTSIDE PERIOD OF RECORD.—Information here documents major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the USGS.

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

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

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

Peak Discharge Greater than Base Discharge

Tables of peak discharge above base discharge are included for some stations where secondary instantaneous peak discharge data are used in flood-frequency studies of highway and bridge design, flood-control structures, and other flood-related projects. The base discharge value is selected so an average of three peaks a year will be reported. This base

discharge value has a recurrence interval of approximately 1.1 years or a 91-percent chance of exceedence in any 1 year.

Data Table of Daily Mean Values

The daily table of discharge records for stream-gaging stations gives mean discharge for each day of the water year. In the monthly summary for the table, the line headed TOTAL gives the sum of the daily figures for each month; the line headed MEAN gives the arithmetic average flow in cubic feet per second for the month; and the lines headed MAX and MIN give the maximum and minimum daily mean discharges, respectively, for each month. Discharge for the month is expressed in cubic feet per second per square mile (line headed CFSM); or in inches (line headed IN); or in acre-feet (line headed AC-FT). Values for cubic feet per second per square mile and runoff in inches or in acre-feet may be omitted if extensive regulation or diversion is in effect or if the drainage area includes large noncontributing areas. At some stations, monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversion data or reservoir volumes are given. These values are identified by a symbol and a corresponding footnote.

Statistics of Monthly Mean Data

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

Summary Statistics

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

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

The following summary statistics data are provided with each continuous record of discharge. Comments that follow clarify information presented under the various line headings of the SUMMARY STATISTICS table.

ANNUAL TOTAL.—The sum of the daily mean values of discharge for the year.

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

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

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

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

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

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

MAXIMUM PEAK FLOW.—The maximum instantaneous peak discharge occurring for the water year or designated

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

MAXIMUM PEAK STAGE.—The maximum instantaneous peak stage occurring for the water year or designated period. Occasionally the maximum stage for a year may occur at midnight at the beginning or end of the year, on a recession from or rise toward a higher peak in the adjoining year. In this case, the maximum peak stage is given in the table and the maximum stage may be reported in the REMARKS paragraph in the manuscript or in a footnote. If the dates of occurrence of the maximum peak stage and maximum peak flow are different, the REMARKS paragraph in the manuscript or a footnote may be used to provide further information.

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

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

> Acre-foot (AC-FT) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.
>
> Cubic feet per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area.
>
> Inches (INCHES) indicate the depth to which the drainage area would be covered if all of the runoff for a given time period were uniformly distributed on it.

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

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

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

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

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual state data reports are identified. This identification is shown either by flagging individual daily values with the letter “e” and noting in a table footnote, “e–Estimated,” or by listing the dates of the estimated record in the REMARKS paragraph of the station description.

Accuracy of Field Data and Computed Results

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

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

Values of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 ft^3/s; to the nearest tenths between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures above 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 discharge values listed for partial-record stations.

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

Other Data Records Available

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

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

EXPLANATION OF PRECIPITATION RECORDS

Data Collection and Computation

Rainfall data generally are collected using electronic data loggers that measure the rainfall in 0.01-inch increments every 15 minutes using either a tipping-bucket rain gage or a collection well gage. Twenty-four hour rainfall totals are tabulated and presented. A 24-hour period extends from just past midnight of the previous day to midnight of the current day. Snowfall-affected data can result during cold weather when snow fills the rain-gage funnel and then melts as temperatures rise. Snowfall-affected data are subject to errors. Missing values are indicated by this symbol "---" in the table.

Data Presentation

Precipitation records collected at surface-water gaging stations are identified with the same station number and name as the stream-gaging station. Where a surface-water daily-record station is not available, the precipitation record is published with its own name and latitude-longitude identification number.

Information pertinent to the history of a precipitation station is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, period of record, and general remarks.

The following information is provided with each precipitation station. Comments that follow clarify information presented under the various headings of the station description.

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

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

INSTRUMENTATION.—Information on the type of rainfall collection system is given.

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

EXPLANATION OF WATER-QUALITY RECORDS

Collection and Examination of Data

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

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

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

Water Analysis

Most of the methods used for collecting and analyzing water samples are described in the TWRIs, which may be accessed from *http://water.usgs.gov/pubs/twri/*.

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

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

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum and

Rating classifications for continuous water-quality records

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

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

minimum values (and sometimes mean or median values) for each constituent measured, and are based on 15-minute or 1-hour intervals of recorded data beginning at 0000 hours and ending at 2359 hours for the day of record.

SURFACE-WATER-QUALITY RECORDS

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

Classification of Records

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

A careful distinction needs to be made between *continuous records* as used in this report and *continuous recordings* that refer to a continuous graph or a series of discrete values recorded at short intervals. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this report are shown in figure 2.

Accuracy of the Records

One of four accuracy classifications is applied for measured physical properties at continuous-record stations on a scale ranging from poor to excellent. The accuracy rating is based on data values recorded before any shifts or corrections are made. Additional consideration also is given to the amount of publishable record and to the amount of data that have been corrected or shifted.

Arrangement of Records

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

On-Site Measurements and Sample Collection

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

Water Temperature

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

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the District office.

Sediment

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

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

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

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

Laboratory Measurements

Samples for biochemical oxygen demand (BOD) and indicator bacteria are analyzed locally. All other samples are analyzed in the USGS laboratory in Lakewood, Colorado, unless otherwise noted. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chapter C1. Methods used by the USGS laboratories are given in the TWRIs, Book 1, Chapter D2 and Book 5, Chapters A1, A3, and A4. The TWRI publications may be accessed from *http://water.usgs.gov/pubs/twri/*. These methods are consistent with ASTM standards and generally follow ISO standards.

Data Presentation

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

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

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

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

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

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

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

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

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

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

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

Remark Codes

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

Printed Output	Remark
E	Value is estimated.
>	Actual value is known to be greater than the value shown.
<	Actual value is known to be less than the value shown.
M	Presence of material verified, but not quantified.
N	Presumptive evidence of presence of material.
U	Material specifically analyzed for, but not detected.
A	Value is an average.
V	Analyte was detected in both the environmental sample and the associated blanks.
S	Most probable value.

Water-Quality-Control Data

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

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

Accordingly, concentrations are reported as less than LRL for samples in which the analyte was either not detected or did not pass identification. Analytes detected at concentrations between the LT-MDL and the LRL and that pass identification criteria are estimated. Estimated concentrations will be noted with a remark code of “E.” These data should be used with the understanding that their uncertainty is greater than that of data reported without the E remark code.

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

Blank Samples

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

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

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

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

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

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

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

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

Reference Samples

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

Replicate Samples

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

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

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

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

Spike Samples

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

ACCESS TO USGS WATER DATA

The USGS provides near real-time stage and discharge data for many of the gaging stations equipped with the necessary telemetry and historic daily mean and peak-flow discharge data for most current or discontinued gaging stations through the World Wide Web (WWW). These data may be accessed from *http://water.usgs.gov*.

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

DEFINITION OF TERMS

Specialized technical terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. A complete list of specialized technical terms used in all annual data reports may be accessed from *http://water.usgs.gov/ADR_Defs_2004.pdf*. Terms such as algae, water level, and precipitation are used in their common everyday meanings, definitions of which are given in standard dictionaries. Not all terms defined in this alphabetical list apply to every State. See also table for converting English units to International System (SI) Units. Other glossaries that also define water-related terms are accessible from *http://water.usgs.gov/glossaries.html*.

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

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. Discharge for parameter code 00060 is one day.

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 (parameter code 00061) 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-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.

Formazin nephelometric unit (FNU) is the measurement for reporting turbidity in the near Infa-Red (780-900 nanometers) or Monochrome light source. 90-degree detection angle, one detector. ISO 7027 compliant.

Gage datum is a horizontal surface used as a zero point for measurement of stage or gage height. This surface usually is located slightly below the lowest point of the stream bottom such that the gage height is usually slightly greater than the maximum depth of water. Because the gage datum itself is not an actual physical object, the datum usually is defined by specifying the elevations of permanent reference marks such as bridge abutments and survey monuments, and the gage is set to agree with the reference marks. Gage datum is a local datum that is maintained independently of any national geodetic datum. However, if

the elevation of the gage datum relative to the national datum (North American Vertical Datum of 1988 or National Geodetic Vertical Datum of 1929) has been determined, then the gage readings can be converted to elevations above the national datum by adding the elevation of the gage datum to the gage reading.

Gage height (G.H.) is the water-surface elevation 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 fixed reference adopted as a standard geodetic datum for elevations determined by leveling. It was formerly called "Sea Level Datum of 1929" or "mean sea level." Although the datum was derived from the mean sea level at 26 tide stations**,** it does not necessarily represent local mean sea level at any particular place. *See NOAA web site: http://www.ngs.noaa.gov/faq.shtml#WhatVD29VD88*.

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 1971 to 2000.

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 or "mean sea level" was formerly used in this series of reports to refer to the National Geodetic Vertical Datum of 1929 (NGVD of 1929).

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, 2004, is called the "2004 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.

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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.--May 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 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	123	129	137	e145	e92	e265	650	455	1,870	575	426	218
2	109	130	124	e150	e92	e265	557	403	2,260	534	413	213
3	102	130	99	e150	e92	e265	469	397	2,200	524	406	231
4	103	132	96	e150	e92	e265	418	393	1,880	554	430	274
5	104	140	96	e145	e92	e270	403	400	1,600	532	472	387
6	104	108	95	e145	e120	e270	412	424	1,400	622	490	738
7	104	103	95	e145	e130	e270	439	453	1,340	857	506	1,200
8	108	123	96	e145	e135	e270	487	448	1,300	1,100	493	1,080
9	111	131	97	e140	e135	e270	454	447	1,270	1,150	495	888
10	116	162	85	e125	e135	e270	415	448	1,250	1,110	488	780
11	117	154	80	e120	e140	e270	412	433	1,210	1,170	477	726
12	123	146	e78	e120	e140	e280	411	449	1,270	1,440	466	695
13	119	129	e77	e120	e140	e300	409	452	1,290	1,580	478	692
14	120	133	e77	e125	e145	e305	409	450	1,180	1,460	493	679
15	114	124	e76	e130	e160	e305	408	477	1,110	1,250	492	617
16	97	121	e75	e140	e180	e315	444	507	1,040	1,080	487	609
17	98	113	e74	e140	e180	e330	484	535	972	1,010	482	801
18	122	102	e81	e140	e185	e350	487	516	931	1,000	451	880
19	131	81	e92	e135	e185	e390	489	513	861	984	433	795
20	130	92	e100	e135	e190	e480	489	525	841	943	418	766
21	133	91	e110	e130	e195	e530	505	534	842	895	411	1,490
22	128	e90	e110	e115	e195	e570	497	522	811	867	392	2,420
23	111	e86	e110	e105	e195	e590	493	521	751	817	391	2,790
24	108	e85	e110	e95	e190	e600	489	538	705	767	457	3,030
25	107	e140	e110	e94	e190	600	479	559	666	720	499	3,140
26	111	e220	e110	e94	e190	575	476	550	651	665	253	2,920
27	112	e190	e115	e94	e210	588	478	590	637	557	200	2,500
28	113	155	e115	e93	e240	604	471	633	626	448	246	2,100
29	116	135	e115	e93	e260	556	470	660	634	433	254	1,870
30	112	136	e120	e92	---	604	475	876	617	434	254	1,730
31	116	---	e135	e92	---	671	---	1,540	---	437	235	---
TOTAL	3,522	3,811	3,090	3,842	4,625	12,493	13,979	16,648	34,015	26,515	12,888	37,259
MEAN	114	127	99.7	124	159	403	466	537	1,134	855	416	1,242
MAX	133	220	137	150	260	671	650	1,540	2,260	1,580	506	3,140
MIN	97	81	74	92	92	265	403	393	617	433	200	213
AC-FT	6,990	7,560	6,130	7,620	9,170	24,780	27,730	33,020	67,470	52,590	25,560	73,900

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2004, BY WATER YEAR (WY)

MEAN	344	325	304	289	311	707	1,442	1,139	1,097	849	453	366
MAX	1,599	952	967	678	868	2,629	8,717	3,344	2,981	2,787	2,496	2,148
(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)

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

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1942 - 2004	
ANNUAL TOTAL	189,385		172,687			
ANNUAL MEAN	519		472		633	
HIGHEST ANNUAL MEAN					1,600	1997
LOWEST ANNUAL MEAN					54.0	1977
HIGHEST DAILY MEAN	3,740	Jun 26	3,140	Sep 25	12,700	Apr 15, 1997
LOWEST DAILY MEAN	74	Dec 17	74	Dec 17	1.7	Aug 28, 1976
ANNUAL SEVEN-DAY MINIMUM	77	Dec 11	77	Dec 11	1.7	Aug 28, 1976
MAXIMUM PEAK FLOW			3,160	Sep 25	12,800	Apr 15, 1997
MAXIMUM PEAK STAGE			10.03	Sep 25	19.42	Apr 6, 1997
INSTANTANEOUS LOW FLOW					1.7	Aug 28, 1976
ANNUAL RUNOFF (AC-FT)	375,600		342,500		458,500	
10 PERCENT EXCEEDS	1,040		1,080		1,450	
50 PERCENT EXCEEDS	330		392		396	
90 PERCENT EXCEEDS	100		98		110	

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 2003 TO SEPTEMBER 2004

Date	Time	Discharge, cfs (00060)	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
NOV													
04...	1010	--	140	--	--	--	--	--	--	--	535	--	0.5
DEC													
17...	1010	--	71	--	--	--	--	--	--	--	601	7.0	0.0
JAN													
25...	1235	--	93	--	--	--	--	--	--	--	646	-8.0	0.0
MAR													
12...	1055	--	255	--	--	--	--	--	--	--	670	-8.0	0.0
25...	1625	--	580	--	--	--	--	--	--	--	404	14.0	4.0
APR													
30...	0905	--	475	--	--	--	--	8.5	8.4	482	488	12.0	9.0
MAY													
11...	1245	433	--	75	722	11.3	114	8.4	8.2	538	520	--	13.3
JUN													
03...	1635	--	2,120	--	--	--	--	--	--	--	770	25.5	17.5
16...	1125	--	1,040	--	--	--	--	--	--	--	832	18.5	19.5
JUL													
27...	1100	--	566	--	--	--	--	--	--	--	795	25.5	23.0
SEP													
09...	0915	--	948	--	--	--	--	7.5	7.5	472	477	15.5	16.5
24...	1345	--	3,050	--	--	--	--	--	--	--	663	20.0	16.0
28...	1145	--	2,080	--	--	--	--	--	--	--	716	15.5	16.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)
NOV													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
30...	240	46.9	31.0	4.30	0.3	10.8	8	206	11.4	0.14	8.16	43.9	273
MAY													
11...	260	48.6	32.7	3.90	0.3	11.1	8	211	12.1	--	--	67.4	305
JUN													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
09...	210	40.4	26.5	5.10	0.4	13.4	12	152	8.8	0.14	14.0	88.3	276
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--	--	--

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, fltrd, mg/L (00602)	Total nitro-gen, water, unfltrd mg/L (00600)	Fecal coli-form, M-FC 0.7u MF col/ 100 mL (31625)
NOV													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
30...	359	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
11...	354	0.48	0.52	<0.010	<0.010	0.029	0.030	0.069	0.005	0.072	0.51	0.55	80
JUN													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
09...	738	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Mangan-ese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molyb-denum, water, fltrd, ug/L (01060)	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
NOV											
04...	--	--	--	--	--	--	--	--	--	--	--
DEC											
17...	--	--	--	--	--	--	--	--	--	--	--
JAN											
25...	--	--	--	--	--	--	--	--	--	--	--
MAR											
12...	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
APR											
30...	--	--	2.5	10	<1	20	20	<0.20	2	<1	150
MAY											
11...	18.2	<0.5	--	20	--	--	30	--	--	--	--
JUN											
03...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
JUL											
27...	--	--	--	--	--	--	--	--	--	--	--
SEP											
09...	--	--	3.9	340	1	20	60	<0.20	2	2	160
24...	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than

05051522 RED RIVER OF THE NORTH AT HICKSON, ND

LOCATION.--Lat 46°39'35", long 96°47'44", in SW¼ 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 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.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	122	e160	e120	e96	e255	758	484	2,510	678	467	267
2	100	120	e140	e135	e96	e270	775	484	2,720	644	484	235
3	124	140	e140	e150	e96	e275	690	436	2,570	610	452	212
4	123	139	e140	e150	e96	e275	591	405	2,530	580	437	241
5	114	136	e130	e150	e96	e275	496	396	2,350	603	448	428
6	110	121	e115	e150	e100	e280	453	397	1,960	633	497	643
7	108	92	e110	e145	e100	e290	436	407	1,550	678	537	753
8	106	103	e110	e145	e100	e305	456	445	1,360	881	567	1,250
9	102	107	e110	e145	e120	e330	494	468	1,330	1,130	541	1,300
10	100	140	e110	e140	e135	e350	509	464	1,330	1,220	540	1,120
11	115	181	e105	e130	e140	e355	460	471	1,320	1,240	538	961
12	123	214	e105	e130	e140	e405	436	552	1,290	1,290	530	866
13	126	204	e100	e130	e140	e425	434	521	1,290	1,440	518	810
14	123	158	e98	e130	e140	e430	432	495	1,350	1,630	514	781
15	116	176	e97	e130	e150	e435	430	487	1,280	1,570	532	773
16	122	207	e97	e140	e175	e455	426	496	1,200	1,380	537	729
17	123	e180	e96	e145	e180	e475	431	549	1,140	1,210	534	673
18	107	e150	e95	e145	e180	e500	484	584	1,060	1,100	528	779
19	102	e130	e95	e145	e180	e510	512	581	1,020	1,070	505	930
20	119	e120	e95	e140	e190	e550	510	563	979	1,050	482	929
21	132	e110	e100	e140	e200	e560	519	569	939	1,010	464	873
22	125	e100	e105	e140	e200	e610	530	581	934	958	459	1,210
23	127	e91	e110	e130	e200	e700	533	574	915	921	441	2,060
24	120	e89	e110	e115	e205	e760	535	567	853	885	425	2,510
25	107	e94	e110	e100	e205	e800	539	583	789	835	443	2,840
26	110	e97	e110	e98	e210	e810	527	613	741	788	542	3,060
27	107	e105	e110	e98	e215	e810	513	611	721	732	451	3,130
28	109	e125	e115	e98	e225	e785	503	617	704	668	250	3,000
29	118	e220	e115	e98	e240	e760	497	677	684	533	223	2,670
30	116	e185	e120	e96	---	e740	478	1,080	679	472	266	2,250
31	124	---	e120	e96	---	703	---	1,800	---	465	275	---
TOTAL	3,555	4,156	3,473	4,004	4,550	15,483	15,387	17,957	40,098	28,904	14,427	38,283
MEAN	115	139	112	129	157	499	513	579	1,337	932	465	1,276
MAX	132	220	160	150	240	810	775	1,800	2,720	1,630	567	3,130
MIN	97	89	95	96	96	255	426	396	679	465	223	212
AC-FT	7,050	8,240	6,890	7,940	9,020	30,710	30,520	35,620	79,530	57,330	28,620	75,930

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 2004, BY WATER YEAR (WY)

MEAN	416	364	348	328	388	980	2,110	1,337	1,159	1,009	568	481
MAX	1,558	900	932	747	1,058	2,687	9,864	3,925	3,264	2,674	2,674	2,135
(WY)	(1994)	(1987)	(1999)	(1986)	(1998)	(1995)	(1997)	(1997)	(2001)	(1993)	(1993)	(1993)
MIN	2.02	0.00	0.00	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 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1975 - 2004	
ANNUAL TOTAL	211,332		190,277			
ANNUAL MEAN	579		520		791	
HIGHEST ANNUAL MEAN					1,772	2001
LOWEST ANNUAL MEAN					53.1	1977
HIGHEST DAILY MEAN	4,350	Jun 29	3,130	Sep 27	13,100	Apr 15, 1997
LOWEST DAILY MEAN	85	Sep 26	89	Nov 24	0.00	Oct 26, 1976
ANNUAL SEVEN-DAY MINIMUM	92	Sep 24	96	Jan 30	0.00	Oct 26, 1976
MAXIMUM PEAK FLOW			a3,140	Sep 27	13,300	Apr 14, 1997
MAXIMUM PEAK STAGE			16.51	Jun 3	37.60	Apr 16, 1997
ANNUAL RUNOFF (AC-FT)	419,200		377,400		573,100	
10 PERCENT EXCEEDS	1,190		1,160		1,800	
50 PERCENT EXCEEDS	340		432		460	
90 PERCENT EXCEEDS	106		104		103	

a Gage height, 16.46 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 2003 TO SEPTEMBER 2004

Date	Time	Discharge, cfs (00060)	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
NOV													
04...	1235	--	146	--	--	--	--	--	--	--	731	--	1.5
DEC													
16...	1700	--	96	--	--	--	--	--	--	--	970	--	0.0
JAN													
25...	1620	--	100	--	--	--	--	--	--	--	758	-8.5	0.0
MAR													
12...	1440	--	408	--	--	--	--	--	--	--	689	0.0	0.0
APR													
01...	1505	--	731	--	--	--	--	7.7	7.8	696	690	12.5	8.5
30...	1205	--	473	--	--	--	--	--	--	--	590	14.5	13.0
MAY													
12...	0835	552	--	110	725	10.9	116	8.3	8.3	564	550	4.7	15.7
JUN													
03...	1820	--	2,490	--	--	--	--	--	--	--	604	25.0	16.0
JUL													
27...	1650	--	730	--	--	--	--	--	--	--	811	28.5	24.0
SEP													
09...	1230	--	1,310	--	--	--	--	7.7	7.3	671	686	26.5	18.5
28...	1340	--	2,970	--	--	--	--	--	--	--	762	16.5	16.5

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)
NOV													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
01...	350	70.1	42.9	5.60	0.5	20.1	11	191	14.5	0.15	14.4	165	435
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
12...	240	46.3	31.1	4.10	0.6	22.3	16	221	23.2	--	--	53.9	315
JUN													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
09...	290	55.0	36.7	6.80	0.6	23.7	15	136	10.6	0.16	13.6	210	427
28...	--	--	--	--	--	--	--	--	--	--	--	--	--

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, fltrd, mg/L (00602)	Total nitro-gen, water, unfltrd mg/L (00600)	Fecal coli-form, M-FC 0.7u MF col/ 100 mL (31625)
NOV													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
01...	883	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
12...	467	0.43	0.37	<0.010	<0.010	0.012	<0.020	0.019	0.064	0.142	0.44	0.39	E23k
JUN													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
09...	1,550	--	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Mangan-ese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molyb-denum, water, fltrd, ug/L (01060)	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
NOV											
04...	--	--	--	--	--	--	--	--	--	--	--
DEC											
16...	--	--	--	--	--	--	--	--	--	--	--
JAN											
25...	--	--	--	--	--	--	--	--	--	--	--
MAR											
12...	--	--	--	--	--	--	--	--	--	--	--
APR											
01...	--	--	1.9	10	<1	30	<10	<0.20	2	<1	250
30...	--	--	--	--	--	--	--	--	--	--	--
MAY											
12...	27.8	1.1	--	10	--	--	<10	--	--	--	--
JUN											
03...	--	--	--	--	--	--	--	--	--	--	--
JUL											
27...	--	--	--	--	--	--	--	--	--	--	--
SEP											
09...	--	--	4.6	40	<1	40	<10	<0.20	3	4	250
28...	--	--	--	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range

05051600 WILD RICE RIVER NEAR RUTLAND, ND

LOCATION.--Lat 46°01'20", long 97°30'40", in SE¼SE¼ 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 National Geodetic Vertical Datum of 1929. Prior to Dec. 11, 1960, nonrecording gage at same site and datum.

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

EXTREMES FOR CURRENT YEAR.-- Maximum discharge, 351 ft^3/s, June 2, gage height, 5.42 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e0.00	17	3.7	247	11	3.3	0.01
2	---	---	---	---	---	e0.00	15	3.7	333	10	3.2	0.01
3	---	---	---	---	---	e0.00	12	5.3	321	9.7	3.0	0.00
4	---	---	---	---	---	e0.00	11	2.5	263	8.8	2.8	0.00
5	---	---	---	---	---	e0.00	11	2.8	189	8.3	2.7	0.00
6	---	---	---	---	---	e0.00	9.8	2.0	149	21	3.1	0.02
7	---	---	---	---	---	e0.00	9.4	2.1	107	20	2.4	0.02
8	---	---	---	---	---	e0.00	8.4	2.0	76	16	1.8	0.02
9	---	---	---	---	---	e0.05	8.2	2.4	60	16	1.4	0.02
10	---	---	---	---	---	e0.20	7.7	1.4	53	23	0.89	0.02
11	---	---	---	---	---	e0.20	7.3	1.6	51	30	0.74	0.01
12	---	---	---	---	---	e0.30	7.2	6.6	45	32	0.59	0.64
13	---	---	---	---	---	e0.50	7.0	6.8	40	27	0.49	2.3
14	---	---	---	---	---	e0.50	6.0	10	37	22	0.43	0.89
15	---	---	---	---	---	e0.50	5.2	16	35	19	0.42	0.91
16	---	---	---	---	---	e0.60	4.7	13	34	22	0.46	2.9
17	---	---	---	---	---	e0.80	4.7	18	35	20	0.40	2.4
18	---	---	---	---	---	e1.4	4.5	16	35	18	0.30	2.0
19	---	---	---	---	---	e2.2	4.6	16	34	15	0.22	5.1
20	---	---	---	---	---	e1.6	7.9	15	31	13	0.18	7.5
21	---	---	---	---	---	e1.4	15	14	27	12	0.15	1.8
22	---	---	---	---	---	e2.4	11	13	24	10	0.12	0.74
23	---	---	---	---	---	e6.0	10	11	23	8.4	0.09	4.8
24	---	---	---	---	---	e12	9.5	13	22	6.7	0.07	8.3
25	---	---	---	---	---	e12	8.1	16	19	5.8	0.06	4.8
26	---	---	---	---	---	12	6.6	14	18	4.9	0.05	5.9
27	---	---	---	---	---	11	7.5	15	20	4.5	0.05	9.2
28	---	---	---	---	---	15	5.1	14	18	3.1	0.04	10
29	---	---	---	---	---	15	3.9	17	16	3.4	0.03	11
30	---	---	---	---	---	20	3.9	64	13	3.3	0.02	7.8
31	---	---	---	---	---	20	---	142	---	3.3	0.01	---
TOTAL	---	---	---	---	---	135.65	249.2	479.9	2,375	427.2	29.51	89.11
MEAN	---	---	---	---	---	4.38	8.31	15.5	79.2	13.8	0.95	2.97
MAX	---	---	---	---	---	20	17	142	333	32	3.3	11
MIN	---	---	---	---	---	0.00	3.9	1.4	13	3.1	0.01	0.00
AC-FT	---	---	---	---	---	269	494	952	4,710	847	59	177

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2004, BY WATER YEAR (WY)

MEAN	0.54	0.36	0.14	0.00	0.07	24.6	69.9	38.5	24.3	26.6	7.79	6.85
MAX	4.81	5.87	2.90	0.10	1.00	138	756	419	263	379	105	146
(WY)	(1963)	(1963)	(1963)	(1963)	(1976)	(1966)	(1997)	(1998)	(1998)	(1998)	(1998)	(1999)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(WY)	(1960)	(1960)	(1960)	(1960)	(1960)	(1965)	(1977)	(1977)	(1973)	(1961)	(1960)	(1960)

05051600 WILD RICE RIVER NEAR RUTLAND, ND—Continued

SUMMARY STATISTICS	WATER YEARS 1960 - 2004	
ANNUAL MEAN	a8.36	
HIGHEST ANNUAL MEAN	a44.8	1969
LOWEST ANNUAL MEAN	a0.00	1977
HIGHEST DAILY MEAN	2,540	Apr 4, 1997
LOWEST DAILY MEAN	0.00	Oct 1, 1959
ANNUAL SEVEN-DAY MINIMUM	0.00	Oct 1, 1959
MAXIMUM PEAK FLOW	2,700	Apr 3, 1997
MAXIMUM PEAK STAGE	10.11	Apr 3, 1997
ANNUAL RUNOFF (AC-FT)	a6,050	
10 PERCENT EXCEEDS	18	
50 PERCENT EXCEEDS	0.00	
90 PERCENT EXCEEDS	0.00	

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

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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
MAR													
18...	0900	1.4	--	--	--	1,440	2.0	0.5	--	--	--	--	--
25...	1135	12	--	--	--	743	12.5	6.0	--	--	--	--	--
APR													
08...	1410	8.8	8.6	8.4	2,900	2,890	10.0	10.5	1,200	143	206	28.5	4
MAY													
05...	1720	3.7	--	--	--	3,460	27.0	22.0	--	--	--	--	--
JUN													
02...	1035	334	--	--	--	1,830	18.0	13.5	--	--	--	--	--
15...	0915	36	--	--	--	2,180	--	18.5	--	--	--	--	--
JUL													
22...	1130	10	--	--	--	2,100	--	--	--	--	--	--	--
AUG													
04...	1115	3.1	7.8	8.0	2,560	2,500	20.0	19.0	1,000	128	172	27.0	3
SEP													
16...	0950	3.3	--	--	--	2,550	--	11.0	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
MAR													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
08...	285	33	330	96.9	0.20	9.60	1,280	2,240	53.6	7.2	60	<1	290
MAY													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
04...	236	32	295	82.4	0.22	<2.00	1,130	1,950	16.4	6.2	40	<1	270
SEP													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--

05051600 WILD RICE RIVER NEAR RUTLAND, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
MAR					
18...	--	--	--	--	--
25...	--	--	--	--	--
APR					
08...	230	<0.20	6	9	980
MAY					
05...	--	--	--	--	--
JUN					
02...	--	--	--	--	--
15...	--	--	--	--	--
JUL					
22...	--	--	--	--	--
AUG					
04...	60	<0.20	7	3	950
SEP					
16...	--	--	--	--	--

Remark codes used in this table:
< -- Less than

05052500 ANTELOPE CREEK AT DWIGHT, ND

LOCATION.--Lat 46°18'41", long 96°44'03", in NW$^1/_4$ sec.28, T.133 N., R.48 W., Richland County, Hydrologic Unit 09020105, at bridge on County Road 10, about 0.4 mi north and 0.1 mi east of Dwight.

DRAINAGE AREA.--294 mi^2, approximately of which 16 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Water years 1944-1949 (monthly discharge only, published in WSP 1308); 1950-1973, 1975, and 1995-2002, annual peak discharge only; March 2003 to current year (seasonal records only).

GAGE.--Water-stage recorder. Datum of gage is 900 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1994, nonrecording gage at site 0.3 mi downstream at datum 26.08 ft higher.

REMARKS.--Records fair except for discharges below 1.0 ft^3/s and for estimated daily discharges, which are poor.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of about 16.0 ft occurred in April 1943, site and datum then in use.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,940 ft^3/s, May 31, gage height, 34.86 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e0.00	14	e0.05	1,500	3.5	0.43	0.75
2	---	---	---	---	---	e0.00	7.5	e0.10	900	3.6	0.18	0.67
3	---	---	---	---	---	e0.00	2.3	e0.18	318	3.8	0.00	0.35
4	---	---	---	---	---	0.00	0.14	0.32	132	4.1	0.00	0.68
5	---	---	---	---	---	e0.00	0.00	0.42	89	4.2	0.00	31
6	---	---	---	---	---	e0.00	0.00	0.42	188	11	0.11	102
7	---	---	---	---	---	e0.00	0.00	0.02	109	33	1.6	47
8	---	---	---	---	---	e0.00	0.00	0.00	67	58	2.0	62
9	---	---	---	---	---	e0.00	0.00	0.02	40	77	2.4	82
10	---	---	---	---	---	e0.00	0.00	0.00	26	53	2.5	63
11	---	---	---	---	---	0.00	0.00	0.00	21	53	2.6	35
12	---	---	---	---	---	e8.0	0.00	1.3	17	44	2.7	21
13	---	---	---	---	---	e16	0.00	1.4	12	36	2.7	13
14	---	---	---	---	---	e25	0.00	1.9	7.0	30	2.7	7.9
15	---	---	---	---	---	e25	0.00	2.2	5.4	22	2.7	6.8
16	---	---	---	---	---	e30	0.00	3.2	4.5	18	2.7	6.6
17	---	---	---	---	---	e45	0.00	5.9	3.6	14	2.6	8.1
18	---	---	---	---	---	e55	0.00	5.9	2.7	10	2.5	9.1
19	---	---	---	---	---	e65	0.00	6.1	1.9	7.3	2.2	11
20	---	---	---	---	---	e60	0.00	6.6	1.6	5.7	2.0	13
21	---	---	---	---	---	e60	0.00	6.5	1.2	4.4	1.8	20
22	---	---	---	---	---	e65	0.00	5.9	1.3	2.8	1.8	21
23	---	---	---	---	---	e70	0.00	5.1	1.5	1.7	1.7	25
24	---	---	---	---	---	e75	0.00	5.8	1.4	0.48	1.8	40
25	---	---	---	---	---	e80	0.00	7.1	1.7	0.00	1.6	47
26	---	---	---	---	---	e80	0.00	6.8	1.7	0.00	1.6	38
27	---	---	---	---	---	71	0.00	7.4	2.4	0.00	1.3	31
28	---	---	---	---	---	51	0.22	7.4	2.9	0.08	1.3	29
29	---	---	---	---	---	41	e0.18	22	3.1	0.17	1.1	29
30	---	---	---	---	---	34	e0.10	1,330	3.4	0.40	1.0	29
31	---	---	---	---	---	21	---	1,870	---	0.59	0.90	---
TOTAL	---	---	---	---	---	977.00	24.44	3,310.03	3,466.3	501.82	50.52	829.95
MEAN	---	---	---	---	---	31.5	0.81	107	116	16.2	1.63	27.7
MAX	---	---	---	---	---	80	14	1,870	1,500	77	2.7	102
MIN	---	---	---	---	---	0.00	0.00	0.00	1.2	0.00	0.00	0.35
AC-FT	---	---	---	---	---	1,940	48	6,570	6,880	995	100	1,650

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2004, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	16.5	0.96	60.2	132	22.3	1.17	13.8
MAX	---	---	---	---	---	31.5	1.11	107	149	28.3	1.63	27.7
(WY)	---	---	---	---	---	(2004)	(2003)	(2004)	(2003)	(2003)	(2004)	(2004)
MIN	---	---	---	---	---	1.47	0.81	13.7	116	16.2	0.72	0.00
(WY)	---	---	---	---	---	(2003)	(2004)	(2003)	(2004)	(2004)	(2003)	(2003)

SUMMARY STATISTICS	WATER YEARS 2002 - 2004	
HIGHEST DAILY MEAN	1,870	May 31, 2004
LOWEST DAILY MEAN	0.00	Mar 1, 2003
ANNUAL SEVEN-DAY MINIMUM	0.00	Mar 1, 2003
MAXIMUM PEAK FLOW	9,000	Apr 10, 1969
MAXIMUM PEAK STAGE	a43.90	Apr 10, 1969

a Present datum; gage height, 17.82 ft; site and datum then in use
e Estimated

05052500 ANTELOPE CREEK AT DWIGHT, ND—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 2003 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
MAR													
17...	1530	45	--	--	--	--e	4.5	0.0	--	--	--	--	--
APR													
02...	0950	8.9	7.2	7.6	696	690	12.0	8.5	310	70.1	33.3	10.8	0.7
29...	1505	0.18	--	--	--	1,140	11.5	13.0	--	--	--	--	--
MAY													
31...	1630	1,860	--	--	--	1,410	16.5	13.5	--	--	--	--	--
JUL													
30...	0935	0.20	7.2	8.0	984	960	17.0	20.0	440	91.0	50.9	10.6	1
SEP													
15...	1345	7.1	--	--	--	521	11.0	17.5	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
MAR													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
02...	30.2	17	164	19.6	0.19	15.0	172	437	10.8	4.5	30	<1	40
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
31...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
30...	52.5	20	275	24.7	0.29	14.5	233	630	0.35	9.4	10	<1	70
SEP													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
MAR					
17...	--	--	--	--	--
APR					
02...	130	<0.20	2	3	300
29...	--	--	--	--	--
MAY					
31...	--	--	--	--	--
JUL					
30...	490	<0.20	4	2	440
SEP					
15...	--	--	--	--	--

Remark codes used in this table:
< -- Less than

Null value qualifier codes used in this table:
e -- Required equipment not functional/avail

05053000 WILD RICE RIVER NEAR ABERCROMBIE, ND

LOCATION.--Lat 46°28'05", long 96°47'00", in NE¼NE¼ 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.--May 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 National Geodetic Vertical Datum of 1929. 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 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.09	4.6	e6.0	e4.2	e2.1	e4.5	109	25	2,490	73	41	2.8
2	0.07	3.9	e5.7	e4.2	e2.1	e5.1	96	23	2,560	71	39	4.2
3	0.07	e5.1	e5.3	e4.1	e2.1	e5.6	85	21	2,170	67	36	2.7
4	0.06	e6.2	e5.3	e4.0	e2.1	e5.6	76	20	1,620	60	33	4.3
5	0.06	e7.4	e5.4	e3.9	e2.2	e5.8	69	18	1,300	56	31	92
6	0.04	e8.4	e5.6	e3.9	e2.2	e6.5	62	18	1,030	68	29	211
7	0.04	e8.4	e5.8	e3.8	e2.2	e7.4	56	16	768	109	29	164
8	0.03	e8.6	e5.7	e3.8	e2.2	e8.1	49	14	620	133	28	119
9	0.01	9.2	e5.6	e3.8	e2.2	e18	45	13	573	185	29	127
10	0.03	9.8	e5.5	e3.8	e2.2	e127	43	12	675	195	25	122
11	0.60	10	e5.3	e3.8	e2.2	e100	42	19	765	179	22	102
12	0.62	11	e5.1	e3.8	e2.2	e78	41	64	788	183	23	83
13	0.58	9.3	e5.1	e3.8	e2.2	e82	38	40	755	163	23	69
14	0.59	9.3	e5.0	e3.8	e2.2	e110	35	25	712	160	20	52
15	0.49	11	e5.0	e3.8	e2.3	e140	34	21	635	175	16	43
16	0.47	10	e5.0	e3.8	e2.4	e180	32	23	564	183	12	40
17	2.5	11	e4.8	e3.6	e2.5	e178	30	34	512	180	9.1	35
18	7.8	12	e4.7	e3.4	e2.6	e170	28	35	471	174	7.6	28
19	11	13	e4.7	e3.1	e2.6	e210	28	34	441	163	5.9	23
20	7.8	14	e4.7	e2.9	e2.6	e410	29	37	409	147	4.7	29
21	5.4	16	e4.7	e2.9	e2.6	e410	30	45	375	128	4.1	44
22	3.7	e17	e4.7	e2.8	e2.6	e380	30	40	329	109	3.7	52
23	4.0	e12	e4.7	e2.7	e2.6	e370	30	36	276	96	3.5	55
24	3.5	e9.2	e4.7	e2.6	e2.6	e370	31	35	216	86	3.1	70
25	3.4	e9.0	e4.7	e2.4	e2.6	e370	36	37	155	76	2.6	89
26	3.8	e8.4	e4.7	e2.3	e2.7	e370	38	38	120	69	2.0	85
27	3.8	e7.9	e4.7	e2.2	e2.8	e360	35	38	105	60	1.8	80
28	4.5	e7.2	e4.7	e2.1	e3.0	270	33	37	90	56	1.7	92
29	5.7	e6.9	e4.6	e2.1	e4.0	199	32	87	80	52	1.7	91
30	5.9	e6.4	e4.4	e2.1	---	147	28	1,290	74	48	1.9	86
31	5.3	---	e4.3	e2.1	---	123	---	2,000	---	44	2.0	---
TOTAL	81.95	282.2	156.2	101.6	70.9	5,220.6	1,350	4,195	21,678	3,548	491.4	2,097.0
MEAN	2.64	9.41	5.04	3.28	2.44	168	45.0	135	723	114	15.9	69.9
MAX	11	17	6.0	4.2	4.0	410	109	2,000	2,560	195	41	211
MIN	0.01	3.9	4.3	2.1	2.1	4.5	28	12	74	44	1.7	2.7
AC-FT	163	560	310	202	141	10,360	2,680	8,320	43,000	7,040	975	4,160

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 2004, BY WATER YEAR (WY)

MEAN	12.7	9.58	6.74	2.77	6.33	166	504	160	127	143	31.9	19.0
MAX	146	111	188	72.8	210	1,195	5,510	1,246	929	1,787	462	438
(WY)	(1999)	(1999)	(1999)	(1999)	(1998)	(1995)	(1997)	(1998)	(1962)	(1962)	(1993)	(1999)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	2.81	0.11	0.08	0.00	0.00	0.00
(WY)	(1933)	(1933)	(1933)	(1933)	(1934)	(1937)	(1991)	(1934)	(1988)	(1933)	(1932)	(1932)

05053000 WILD RICE RIVER NEAR ABERCROMBIE, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1932 - 2004	
ANNUAL TOTAL	31,894.40		39,272.85			
ANNUAL MEAN	87.4		107		99.6	
HIGHEST ANNUAL MEAN					560	1997
LOWEST ANNUAL MEAN					0.48	1934
HIGHEST DAILY MEAN	2,200	Jun 28	2,560	Jun 2	9,450	Apr 16, 1997
LOWEST DAILY MEAN	0.01	Oct 9	0.01	Oct 9	0.00	Jul 26, 1932
ANNUAL SEVEN-DAY MINIMUM	0.04	Oct 4	0.04	Oct 4	0.00	Jul 26, 1932
MAXIMUM PEAK FLOW			2,630	Jun 2	a9,540	Apr 11, 1969
MAXIMUM PEAK STAGE			14.43	Jun 2	b26.59	Apr 6, 1997
ANNUAL RUNOFF (AC-FT)	63,260		77,900		72,180	
10 PERCENT EXCEEDS	178		210		189	
50 PERCENT EXCEEDS	7.9		16		3.3	
90 PERCENT EXCEEDS	0.60		2.2		0.00	

a Gage height, 24.58 ft
b 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 2003 TO SEPTEMBER 2004

Date	Time	Discharge, cfs (00060)	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
OCT													
10...	0830	--	0.02	--	--	--	--	--	--	--	2,130	15.5	17.0
NOV													
06...	1055	--	8.4	--	--	--	--	--	--	--	2,260	-7.5	2.5
DEC													
17...	1225	--	4.8	--	--	--	--	--	--	--	1,660	6.5	0.5
JAN													
28...	1405	--	2.1	--	--	--	--	--	--	--	2,220	-21.0	0.5
MAR													
10...	1615	--	127	--	--	--	--	--	--	--	848	1.5	0.0
APR													
01...	1820	--	106	--	--	--	--	7.7	7.4	889	830	8.4	8.0
MAY													
04...	1645	--	20	--	--	--	--	--	--	--	1,570	20.0	14.5
11...	1515	19	--	160	723	10.4	112	8.1	8.3	1,700	1,700	23.0	15.9
JUN													
02...	1520	--	2,610	--	--	--	--	--	--	--	324	21.0	14.0
07...	1245	--	790	--	--	--	--	--	--	--	705	28.0	23.0
JUL													
29...	1525	--	50	--	--	--	--	7.7	8.0	1,600	1,600	20.0	24.0
SEP													
15...	0950	--	41	--	--	--	--	--	--	--	1,060	11.0	18.5

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)
OCT													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
01...	380	82.9	41.1	10.2	1	54.7	23	163	23.2	0.18	14.7	276	588
MAY													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	710	146	83.0	15.5	2	124	27	348	48.9	--	--	581	1,210
JUN													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
29...	710	134	90.9	16.5	2	116	26	308	39.0	0.30	21.4	549	1,130
SEP													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--

05053000 WILD RICE RIVER NEAR ABERCROMBIE, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, fltrd, mg/L (00602)	Total nitro-gen, water, unfltrd mg/L (00600)
OCT													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
01...	172	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	62.0	0.71	1.4	<0.010	0.018	0.012	0.020	1.4	0.091	0.063	0.328	0.72	1.4
JUN													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
29...	157	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Fecal coli-form, M-FC 0.7u MF col/ 100 mL (31625)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Mangan-ese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molyb-denum, water, fltrd, ug/L (01060)	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
OCT												
10...	--	--	--	--	--	--	--	--	--	--	--	--
NOV												
06...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
17...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
28...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
10...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
01...	--	--	--	4.5	30	<1	60	90	<0.20	3	3	350
MAY												
04...	--	--	--	--	--	--	--	--	--	--	--	--
11...	E36k	32.0	4.3	--	30	--	--	640	--	--	--	--
JUN												
02...	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
29...	--	--	--	12.1	30	<1	140	120	<0.20	7	2	690
SEP												
15...	--	--	--	--	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range

05054000 RED RIVER OF THE NORTH AT FARGO, ND

LOCATION.--Lat 46°51'40", long 96°47'00", in NW¼NE¼ sec.18, T.139 N., R.48 W., Cass County, Hydrologic Unit 09020104, at waterplant on 4th Street South 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.--June 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 discharges below 200 ft^3/s, which are fair and 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	e110	e185	e100	e90	e230	930	515	4,410	734	455	223
2	68	e115	e165	e100	e90	e245	933	522	5,100	709	578	216
3	82	e118	e155	e110	e90	e260	872	505	5,380	714	525	183
4	85	126	e150	e125	e92	e280	743	452	5,380	668	467	302
5	e75	134	e145	e130	e92	e300	612	433	5,030	632	432	1,330
6	e70	114	e135	e130	e94	e320	515	411	4,160	832	513	3,500
7	e70	101	e128	e130	e94	e320	469	422	3,190	744	658	3,000
8	e72	88	e118	e130	e94	e320	454	448	2,550	825	617	2,190
9	e75	88	e113	e130	e95	e330	467	499	2,180	1,150	583	1,850
10	e74	95	e110	e130	e110	e340	501	506	2,010	1,410	546	1,540
11	123	137	e110	e125	e130	e360	493	597	2,010	1,880	530	1,330
12	e100	188	e105	e120	e137	e400	445	611	2,060	2,060	525	1,150
13	e90	201	e97	e115	e137	e440	423	750	2,070	2,120	516	1,010
14	e100	178	e91	e115	e140	e490	416	778	2,100	1,980	508	902
15	e100	182	e88	e115	e142	e560	414	664	2,090	1,870	513	918
16	e89	187	e81	e115	e160	e640	410	595	1,950	1,700	529	847
17	e95	178	e81	e115	e175	e690	406	600	1,820	1,540	534	765
18	e105	154	e80	e120	e195	e730	428	618	1,690	1,390	530	737
19	e96	e140	e80	e120	e200	e840	475	691	1,590	1,310	520	885
20	e90	e125	e80	e115	e205	e950	492	717	1,510	1,270	479	1,040
21	e95	e115	e80	e115	e210	e990	496	646	1,440	1,230	466	947
22	106	e108	e83	e115	e210	e1,060	502	642	1,380	1,160	444	986
23	124	e98	e90	e115	e210	e1,200	515	655	1,330	1,090	433	1,570
24	132	e93	e92	e110	e210	e1,280	524	656	1,240	1,020	414	2,090
25	124	e90	e93	e94	e210	e1,310	527	657	1,090	950	394	2,470
26	111	e94	e94	e90	e210	e1,320	532	663	968	874	433	2,810
27	e100	e100	e94	e90	e210	e1,320	532	671	871	808	479	2,960
28	e95	e115	e94	e90	e220	e1,310	528	675	814	884	367	2,960
29	e100	e140	e95	e90	e225	e1,270	514	745	785	676	258	2,760
30	e108	e210	e97	e90	---	e1,150	514	1,260	752	527	214	2,300
31	e110	---	e99	e90	---	1,050	---	3,100	---	472	222	---
TOTAL	2,927	3,922	3,308	3,479	4,477	22,305	16,082	21,704	68,950	35,229	14,682	45,771
MEAN	94.4	131	107	112	154	720	536	700	2,298	1,136	474	1,526
MAX	132	210	185	130	225	1,320	933	3,100	5,380	2,120	658	3,500
MIN	63	88	80	90	90	230	406	411	752	472	214	183
AC-FT	5,810	7,780	6,560	6,900	8,880	44,240	31,900	43,050	136,800	69,880	29,120	90,790
+	1,400	1,290	1,280	1,300	1,310	1,320	1,280	1,420	1,430	1,540	1,460	1,260
*	7,210	9,070	7,840	8,200	10,190	45,560	33,180	44,470	138,230	71,420	30,580	92,050

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1901 - 2004, BY WATER YEAR (WY)

MEAN	333	295	253	229	241	787	1,987	1,163	1,112	948	450	353
MAX	1,741	942	1,261	740	1,353	4,722	17,920	5,365	5,122	5,692	3,293	2,280
(WY)	(1994)	(1907)	(1999)	(1986)	(1998)	(1995)	(1997)	(1997)	(1962)	(1962)	(1993)	(1993)
MIN	0.00	0.00	0.00	0.00	0.18	26.8	102	8.12	2.87	0.00	0.00	0.00
(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 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1901 - 2004	
ANNUAL TOTAL	252,776		242,836			
ANNUAL MEAN	693	*(715)	663	*(688)	681	
HIGHEST ANNUAL MEAN					2,619	1997
LOWEST ANNUAL MEAN					17.5	1934
HIGHEST DAILY MEAN	6,680	Jun 30	5,380	Jun 3	27,800	Apr 17, 1997
LOWEST DAILY MEAN	46	Sep 27	63	Oct 1	0.00	Jul 25, 1932
ANNUAL SEVEN-DAY MINIMUM	53	Sep 24	73	Oct 1	0.00	Jul 25, 1932
MAXIMUM PEAK FLOW			5,430	Jun 3	28,000	Apr 17, 1997
MAXIMUM PEAK STAGE			20.47	Jun 3	39.72	Apr 18, 1997
ANNUAL RUNOFF (AC-FT)	501,400	*(517,800)	481,700	*(498,000)	493,000	
10 PERCENT EXCEEDS	1,400		1,620		1,520	
50 PERCENT EXCEEDS	340		432		335	
90 PERCENT EXCEEDS	90		92		43	

+ 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.
PH: October 2003 to current year.
DISSOLVED OXYGEN: October 2003 to current year.
TURBIDITY: October 2003 to current year.

INSTRUMENTATION.--Multiparameter water-quality monitor.

REMARKS.--Records good. Quality assurance sample also collected at this location. Instruments used to measure turbidity conform to ISO 7027 standards and values are reported in Formazin Nephlometric Units (FNU).

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 30.1°C, Aug. 6-7, 2001; minimum recorded, -0.4°C on many days during winter months.
SPECIFIC CONDUCTANCE: Maximum recorded, 1,330 microsiemens, July 19, 2001; minimum recorded, 245 microsiemens, Sept. 7, 2004.
PH: Maximum recorded, 8.8 units on many days during Nov. 2003 and Aug. 2004; minimum recorded, 7.6 units, Sept. 6-8, 2004.
DISSOLVED OXYGEN: Maximum recorded, 20.6 milligrams per liter, Nov. 28-29, 2003; minimum recorded, 5.4 milligrams per liter, July 3, 2004.
TURBIDITY: Maximum operating range of sensor, 1,100 FNU, may have been exceeded on May 31, 2004, and June 1-2, 2004; minimum recorded, 1.5 FNU, Feb. 12-13, 2004.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 28.3°C, July 21; minimum recorded, 0.5°C on many days during January, February, and March.
SPECIFIC CONDUCTANCE: Maximum recorded, 1,140 microsiemens, June 16; minimum recorded, 245 microsiemens, Sept. 7.
PH: Maximum recorded, 8.8 units, on many days during Nov. and Aug.; minimum recorded, 7.6 units, Sept. 6-8.
DISSOLVED OXYGEN: Maximum recorded, 20.6 milligrams per liter, Nov. 28-29; minimum recorded, 5.4 milligrams per liter, July 3.
TURBIDITY: Maximum operating range of sensor, 1,100 FNU, may have been exceeded on May 31 and June 1-2; minimum recorded, 1.5 FNU, Feb. 12-13.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Discharge, cfs (00060)	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
OCT													
01...	1150	--	62	--	--	--	--	--	--	--	712	7.0	11.0
NOV													
04...	1555	--	124	--	--	--	--	--	--	--	978	--	3.0
DEC													
16...	1410	--	81	--	--	--	--	--	--	--	959	-6.0	0.0
JAN													
26...	1110	--	91	--	--	--	--	--	--	--	886	-10.5	0.5
APR													
01...	0940	--	964	--	--	--	--	7.7	--	--	645	6.0	3.5
30...	1400	--	477	--	--	--	--	--	--	--	716	15.0	13.0
MAY													
06...	1130	411	--	40	738	10.4	102	8.4	--	--	661	10.0	13.0
12...	1115	611	--	160	727	10.8	110	8.3	7.9	572	557	7.3	13.9
25...	1100	657	--	54	734	8.5	88	8.1	--	--	656	9.7	15.0
JUN													
02...	1045	5,100	--	580	739	6.8	68	7.8	--	--	312	18.5	14.2
04...	0900	--	5,370	--	--	--	--	--	--	--	466	17.0	15.0
08...	1435	--	2,490	--	--	--	--	--	--	--	747	--	22.0
15...	1105	2,090	--	120	737	7.8	91	8.0	--	--	1,110	14.5	20.9
17...	1230	--	1,750	--	--	--	--	--	--	--	1,070	26.0	21.0
JUL													
08...	1330	744	--	70	734	7.8	89	8.1	--	--	698	24.0	20.0
21...	1215	1,230	--	51	731	6.4	84	8.0	--	--	969	26.5	27.2
28...	0915	--	1,180	--	--	--	--	--	--	--	874	20.5	23.5
AUG													
10...	1055	546	--	48	739	7.1	82	8.2	8.3	652	639	14.0	20.5
SEP													
02...	1125	216	--	23	734	6.8	79	8.5	--	--	647	26.5	20.6
08...	1015	2,190	--	160	742	6.4	67	7.6	--	--	351	14.5	16.4
22...	1100	986	--	37	740	7.0	78	8.1	--	--	855	12.5	18.8

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)
OCT													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	240	46.1	30.0	4.30	0.1	24.0	18	203	23.2	--	--	70.6	322
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
10...	280	51.0	36.9	7.80	0.7	26.4	16	217	20.9	0.17	12.9	113	388
SEP													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Organic nitrogen, water, fltrd, mg/L (00607)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)
OCT													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
06...	--	--	0.40	--	<0.010	--	0.020	--	--	--	--	0.147	--
12...	528	0.43	0.38	<0.010	<0.010	0.090	0.090	--	--	0.066	0.054	0.136	0.52
25...	--	0.57	0.49	0.222	<0.010	0.037	0.060	0.34	0.27	0.051	0.039	0.119	0.60
JUN													
02...	--	0.38	0.48	0.116	0.077	1.02	0.770	0.26	0.40	0.172	0.151	0.695	1.4
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	1.0	0.89	<0.010	<0.010	0.060	0.060	--	--	0.117	0.088	0.241	1.1
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
08...	--	0.73	0.77	<0.010	0.016	--	0.240	--	0.75	0.077	0.064	0.133	0.97
21...	--	0.74	0.78	<0.010	<0.010	0.230	0.240	--	--	0.109	0.111	0.186	0.97
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
10...	590	0.74	0.69	<0.010	<0.010	0.159	0.170	--	--	0.119	0.118	0.182	0.90
SEP													
02...	--	0.94	0.81	0.235	0.238	0.038	0.040	0.70	0.57	0.056	0.073	0.112	0.97
08...	--	0.68	0.59	0.059	0.033	0.165	0.160	0.62	0.56	0.304	0.310	0.492	0.85
22...	--	0.94	0.92	<0.010	0.025	0.331	0.300	--	0.90	0.092	0.166	0.185	1.3

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Total nitrogen, water, unfltrd mg/L (00600)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
06...	0.42	--	--	--	--	--	--	--	--	--	--	--	--
12...	0.47	88	20.3	0.6	--	20	--	--	<10	--	--	--	--
25...	0.55	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
02...	1.2	--	--	--	--	--	--	--	--	--	--	--	--
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	0.95	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
08...	1.0	--	--	--	--	--	--	--	--	--	--	--	--
21...	1.0	--	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
10...	0.86	--	--	--	6.5	20	<1	30	<10	<0.20	3	<1	220
SEP													
02...	0.85	--	--	--	--	--	--	--	--	--	--	--	--
08...	0.76	--	--	--	--	--	--	--	--	--	--	--	--
22...	1.2	--	--	--	--	--	--	--	--	--	--	--	--

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)	Sus-pended sedi-ment dis-charge, tons/d (80155)
OCT			
01...	--	--	--
NOV			
04...	--	--	--
DEC			
16...	--	--	--
JAN			
26...	--	--	--
APR			
01...	--	--	--
30...	--	--	--
MAY			
06...	98	84	93
12...	--	--	--
25...	96	147	261
JUN			
02...	100	1,020	14,000
04...	--	--	--
08...	--	--	--
15...	94	270	1,520
17...	--	--	--
JUL			
08...	94	109	219
21...	99	80	266
28...	--	--	--
AUG			
10...	96	67	99
SEP			
02...	100	49	29
08...	97	262	1,550
22...	95	51	136

Remark codes used in this table:
< -- Less than

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

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	12.0	11.1	11.6	6.0	5.3	5.5	0.8	0.7	0.8	0.7	0.6	0.7
2	11.6	10.7	11.1	5.3	4.9	5.1	0.7	0.7	0.7	0.7	0.7	0.7
3	11.7	10.8	11.2	4.9	4.0	4.3	0.7	0.6	0.7	0.8	0.7	0.7
4	11.7	11.0	11.4	4.0	3.2	3.5	---	---	---	---	---	---
5	12.3	11.3	11.8	3.3	2.8	3.1	---	---	---	---	---	---
6	12.4	11.7	12.0	2.9	2.3	2.6	---	---	---	---	---	---
7	12.5	12.0	12.2	2.3	2.0	2.2	---	---	---	0.6	0.5	0.5
8	13.7	12.3	13.0	2.2	2.0	2.1	---	---	---	0.6	0.5	0.5
9	14.1	13.2	13.6	2.1	1.9	2.0	---	---	---	0.6	0.5	0.6
10	---	---	---	1.9	1.7	1.8	---	---	---	0.6	0.5	0.5
11	---	---	---	1.8	1.6	1.7	0.7	0.6	0.7	0.5	0.5	0.5
12	---	---	---	1.6	1.3	1.5	0.7	0.6	0.6	0.6	0.5	0.5
13	---	---	---	1.3	1.0	1.2	---	---	---	0.6	0.6	0.6
14	---	---	---	1.3	1.0	1.1	---	---	---	0.6	0.6	0.6
15	13.6	12.8	13.1	1.3	1.0	1.2	---	---	---	0.6	0.6	0.6
16	12.9	12.5	12.7	1.3	1.3	1.3	---	---	---	0.6	0.6	0.6
17	12.7	12.0	12.2	1.5	1.2	1.3	0.6	0.6	0.6	0.6	0.6	0.6
18	12.4	11.9	12.1	1.5	1.2	1.3	0.6	0.6	0.6	0.6	0.6	0.6
19	12.3	11.9	12.1	1.6	1.3	1.4	0.6	0.6	0.6	0.6	0.6	0.6
20	12.7	12.2	12.4	1.5	1.1	1.4	0.6	0.6	0.6	0.6	0.6	0.6
21	12.5	12.1	12.3	1.2	1.0	1.1	0.6	0.6	0.6	0.6	0.5	0.6
22	12.6	11.9	12.3	1.2	0.9	1.1	0.6	0.6	0.6	0.6	0.5	0.5
23	12.3	11.4	11.6	1.2	1.1	1.2	0.7	0.6	0.6	0.6	0.5	0.6
24	11.7	11.1	11.4	1.2	1.0	1.1	0.6	0.6	0.6	0.6	0.5	0.6
25	11.2	9.9	10.5	1.1	1.0	1.1	0.6	0.6	0.6	0.6	0.5	0.5
26	9.9	9.2	9.5	1.1	1.1	1.1	0.8	0.6	0.7	0.6	0.5	0.6
27	9.2	8.5	8.8	1.1	1.0	1.1	0.8	0.7	0.8	0.6	0.5	0.5
28	8.5	7.5	7.9	1.2	1.1	1.1	0.8	0.7	0.8	0.6	0.5	0.5
29	7.5	7.1	7.4	1.1	1.0	1.0	0.8	0.7	0.7	0.6	0.5	0.5
30	7.1	6.7	7.0	1.0	0.8	0.9	0.7	0.7	0.7	0.5	0.5	0.5
31	6.7	6.0	6.4	---	---	---	0.7	0.6	0.7	0.5	0.5	0.5
MONTH	14.1	6.0	11.1	6.0	0.8	1.9	0.8	0.6	0.7	0.8	0.5	0.6
		FEBRUARY			MARCH			APRIL			MAY	
1	0.5	0.5	0.5	0.6	0.6	0.6	6.6	3.0	5.2	13.9	13.0	13.4
2	0.5	0.5	0.5	0.6	0.6	0.6	7.4	6.4	6.9	13.6	12.4	13.0
3	0.5	0.5	0.5	0.6	0.5	0.6	8.0	7.0	7.4	13.6	12.3	12.9
4	0.6	0.5	0.5	0.5	0.5	0.5	8.6	7.4	7.9	14.0	12.5	13.2
5	0.5	0.5	0.5	0.7	0.5	0.7	9.3	7.7	8.5	14.1	12.6	13.4
6	0.5	0.5	0.5	0.7	0.5	0.6	10.0	8.7	9.4	14.4	13.3	13.8
7	0.5	0.5	0.5	0.5	0.5	0.5	10.5	9.9	10.1	14.4	13.6	14.0
8	0.5	0.5	0.5	0.6	0.5	0.5	10.5	9.4	9.9	15.1	13.7	14.2
9	0.5	0.5	0.5	0.6	0.5	0.6	10.2	9.6	9.9	15.6	14.9	15.2
10	0.5	0.5	0.5	0.6	0.5	0.6	9.6	8.6	9.1	16.0	15.0	15.4
11	0.5	0.5	0.5	0.6	0.5	0.5	9.0	8.3	8.6	15.7	14.7	15.3
12	0.5	0.5	0.5	0.6	0.5	0.5	8.9	7.7	8.3	15.1	14.2	14.4
13	0.5	0.5	0.5	0.6	0.5	0.5	9.3	8.0	8.6	14.2	13.0	13.5
14	0.5	0.5	0.5	0.6	0.5	0.6	9.6	8.3	8.9	13.6	12.8	13.2
15	0.5	0.5	0.5	0.6	0.5	0.6	10.2	9.1	9.6	13.3	12.1	12.5
16	0.5	0.5	0.5	0.6	0.5	0.5	10.7	9.6	10.1	12.5	11.8	12.2
17	0.5	0.5	0.5	0.5	0.5	0.5	11.1	10.1	10.5	13.8	12.3	12.9
18	0.5	0.5	0.5	0.6	0.5	0.5	11.0	10.6	10.8	14.8	13.1	13.9
19	0.6	0.5	0.5	0.6	0.5	0.6	11.8	10.4	11.0	15.0	14.1	14.4
20	0.6	0.5	0.5	0.6	0.5	0.6	11.9	11.3	11.6	16.3	15.0	15.6
21	0.6	0.5	0.5	0.6	0.5	0.5	12.8	11.5	12.1	16.6	15.9	16.2
22	0.6	0.5	0.5	0.6	0.5	0.5	13.1	11.7	12.3	17.2	16.4	16.7
23	0.6	0.5	0.5	0.6	0.5	0.6	13.3	12.0	12.5	16.8	16.4	16.6
24	0.5	0.5	0.5	0.7	0.5	0.6	13.0	11.9	12.5	16.4	15.4	15.9
25	0.5	0.5	0.5	0.7	0.5	0.6	13.3	12.4	12.8	15.4	14.9	15.3
26	0.6	0.5	0.5	0.7	0.5	0.6	13.0	12.1	12.5	15.8	14.4	15.1
27	0.6	0.5	0.6	0.7	0.5	0.6	13.6	12.3	12.8	16.3	15.0	15.6
28	0.6	0.6	0.6	0.9	0.6	0.7	14.2	12.8	13.4	16.8	15.4	16.1
29	0.6	0.6	0.6	0.8	0.6	0.7	13.5	12.7	13.2	16.5	16.3	16.4
30	---	---	---	1.5	0.5	1.0	14.1	12.7	13.3	16.4	15.9	16.2
31	---	---	---	3.0	1.2	2.1	---	---	---	16.2	15.5	15.9
MONTH	0.6	0.5	0.5	3.0	0.5	0.6	14.2	3.0	10.3	17.2	11.8	14.6

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

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	15.5	14.7	14.9	23.9	22.0	23.0	24.9	23.4	24.0	21.2	20.3	20.6
2	15.3	14.4	14.8	24.4	23.4	23.9	24.6	23.7	24.2	22.2	20.6	21.4
3	15.7	15.0	15.3	24.8	23.8	24.3	24.7	24.1	24.4	22.7	21.5	22.0
4	16.9	15.5	16.1	24.5	23.4	23.8	24.8	23.5	24.1	22.5	22.0	22.2
5	18.6	16.9	17.8	23.4	22.6	23.1	24.5	23.5	24.1	22.0	20.6	21.5
6	20.2	18.6	19.5	22.6	20.2	21.3	24.3	22.7	23.4	20.6	17.6	18.3
7	21.9	20.0	21.0	---	---	---	22.8	22.1	22.5	17.6	16.9	17.1
8	22.3	21.7	21.9	20.7	20.1	20.4	23.9	22.5	23.1	17.6	16.8	17.1
9	22.1	21.2	21.7	21.0	19.9	20.5	23.2	21.5	22.3	18.3	17.5	17.9
10	21.8	21.3	21.5	21.6	20.2	20.8	21.5	20.6	21.0	19.2	18.0	18.6
11	21.3	20.5	20.8	22.9	21.2	21.8	20.8	20.2	20.5	19.1	18.7	19.0
12	21.4	20.3	20.9	24.3	22.9	23.5	20.3	19.6	20.0	19.9	18.8	19.3
13	21.7	20.7	21.2	25.0	23.7	24.3	20.7	19.6	20.1	20.4	19.8	20.1
14	21.6	21.0	21.2	25.8	24.9	25.3	21.0	20.1	20.5	20.6	20.3	20.5
15	21.3	20.9	21.0	26.6	25.5	26.0	21.1	20.2	20.6	20.4	18.9	19.8
16	21.0	20.4	20.8	26.6	25.8	26.2	21.4	20.2	20.7	19.4	18.4	18.9
17	21.2	20.3	20.8	26.5	25.7	26.1	22.0	20.7	21.3	19.5	18.7	19.1
18	20.8	19.9	20.4	26.5	25.8	26.1	21.6	20.9	21.3	19.6	18.7	19.2
19	20.7	19.6	20.2	27.2	26.0	26.6	21.3	20.2	20.7	20.2	19.1	19.6
20	21.1	19.5	20.4	27.9	26.6	27.2	21.0	20.1	20.5	---	---	---
21	20.8	20.0	20.3	28.3	27.2	27.8	20.5	19.5	20.0	---	---	---
22	20.2	19.3	19.8	27.9	27.0	27.3	20.1	19.5	19.8	---	---	---
23	19.8	18.9	19.4	27.1	26.1	26.5	19.8	19.0	19.4	---	---	---
24	19.7	18.7	19.2	26.3	25.2	25.8	20.1	19.3	19.6	18.0	17.2	17.5
25	19.6	18.9	19.2	25.9	25.2	25.6	20.3	19.6	20.0	17.2	16.6	16.9
26	19.5	18.9	19.2	25.5	24.9	25.2	20.3	19.6	19.9	17.2	16.6	16.9
27	20.1	19.4	19.7	25.0	24.4	24.7	20.2	19.9	20.0	---	---	---
28	20.9	19.5	20.2	24.4	23.4	24.0	20.2	19.4	19.8	---	---	---
29	22.0	20.3	21.1	24.2	22.9	23.5	20.2	19.7	20.0	16.5	16.1	16.3
30	23.0	21.3	22.1	23.9	23.2	23.5	19.8	19.3	19.6	16.3	16.0	16.2
31	---	---	---	24.1	23.1	23.6	20.4	19.7	20.0	---	---	---
MONTH	23.0	14.4	19.7	28.3	19.9	24.4	24.9	19.0	21.2	22.7	16.0	19.0
YEAR	28.3	0.5	10.6									

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

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	731	692	710	823	721	770	967	922	943	1,000	968	981
2	726	717	720	858	823	842	1,070	922	975	968	950	962
3	720	713	716	931	858	895	1,100	1,030	1,080	950	932	939
4	714	706	709	952	931	947	---	---	---	---	---	---
5	717	706	710	948	875	912	---	---	---	---	---	---
6	717	701	711	875	851	858	---	---	---	---	---	---
7	701	686	694	851	747	812	---	---	---	856	842	847
8	686	658	667	747	718	725	---	---	---	844	841	841
9	690	659	671	747	733	744	---	---	---	873	844	862
10	---	---	---	747	740	744	---	---	---	873	832	855
11	---	---	---	745	740	742	997	929	963	832	811	823
12	---	---	---	765	745	754	1,040	997	1,020	811	795	801
13	---	---	---	784	765	774	---	---	---	815	795	804
14	---	---	---	769	754	765	---	---	---	815	791	805
15	747	658	684	754	713	727	---	---	---	791	787	788
16	768	725	751	757	715	741	---	---	---	799	790	796
17	725	699	709	760	734	751	935	923	927	799	798	798
18	699	653	673	735	728	732	961	935	948	821	799	806
19	653	640	648	736	728	731	961	908	946	843	821	835
20	640	631	634	765	736	750	908	838	864	869	843	852
21	650	635	642	790	765	779	838	829	832	899	869	888
22	653	650	652	859	790	811	858	829	839	900	897	899
23	668	647	659	1,030	859	955	885	858	874	897	876	889
24	647	638	640	1,070	1,030	1,060	912	885	902	876	859	866
25	655	643	650	1,070	1,060	1,060	912	892	904	859	850	853
26	647	633	638	1,070	1,060	1,070	941	881	893	888	854	872
27	661	647	656	1,070	1,050	1,060	1,090	941	1,030	892	888	891
28	679	656	665	1,050	1,030	1,040	1,110	1,090	1,100	898	888	890
29	709	679	697	1,030	987	1,010	1,100	1,000	1,060	899	882	892
30	708	696	702	987	966	975	1,050	984	994	882	863	873
31	721	695	699	---	---	---	1,080	1,000	1,050	863	841	851
MONTH	768	631	681	1,070	713	851	1,110	829	957	1,000	787	859
	FEBRUARY			MARCH			APRIL			MAY		
1	841	823	834	844	756	783	651	617	640	732	704	710
2	823	750	774	793	775	784	663	641	647	738	708	725
3	803	756	789	809	771	788	696	663	685	708	686	700
4	802	797	799	811	758	785	696	658	684	692	681	685
5	831	797	805	758	718	732	658	631	642	700	676	689
6	861	831	854	755	724	745	631	613	620	676	629	656
7	853	846	850	776	747	764	615	608	611	641	626	633
8	857	846	849	747	674	709	655	615	642	631	615	625
9	884	857	874	694	652	670	677	651	660	671	615	635
10	884	865	878	662	630	642	690	663	672	686	632	667
11	865	769	810	690	628	658	696	670	687	632	575	606
12	769	762	764	709	679	697	670	656	663	609	552	576
13	777	761	771	679	660	667	667	623	641	617	584	608
14	765	760	762	793	672	741	634	614	623	608	578	595
15	783	763	768	783	732	759	637	588	604	584	495	530
16	793	745	779	732	631	675	651	621	628	594	573	587
17	745	731	733	639	617	624	689	636	672	593	581	587
18	741	730	734	638	614	628	677	651	663	629	589	607
19	813	730	747	647	586	628	666	647	658	627	588	609
20	868	813	835	586	523	543	653	647	650	698	588	639
21	869	786	821	523	505	509	670	652	657	728	677	704
22	791	767	777	524	493	508	699	669	674	720	666	689
23	779	756	768	493	451	478	688	612	640	669	636	648
24	758	744	751	451	439	443	625	612	621	680	644	655
25	753	745	750	462	451	458	642	625	635	686	647	660
26	766	740	744	478	462	471	645	604	630	679	653	672
27	772	737	753	477	465	472	626	604	617	653	631	637
28	786	763	776	533	462	491	629	615	621	652	643	650
29	963	783	832	535	531	533	657	627	650	653	628	635
30	---	---	---	565	534	554	710	652	691	628	513	588
31	---	---	---	617	565	593	---	---	---	849	507	632
MONTH	963	730	792	844	439	630	710	588	648	849	495	640

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

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	507	326	376	739	705	717	891	883	886	644	617	627
2	392	312	329	722	709	719	883	773	818	649	644	647
3	486	392	466	716	667	698	853	803	827	644	595	625
4	479	447	454	---	---	---	843	823	838	595	480	566
5	639	479	582	---	---	---	823	775	796	621	442	511
6	713	639	676	---	---	---	787	654	727	538	252	348
7	714	689	703	---	---	---	666	605	634	272	245	260
8	768	697	728	---	---	---	685	632	666	474	272	374
9	823	768	795	825	790	800	667	623	648	474	413	443
10	853	816	833	834	721	797	665	619	647	726	452	560
11	898	853	871	831	684	764	671	618	643	728	534	589
12	985	898	935	846	779	802	623	605	613	592	541	560
13	1,090	985	1,050	807	682	728	607	598	604	623	592	601
14	1,110	1,090	1,100	805	688	761	630	588	613	639	604	622
15	1,110	1,100	1,110	877	790	830	696	621	643	649	628	639
16	1,140	1,080	1,120	885	810	855	685	671	674	706	632	681
17	1,080	1,040	1,050	810	794	800	671	644	661	743	706	725
18	1,080	1,060	1,070	863	806	830	644	626	637	798	743	771
19	1,100	1,080	1,090	926	863	888	626	602	614	838	751	816
20	1,100	1,090	1,100	938	915	931	606	578	597	---	---	---
21	1,100	1,080	1,090	972	938	957	617	578	586	---	---	---
22	1,080	1,060	1,070	969	965	968	585	577	581	---	---	---
23	1,060	1,010	1,040	966	948	954	595	576	585	---	---	---
24	1,010	967	984	962	893	929	596	570	576	772	617	667
25	967	953	959	893	882	887	597	569	582	736	522	567
26	953	929	942	905	891	898	596	562	579	639	527	567
27	929	867	905	906	889	899	582	562	568	---	---	---
28	867	823	838	892	814	853	588	577	584	---	---	---
29	824	793	810	891	833	865	602	577	584	798	757	780
30	793	739	766	885	872	877	619	575	599	788	771	782
31	---	---	---	889	880	885	617	584	595	---	---	---
MONTH	1,140	312	861	972	667	842	891	562	652	838	245	597
YEAR	1,140	245	746									

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

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	8.3	8.3	8.3	8.7	8.7	8.7	8.1	8.1	8.1
2	---	---	---	8.4	8.3	8.3	8.7	8.6	8.7	8.1	8.1	8.1
3	---	---	---	8.4	8.4	8.4	8.6	8.6	8.6	8.1	8.1	8.1
4	---	---	---	8.4	8.4	8.4	8.6	8.6	8.6	---	---	---
5	---	---	---	8.4	8.4	8.4	---	---	---	---	---	---
6	---	---	---	8.4	8.4	8.4	---	---	---	---	---	---
7	---	---	---	8.5	8.4	8.4	---	---	---	8.1	8.1	8.1
8	---	---	---	8.4	8.4	8.4	---	---	---	8.2	8.1	8.2
9	---	---	---	8.4	8.4	8.4	---	---	---	8.2	8.1	8.2
10	---	---	---	8.5	8.4	8.4	---	---	---	8.2	8.1	8.2
11	---	---	---	8.5	8.5	8.5	8.7	8.7	8.7	8.2	8.1	8.2
12	---	---	---	8.7	8.5	8.7	---	---	---	8.2	8.2	8.2
13	---	---	---	8.7	8.7	8.7	---	---	---	8.2	8.1	8.1
14	---	---	---	8.7	8.7	8.7	---	---	---	8.1	8.1	8.1
15	---	---	---	8.7	8.7	8.7	---	---	---	8.1	8.1	8.1
16	---	---	---	8.7	8.6	8.6	---	---	---	8.1	8.1	8.1
17	---	---	---	8.7	8.6	8.7	8.5	8.5	8.5	8.2	8.1	8.1
18	---	---	---	8.7	8.7	8.7	8.5	8.5	8.5	8.2	8.2	8.2
19	---	---	---	8.7	8.6	8.7	8.5	8.5	8.5	8.2	8.2	8.2
20	---	---	---	8.7	8.7	8.7	8.5	8.5	8.5	8.2	8.0	8.2
21	---	---	---	8.8	8.7	8.8	8.5	8.4	8.5	8.1	8.0	8.0
22	---	---	---	8.8	8.7	8.8	8.4	8.4	8.4	8.0	8.0	8.0
23	---	---	---	8.8	8.7	8.8	8.4	8.3	8.4	8.0	8.0	8.0
24	---	---	---	8.8	8.8	8.8	8.3	8.3	8.3	8.0	8.0	8.0
25	---	---	---	8.8	8.8	8.8	8.3	8.2	8.3	8.0	8.0	8.0
26	8.2	8.2	8.2	8.8	8.7	8.8	8.2	8.2	8.2	8.0	8.0	8.0
27	8.2	8.2	8.2	8.8	8.8	8.8	8.2	8.2	8.2	8.0	8.0	8.0
28	8.2	8.2	8.2	8.8	8.8	8.8	8.2	8.2	8.2	8.0	8.0	8.0
29	8.2	8.2	8.2	8.8	8.8	8.8	8.2	8.1	8.2	8.0	8.0	8.0
30	8.2	8.2	8.2	8.8	8.7	8.8	8.1	8.1	8.1	8.0	8.0	8.0
31	8.3	8.2	8.3	---	---	---	8.1	8.1	8.1	8.0	8.0	8.0
MAX	---	---	---	8.8	8.8	8.8	---	---	---	---	---	---
MIN	---	---	---	8.3	8.3	8.3	---	---	---	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	8.0	8.0	8.0	7.8	7.8	7.8	8.2	8.2	8.2	8.4	8.4	8.4
2	8.0	8.0	8.0	7.8	7.8	7.8	8.4	8.2	8.3	8.4	8.4	8.4
3	8.0	8.0	8.0	7.8	7.8	7.8	8.6	8.4	8.5	8.4	8.4	8.4
4	8.0	7.9	7.9	7.8	7.8	7.8	8.6	8.5	8.5	8.4	8.4	8.4
5	7.9	7.9	7.9	7.8	7.8	7.8	8.6	8.5	8.5	8.4	8.4	8.4
6	7.9	7.9	7.9	7.9	7.8	7.9	8.6	8.5	8.5	8.4	8.3	8.4
7	7.9	7.9	7.9	7.9	7.9	7.9	8.6	8.6	8.6	8.4	8.3	8.4
8	7.9	7.9	7.9	7.9	7.9	7.9	8.7	8.6	8.7	8.4	8.3	8.3
9	7.9	7.9	7.9	7.9	7.9	7.9	8.8	8.7	8.7	8.3	8.3	8.3
10	7.9	7.9	7.9	7.9	7.9	7.9	8.7	8.6	8.7	8.3	8.3	8.3
11	7.9	7.8	7.8	7.9	7.9	7.9	8.6	8.5	8.6	8.3	8.3	8.3
12	7.8	7.8	7.8	7.9	7.9	7.9	8.5	8.4	8.5	8.3	8.2	8.2
13	7.8	7.7	7.7	7.9	7.9	7.9	8.5	8.5	8.5	8.3	8.1	8.2
14	7.7	7.7	7.7	7.9	7.8	7.8	8.5	8.5	8.5	8.2	8.1	8.2
15	7.8	7.7	7.8	7.8	7.8	7.8	8.5	8.5	8.5	8.1	8.0	8.0
16	7.8	7.8	7.8	7.9	7.8	7.8	8.5	8.4	8.5	8.1	8.0	8.1
17	7.8	7.8	7.8	7.9	7.8	7.9	8.5	8.5	8.5	8.0	8.0	8.0
18	7.8	7.8	7.8	7.9	7.8	7.8	8.5	8.4	8.5	8.2	8.0	8.1
19	7.8	7.8	7.8	7.9	7.8	7.8	8.5	8.4	8.4	8.2	8.2	8.2
20	7.8	7.8	7.8	7.8	7.8	7.8	8.5	8.4	8.4	8.2	8.2	8.2
21	7.8	7.8	7.8	7.9	7.8	7.8	8.5	8.4	8.4	8.2	8.2	8.2
22	7.8	7.8	7.8	7.9	7.8	7.8	8.5	8.4	8.4	8.2	8.2	8.2
23	7.8	7.8	7.8	7.9	7.8	7.8	8.5	8.4	8.4	8.2	8.1	8.1
24	7.8	7.8	7.8	7.9	7.8	7.8	8.5	8.4	8.4	8.1	8.1	8.1
25	7.8	7.8	7.8	8.0	7.9	7.9	8.5	8.4	8.4	8.1	8.1	8.1
26	7.8	7.8	7.8	8.0	7.9	8.0	8.5	8.4	8.4	8.1	8.1	8.1
27	7.8	7.8	7.8	8.0	8.0	8.0	8.4	8.4	8.4	8.2	8.1	8.1
28	7.8	7.8	7.8	8.1	8.0	8.0	8.4	8.4	8.4	8.3	8.2	8.3
29	7.8	7.8	7.8	8.1	8.1	8.1	8.4	8.4	8.4	8.3	8.2	8.3
30	---	---	---	8.1	8.1	8.1	8.4	8.4	8.4	8.3	8.2	8.2
31	---	---	---	8.2	8.1	8.2	---	---	---	8.2	7.8	8.1
MAX	8.0	8.0	8.0	8.2	8.1	8.2	8.8	8.7	8.7	8.4	8.4	8.4
MIN	7.7	7.7	7.7	7.8	7.8	7.8	8.2	8.2	8.2	8.0	7.8	8.0

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

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	7.8	7.7	7.8	8.3	8.3	8.3	8.2	8.2	8.2	8.5	8.4	8.4
2	7.8	7.7	7.8	---	---	---	8.2	8.2	8.2	8.6	8.4	8.5
3	7.8	7.7	7.7	8.3	8.2	8.2	8.2	8.2	8.2	8.6	8.5	8.5
4	7.7	7.7	7.7	8.2	8.1	8.2	8.2	8.2	8.2	8.6	8.3	8.4
5	7.7	7.7	7.7	---	---	---	8.2	8.1	8.2	8.3	8.0	8.2
6	7.7	7.7	7.7	8.1	8.1	8.1	8.2	8.2	8.2	8.0	7.6	7.7
7	7.7	7.7	7.7	---	---	---	8.2	8.1	8.1	7.8	7.6	7.7
8	7.8	7.7	7.8	---	---	---	8.2	8.1	8.2	7.8	7.6	7.6
9	7.9	7.8	7.8	8.1	8.0	8.1	8.2	8.1	8.1	7.9	7.8	7.8
10	7.9	7.9	7.9	8.1	8.0	8.1	8.2	8.1	8.2	7.8	7.7	7.8
11	8.0	7.9	7.9	8.0	7.9	8.0	8.2	8.2	8.2	7.8	7.7	7.7
12	8.0	8.0	8.0	8.0	7.9	7.9	8.2	8.2	8.2	7.8	7.7	7.7
13	8.0	8.0	8.0	7.9	7.8	7.8	8.3	8.2	8.2	7.9	7.8	7.8
14	8.0	8.0	8.0	7.9	7.8	7.9	8.3	8.2	8.3	7.9	7.8	7.8
15	8.0	8.0	8.0	7.9	7.9	7.9	8.5	8.3	8.5	7.9	7.9	7.9
16	8.0	8.0	8.0	7.9	7.9	7.9	8.6	8.5	8.6	8.1	7.9	8.0
17	8.0	8.0	8.0	7.9	7.8	7.9	8.7	8.6	8.6	8.2	8.0	8.1
18	8.1	8.0	8.0	7.9	7.9	7.9	8.7	8.6	8.7	8.3	8.1	8.2
19	8.1	8.0	8.1	8.0	7.9	7.9	8.7	8.7	8.7	8.3	8.2	8.2
20	8.1	8.1	8.1	8.0	8.0	8.0	8.7	8.7	8.7	---	---	---
21	8.1	8.0	8.0	8.0	8.0	8.0	8.7	8.7	8.7	---	---	---
22	8.1	8.0	8.0	8.0	8.0	8.0	8.7	8.7	8.7	---	---	---
23	8.1	8.0	8.0	8.0	8.0	8.0	8.7	8.7	8.7	---	---	---
24	8.1	8.0	8.1	8.1	8.0	8.1	8.8	8.7	8.7	8.1	7.9	8.1
25	8.1	8.1	8.1	8.1	8.1	8.1	8.8	8.8	8.8	7.9	7.8	7.8
26	8.2	8.1	8.2	8.1	8.1	8.1	8.8	8.8	8.8	7.9	7.8	7.8
27	8.2	8.2	8.2	8.2	8.1	8.1	8.8	8.8	8.8	---	---	---
28	8.3	8.2	8.3	8.1	8.1	8.1	8.8	8.7	8.8	---	---	---
29	8.4	8.3	8.3	8.2	8.1	8.1	8.7	8.6	8.6	8.0	7.8	7.9
30	8.3	8.3	8.3	8.2	8.2	8.2	8.6	8.4	8.5	8.0	7.9	7.9
31	---	---	---	8.2	8.2	8.2	8.5	8.4	8.4	---	---	---
MAX	8.4	8.3	8.3	---	---	---	8.8	8.8	8.8	---	---	---
MIN	7.7	7.7	7.7	---	---	---	8.2	8.1	8.1	---	---	---

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

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	12.4	12.1	12.2	19.5	18.5	18.8	---	---	---
2	---	---	---	12.9	12.3	12.6	18.5	18.2	18.4	---	---	---
3	---	---	---	13.5	12.9	13.2	18.4	18.0	18.1	---	---	---
4	---	---	---	14.3	13.5	13.9	---	---	---	---	---	---
5	---	---	---	14.7	14.3	14.5	---	---	---	---	---	---
6	---	---	---	15.4	14.6	15.0	---	---	---	---	---	---
7	---	---	---	15.8	15.0	15.4	---	---	---	13.4	13.0	13.1
8	---	---	---	15.8	15.5	15.6	---	---	---	13.4	13.1	13.3
9	---	---	---	15.7	15.4	15.6	---	---	---	---	---	---
10	---	---	---	15.7	15.4	15.5	---	---	---	13.5	13.3	13.4
11	---	---	---	15.9	15.5	15.7	18.9	18.3	18.6	13.7	13.3	13.5
12	---	---	---	16.5	15.8	16.1	---	---	---	13.7	13.6	13.7
13	---	---	---	16.9	16.4	16.6	---	---	---	13.6	13.4	13.4
14	---	---	---	17.1	16.8	16.9	---	---	---	13.5	13.2	13.4
15	---	---	---	17.2	17.0	17.1	---	---	---	13.6	13.4	13.5
16	---	---	---	17.0	16.3	16.5	---	---	---	13.5	13.3	13.4
17	---	---	---	16.3	15.8	15.9	16.7	16.6	16.7	13.8	13.4	13.6
18	---	---	---	15.9	15.6	15.8	16.6	16.2	16.4	13.8	13.7	13.7
19	---	---	---	16.0	15.6	15.7	16.3	16.1	16.1	13.9	13.6	13.8
20	---	---	---	16.4	16.0	16.2	16.2	16.0	16.1	13.8	13.7	13.8
21	---	---	---	17.0	16.3	16.6	16.2	15.9	16.0	13.8	13.6	13.7
22	---	---	---	17.2	16.5	16.8	---	---	---	13.7	13.6	13.6
23	---	---	---	18.3	17.0	17.5	---	---	---	13.7	13.6	13.7
24	---	---	---	19.4	18.3	18.8	---	---	---	13.7	13.5	13.6
25	---	---	---	19.8	19.3	19.5	---	---	---	13.5	13.2	13.4
26	10.8	10.3	10.6	20.3	19.3	19.7	---	---	---	13.2	13.0	13.1
27	10.9	10.6	10.7	20.5	20.1	20.3	---	---	---	13.0	12.8	12.9
28	11.4	10.9	11.2	20.6	20.0	20.2	---	---	---	12.8	12.5	12.7
29	---	---	---	20.6	20.0	20.3	---	---	---	12.5	12.3	12.4
30	11.6	11.2	11.4	20.5	19.5	20.0	---	---	---	12.4	12.2	12.3
31	12.2	11.6	11.9	---	---	---	---	---	---	12.3	12.1	12.2
MONTH	12.2	10.3	11.2	20.6	12.1	16.5	19.5	15.9	17.2	13.9	12.1	13.3
	FEBRUARY			MARCH			APRIL			MAY		
1	12.1	11.9	12.0	---	---	---	13.2	12.7	12.9	10.4	10.1	10.2
2	11.9	11.7	11.8	---	---	---	13.8	12.9	13.3	10.6	9.9	10.3
3	11.8	11.6	11.7	---	---	---	14.7	13.7	14.2	10.7	10.2	10.4
4	---	---	---	12.5	12.3	12.4	14.7	13.9	14.3	10.7	10.1	10.4
5	11.9	11.6	11.7	12.5	12.4	12.5	14.5	13.6	14.1	10.6	10.3	10.5
6	12.0	11.8	11.8	12.6	12.4	12.5	14.7	13.3	14.0	10.4	9.9	10.1
7	12.3	12.0	12.2	12.6	12.5	12.5	14.2	13.8	14.0	10.0	9.7	9.8
8	12.2	12.1	12.2	12.7	12.5	12.6	15.1	13.4	14.1	10.0	9.8	9.9
9	12.2	12.1	12.1	12.8	12.6	12.7	14.8	13.5	14.1	9.8	9.3	9.5
10	12.2	12.1	12.2	12.7	12.5	12.5	13.5	12.7	12.9	9.6	9.0	9.3
11	12.7	12.2	12.5	12.8	12.5	12.7	12.7	12.3	12.4	9.4	8.9	9.1
12	13.2	12.7	13.0	12.9	12.7	12.8	---	---	---	8.9	8.6	8.8
13	13.2	13.1	13.2	13.0	12.6	12.8	12.9	12.2	12.7	9.4	8.8	9.1
14	13.5	13.2	13.3	12.6	11.7	12.0	12.8	12.5	12.7	10.2	9.3	9.7
15	14.0	13.4	13.8	11.7	11.1	11.4	12.7	12.4	12.5	9.8	8.9	9.3
16	14.2	14.0	14.1	11.8	11.6	11.8	12.4	11.9	12.2	10.2	9.8	10.0
17	14.4	14.2	14.3	11.8	11.4	11.6	11.9	11.4	11.6	10.3	9.7	10.0
18	14.4	14.2	14.4	11.6	11.2	11.4	11.4	10.8	11.0	11.4	10.3	10.8
19	14.5	14.3	14.4	11.5	11.3	11.4	10.8	10.5	10.6	11.5	10.5	11.3
20	14.3	14.0	14.1	11.5	11.3	11.4	10.5	10.2	10.4	10.5	9.6	10.0
21	14.4	14.1	14.3	11.5	11.3	11.4	10.6	10.0	10.3	9.9	9.4	9.6
22	---	---	---	11.7	11.5	11.6	10.9	10.4	10.6	9.6	9.0	9.3
23	14.5	14.4	14.5	11.6	11.3	11.5	11.1	10.6	10.9	9.4	8.9	9.1
24	14.4	14.3	14.4	12.0	11.2	11.6	11.1	10.7	10.9	8.9	8.7	8.8
25	14.3	14.1	14.2	12.3	11.9	12.2	10.9	10.5	10.7	---	---	---
26	14.3	14.0	14.1	12.7	12.2	12.5	10.7	10.4	10.5	9.4	8.7	9.0
27	---	---	---	13.3	12.6	13.0	10.5	10.2	10.3	9.9	9.3	9.6
28	---	---	---	13.1	12.7	13.0	10.4	10.0	10.2	10.3	9.8	10.0
29	---	---	---	13.4	12.6	13.2	10.5	10.1	10.3	10.1	9.7	9.9
30	---	---	---	---	---	---	10.6	10.1	10.3	9.7	9.0	9.3
31	---	---	---	13.7	13.2	13.5	---	---	---	9.0	6.8	8.1
MONTH	14.5	11.6	13.2	13.7	11.1	12.2	15.1	10.0	12.0	11.5	6.8	9.7

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

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	6.8	6.6	6.7	7.0	6.4	6.6	8.5	7.6	8.1	---	---	---
2	---	---	---	---	---	---	8.2	7.6	7.8	---	---	---
3	7.1	6.7	7.0	5.9	5.4	5.7	7.6	6.9	7.2	8.0	6.3	7.0
4	7.2	6.9	7.1	---	---	---	7.7	6.7	7.1	7.5	6.6	6.9
5	7.0	6.8	6.9	---	---	---	7.6	6.4	7.0	6.8	5.8	6.3
6	6.8	6.5	6.7	---	---	---	7.1	6.7	6.9	7.2	5.8	6.4
7	6.8	6.3	6.5	---	---	---	7.1	6.6	6.8	6.4	5.8	6.1
8	6.6	6.3	6.5	---	---	---	7.6	6.7	7.1	---	---	---
9	7.1	6.6	6.9	8.7	7.2	7.8	7.2	6.8	7.0	7.5	6.8	7.2
10	7.5	7.0	7.3	8.8	7.9	8.5	---	---	---	---	---	---
11	7.7	7.5	7.6	7.9	6.6	7.2	8.0	7.2	7.6	---	---	---
12	8.0	7.6	7.8	6.8	6.4	6.5	8.7	7.8	8.2	7.3	7.0	7.1
13	8.1	7.8	7.9	6.5	6.0	6.2	9.4	8.4	8.8	7.3	7.1	7.2
14	8.1	7.8	8.0	6.4	6.0	6.1	---	---	---	7.4	7.0	7.2
15	---	---	---	6.6	6.1	6.3	10.8	9.3	10.0	7.7	7.0	7.3
16	7.5	7.2	7.4	6.8	6.4	6.5	11.5	10.4	10.8	8.2	7.6	7.8
17	7.2	7.0	7.1	6.6	6.2	6.4	11.9	10.7	11.2	8.7	7.7	8.2
18	---	---	---	7.0	6.5	6.7	11.1	10.2	10.5	9.2	8.0	8.6
19	---	---	---	7.2	6.6	6.9	10.3	9.5	9.9	9.5	8.4	8.9
20	---	---	---	7.3	6.8	7.0	9.8	8.9	9.3	---	---	---
21	---	---	---	---	---	---	9.7	8.8	9.3	---	---	---
22	---	---	---	7.0	6.4	6.7	9.3	8.7	9.0	---	---	---
23	---	---	---	7.3	6.5	6.9	9.1	8.7	8.9	---	---	---
24	---	---	---	7.9	7.0	7.4	8.7	8.3	8.5	7.8	7.0	7.5
25	---	---	---	8.1	7.3	7.7	8.5	8.1	8.3	7.0	6.6	6.7
26	6.7	6.0	6.3	8.2	7.5	7.8	8.1	7.7	7.9	6.8	6.6	6.7
27	7.2	6.4	6.7	8.5	7.7	8.1	7.8	7.4	7.6	---	---	---
28	7.6	6.9	7.2	8.2	7.4	7.8	---	---	---	---	---	---
29	7.5	7.0	7.3	8.6	7.3	7.9	---	---	---	7.4	7.0	7.2
30	7.2	6.7	7.0	8.9	7.8	8.3	---	---	---	7.7	7.1	7.5
31	---	---	---	8.9	7.6	8.2	---	---	---	---	---	---
MONTH	8.1	6.0	7.1	8.9	5.4	7.1	11.9	6.4	8.4	9.5	5.8	7.3
YEAR	20.6	5.4	11.2									

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

TURBIDITY, WATER, MONOCHROME NEAR INFRA-RED LED LIGHT, 780-900 NM, DETECTION ANGLE 90 +/ -2.5 DEGREES, FNU
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	19	16	17	7.2	5.6	6.3	2.6	1.7	2.0
2	---	---	---	16	13	14	5.7	5.0	5.4	1.9	1.7	1.8
3	---	---	---	13	12	13	11	5.7	7.7	1.9	1.7	1.8
4	---	---	---	13	11	12	---	---	---	---	---	---
5	---	---	---	13	12	13	---	---	---	---	---	---
6	---	---	---	13	12	12	---	---	---	---	---	---
7	---	---	---	13	12	12	---	---	---	3.4	2.8	3.0
8	---	---	---	13	12	13	---	---	---	3.3	2.6	2.9
9	---	---	---	13	12	12	---	---	---	2.9	2.5	2.7
10	---	---	---	14	9.3	11	---	---	5.8	3.1	2.5	2.6
11	---	---	---	9.3	6.9	7.9	13	8.5	11	2.7	2.3	2.5
12	---	---	---	7.0	5.6	6.1	14	9.0	12	2.5	2.1	2.3
13	---	---	---	6.0	5.1	5.6	---	---	8.9	2.7	2.1	2.3
14	---	---	---	5.2	4.9	5.0	---	---	6.5	2.7	2.2	2.4
15	---	---	---	6.5	4.6	5.4	---	---	---	2.3	1.9	2.1
16	---	---	---	16	4.8	10	---	---	---	3.3	1.9	2.1
17	---	---	---	14	5.3	9.5	3.7	2.5	2.7	3.1	2.1	2.3
18	---	---	---	6.3	5.0	5.7	2.8	2.5	2.6	3.7	2.3	2.6
19	---	---	---	19	6.1	12	2.5	2.2	2.3	3.0	2.5	2.7
20	---	---	---	13	7.6	10	2.6	2.0	2.2	3.7	2.6	2.8
21	---	---	---	15	6.5	9.4	2.7	2.1	2.4	3.3	2.5	2.7
22	---	---	---	17	7.3	11	3.2	2.0	2.2	3.8	2.6	2.8
23	---	---	---	18	8.5	13	2.2	1.9	2.0	4.6	2.7	3.1
24	---	---	---	11	8.2	9.8	2.2	1.9	2.1	3.5	2.7	2.9
25	---	---	---	10	9.2	9.8	2.0	1.8	1.9	4.0	2.7	3.0
26	32	30	31	11	9.8	11	2.3	1.8	2.0	3.1	2.8	2.9
27	31	29	30	9.8	8.5	8.9	6.3	1.9	3.0	4.2	2.7	3.0
28	35	26	31	10	8.9	9.6	8.4	4.2	5.9	3.4	2.6	2.8
29	26	21	23	11	9.1	10	7.2	5.0	5.9	3.9	2.5	2.8
30	21	19	20	9.1	7.0	7.8	6.7	3.0	4.0	3.4	2.3	2.6
31	21	19	20	---	---	---	3.6	2.6	2.9	4.0	2.3	2.6
MONTH	---	---	---	19	4.6	10	---	---	---	---	---	---
	FEBRUARY			MARCH			APRIL			MAY		
1	5.5	2.5	3.5	28	12	20	44	32	37	45	38	40
2	3.3	2.0	2.5	20	11	14	34	30	32	43	38	40
3	2.7	1.8	2.1	19	5.6	11	32	28	30	46	40	42
4	2.5	1.7	2.0	7.8	5.7	6.9	33	29	31	53	42	46
5	3.9	1.8	1.9	5.7	4.1	4.7	35	29	31	53	43	47
6	1.9	1.8	1.8	5.1	4.1	4.4	38	32	34	51	43	46
7	2.0	1.8	1.9	7.4	5.0	5.9	47	34	40	53	43	48
8	1.9	1.7	1.8	10	6.1	7.3	47	38	42	56	43	47
9	1.8	1.7	1.7	12	7.0	8.5	40	36	38	53	45	50
10	2.2	1.6	1.8	18	8.3	12	42	33	35	54	46	50
11	1.9	1.6	1.8	18	7.8	12	34	30	32	67	47	50
12	1.8	1.5	1.6	8.1	6.1	7.0	35	28	30	88	48	54
13	1.8	1.5	1.6	8.9	7.0	7.8	30	27	28	54	48	51
14	9.1	1.6	2.8	16	8.2	11	30	25	27	58	48	52
15	2.1	1.6	1.8	18	14	16	33	28	31	72	58	65
16	2.1	1.7	2.0	16	14	15	35	30	32	65	57	60
17	2.1	1.9	2.0	17	13	15	36	32	34	63	57	60
18	2.1	1.9	2.0	17	14	15	40	34	37	63	49	54
19	11	2.0	3.6	18	14	15	41	37	39	54	45	48
20	11	6.0	7.6	25	17	21	41	38	40	51	46	49
21	9.5	3.1	5.7	40	21	33	49	38	40	55	50	53
22	4.1	3.1	3.4	41	33	37	41	35	38	62	47	51
23	4.9	3.0	3.7	44	35	40	43	35	39	59	49	55
24	3.6	2.5	2.9	47	34	41	44	36	39	60	51	57
25	2.6	2.3	2.5	55	36	45	47	37	41	54	45	51
26	10	2.4	3.9	57	46	51	46	39	42	50	42	46
27	20	6.3	10	56	44	50	44	39	41	55	46	50
28	19	9.4	12	110	54	83	50	40	44	50	44	47
29	14	7.9	11	82	67	76	48	42	44	48	35	43
30	---	---	---	77	58	68	46	39	42	70	31	40
31	---	---	---	63	42	50	---	---	---	[a]1,100	59	390
MONTH	20	1.5	3.5	110	4.1	26	50	25	36	[a]1,100	31	61

a Maximum operating range of sensor, may have been higher

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

TURBIDITY, WATER, MONOCHROME NEAR INFRA-RED LED LIGHT, 780-900 NM, DETECTION ANGLE 90 +/ -2.5 DEGREES, FNU—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	[a]1,100	740	960	49	35	43	37	22	29	29	17	24
2	[a]1,100	410	710	48	17	40	34	22	27	22	16	20
3	480	300	350	55	42	48	27	17	23	21	15	17
4	350	230	280	52	40	45	33	22	27	29	15	19
5	240	180	210	---	---	---	36	25	31	110	16	43
6	180	160	170	48	33	40	45	23	38	390	110	280
7	190	170	180	51	32	41	26	21	23	450	180	290
8	200	130	150	76	51	63	32	21	25	180	88	130
9	130	110	120	510	74	290	32	22	26	90	64	75
10	120	100	110	470	320	400	44	22	35	65	44	56
11	120	110	110	---	---	---	43	36	39	52	40	46
12	120	90	110	---	---	---	39	32	35	41	27	34
13	120	99	110	---	---	---	36	27	32	30	20	26
14	110	93	100	150	100	130	30	22	27	22	18	20
15	110	85	93	110	88	99	32	28	31	22	18	21
16	100	90	94	100	73	86	38	31	36	25	20	22
17	110	84	94	93	61	70	39	34	37	24	20	22
18	90	66	78	80	57	71	45	35	39	24	21	22
19	72	50	63	79	51	64	42	34	38	30	22	25
20	64	52	58	68	48	54	46	34	41	---	---	---
21	63	51	58	64	43	50	42	37	40	---	---	---
22	64	51	57	56	43	47	76	36	42	---	---	---
23	64	46	56	49	39	44	42	37	39	---	---	---
24	55	46	51	62	38	43	47	38	43	200	70	140
25	55	46	50	48	35	40	43	35	40	280	200	230
26	60	45	53	48	38	43	47	40	43	---	---	---
27	54	44	48	44	36	40	46	40	43	---	---	---
28	65	46	51	37	29	33	46	37	42	---	---	---
29	55	31	42	36	25	32	52	37	41	---	---	---
30	44	35	41	37	24	29	50	39	45	---	---	---
31	---	---	---	34	22	28	42	29	37	---	---	---
MONTH	[a]1,100	31	160	---	---	---	76	17	35	---	---	---

a Maximum operating range of sensor, may have been higher

05054500 SHEYENNE RIVER ABOVE HARVEY, ND

LOCATION.--Lat 47°42'10", long 99°56'55", in SW¼SE¼ 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 National Geodetic Vertical Datum of 1929.

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	e4.0	e5.0	e8.8	e0.00	e0.00	38	23	51	14	7.8	3.1
2	2.8	e3.8	e5.6	e8.6	e0.00	e0.00	29	22	55	14	7.4	3.1
3	2.8	e3.7	e6.0	e8.4	e0.00	e0.00	25	21	51	14	7.0	2.8
4	2.4	e3.6	e6.2	e8.0	e0.00	e0.00	22	19	41	14	6.7	2.4
5	1.8	e3.5	e6.2	e8.0	e0.00	e0.00	20	19	32	14	6.4	2.3
6	1.9	e3.5	e6.0	e8.4	e0.00	e0.00	20	18	26	14	7.3	2.4
7	1.9	e3.6	e5.4	e8.8	e0.00	e0.00	20	17	22	14	6.9	1.9
8	2.0	e4.0	e5.1	e9.6	e0.00	e0.00	22	16	19	14	6.8	1.8
9	1.9	e4.6	e4.9	e10	e0.00	e0.00	25	16	17	14	7.6	1.8
10	1.7	e5.4	e4.7	e13	e0.00	e0.00	28	15	21	14	7.4	1.8
11	1.9	e5.5	e4.8	e15	e0.00	e0.00	30	16	54	14	7.5	1.9
12	1.7	e5.3	e5.0	e18	e0.00	e0.00	32	21	64	18	7.4	2.0
13	1.9	e5.2	e5.2	e21	e0.00	e0.00	32	21	71	16	7.3	3.1
14	1.9	e4.9	e5.8	e22	e0.00	e1.0	33	20	59	15	7.0	2.9
15	2.3	e4.8	e6.2	e22	e0.00	e1.1	34	19	50	15	6.7	2.5
16	3.8	e4.7	e7.0	e21	e0.00	e1.1	35	17	43	15	6.5	1.9
17	3.6	e4.6	e7.3	e20	e0.00	e1.2	34	16	37	15	6.5	2.0
18	5.2	e4.6	e7.5	e17	e0.00	e1.3	36	15	33	14	6.3	2.1
19	5.7	e4.5	e7.8	e15	e0.00	e1.4	38	15	30	14	5.6	2.3
20	4.7	e4.3	e8.1	e14	e0.00	e1.4	37	14	27	13	5.4	3.1
21	3.5	e4.2	e8.5	e14	e0.00	e1.5	36	14	24	13	5.2	3.9
22	3.0	e4.1	e8.8	e13	e0.00	e1.8	35	15	22	12	5.0	3.1
23	1.5	e4.0	e9.0	e13	e0.00	e2.4	34	15	21	11	4.7	4.9
24	1.7	e3.9	e9.2	e12	e0.00	e7.0	33	16	20	11	5.2	11
25	1.6	e3.9	e9.4	e12	e0.00	e20	30	18	19	10	4.9	13
26	1.8	e3.9	e9.6	e8.0	e0.00	65	29	18	18	9.8	4.6	11
27	3.5	e3.8	e9.7	e6.0	e0.00	92	28	16	18	9.3	4.4	8.9
28	4.5	e3.8	e9.8	e3.4	e0.00	98	26	16	17	9.0	3.7	7.1
29	4.3	e4.2	e9.8	e2.0	e0.00	90	24	15	16	8.6	4.2	6.3
30	4.5	e4.6	e9.6	e0.00	---	73	24	22	15	8.4	4.1	5.8
31	3.9	---	e9.0	e0.00	---	54	---	36	---	8.1	3.4	---
TOTAL	87.8	128.5	222.2	360.00	0.00	513.20	889	561	993	399.2	186.9	122.2
MEAN	2.83	4.28	7.17	11.6	0.00	16.6	29.6	18.1	33.1	12.9	6.03	4.07
MAX	5.7	5.5	9.8	22	0.00	98	38	36	71	18	7.8	13
MIN	1.5	3.5	4.7	0.00	0.00	0.00	20	14	15	8.1	3.4	1.8
AC-FT	174	255	441	714	0.00	1,020	1,760	1,110	1,970	792	371	242

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2004, BY WATER YEAR (WY)

MEAN	3.63	3.86	2.07	1.14	2.95	34.7	43.2	21.1	12.3	9.86	4.55	3.08
MAX	34.5	39.0	21.2	11.6	26.8	207	324	117	77.3	67.4	59.4	48.4
(WY)	(1995)	(1995)	(1995)	(2004)	(1983)	(2001)	(1997)	(1995)	(2000)	(2000)	(1999)	(1999)
MIN	0.43	0.26	0.03	0.00	0.00	0.00	2.13	1.59	0.30	0.07	0.00	0.06
(WY)	(1991)	(1977)	(1996)	(1959)	(1956)	(1969)	(1991)	(1977)	(1961)	(1961)	(1959)	(1976)

05054500 SHEYENNE RIVER ABOVE HARVEY, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1956 - 2004	
ANNUAL TOTAL	4,286.10		4,463.00			
ANNUAL MEAN	11.7		12.2		11.9	
HIGHEST ANNUAL MEAN					44.3	2001
LOWEST ANNUAL MEAN					0.76	1961
HIGHEST DAILY MEAN	112	Mar 24	98	Mar 28	900	Mar 24, 2001
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Jan 30	0.00	Jan 21, 1956
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Jan 30	0.00	Jan 21, 1956
MAXIMUM PEAK FLOW			a107	Mar 27	b1,000	Apr 20, 1979
MAXIMUM PEAK STAGE			c8.49	Mar 20	c10.76	Apr 6, 1997
INSTANTANEOUS LOW FLOW					0.00	Jan 21, 1956
ANNUAL RUNOFF (AC-FT)	8,500		8,850		8,620	
10 PERCENT EXCEEDS	30		30		29	
50 PERCENT EXCEEDS	5.0		7.1		2.0	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

a Gage height, 8.05 ft
b Gage height, 9.45 ft
c Backwater from ice
e Estimated

05054500 SHEYENNE RIVER ABOVE HARVEY, 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 2003 TO SEPTEMBER 2004

Date	Time	Discharge, cfs (00060)	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
OCT													
06...	1330	--	1.4	--	--	--	--	--	--	--	1,640	28.0	11.0
NOV													
14...	1240	--	4.9	--	--	--	--	--	--	--	2,050	1.5	0.5
MAR													
26...	1320	--	66	--	--	--	--	7.9	7.3	554	--e	-2.0	2.2
APR													
19...	1230	--	38	--	--	--	--	--	--	--	1,930	16.5	14.0
MAY													
10...	1025	15	--	20	721	14.6	140	8.2	8.4	1,920	1,900	8.7	10.6
25...	1245	--	18	--	--	--	--	--	--	--	1,820	8.5	10.0
AUG													
17...	1350	--	6.7	--	--	--	--	7.6	8.4	1,680	1,660	27.5	21.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)
OCT													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
26...	160	31.1	19.8	15.3	2	56.8	41	156	8.4	0.12	14.5	112	340
APR													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
10...	500	60.3	84.2	14.3	5	267	53	474	25.9	--	--	578	1,320
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
17...	350	43.2	59.0	10.1	6	240	59	499	18.0	0.28	21.0	421	1,090

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)
OCT													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
26...	62.5	--	--	--	--	--	--	--	--	--	--	--	--
APR													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
10...	53.2	1.3	1.8	<0.010	<0.010	0.025	0.020	0.136	0.148	0.230	1.4	1.8	E42k
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
17...	20.2	--	--	--	--	--	--	--	--	--	--	--	--

05054500 SHEYENNE RIVER ABOVE HARVEY, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT											
06...	--	--	--	--	--	--	--	--	--	--	--
NOV											
14...	--	--	--	--	--	--	--	--	--	--	--
MAR											
26...	--	--	2.5	180	<1	40	160	<0.20	1	<1	150
APR											
19...	--	--	--	--	--	--	--	--	--	--	--
MAY											
10...	16.4	<0.5	--	30	--	--	100	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
AUG											
17...	--	--	8.6	40	<1	140	20	<0.20	<1	<1	340

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range

Null value qualifier codes used in this table:
e -- Required equipment not functional/avail

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 National Geodetic Vertical Datum of 1929 (GPS survey by North Dakota State Water Commission).

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	22	14	e15	e10	12	3,290	109	855	131	66	51
2	15	20	13	e15	e10	11	2,990	100	1,050	124	78	47
3	14	18	13	e15	e10	11	2,550	95	1,060	118	91	46
4	13	18	14	e15	e10	11	1,840	93	985	116	90	54
5	13	17	e14	e14	e10	11	1,160	88	878	109	76	57
6	12	15	e14	e14	e10	11	849	83	774	113	72	58
7	11	16	e14	e13	e10	e11	e750	81	678	118	73	55
8	11	15	e14	e13	10	11	e650	70	595	116	73	56
9	12	15	e14	12	10	12	e500	71	518	133	81	47
10	12	16	e14	12	10	14	e440	70	431	141	98	41
11	13	16	e14	12	10	14	e370	76	395	127	93	39
12	10	17	e14	12	10	14	e320	71	418	127	88	40
13	9.9	17	e14	12	10	16	286	85	445	133	82	41
14	12	16	e14	12	e10	17	254	121	483	121	78	42
15	13	16	14	e12	e10	18	227	102	556	101	73	46
16	13	17	14	e12	e10	18	219	95	602	97	72	47
17	13	19	14	e12	e10	18	216	95	598	95	70	45
18	12	22	14	e12	11	18	200	93	563	91	69	44
19	12	23	14	e12	e11	20	198	93	523	88	68	54
20	12	24	14	e12	11	22	203	89	476	86	65	62
21	11	19	14	e12	11	25	192	87	435	87	60	65
22	11	e19	14	e11	11	27	182	87	388	88	53	66
23	14	e18	15	e11	11	31	175	90	335	89	53	67
24	14	e17	15	e11	11	35	168	93	295	86	55	103
25	9.3	e16	14	e11	11	73	155	97	263	84	52	146
26	13	e15	14	e11	11	153	149	109	234	80	62	130
27	18	e14	15	e11	11	348	140	105	210	75	57	110
28	14	e14	15	e11	11	753	129	90	191	81	60	102
29	15	14	e15	e10	12	1,340	125	95	177	82	60	95
30	20	14	e15	e10	---	2,270	115	140	e160	82	59	94
31	21	---	e15	e10	---	3,210	---	497	---	72	59	---
TOTAL	408.2	519	439	377	303	8,555	19,042	3,270	15,571	3,191	2,186	1,950
MEAN	13.2	17.3	14.2	12.2	10.4	276	635	105	519	103	70.5	65.0
MAX	21	24	15	15	12	3,210	3,290	497	1,060	141	98	146
MIN	9.3	14	13	10	10	11	115	70	160	72	52	39
AC-FT	810	1,030	871	748	601	16,970	37,770	6,490	30,890	6,330	4,340	3,870

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2004, BY WATER YEAR (WY)

MEAN	17.3	18.7	10.8	7.13	11.9	136	348	123	78.4	59.5	32.7	18.2
MAX	136	233	93.4	55.2	154	793	1,794	854	519	441	423	154
(WY)	(2001)	(2001)	(2001)	(2001)	(1981)	(1983)	(1997)	(1950)	(2004)	(2000)	(1993)	(2000)
MIN	1.16	1.28	0.76	0.47	0.75	1.46	15.8	10.4	1.75	0.36	0.09	0.71
(WY)	(1953)	(1961)	(1961)	(1990)	(1990)	(1964)	(1977)	(1990)	(1961)	(1989)	(1961)	(1961)

05056000 SHEYENNE RIVER NEAR WARWICK, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1950 - 2004	
ANNUAL TOTAL	27,324.8		55,811.2			
ANNUAL MEAN	74.9		152		71.8	
HIGHEST ANNUAL MEAN					226	2001
LOWEST ANNUAL MEAN					5.31	1977
HIGHEST DAILY MEAN	483	Mar 27	3,290	Apr 1	4,370	Apr 14, 1969
LOWEST DAILY MEAN	9.0	Feb 28	9.3	Oct 25	0.00	Aug 7, 1961
ANNUAL SEVEN-DAY MINIMUM	9.1	Feb 28	10	Jan 29	0.00	Aug 7, 1961
MAXIMUM PEAK FLOW			3,480	Mar 31	a4,660	Apr 14, 1969
MAXIMUM PEAK STAGE			7.26	Mar 31	8.08	Apr 21, 1997
INSTANTANEOUS LOW FLOW					0.00	Aug 7, 1961
ANNUAL RUNOFF (AC-FT)	54,200		110,700		52,000	
10 PERCENT EXCEEDS	196		390		146	
50 PERCENT EXCEEDS	18		46		12	
90 PERCENT EXCEEDS	10		11		1.7	

a Gage height, 7.51 ft
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 2003 TO SEPTEMBER 2004

Date	Time	Discharge, cfs (00060)	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
OCT													
03...	0950	--	15	--	--	--	--	--	--	--	913	9.0	9.0
NOV													
06...	1330	--	14	--	--	--	--	--	--	--	832	-6.0	2.5
JAN													
09...	1320	--	12	--	--	--	--	--	--	--	1,180	-4.0	1.5
FEB													
18...	0830	--	11	--	--	--	--	--	--	--	572	--	1.0
APR													
05...	1645	--	1,100	--	--	--	--	--	--	--	434	--	8.5
12...	1620	--	324	--	--	--	--	7.9	8.2	939	964	13.0	7.0
MAY													
10...	1245	70	--	64	726	12.5	133	8.2	8.4	1,320	1,350	17.6	15.7
20...	1105	--	90	--	--	--	--	8.4	8.4	1,290	1,290	12.5	16.0
JUN													
25...	0955	--	258	--	--	--	--	--	--	--	1,260	20.0	17.0
30...	1035	--	--	--	--	--	--	--	8.2	1,250	--	--	--
AUG													
23...	1055	--	50	--	--	--	--	8.1	8.5	1,350	1,370	12.5	17.5

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)
OCT													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	290	54.1	37.7	12.6	3	99.6	41	274	15.0	0.18	21.8	216	602
MAY													
10...	370	68.4	49.0	10.6	3	145	45	422	21.4	--	--	301	850
20...	430	79.3	56.8	10.9	3	161	44	410	21.8	0.25	16.3	285	862
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	380	63.3	54.1	11.5	4	172	49	458@c	15.6	0.3	21.6	271	886
AUG													
23...	340	56.2	48.1	9.00	4	189	54	548	16.8	0.28	23.1	222	872

05056000 SHEYENNE RIVER NEAR WARWICK, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Residue water, fltrd, tons/d (70302)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitrogen, water, fltrd, mg/L (00607)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L as P (00671)
OCT													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	544	--	1.1	1.2	<0.010	0.025	--	0.091	0.090	--	--	1.2	--
MAY													
10...	161	--	0.97	1.2	<0.010	<0.010	--	0.049	0.020	--	--	--	0.074
20...	213	--	1.1	1.2	<0.010	<0.010	--	0.028	0.030	--	--	--	--
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	921	--	2.1	0.04	--	0.22	0.23	--	0.012	--	2.0	0.19
AUG													
23...	121	--	1.7	1.6	0.094	0.018	--	0.218	0.210	--	1.6	1.6	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)
OCT													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	0.149	0.197	1.2	1.3	--	--	--	5.6	70	<1	70	70	<0.20
MAY													
10...	0.082	0.137	1.0	1.2	8k	--	--	--	30	--	--	140	--
20...	0.074	0.126	1.1	1.3	--	--	--	4.4	20	<1	100	70	<0.20
JUN													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	0.30	--	2.3	--	E6.5d	E.3d	--	18	--	--	165	--
AUG													
23...	0.288	0.328	1.9	1.8	--	--	--	11.3	70	<1	110	120	<0.20

05056000 SHEYENNE RIVER NEAR WARWICK, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT			
03...	--	--	--
NOV			
06...	--	--	--
JAN			
09...	--	--	--
FEB			
18...	--	--	--
APR			
05...	--	--	--
12...	3	6	240
MAY			
10...	--	--	--
20...	3	2	350
JUN			
25...	--	--	--
30...	--	--	--
AUG			
23...	2	2	310

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range

05056060 MAUVAIS COULEE TRIBUTARY NO. 3 NEAR CANDO, ND

LOCATION.--Lat 48°27'27", long 99°13'26", 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.--1955-73 (annual maximum discharges only), 1986-88 (discharge measurements only), March 1989 to current year (seasonal records only).

GAGE.--Water-stage recorder. Datum of gage is 1,460 ft above National Geodetic Vertical Datum of 1929, 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, about 400 ft^3/s, Apr. 5, gage height, 7.55; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e0.00	150	9.7	163	14	0.43	0.17
2	---	---	---	---	---	e0.00	e230	8.4	308	13	0.45	0.16
3	---	---	---	---	---	e0.00	e300	7.3	242	13	0.41	0.16
4	---	---	---	---	---	e0.00	e375	6.2	186	13	0.38	0.17
5	---	---	---	---	---	e0.00	e400	5.1	150	12	0.34	0.15
6	---	---	---	---	---	e0.00	e325	3.9	124	11	0.32	0.14
7	---	---	---	---	---	e0.00	259	3.0	110	11	0.29	0.13
8	---	---	---	---	---	e0.00	226	2.4	95	11	0.27	0.13
9	---	---	---	---	---	e0.00	188	1.9	98	11	0.24	0.13
10	---	---	---	---	---	e0.00	162	1.4	147	10	0.23	0.12
11	---	---	---	---	---	e0.00	140	3.4	146	9.9	0.21	0.12
12	---	---	---	---	---	e0.00	120	9.1	127	9.8	0.20	0.11
13	---	---	---	---	---	e0.00	101	13	113	9.5	0.19	0.12
14	---	---	---	---	---	e0.00	86	14	143	8.7	0.19	0.12
15	---	---	---	---	---	e0.00	72	13	140	7.9	0.20	0.09
16	---	---	---	---	---	e0.00	64	14	122	6.9	0.23	0.09
17	---	---	---	---	---	e0.00	57	14	106	6.0	0.23	0.07
18	---	---	---	---	---	e0.00	50	13	93	5.0	0.22	0.05
19	---	---	---	---	---	e0.00	44	13	85	4.0	0.22	0.04
20	---	---	---	---	---	e0.00	39	15	77	3.2	0.21	0.05
21	---	---	---	---	---	e0.00	e34	13	72	2.8	0.22	0.04
22	---	---	---	---	---	e0.00	e30	13	63	2.1	0.21	0.04
23	---	---	---	---	---	e0.00	e26	18	55	1.7	0.23	0.04
24	---	---	---	---	---	e0.00	e23	22	45	1.6	0.23	0.05
25	---	---	---	---	---	e0.00	e21	26	37	1.3	0.19	0.04
26	---	---	---	---	---	e0.00	e18	24	31	0.95	0.20	0.02
27	---	---	---	---	---	e0.10	e16	22	25	0.73	0.19	0.03
28	---	---	---	---	---	e1.0	14	19	20	0.59	0.18	0.02
29	---	---	---	---	---	e8.0	12	17	16	0.52	e0.17	0.01
30	---	---	---	---	---	e45	11	25	15	0.46	0.17	0.01
31	---	---	---	---	---	e80	---	102	---	0.44	0.17	---
TOTAL	---	---	---	---	---	134.10	3,593	471.8	3,154	203.09	7.62	2.62
MEAN	---	---	---	---	---	4.33	120	15.2	105	6.55	0.25	0.09
MAX	---	---	---	---	---	80	400	102	308	14	0.45	0.17
MIN	---	---	---	---	---	0.00	11	1.4	15	0.44	0.17	0.01
AC-FT	---	---	---	---	---	266	7,130	936	6,260	403	15	5.2

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2004, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	19.9	81.4	14.6	10.9	11.5	8.03	1.21
MAX	---	---	---	---	---	141	252	94.5	105	93.6	59.7	13.9
(WY)	---	---	---	---	---	(1992)	(1999)	(1999)	(2004)	(1997)	(1996)	(1993)
MIN	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(WY)	---	---	---	---	---	(1989)	(1990)	(1988)	(1988)	(1988)	(1988)	(1988)

SUMMARY STATISTICS	WATER YEARS 1986 - 2004	
HIGHEST DAILY MEAN	780	Apr 11, 1999
LOWEST DAILY MEAN	0.00	Mar 1, 1986
ANNUAL SEVEN-DAY MINIMUM	0.00	Mar 1, 1986
MAXIMUM PEAK FLOW	2,300	Apr 14, 1969
MAXIMUM PEAK STAGE	a9.35	Apr 14, 1969

a Datum then in use
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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
MAR													
30...	1205	42	--	--	--	1,270	3.5	0.5	--	--	--	--	--
APR													
14...	1535	81	7.4	7.6	612	610	8.0	7.0	250	53.7	29.2	14.2	0.7
28...	1350	14	--	--	--	847	18.5	13.5	--	--	--	--	--
MAY													
27...	0835	22	--	--	--	1,450	0.5	11.0	--	--	--	--	--
JUN													
29...	1220	16	--	--	--	978	22.5	20.5	--	--	--	--	--
AUG													
04...	1540	0.35	8.2	8.4	1,400	1,410	18.0	22.0	530	101	67.5	13.8	2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
MAR													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
14...	27.2	18	134	17.2	0.15	26.7	153	377	88.3	5.8	160	1	30
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
04...	102	29	246	67.6	0.14	8.65	435	935	0.89	8.1	20	<1	90

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
MAR					
30...	--	--	--	--	--
APR					
14...	10	<0.20	2	5	200
28...	--	--	--	--	--
MAY					
27...	--	--	--	--	--
JUN					
29...	--	--	--	--	--
AUG					
04...	40	<0.20	<1	2	530

Remark codes used in this table:
< -- Less than

05056100 MAUVAIS COULEE NEAR CANDO, ND

LOCATION.--Lat 48°26'53", long 99°06'08", in SE¼NE¼SE¼ 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 of 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.--June 1956 to current year (seasonal records only since 1982).

GAGE.--Water-stage recorder. Elevation of gage is 1,445 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to July 2, 1957, nonrecording gage at present site and datum.

REMARKS.--Records fair.

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, 1,430 ft^3/s, Apr. 4, gage height, 9.93 ft; minimum daily discharge, 0.04 ft^3/s, Mar. 1-26.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e0.04	e350	66	217	69	37	20
2	---	---	---	---	---	e0.04	e450	63	290	72	38	24
3	---	---	---	---	---	e0.04	e800	70	405	68	36	17
4	---	---	---	---	---	e0.04	1,380	55	478	51	33	16
5	---	---	---	---	---	e0.04	1,390	58	502	56	37	17
6	---	---	---	---	---	e0.04	1,260	48	483	56	40	13
7	---	---	---	---	---	e0.04	1,210	55	437	60	36	11
8	---	---	---	---	---	e0.04	1,140	45	365	63	36	14
9	---	---	---	---	---	e0.04	1,020	45	313	66	19	13
10	---	---	---	---	---	e0.04	901	37	302	64	22	11
11	---	---	---	---	---	e0.04	785	38	365	61	25	9.5
12	---	---	---	---	---	e0.04	664	46	419	66	24	10
13	---	---	---	---	---	e0.04	539	58	407	54	26	7.8
14	---	---	---	---	---	e0.04	441	71	360	56	27	8.7
15	---	---	---	---	---	e0.04	382	90	329	54	30	7.8
16	---	---	---	---	---	e0.04	335	93	302	50	26	9.8
17	---	---	---	---	---	e0.04	292	95	278	54	26	9.3
18	---	---	---	---	---	e0.04	252	94	252	57	16	17
19	---	---	---	---	---	e0.04	222	94	236	50	21	17
20	---	---	---	---	---	e0.04	199	90	217	54	18	17
21	---	---	---	---	---	e0.04	170	93	190	49	25	9.7
22	---	---	---	---	---	e0.04	156	92	171	44	14	9.2
23	---	---	---	---	---	e0.04	134	100	148	46	21	6.5
24	---	---	---	---	---	e0.04	135	109	129	47	26	7.0
25	---	---	---	---	---	e0.04	108	106	115	50	23	11
26	---	---	---	---	---	e0.04	97	108	106	57	20	8.9
27	---	---	---	---	---	e0.10	95	99	96	53	17	5.5
28	---	---	---	---	---	e50	83	98	89	43	21	9.8
29	---	---	---	---	---	e125	75	96	82	38	24	9.9
30	---	---	---	---	---	e150	71	101	73	38	18	5.8
31	---	---	---	---	---	e250	---	149	---	43	15	---
TOTAL	---	---	---	---	---	576.14	15,136	2,462	8,156	1,689	797	353.2
MEAN	---	---	---	---	---	18.6	505	79.4	272	54.5	25.7	11.8
MAX	---	---	---	---	---	250	1,390	149	502	72	40	24
MIN	---	---	---	---	---	0.04	71	37	73	38	14	5.5
AC-FT	---	---	---	---	---	1,140	30,020	4,880	16,180	3,350	1,580	701

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2004, BY WATER YEAR (WY)

MEAN	2.41	1.18	0.28	0.02	0.18	21.8	200	58.4	18.3	16.5	14.3	4.61
MAX	27.1	10.4	3.86	0.34	5.01	198	946	527	272	226	274	62.3
(WY)	(1966)	(1981)	(1981)	(1981)	(1981)	(1992)	(1997)	(1999)	(2004)	(1997)	(1993)	(1965)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(WY)	(1959)	(1960)	(1957)	(1957)	(1957)	(1958)	(1991)	(1961)	(1961)	(1959)	(1959)	(1959)

05056100 MAUVAIS COULEE NEAR CANDO, ND—Continued

SUMMARY STATISTICS	WATER YEARS 1956 - 2004	
ANNUAL MEAN	a19.7	
HIGHEST ANNUAL MEAN	a71.7	1974
LOWEST ANNUAL MEAN	a0.00	1961
HIGHEST DAILY MEAN	2,980	Apr 21, 1997
LOWEST DAILY MEAN	0.00	Aug 21, 1956
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 21, 1956
MAXIMUM PEAK FLOW	3,000	Apr 21, 1997
MAXIMUM PEAK STAGE	11.68	Apr 21, 1997
ANNUAL RUNOFF (AC-FT)	a14,260	
10 PERCENT EXCEEDS	25	
50 PERCENT EXCEEDS	0.06	
90 PERCENT EXCEEDS	0.00	

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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
02...	1210	0.04	--	--	--	1,400	13.0	8.5	--	--	--	--	--
MAR													
11...	1135	0.04	--	--	--	2,170	--	0.5	--	--	--	--	--
29...	1420	122	--	--	--	355	-0.5	0.5	--	--	--	--	--
APR													
14...	1130	448	7.1	7.6	564	570	7.5	6.0	220	47.2	25.7	12.2	0.8
MAY													
26...	1540	104	8.0	8.1	1,260	1,260	18.0	13.5	560	105	71.8	14.0	2
JUN													
09...	1615	307	--	--	--	1,100	16.0	17.0	--	--	--	--	--
29...	1055	82	--	--	--	1,100	22.0	20.5	--	--	--	--	--
AUG													
20...	0835	18	7.9	8.4	1,210	1,200	7.0	14.5	450	75.7	63.7	9.90	2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)
OCT													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
14...	28.0	20	126	10.6	0.13	21.9	144	352	450	0.63	0.57	0.056	<0.010
MAY													
26...	91.7	26	252	27.7	--	13.1	407	871	248	1.4	1.4	<0.010	<0.010
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
20...	73.6	26	311	22.1	0.20	2.99	337	770	38.4	1.8	1.8	<0.010	<0.010

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Organic nitrogen, water, fltrd, mg/L (00607)	Organic nitrogen, water, unfltrd mg/L (00605)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)
OCT													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
14...	1.47	1.47	0.57	0.51	0.287	0.324	2.1	2.0	3.8	160	<1	30	20
MAY													
26...	<0.020	0.060	--	--	0.233	0.258	1.4	1.4	4.3	60	<1	70	80
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
20...	<0.020	0.020	--	--	0.293	0.307	1.8	1.8	7.9	40	<1	70	20

05056100 MAUVAIS COULEE NEAR CANDO, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT				
02...	--	--	--	--
MAR				
11...	--	--	--	--
29...	--	--	--	--
APR				
14...	<0.20	2	2	170
MAY				
26...	<0.20	3	2	380
JUN				
09...	--	--	--	--
29...	--	--	--	--
AUG				
20...	<0.20	<1	1	380

Remark codes used in this table:
< -- Less than

05056200 EDMORE COULEE NEAR EDMORE, ND

LOCATION.--Lat 48°20'12", long 98°39'36", in NW¼NW¼ 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, July 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 National Geodetic Vertical Datum of 1929. June 26, 1957, to Sept. 30, 1985, water-stage recorder at same site at a datum of 1,479.79 ft above National Geodetic Vertical Datum of 1929. Prior to June 26, 1957, nonrecording gage at same site and datum.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 773 ft^3/s, Apr. 3, gage height, 86.99 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e0.00	e250	100	122	14	9.7	3.8
2	---	---	---	---	---	e0.00	575	91	111	15	11	3.4
3	---	---	---	---	---	e0.00	764	83	107	15	11	3.4
4	---	---	---	---	---	e0.00	763	73	113	14	10	4.0
5	---	---	---	---	---	e0.00	756	66	125	14	9.9	4.1
6	---	---	---	---	---	e0.00	746	56	132	14	9.4	4.4
7	---	---	---	---	---	e0.00	757	49	134	14	11	4.7
8	---	---	---	---	---	e0.00	734	42	127	15	9.5	5.2
9	---	---	---	---	---	e0.00	707	38	118	18	9.9	5.4
10	---	---	---	---	---	e0.00	660	32	113	17	9.1	5.4
11	---	---	---	---	---	e0.00	618	34	109	18	8.4	5.3
12	---	---	---	---	---	e0.00	581	45	103	19	8.7	4.7
13	---	---	---	---	---	e0.00	540	52	92	18	7.9	4.3
14	---	---	---	---	---	e0.00	506	61	84	17	7.3	4.4
15	---	---	---	---	---	e0.00	474	68	80	16	7.1	3.9
16	---	---	---	---	---	e0.00	438	76	75	15	7.6	3.4
17	---	---	---	---	---	e0.00	408	83	70	14	6.7	2.9
18	---	---	---	---	---	e0.00	381	85	63	14	6.2	2.4
19	---	---	---	---	---	e0.00	338	86	55	13	5.7	2.0
20	---	---	---	---	---	e0.00	324	91	50	13	5.0	2.4
21	---	---	---	---	---	e0.00	297	91	45	13	4.6	3.0
22	---	---	---	---	---	e0.00	271	94	40	12	4.5	2.5
23	---	---	---	---	---	e0.00	251	92	36	12	4.0	2.2
24	---	---	---	---	---	e0.00	232	95	32	11	4.7	4.4
25	---	---	---	---	---	e0.03	213	104	29	11	4.1	4.2
26	---	---	---	---	---	e0.10	189	104	25	10	4.5	4.4
27	---	---	---	---	---	e0.75	170	100	23	10	4.3	4.3
28	---	---	---	---	---	e3.0	152	92	20	11	3.8	4.0
29	---	---	---	---	---	e20	130	82	18	11	3.9	4.3
30	---	---	---	---	---	e50	115	78	16	10	3.9	5.3
31	---	---	---	---	---	e100	---	102	---	10	4.0	---
TOTAL	---	---	---	---	---	173.88	13,340	2,345	2,267	428	217.4	118.1
MEAN	---	---	---	---	---	5.61	445	75.6	75.6	13.8	7.01	3.94
MAX	---	---	---	---	---	100	764	104	134	19	11	5.4
MIN	---	---	---	---	---	0.00	115	32	16	10	3.8	2.0
AC-FT	---	---	---	---	---	345	26,460	4,650	4,500	849	431	234

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2004, BY WATER YEAR (WY)

MEAN	0.97	0.32	0.05	0.00	0.44	25.9	128	36.2	16.4	20.2	14.9	2.23
MAX	9.79	5.73	0.98	0.00	11.6	232	529	309	188	306	437	45.4
(WY)	(1986)	(1981)	(1981)	(1958)	(1981)	(1995)	(1997)	(1997)	(2002)	(1993)	(1993)	(1993)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(WY)	(1959)	(1959)	(1958)	(1958)	(1959)	(1960)	(1991)	(1958)	(1958)	(1958)	(1958)	(1958)

05056200 EDMORE COULEE NEAR EDMORE, ND—Continued

SUMMARY STATISTICS	WATER YEARS 1957 - 2004	
ANNUAL MEAN	a14.2	
HIGHEST ANNUAL MEAN	a47.7	1974
LOWEST ANNUAL MEAN	a0.03	1958
HIGHEST DAILY MEAN	1,770	Apr 24, 1997
LOWEST DAILY MEAN	0.00	Jul 1, 1957
ANNUAL SEVEN-DAY MINIMUM	0.00	Jul 1, 1957
MAXIMUM PEAK FLOW	1,830	Apr 24, 1997
MAXIMUM PEAK STAGE	87.95	Apr 24, 1997
ANNUAL RUNOFF (AC-FT)	a10,280	
10 PERCENT EXCEEDS	18	
50 PERCENT EXCEEDS	0.00	
90 PERCENT EXCEEDS	0.00	

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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
MAR													
29...	1115	16	--	--	--	333	--	0.0	--	--	--	--	--
APR													
13...	1855	530	7.2	7.5	603	610	4.5	7.4	190	45.2	19.2	12.6	2
MAY													
19...	1125	86	8.0	7.8	1,250	1,250	10.5	15.0	410	86.3	46.4	16.9	3
JUN													
10...	1335	113	--	--	--	1,350	16.5	15.5	--	--	--	--	--
28...	1205	12	--	--	--	1,310	--	18.0	--	--	--	--	--
AUG													
05...	1300	10	8.1	8.5	1,490	1,500	18.5	21.5	450	79.5	62.1	13.6	3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)
MAR													
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
13...	49.2	34	116	15.3	0.14	21.4	156	378	570	0.71	1.1	0.267	0.036
MAY													
19...	123	38	200	41.7	0.15	4.49	408	845	197	1.4	1.5	<0.010	<0.010
JUN													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
05...	163	43	404	44.1	0.21	<2.00	384	990	26.7	2.3	2.3	<0.010	<0.010

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Organic nitrogen, water, fltrd, mg/L (00607)	Organic nitrogen, water, unfltrd mg/L (00605)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)
MAR													
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
13...	1.98	2.02	0.44	1.1	0.434	0.531	2.7	3.2	4.3	140	<1	20	10
MAY													
19...	0.022	0.020	--	--	0.211	0.246	1.4	1.6	4.2	30	<1	60	30
JUN													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
05...	<0.020	<0.020	--	--	0.527	0.534	2.3	2.3	8.1	30	<1	100	30

05056200 EDMORE COULEE NEAR EDMORE, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
MAR				
29...	--	--	--	--
APR				
13...	<0.20	2	4	150
MAY				
19...	<0.20	3	2	330
JUN				
10...	--	--	--	--
28...	--	--	--	--
AUG				
05...	<0.20	<1	2	400

Remark codes used in this table:
< -- Less than

05056215 EDMORE COULEE TRIBUTARY NEAR WEBSTER, ND

LOCATION.--Lat 48°15'59", long 98°40'50", in NW¼NW¼ 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 National Geodetic Vertical Datum of 1929, from topographic map. Prior to October 1986 nonrecording gage at present site and datum.

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

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 observed discharge, 1,080 ft^3/s, Apr. 6, maximum observed gage height, 74.88 ft, may have been higher during period of missing record, Mar. 30 to Apr. 6; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e0.00	e150	202	116	13	6.5	5.7
2	---	---	---	---	---	e0.00	e300	192	94	13	7.2	5.1
3	---	---	---	---	---	e0.00	e500	182	83	12	6.9	5.4
4	---	---	---	---	---	e0.00	e700	172	75	11	6.6	6.5
5	---	---	---	---	---	e0.00	e900	161	70	11	6.0	6.8
6	---	---	---	---	---	e0.00	e1,000	155	63	11	5.7	6.8
7	---	---	---	---	---	e0.00	990	139	64	9.0	5.6	6.7
8	---	---	---	---	---	e0.00	986	130	61	8.9	5.8	6.4
9	---	---	---	---	---	e0.00	939	118	57	11	5.9	3.5
10	---	---	---	---	---	e0.00	867	108	54	9.4	5.9	3.6
11	---	---	---	---	---	e0.00	790	105	60	8.2	5.6	3.7
12	---	---	---	---	---	e0.00	711	111	61	8.3	5.8	3.6
13	---	---	---	---	---	e0.00	643	106	61	7.9	5.6	3.6
14	---	---	---	---	---	e0.00	592	100	60	7.4	5.1	3.9
15	---	---	---	---	---	e0.00	553	97	60	7.2	4.9	3.8
16	---	---	---	---	---	e0.00	516	92	60	7.1	5.5	3.6
17	---	---	---	---	---	e0.00	487	88	56	7.0	5.1	3.3
18	---	---	---	---	---	e0.00	461	83	49	6.9	5.0	3.0
19	---	---	---	---	---	e0.00	440	81	43	7.0	4.5	2.6
20	---	---	---	---	---	e0.00	432	79	40	7.0	3.9	2.7
21	---	---	---	---	---	e0.00	399	74	36	6.8	3.7	5.3
22	---	---	---	---	---	e0.00	375	71	32	6.5	3.7	5.4
23	---	---	---	---	---	e0.00	354	67	30	6.5	3.7	5.2
24	---	---	---	---	---	e0.00	334	64	27	6.5	5.3	5.4
25	---	---	---	---	---	e0.02	309	64	24	5.5	5.2	5.1
26	---	---	---	---	---	e0.10	282	61	23	4.8	5.8	4.4
27	---	---	---	---	---	e0.75	263	59	21	5.7	6.3	4.1
28	---	---	---	---	---	e4.0	249	56	19	7.7	5.8	3.2
29	---	---	---	---	---	e10	228	54	17	7.7	5.9	2.8
30	---	---	---	---	---	e25	214	54	15	6.8	5.9	2.5
31	---	---	---	---	---	e80	---	96	---	6.5	6.0	---
TOTAL	---	---	---	---	---	119.87	15,964	3,221	1,531	254.3	170.4	133.7
MEAN	---	---	---	---	---	3.87	532	104	51.0	8.20	5.50	4.46
MAX	---	---	---	---	---	80	1,000	202	116	13	7.2	6.8
MIN	---	---	---	---	---	0.00	150	54	15	4.8	3.7	2.5
AC-FT	---	---	---	---	---	238	31,660	6,390	3,040	504	338	265

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2004, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	28.4	159	47.2	18.3	27.4	51.1	9.80
MAX	---	---	---	---	---	233	532	303	99.1	226	858	134
(WY)	---	---	---	---	---	(1995)	(2004)	(1997)	(2002)	(1993)	(1993)	(1993)
MIN	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(WY)	---	---	---	---	---	(1989)	(1990)	(1990)	(1988)	(1988)	(1988)	(1987)

SUMMARY STATISTICS	WATER YEARS 1986 - 2004	
HIGHEST DAILY MEAN	1,390	Apr 25, 1997
LOWEST DAILY MEAN	0.00	Mar 1, 1986
ANNUAL SEVEN-DAY MINIMUM	0.00	Mar 1, 1986
MAXIMUM PEAK FLOW	a1,390	Apr 25, 1997
MAXIMUM PEAK STAGE	75.06	Aug 2, 1993

a Gage height, 74.41
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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
01...	1100	5.5	--	--	--	1,860	10.0	5.0	--	--	--	--	--
MAR													
29...	0910	8.5	--	--	--	650	-2.5	0.5	--	--	--	--	--
APR													
09...	1410	932	8.0	7.1	554	560	-1.0	4.0	180	41.8	17.6	10.9	1
13...	1135	651	--	--	--	658	7.5	4.5	--	--	--	--	--
28...	1500	248	--	--	--	909	11.0	12.5	--	--	--	--	--
MAY													
27...	1110	59	--	--	--	1,450	12.0	11.5	--	--	--	--	--
JUN													
28...	1345	18	--	--	--	1,730	--	19.5	--	--	--	--	--
AUG													
05...	1110	6.1	7.9	8.3	1,730	1,750	21.0	20.0	480	67.0	76.7	14.9	4
SEP													
08...	1435	6.6	--	--	--	1,860	20.5	14.5	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
09...	41.4	32	97	14.8	0.12	16.1	145	332	871	3.1	170	2	20
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
05...	223	49	296	62.2	0.13	<2.00	570	1,190	19.8	6.0	20	3	110
SEP													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--

05056215 EDMORE COULEE TRIBUTARY NEAR WEBSTER, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
01...	--	--	--	--	--
MAR					
29...	--	--	--	--	--
APR					
09...	30	<0.20	2	2	140
13...	--	--	--	--	--
28...	--	--	--	--	--
MAY					
27...	--	--	--	--	--
JUN					
28...	--	--	--	--	--
AUG					
05...	90	<0.20	<1	2	380
SEP					
08...	--	--	--	--	--

Remark codes used in this table:
< -- Less than

05056220 SWEETWATER LAKE AT SWEETWATER, ND

LOCATION.--Lat 48°12'37", long 98°52'15", in NE¼SW¼SW¼ 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 2003 TO SEPTEMBER 2004

Date	Time	Depth to bottom of samplng intrval meters (82048)	Depth to top of samplng intrval meters (82047)	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
OCT													
01...	1545	2.0	0.00	8.0	1,300	390	74.5	48.9	17.8	3	130	41	238
MAR													
03...	1555	1.7	0.80	7.6	1,850	640	123	81.4	26.5	3	202	39	397
MAY													
10...	1625	2.1	0.00	7.8	897	280	60.4	32.0	14.8	2	73.2	34	175
AUG													
02...	1605	1.8	0.00	8.4	1,360	450	93.0	52.8	16.8	3	132	38	282

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)
OCT													
01...	46.9	0.18	28.8	424	887	2.2	0.29	0.22	0.23	0.015	1.9	0.18	0.27
MAR													
03...	65.5	0.22	42.7	589	1,330	3.9	1.29	--	<0.06	<0.008	2.6	1.03d	1.25
MAY													
10...	25.6	0.13	10.8	248	561	1.5	<0.04	--	<0.06	<0.008	--	0.07	0.19
AUG													
02...	39.2	0.17	19.9	421	925	2.5	<0.04	--	<0.06	<0.008	--	0.23	0.40

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Total nitro-gen, water, unfltrd mg/L (00600)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Mangan-ese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molyb-denum, water, fltrd, ug/L (01060)	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
OCT												
01...	2.4	13.5d	<0.1d	11.6	10	<1	70	<10	<0.20	3	3	340
MAR												
03...	--	4.2d	0.5d	8.8	160	<1	100	1,070	<0.20	2	2	500
MAY												
10...	--	25.7d	1.3d	6.2	20	<1	40	<10	<0.20	3	2	230
AUG												
02...	--	E16.6d	E.7d	7.6	10	<1	70	<10	<0.20	3	2	370

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
d -- Diluted sample: method hi range exceeded

05056220 SWEETWATER LAKE AT SWEETWATER, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Depth of lake, maximum meters (85310)	Ice thick-ness, feet (82130)	Sam-pling depth, meters (00098)	Trans-parency Secchi disc, inches (00077)	Wind direc-tion, clkwise from north, degrees (00036)	Wind speed, mph (00035)	Baro-metric pres-sure, mm Hg (00025)	Dis-solved oxygen, mg/L (00300)	Dis-solved oxygen, percent of sat-uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, air, deg C (00020)
OCT													
01...	1540	2.0	--	0.00	9.60	--	--	744	10.0	95	8.4	1,350	12.0
01...	1541	--	--	0.50	--	--	--	--	9.9	--	8.4	1,340	--
01...	1542	--	--	1.0	--	--	--	--	10.0	--	8.4	1,340	--
01...	1543	--	--	1.5	--	--	--	--	9.8	--	8.4	1,340	--
01...	1544	--	--	2.0	--	--	--	--	9.3	--	8.3	1,340	--
MAR													
03...	1550	1.7	2.10	0.80	12.0	15	<5.0	740	1.0	7	7.3	1,740	-4.0
03...	1551	--	--	1.3	--	--	--	--	0.8	--	7.3	2,000	--
03...	1552	--	--	1.7	--	--	--	--	0.7	--	7.4	2,060	--
MAY													
10...	1620	2.1	--	0.00	12.0	345	7.0	742	10.6	105	8.5	894	12.5
10...	1621	--	--	0.70	--	--	--	--	10.3	--	8.5	910	--
10...	1622	--	--	1.4	--	--	--	--	10.2	--	8.5	899	--
10...	1623	--	--	2.1	--	--	--	--	9.1	--	8.4	910	--
AUG													
02...	1600	1.8	--	0.00	17.3	45	<5.0	737	12.0	149	8.2	1,320	27.0
02...	1601	--	--	1.0	--	--	--	--	7.5	--	8.1	1,340	--
02...	1602	--	--	1.8	--	--	--	--	5.5	--	8.1	1,340	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Temper-ature, water, deg C (00010)
OCT	
01...	11.5
01...	8.4
01...	7.1
01...	7.0
01...	7.0
MAR	
03...	0.6
03...	1.8
03...	3.0
MAY	
10...	13.5
10...	13.4
10...	13.5
10...	13.2
AUG	
02...	24.3
02...	20.6
02...	20.3

Remark codes used in this table:
< -- Less than

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 National Geodetic Vertical Datum of 1929.

REMARKS.--Stage frequently affected by wind. Gage height for Apr. 8 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, 61.93 ft, Apr. 18; minimum recorded, 57.81 ft, Feb. 20 and 28.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59.15	58.07	57.96	57.97	58.00	57.87	58.25	60.58	59.89	59.64	59.30	59.21
2	59.13	58.09	57.95	57.99	57.99	57.89	58.25	60.48	59.96	59.66	59.33	59.23
3	59.06	58.06	57.91	---	---	57.89	---	60.34	60.00	59.64	59.32	59.21
4	59.05	58.07	57.90	58.00	57.98	57.89	---	60.27	60.03	59.59	59.30	59.21
5	59.02	58.08	57.91	58.00	---	57.93	---	60.16	60.02	59.61	59.31	59.22
6	59.00	58.08	57.93	58.00	57.93	57.94	---	60.09	60.02	59.61	59.29	59.13
7	58.97	58.08	57.92	58.02	57.92	57.93	---	60.01	60.02	59.61	59.29	59.15
8	58.95	58.04	57.92	58.00	---	57.92	61.01	59.91	59.99	59.61	59.27	59.20
9	58.92	58.01	58.00	57.98	57.93	57.92	61.13	59.83	60.03	59.62	59.19	59.19
10	58.83	57.98	58.01	58.00	57.94	57.91	61.30	59.72	60.03	59.61	59.21	59.17
11	58.74	57.97	58.00	57.97	57.94	57.91	61.52	59.71	60.01	59.60	59.24	59.17
12	58.72	58.01	57.97	57.98	57.95	57.92	61.71	---	60.04	59.59	59.25	59.18
13	58.67	58.03	57.97	57.97	57.93	57.92	61.77	---	60.02	59.53	59.26	59.16
14	58.62	58.04	57.97	57.98	57.90	57.92	61.77	---	60.04	59.56	59.26	59.18
15	58.58	58.04	57.97	57.97	57.92	57.92	61.76	---	60.03	59.54	59.26	59.17
16	58.57	58.05	57.99	57.96	57.91	57.93	61.73	---	60.00	59.51	59.25	59.19
17	58.53	58.04	58.00	57.96	57.91	57.93	61.73	---	59.94	59.52	59.25	59.19
18	58.52	58.05	58.01	57.96	57.91	57.94	61.85	59.07	59.89	59.50	59.15	59.15
19	58.51	58.06	58.03	57.97	57.89	57.94	61.75	59.14	59.89	59.47	59.17	59.18
20	58.43	58.07	58.03	57.96	57.83	57.94	61.69	59.18	59.83	59.49	59.18	59.23
21	58.45	58.09	58.00	57.96	57.86	57.93	61.57	59.24	59.81	59.42	59.20	59.23
22	58.39	58.08	58.01	57.96	57.90	57.94	61.51	59.27	59.80	59.41	59.16	59.24
23	58.38	58.09	58.02	57.97	57.88	57.94	61.42	59.30	59.73	59.41	59.16	59.22
24	58.30	58.07	58.04	57.95	57.88	57.95	61.28	59.35	59.70	59.39	59.19	59.25
25	58.24	58.05	58.00	57.95	57.87	57.95	61.17	59.37	59.70	59.39	59.19	59.30
26	58.32	58.05	58.01	57.97	57.86	57.95	61.06	59.43	59.72	59.36	59.21	59.28
27	58.27	58.03	57.99	57.99	57.87	58.07	61.00	59.47	59.70	59.35	59.20	59.26
28	58.13	58.04	58.02	57.99	57.86	58.20	60.86	59.49	59.68	59.33	59.23	59.28
29	58.08	57.98	58.04	57.99	57.86	58.23	60.72	59.51	59.68	59.30	59.23	59.27
30	58.05	57.95	58.03	57.99	---	58.24	60.65	59.59	59.66	59.31	59.22	59.24
31	58.00	---	58.01	58.00	---	58.24	---	59.72	---	59.32	59.22	---
MEAN	58.60	58.05	57.98	---	---	57.97	---	---	59.90	59.50	59.24	59.21
MAX	59.15	58.09	58.04	---	---	58.24	---	---	60.04	59.66	59.33	59.30
MIN	58.00	57.95	57.90	---	---	57.87	---	---	59.66	59.30	59.15	59.13

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 2003 TO SEPTEMBER 2004

Date	Time	Depth to bottom of samplng intrval meters (82048)	Depth to top of samplng intrval meters (82047)	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
OCT													
01...	1625	2.0	0.00	8.8	1,020	330	66.0	39.9	19.0	2	100	38	245
MAR													
03...	1705	2.4	0.80	7.9	1,560	550	109	66.3	25.9	3	162	38	354
MAY													
10...	1610	2.4	0.00	9.0	762	240	52.3	26.6	13.6	2	62.0	34	152
AUG													
02...	1640	2.2	0.00	8.7	1,050	340	70.7	40.4	16.8	2	88.9	35	215

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)
OCT													
01...	34.7	0.17	30.3	280	688	2.2	0.06	--	E.03n	0.019	2.2	0.37	0.48
MAR													
03...	55.0	0.22	41.9	460	1,090	4.4	1.73d	0.13	0.15	0.022	2.7	0.75	0.89
MAY													
10...	21.5	0.13	6.36	206	474	1.9	0.04c	1.53	1.61	0.075	1.8	0.03	0.23
AUG													
02...	30.1	0.16	21.2	307	685	2.4	0.05	--	<0.06	<0.008	2.3	0.10	0.23

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Total nitro-gen, water, unfltrd mg/L (00600)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Mangan-ese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molyb-denum, water, fltrd, ug/L (01060)	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
OCT												
01...	--	18.0d	<0.1	9.9	30	<1	50	20	<0.20	2	3	280
MAR												
03...	4.6	<0.1d	<0.1d	11.0	50	<1	80	600	<0.20	3	2	430
MAY												
10...	3.5	50.9d	1.9d	6.2	20	<1	30	10	<0.20	2	2	200
AUG												
02...	--	E46.6d	<0.1d	6.2	20	<1	50	120	<0.20	2	<1	290

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

05056222 MORRISON LAKE NEAR WEBSTER, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Depth of lake, maximum meters (85310)	Ice thick-ness, feet (82130)	Sam-pling depth, meters (00098)	Trans-parency Secchi disc, inches (00077)	Wind direc-tion, clkwise from north, degrees (00036)	Wind speed, mph (00035)	Baro-metric pres-sure, mm Hg (00025)	Dis-solved oxygen, mg/L (00300)	Dis-solved oxygen, percent of sat-uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, air, deg C (00020)
OCT													
01...	1620	2.0	--	0.00	15.6	180	<5.0	743	12.0	109	9.2	1,020	--
01...	1621	--	--	0.50	--	--	--	--	11.3	--	9.2	1,020	--
01...	1622	--	--	1.0	--	--	--	--	11.1	--	9.2	1,030	--
01...	1623	--	--	1.5	--	--	--	--	11.0	--	9.2	1,040	--
01...	1624	--	--	2.0	--	--	--	--	10.8	--	9.1	1,040	--
MAR													
03...	1700	2.4	1.80	0.80	54.0	15	<5.0	740	1.0	7	7.5	1,600	-5.0
03...	1701	--	--	1.3	--	--	--	--	1.0	--	7.5	1,620	--
03...	1702	--	--	1.8	--	--	--	--	0.9	--	7.5	1,640	--
03...	1703	--	--	2.4	--	--	--	--	0.7	--	7.5	1,640	--
MAY													
10...	1605	2.4	--	0.00	16.8	340	9.0	741	12.3	121	9.2	758	14.5
10...	1606	--	--	1.0	--	--	--	--	12.0	--	9.2	758	--
10...	1607	--	--	2.0	--	--	--	--	11.5	--	9.2	757	--
10...	1608	--	--	2.4	--	--	--	--	11.2	--	9.2	756	--
AUG													
02...	1635	2.2	--	0.00	40.1	45	<5.0	737	11.8	143	8.6	1,030	23.5
02...	1636	--	--	1.0	--	--	--	--	14.0	--	8.6	1,020	--
02...	1637	--	--	2.0	--	--	--	--	10.4	--	8.5	1,020	--
02...	1638	--	--	2.2	--	--	--	--	9.9	--	8.5	1,020	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Temper-ature, water, deg C (00010)
OCT	
01...	9.7
01...	8.6
01...	7.3
01...	7.2
01...	7.2
MAR	
03...	0.4
03...	0.9
03...	1.9
03...	3.7
MAY	
10...	13.3
10...	13.2
10...	12.8
10...	12.7
AUG	
02...	23.3
02...	22.6
02...	21.2
02...	21.2

Remark codes used in this table:
< -- Less than

05056239 STARKWEATHER COULEE NEAR WEBSTER, ND

LOCATION.--Lat 48°19'14", long 98°56'25", in NW¼SW¼NW¼ 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 1987).

GAGE.--Water-stage recorder. Elevation of gage is 1,448 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to July 23, 1986, nonrecording gage 100 ft downstream at same datum.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 908 ft^3/s, Apr. 9, gage height, 7.68 ft; maximum gage height, 8.89 ft, Mar. 31, backwater from ice; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e0.00	e600	63	236	3.4	0.00	0.00
2	---	---	---	---	---	e0.00	759	58	183	5.1	0.00	0.00
3	---	---	---	---	---	e0.00	775	57	163	5.2	0.00	0.00
4	---	---	---	---	---	e0.00	786	47	143	2.8	0.00	0.00
5	---	---	---	---	---	e0.00	793	45	111	3.4	0.00	0.00
6	---	---	---	---	---	e0.00	776	37	87	3.5	0.00	0.00
7	---	---	---	---	---	e0.00	772	36	72	4.2	0.00	0.00
8	---	---	---	---	---	e0.00	837	29	72	4.3	0.00	0.00
9	---	---	---	---	---	e0.00	903	26	77	6.1	0.00	0.00
10	---	---	---	---	---	e0.00	873	20	86	6.2	0.00	0.00
11	---	---	---	---	---	e0.00	830	19	82	4.6	0.00	0.00
12	---	---	---	---	---	e0.00	776	25	73	5.4	0.00	0.00
13	---	---	---	---	---	e0.00	707	37	64	3.2	0.00	0.00
14	---	---	---	---	---	e0.00	603	37	56	2.9	0.00	0.00
15	---	---	---	---	---	e0.00	513	31	49	2.2	0.00	0.00
16	---	---	---	---	---	e0.00	462	28	44	1.1	0.00	0.00
17	---	---	---	---	---	e0.00	427	28	40	1.2	0.00	0.00
18	---	---	---	---	---	e0.00	391	30	35	1.4	0.00	0.00
19	---	---	---	---	---	e0.00	349	35	32	0.48	0.00	0.00
20	---	---	---	---	---	e0.00	311	48	28	0.61	0.00	0.00
21	---	---	---	---	---	e0.00	267	46	23	0.34	0.00	0.00
22	---	---	---	---	---	e0.00	247	46	19	0.04	0.00	0.00
23	---	---	---	---	---	e0.10	203	39	16	0.02	0.00	0.00
24	---	---	---	---	---	e2.0	164	31	13	0.05	0.00	0.00
25	---	---	---	---	---	e50	132	28	10	0.08	0.00	0.00
26	---	---	---	---	---	e80	114	26	8.8	0.32	0.00	0.00
27	---	---	---	---	---	e100	106	24	7.4	0.25	0.00	0.00
28	---	---	---	---	---	e115	88	20	6.6	0.00	0.00	0.00
29	---	---	---	---	---	e140	79	17	5.9	0.00	0.00	0.00
30	---	---	---	---	---	e180	70	18	4.3	0.00	0.00	0.00
31	---	---	---	---	---	e370	---	152	---	0.00	0.00	---
TOTAL	---	---	---	---	---	1,037.10	14,713	1,183	1,847.0	68.39	0.00	0.00
MEAN	---	---	---	---	---	33.5	490	38.2	61.6	2.21	0.00	0.00
MAX	---	---	---	---	---	370	903	152	236	6.2	0.00	0.00
MIN	---	---	---	---	---	0.00	70	17	4.3	0.00	0.00	0.00
AC-FT	---	---	---	---	---	2,060	29,180	2,350	3,660	136	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2004, BY WATER YEAR (WY)

MEAN	1.30	0.12	0.01	0.00	0.69	24.2	133	32.1	18.9	21.4	15.1	2.70
MAX	5.53	1.09	0.09	0.00	6.61	180	490	284	162	119	138	22.0
(WY)	(1983)	(1981)	(1983)	(1980)	(1981)	(1992)	(2004)	(1997)	(2002)	(1993)	(1993)	(1993)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.92	0.00	0.00	0.00	0.00	0.00
(WY)	(1980)	(1980)	(1980)	(1980)	(1980)	(1980)	(2000)	(1980)	(1980)	(1980)	(1980)	(1981)

05056239 STARKWEATHER COULEE NEAR WEBSTER, ND—Continued

SUMMARY STATISTICS	WATER YEARS 1980 - 2004	
ANNUAL MEAN	a12.1	
HIGHEST ANNUAL MEAN	a24.5	1987
LOWEST ANNUAL MEAN	a0.88	1980
HIGHEST DAILY MEAN	903	Apr 9, 2004
LOWEST DAILY MEAN	0.00	Oct 1, 1979
ANNUAL SEVEN-DAY MINIMUM	0.00	Oct 1, 1979
MAXIMUM PEAK FLOW	b908	Apr 9, 2004
MAXIMUM PEAK STAGE	c10.05	Apr 6, 1989
ANNUAL RUNOFF (AC-FT)	a8,790	
10 PERCENT EXCEEDS	27	
50 PERCENT EXCEEDS	0.00	
90 PERCENT EXCEEDS	0.00	

a Based on complete water years only (1980-87, 1994)
b Gage height, 7.68 ft
c Backwater from ice
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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
MAR													
28...	1815	115	--	--	--	451	1.5	0.5	--	--	--	--	--
APR													
09...	1130	908	7.9	7.7	440	451	0.0	3.5	170	40.1	16.5	13.0	0.6
MAY													
19...	1500	34	8.8	8.7	1,240	1,240	17.5	17.0	500	99.5	60.7	18.0	2
JUN													
30...	0805	4.6	--	--	--	1,240	8.5	21.0	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)
MAR													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
09...	18.7	18	103	10.6	0.15	18.4	94.0	267	697	1.0	0.50	0.122	0.108
MAY													
19...	81.3	25	189	49.8	0.18	<2.00	431	858	77.8	1.2	1.4	<0.010	<0.010
JUN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Organic nitrogen, water, fltrd, mg/L (00607)	Organic nitrogen, water, unfltrd mg/L (00605)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)
MAR													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
09...	2.37	2.20	0.92	0.39	0.446	0.504	3.4	2.7	5.5	110	<1	20	20
MAY													
19...	0.604	0.600	--	--	0.135	0.181	1.8	2.0	6.2	--	<1	60	20
JUN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
MAR				
28...	--	--	--	--
APR				
09...	<0.20	2	4	130
MAY				
19...	<0.20	4	4	340
JUN				
30...	--	--	--	--

Remark codes used in this table:
< -- Less than

05056241 DRY LAKE NEAR PENN, ND

LOCATION.--Lat 48°13'52", long 98°58'59", in NW¼NW¼SW¼ 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 National Geodetic Vertical Datum of 1929.

REMARKS.--Stage is affected by wind at times. Gage heights for Feb. 17, Mar. 9, and Apr. 8 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, 50.94 ft, Apr. 18; minimum gage height, 46.46 ft, Dec. 26 and Jan. 22-24, may have been lower during period of no record, Oct. 4 to Nov. 17, Jan. 30 to Feb. 16, and Feb. 18 to Apr. 7.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47.05	---	46.61	46.49	---	---	---	50.00	49.09	49.07	48.90	48.42
2	47.02	---	46.57	46.51	---	---	---	49.92	49.15	49.10	48.93	48.44
3	47.06	---	46.55	46.52	---	---	---	49.82	49.19	49.14	48.92	48.48
4	---	---	46.56	46.52	---	---	---	49.80	49.23	49.10	48.89	48.47
5	---	---	46.59	46.52	---	---	---	49.69	49.27	49.03	48.87	48.48
6	---	---	46.57	46.51	---	---	---	49.64	49.25	49.05	48.90	48.46
7	---	---	46.56	46.49	---	---	---	49.51	49.27	49.06	48.92	48.43
8	---	---	46.57	46.49	---	---	49.68	49.48	49.26	49.07	48.90	48.47
9	---	---	46.57	46.49	---	46.65	49.83	49.40	49.23	49.10	48.85	48.48
10	---	---	46.55	46.49	---	---	50.06	49.33	49.21	49.10	48.72	48.48
11	---	---	46.54	46.49	---	---	50.27	49.42	49.24	49.08	48.75	48.45
12	---	---	46.55	46.49	---	---	50.46	49.28	49.30	49.09	48.71	48.49
13	---	---	46.55	46.49	---	---	50.62	49.14	49.33	49.08	48.71	48.54
14	---	---	46.53	46.50	---	---	50.74	49.07	49.31	49.04	48.72	48.51
15	---	---	46.54	46.50	---	---	50.80	48.99	49.29	49.05	48.74	48.54
16	---	---	46.52	46.50	---	---	50.83	49.04	49.31	49.03	48.71	48.52
17	---	---	46.52	46.50	46.62	---	50.85	48.98	49.31	49.02	48.69	48.58
18	---	46.58	46.52	46.48	---	---	50.90	48.92	49.25	49.03	48.68	48.51
19	---	46.63	46.51	46.48	---	---	50.86	48.89	49.22	49.04	48.60	48.61
20	---	46.66	46.52	46.49	---	---	50.83	48.82	49.23	49.01	48.59	48.62
21	---	46.63	46.51	46.49	---	---	50.83	48.73	49.24	49.02	48.58	48.58
22	---	46.63	46.50	46.46	---	---	50.70	48.69	49.20	48.98	48.62	48.56
23	---	46.63	46.48	46.47	---	---	50.68	48.60	49.19	48.98	48.55	48.56
24	---	46.59	46.48	46.47	---	---	50.52	48.60	49.13	48.98	48.49	48.43
25	---	46.61	46.48	46.52	---	---	50.53	48.61	49.10	48.98	48.47	48.47
26	---	46.61	46.47	46.54	---	---	50.44	48.61	49.10	48.99	48.52	48.53
27	---	46.60	46.48	46.55	---	---	50.32	48.59	49.11	49.02	48.51	48.45
28	---	46.60	46.48	46.55	---	---	50.31	48.58	49.10	48.98	48.49	48.44
29	---	46.58	46.49	46.55	---	---	50.17	48.62	49.11	48.93	48.52	48.51
30	---	46.59	46.48	---	---	---	50.09	48.70	49.11	48.90	48.51	48.52
31	---	---	46.48	---	---	---	---	48.92	---	48.89	48.47	---
MEAN	---	---	46.53	---	---	---	---	49.11	49.21	49.03	48.69	48.50
MAX	---	---	46.61	---	---	---	---	50.00	49.33	49.14	48.93	48.62
MIN	---	---	46.47	---	---	---	---	48.58	49.09	48.89	48.47	48.42

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 2003 TO SEPTEMBER 2004

Date	Time	Depth to bottom of samplng intrval meters (82048)	Depth to top of samplng intrval meters (82047)	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
OCT													
01...	1430	1.1	0.00	8.1	1,090	380	80.4	43.6	22.0	2	88.9	32	279
MAR													
03...	1440	1.4	0.80	7.8	1,920	750	158	87.2	36.8	3	176	32	533
MAY													
10...	1500	1.9	0.00	8.7	707	220	49.1	24.6	13.6	2	53.6	32	150
AUG													
02...	1440	1.4	0.00	8.9	866	280	53.7	35.0	16.6	2	70.0	34	192

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)
OCT													
01...	34.6	0.21	32.2	288	727	2.5	E.03n	0.10	0.11	0.009	--	0.40	0.57
MAR													
03...	65.2	0.31	19.2	521	1,370	4.2	1.07	--	<0.06	E.007n	3.1	0.93	1.22
MAY													
10...	19.5	0.13	3.72	178	430	2.1	<0.04	--	0.21	<0.008	--	0.12	0.42
AUG													
02...	26.2	0.15	11.1	233	552	5.5d	0.05	--	<0.06	<0.008	5.4	0.18	0.47

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Total nitro-gen, water, unfltrd mg/L (00600)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Mangan-ese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molyb-denum, water, fltrd, ug/L (01060)	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
OCT												
01...	2.6	33.9d	<0.1	13.1	20	<1	50	<10	<0.20	2	2	330
MAR												
03...	--	1.3d	0.3d	19.1	80	<1	100	1,920	<0.20	4	3	600
MAY												
10...	2.3	E113d	0.7d	6.7	20	<1	30	10	<0.20	2	2	180
AUG												
02...	--	E47.9d	<0.1d	7.9	60	<1	50	90	<0.20	2	2	220

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

05056241 DRY LAKE NEAR PENN, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Depth of lake, maximum meters (85310)	Ice thick-ness, feet (82130)	Sam-pling depth, meters (00098)	Trans-parency Secchi disc, inches (00077)	Wind direc-tion, clkwise from north, degrees (00036)	Wind speed, mph (00035)	Baro-metric pres-sure, mm Hg (00025)	Dis-solved oxygen, mg/L (00300)	Dis-solved oxygen, percent of sat-uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, air, deg C (00020)
OCT													
01...	1425	1.1	--	0.00	7.20	150	<5.0	744	12.0	106	8.9	1,090	16.0
01...	1426	--	--	0.50	--	--	--	--	11.7	--	8.9	1,090	--
01...	1427	--	--	1.0	--	--	--	--	11.2	--	9.0	1,100	--
01...	1428	--	--	1.1	--	--	--	--	10.2	--	8.9	1,110	--
MAR													
03...	1435	1.4	2.10	0.80	31.2	30	<5.0	739	1.0	7	7.4	1,990	-4.0
03...	1436	--	--	1.4	--	--	--	--	0.8	--	7.4	2,010	--
MAY													
10...	1455	1.9	--	0.00	48.0	5	<5.0	743	12.4	123	9.0	704	15.5
10...	1456	--	--	0.80	--	--	--	--	12.3	--	9.0	705	--
10...	1457	--	--	1.9	--	--	--	--	12.4	--	9.0	705	--
AUG													
02...	1437	1.4	--	0.00	20.4	45	<5.0	737	14.7	177	9.3	820	29.5
02...	1438	--	--	1.0	--	--	--	--	11.5	--	9.2	824	--
02...	1439	--	--	1.4	--	--	--	--	11.3	--	9.2	825	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Temper-ature, water, deg C (00010)
OCT	
01...	8.8
01...	8.6
01...	7.5
01...	6.7
MAR	
03...	0.6
03...	0.9
MAY	
10...	13.6
10...	13.5
10...	13.5
AUG	
02...	22.7
02...	21.9
02...	21.8

Remark codes used in this table:
< -- Less than

05056250 LAKE ALICE NEAR CHURCHS FERRY, ND

LOCATION.--Lat 48°19'33", long 99°07'16", in SE¼NE¼NE¼ 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.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Depth to bottom of samplng intrval meters (82048)	Depth to top of samplng intrval meters (82047)	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
OCT													
01...	1240	2.1	0.00	8.5	1,400	530	94.6	70.6	22.9	2	116	31	352
MAR													
03...	1235	2.5	0.80	8.0	1,880	780	142	102	29.2	3	161	30	490
MAY													
10...	1335	2.9	0.00	8.7	958	360	70.4	44.8	16.5	1	64.1	27	238
AUG													
02...	1235	2.6	0.00	8.6	1,070	430	82.0	53.9	17.3	2	74.6	26	280

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)
OCT													
01...	50.0	0.19	52.9	408	974	2.1	<0.04	--	<0.06	0.008	--	0.28	0.44
MAR													
03...	65.8	0.24	37.9	550	1,350	8.0d	0.59	0.08	0.31	0.230	7.4	0.70	1.02
MAY													
10...	26.8	0.15	13.0	241	608	2.0	<0.04	--	<0.06	<0.008	--	0.11	0.27
AUG													
02...	30.1	0.15	12.6	278	705	2.6	0.05	--	<0.06	<0.008	2.5	0.29	0.44

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Total nitro-gen, water, unfltrd mg/L (00600)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Mangan-ese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molyb-denum, water, fltrd, ug/L (01060)	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
OCT												
01...	--	27.2d	<0.1	12.9	20	<1	90	<10	<0.20	3	4	410
MAR												
03...	8.3	<0.1d	<0.1d	16.0	50	<1	130	1,130	<0.20	3	3	570
MAY												
10...	--	33.9d	1.4d	8.1	20	<1	50	20	<0.20	2	1	270
AUG												
02...	--	E7.4d	<0.1d	9.2	10	<1	70	180	<0.20	2	1	330

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
d -- Diluted sample: method hi range exceeded

05056250 LAKE ALICE NEAR CHURCHS FERRY, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Depth of lake, maximum meters (85310)	Ice thickness, feet (82130)	Sampling depth, meters (00098)	Transparency Secchi disc, inches (00077)	Wind direction, clkwise from north, degrees (00036)	Wind speed, mph (00035)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)
OCT													
01...	1230	2.2	--	0.00	10.8	270	<5.0	745	12.6	111	8.5	1,430	11.0
01...	1231	--	--	0.50	--	--	--	--	11.4	--	8.5	1,470	--
01...	1232	--	--	1.0	--	--	--	--	11.0	--	8.5	1,460	--
01...	1233	--	--	1.5	--	--	--	--	10.9	--	8.5	1,460	--
01...	1234	--	--	2.0	--	--	--	--	10.7	--	8.5	1,460	--
01...	1235	--	--	2.2	--	--	--	--	10.6	--	8.5	1,470	--
MAR													
03...	1230	2.5	2.30	1.0	50.4	60	<5.0	740	1.0	7	7.2	1,890	-3.0
03...	1231	--	--	1.5	--	--	--	--	0.9	--	7.2	1,920	--
03...	1232	--	--	2.0	--	--	--	--	0.7	--	7.3	2,020	--
03...	1233	--	--	2.5	--	--	--	--	0.6	--	7.3	2,030	--
MAY													
10...	1330	2.9	--	0.00	20.4	357	<5.0	742	10.4	103	8.8	949	9.0
10...	1331	--	--	1.0	--	--	--	--	10.3	--	8.8	952	--
10...	1332	--	--	2.0	--	--	--	--	10.3	--	8.8	952	--
10...	1333	--	--	2.9	--	--	--	--	10.0	--	8.8	953	--
AUG													
02...	1230	2.6	--	0.00	27.6	45	<5.0	736	9.6	113	8.4	1,060	26.5
02...	1231	--	--	1.0	--	--	--	--	8.4	--	8.4	1,070	--
02...	1232	--	--	2.0	--	--	--	--	6.2	--	8.3	1,080	--
02...	1233	--	--	2.6	--	--	--	--	6.1	--	8.3	1,070	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Temperature, water, deg C (00010)
OCT	
01...	8.7
01...	6.7
01...	6.6
01...	6.6
01...	6.7
01...	6.6
MAR	
03...	0.6
03...	0.7
03...	2.2
03...	4.2
MAY	
10...	13.2
10...	13.1
10...	13.0
10...	12.9
AUG	
02...	21.3
02...	19.7
02...	19.4
02...	19.4

Remark codes used in this table:
< -- Less than

05056255 LAKE ALICE-IRVINE CHANNEL NEAR CHURCHS FERRY, ND

LOCATION.--Lat 48°19'25", long 99°08'43", in NW¼NE¼ 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 National Geodetic Vertical Datum of 1929.

REMARKS.--Elevation at gage frequently affected by wind. Gage height for Mar. 3 from once daily observation of gage height.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 49.50 ft, June 15, 2004; minimum recorded, 39.51 ft, Oct. 7, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 49.50 ft, June 15; minimum, 46.37 ft, Oct. 31.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46.67	46.43	46.51	46.55	---	---	47.51	48.56	49.10	49.23	---	48.71
2	46.67	46.47	46.51	46.57	---	---	47.72	48.55	49.15	49.26	49.05	48.73
3	46.66	46.47	46.50	46.59	---	46.73	47.96	48.57	49.21	49.26	49.03	48.70
4	46.65	46.49	46.51	---	---	---	48.22	48.55	49.28	49.24	48.99	48.69
5	46.66	46.50	46.50	---	---	---	48.42	48.56	49.31	---	48.99	48.69
6	46.66	46.50	46.50	---	---	---	48.58	48.53	49.35	---	49.01	48.62
7	46.67	46.48	46.50	---	---	---	48.74	48.56	49.37	---	48.99	48.61
8	46.67	46.49	46.50	46.59	---	---	48.84	48.56	49.34	---	48.96	48.64
9	46.67	46.49	46.50	46.59	---	46.77	48.91	48.56	49.34	---	48.89	48.65
10	46.65	46.49	46.50	46.60	---	46.78	48.96	48.53	49.36	---	48.85	48.64
11	46.59	46.49	46.51	46.60	---	46.77	48.99	48.54	49.46	---	48.84	48.62
12	46.60	46.52	46.51	46.60	---	46.77	49.01	48.52	49.45	---	48.83	48.63
13	46.60	46.51	46.52	46.60	---	46.78	49.01	48.54	49.45	---	48.82	48.61
14	46.57	46.50	46.52	46.60	---	46.78	49.00	48.57	49.47	---	48.82	48.61
15	46.55	46.50	46.52	46.61	---	46.77	48.98	48.62	49.48	---	48.82	48.60
16	46.56	46.50	46.51	46.61	---	46.79	48.97	48.64	49.48	---	48.82	48.60
17	46.58	46.51	46.51	46.61	---	46.79	48.95	48.64	49.46	---	48.80	48.63
18	46.58	46.51	46.51	46.60	---	46.80	48.92	48.66	49.42	---	48.74	48.66
19	46.59	46.50	46.51	46.60	---	46.81	48.89	48.73	49.41	---	48.71	48.71
20	46.55	46.51	46.52	46.61	---	46.81	48.87	48.72	49.40	---	48.70	48.74
21	46.57	46.49	46.52	46.61	---	46.80	48.83	48.73	49.39	---	48.71	48.74
22	46.55	46.48	46.52	46.61	---	46.80	48.80	48.70	49.38	---	48.70	48.72
23	46.55	46.48	46.52	46.61	---	46.80	48.78	48.68	49.36	---	48.70	48.70
24	46.50	46.49	46.52	46.61	---	46.80	48.79	48.72	49.31	---	48.76	48.71
25	46.47	46.52	46.52	46.64	---	46.81	48.75	48.72	49.29	---	48.76	48.73
26	46.49	46.51	46.52	46.66	---	46.81	48.71	48.73	49.29	---	48.76	48.75
27	46.48	46.51	46.51	46.67	---	46.92	48.69	48.71	49.28	---	48.72	48.72
28	46.44	46.51	46.52	---	---	47.10	48.66	48.74	49.26	---	48.72	48.72
29	46.49	46.51	46.53	---	---	47.17	48.61	48.78	49.27	---	48.73	48.75
30	46.46	46.51	46.54	---	---	47.23	48.57	48.86	49.26	---	48.71	48.73
31	46.41	---	46.55	---	---	47.33	---	49.01	---	---	48.70	---
MEAN	46.57	46.50	46.51	---	---	---	48.69	48.65	49.35	---	---	48.68
MAX	46.67	46.52	46.55	---	---	---	49.01	49.01	49.48	---	---	48.75
MIN	46.41	46.43	46.50	---	---	---	47.51	48.52	49.10	---	---	48.60

05056260 LAKE IRVINE NEAR CHURCHS FERRY, ND

LOCATION.--Lat 48°16'57", long 99°10'25", in SE¼SW¼SW¼ sec.32, T.156 N., R.66 W., Ramsey County, Hydrologic Unit 09020201, at south end of lake 1¼ 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 2003 TO SEPTEMBER 2004

Date	Time	Depth to bottom of samplng intrval meters (82048)	Depth to top of samplng intrval meters (82047)	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
OCT													
01...	1300	2.6	0.00	8.3	1,430	550	103	71.6	22.4	2	110	29	361
MAR													
03...	1315	3.0	0.80	8.1	1,820	750	135	99.9	29.5	3	160	31	461
MAY													
10...	1400	3.3	0.00	8.8	1,070	400	75.3	52.5	17.6	2	79.9	29	273
AUG													
02...	1335	2.9	0.00	8.5	1,070	410	76.8	53.6	18.2	2	75.6	27	269

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)
OCT													
01...	47.8	0.20	38.8	413	986	2.9	<0.04	--	<0.06	E.005n	--	0.31	0.51
MAR													
03...	63.7	0.24	35.3	526	1,290	2.9	0.29	0.20	0.39	0.195	2.6	0.51	0.61
MAY													
10...	33.0	0.14	13.1	275	698	1.7	<0.04	--	<0.06	<0.008	--	0.22	0.29
AUG													
02...	31.8	0.16	13.4	276	695	2.2	E.03n	--	E.05n	E.007n	--	0.20	0.32

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Total nitro-gen, water, unfltrd mg/L (00600)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Mangan-ese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molyb-denum, water, fltrd, ug/L (01060)	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
OCT												
01...	--	26.5d	1.2	12.1	10	<1	90	<10	<0.20	3	3	430
MAR												
03...	3.3	E.1d	<0.1d	15.3	30	<1	120	850	<0.20	3	4	550
MAY												
10...	--	7.8d	0.5d	8.6	20	<1	60	20	<0.20	2	1	300
AUG												
02...	--	E16.2d	<0.1d	8.2	20	1	70	240	<0.20	2	2	310

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

05056260 LAKE IRVINE NEAR CHURCHS FERRY, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Depth of lake, maximum meters (85310)	Ice thick-ness, feet (82130)	Sam-pling depth, meters (00098)	Trans-parency Secchi disc, inches (00077)	Wind direc-tion, clkwise from north, degrees (00036)	Wind speed, mph (00035)	Baro-metric pres-sure, mm Hg (00025)	Dis-solved oxygen, mg/L (00300)	Dis-solved oxygen, percent of sat-uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, air, deg C (00020)
OCT													
01...	1250	2.6	--	0.00	13.2	--	<5.0	745	12.1	108	8.7	1,430	13.0
01...	1251	--	--	0.50	--	--	--	--	11.4	--	8.7	1,440	--
01...	1252	--	--	1.0	--	--	--	--	11.0	--	8.7	1,450	--
01...	1253	--	--	1.5	--	--	--	--	10.7	--	8.7	1,450	--
01...	1254	--	--	2.0	--	--	--	--	10.7	--	8.7	1,450	--
01...	1255	--	--	2.5	--	--	--	--	10.6	--	8.7	1,450	--
01...	1256	--	--	2.6	--	--	--	--	10.6	--	8.7	1,450	--
MAR													
03...	1310	3.0	2.40	0.80	40.8	60	<5.0	740	2.7	19	7.7	1,860	-4.0
03...	1311	--	--	1.3	--	--	--	--	2.7	--	7.7	1,870	--
03...	1312	--	--	1.8	--	--	--	--	2.6	--	7.7	1,850	--
03...	1313	--	--	2.3	--	--	--	--	2.4	--	7.7	1,870	--
03...	1314	--	--	3.0	--	--	--	--	1.0	--	7.7	1,890	--
MAY													
10...	1355	3.3	--	0.00	30.0	348	<5.0	742	10.1	97	8.8	1,070	12.5
10...	1356	--	--	1.0	--	--	--	--	10.0	--	8.8	1,070	--
10...	1357	--	--	2.0	--	--	--	--	10.0	--	8.7	1,070	--
10...	1358	--	--	3.3	--	--	--	--	9.7	--	8.7	1,070	--
AUG													
02...	1328	2.9	--	0.00	36.0	35	<5.0	737	12.4	147	8.4	1,050	29.0
02...	1329	--	--	1.0	--	--	--	--	8.7	--	8.3	1,070	--
02...	1330	--	--	2.0	--	--	--	--	7.9	--	8.3	1,070	--
02...	1331	--	--	2.9	--	--	--	--	5.7	--	8.2	1,070	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Temper-ature, water, deg C (00010)
OCT	
01...	9.3
01...	8.0
01...	7.5
01...	7.5
01...	7.5
01...	7.4
01...	7.5
MAR	
03...	0.5
03...	1.1
03...	1.9
03...	2.6
03...	3.7
MAY	
10...	12.6
10...	12.6
10...	12.4
10...	12.3
AUG	
02...	21.9
02...	20.3
02...	20.2
02...	20.1

Remark codes used in this table:
< -- Less than

05056270 BIG COULEE BELOW CHURCHS FERRY, ND

LOCATION.--Lat 48°15'33", long 99°12'00", in NE¼SE¼ 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. Seasonal records only 1998-99. Miscellaneous discharge measurements only since Oct. 1, 1999, because of backwater conditions from Devils Lake.

Miscellaneous discharge measurements for Big Coulee below Churchs Ferry

Date	Discharge
October 2, 2003	[1,2]-95.9
April 9, 2004	1,180
April 28, 2004	[1]393
May 26, 2004	[1]591
June 23, 2004	[1]509
August 24, 2004	[1,2]-252

[1]Wind aided
[2]Reverse flow

05056270 BIG COULEE BELOW CHURCHS FERRY, ND—Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
02...	1535	-96	--	--	--	1,520	12.0	7.5	--	--	--	--	--
APR													
09...	0825	1,180	8.3	7.7	941	963	1.5	2.0	340	64.4	44.6	15.0	2
28...	1125	393	8.8	8.2	1,020	1,030	17.0	10.5	390	73.4	50.7	16.8	2
MAY													
26...	1645	591	--	--	--	1,090	15.5	12.0	--	--	--	--	--
AUG													
24...	0845	-252	--	--	--	1,120	13.0	15.0	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
09...	68.7	29	212	30.3	0.13	19.1	246	599	1,960	5.5	140	<1	60
28...	76.5	29	248	32.2	0.14	16.6	267	668	724	7.4	20	<1	60
MAY													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
02...	--	--	--	--	--
APR					
09...	420	<0.20	2	2	260
28...	<10	<0.20	2	1	290
MAY					
26...	--	--	--	--	--
AUG					
24...	--	--	--	--	--

Remark codes used in this table:
< -- Less than

05056340 LITTLE COULEE NEAR LEEDS, ND

LOCATION.--Lat 48°14'36", long 99°22'21", in NE¼NE¼SE¼ 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 National Geodetic Vertical Datum of 1929, from topographic map.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 130 ft^3/s, Apr. 7, gage height, 65.83 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e0.00	e60	51	62	48	21	e10
2	---	---	---	---	---	e0.00	e95	49	74	48	22	e12
3	---	---	---	---	---	e0.00	115	47	80	48	21	e11
4	---	---	---	---	---	e0.00	123	45	82	47	21	e11
5	---	---	---	---	---	e0.00	125	44	83	46	19	e10
6	---	---	---	---	---	e0.00	126	42	81	45	18	e9.8
7	---	---	---	---	---	e0.00	129	38	83	44	19	e9.5
8	---	---	---	---	---	e0.00	128	37	80	43	19	9.0
9	---	---	---	---	---	e0.00	126	36	76	44	19	8.7
10	---	---	---	---	---	e0.00	123	34	73	43	18	8.7
11	---	---	---	---	---	e0.00	119	32	78	42	17	8.1
12	---	---	---	---	---	e0.00	115	37	85	42	16	8.1
13	---	---	---	---	---	e0.00	111	36	92	41	16	9.0
14	---	---	---	---	---	e0.00	106	34	94	39	15	9.1
15	---	---	---	---	---	e0.00	103	33	95	38	14	8.6
16	---	---	---	---	---	e0.00	100	33	95	37	14	7.2
17	---	---	---	---	---	e0.00	96	32	93	36	13	7.2
18	---	---	---	---	---	e0.00	93	30	90	35	e12	5.1
19	---	---	---	---	---	e0.00	89	31	86	34	e11	5.0
20	---	---	---	---	---	e0.00	85	31	82	32	10	6.3
21	---	---	---	---	---	e0.00	83	29	78	31	9.3	7.1
22	---	---	---	---	---	e0.00	79	30	74	30	9.6	6.6
23	---	---	---	---	---	e0.01	76	27	71	28	7.2	7.1
24	---	---	---	---	---	e0.04	72	26	67	27	9.4	9.4
25	---	---	---	---	---	e0.10	70	29	63	26	8.2	8.0
26	---	---	---	---	---	e0.25	66	27	60	25	10	7.7
27	---	---	---	---	---	e0.75	62	26	57	24	11	7.7
28	---	---	---	---	---	e2.5	61	25	55	24	10	6.4
29	---	---	---	---	---	e6.0	56	24	52	23	11	6.8
30	---	---	---	---	---	e20	54	38	49	22	11	8.2
31	---	---	---	---	---	e30	---	49	---	21	e10	---
TOTAL	---	---	---	---	---	59.65	2,846	1,082	2,290	1,113	441.7	248.4
MEAN	---	---	---	---	---	1.92	94.9	34.9	76.3	35.9	14.2	8.28
MAX	---	---	---	---	---	30	129	51	95	48	22	12
MIN	---	---	---	---	---	0.00	54	24	49	21	7.2	5.0
AC-FT	---	---	---	---	---	118	5,650	2,150	4,540	2,210	876	493

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2004, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	5.52	85.4	56.8	34.4	13.2	3.08	3.06
MAX	---	---	---	---	---	24.8	217	207	110	35.9	14.2	8.38
(WY)	---	---	---	---	---	(1998)	(1999)	(1999)	(1999)	(2004)	(2004)	(2002)
MIN	---	---	---	---	---	0.00	0.00	0.04	0.04	0.08	0.00	0.00
(WY)	---	---	---	---	---	(2001)	(2002)	(2000)	(2000)	(2003)	(2003)	(1998)

SUMMARY STATISTICS	WATER YEARS 1998 - 2004	
HIGHEST DAILY MEAN	267	Apr 23, 1999
LOWEST DAILY MEAN	0.00	Jul 31, 1998
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 6, 1998
MAXIMUM PEAK FLOW	a269	Apr 23, 1999
MAXIMUM PEAK STAGE	66.41	Apr 13, 1999

a Observed gage height, 66.30 ft
e Estimated

05056340 LITTLE COULEE NEAR LEEDS, ND—Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
APR													
15...	1515	104	7.5	7.5	939	950	9.0	6.5	280	44.6	41.3	17.6	2
JUN													
30...	1100	49	--	--	--	1,120	19.5	22.0	--	--	--	--	--
AUG													
04...	1415	20	7.9	8.1	1,250	1,240	17.5	23.5	420	75.4	55.0	19.0	2
SEP													
08...	1210	9.3	--	--	--	1,320	18.5	14.5	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
APR													
15...	93.1	40	186	30.5	0.12	21.5	257	598	174	6.1	220	<1	70
JUN													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
04...	107	34	286	26.9	0.17	31.6	355	812	46.6	6.1	20	<1	90
SEP													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
APR					
15...	180	<0.20	<1	2	220
JUN					
30...	--	--	--	--	--
AUG					
04...	110	<0.20	1	1	360
SEP					
08...	--	--	--	--	--

Remark codes used in this table:
< -- Less than

05056410 CHANNEL A NEAR PENN, ND

LOCATION.--Lat 48°10'00", long 98°58'47", in SE¼SW¼SW¼ 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.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1983 to current year. Seasonal records only 1999. Miscellaneous discharge measurements only since Oct. 1, 1999, because of backwater conditions from Devils Lake.

Miscellaneous discharge measurements for Channel A near Penn

Date	Discharge
October 2, 2003	1.0
April 8, 2004	995
April 16, 2004	1,300
April 28, 2004	1,060
May 26, 2004	379
June 23, 2004	74.9
August 23, 2004	[1,2]-140

[1]Wind aided
[2]Reverse flow

05056410 CHANNEL A NEAR PENN, ND—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1984-99, 2001 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
APR													
16...	1155	1,300	7.3	7.8	633	630	6.0	3.5	290	59.9	34.2	7.00	0.7
28...	1010	1,060	8.7	7.3	640	644	17.5	11.0	200	44.2	21.7	12.6	1
MAY													
26...	1735	379	--	--	--	839	12.5	12.0	--	--	--	--	--
AUG													
23...	1415	-140	--	--	--	1,100	16.0	16.0	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
APR													
16...	26.2	16	154	17.0	0.18	14.1	148	386	1,400	3.3	--	<1	30
28...	44.4	31	139	18.0	0.14	14.9	156	382	1,130	5.1	30	<1	30
MAY													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
APR					
16...	20	<0.20	2	3	220
28...	20	<0.20	2	1	160
MAY					
26...	--	--	--	--	--
AUG					
23...	--	--	--	--	--

Remark codes used in this table:
< -- Less than

05056500 DEVILS LAKE NEAR DEVILS LAKE, ND

LOCATION.--Lat 48°03'59", long 98°56'03", 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 National Geodetic Vertical Datum of 1929. 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, 1,449.18 ft, June 17, 2004, 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 elevation, 1,449.18 ft, June 17, affected by wind; minimum elevation 1,446.23 ft, Dec. 25.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46.50	46.36	46.30	46.29	46.44	46.49	46.94	48.23	48.88	48.95	48.67	48.38
2	46.50	46.36	46.29	46.32	46.44	46.48	46.98	48.24	48.89	48.98	48.70	48.38
3	46.49	46.32	46.28	46.33	46.44	46.49	47.03	48.25	48.90	48.98	48.68	48.38
4	46.48	46.34	46.29	46.32	46.43	46.48	47.07	48.25	48.90	48.98	48.67	48.41
5	46.48	46.36	46.29	46.32	46.44	46.49	47.12	48.27	48.92	48.98	48.64	48.41
6	46.48	46.36	46.29	46.32	46.44	46.49	47.17	48.28	48.90	48.98	48.61	48.46
7	46.47	46.31	46.29	46.32	46.44	46.49	47.25	48.25	49.00	48.95	48.63	48.37
8	46.47	46.32	46.29	46.33	46.43	46.49	47.29	48.26	48.98	48.94	48.65	48.34
9	46.46	46.31	46.29	46.33	46.44	46.49	47.35	48.30	48.97	48.97	48.65	48.34
10	46.47	46.31	46.29	46.33	46.44	46.49	47.40	48.30	48.96	48.96	48.60	48.34
11	46.48	46.30	46.28	46.33	46.46	46.50	47.45	48.22	49.02	48.96	48.58	48.32
12	46.45	46.33	46.29	46.33	46.45	46.49	47.49	48.44	49.06	48.99	48.57	48.31
13	46.44	46.32	46.28	46.32	46.45	46.50	47.55	48.44	49.05	48.96	48.55	48.33
14	46.44	46.32	46.27	46.34	46.45	46.50	47.60	48.41	49.04	48.94	48.54	48.34
15	46.43	46.33	46.29	46.34	46.44	46.50	47.65	48.41	49.07	48.95	48.52	48.33
16	46.40	46.33	46.28	46.34	46.45	46.51	47.71	48.43	49.08	48.94	48.52	48.31
17	46.39	46.33	46.29	46.34	46.45	46.52	47.75	48.43	49.10	48.92	48.52	48.31
18	46.39	46.33	46.28	46.33	46.45	46.52	47.83	48.42	49.08	48.90	48.54	48.27
19	46.40	46.32	46.28	46.33	46.45	46.52	47.88	48.44	49.07	48.90	48.49	48.26
20	46.43	46.34	46.27	46.33	46.45	46.52	47.92	48.46	49.07	48.88	48.45	48.33
21	46.39	46.31	46.27	46.34	46.45	46.51	47.97	48.44	49.06	48.89	48.42	48.35
22	46.41	46.30	46.27	46.33	46.45	46.51	48.01	48.48	49.04	48.84	48.41	48.34
23	46.38	46.31	46.27	46.34	46.45	46.51	48.04	48.48	49.04	48.84	48.37	48.38
24	46.47	46.30	46.27	46.34	46.45	46.51	48.06	48.47	49.03	48.81	48.42	48.46
25	46.39	46.31	46.26	46.39	46.44	46.52	48.11	48.51	49.01	48.77	48.38	48.42
26	46.36	46.32	46.26	46.41	46.45	46.53	48.12	48.49	49.00	48.73	48.45	48.40
27	46.42	46.31	46.27	46.41	46.44	46.65	48.14	48.48	49.00	48.70	48.45	48.40
28	46.39	46.30	46.29	---	46.45	46.80	48.19	48.46	49.00	48.75	48.43	48.38
29	46.34	46.30	46.29	46.42	46.46	46.84	48.21	48.45	48.98	48.73	48.43	48.34
30	46.40	46.30	46.29	46.42	---	46.87	48.23	48.61	48.96	48.70	48.41	48.37
31	46.41	---	46.29	46.43	---	46.90	---	48.81	---	48.68	48.40	---
MEAN	46.43	46.32	46.28	---	46.45	46.55	47.65	48.40	49.00	48.89	48.53	48.36
MAX	46.50	46.36	46.30	---	46.46	46.90	48.23	48.81	49.10	48.99	48.70	48.46
MIN	46.34	46.30	46.26	---	46.43	46.48	46.94	48.22	48.88	48.68	48.37	48.26

05056636 DEVILS LAKE OUTLET TO STUMP LAKE NEAR LAKOTA, ND

LOCATION.--Lat 47°57'29", long 98°29'00", in NE¼SE¼NE¼ 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 National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1999, at datum 37.73 ft higher.

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	e0.00	e0.00	e0.00	e0.00	e0.00	e42	33	171	169	173	110
2	2.9	e0.00	e0.00	e0.00	e0.00	e0.00	e39	40	175	176	170	111
3	3.2	e0.00	e0.00	e0.00	e0.00	e0.00	e38	46	179	190	163	113
4	3.2	e0.00	e0.00	e0.00	e0.00	e0.00	e36	51	174	176	160	117
5	3.3	e0.00	e0.00	e0.00	e0.00	e0.00	34	55	174	172	159	114
6	3.7	e0.00	e0.00	e0.00	e0.00	e0.00	32	65	160	181	157	124
7	3.3	e0.00	e0.00	e0.00	e0.00	e0.00	26	66	175	179	161	118
8	2.9	e0.00	e0.00	e0.00	e0.00	e0.00	22	67	225	177	170	107
9	3.0	e0.00	e0.00	e0.00	e0.00	e0.00	22	73	193	199	181	108
10	2.1	e0.00	e0.00	e0.00	e0.00	e0.00	23	79	161	189	172	107
11	2.5	e0.00	e0.00	e0.00	e0.00	e0.00	22	58	164	185	166	105
12	2.1	e0.00	e0.00	e0.00	e0.00	e0.00	23	59	250	198	162	101
13	2.0	e0.00	e0.00	e0.00	e0.00	e0.00	21	77	249	203	162	103
14	1.8	e0.00	e0.00	e0.00	e0.00	e0.00	18	84	217	187	161	103
15	1.6	e0.00	e0.00	e0.00	e0.00	e0.00	18	91	221	182	159	100
16	1.5	e0.00	e0.00	e0.00	e0.00	e0.00	21	96	232	175	157	101
17	1.5	e0.00	e0.00	e0.00	e0.00	e0.00	22	95	237	173	156	100
18	1.3	e0.00	e0.00	e0.00	e0.00	e0.00	21	98	231	171	163	95
19	1.2	e0.00	e0.00	e0.00	e0.00	e0.00	23	101	225	170	157	94
20	1.5	e0.00	e0.00	e0.00	e0.00	e0.00	24	102	247	167	145	103
21	0.65	e0.00	e0.00	e0.00	e0.00	e0.00	24	92	229	176	138	108
22	0.52	e0.00	e0.00	e0.00	e0.00	e0.00	24	90	216	161	134	102
23	0.27	e0.00	e0.00	e0.00	e0.00	e0.00	24	85	214	158	122	103
24	e0.20	e0.00	e0.00	e0.00	e0.00	e0.00	24	86	212	159	128	111
25	e0.12	e0.00	e0.00	e0.00	e0.00	e0.00	26	98	205	158	127	110
26	e0.10	e0.00	e0.00	e0.00	e0.00	e0.00	25	101	194	150	129	108
27	e0.08	e0.00	e0.00	e0.00	e0.00	e0.00	25	90	194	146	129	102
28	e0.06	e0.00	e0.00	e0.00	e0.00	e10	26	89	200	210	125	100
29	e0.03	e0.00	e0.00	e0.00	e0.00	e60	27	88	194	203	127	98
30	e0.03	e0.00	e0.00	e0.00	---	e50	29	115	179	184	125	99
31	e0.02	---	e0.00	e0.00	---	e45	---	190	---	174	113	---
TOTAL	49.98	0.00	0.00	0.00	0.00	165.00	781	2,560	6,097	5,498	4,651	3,175
MEAN	1.61	0.00	0.00	0.00	0.00	5.32	26.0	82.6	203	177	150	106
MAX	3.7	0.00	0.00	0.00	0.00	60	42	190	250	210	181	124
MIN	0.02	0.00	0.00	0.00	0.00	0.00	18	33	160	146	113	94
AC-FT	99	0.00	0.00	0.00	0.00	327	1,550	5,080	12,090	10,910	9,230	6,300

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2004, BY WATER YEAR (WY)

MEAN	5.97	6.44	1.93	0.11	0.00	1.99	15.2	32.0	67.7	61.8	54.0	37.4
MAX	15.0	12.6	4.49	0.30	0.00	5.32	26.0	82.6	203	177	150	106
(WY)	(2003)	(2003)	(2002)	(2003)	(2002)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)
MIN	0.28	0.00	0.00	0.00	0.00	0.00	6.21	9.00	18.9	21.2	17.6	4.54
(WY)	(2001)	(2004)	(2001)	(2001)	(2001)	(2002)	(2001)	(2001)	(2002)	(2003)	(2003)	(2003)

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 2000 - 2004	
ANNUAL TOTAL	3,164.32		22,976.98			
ANNUAL MEAN	8.67		62.8		23.8	
HIGHEST ANNUAL MEAN					62.8	2004
LOWEST ANNUAL MEAN					9.76	2001
HIGHEST DAILY MEAN	48	Jun 12	250	Jun 12	250	Jun 12, 2004
LOWEST DAILY MEAN	0.00	Jan 19	0.00	Nov 1	a0.00	Oct 1, 1999
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 19	0.00	Nov 1	0.00	Oct 1, 1999
MAXIMUM PEAK FLOW			279	Jun 12	279	Jun 12, 2004
MAXIMUM PEAK STAGE			41.06	Jun 12	41.06	Jun 12, 2004
ANNUAL RUNOFF (AC-FT)	6,280		45,570		17,240	
10 PERCENT EXCEEDS	21		179		64	
50 PERCENT EXCEEDS	3.3		21		11	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

a Many days each year
e Estimated

05056636 DEVILS LAKE OUTLET TO STUMP LAKE NEAR LAKOTA, ND—Continued

WATER QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
03...	1250	3.4	--	--	--	641	11.0	9.0	--	--	--	--	--
MAR													
30...	1600	50	--	--	--	1,100	5.0	1.5	--	--	--	--	--
APR													
05...	1245	35	--	--	--	910	--	4.0	--	--	--	--	--
12...	1545	24	8.5	8.1	3,460	3,560	2.5	3.0	690	68.4	126	57.5	9
MAY													
07...	1230	67	--	--	--	3,820	7.0	12.5	--	--	--	--	--
20...	0900	107	--	--	--	5,540	8.5	12.5	--	--	--	--	--
JUN													
01...	1240	122	--	--	--	4,020	12.0	13.0	--	--	--	--	--
09...	1305	202	--	--	--	5,380	14.5	17.0	--	--	--	--	--
14...	1435	225	--	--	--	5,350	--	18.5	--	--	--	--	--
AUG													
26...	1125	133	8.4	8.6	5,350	5,470	17.0	17.0	970	74.8	191	103	12

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	526	60	307	240	0.12	15.1	1,260	2,460	160	17.3	120	<1	220
MAY													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
26...	897	64	487	419	0.20	12.8	2,020	4,000	1,440	28.7	70	<1	380

05056636 DEVILS LAKE OUTLET TO STUMP LAKE NEAR LAKOTA, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
03...	--	--	--	--	--
MAR					
30...	--	--	--	--	--
APR					
05...	--	--	--	--	--
12...	110	<0.20	2	21	360
MAY					
07...	--	--	--	--	--
20...	--	--	--	--	--
JUN					
01...	--	--	--	--	--
09...	--	--	--	--	--
14...	--	--	--	--	--
AUG					
26...	10	<0.20	4	12	440

Remark codes used in this table:
< -- Less than

05056665 EASTERN STUMP LAKE NEAR LAKOTA, ND

LOCATION.--Lat 47°52'07", long 98°21'27", in SW¼SE¼NE¼ sec.29, T.151 N., R.60 W., Nelson County, Hydrologic Unit 09020201, on north shore in southwest corner of Nelson County Old Settlers 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 National Geodetic Vertical Datum of 1929.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily gage height, 22.97 ft, Sept. 30, 2004; minimum daily gage height, 7.70 ft, June 11, 2000.

EXTREMES FOR CURRENT YEAR.--Maximum daily gage height, 22.97 ft, Sept. 30; minimum daily gage height, 14.42 ft, Dec. 3.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.66	14.47	14.43	14.53	14.69	14.76	16.38	17.62	18.74	20.15	21.42	22.19
2	14.65	14.48	14.43	14.55	14.69	14.76	16.52	17.64	18.81	20.18	21.47	22.21
3	14.66	14.46	14.42	14.56	14.69	14.77	16.64	17.63	18.87	20.26	21.49	22.24
4	14.64	14.47	14.44	14.56	14.69	14.77	16.74	17.66	18.92	20.35	21.51	22.30
5	14.64	14.48	14.45	14.56	14.69	14.77	16.82	17.66	18.99	20.38	21.53	22.34
6	14.64	14.48	14.44	14.56	14.70	14.78	16.89	17.68	19.02	20.43	21.55	22.41
7	14.63	14.46	14.44	14.56	14.69	14.78	16.98	17.66	19.11	20.46	21.62	22.39
8	14.63	14.43	14.45	14.56	14.70	14.77	17.05	17.68	19.16	20.51	21.66	22.39
9	14.63	14.43	14.45	14.56	14.71	14.77	17.11	17.72	19.18	20.62	21.71	22.41
10	14.64	14.43	14.45	14.56	14.70	14.78	17.15	17.73	19.21	20.66	21.69	22.44
11	14.65	14.43	14.45	14.56	14.72	14.79	17.19	17.72	19.29	20.71	21.70	22.45
12	14.63	14.46	14.45	14.57	14.72	14.78	17.23	17.83	19.37	20.79	21.73	22.45
13	14.62	14.43	14.45	14.56	14.72	14.79	17.26	17.84	19.43	20.84	21.76	22.50
14	14.62	14.43	14.45	14.58	14.72	14.79	17.28	17.84	19.47	20.87	21.79	22.52
15	14.61	14.44	14.47	14.58	14.72	14.78	17.33	17.85	19.54	20.91	21.81	22.54
16	14.59	14.43	14.47	14.58	14.72	14.79	17.37	17.88	19.62	20.95	21.84	22.54
17	14.57	14.44	14.47	14.58	14.72	14.80	17.38	17.90	19.69	20.98	21.87	22.55
18	14.57	14.44	14.47	14.58	14.72	14.81	17.42	17.92	19.72	21.01	21.92	22.56
19	14.56	14.44	14.47	14.59	14.72	14.81	17.46	17.96	19.74	21.06	21.90	22.57
20	14.59	14.46	14.47	14.59	14.73	14.81	17.47	18.01	19.79	21.08	21.90	22.68
21	14.55	14.44	14.47	14.60	14.72	14.80	17.52	18.01	19.83	21.14	21.90	22.74
22	14.56	14.44	14.47	14.59	14.73	14.80	17.52	18.05	19.86	21.14	21.93	22.76
23	14.54	14.46	14.48	14.60	14.72	14.81	17.56	18.06	19.89	21.17	21.93	22.80
24	14.56	14.43	14.48	14.60	14.72	14.80	17.55	18.09	19.93	21.19	21.98	22.89
25	14.55	14.44	14.48	14.64	14.72	14.81	17.61	18.15	19.95	21.21	22.00	22.89
26	14.50	14.44	14.48	14.67	14.73	14.83	17.61	18.16	19.98	21.22	22.08	22.91
27	14.53	14.44	14.49	14.67	14.73	15.05	17.59	18.18	20.02	21.25	22.10	22.92
28	14.55	14.43	14.51	14.68	14.72	15.56	17.63	18.20	20.05	21.32	22.11	22.92
29	14.49	14.43	14.52	14.68	14.73	15.80	17.63	18.23	20.09	21.34	22.15	22.92
30	14.51	14.44	14.52	14.68	---	16.02	17.63	18.39	20.12	21.36	22.16	22.97
31	14.51	---	14.53	14.69	---	16.21	---	18.63	---	21.38	22.17	---
MEAN	14.59	14.45	14.47	14.59	14.71	14.94	17.25	17.92	19.51	20.87	21.82	22.58
MAX	14.66	14.48	14.53	14.69	14.73	16.21	17.63	18.63	20.12	21.38	22.17	22.97
MIN	14.49	14.43	14.42	14.53	14.69	14.76	16.38	17.62	18.74	20.15	21.42	22.19

05056665 EASTERN STUMP LAKE NEAR LAKOTA, ND—Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Depth to bottom of samplng intrval meters (82048)	Depth to top of samplng intrval meters (82047)	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
OCT													
02...	0940	10.7	0.00	8.6	10,200	2,200	135	440	118	20	2,180	67	426
MAR													
04...	1330	11.1	0.70	8.4	10,700	2,500	148	525	118	23	2,640	68	460
JUN													
24...	1030	10.0	1.0	8.5	9,020	1,800	131	349	94.6	18	1,710	66	407
AUG													
03...	0915	12.6	0.00	8.5	8,900	1,800	130	348	101	18	1,690	66	406

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)
OCT													
02...	832	0.18	10.5	5,240	9,200	1.5	0.13	--	<0.06	0.024	1.3	0.24	0.20
MAR													
04...	856	0.24	13.0	5,320	9,880	2.8	0.78	--	0.09	E.004n	2.0	0.35	0.39
JUN													
24...	656	0.17	6.09	3,900	7,090	2.6	0.38	--	<0.06	E.007n	2.3	0.21	0.28
AUG													
03...	705	0.17	8.88	4,160	7,380	2.6	0.37	0.03	0.06	0.031	2.3	0.26	0.34

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Total nitro-gen, water, unfltrd mg/L (00600)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Mangan-ese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molyb-denum, water, fltrd, ug/L (01060)	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
OCT												
02...	--	9.0d	<0.1	28.6	50	<1	660	<10	<0.20	3	30	820
MAR												
04...	2.9	<0.1d	<0.1d	33.0	90	<1	810	940	<0.20	3	29	1,000
JUN												
24...	--	0.8d	<0.1d	22.3	50	M	630	130	<0.20	M	18	720
AUG												
03...	2.7	E2.2d	<0.1d	24.0	80	<1	590	310	<0.20	3	20	720

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

05056665 EASTERN STUMP LAKE NEAR LAKOTA, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Depth of lake, maximum meters (85310)	Ice thick-ness, feet (82130)	Sam-pling depth, meters (00098)	Trans-parency Secchi disc, inches (00077)	Wind direc-tion, clkwise from north, degrees (00036)	Wind speed, mph (00035)	Baro-metric pres-sure, mm Hg (00025)	Dis-solved oxygen, mg/L (00300)	Dis-solved oxygen, percent of sat-uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, air, deg C (00020)
OCT													
02...	0925	11	--	0.00	45.6	210	<5.0	739	9.2	91	8.8	10,600	5.0
02...	0926	--	--	1.0	--	--	--	--	9.1	--	8.8	10,600	--
02...	0927	--	--	2.0	--	--	--	--	9.1	--	8.8	10,600	--
02...	0928	--	--	3.0	--	--	--	--	9.0	--	8.8	10,600	--
02...	0929	--	--	4.0	--	--	--	--	9.0	--	8.8	10,600	--
02...	0930	--	--	5.0	--	--	--	--	9.0	--	8.8	10,600	--
02...	0931	--	--	6.0	--	--	--	--	9.0	--	8.8	10,600	--
02...	0932	--	--	7.0	--	--	--	--	9.0	--	8.8	10,600	--
02...	0933	--	--	8.0	--	--	--	--	9.0	--	8.8	10,600	--
02...	0934	--	--	9.0	--	--	--	--	8.9	--	8.8	10,600	--
02...	0935	--	--	10.0	--	--	--	--	8.9	--	8.8	10,600	--
02...	0936	--	--	10.7	--	--	--	--	8.9	--	8.8	10,600	--
MAR													
04...	1315	11	1.70	0.70	74.4	150	5.0	735	9.1	67	8.4	11,000	-5.0
04...	1316	--	--	2.0	--	--	--	--	8.5	--	8.4	11,000	--
04...	1317	--	--	3.0	--	--	--	--	8.4	--	8.4	11,000	--
04...	1318	--	--	4.0	--	--	--	--	8.6	--	8.4	11,000	--
04...	1319	--	--	5.0	--	--	--	--	8.9	--	8.4	11,000	--
04...	1320	--	--	6.0	--	--	--	--	8.2	--	8.4	11,000	--
04...	1321	--	--	7.0	--	--	--	--	8.2	--	8.4	11,100	--
04...	1322	--	--	8.0	--	--	--	--	8.2	--	8.4	11,100	--
04...	1323	--	--	9.0	--	--	--	--	7.6	--	8.4	11,200	--
04...	1324	--	--	10.0	--	--	--	--	4.3	--	8.4	11,100	--
04...	1325	--	--	11.0	--	--	--	--	1.1	--	8.3	11,200	--
04...	1326	--	--	11.1	--	--	--	--	0.9	--	8.2	11,300	--
JUN													
24...	1010	11	--	0.00	77.0	45	8.0	732	8.0	85	8.3	9,020	9.0
24...	1011	--	--	1.0	--	--	--	--	7.3	--	8.4	9,050	--
24...	1012	--	--	2.0	--	--	--	--	7.2	--	8.4	9,060	--
24...	1013	--	--	3.0	--	--	--	--	7.1	--	8.4	9,050	--
24...	1014	--	--	4.0	--	--	--	--	7.0	--	8.4	9,070	--
24...	1015	--	--	5.0	--	--	--	--	7.0	--	8.5	9,070	--
24...	1016	--	--	6.0	--	--	--	--	7.0	--	8.4	9,080	--
24...	1017	--	--	7.0	--	--	--	--	7.1	--	8.4	9,080	--
24...	1018	--	--	8.0	--	--	--	--	7.1	--	8.5	9,090	--
24...	1019	--	--	9.0	--	--	--	--	7.0	--	8.5	9,090	--
24...	1020	--	--	10.0	--	--	--	--	7.0	--	8.5	9,090	--
24...	1021	--	--	10.7	--	--	--	--	7.0	--	8.5	9,090	--
AUG													
03...	0900	13	--	0.00	88.0	65	6.0	739	8.5	102	8.2	8,810	18.0
03...	0901	--	--	1.0	--	--	--	--	8.3	--	8.2	8,810	--
03...	0902	--	--	2.0	--	--	--	--	8.3	--	8.2	8,820	--
03...	0903	--	--	3.0	--	--	--	--	8.1	--	8.2	8,820	--
03...	0904	--	--	4.0	--	--	--	--	8.0	--	8.2	8,820	--
03...	0905	--	--	5.0	--	--	--	--	7.8	--	8.2	8,820	--
03...	0906	--	--	6.0	--	--	--	--	7.3	--	8.2	8,840	--
03...	0907	--	--	7.0	--	--	--	--	6.9	--	8.1	8,830	--
03...	0908	--	--	8.0	--	--	--	--	6.2	--	8.1	8,830	--
03...	0909	--	--	9.0	--	--	--	--	4.8	--	8.1	8,870	--
03...	0910	--	--	10.0	--	--	--	--	0.3	--	8.0	9,000	--
03...	0911	--	--	11.0	--	--	--	--	0.2	--	8.0	9,140	--
03...	0912	--	--	12.0	--	--	--	--	0.2	--	7.9	9,240	--
03...	0913	--	--	12.6	--	--	--	--	0.2	--	7.9	9,200	--

05056665 EASTERN STUMP LAKE NEAR LAKOTA, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Temperature, water, deg C (00010)
OCT	
02...	11.8
02...	11.8
02...	11.8
02...	11.8
02...	11.8
02...	11.8
02...	11.8
02...	11.8
02...	11.8
02...	11.8
02...	11.8
02...	11.8
MAR	
04...	-0.2
04...	-0.2
04...	-0.2
04...	0.2
04...	0.6
04...	0.9
04...	0.9
04...	1.1
04...	1.5
04...	1.9
04...	2.7
04...	3.2
JUN	
24...	15.2
24...	15.2
24...	15.2
24...	15.2
24...	15.2
24...	15.2
24...	15.2
24...	15.2
24...	15.2
24...	15.2
24...	15.2
24...	15.2
AUG	
03...	21.8
03...	21.8
03...	21.8
03...	21.8
03...	21.8
03...	21.7
03...	21.4
03...	21.2
03...	20.9
03...	20.3
03...	18.3
03...	16.6
03...	15.6
03...	15.4

Remark codes used in this table:
< -- Less than

05056670 WESTERN STUMP LAKE NEAR LAKOTA, ND

LOCATION.--Lat 47°54'48", long 98°23'26", in SE¼NE¼NW¼ 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 2003 TO SEPTEMBER 2004

Date	Time	Depth to bottom of samplng intrval meters (82048)	Depth to top of samplng intrval meters (82047)	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)
OCT													
02...	0910	6.1	0.00	8.7	10,200	2,100	135	439	117	20	2,180	67	425
MAR													
04...	1225	6.6	0.80	8.4	10,800	2,600	147	534	116	23	2,690	68	467
JUN													
24...	0935	7.0	1.0	8.4	8,630	1,600	124	322	91.6	17	1,580	66	404
AUG													
03...	0840	8.0	0.00	8.4	8,750	1,800	134	358	104	17	1,680	65	416

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)
OCT													
02...	829	0.19	10.9	5,220	9,180	1.5	0.13	<0.06	0.018	1.3	0.22	0.21	--
MAR													
04...	880	0.21	12.0	5,490	10,100	2.7	0.43	0.15	<0.008	2.2	0.25	0.32	2.8
JUN													
24...	657	0.17	7.58	3,890	6,910	2.8	0.44	E.04n	0.016	2.3	0.21	0.29	--
AUG													
03...	665	0.19	12.0	3,960	7,150	2.7	0.35	E.06n	0.034	2.3	0.29	0.36	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Mangan-ese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molyb-denum, water, fltrd, ug/L (01060)	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
OCT											
02...	7.1d	<0.1d	27.8	50	<1	660	<10	<0.20	3	29	820
MAR											
04...	<0.1d	<0.1d	32.1	90	<1	810	50	<0.20	4	29	1,010
JUN											
24...	1.5d	<0.2d	21.2	120	M	600	80	<0.20	M	14	700
AUG											
03...	E1.5d	<0.1d	25.7	80	<1	590	140	<0.20	3	25	730

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

05056670 WESTERN STUMP LAKE NEAR LAKOTA, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Depth of lake, maximum meters (85310)	Ice thick-ness, feet (82130)	Sam-pling depth, meters (00098)	Trans-parency Secchi disc, inches (00077)	Wind direc-tion, clkwise from north, degrees (00036)	Wind speed, mph (00035)	Baro-metric pres-sure, mm Hg (00025)	Dis-solved oxygen, mg/L (00300)	Dis-solved oxygen, percent of sat-uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, air, deg C (00020)
OCT													
02...	0900	6.1	--	0.00	46.8	210	<5.0	739	9.4	90	8.8	10,600	4.0
02...	0901	--	--	1.0	--	--	--	--	9.4	--	8.8	10,600	--
02...	0902	--	--	2.0	--	--	--	--	9.3	--	8.8	10,600	--
02...	0903	--	--	3.0	--	--	--	--	9.3	--	8.8	10,600	--
02...	0904	--	--	4.0	--	--	--	--	9.3	--	8.8	10,600	--
02...	0905	--	--	5.0	--	--	--	--	9.2	--	8.8	10,600	--
02...	0906	--	--	6.1	--	--	--	--	9.2	--	8.8	10,600	--
MAR													
04...	1215	6.6	1.90	0.80	61.2	150	8.0	737	9.6	71	8.4	11,400	<-5.0
04...	1216	--	--	2.0	--	--	--	--	9.3	--	8.4	11,800	--
04...	1217	--	--	3.0	--	--	--	--	8.8	--	8.3	11,300	--
04...	1218	--	--	4.0	--	--	--	--	8.2	--	8.3	11,400	--
04...	1219	--	--	5.0	--	--	--	--	7.9	--	8.3	11,400	--
04...	1220	--	--	6.0	--	--	--	--	7.9	--	8.3	11,400	--
04...	1221	--	--	6.6	--	--	--	--	7.0	--	8.3	11,400	--
JUN													
24...	0915	7.7	--	0.00	57.5	45	9.0	732	8.0	85	8.1	8,550	8.0
24...	0916	--	--	1.0	--	--	--	--	7.7	--	8.3	8,600	--
24...	0917	--	--	2.0	--	--	--	--	7.5	--	8.3	8,600	--
24...	0918	--	--	3.0	--	--	--	--	7.5	--	8.4	8,620	--
24...	0919	--	--	4.0	--	--	--	--	7.4	--	8.4	8,650	--
24...	0920	--	--	5.0	--	--	--	--	7.4	--	8.4	8,650	--
24...	0921	--	--	6.0	--	--	--	--	7.4	--	8.4	8,670	--
24...	0922	--	--	7.0	--	--	--	--	7.3	--	8.4	8,680	--
24...	0923	--	--	7.7	--	--	--	--	7.2	--	8.4	8,710	--
AUG													
03...	0830	8.0	--	0.00	75.6	80	<5.0	739	7.6	91	8.1	8,650	17.0
03...	0831	--	--	1.0	--	--	--	--	8.1	--	8.1	8,690	--
03...	0832	--	--	2.0	--	--	--	--	7.5	--	8.1	8,690	--
03...	0833	--	--	3.0	--	--	--	--	7.2	--	8.1	8,690	--
03...	0834	--	--	4.0	--	--	--	--	5.9	--	8.1	8,680	--
03...	0835	--	--	5.0	--	--	--	--	5.5	--	8.0	8,650	--
03...	0836	--	--	6.0	--	--	--	--	5.2	--	8.0	8,660	--
03...	0837	--	--	7.0	--	--	--	--	4.1	--	8.0	8,670	--
03...	0838	--	--	8.0	--	--	--	--	2.9	--	8.0	8,710	--

05056670 WESTERN STUMP LAKE NEAR LAKOTA, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Temperature, water, deg C (00010)
OCT	
02...	10.4
02...	10.5
02...	10.5
02...	10.5
02...	10.5
02...	10.5
02...	10.5
MAR	
04...	-0.1
04...	-0.2
04...	0.0
04...	0.1
04...	0.7
04...	0.9
04...	1.3
JUN	
24...	15.2
24...	15.2
24...	15.2
24...	15.2
24...	15.3
24...	15.3
24...	15.3
24...	15.4
24...	15.4
AUG	
03...	21.1
03...	21.1
03...	21.1
03...	21.0
03...	20.7
03...	20.4
03...	20.4
03...	20.4
03...	20.3

Remark codes used in this table:
< -- Less than

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 mi^2, approximately, of which about 5,200 mi^2 is probably noncontributing, includes 3,800 mi^2 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 National Geodetic Vertical Datum of 1929 (Coast and Geodetic Survey benchmark). 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 good except for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	46	45	e39	e22	e22	3,970	302	934	311	e115	94
2	25	46	41	e39	e22	e21	3,450	287	968	282	113	90
3	24	33	40	e39	e22	e21	3,480	270	999	258	110	89
4	26	e32	41	e39	e22	e22	3,910	259	1,040	242	106	88
5	31	e31	41	e38	e22	e23	3,810	240	1,100	225	101	86
6	29	e30	41	e37	e22	e23	3,560	231	1,180	217	96	152
7	28	e30	e41	e35	e22	e23	3,270	216	1,260	210	121	185
8	27	e31	e41	e33	e22	e24	3,030	207	1,360	203	147	210
9	27	e33	e39	e32	e22	e24	2,770	202	1,430	203	160	191
10	26	e35	e39	e31	e22	e24	2,480	196	1,420	206	148	160
11	27	e39	e39	e30	e22	e24	2,120	189	1,380	220	131	135
12	27	e42	e38	e30	e21	e24	1,720	201	1,300	250	122	121
13	28	45	e38	e30	e21	e24	1,380	227	1,170	255	117	112
14	29	47	e38	e30	e20	e24	1,150	244	1,020	242	116	104
15	29	49	e39	e30	e20	e24	936	247	867	230	115	99
16	29	51	e39	e30	e20	e24	778	240	751	220	113	97
17	30	54	39	e30	e20	e24	662	229	684	208	106	97
18	32	57	39	e30	e21	e25	589	228	655	201	99	91
19	32	59	42	e30	e21	e26	544	226	653	189	92	86
20	32	61	43	e29	e22	e28	512	225	667	174	86	89
21	34	49	44	e28	e22	e32	495	214	680	151	82	119
22	31	e48	41	e28	e22	e39	478	212	680	141	79	114
23	33	e47	41	e27	e22	e50	458	209	662	137	73	128
24	33	e47	41	e26	e22	e68	440	206	630	e130	105	211
25	36	e47	41	e25	e22	e130	419	213	585	e128	98	259
26	35	e47	41	e24	e22	e260	398	217	537	e123	133	288
27	36	e46	41	e24	e22	e600	379	221	486	e120	137	290
28	41	45	41	e24	e22	e1,800	361	220	432	e119	142	274
29	39	45	40	e24	e22	2,400	342	215	383	e118	132	261
30	44	44	e40	e24	---	3,380	322	238	346	e117	117	256
31	45	---	e40	e23	---	4,550	---	520	---	e116	103	---
TOTAL	972	1,316	1,254	938	626	13,783	48,213	7,351	26,259	5,946	3,515	4,576
MEAN	31.4	43.9	40.5	30.3	21.6	445	1,607	237	875	192	113	153
MAX	45	61	45	39	22	4,550	3,970	520	1,430	311	160	290
MIN	24	30	38	23	20	21	322	189	346	116	73	86
AC-FT	1,930	2,610	2,490	1,860	1,240	27,340	95,630	14,580	52,080	11,790	6,970	9,080

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2004, BY WATER YEAR (WY)

MEAN	39.3	39.7	23.3	15.0	16.6	189	676	255	159	117	65.7	42.5
MAX	392	375	144	68.2	112	1,381	2,623	1,953	875	722	1,033	321
(WY)	(1995)	(2001)	(2001)	(1995)	(1998)	(1995)	(1996)	(1950)	(2004)	(2000)	(1993)	(1994)
MIN	0.83	2.83	3.14	1.94	0.00	2.14	42.4	37.3	6.66	3.84	0.68	0.00
(WY)	(1964)	(1977)	(1977)	(1964)	(1963)	(1964)	(1991)	(1961)	(1961)	(1961)	(1961)	(1959)

05057000 SHEYENNE RIVER NEAR COOPERSTOWN, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1945 - 2004	
ANNUAL TOTAL	47,582		114,749			
ANNUAL MEAN	130		314		136	
HIGHEST ANNUAL MEAN					399	1950
LOWEST ANNUAL MEAN					13.2	1977
HIGHEST DAILY MEAN	702	Mar 30	4,550	Mar 31	7,410	Apr 17, 1950
LOWEST DAILY MEAN	13	Mar 9	20	Feb 14	0.00	Aug 29, 1959
ANNUAL SEVEN-DAY MINIMUM	13	Mar 9	20	Feb 12	0.00	Aug 29, 1959
MAXIMUM PEAK FLOW			4,660	Mar 31	a7,830	Apr 17, 1950
MAXIMUM PEAK STAGE			18.18	Mar 31	19.13	Apr 18, 1996
ANNUAL RUNOFF (AC-FT)	94,380		227,600		98,820	
10 PERCENT EXCEEDS	352		704		300	
50 PERCENT EXCEEDS	42		88		30	
90 PERCENT EXCEEDS	16		23		4.6	

a Gage height, 18.69 ft
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. Quality assurance sample also collected at this location.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 30.2°C, Aug. 19, 2003; minimum recorded, -0.3°C, on many days in December 2002, January 2003, and February 2003.
SPECIFIC CONDUCTANCE: Maximum recorded, 2,230 microsiemens, Feb. 15-17, 2002; minimum recorded, 319 microsiemens, Mar. 29, 2003.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 27.2°C, July 20; minimum recorded, 0.0°C, on many days in January and February.
SPECIFIC CONDUCTANCE: Maximum recorded, 1,280 microsiemens, Jan. 9-11, Jan. 26-27, June 29-30, and July 1-2; minimum recorded, 308 microsiemens, Mar. 29.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Discharge, cfs (00060)	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
MAR													
31...	1250	--	4,260	--	--	--	--	7.1	7.1	314	280	4.0	6.0
APR													
13...	0955	--	1,420	--	--	--	--	7.9	7.7	686	695	7.0	7.0
MAY													
10...	1430	196	--	46	729	13.6	142	8.3	8.4	1,170	1,160	11.3	15.1
AUG													
31...	1205	--	101	--	--	--	--	8.5	8.5	1,080	1,080	21.2	20.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)
MAR													
31...	110	23.6	11.2	10.9	0.9	22.0	29	87	5.2	0.12	13.3	55.3	182
APR													
13...	230	46.5	27.7	12.2	2	56.9	33	187	10.2	0.14	20.8	149	417
MAY													
10...	380	75.7	47.5	10.4	2	111	38	359	18.6	--	--	275	755
AUG													
31...	340	68.8	41.6	7.90	3	121	43	375	14.8	0.28	24.0	226	706

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)
MAR													
31...	2,230	--	--	--	--	--	--	--	--	--	--	--	--
APR													
13...	1,670	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
10...	399	0.82	1.1	<0.010	<0.010	0.020	0.020	0.080	0.078	0.146	0.84	1.1	E55k
AUG													
31...	199	--	--	--	--	--	--	--	--	--	--	--	--

05057000 SHEYENNE RIVER NEAR COOPERSTOWN, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
MAR											
31...	--	--	2.3	210	<1	20	260	<0.20	<1	2	90
APR											
13...	--	--	3.5	90	<1	50	130	<0.20	2	4	200
MAY											
10...	16.0	<0.5	--	20	--	--	90	--	--	--	--
AUG											
31...	--	--	6.3	--	<1	80	90	<0.20	2	5	340

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	9.2	7.3	8.1	2.1	1.1	1.6	0.3	0.1	0.2	0.2	0.1	0.2
2	8.9	6.6	7.7	1.2	0.6	0.9	0.3	0.1	0.2	0.2	0.1	0.2
3	9.7	7.6	8.6	1.0	0.5	0.7	0.2	0.1	0.2	0.2	0.1	0.2
4	10.7	8.5	9.4	0.8	0.4	0.5	0.2	0.1	0.1	0.2	0.1	0.2
5	11.4	9.8	10.5	0.5	0.3	0.4	0.2	0.1	0.1	0.2	0.1	0.2
6	12.2	10.9	11.6	0.4	0.2	0.3	0.2	0.1	0.1	0.2	0.1	0.1
7	13.2	11.4	12.2	0.4	0.2	0.3	0.2	0.1	0.1	0.2	0.1	0.1
8	14.7	12.2	13.3	0.4	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1
9	15.0	13.4	14.2	0.4	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1
10	16.4	14.4	15.2	0.4	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1
11	15.6	14.4	15.0	0.4	0.2	0.3	0.2	0.1	0.1	0.2	0.1	0.1
12	14.5	13.3	14.0	0.3	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.1
13	13.8	12.3	12.9	0.3	0.2	0.2	0.2	0.1	0.1	---	---	---
14	12.6	10.8	11.4	0.3	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.1
15	11.0	9.6	10	0.3	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1
16	9.6	8.4	9.0	0.3	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1
17	8.6	7.4	8.0	0.4	0.2	0.3	0.2	0.1	0.1	0.2	0.1	0.1
18	9.6	7.7	8.5	0.5	0.2	0.3	0.2	0.1	0.1	0.2	0.1	0.1
19	10.3	7.8	8.9	0.5	0.2	0.3	0.2	0.1	0.1	0.1	0.0	0.1
20	10.8	9.1	9.9	0.4	0.1	0.3	0.2	0.1	0.1	0.1	0.0	0.1
21	11.5	9.9	10.6	0.4	0.2	0.2	0.2	0.1	0.2	0.1	0.0	0.1
22	11.3	10.1	10.8	0.4	0.1	0.2	0.2	0.1	0.2	0.1	0.0	0.1
23	10.7	9.6	10.2	0.4	0.1	0.2	0.2	0.1	0.2	0.1	0.0	0.1
24	10.1	8.9	9.6	0.4	0.2	0.3	0.2	0.1	0.2	0.1	0.0	0.0
25	8.9	6.7	7.6	0.3	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.0
26	6.7	5.8	6.1	0.2	0.1	0.2	0.2	0.1	0.2	0.1	0.0	0.0
27	5.8	4.9	5.2	0.2	0.1	0.1	0.2	0.1	0.2	0.1	0.0	0.1
28	4.9	3.9	4.3	0.2	0.1	0.1	0.2	0.1	0.2	0.1	0.0	0.1
29	3.9	3.0	3.6	0.3	0.1	0.2	0.2	0.1	0.2	0.1	0.0	0.0
30	3.3	2.7	3.0	0.3	0.1	0.2	0.2	0.1	0.2	0.1	0.0	0.0
31	2.8	2.1	2.5	---	---	---	0.2	0.1	0.2	0.1	0.0	0.0
MONTH	16.4	2.1	9.4	2.1	0.1	0.3	0.3	0.1	0.1	0.2	0.0	0.1

05057000 SHEYENNE RIVER NEAR COOPERSTOWN, ND—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	0.1	0.0	0.0	0.3	0.2	0.2	5.8	3.5	4.6	12.0	10.5	11.3
2	0.1	0.0	0.0	0.3	0.2	0.2	7.1	5.1	6.1	12.8	10.1	11.4
3	0.1	0.0	0.0	0.3	0.2	0.2	7.5	6.1	6.8	12.6	10.2	11.4
4	0.1	0.0	0.0	0.3	0.2	0.2	7.6	5.9	6.8	13.3	11.0	12.1
5	0.2	0.0	0.1	0.3	0.2	0.2	9.0	6.7	7.7	14.8	11.7	13.1
6	0.1	0.1	0.1	0.3	0.2	0.2	10.5	8.3	9.3	15.3	13.0	14.1
7	0.2	0.1	0.1	0.3	0.2	0.2	10.4	9.6	10.2	15.0	12.9	13.5
8	0.1	0.1	0.1	0.3	0.2	0.2	9.6	8.1	8.8	14.8	12.3	13.3
9	0.2	0.1	0.1	0.3	0.2	0.2	8.9	7.1	8.0	15.4	14.2	14.7
10	0.2	0.1	0.1	0.3	0.2	0.2	7.1	5.7	6.3	15.5	14.1	14.9
11	0.1	0.1	0.1	0.3	0.2	0.3	6.0	5.4	5.7	15.5	10.2	12.9
12	0.1	0.1	0.1	0.3	0.2	0.3	6.3	4.9	5.6	10.2	8.2	9.0
13	0.2	0.0	0.1	0.3	0.2	0.3	7.8	6.2	7.0	8.5	7.1	7.8
14	0.2	0.1	0.1	0.3	0.2	0.3	8.5	7.5	7.9	9.8	6.9	8.1
15	0.2	0.1	0.1	0.3	0.2	0.3	8.4	7.5	7.9	10.1	8.7	9.3
16	0.2	0.1	0.1	0.3	0.2	0.2	9.0	7.6	8.2	10.8	8.9	9.9
17	0.1	0.1	0.1	0.3	0.2	0.2	8.6	8.0	8.3	13.1	10.1	11.3
18	0.1	0.0	0.1	0.3	0.2	0.2	8.0	7.1	7.6	15.2	11.9	13.2
19	0.2	0.1	0.1	0.3	0.2	0.3	8.5	6.7	7.5	15.6	14.2	14.8
20	0.2	0.1	0.1	0.3	0.2	0.3	8.8	7.9	8.4	16.2	14.4	15.4
21	0.2	0.1	0.2	0.4	0.2	0.3	10.0	8.0	8.9	16.1	14.4	14.9
22	0.2	0.1	0.2	0.4	0.3	0.4	10.5	8.2	9.4	15.0	13.6	14.3
23	0.2	0.2	0.2	0.5	0.3	0.4	11.5	9.2	10.3	15.0	13.7	14.0
24	0.3	0.2	0.2	0.5	0.3	0.4	12.1	9.4	10.8	14.1	12.1	12.9
25	0.2	0.2	0.2	0.5	0.3	0.4	12.2	10.4	11.3	12.3	11.4	11.9
26	0.3	0.2	0.2	0.3	0.3	0.3	11.6	9.8	10.7	14.0	11.4	12.5
27	0.3	0.2	0.2	0.4	0.3	0.3	12.6	10.0	11.2	15.7	13.2	14.2
28	0.3	0.2	0.2	1.3	0.3	0.7	14.3	11.5	12.7	16.5	14.4	15.3
29	0.3	0.2	0.2	1.7	0.7	1.2	12.8	10.7	11.8	16.5	15.6	15.9
30	---	---	---	2.4	0.7	1.5	12.5	10.0	11.2	16.0	14.9	15.4
31	---	---	---	4.1	1.9	2.9	---	---	---	14.9	13.2	13.8
MONTH	0.3	0.0	0.1	4.1	0.2	0.4	14.3	3.5	8.6	16.5	6.9	12.8
		JUNE			JULY			AUGUST			SEPTEMBER	
1	13.6	12.7	13.0	23.4	20.9	22.1	22.4	20.3	21.3	21.3	19.6	20.4
2	14.6	12.7	13.6	23.0	21.7	22.3	---	---	---	22.4	20.8	21.5
3	16.1	14.4	15.4	24.2	22.0	23.0	---	---	---	22.0	21.5	21.8
4	17.9	16.0	17.0	24.1	21.7	22.6	22.8	21.8	22.3	21.5	20.3	20.9
5	19.8	17.7	18.8	21.7	19.1	20.0	22.1	21.2	21.7	20.3	17.8	19.1
6	21.0	19.5	20.2	19.1	17.9	18.3	21.4	19.9	20.7	17.8	15.4	16.4
7	21.4	20.1	20.7	19.7	17.1	18.2	21.0	19.5	20.2	15.7	14.6	15.1
8	21.0	18.9	20.3	19.7	18.3	18.8	22.0	21.0	21.5	16.0	14.8	15.3
9	18.9	18.2	18.5	21.0	17.8	19.1	21.7	18.5	20.4	17.0	15.1	15.9
10	18.6	17.9	18.4	21.7	20.3	20.8	18.5	17.0	17.5	18.0	16.4	17.0
11	18.7	17.6	18.1	23.8	20.7	22.0	17.1	16.5	16.8	18.3	16.9	17.7
12	19.6	18.2	18.9	25.3	22.7	23.7	17.6	16.5	17.0	18.1	16.7	17.3
13	19.7	19.1	19.4	25.1	22.9	24.0	18.7	17.4	18.0	18.8	18.1	18.6
14	19.5	18.6	19.0	25.0	22.7	23.9	19.3	18.1	18.6	18.1	17.2	17.8
15	19.0	18.2	18.7	26.0	24.0	24.8	19.9	19.0	19.4	17.2	14.9	16.2
16	19.1	17.5	18.2	26.0	24.4	25.1	20.6	19.2	19.8	14.9	13.7	14.4
17	19.7	18.0	18.8	25.5	23.7	24.6	21.4	20.1	20.6	16.3	14.4	15.4
18	18.9	17.9	18.4	---	---	---	21.1	18.7	20.3	18.1	16.1	17.1
19	19.2	17.4	18.3	---	---	---	18.7	17.4	17.9	19.9	17.8	18.9
20	19.7	17.9	18.8	---	---	---	17.6	16.6	17.2	20.1	19.1	19.9
21	19.0	18.4	18.7	---	---	---	17.1	16.2	16.6	19.1	16.7	17.7
22	18.9	17.5	18.3	26.4	23.4	24.8	17.5	16.4	16.8	16.7	14.6	15.7
23	18.9	17.6	18.2	23.4	21.9	22.4	16.9	16.5	16.7	14.6	13.6	14.1
24	18.6	17.2	17.9	22.9	21.0	22.1	18.2	16.4	17.2	14.4	13.0	13.6
25	18.2	17.3	17.8	23.1	21.9	22.6	18.4	17.7	18.1	15.1	13.4	14.2
26	18.8	17.2	17.9	23.9	22.2	22.9	18.5	17.4	17.8	16.2	14.0	15.0
27	20.1	17.8	18.9	23.1	22.3	22.6	18.2	17.6	18.0	16.0	14.7	15.3
28	20.8	18.2	19.5	22.8	22.0	22.5	18.0	17.2	17.7	15.2	13.2	14.1
29	22.2	19.2	20.6	22.0	20.9	21.4	18.9	17.7	18.3	14.2	12.6	13.5
30	23.2	20.5	21.7	21.0	20.1	20.5	19.3	18.5	18.9	14.2	13.2	13.6
31	---	---	---	20.8	19.6	20.2	20.3	18.8	19.5	---	---	---
MONTH	23.2	12.7	18.4	26.4	17.1	22.0	22.8	16.2	18.9	22.4	12.6	16.8
YEAR	26.4	0.0	8.8									

05057000 SHEYENNE RIVER NEAR COOPERSTOWN, ND—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	975	958	969	1,000	989	994	1,090	1,060	1,080	1,210	1,200	1,200
2	973	955	965	1,000	999	1,000	1,090	1,070	1,080	1,210	1,200	1,200
3	969	958	965	1,060	1,000	1,030	1,070	1,070	1,070	1,200	1,190	1,190
4	973	958	965	1,020	1,010	1,010	1,070	1,070	1,070	1,190	1,180	1,180
5	977	962	968	---	---	1,009	1,070	1,060	1,060	1,190	1,180	1,180
6	975	963	969	1,050	1,010	1,020	1,070	1,060	1,070	1,210	1,190	1,190
7	972	962	968	1,070	1,010	1,050	1,070	1,070	1,070	1,240	1,210	1,230
8	967	956	963	1,080	1,050	1,070	1,080	1,070	1,080	1,270	1,240	1,260
9	969	960	966	1,090	1,060	1,070	1,080	1,070	1,070	1,280	1,270	1,280
10	972	964	967	1,080	1,070	1,080	1,080	1,080	1,080	1,280	1,280	1,280
11	971	961	965	1,090	1,080	1,080	1,080	1,080	1,080	1,280	1,270	1,280
12	973	962	967	1,080	1,060	1,070	1,100	1,080	1,090	1,270	1,250	1,260
13	974	965	969	1,070	1,040	1,050	1,120	1,100	1,110	---	---	---
14	979	968	973	1,070	1,040	1,060	1,140	1,120	1,130	1,260	1,250	1,260
15	978	972	974	1,070	1,060	1,070	1,140	1,140	1,140	1,270	1,260	1,260
16	976	963	969	1,060	1,050	1,060	1,140	1,130	1,140	1,270	1,250	1,260
17	972	955	961	1,050	1,030	1,040	1,130	1,120	1,130	1,260	1,240	1,250
18	962	955	959	1,030	1,010	1,020	1,130	1,120	1,130	1,240	1,240	1,240
19	958	947	954	1,020	1,000	1,010	1,120	1,120	1,120	1,240	1,230	1,240
20	951	944	948	1,000	1,000	1,000	1,120	1,120	1,120	1,240	1,230	1,230
21	956	947	951	1,020	1,000	1,020	1,120	1,110	1,120	1,250	1,240	1,240
22	959	952	955	1,050	1,020	1,040	1,120	1,110	1,120	1,260	1,250	1,260
23	969	958	962	1,080	1,050	1,060	1,140	1,120	1,130	1,270	1,260	1,260
24	975	963	968	1,100	1,080	1,100	1,160	1,140	1,150	1,270	1,260	1,260
25	986	970	979	1,110	1,100	1,100	1,160	1,150	1,160	1,270	1,260	1,270
26	1,000	984	989	1,130	1,110	1,120	1,180	1,160	1,160	1,280	1,270	1,280
27	996	986	991	1,130	1,120	1,130	1,190	1,180	1,180	1,280	1,270	1,280
28	997	983	987	1,120	1,110	1,110	1,190	1,190	1,190	1,270	1,260	1,270
29	994	989	991	1,120	1,100	1,110	1,190	1,190	1,190	1,260	1,260	1,260
30	992	981	986	1,100	1,080	1,090	1,190	1,190	1,190	1,260	1,250	1,250
31	990	984	987	---	---	---	1,200	1,190	1,190	1,250	1,240	1,240
MONTH	1,000	944	969	1,130	989	1,060	1,200	1,060	1,120	1,280	1,180	1,240
	FEBRUARY			MARCH			APRIL			MAY		
1	1,240	1,240	1,240	1,180	1,180	1,180	439	414	428	---	---	---
2	1,240	1,230	1,240	1,180	1,170	1,180	511	439	465	---	---	---
3	1,230	1,230	1,230	1,170	1,170	1,170	561	511	536	---	---	---
4	1,230	1,230	1,230	1,170	1,160	1,160	579	561	571	---	---	---
5	1,230	1,230	1,230	1,160	1,160	1,160	610	579	593	---	---	---
6	1,230	1,230	1,230	1,160	1,150	1,150	635	610	623	---	---	---
7	1,230	1,220	1,230	1,150	1,150	1,150	676	635	651	1,050	1,030	1,040
8	1,230	1,230	1,230	1,150	1,140	1,150	707	676	690	1,070	1,050	1,060
9	1,240	1,230	1,230	1,150	1,140	1,150	824	707	749	1,100	1,070	1,080
10	1,240	1,230	1,230	1,150	1,140	1,140	839	770	805	1,120	1,100	1,110
11	1,240	1,240	1,240	1,140	1,120	1,130	781	770	774	1,130	1,120	1,120
12	1,240	1,240	1,240	1,120	1,110	1,120	796	781	788	1,140	1,130	1,140
13	1,240	1,230	1,230	1,110	1,100	1,100	---	---	---	1,140	1,140	1,140
14	1,230	1,210	1,220	1,100	1,090	1,100	---	---	---	1,150	1,140	1,150
15	1,210	1,210	1,210	1,090	1,070	1,080	---	---	---	1,150	1,150	1,150
16	1,220	1,210	1,220	1,070	1,060	1,070	---	---	---	1,150	1,150	1,150
17	1,220	1,220	1,220	1,060	1,050	1,060	---	---	---	1,160	1,150	1,160
18	1,220	1,220	1,220	1,060	1,050	1,050	---	---	---	1,170	1,160	1,160
19	1,220	1,210	1,210	1,050	1,050	1,050	---	---	---	1,180	1,170	1,170
20	1,210	1,210	1,210	1,050	1,030	1,040	---	---	---	1,180	1,170	1,180
21	1,210	1,200	1,200	1,030	1,010	1,020	---	---	---	1,180	1,180	1,180
22	1,200	1,200	1,200	1,010	999	1,000	---	---	---	1,190	1,180	1,180
23	1,200	1,200	1,200	1,000	995	998	---	---	---	1,190	1,180	1,180
24	1,200	1,200	1,200	997	979	991	---	---	---	1,190	1,180	1,180
25	1,200	1,190	1,200	979	686	816	---	---	---	1,180	1,180	1,180
26	1,200	1,190	1,200	686	559	615	---	---	---	1,190	1,180	1,180
27	1,200	1,190	1,200	559	390	481	---	---	---	1,200	1,190	1,190
28	1,200	1,190	1,190	414	313	358	---	---	---	1,210	1,200	1,200
29	1,190	1,180	1,190	339	308	319	---	---	---	1,220	1,210	1,220
30	---	---	---	413	339	374	---	---	---	1,220	1,220	1,220
31	---	---	---	414	403	408	---	---	---	1,220	1,220	1,220
MONTH	1,240	1,180	1,220	1,180	308	960	839	414	639	1,220	1,030	1,160

05057000 SHEYENNE RIVER NEAR COOPERSTOWN, ND—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	1,220	1,220	1,220	1,280	1,270	1,270	1,200	1,190	1,200	1,070	1,040	1,060
2	1,220	1,220	1,220	1,280	1,270	1,270	---	---	---	1,080	1,070	1,070
3	1,230	1,220	1,220	1,270	1,260	1,270	---	---	---	1,100	1,080	1,090
4	1,230	1,220	1,220	1,270	1,250	1,260	1,200	1,190	1,200	1,090	1,070	1,080
5	1,240	1,230	1,230	1,250	1,240	1,240	1,200	1,170	1,180	1,080	1,050	1,060
6	1,240	1,230	1,230	1,240	1,230	1,230	1,180	1,170	1,180	1,160	1,040	1,070
7	1,230	1,230	1,230	1,230	1,220	1,220	1,180	1,140	1,160	1,050	1,000	1,020
8	1,230	1,220	1,230	1,220	1,210	1,220	1,150	1,130	1,140	1,090	1,020	1,050
9	1,220	1,200	1,210	1,210	1,210	1,210	1,140	1,110	1,120	1,100	1,050	1,090
10	1,200	1,180	1,190	1,210	1,200	1,210	1,130	1,120	1,120	1,050	1,030	1,040
11	1,180	1,170	1,180	1,200	1,200	1,200	1,140	1,130	1,130	1,060	1,050	1,060
12	1,170	1,160	1,160	1,200	1,200	1,200	1,140	1,130	1,140	1,070	1,050	1,060
13	1,160	1,140	1,150	1,200	1,190	1,190	1,150	1,140	1,150	1,080	1,070	1,080
14	1,140	1,120	1,130	1,190	1,180	1,180	1,150	1,140	1,150	1,080	1,070	1,080
15	1,120	1,100	1,110	1,180	1,180	1,180	1,150	1,130	1,140	1,090	1,080	1,080
16	1,120	1,090	1,100	1,180	1,170	1,170	1,160	1,140	1,150	1,100	1,090	1,100
17	1,150	1,120	1,130	1,170	1,160	1,160	1,160	1,140	1,150	1,100	1,100	1,100
18	1,170	1,150	1,160	---	---	---	1,140	1,120	1,120	1,100	1,080	1,080
19	1,190	1,170	1,180	---	---	---	1,120	1,100	1,110	1,080	1,070	1,070
20	1,210	1,190	1,200	---	---	---	1,130	1,100	1,110	1,070	1,060	1,060
21	1,220	1,210	1,220	---	---	---	1,120	1,100	1,110	1,160	1,060	1,100
22	1,240	1,220	1,230	1,160	1,140	1,150	1,120	1,120	1,120	1,140	1,100	1,110
23	1,240	1,230	1,240	1,140	1,140	1,140	1,120	1,110	1,120	1,100	1,080	1,090
24	1,250	1,240	1,240	1,140	1,140	1,140	1,120	1,020	1,090	1,100	1,090	1,090
25	1,250	1,250	1,250	1,140	1,140	1,140	1,140	1,040	1,080	1,100	1,090	1,090
26	1,260	1,250	1,260	1,150	1,140	1,150	1,120	1,030	1,060	1,100	1,090	1,090
27	1,270	1,260	1,260	1,160	1,150	1,150	1,040	975	997	1,090	1,070	1,080
28	1,270	1,260	1,260	1,160	1,150	1,160	1,070	1,010	1,050	1,070	1,060	1,070
29	1,280	1,260	1,270	1,170	1,160	1,170	1,060	1,020	1,040	1,070	1,050	1,060
30	1,280	1,270	1,270	1,180	1,170	1,180	1,050	984	1,030	1,050	1,040	1,050
31	---	---	---	1,190	1,180	1,190	1,040	984	1,010	---	---	---
MONTH	1,280	1,090	1,210	1,280	1,140	1,190	1,200	975	1,120	1,160	1,000	1,070
YEAR	1,280	308	1,100									

05057200 BALDHILL CREEK NEAR DAZEY, ND

LOCATION.--Lat 47°13'45", long 98°07'28", in NW¼SE¼SW¼ 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.--April 1956 to current year.

REVISED RECORDS.--WSP 1728: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,330 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 9, 1956, nonrecording gage 500 ft downstream at same datum.

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	2.6	2.6	e1.6	e1.0	3.0	928	31	1,140	43	15	25
2	1.9	2.4	2.5	e1.5	1.1	2.5	748	31	1,190	39	14	23
3	2.2	2.4	2.4	e1.5	1.1	3.2	589	28	975	38	13	21
4	2.3	2.6	2.6	e1.4	1.2	3.5	473	26	732	36	12	20
5	2.4	3.6	2.6	e1.4	1.2	3.5	400	24	561	34	12	e23
6	2.4	3.5	2.6	e1.4	1.2	3.3	334	23	441	33	17	e27
7	2.4	3.2	2.6	e1.4	1.2	3.3	260	21	351	32	27	56
8	3.3	3.0	2.6	1.4	1.3	3.4	191	21	263	31	27	e42
9	3.4	3.0	2.7	1.5	1.3	3.8	163	21	207	37	24	40
10	2.9	3.1	2.5	1.6	1.4	4.4	145	22	171	41	22	38
11	3.1	3.3	2.1	1.8	1.4	5.3	129	21	212	45	19	36
12	3.0	3.3	2.0	2.0	1.4	4.9	115	31	301	57	18	39
13	2.8	3.2	2.1	2.1	e1.4	4.4	104	53	205	62	23	e41
14	2.6	3.3	2.4	2.1	e1.4	4.3	94	64	157	54	22	e44
15	2.3	3.3	2.5	2.0	e1.4	4.3	86	57	156	49	20	e49
16	2.1	3.6	2.6	1.9	e1.4	4.2	79	53	141	44	19	e52
17	2.1	4.2	2.5	e1.7	1.6	4.3	72	47	124	41	18	e46
18	2.2	4.2	2.6	e1.5	1.7	4.6	66	42	115	40	18	e40
19	2.2	4.2	2.5	e1.4	1.9	5.4	65	38	105	37	16	e34
20	3.1	3.8	2.6	e1.3	1.9	6.4	63	35	96	35	14	e30
21	5.7	2.4	2.6	e1.2	1.9	6.1	64	30	87	34	14	e32
22	5.8	e2.4	2.6	e1.1	1.9	7.0	61	29	80	32	12	34
23	3.2	e2.4	2.6	e1.0	1.9	9.4	57	30	73	31	10	36
24	2.4	2.4	2.5	e1.0	2.1	15	51	30	65	29	15	53
25	2.0	2.3	2.4	e1.0	2.2	e50	48	35	60	26	53	68
26	2.2	2.5	2.4	e1.0	2.3	e225	44	36	61	24	54	62
27	3.0	2.5	e2.4	e0.98	2.4	e500	40	36	59	23	68	54
28	4.0	2.5	e2.3	e0.95	2.7	2,310	39	34	55	22	58	49
29	3.1	2.5	e2.0	e0.90	3.1	2,370	35	31	51	20	44	45
30	3.1	2.6	e1.7	e0.95	---	1,600	33	60	47	18	36	42
31	3.1	---	e1.6	e1.0	---	1,180	---	630	---	17	27	---
TOTAL	88.1	90.3	74.7	43.58	48.0	8,354.5	5,576	1,670	8,281	1,104	761	1,201
MEAN	2.84	3.01	2.41	1.41	1.66	270	186	53.9	276	35.6	24.5	40.0
MAX	5.8	4.2	2.7	2.1	3.1	2,370	928	630	1,190	62	68	68
MIN	1.8	2.3	1.6	0.90	1.0	2.5	33	21	47	17	10	20
AC-FT	175	179	148	86	95	16,570	11,060	3,310	16,430	2,190	1,510	2,380

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2004, BY WATER YEAR (WY)

MEAN	7.53	7.09	3.25	1.56	2.75	66.2	131	32.6	25.2	19.7	9.10	7.74
MAX	106	54.9	16.1	7.31	34.2	475	1,040	220	276	273	133	58.5
(WY)	(1995)	(2001)	(1995)	(1995)	(1998)	(1995)	(1997)	(1997)	(2004)	(1993)	(1993)	(1957)
MIN	0.47	0.38	0.15	0.00	0.00	0.59	2.44	1.71	0.91	0.02	0.08	0.09
(WY)	(1992)	(1960)	(1959)	(1959)	(1957)	(1964)	(1981)	(1981)	(1961)	(1989)	(1984)	(1984)

05057200 BALDHILL CREEK NEAR DAZEY, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1956 - 2004	
ANNUAL TOTAL	4,692.67		27,292.18			
ANNUAL MEAN	12.9		74.6		26.2	
HIGHEST ANNUAL MEAN					115	1997
LOWEST ANNUAL MEAN					1.52	1981
HIGHEST DAILY MEAN	110	Mar 24	2,370	Mar 29	4,500	Apr 19, 1979
LOWEST DAILY MEAN	0.28	Mar 11	0.90	Jan 29	0.00	Jan 25, 1957
ANNUAL SEVEN-DAY MINIMUM	0.33	Mar 7	0.97	Jan 24	0.00	Jan 25, 1957
MAXIMUM PEAK FLOW			a3,250	Mar 28	b9,000	Apr 19, 1979
MAXIMUM PEAK STAGE			c12.61	Mar 28	d17.78	Apr 19, 1979
ANNUAL RUNOFF (AC-FT)	9,310		54,130		19,010	
10 PERCENT EXCEEDS	44		115		44	
50 PERCENT EXCEEDS	3.1		14		3.7	
90 PERCENT EXCEEDS	0.81		1.5		0.30	

a Gage height, 11.60 ft
b About
c From floodmark, backwater from ice
d From floodmark
e Estimated

05057200 BALDHILL CREEK NEAR DAZEY, ND—Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT													
07...	1540	2.4	--	--	--	--	863	26.0	13.5	--	--	--	--
10...	1110	2.2	--	--	--	--	816	11.0	8.0	--	--	--	--
NOV													
05...	1435	4.0	--	--	--	--	538	-6.0	1.5	--	--	--	--
JAN													
14...	1400	2.1	--	--	--	--	626	-10.0	0.5	--	--	--	--
FEB													
04...	1620	1.2	--	--	--	--	582	--	0.5	--	--	--	--
MAR													
22...	1205	6.8	--	--	--	--	440	6.0	0.5	--	--	--	--
26...	1100	248	--	--	--	--	301	0.5	1.0	--	--	--	--
28...	1500	3,160	--	--	--	--	221	3.5	1.5	--	--	--	--
30...	1625	1,470	738	8.0	7.8	426	395	7.2	4.0	150	33.0	17.3	11.9
MAY													
06...	1445	22	--	--	--	--	1,140	14.5	15.0	--	--	--	--
JUN													
16...	1655	137	--	--	--	--	996	--	19.0	--	--	--	--
AUG													
03...	1225	13	--	8.2	8.3	1,020	1,020	24.0	24.0	420	82.3	51.2	11.2
31...	1850	25	--	--	--	--	872	21.0	21.5	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)
OCT													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	0.6	17.2	18	100	5.4	0.12	13.5	104	251	1,050	2.5	100	<1
MAY													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
03...	1	65.9	25	335	15.5	0.22	21.6	221	651	23.2	3.9	60	7
31...	--	--	--	--	--	--	--	--	--	--	--	--	--

05057200 BALDHILL CREEK NEAR DAZEY, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Lithium water, fltrd, ug/L (01130)	Mangan-ese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molyb-denum, water, fltrd, ug/L (01060)	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
OCT						
07...	--	--	--	--	--	--
10...	--	--	--	--	--	--
NOV						
05...	--	--	--	--	--	--
JAN						
14...	--	--	--	--	--	--
FEB						
04...	--	--	--	--	--	--
MAR						
22...	--	--	--	--	--	--
26...	--	--	--	--	--	--
28...	--	--	--	--	--	--
30...	20	150	<0.20	2	<1	150
MAY						
06...	--	--	--	--	--	--
JUN						
16...	--	--	--	--	--	--
AUG						
03...	70	170	<0.20	1	1	410
31...	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than

05057500 LAKE ASHTABULA AT BALDHILL DAM, ND

LOCATION.--Lat 47°02'00", long 98°05'00", in NW¼ 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 National Geodetic Vertical Datum of 1929.

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, 98,210 acre-ft, Apr. 7, 2004, elevation, 1,270.51 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, 98,210 acre-ft, Apr. 7, elevation, 1,270.51 ft; minimum, 55,350 acre-ft, Feb. 23 and 25-28, elevation, 1,263.17 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	1,265.67	68,750	--
Oct. 31	1,265.16	65,900	-2,850
Nov 30	1,264.70	63,350	-2,550
Dec. 31	1,264.19	60,540	-2,810
CAL YR 2003	--	--	+1,490
Jan. 31	1,263.58	57,400	-3,140
Feb. 29	1,263.19	55,450	-1,950
Mar. 31	1,267.74	80,590	+25,140
Apr. 30	1,266.24	71,970	-8,620
May 31	1,266.69	74,530	+2,560
June 30	1,266.09	71,110	-3,420
July 31	1,266.05	70,880	-230
Aug. 31	1,266.15	71,460	+580
Sept. 30	1,266.04	70,830	-630
WTR YR 2004	--	--	+2,080

05058000 SHEYENNE RIVER BELOW BALDHILL DAM, ND

LOCATION.--Lat 47°02'02", long 98°05'00", in NW¼NW¼ 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 270.5.

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 National Geodetic Vertical Datum of 1929. From Dec. 29, 1994, to Sept. 18, 2000, at site 0.7 mi downstream at same datum.

REMARKS.--Records good. 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. Daily discharges from Dec. 29, 1994, to current water year include releases through fish hatchery siphon.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	76	72	87	86	41	2,740	425	2,190	518	94	121
2	33	76	72	87	86	41	3,270	420	2,690	349	93	121
3	33	77	73	87	86	41	3,510	304	2,230	181	91	120
4	33	77	73	87	86	41	3,530	184	1,930	178	89	119
5	33	76	73	89	86	41	3,550	166	2,050	180	89	119
6	33	76	74	88	86	41	3,560	166	2,030	318	90	119
7	38	77	74	87	86	41	3,610	165	2,010	429	89	145
8	47	76	81	86	86	41	3,580	163	1,790	379	89	223
9	59	76	88	86	79	41	3,570	163	1,770	345	108	332
10	75	73	88	86	68	41	3,540	213	1,760	347	123	332
11	82	73	87	86	62	41	3,510	302	1,760	348	122	327
12	81	73	86	86	62	40	3,460	386	1,760	348	122	327
13	80	73	86	86	55	40	3,200	452	1,750	349	122	325
14	80	73	86	86	48	40	2,910	471	1,540	357	123	274
15	80	74	86	86	48	40	2,430	464	1,180	361	123	247
16	81	73	86	86	48	39	1,820	462	1,030	360	123	257
17	80	74	86	86	48	39	1,630	429	925	371	123	258
18	79	74	86	86	48	39	1,610	357	827	365	123	257
19	79	75	86	86	44	39	1,600	278	824	308	122	189
20	79	75	86	86	41	39	1,430	247	825	221	123	108
21	79	75	86	86	41	39	1,240	247	829	131	123	91
22	79	76	86	85	42	39	994	249	832	100	123	90
23	79	e76	86	86	42	39	715	250	834	96	122	173
24	79	e76	86	85	42	39	625	251	837	95	125	349
25	79	77	85	85	41	40	628	299	701	95	124	411
26	79	78	85	86	41	102	629	330	606	94	122	416
27	79	74	85	87	41	336	506	331	608	93	122	415
28	78	73	86	86	41	2,010	430	330	520	93	122	414
29	76	71	85	86	41	2,580	431	330	501	91	122	414
30	76	71	85	86	---	2,510	426	333	519	91	122	417
31	76	---	85	86	---	2,550	---	914	---	93	121	---
TOTAL	2,078	2,244	2,569	2,674	1,711	11,090	64,684	10,081	39,658	7,684	3,529	7,510
MEAN	67.0	74.8	82.9	86.3	59.0	358	2,156	325	1,322	248	114	250
MAX	82	78	88	89	86	2,580	3,610	914	2,690	518	125	417
MIN	33	71	72	85	41	39	426	163	501	91	89	90
AC-FT	4,120	4,450	5,100	5,300	3,390	22,000	128,300	20,000	78,660	15,240	7,000	14,900

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2004, BY WATER YEAR (WY)

MEAN	60.7	85.3	78.9	66.5	74.9	217	665	324	211	153	90.0	64.8
MAX	622	587	375	227	300	1,567	3,329	2,906	1,322	1,272	1,555	577
(WY)	(1995)	(2001)	(2001)	(2001)	(1996)	(1995)	(1997)	(1950)	(2004)	(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	0.81
(WY)	(1956)	(1956)	(1980)	(1956)	(1956)	(1955)	(1953)	(1959)	(1958)	(1959)	(1977)	(1955)

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1950 - 2004	
ANNUAL TOTAL	55,751		155,512			
ANNUAL MEAN	153		425		174	
HIGHEST ANNUAL MEAN					574	1995
LOWEST ANNUAL MEAN					12.8	1991
HIGHEST DAILY MEAN	899	Jul 18	3,610	Apr 7	5,410	Apr 20, 1996
LOWEST DAILY MEAN	24	Feb 6	33	Oct 2	0.00	Sep 8, 1950
ANNUAL SEVEN-DAY MINIMUM	24	Feb 6	34	Oct 1	0.00	Aug 8, 1952
MAXIMUM PEAK FLOW			3,700	Apr 7	5,460	Apr 20, 1996
MAXIMUM PEAK STAGE			33.24	Apr 7	36.46	Apr 20, 1996
ANNUAL RUNOFF (AC-FT)	110,600		308,500		126,200	
10 PERCENT EXCEEDS	379		1,560		358	
50 PERCENT EXCEEDS	79		90		50	
90 PERCENT EXCEEDS	26		41		9.8	

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.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 28.3°C, July 20, 1998; minimum recorded, 0.2°C, Feb. 21, 2003.
SPECIFIC CONDUCTANCE: Maximum recorded, 1,640 microsiemens, Feb. 27-28, 2001; minimum recorded, 401 microsiemens, Apr. 14, 1999.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 25.0°C, July 19; minimum recorded, 0.6°C, Nov. 21.
SPECIFIC CONDUCTANCE: Maximum recorded, 1,250 microsiemens, Mar. 11 and Mar. 21-23; minimum recorded, 429 microsiemens, Apr. 7.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Discharge, cfs (00060)	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
MAR													
30...	1000	--	2,570	--	--	--	--	7.9	8.0	1,110	1,110	--	5.0
MAY													
10...	1630	213	--	9.7	729	13.4	134	7.6	7.8	568	554	11.9	13.2
AUG													
03...	1540	--	88	--	--	--	--	8.4	7.9	1,060	1,040	24.0	24.4

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)
MAR													
30...	360	64.3	49.4	11.3	3	115	40	322	20.1	0.22	26.2	258	714
MAY													
10...	190	40.7	21.4	11.1	1	38.9	29	154	8.7	--	--	128	347
AUG													
03...	360	70.2	45.3	11.4	2	95.9	36	296	15.3	0.22	22.7	266	684

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Organic nitrogen, water, fltrd, mg/L (00607)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)
MAR													
30...	5,130	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
10...	199	0.91	1.1	0.127	0.131	0.691	0.700	0.78	0.94	0.237	0.246	0.272	1.6
AUG													
03...	168	--	--	--	--	--	--	--	--	--	--	--	--

05058000 SHEYENNE RIVER BELOW BALDHILL DAM, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Total nitrogen, water, unfltrd mg/L (00600)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
MAR													
30...	--	--	--	--	6.4	150	<1	80	250	<0.20	2	4	340
MAY													
10...	1.8	E12k	<3.0	<1.0	--	60	--	--	40	--	--	--	--
AUG													
03...	--	--	--	--	4.5	--	5	80	120	<0.20	2	1	340

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	14.4	10.0	11.8	6.0	5.5	5.7	---	---	---	---	---	---
2	14.0	10.0	11.6	7.0	4.9	5.7	1.9	1.2	1.5	---	---	---
3	14.1	11.2	12.3	4.9	3.3	4.0	2.0	1.6	1.7	---	---	---
4	15.2	11.0	12.5	4.1	2.7	3.3	1.9	1.4	1.7	---	---	---
5	15.2	10.9	12.5	4.5	2.7	3.4	2.1	1.4	1.6	---	---	---
6	14.9	10.8	12.4	4.0	2.3	2.9	2.1	1.5	1.7	---	---	---
7	14.4	10.7	12.1	3.6	2.0	2.5	2.5	1.5	1.8	---	---	---
8	14.8	11.5	12.6	2.5	1.5	1.9	2.2	1.1	1.6	---	---	---
9	13.9	11.4	12.3	2.6	1.3	1.8	1.9	1.0	1.2	---	---	---
10	14.0	11.7	12.6	2.5	1.6	1.9	1.7	0.8	1.2	---	---	---
11	14.0	11.9	12.5	3.5	1.6	2.2	1.7	0.8	1.1	---	---	---
12	13.1	11.3	12.0	2.7	1.3	2.0	1.8	1.0	1.2	---	---	---
13	13.5	11.2	11.9	2.3	1.0	1.5	1.6	1.1	1.2	---	---	---
14	13.2	10.8	11.7	3.2	1.1	1.8	2.1	1.1	1.4	3.0	1.8	2.3
15	12.6	10.6	11.2	2.7	1.6	2.0	1.8	1.0	1.4	3.5	2.1	2.5
16	12.5	10.3	11.1	2.4	1.7	1.9	1.9	1.0	1.3	3.3	2.3	2.7
17	12.0	10.1	10.9	2.9	1.6	2.1	2.0	1.3	1.6	3.2	1.8	2.4
18	12.4	10.5	11.2	3.2	1.5	2.0	2.4	1.3	1.6	2.9	1.7	2.1
19	12.9	10.2	11.2	3.0	1.7	2.1	---	---	---	2.7	2.0	2.2
20	12.7	10.5	11.2	2.2	1.1	1.8	---	---	---	3.1	2.2	2.5
21	12.9	10.7	11.5	1.5	0.6	1.0	---	---	---	2.7	1.9	2.3
22	12.8	10.6	11.4	---	---	---	---	---	---	2.8	1.9	2.3
23	12.3	10.2	11.0	---	---	---	---	---	---	2.9	2.1	2.4
24	12.0	10.1	10.8	---	---	---	---	---	---	2.8	1.4	2.1
25	10.2	9.1	9.6	---	---	---	---	---	---	2.0	1.3	1.7
26	10.2	8.6	9.0	---	---	---	---	---	---	2.8	1.8	2.2
27	9.4	8.5	8.8	---	---	---	---	---	---	2.7	1.7	2.0
28	8.5	7.5	8.1	---	---	---	---	---	---	2.6	1.5	1.9
29	7.6	6.8	7.3	---	---	---	---	---	---	3.0	1.2	2.0
30	7.9	6.8	7.1	---	---	---	---	---	---	2.9	1.7	2.0
31	7.2	5.6	6.5	---	---	---	---	---	---	2.9	1.3	2.1
MONTH	15.2	5.6	10.9	7.0	0.6	2.5	2.5	0.8	1.5	3.5	1.2	2.2

05058000 SHEYENNE RIVER BELOW BALDHILL DAM, ND—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	3.6	2.1	2.6	3.5	2.1	2.7	3.7	3.3	3.5	11.1	10.2	10.6
2	3.6	2.1	2.5	5.5	2.6	3.7	3.7	3.1	3.4	11.4	10.3	10.8
3	3.6	1.9	2.4	5.9	2.2	3.7	3.5	3.0	3.2	12.0	10.3	10.8
4	3.1	1.8	2.3	5.2	2.2	3.3	3.6	3.0	3.3	12.3	10.4	11.3
5	3.6	2.4	2.8	7.1	2.4	3.8	3.5	3.1	3.3	13.1	11.1	11.9
6	3.6	2.1	2.6	5.8	2.3	3.6	3.8	3.3	3.5	13.3	11.3	12.2
7	3.6	2.0	2.5	7.0	2.5	3.9	3.8	3.2	3.5	13.3	11.8	12.3
8	3.9	2.0	2.8	7.8	2.7	4.4	3.6	3.2	3.4	14.0	11.7	12.6
9	4.0	2.6	3.0	8.8	2.6	4.6	3.5	3.2	3.3	13.7	12.4	12.8
10	3.4	2.2	2.8	6.6	1.2	3.7	3.7	3.2	3.4	14.1	12.1	13.0
11	3.4	1.9	2.4	5.4	0.8	2.6	3.7	3.4	3.5	12.9	11.2	12.0
12	3.5	2.1	2.5	6.9	2.3	3.9	4.1	3.6	3.8	11.5	11.1	11.3
13	5.1	1.7	3.1	5.9	2.3	3.7	5.9	4.0	4.7	11.2	10.6	11.0
14	4.4	1.7	2.6	6.7	2.0	3.7	6.4	5.4	5.8	11.2	10.5	10.9
15	4.1	1.9	2.6	6.9	2.4	3.9	6.5	5.8	6.1	11.1	10.6	10.9
16	4.6	1.9	2.8	5.1	2.3	3.2	8.0	6.2	6.4	11.5	10.9	11.2
17	4.2	2.1	2.9	6.9	2.7	4.3	8.0	6.8	7.2	12.9	11.0	11.7
18	4.9	2.4	3.4	7.4	3.0	4.5	7.6	7.1	7.2	12.4	11.2	11.8
19	4.8	2.7	3.5	8.0	2.8	4.6	8.0	7.0	7.3	12.2	11.1	11.4
20	4.3	2.4	3.2	6.4	2.4	3.8	7.8	7.1	7.3	13.4	11.2	12.2
21	5.9	2.4	3.5	6.6	2.0	3.7	8.8	7.4	8.1	14.0	12.2	12.9
22	5.3	2.5	3.5	8.0	2.6	4.5	8.8	8.0	8.3	13.5	12.7	13.0
23	5.0	2.8	3.5	7.9	2.4	4.6	9.4	7.9	8.5	13.1	12.7	12.8
24	4.0	2.6	3.1	8.6	3.5	5.1	9.2	8.6	8.9	12.7	12.4	12.5
25	5.5	2.3	3.3	9.2	3.7	5.4	9.3	8.8	9.0	12.7	12.2	12.4
26	6.2	2.5	3.7	4.5	3.0	3.7	9.8	8.9	9.4	13.3	12.1	12.6
27	6.6	2.9	4.0	4.9	4.0	4.4	10.1	9.2	9.5	14.3	12.4	13.2
28	6.1	2.9	4.0	4.6	4.2	4.3	11.7	9.5	10.4	14.7	13.1	13.8
29	3.4	2.7	3.0	4.3	3.9	4.1	11.1	9.8	10.5	14.5	13.5	14.2
30	---	---	---	4.7	4.0	4.4	11.1	10.3	10.6	14.6	14.1	14.3
31	---	---	---	4.2	3.6	3.9	---	---	---	14.2	14.0	14.1
MONTH	6.6	1.7	3.0	9.2	0.8	4.0	11.7	3.0	6.2	14.7	10.2	12.2
		JUNE			JULY			AUGUST			SEPTEMBER	
1	13.8	13.6	13.7	21.6	20.4	20.9	24.3	21.5	22.5	20.7	19.0	19.5
2	15.1	13.6	14.1	21.5	19.7	20.6	24.7	21.5	23.3	20.2	18.4	19.2
3	14.6	13.6	13.8	21.1	19.3	20.2	24.2	22.5	23.1	20.8	19.1	19.8
4	14.6	13.5	14.0	22.0	19.8	20.9	24.0	22.3	23.0	20.1	19.7	19.9
5	17.0	14.1	15.5	20.7	19.8	20.2	23.8	21.7	22.6	19.9	19.1	19.6
6	17.6	16.3	17.1	19.8	19.3	19.5	22.1	21.4	21.6	19.7	18.6	19.1
7	17.8	16.2	17.0	20.9	19.2	19.7	23.3	21.4	22.0	19.9	17.9	18.7
8	18.1	16.6	17.6	20.1	19.3	19.5	23.0	21.5	22.0	19.4	17.8	18.5
9	18.2	17.3	17.7	20.4	19.0	19.6	21.6	20.7	21.2	19.1	18.3	18.6
10	17.9	17.3	17.6	20.4	19.2	19.5	21.2	20.2	20.6	19.9	18.3	19.1
11	17.7	17.2	17.3	20.8	19.8	20.1	20.7	19.7	20.1	19.6	18.8	19.1
12	18.0	17.4	17.6	21.4	19.8	20.3	20.7	19.6	20.1	19.6	18.8	19.1
13	18.3	17.9	18.1	22.1	19.9	21.0	21.0	19.7	20.3	19.3	18.9	19.1
14	19.7	18.2	18.8	21.9	20.9	21.4	21.1	19.5	20.1	19.2	18.5	18.9
15	19.6	18.2	18.7	22.1	20.9	21.4	20.5	19.3	19.7	18.5	17.6	18.1
16	19.3	18.3	18.7	24.2	21.7	22.9	21.2	19.4	20.2	18.7	17.3	17.8
17	19.1	18.5	18.9	23.7	22.2	23.0	21.3	19.9	20.4	18.8	17.4	17.8
18	18.9	18.5	18.8	22.2	20.7	21.3	20.2	19.3	19.8	19.0	17.4	18.0
19	18.5	18.1	18.4	25.0	21.4	22.9	20.3	18.4	19.3	19.5	17.9	18.5
20	18.4	18.0	18.2	22.9	21.7	22.2	19.9	18.2	19.0	18.9	18.0	18.5
21	18.6	18.3	18.4	22.9	21.1	21.9	19.7	18.4	19.0	19.0	17.7	18.0
22	18.9	18.2	18.5	23.9	20.4	22.1	19.6	18.5	18.8	17.7	17.3	17.4
23	18.7	18.4	18.5	23.6	21.7	22.9	19.2	18.2	18.6	17.3	16.6	17.0
24	18.4	18.0	18.2	23.0	21.3	22.0	19.8	18.3	18.9	17.5	16.7	17.0
25	18.6	18.2	18.4	22.6	21.0	21.6	19.5	18.2	18.7	17.6	16.7	17.0
26	19.9	18.2	18.9	22.1	20.6	21.2	19.8	18.6	19.0	17.5	16.5	16.9
27	20.2	18.1	19.0	22.6	20.4	21.3	19.4	18.5	18.8	17.1	16.4	16.7
28	19.5	18.8	19.0	22.6	21.4	21.9	19.9	18.3	18.8	17.0	15.9	16.4
29	19.0	18.2	18.7	22.9	21.3	22.0	19.7	18.0	18.6	16.6	15.6	16.0
30	21.5	18.8	19.9	23.3	21.6	22.3	19.6	17.8	18.5	16.2	15.9	16.0
31	---	---	---	23.4	21.6	22.3	20.8	18.1	19.2	---	---	---
MONTH	21.5	13.5	17.6	25.0	19.0	21.2	24.7	17.8	20.3	20.8	15.6	18.2
YEAR	25.0	0.6	10.9									

05058000 SHEYENNE RIVER BELOW BALDHILL DAM, ND—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	1,100	1,080	1,090	1,080	1,070	1,080	---	---	---	---	---	---
2	1,100	1,080	1,090	1,080	1,060	1,080	1,120	1,110	1,110	---	---	---
3	1,100	1,080	1,090	1,090	1,080	1,080	1,120	1,110	1,120	---	---	---
4	1,100	1,080	1,090	1,090	1,080	1,080	1,130	1,120	1,120	---	---	---
5	1,100	1,080	1,090	1,080	1,070	1,080	1,130	1,120	1,120	---	---	---
6	1,100	1,080	1,090	1,090	1,080	1,080	1,120	1,110	1,120	---	---	---
7	1,100	1,090	1,100	1,090	1,070	1,080	1,120	1,110	1,120	---	---	---
8	1,100	1,080	1,090	1,090	1,080	1,090	1,120	1,110	1,110	---	---	---
9	1,090	1,080	1,090	1,090	1,080	1,090	1,120	1,100	1,110	---	---	---
10	1,090	1,080	1,090	1,100	1,080	1,090	1,120	1,120	1,120	---	---	---
11	1,090	1,070	1,080	1,090	1,070	1,090	1,120	1,120	1,120	---	---	---
12	1,090	1,080	1,080	1,090	1,080	1,090	1,120	1,110	1,120	---	---	---
13	1,090	1,070	1,080	1,090	1,080	1,090	1,120	1,110	1,120	---	---	---
14	1,090	1,070	1,080	1,100	1,080	1,090	1,120	1,110	1,120	1,140	1,130	1,140
15	1,090	1,070	1,080	1,090	1,080	1,090	1,120	1,110	1,120	1,140	1,130	1,140
16	1,080	1,070	1,080	1,090	1,080	1,090	1,120	1,120	1,120	1,140	1,130	1,140
17	1,080	1,070	1,080	1,090	1,080	1,080	1,120	1,110	1,120	1,140	1,130	1,140
18	1,080	1,060	1,070	1,090	1,080	1,080	---	---	---	1,140	1,130	1,140
19	1,080	1,060	1,070	1,090	1,080	1,080	---	---	---	1,140	1,130	1,140
20	1,080	1,060	1,070	1,090	1,080	1,080	---	---	---	1,140	1,130	1,130
21	1,070	1,060	1,070	1,100	1,090	1,090	---	---	---	1,140	1,130	1,130
22	1,070	1,060	1,070	1,100	1,100	1,100	---	---	---	1,140	1,130	1,130
23	1,070	1,050	1,060	1,100	1,100	1,100	---	---	---	1,130	1,130	1,130
24	1,070	1,060	1,070	1,150	1,100	1,120	---	---	---	1,130	1,130	1,130
25	1,070	1,060	1,070	1,150	1,120	1,130	---	---	---	1,140	1,130	1,130
26	1,070	1,050	1,060	1,130	1,110	1,120	---	---	---	1,130	1,130	1,130
27	1,070	1,060	1,060	1,140	1,120	1,130	---	---	---	1,130	1,120	1,130
28	1,070	1,060	1,060	---	---	---	---	---	---	1,130	1,120	1,130
29	1,070	1,060	1,060	---	---	---	---	---	---	1,140	1,130	1,130
30	1,080	1,060	1,070	---	---	---	---	---	---	1,130	1,130	1,130
31	1,080	1,070	1,070	---	---	---	---	---	---	1,140	1,130	1,130
MONTH	1,100	1,050	1,080	1,150	1,060	1,090	1,130	1,100	1,120	1,140	1,120	1,130
	FEBRUARY			MARCH			APRIL			MAY		
1	1,130	1,120	1,130	1,210	1,210	1,210	930	807	867	528	525	526
2	1,130	1,120	1,120	1,220	1,200	1,210	811	712	766	528	526	527
3	1,130	1,120	1,120	1,220	1,200	1,210	742	677	709	539	528	531
4	1,130	1,120	1,120	1,220	1,210	1,220	677	613	651	546	532	537
5	1,130	1,120	1,130	1,230	1,210	1,220	693	566	628	538	533	536
6	1,140	1,130	1,130	1,230	1,210	1,220	604	527	571	542	535	538
7	1,140	1,130	1,140	1,230	1,210	1,220	821	429	571	544	540	543
8	1,140	1,130	1,140	1,230	1,200	1,220	636	549	599	544	539	542
9	1,140	1,140	1,140	1,230	1,170	1,210	620	576	591	545	540	543
10	1,150	1,140	1,150	1,240	1,190	1,210	619	588	603	548	541	544
11	1,160	1,150	1,150	1,250	1,200	1,230	599	580	589	563	545	551
12	1,160	1,150	1,160	1,230	1,200	1,220	585	572	579	560	550	554
13	1,160	1,150	1,160	1,230	1,200	1,220	572	541	561	559	552	555
14	1,170	1,160	1,160	1,230	1,200	1,220	545	516	527	559	555	557
15	1,170	1,160	1,170	1,230	1,200	1,220	532	517	527	559	555	556
16	1,180	1,160	1,170	1,230	1,210	1,220	536	530	534	566	559	562
17	1,180	1,170	1,180	1,230	1,200	1,220	530	520	525	572	564	567
18	1,180	1,170	1,180	1,230	1,200	1,220	525	513	518	572	564	565
19	1,180	1,170	1,180	1,240	1,200	1,220	520	514	517	571	566	568
20	1,190	1,180	1,180	1,240	1,210	1,230	521	515	519	581	569	574
21	1,190	1,180	1,190	1,250	1,210	1,230	518	511	514	589	581	585
22	1,190	1,180	1,190	1,250	1,200	1,230	518	511	516	593	581	584
23	1,190	1,180	1,190	1,250	1,210	1,230	529	514	518	611	593	601
24	1,200	1,190	1,190	1,240	1,200	1,230	521	514	517	600	591	595
25	1,200	1,180	1,200	1,240	1,200	1,230	524	515	518	595	590	593
26	1,200	1,190	1,200	1,240	1,200	1,220	524	515	517	597	593	595
27	1,200	1,190	1,200	1,200	1,140	1,190	529	517	519	604	597	600
28	1,210	1,190	1,200	1,170	1,140	1,160	520	517	518	606	602	604
29	1,210	1,200	1,210	1,160	1,150	1,160	525	520	523	609	604	607
30	---	---	---	1,160	1,020	1,080	527	524	525	608	604	606
31	---	---	---	1,020	921	959	---	---	---	607	600	603
MONTH	1,210	1,120	1,160	1,250	921	1,200	930	429	571	611	525	566

05058000 SHEYENNE RIVER BELOW BALDHILL DAM, ND—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	611	605	608	1,040	1,030	1,040	1,000	995	998	1,040	1,030	1,040
2	620	609	611	1,040	1,030	1,040	1,010	1,000	1,000	1,040	1,030	1,040
3	660	615	631	1,050	1,040	1,040	1,010	1,000	1,010	1,050	1,040	1,040
4	687	650	669	1,070	1,050	1,060	1,010	1,000	1,010	1,050	1,040	1,040
5	706	678	688	1,080	1,070	1,070	1,020	1,010	1,010	1,040	1,030	1,040
6	724	697	713	1,080	1,080	1,080	1,020	1,010	1,010	1,040	1,030	1,040
7	733	716	723	1,090	1,080	1,080	1,020	1,010	1,010	1,040	1,040	1,040
8	770	733	738	1,090	1,080	1,080	1,020	1,010	1,010	1,040	1,030	1,040
9	784	763	770	1,080	1,070	1,080	1,020	1,010	1,010	1,040	1,030	1,040
10	790	773	779	1,070	1,060	1,070	1,010	1,010	1,010	1,040	1,040	1,040
11	788	775	778	1,060	1,040	1,050	1,020	1,010	1,020	1,040	1,040	1,040
12	808	788	801	1,040	1,030	1,040	1,020	1,020	1,020	1,050	1,040	1,040
13	820	806	814	1,030	1,020	1,020	1,020	1,010	1,020	1,050	1,040	1,040
14	847	818	825	1,020	991	1,000	1,020	1,020	1,020	1,050	1,040	1,040
15	862	824	845	991	973	983	1,020	1,020	1,020	1,050	1,040	1,040
16	876	855	863	1,030	970	992	1,030	1,020	1,020	1,050	1,040	1,050
17	879	864	875	1,020	999	1,010	1,030	1,020	1,020	1,050	1,040	1,050
18	887	873	878	1,000	981	989	1,040	1,020	1,020	1,050	1,050	1,050
19	899	886	891	991	981	987	1,030	1,020	1,020	1,070	1,050	1,060
20	914	897	909	981	974	977	1,040	1,020	1,030	1,080	1,070	1,080
21	920	904	910	991	960	973	1,040	1,020	1,030	1,080	1,070	1,080
22	931	920	925	996	990	993	1,040	1,020	1,030	1,070	1,030	1,050
23	948	924	931	992	981	986	1,040	1,020	1,030	1,030	1,020	1,020
24	967	948	961	988	981	985	1,040	1,020	1,030	1,030	1,010	1,020
25	974	964	967	991	986	988	1,030	1,020	1,030	1,070	1,010	1,050
26	995	974	989	992	987	989	1,030	1,020	1,030	1,060	1,050	1,060
27	1,000	992	995	991	988	989	1,030	1,020	1,030	1,060	1,060	1,060
28	1,020	999	1,010	996	991	993	1,040	1,030	1,030	1,070	1,060	1,060
29	1,030	1,020	1,020	998	991	994	1,040	1,030	1,040	1,070	1,070	1,070
30	1,040	1,020	1,030	999	992	995	1,040	1,030	1,030	1,070	1,070	1,070
31	---	---	---	999	991	994	1,040	1,030	1,030	---	---	---
MONTH	1,040	605	838	1,090	960	1,020	1,040	995	1,020	1,080	1,010	1,050
YEAR	1,250	429	975									

05058500 SHEYENNE RIVER AT VALLEY CITY, ND

LOCATION.--Lat 46°54'50", long 98°00'30", in SE$^1/_4$NW$^1/_4$ 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, including 3,800 mi^2 in closed basins.

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--March to August 1919, March 1938 to September 1975; October 1979 to current year (gage heights and annual maximum discharge); seasonal discharge record for March to September 1995, 1996, and 2002. 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 National Geodetic Vertical Datum of 1929. March to August 1919, nonrecording gage at site 0.5 mi upstream at different datum. March 18, 1938, 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, 3,560 ft^3/s, Apr. 8, gage height, 14.70 ft.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.57	3.86	3.86	4.03	4.27	3.68	11.79	5.39	9.53	5.69	3.98	4.24
2	3.58	3.88	3.87	4.03	4.27	3.65	12.89	5.40	11.92	5.59	3.97	4.21
3	3.59	3.87	3.87	3.99	4.25	3.64	14.12	5.26	11.87	4.68	3.97	4.21
4	3.60	3.89	3.89	4.10	4.25	3.63	14.44	4.60	10.09	4.10	3.98	4.24
5	3.60	3.89	3.88	4.15	4.28	3.63	14.52	4.13	10.26	4.30	3.98	4.28
6	3.60	3.88	3.88	4.20	4.30	3.62	14.57	4.26	10.28	4.58	4.08	4.30
7	3.60	3.87	3.89	4.25	4.30	3.62	14.58	4.31	10.21	5.61	4.07	4.24
8	3.64	3.87	3.89	4.28	4.29	3.67	14.67	4.34	9.80	5.32	4.02	4.41
9	3.67	3.87	3.96	4.28	4.28	3.75	14.63	4.35	9.51	5.14	4.01	5.01
10	3.75	3.86	3.96	4.24	4.16	3.97	14.59	4.39	9.46	5.20	4.11	5.26
11	3.86	3.85	3.95	4.20	4.13	3.80	14.53	4.84	9.46	5.23	4.15	5.19
12	3.85	3.85	4.01	4.18	4.02	3.75	14.44	5.29	9.43	5.23	4.16	5.15
13	3.86	3.85	4.05	4.16	4.02	3.72	14.20	5.58	9.41	5.17	4.16	5.16
14	3.85	3.85	4.04	4.15	3.92	3.73	13.22	5.70	9.22	5.15	4.17	5.09
15	3.85	3.85	4.03	4.15	3.99	3.72	12.21	5.70	8.01	5.15	4.17	4.85
16	3.86	3.85	4.01	4.15	4.02	3.71	10.25	5.70	7.40	5.14	4.17	4.59
17	3.85	3.85	4.01	4.14	4.03	3.70	9.14	5.66	7.28	5.13	4.17	4.76
18	3.86	3.87	4.01	4.14	3.97	3.79	9.03	5.43	6.85	5.13	4.18	4.78
19	3.86	3.90	4.01	4.20	3.91	4.10	8.98	5.11	6.77	5.07	4.17	4.73
20	3.86	3.88	4.01	4.22	3.75	4.66	8.88	4.81	6.75	4.74	4.17	4.36
21	3.85	3.86	4.02	4.20	3.70	4.14	8.01	4.77	6.66	4.30	4.18	4.12
22	3.87	3.86	4.01	4.16	3.68	4.03	7.57	4.80	6.75	4.01	4.20	4.12
23	3.86	3.80	4.01	4.25	3.67	4.00	6.39	4.78	6.77	3.96	4.18	4.28
24	3.88	3.86	4.01	4.20	3.66	4.15	6.06	4.85	6.76	3.95	4.20	5.07
25	3.86	3.91	4.01	4.27	3.65	4.32	6.03	4.93	6.64	3.95	4.20	5.52
26	3.85	3.88	4.02	4.23	3.65	4.21	6.03	5.17	6.11	3.95	4.21	5.53
27	3.88	3.86	4.03	4.19	3.68	4.79	5.79	5.18	6.03	3.95	4.21	5.53
28	3.87	3.86	4.03	4.18	3.68	8.83	5.42	5.18	5.61	4.01	4.19	5.52
29	3.86	3.86	4.02	4.29	3.67	11.92	5.39	5.21	5.52	3.99	4.20	5.52
30	3.88	3.87	4.02	4.27	---	11.70	5.39	5.50	5.69	3.98	4.19	5.53
31	3.87	---	4.01	4.26	---	11.60	---	6.80	---	3.97	4.19	---
MEAN	3.78	3.87	3.98	4.19	3.98	4.81	10.59	5.08	8.20	4.69	4.13	4.79
MAX	3.88	3.91	4.05	4.29	4.30	11.92	14.67	6.80	11.92	5.69	4.21	5.53
MIN	3.57	3.80	3.86	3.99	3.65	3.62	5.39	4.13	5.52	3.95	3.97	4.12

Miscellaneous discharge measurements for the Sheyenne River at Valley City

Date	Discharge
March 30, 2004	2,450

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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
MAR													
30...	1520	2,450	7.8	8.1	1,200	1,210	6.5	5.5	420	73.1	56.9	12.3	3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
MAR													
30...	132	40	353	20.9	0.24	29.9	280	789	5,410	6.7	20	<1	100

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
MAR					
30...	350	<0.20	2	5	390

Remark codes used in this table:
< -- Less than

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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow regulated by Lake Ashtabula (station 05057500), 108.5 mi upstream.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	98	79	e95	e94	e60	2,300	452	727	444	107	115
2	37	94	79	e96	e94	e59	2,320	448	1,300	481	103	112
3	37	82	79	e96	e94	e57	2,380	445	1,840	485	102	114
4	36	61	80	e98	e94	e53	2,550	444	2,300	465	101	126
5	37	82	82	e100	e94	e51	2,790	424	2,540	316	98	132
6	37	62	83	e99	e93	e50	2,990	300	2,250	221	102	139
7	37	76	83	e98	e93	e56	e3,100	193	2,040	157	109	137
8	37	78	82	e97	e93	e70	e3,190	155	2,020	193	114	141
9	36	86	83	e96	e93	e90	e3,200	169	1,980	397	134	132
10	36	87	81	e96	e93	e110	e3,200	172	1,880	428	119	134
11	46	86	80	e97	e91	140	e3,190	177	1,810	380	106	222
12	55	86	84	e98	e88	170	e3,190	198	1,790	382	111	321
13	65	79	87	e98	e82	186	e3,200	265	1,770	388	126	327
14	82	79	90	e97	e75	e180	e3,210	385	1,760	381	128	314
15	81	85	95	e96	e66	e150	e3,210	454	1,750	362	126	322
16	81	89	99	e96	e64	127	e2,990	494	1,650	351	125	315
17	82	90	99	e96	e64	121	2,950	503	1,310	347	123	258
18	82	86	97	e96	e60	115	2,260	503	1,080	343	119	204
19	83	87	97	e96	e57	117	1,740	494	980	339	115	193
20	82	88	98	e96	e56	130	1,660	442	885	337	111	212
21	81	59	97	e95	e56	156	1,640	370	816	329	112	212
22	82	65	97	e95	e54	230	1,560	296	807	260	116	176
23	83	74	99	e94	e53	262	1,350	264	787	188	115	144
24	83	66	98	e94	e52	193	1,120	265	795	133	118	129
25	83	74	97	e94	e51	170	825	270	804	111	114	134
26	84	68	96	e94	e52	173	678	276	814	104	114	250
27	89	77	97	e94	e55	239	650	294	817	101	114	395
28	84	83	e96	e94	e58	233	636	337	664	105	116	418
29	87	77	e96	e94	e60	480	566	357	589	105	117	421
30	98	77	e97	e94	---	1,390	471	397	508	107	115	420
31	103	---	e96	e94	---	2,010	---	477	---	110	114	---
TOTAL	2,062	2,381	2,803	2,973	2,129	7,628	65,116	10,720	41,063	8,850	3,544	6,669
MEAN	66.5	79.4	90.4	95.9	73.4	246	2,171	346	1,369	285	114	222
MAX	103	98	99	100	94	2,010	3,210	503	2,540	485	134	421
MIN	36	59	79	94	51	50	471	155	508	101	98	112
AC-FT	4,090	4,720	5,560	5,900	4,220	15,130	129,200	21,260	81,450	17,550	7,030	13,230

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2004, BY WATER YEAR (WY)

MEAN	74.8	98.5	91.8	76.8	91.7	338	846	384	236	201	118	81.2
MAX	716	480	393	217	413	1,525	4,181	2,394	1,369	1,424	1,945	561
(WY)	(1995)	(2001)	(2001)	(2001)	(1996)	(1995)	(1997)	(1997)	(2004)	(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)

05058700 SHEYENNE RIVER AT LISBON, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1957 - 2004	
ANNUAL TOTAL	57,690		155,938			
ANNUAL MEAN	158		426		220	
HIGHEST ANNUAL MEAN					719	1997
LOWEST ANNUAL MEAN					25.9	1991
HIGHEST DAILY MEAN	783	Jul 22	3,210	Apr 14	5,650	Apr 23, 1997
LOWEST DAILY MEAN	33	Sep 8	36	Oct 1	0.00	Oct 23, 1956
ANNUAL SEVEN-DAY MINIMUM	35	Feb 3	37	Oct 4	0.87	Oct 1, 1956
MAXIMUM PEAK FLOW			a3,210	Apr 13	5,670	Apr 23, 1997
MAXIMUM PEAK STAGE			b14.04	Apr 13	b19.29	Apr 5, 1997
ANNUAL RUNOFF (AC-FT)	114,400		309,300		159,200	
10 PERCENT EXCEEDS	390		1,580		474	
50 PERCENT EXCEEDS	87		114		70	
90 PERCENT EXCEEDS	36		65		16	

a About
b 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 2003 TO SEPTEMBER 2004

Date	Time	Discharge, cfs (00060)	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
OCT													
09...	0950	--	36	--	--	--	--	--	--	--	1,170	17.0	14.5
NOV													
04...	1300	--	48	--	--	--	--	--	--	--	1,290	-4.0	0.5
DEC													
18...	1200	--	97	--	--	--	--	--	--	--	1,300	-1.0	0.0
JAN													
27...	1405	--	94	--	--	--	--	--	--	--	1,260	-21.0	0.0
MAR													
12...	1015	--	166	--	--	--	--	--	--	--	1,080	-1.0	0.0
31...	1335	--	2,020	--	--	--	--	7.4	7.7	1,160	1,170	11.5	6.0
APR													
12...	1405	--	3,100	--	--	--	--	--	--	--	630	--	4.0
21...	1140	--	1,580	--	--	--	--	--	--	--	585	9.0	9.0
MAY													
06...	0950	--	316	--	--	--	--	--	--	--	690	9.0	13.5
11...	0900	177	--	200	721	11.4	121	8.1	8.1	791	789	11.6	15.6
JUN													
15...	1445	--	1,750	--	--	--	--	--	--	--	861	--	19.5
AUG													
04...	1620	--	98	--	--	--	--	7.7	8.2	1,180	1,170	25.0	23.5
SEP													
16...	1455	--	317	--	--	--	--	--	--	--	1,110	19.5	17.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)
OCT													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
31...	410	76.9	52.6	12.8	3	121	38	338	21.5	0.23	26.8	280	770
APR													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	270	60.7	29.6	11.1	1	56.7	30	192	19.6	--	--	200	499
JUN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
04...	410	83.2	48.1	12.2	2	106	35	295	29.6	0.25	22.3	315	773
SEP													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--

05058700 SHEYENNE RIVER AT LISBON, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Organic nitrogen, water, fltrd, mg/L (00607)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)
OCT													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
31...	4,340	--	--	--	--	--	--	--	--	--	--	--	--
APR													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	238	0.79	0.86	0.073	0.086	0.799	0.800	0.72	0.77	0.078	0.152	0.289	1.6
JUN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
04...	211	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Total nitrogen, water, unfltrd mg/L (00600)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	4.9	20	<1	90	260	<0.20	3	2	410
APR													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	1.7	160	<12.0	<4.0	--	20	--	--	240	--	--	--	--
JUN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
04...	--	--	--	--	6.4	--	<1	90	420	<0.20	4	2	460
SEP													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than

05058850 DITCH 10 ABOVE IRON SPRINGS CREEK NEAR McLEOD, ND

LOCATION.--Lat 46°29'07", long 97°16'03", in NW¼NE¼ 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 2001 to current year (seasonal records only).

GAGE.--Water-stage recorder. Elevation of gage is 1,055 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for discharges below 1.0 ft^3/s and for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6.2 ft^3/s, July 19, 2001, gage height, 7.24 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3.8 ft^3/s, May 31, gage height, 6.62 ft; no flow on many days.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e0.00	0.00	0.00	3.7	0.00	0.00	0.00
2	---	---	---	---	---	e0.00	0.00	0.00	3.1	0.00	0.00	0.00
3	---	---	---	---	---	e0.00	0.00	0.00	2.6	0.00	0.00	0.00
4	---	---	---	---	---	0.00	0.00	0.00	2.2	0.00	0.00	0.00
5	---	---	---	---	---	0.00	0.00	0.00	2.1	0.00	0.00	0.90
6	---	---	---	---	---	0.00	0.00	0.00	1.8	0.00	0.00	2.8
7	---	---	---	---	---	0.00	0.00	0.00	1.4	0.00	0.00	2.4
8	---	---	---	---	---	0.00	0.00	0.00	0.98	0.00	0.00	1.6
9	---	---	---	---	---	0.00	0.00	0.00	0.60	0.00	0.00	1.1
10	---	---	---	---	---	0.00	0.00	0.00	0.43	0.00	0.00	0.74
11	---	---	---	---	---	0.00	0.00	0.00	0.41	0.00	0.00	0.53
12	---	---	---	---	---	0.00	0.00	0.00	0.32	0.00	0.00	0.44
13	---	---	---	---	---	0.00	0.00	0.00	0.21	0.00	0.00	0.34
14	---	---	---	---	---	0.00	0.00	0.00	0.14	0.00	0.00	0.27
15	---	---	---	---	---	0.00	0.00	0.00	0.11	0.00	0.00	0.29
16	---	---	---	---	---	0.00	0.00	0.00	0.09	0.00	0.00	0.38
17	---	---	---	---	---	0.00	0.00	0.00	0.05	0.00	0.00	0.37
18	---	---	---	---	---	0.00	0.00	0.00	e0.02	0.00	0.00	0.31
19	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.29
20	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.28
21	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.29
22	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.38
23	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.80
24	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	1.8
25	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	2.0
26	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	1.5
27	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.98
28	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.75
29	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.66
30	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.53
31	---	---	---	---	---	0.00	---	2.3	---	0.00	0.00	---
TOTAL	---	---	---	---	---	0.00	0.00	2.30	20.26	0.00	0.00	22.73
MEAN	---	---	---	---	---	0.00	0.00	0.07	0.68	0.00	0.00	0.76
MAX	---	---	---	---	---	0.00	0.00	2.3	3.7	0.00	0.00	2.8
MIN	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	---	---	---	---	---	0.00	0.00	4.6	40	0.00	0.00	45

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2004, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	0.00	0.11	0.55	0.38	0.45	0.06	0.19
MAX	---	---	---	---	---	0.00	0.32	1.42	0.68	1.63	0.23	0.76
(WY)	---	---	---	---	---	(2002)	(2002)	(2002)	(2004)	(2001)	(2001)	(2004)
MIN	---	---	---	---	---	0.00	0.00	0.07	0.08	0.00	0.00	0.00
(WY)	---	---	---	---	---	(2002)	(2003)	(2004)	(2002)	(2002)	(2002)	(2001)

05058850 DITCH 10 ABOVE IRON SPRINGS CREEK NEAR McLEOD, ND—Continued

SUMMARY STATISTICS	WATER YEARS 2001 - 2004	
HIGHEST DAILY MEAN	5.3	Jul 19, 2001
LOWEST DAILY MEAN	0.00	Aug 21, 2001
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 21, 2001
MAXIMUM PEAK FLOW	6.2	Jul 19, 2001
MAXIMUM PEAK STAGE	7.24	Jul 19, 2001

e Estimated

Miscellaneous discharge measurements for Iron Springs Creek, 1.1 mile below gage

Date	Discharge
October 8, 2003	1.15
July 8, 2004	1.15
July 28, 2004	1.63

05058850 DITCH 10 ABOVE IRON SPRINGS CREEK NEAR McLEOD, ND—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2003 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
JUN													
01...	1625	3.5	--	--	--	477	14.0	13.0	--	--	--	--	--
09...	1000	0.60	--	--	--	812	--	16.0	--	--	--	--	--
SEP													
07...	1150	2.3	7.9	7.1	365	399	15.3	14.5	110	20.5	14.5	9.20	1
10...	0955	0.74	--	--	--	792	16.5	19.0	--	--	--	--	--
29...	1200	0.69	7.2	8.1	1,020	1,020	19.0	12.5	410	78.5	51.8	12.3	2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
JUN													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
07...	29.7	34	146	3.8	0.06	17.3	41.7	209	1.42	12.3	240	<1	30
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
29...	70.4	26	507	9.7	0.23	32.4	80.4	610	1.19	14.1	50	<1	80

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
JUN					
01...	--	--	--	--	--
09...	--	--	--	--	--
SEP					
07...	<10	<0.20	3	4	140
10...	--	--	--	--	--
29...	<10	<0.20	3	3	500

Remark codes used in this table:
< -- Less than

05059000 SHEYENNE RIVER NEAR KINDRED, ND

LOCATION.--Lat 46°37'54", long 97°00'01", in SE¼SE¼SW¼ 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.--August 1949 to current year.

REVISED RECORDS.--WSP 1728: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 925.55 ft above National Geodetic Vertical Datum of 1929. 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 good except for estimated daily discharges, 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	115	e90	e102	e101	e69	918	e680	645	643	170	164
2	65	119	e90	e103	e101	e76	1,400	e600	637	590	170	162
3	66	127	e89	e105	e100	e78	1,700	e569	711	513	168	160
4	67	93	e89	e105	e100	e78	1,880	557	1,060	507	163	170
5	68	95	e89	e106	e99	e77	1,970	542	1,480	513	158	249
6	68	e60	e88	e105	e98	e73	2,070	531	1,910	533	156	299
7	68	e83	e88	e105	e98	e70	2,220	516	2,180	490	165	270
8	68	e92	e88	e104	e98	e69	2,360	468	2,270	396	177	235
9	71	103	e88	e104	e97	e100	2,540	393	2,150	323	175	216
10	70	127	e88	e105	e97	e130	2,650	331	2,080	283	172	206
11	77	121	e89	e105	e97	e180	2,740	310	2,070	337	172	202
12	79	125	e90	e104	e97	e193	2,830	352	2,010	452	189	194
13	80	122	e90	e104	e96	e195	2,910	360	1,940	441	186	193
14	78	122	e91	e105	e96	e210	2,970	340	e1,840	409	173	256
15	80	122	e92	e104	e95	e245	3,000	339	e1,730	402	169	313
16	81	130	e97	e103	e91	e253	e3,030	387	e1,710	397	179	325
17	90	140	e100	e102	e87	e243	e3,050	469	e1,670	383	184	331
18	102	141	e104	e102	e81	e230	e3,060	521	e1,630	372	182	328
19	105	e130	e104	e102	e77	e205	e3,060	543	1,390	364	175	315
20	107	e116	e104	e102	e74	e200	e2,750	544	1,170	358	168	290
21	106	e110	e104	e101	e71	e200	2,190	546	1,050	350	164	261
22	107	e80	e103	e101	e68	e210	1,900	548	944	337	163	257
23	109	e70	e103	e101	e67	e240	1,790	505	877	331	161	272
24	109	e74	e103	e102	e66	e320	1,710	455	844	315	165	290
25	108	e85	e103	e103	e66	e390	1,530	419	817	279	168	281
26	107	e90	e103	e103	e65	e440	1,330	402	800	245	165	252
27	109	e94	e102	e103	e64	e425	e1,100	396	805	217	161	221
28	112	e94	e102	e103	e64	e383	e900	389	803	194	159	217
29	111	e91	e102	e101	e66	359	e780	394	786	191	160	300
30	116	e91	e102	e101	---	346	e730	426	712	181	160	373
31	119	---	e102	e101	---	384	---	566	---	176	164	---
TOTAL	2,768	3,162	2,977	3,197	2,477	6,671	63,068	14,398	40,721	11,522	5,241	7,602
MEAN	89.3	105	96.0	103	85.4	215	2,102	464	1,357	372	169	253
MAX	119	141	104	106	101	440	3,060	680	2,270	643	189	373
MIN	65	60	88	101	64	69	730	310	637	176	156	160
AC-FT	5,490	6,270	5,900	6,340	4,910	13,230	125,100	28,560	80,770	22,850	10,400	15,080

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2004, BY WATER YEAR (WY)

MEAN	97.1	117	103	86.3	95.3	331	887	535	325	272	152	105
MAX	693	589	400	242	317	1,256	3,957	3,053	1,938	1,466	2,231	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)

05059000 SHEYENNE RIVER NEAR KINDRED, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1949 - 2004	
ANNUAL TOTAL	67,837		163,804			
ANNUAL MEAN	186		448		259	
HIGHEST ANNUAL MEAN					770	1997
LOWEST ANNUAL MEAN					48.0	1991
HIGHEST DAILY MEAN	745	May 24	3,060	Apr 18	5,610	Apr 29, 1997
LOWEST DAILY MEAN	52	Mar 5	60	Nov 6	9.2	Aug 16, 1990
ANNUAL SEVEN-DAY MINIMUM	53	Mar 5	65	Feb 23	11	Dec 26, 1990
MAXIMUM PEAK FLOW			3,080	Apr 19	5,970	Apr 27, 1997
MAXIMUM PEAK STAGE			a15.63	Apr 19	b22.33	Apr 8, 1997
ANNUAL RUNOFF (AC-FT)	134,600		324,900		187,700	
10 PERCENT EXCEEDS	425		1,500		550	
50 PERCENT EXCEEDS	107		170		100	
90 PERCENT EXCEEDS	57		80		35	

a May have been higher during period of incomplete record, April 16-19
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 2003 TO SEPTEMBER 2004

Date	Time	Discharge, cfs (00060)	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
OCT													
07...	1255	--	70	--	--	--	--	--	--	--	1,020	25.0	13.0
NOV													
05...	1230	--	94	--	--	--	--	--	--	--	1,240	-3.0	0.0
DEC													
16...	1100	--	97	--	--	--	--	--	--	--	1,260	-12.0	0.0
FEB													
03...	1140	--	100	--	--	--	--	--	--	--	1,190	-18.5	0.0
MAR													
10...	1220	--	129	--	--	--	--	--	--	--	965	5.5	0.0
26...	1415	--	450	--	--	--	--	--	--	--	767	6.0	0.5
APR													
06...	1905	--	2,170	--	--	--	--	7.6	7.9	891	890	17.0	9.0
14...	1205	--	2,970	--	--	--	--	--	--	--	643	--	5.5
21...	1005	--	2,180	--	--	--	--	--	--	--	620	8.5	9.0
MAY													
04...	1405	--	552	--	--	--	--	--	--	--	755	13.0	12.0
11...	0730	310	--	160	727	11.7	122	8.2	8.2	801	791	13.6	14.9
JUN													
14...	1515	--	1,760	--	--	--	--	--	--	--	813	--	20.0
JUL													
28...	1035	--	198	--	--	--	--	7.9	8.2	1,040	1,030	19.5	22.0
SEP													
09...	1525	--	207	--	--	--	--	--	--	--	949	23.5	17.5

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)
OCT													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
06...	300	58.7	37.8	10.6	2	85.4	37	257	15.9	0.19	21.2	204	569
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	290	67.1	30.5	10.2	1	54.7	28	228	18.0	--	--	184	506
JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
28...	390	85.0	43.3	10.5	2	84.0	31	305	22.0	0.24	20.9	249	680
SEP													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--

05059000 SHEYENNE RIVER NEAR KINDRED, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, fltrd, mg/L (00602)	Total nitro-gen, water, unfltrd mg/L (00600)	Fecal coli-form, M-FC 0.7u MF col/ 100 mL (31625)
OCT													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
06...	3,450	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	422	0.52	0.55	<0.010	<0.010	0.387	0.380	0.114	0.108	0.210	0.91	0.93	E48k
JUN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
28...	374	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Mangan-ese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molyb-denum, water, fltrd, ug/L (01060)	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
OCT											
07...	--	--	--	--	--	--	--	--	--	--	--
NOV											
05...	--	--	--	--	--	--	--	--	--	--	--
DEC											
16...	--	--	--	--	--	--	--	--	--	--	--
FEB											
03...	--	--	--	--	--	--	--	--	--	--	--
MAR											
10...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
APR											
06...	--	--	5.0	20	<1	60	130	<0.20	2	4	300
14...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
MAY											
04...	--	--	--	--	--	--	--	--	--	--	--
11...	30.0	2.0	--	10	--	--	40	--	--	--	--
JUN											
14...	--	--	--	--	--	--	--	--	--	--	--
JUL											
28...	--	--	6.8	--	<1	70	60	<0.20	4	2	410
SEP											
09...	--	--	--	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range

05059300 SHEYENNE RIVER ABOVE SHEYENNE RIVER DIVERSION NEAR HORACE, ND

LOCATION.--Lat 46°45'01", long 96°55'35", in NE¼SE¼SE¼ 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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for discharges during July 19 to September 30, which are fair and for estimated daily discharges, 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67	115	e96	e106	e104	e68	602	e730	625	730	183	182
2	66	114	e95	e106	e104	e71	1,230	e680	662	673	197	181
3	65	116	e94	e106	e104	e75	1,730	611	651	608	186	180
4	66	120	e93	e110	e103	e81	1,950	554	820	545	177	185
5	68	e108	e93	e110	e103	e83	2,040	529	1,260	543	172	255
6	69	e90	e93	e110	e103	e80	2,110	516	1,670	567	168	433
7	68	102	e93	e111	e102	e76	2,220	509	2,020	575	168	384
8	69	113	e93	e111	e102	e73	2,340	489	2,220	496	171	312
9	68	e108	e95	e110	e101	e74	2,450	429	2,180	405	184	264
10	72	e103	e95	e110	e101	e95	2,550	351	2,060	340	180	237
11	79	e117	e94	e109	e101	e125	2,640	295	2,010	333	177	224
12	81	e135	e94	e109	e100	e170	2,750	306	1,980	426	177	220
13	82	e125	e93	e109	e100	e190	2,830	369	1,910	506	191	212
14	81	e120	e93	e108	e100	e195	2,880	385	1,830	467	189	214
15	79	e117	e93	e107	e100	e215	2,950	358	1,790	435	176	296
16	81	e120	e93	e107	e99	e240	3,060	367	1,770	430	173	347
17	85	e128	e93	e106	e98	e260	3,110	463	1,760	421	184	358
18	95	e141	e96	e106	e96	e260	3,130	e540	1,730	403	191	369
19	106	e130	e100	e105	e93	e258	3,140	e570	1,600	390	190	359
20	107	e129	e103	e105	e87	e243	2,940	e580	1,370	384	185	351
21	108	e122	e107	e106	e81	e240	2,470	e580	1,210	378	179	320
22	109	e113	e106	e105	e77	e240	2,090	e575	1,110	365	177	292
23	109	105	e106	e105	e75	e242	1,950	e540	991	356	176	292
24	110	79	e106	e105	e73	e270	1,890	e470	923	349	175	308
25	110	85	e107	e104	e72	e350	1,790	e420	893	324	179	323
26	110	e91	e107	e105	e70	e410	1,630	e380	863	277	184	315
27	110	e98	e106	e104	e69	e460	e1,250	e370	858	242	180	280
28	111	e100	e106	e104	e68	e430	e1,010	363	861	222	177	250
29	112	e99	e106	e104	e67	e400	e840	382	853	212	176	251
30	112	e97	e106	e104	---	e390	e770	404	814	201	176	359
31	114	---	e106	e104	---	e420	---	490	---	188	177	---
TOTAL	2,769	3,340	3,061	3,311	2,653	6,784	64,342	14,605	41,294	12,791	5,575	8,553
MEAN	89.3	111	98.7	107	91.5	219	2,145	471	1,376	413	180	285
MAX	114	141	107	111	104	460	3,140	730	2,220	730	197	433
MIN	65	79	93	104	67	68	602	295	625	188	168	180
AC-FT	5,490	6,620	6,070	6,570	5,260	13,460	127,600	28,970	81,910	25,370	11,060	16,960

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2004, BY WATER YEAR (WY)

MEAN	212	265	228	169	178	559	1,617	987	626	592	431	271
MAX	673	617	429	268	302	1,214	2,964	2,737	1,376	1,157	2,221	582
(WY)	(1995)	(1995)	(2001)	(1997)	(2001)	(1995)	(1997)	(1997)	(2004)	(1993)	(1993)	(1999)
MIN	52.9	54.8	31.7	73.0	61.1	61.2	156	232	252	289	91.5	62.1
(WY)	(1993)	(1993)	(1993)	(1993)	(2003)	(2003)	(2002)	(1993)	(2002)	(2002)	(2002)	(2002)

05059300 SHEYENNE RIVER ABOVE SHEYENNE RIVER DIVERSION NEAR HORACE, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1993 - 2004	
ANNUAL TOTAL	75,134		169,078			
ANNUAL MEAN	206		462		512	
HIGHEST ANNUAL MEAN					749	1999
LOWEST ANNUAL MEAN					182	2002
HIGHEST DAILY MEAN	802	May 25	3,140	Apr 19	4,480	May 8, 1997
LOWEST DAILY MEAN	53	Mar 11	65	Oct 3	13	Dec 18, 1992
ANNUAL SEVEN-DAY MINIMUM	55	Mar 5	67	Oct 1	16	Dec 13, 1992
MAXIMUM PEAK FLOW			3,220	Apr 19	a5,210	May 8, 1997
MAXIMUM PEAK STAGE			23.84	Apr 19	b26.66	Mar 25, 1999
ANNUAL RUNOFF (AC-FT)	149,000		335,400		370,800	
10 PERCENT EXCEEDS	502		1,640		1,200	
50 PERCENT EXCEEDS	110		180		276	
90 PERCENT EXCEEDS	60		85		93	

a Gage height, 25.44 ft, backwater from ice
b 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.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 29.8°C, Aug. 6, 2001; minimum recorded, -0.2°C, on many days in 2002.
SPECIFIC CONDUCTANCE: Maximum recorded, 1,610 microsiemens, May 7-8, 2000; minimum recorded, 555 microsiemens, Apr. 20, 2004.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 28.5°C, July 21; minimum recorded, 0.0°C, on many days.
SPECIFIC CONDUCTANCE: Maximum recorded, 1,320 microsiemens, Nov. 30, Dec. 1, and Dec. 14-16; minimum recorded, 555 microsiemens, Apr. 20.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Discharge, cfs (00060)	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
APR													
06...	1030	--	2,100	--	--	--	--	7.8	7.8	990	990	11.0	10.0
MAY													
12...	0730	306	--	260	724	10.3	105	8.2	8.2	786	776	--	13.7
JUL													
29...	1015	--	210	--	--	--	--	7.5	8.3	1,050	1,040	18.0	21.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)
APR													
06...	340	64.6	42.1	10.9	2	100	38	312	18.3	0.21	22.9	231	657
MAY													
12...	280	64.7	29.5	9.90	1	53.5	28	219	17.5	--	--	181	492
JUL													
29...	400	87.1	45.1	11.0	2	88.1	31	297	21.8	0.23	20.8	252	684

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)
APR													
06...	3,840	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
12...	405	0.52	0.45	<0.010	0.010	0.426	0.430	0.43	0.137	0.106	0.249	0.94	0.88
JUL													
29...	399	--	--	--	--	--	--	--	--	--	--	--	--

05059300 SHEYENNE RIVER ABOVE SHEYENNE RIVER DIVERSION NEAR HORACE, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Fecal coli-form, M-FC 0.7u MF col/ 100 mL (31625)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Mangan-ese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molyb-denum, water, fltrd, ug/L (01060)	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
APR												
06...	--	--	--	4.0	90	<1	80	210	<0.20	3	<1	330
MAY												
12...	170	35.2	3.6	--	10	--	--	30	--	--	--	--
JUL												
29...	--	--	--	8.7	10	<1	80	40	<0.20	4	2	420

Remark codes used in this table:
< -- Less than

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	9.1	7.5	8.3	2.5	1.6	1.8	0.1	0.1	0.1	0.1	0.1	0.1
2	8.6	6.8	7.7	1.9	1.3	1.6	0.1	0.1	0.1	0.1	0.1	0.1
3	10.4	8.4	9.2	1.5	0.1	0.5	0.2	0.1	0.1	0.1	0.1	0.1
4	11.9	9.7	10.6	0.4	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1
5	12.7	10.5	11.5	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
6	13.4	11.3	12.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
7	14.0	11.8	12.9	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
8	15.8	13.2	14.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
9	17.1	15.4	16.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
10	17.9	15.9	16.8	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
11	17.7	15.1	16.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
12	15.1	13.4	14.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
13	13.4	11.9	12.7	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
14	12.5	10.9	11.6	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
15	11.3	9.5	10.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
16	9.9	8.8	9.4	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
17	9.2	7.8	8.5	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
18	10.0	8.4	9.1	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
19	10.8	8.9	9.8	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
20	11.8	10.3	11.0	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
21	11.9	10.9	11.4	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
22	11.6	10.4	11.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
23	11.1	9.7	10.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
24	10.1	9.3	9.8	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
25	9.3	6.8	8.0	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
26	6.8	5.8	6.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
27	6.1	4.9	5.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
28	5.1	4.1	4.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
29	4.1	3.5	3.8	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
30	3.7	3.5	3.6	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
31	3.6	2.5	3.2	---	---	---	0.1	0.1	0.1	0.1	0.1	0.1
MONTH	17.9	2.5	10.0	2.5	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1

05059300 SHEYENNE RIVER ABOVE SHEYENNE RIVER DIVERSION NEAR HORACE, ND—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	0.1	0.1	0.1	0.1	0.1	0.1	6.6	5.4	5.9	12.5	11.7	12.1
2	0.1	0.1	0.1	0.1	0.1	0.1	5.8	4.8	5.2	12.1	11.2	11.7
3	0.1	0.1	0.1	0.1	0.1	0.1	6.6	5.2	5.9	12.0	11.2	11.7
4	0.1	0.1	0.1	0.1	0.1	0.1	7.1	6.0	6.5	12.7	11.4	12.0
5	0.1	0.1	0.1	0.1	0.1	0.1	7.8	6.6	7.1	13.7	11.8	12.7
6	0.1	0.1	0.1	0.1	0.1	0.1	8.1	7.1	7.6	14.2	13.0	13.5
7	0.1	0.1	0.1	0.1	0.1	0.1	8.2	7.7	7.9	14.1	13.3	13.7
8	0.1	0.1	0.1	0.1	0.1	0.1	8.0	7.3	7.7	15.0	13.6	14.2
9	0.1	0.1	0.1	0.1	0.1	0.1	7.8	7.2	7.5	16.2	15.0	15.5
10	0.1	0.1	0.1	0.1	0.1	0.1	7.2	6.6	6.9	16.5	15.3	15.9
11	0.1	0.1	0.1	0.1	0.1	0.1	6.8	5.9	6.3	16.2	14.8	15.2
12	0.1	0.1	0.1	0.1	0.1	0.1	6.0	5.5	5.8	14.8	13.2	13.9
13	0.1	0.1	0.1	0.1	0.1	0.1	6.1	5.3	5.7	13.2	11.1	11.9
14	0.1	0.1	0.1	0.1	0.1	0.1	6.4	5.7	6.0	11.6	10.2	10.9
15	0.1	0.1	0.1	0.1	0.1	0.1	7.2	6.0	6.5	11.7	10.6	11.2
16	0.1	0.1	0.1	0.1	0.1	0.1	8.0	7.1	7.5	12.0	11.2	11.6
17	0.1	0.1	0.1	0.1	0.1	0.1	8.6	7.8	8.1	13.3	11.5	12.2
18	0.1	0.1	0.1	0.1	0.1	0.1	8.7	8.4	8.6	14.6	12.7	13.5
19	0.1	0.1	0.1	0.1	0.1	0.1	9.3	8.4	8.8	15.0	14.4	14.7
20	0.1	0.1	0.1	0.1	0.0	0.1	9.3	9.0	9.2	16.1	14.8	15.3
21	0.1	0.1	0.1	0.1	0.0	0.1	9.9	9.0	9.4	16.5	15.6	16.0
22	0.1	0.1	0.1	0.1	0.0	0.1	10.0	9.1	9.5	16.7	16.2	16.4
23	0.1	0.1	0.1	0.1	0.0	0.1	10.4	9.4	9.9	16.4	15.4	15.8
24	0.1	0.1	0.1	0.1	0.0	0.1	10.7	9.7	10.2	15.4	14.2	14.9
25	0.1	0.1	0.1	0.1	0.0	0.1	11.1	10.5	10.8	14.2	13.5	13.7
26	0.1	0.1	0.1	0.1	0.0	0.0	11.3	10.4	10.8	14.5	12.6	13.5
27	0.1	0.1	0.1	0.2	0.0	0.1	11.8	10.6	11.1	15.9	14.1	14.9
28	0.1	0.1	0.1	0.2	0.0	0.1	13.0	11.4	12.1	17.0	15.0	15.9
29	0.1	0.1	0.1	0.1	0.0	0.0	12.5	11.5	12.0	17.1	16.6	16.8
30	---	---	---	4.3	0.0	1.5	12.6	11.5	12.0	16.6	15.9	16.3
31	---	---	---	6.0	3.9	4.9	---	---	---	15.9	15.3	15.6
MONTH	0.1	0.1	0.1	6.0	0.0	0.3	13.0	4.8	8.3	17.1	10.2	14.0
	JUNE			JULY			AUGUST			SEPTEMBER		
1	15.4	14.5	14.9	23.3	21.5	22.3	24.5	21.9	23.1	21.5	19.9	20.7
2	16.1	14.3	15.1	23.5	22.7	23.1	24.9	22.5	23.7	22.7	20.6	21.6
3	16.4	15.6	15.9	23.7	23.1	23.4	24.3	22.8	23.3	23.4	21.5	22.4
4	18.0	16.2	17.0	23.4	22.0	22.7	23.5	21.5	22.6	23.1	21.9	22.4
5	19.4	18.0	18.6	22.0	20.8	21.4	23.2	21.5	22.4	21.9	20.1	21.1
6	19.7	18.7	19.2	20.8	19.3	20.0	22.5	20.7	21.2	20.1	17.8	18.6
7	20.2	19.1	19.7	19.3	18.6	19.0	21.9	19.9	20.8	17.8	17.2	17.5
8	20.1	19.6	19.8	19.1	18.4	18.7	23.4	21.2	22.2	17.3	16.7	17.0
9	20.3	19.4	19.8	20.8	18.7	19.6	22.8	19.9	21.3	17.9	16.2	17.0
10	20.1	19.3	19.6	22.4	20.3	21.2	19.9	18.3	18.7	19.2	17.0	18.0
11	19.4	18.8	19.1	24.3	21.7	22.8	18.5	17.6	18.2	19.1	17.8	18.5
12	20.3	19.0	19.6	25.1	23.2	24.1	19.0	17.5	18.3	20.4	17.9	19.1
13	20.5	19.6	20.1	25.4	24.4	24.9	19.5	17.6	18.5	20.9	19.7	20.3
14	20.4	19.9	20.1	25.8	24.4	25.1	20.6	18.0	19.3	20.6	19.5	20.0
15	20.3	19.8	20.0	26.4	24.8	25.5	21.0	18.8	20.0	19.8	17.6	18.6
16	19.9	19.5	19.7	26.2	25.1	25.6	21.7	19.6	20.6	17.6	16.5	17.1
17	20.0	19.2	19.6	25.8	24.8	25.3	22.3	20.2	21.2	17.9	16.5	17.1
18	19.5	18.8	19.2	26.1	24.6	25.3	21.8	20.0	20.9	18.3	16.8	17.5
19	19.4	18.6	19.0	27.0	25.1	26.0	20.0	18.2	19.2	19.9	17.9	18.7
20	19.7	18.6	19.1	27.7	26.2	26.8	19.4	17.6	18.6	20.2	19.6	19.9
21	19.4	18.9	19.1	28.5	26.7	27.5	18.6	16.8	17.9	19.8	18.4	19.1
22	19.2	18.5	18.8	27.7	25.6	26.6	18.4	17.3	17.9	18.4	17.2	17.7
23	18.8	18.2	18.5	25.6	24.1	24.7	17.9	16.8	17.4	17.2	16.2	16.6
24	18.8	17.6	18.1	24.4	22.7	23.6	20.3	17.8	18.8	16.4	15.5	16.0
25	18.6	17.8	18.2	24.5	22.6	23.5	20.0	18.8	19.5	16.2	15.0	15.6
26	19.1	17.9	18.4	24.4	22.5	23.4	20.9	19.1	19.9	16.9	15.2	15.9
27	19.5	18.4	18.9	23.7	22.3	22.9	20.5	19.2	19.6	16.4	15.4	15.9
28	20.4	18.7	19.5	23.0	22.1	22.7	19.8	18.0	19.0	15.7	14.1	14.9
29	21.4	19.7	20.4	23.2	21.3	22.3	19.9	18.1	19.0	14.9	13.4	14.2
30	22.5	20.8	21.6	22.7	21.7	22.2	20.3	17.9	19.1	14.8	13.5	14.1
31	---	---	---	23.3	20.8	22.0	21.4	19.1	20.1	---	---	---
MONTH	22.5	14.3	18.9	28.5	18.4	23.4	24.9	16.8	20.1	23.4	13.4	18.1
YEAR	28.5	0.0	9.5									

05059300 SHEYENNE RIVER ABOVE SHEYENNE RIVER DIVERSION NEAR HORACE, ND—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	1,080	1,070	1,080	1,110	1,110	1,110	1,320	1,290	1,310	1,220	1,210	1,220
2	1,080	1,070	1,080	1,120	1,110	1,120	1,290	1,260	1,280	1,220	1,210	1,210
3	1,070	1,060	1,070	1,130	1,120	1,120	1,260	1,220	1,240	1,220	1,200	1,210
4	1,070	1,060	1,070	1,130	1,120	1,120	1,250	1,220	1,240	1,230	1,220	1,220
5	1,060	1,050	1,060	1,150	1,120	1,130	1,250	1,240	1,250	1,260	1,230	1,250
6	1,060	1,050	1,050	1,190	1,150	1,170	1,250	1,240	1,240	1,280	1,260	1,260
7	1,060	1,050	1,050	1,220	1,190	1,210	1,240	1,230	1,240	1,280	1,280	1,280
8	1,050	1,040	1,050	1,240	1,220	1,230	1,240	1,220	1,230	1,280	1,280	1,280
9	1,040	1,040	1,040	1,240	1,220	1,230	1,230	1,210	1,220	1,290	1,280	1,280
10	1,050	1,040	1,040	1,230	1,210	1,220	1,210	1,200	1,200	1,280	1,280	1,280
11	1,050	1,020	1,030	1,240	1,200	1,220	1,230	1,210	1,220	1,280	1,270	1,270
12	1,030	949	1,020	1,250	1,210	1,230	1,250	1,230	1,240	1,270	1,260	1,270
13	1,040	949	1,020	1,240	1,220	1,230	1,280	1,250	1,260	1,260	1,260	1,260
14	1,030	1,000	1,020	1,220	1,200	1,210	1,320	1,280	1,300	1,260	1,260	1,260
15	1,020	1,000	1,010	1,200	1,160	1,180	1,320	1,320	1,320	1,260	1,250	1,260
16	1,040	1,020	1,030	1,160	1,140	1,150	1,320	1,280	1,300	1,250	1,240	1,250
17	1,050	1,030	1,040	1,140	1,090	1,110	1,290	1,270	1,280	1,250	1,240	1,240
18	1,060	1,040	1,060	1,100	1,090	1,100	1,280	1,280	1,280	1,270	1,250	1,260
19	1,090	1,060	1,070	1,160	1,100	1,130	1,280	1,260	1,270	1,280	1,270	1,270
20	1,100	1,090	1,100	1,170	1,140	1,160	1,260	1,250	1,260	1,280	1,280	1,280
21	1,100	1,070	1,090	1,160	1,150	1,150	1,250	1,230	1,240	1,280	1,280	1,280
22	1,090	1,070	1,080	1,160	1,150	1,160	1,240	1,230	1,230	1,280	1,280	1,280
23	1,090	1,080	1,090	1,160	1,140	1,150	1,260	1,240	1,250	1,290	1,280	1,280
24	1,090	1,060	1,070	1,190	1,160	1,170	1,260	1,250	1,260	1,290	1,280	1,290
25	1,110	1,060	1,080	1,210	1,190	1,200	1,250	1,240	1,240	1,300	1,290	1,300
26	1,130	1,110	1,130	1,210	1,200	1,210	1,240	1,240	1,240	1,300	1,300	1,300
27	1,130	1,120	1,130	1,210	1,200	1,210	1,250	1,240	1,240	1,300	1,300	1,300
28	1,120	1,110	1,120	1,220	1,210	1,220	1,250	1,240	1,240	1,300	1,280	1,280
29	1,110	1,100	1,110	1,290	1,220	1,260	1,240	1,240	1,240	1,290	1,280	1,280
30	1,110	1,100	1,100	1,320	1,290	1,310	1,240	1,230	1,240	1,310	1,290	1,300
31	1,110	1,100	1,100	---	---	---	1,230	1,220	1,220	1,300	1,290	1,300
MONTH	1,130	949	1,070	1,320	1,090	1,180	1,320	1,200	1,250	1,310	1,200	1,270
	FEBRUARY			MARCH			APRIL			MAY		
1	1,290	1,280	1,290	1,170	1,160	1,170	774	752	761	672	666	669
2	1,280	1,270	1,280	1,160	1,140	1,150	844	746	777	679	672	675
3	1,270	1,270	1,270	1,140	1,120	1,140	1,140	844	1,050	686	679	682
4	1,270	1,250	1,260	1,120	1,080	1,100	1,160	1,140	1,160	693	686	689
5	1,250	1,240	1,250	1,090	1,070	1,080	1,170	1,060	1,130	701	692	696
6	1,250	1,240	1,240	1,090	1,070	1,080	1,060	924	981	709	701	704
7	1,240	1,230	1,230	1,100	1,090	1,090	924	838	879	714	708	711
8	1,240	1,230	1,240	1,100	1,090	1,100	838	771	808	723	714	718
9	1,240	1,240	1,240	1,100	1,090	1,100	772	735	755	732	723	727
10	1,240	1,230	1,240	1,100	1,090	1,100	738	730	734	739	732	735
11	1,230	1,220	1,230	1,090	1,040	1,070	763	699	733	738	736	738
12	1,230	1,220	1,220	1,040	914	954	720	690	704	738	735	736
13	1,240	1,230	1,240	943	901	916	713	696	706	735	732	733
14	1,240	1,220	1,230	987	943	961	709	593	637	735	731	733
15	1,220	1,210	1,210	997	967	984	597	590	593	740	735	737
16	1,220	1,210	1,220	983	963	967	612	597	604	746	740	743
17	1,220	1,210	1,220	1,010	968	991	614	610	612	755	746	750
18	1,220	1,210	1,210	1,010	967	996	622	583	611	766	755	760
19	1,220	1,210	1,210	967	879	923	583	560	576	772	766	769
20	1,220	1,210	1,220	904	837	872	561	555	557	777	772	774
21	1,220	1,200	1,210	841	762	815	577	561	569	777	775	776
22	1,200	1,190	1,190	790	759	778	592	577	585	776	771	773
23	1,190	1,190	1,190	797	757	784	606	592	600	771	767	769
24	1,200	1,190	1,200	757	730	744	618	606	612	767	761	765
25	1,190	1,180	1,190	750	724	735	629	618	624	761	756	759
26	1,180	1,160	1,170	726	709	716	638	629	634	756	753	755
27	1,170	1,160	1,160	741	717	727	643	638	641	757	754	756
28	1,170	1,160	1,170	723	670	694	652	643	647	---	---	---
29	1,180	1,170	1,170	709	687	704	658	652	655	---	---	---
30	---	---	---	707	645	671	666	658	662	---	---	---
31	---	---	---	752	667	714	---	---	---	---	---	---
MONTH	1,290	1,160	1,220	1,170	645	930	1,170	555	720	777	666	735

05059300 SHEYENNE RIVER ABOVE SHEYENNE RIVER DIVERSION NEAR HORACE, ND—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	967	957	964	1,020	997	1,010	1,060	1,050	1,060
2	---	---	---	974	965	969	1,020	951	972	1,060	1,050	1,060
3	---	---	---	983	974	979	987	955	974	1,060	1,050	1,060
4	---	---	---	995	982	989	1,040	987	1,020	1,060	1,000	1,050
5	---	---	---	998	993	995	1,050	1,040	1,050	1,000	850	941
6	---	---	---	996	982	989	1,060	1,030	1,050	850	662	773
7	---	---	---	987	976	981	1,040	1,030	1,030	745	662	703
8	---	---	---	985	970	978	1,040	1,030	1,040	816	745	783
9	---	---	---	972	963	968	1,040	1,030	1,040	872	816	843
10	---	---	---	967	942	959	1,050	1,010	1,030	918	872	890
11	---	---	---	967	939	950	1,030	1,000	1,020	956	918	940
12	---	---	---	955	899	934	1,040	1,020	1,030	981	926	950
13	---	---	---	1,030	955	997	1,070	1,040	1,060	1,000	981	992
14	---	---	---	1,040	1,020	1,030	1,090	1,070	1,080	1,010	1,000	1,000
15	---	---	---	1,060	1,030	1,030	1,080	1,070	1,080	1,010	1,000	1,010
16	---	---	---	1,060	1,040	1,050	1,080	1,060	1,070	1,020	1,010	1,020
17	843	837	839	1,040	1,020	1,030	1,060	1,040	1,050	1,020	1,020	1,020
18	845	834	838	1,030	1,020	1,020	1,060	1,040	1,050	1,020	1,020	1,020
19	862	845	855	1,050	1,030	1,040	1,070	1,060	1,070	1,030	1,010	1,020
20	875	862	869	1,050	1,040	1,040	1,070	1,060	1,060	1,030	1,020	1,030
21	900	875	890	1,040	1,010	1,040	1,060	1,060	1,060	1,020	1,020	1,020
22	924	900	909	1,060	1,010	1,040	1,060	1,050	1,050	1,020	1,010	1,020
23	933	919	927	1,070	1,060	1,070	1,050	1,030	1,040	1,020	1,010	1,010
24	930	919	926	1,070	1,070	1,070	1,030	1,020	1,020	1,020	1,010	1,020
25	950	927	940	1,070	1,060	1,070	1,040	1,020	1,030	1,020	1,000	1,010
26	949	946	948	1,060	1,060	1,060	1,040	1,040	1,040	1,000	991	995
27	949	943	946	1,060	1,060	1,060	1,040	1,040	1,040	991	974	980
28	950	946	948	1,060	1,020	1,040	1,070	1,040	1,050	977	972	975
29	955	950	953	1,040	1,030	1,030	1,070	1,070	1,070	985	972	976
30	957	947	950	1,030	1,020	1,030	1,070	1,060	1,060	1,020	985	998
31	---	---	---	1,020	992	1,010	1,060	1,060	1,060	---	---	---
MONTH	957	834	910	1,070	899	1,010	1,090	951	1,040	1,060	662	972
YEAR	1,320	555	1,030									

05059310 SHEYENNE RIVER DIVERSION NEAR HORACE, ND

LOCATION.--Lat 46°45'06", long 96°55'33", in NE¼SE¼SE¼ 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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	30	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	273	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	469	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	550	0.00	32	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	610	0.00	245	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	704	0.00	474	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	814	0.00	601	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	919	0.00	576	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	1,020	0.00	507	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	1,110	0.00	477	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	1,210	0.00	455	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	1,300	0.00	404	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	1,340	0.00	348	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	1,410	0.00	322	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	1,480	0.00	308	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	1,510	0.00	300	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	1,520	0.00	285	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	1,520	0.00	205	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	1,380	0.00	69	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	923	0.00	4.8	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	573	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	470	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	419	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	338	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	224	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	111	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	9.9	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	22,236.90	0.00	5,612.80	0.00	0.00	0.00
MEAN	0.00	0.00	0.00	0.00	0.00	0.00	741	0.00	187	0.00	0.00	0.00
MAX	0.00	0.00	0.00	0.00	0.00	0.00	1,520	0.00	601	0.00	0.00	0.00
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	44,110	0.00	11,130	0.00	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2004, BY WATER YEAR (WY)

MEAN	0.05	0.54	0.00	0.00	0.00	67.0	537	183	43.6	40.3	72.7	0.00
MAX	0.65	6.50	0.00	0.00	0.00	471	1,507	1,181	187	281	872	0.00
(WY)	(1995)	(1995)	(1993)	(1993)	(1993)	(1995)	(1997)	(1997)	(2004)	(1993)	(1993)	(1993)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(WY)	(1993)	(1993)	(1993)	(1993)	(1993)	(1997)	(2000)	(1993)	(1993)	(1996)	(1994)	(1993)

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1993 - 2004	
ANNUAL TOTAL	0.00		27,849.70			
ANNUAL MEAN	0.00		76.1		78.5	
HIGHEST ANNUAL MEAN					226	1997
LOWEST ANNUAL MEAN					0.00	2002
HIGHEST DAILY MEAN	0.00	Jan 1	1,520	Apr 18	2,390	Apr 26, 1997
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 1	0.00	Oct 1, 1992
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Oct 1	0.00	Oct 1, 1992
MAXIMUM PEAK FLOW			1,570	Apr 19	a2,760	Apr 10, 2001
MAXIMUM PEAK STAGE			23.54	Apr 19	b26.66	Mar 25, 1999
ANNUAL RUNOFF (AC-FT)	0.00		55,240		56,890	
10 PERCENT EXCEEDS	0.00		230		58	
50 PERCENT EXCEEDS	0.00		0.00		0.00	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

a Gage height, 25.01 ft
b From high-water mark, backwater from ice and closure of diversion channel

05059480 SHEYENNE RIVER DIVERSION AT WEST FARGO, ND

LOCATION.--Lat 46°53'28", long 96°54'59", in NE¼NE¼NW¼ 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 National Geodetic Vertical Datum of 1929. 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 for estimated daily discharges, which are poor. These records are for the flood flows that are diverted around West Fargo.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	e250	298	222	130	2.8	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	e500	261	186	83	4.2	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	e900	195	131	46	21	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	1,130	145	155	e23	2.1	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	1,360	125	353	e0.00	0.01	e20
6	0.00	0.00	0.00	0.00	0.00	0.00	1,580	120	737	e27	0.00	104
7	0.00	0.00	0.00	0.00	0.00	0.00	1,820	110	1,240	22	23	80
8	0.00	0.00	0.00	0.00	0.00	0.00	2,130	98	1,700	4.8	13	35
9	0.00	0.00	0.00	0.00	0.00	0.00	2,400	69	2,040	e0.00	0.86	24
10	0.00	0.00	0.00	0.00	0.00	e0.00	2,580	25	2,000	e1.1	0.00	16
11	0.00	0.00	0.00	0.00	0.00	e0.00	2,660	14	1,960	e0.00	0.00	9.9
12	0.00	0.00	0.00	0.00	0.00	e0.00	2,850	23	1,890	e118	0.00	5.8
13	0.00	0.00	0.00	0.00	0.00	e0.00	2,940	23	1,800	e158	0.00	2.6
14	0.00	0.00	0.00	0.00	0.00	e0.00	2,990	13	1,700	e81	0.00	0.73
15	0.00	0.00	0.00	0.00	0.00	e0.00	3,030	6.9	1,600	e39	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	e0.00	3,070	2.6	1,600	22	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	e0.00	3,080	1.1	1,560	e11	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	e0.00	3,080	34	1,500	e2.0	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	e0.00	3,090	11	1,400	0.48	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	e0.00	3,010	18	1,130	1.1	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	e0.00	2,690	21	937	5.1	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	e0.00	2,040	23	697	7.4	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	e0.00	1,610	18	573	9.1	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	e10	1,420	8.0	503	8.2	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	e20	1,270	4.2	468	7.2	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	e40	1,070	2.7	440	6.2	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	e50	846	0.39	429	5.3	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	e40	579	0.00	e437	6.1	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	e20	411	0.00	429	5.3	0.00	0.00
30	0.00	0.00	0.00	0.00	---	e90	326	38	321	4.1	0.00	0.00
31	0.00	---	0.00	0.00	---	e150	---	179	---	3.5	0.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	420.00	56,712	1,886.89	30,138	836.98	66.97	298.03
MEAN	0.00	0.00	0.00	0.00	0.00	13.5	1,890	60.9	1,005	27.0	2.16	9.93
MAX	0.00	0.00	0.00	0.00	0.00	150	3,090	298	2,040	158	23	104
MIN	0.00	0.00	0.00	0.00	0.00	0.00	250	0.00	131	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	833	112,500	3,740	59,780	1,660	133	591

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2004, BY WATER YEAR (WY)

MEAN	14.5	25.5	0.97	0.00	12.4	345	1,426	687	302	284	224	47.2
MAX	127	138	11.6	0.00	90.2	1,111	3,288	2,937	1,005	1,000	2,144	292
(WY)	(1995)	(2001)	(1999)	(1993)	(1996)	(1995)	(1997)	(1997)	(2004)	(1993)	(1993)	(1995)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.97	0.00	0.00
(WY)	(1993)	(1993)	(1993)	(1993)	(1993)	(2002)	(2000)	(1993)	(1993)	(1996)	(1994)	(1996)

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1993 - 2004	
ANNUAL TOTAL	5,048.05		90,358.87			
ANNUAL MEAN	13.8		247		281	
HIGHEST ANNUAL MEAN					549	1995
LOWEST ANNUAL MEAN					4.95	2002
HIGHEST DAILY MEAN	156	May 26	3,090	Apr 19	4,800	Apr 19, 1997
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 1	0.00	Oct 1, 1992
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Oct 1	0.00	Oct 1, 1992
MAXIMUM PEAK FLOW			3,150	Apr 18	4,810	Apr 19, 1997
MAXIMUM PEAK STAGE			17.72	Apr 18	a22.90	Apr 9, 1997
ANNUAL RUNOFF (AC-FT)	10,010		179,200		203,500	
10 PERCENT EXCEEDS	68		1,090		850	
50 PERCENT EXCEEDS	0.00		0.00		0.00	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

a Backwater from ice
e Estimated

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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
APR													
05...	1515	1,400	7.5	7.9	1,180	1,210	20.0	10.0	410	78.9	50.7	12.3	3
14...	1510	2,900	--	--	--	744	--	8.5	--	--	--	--	--
20...	1505	2,970	--	--	--	600	15.5	10.0	--	--	--	--	--
29...	1500	411	--	--	--	718	14.0	12.5	--	--	--	--	--
JUN													
07...	1545	1,300	--	--	--	925	30.5	22.0	--	--	--	--	--
SEP													
08...	1235	41	--	--	--	310	15.0	15.5	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
APR													
05...	125	39	360	21.9	0.25	26.5	284	791	3,090	6.0	60	<1	90
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
APR					
05...	190	<0.20	3	5	400
14...	--	--	--	--	--
20...	--	--	--	--	--
29...	--	--	--	--	--
JUN					
07...	--	--	--	--	--
SEP					
08...	--	--	--	--	--

Remark codes used in this table:
< -- Less than

05059500 SHEYENNE RIVER AT WEST FARGO, ND

LOCATION.--Lat 46°53'28", long 96°54'24", in SE¼SE¼ 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), May 1903 to October 1905, April to August 1919, October 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 National Geodetic Vertical Datum of 1929. 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e70	122	e96	e107	e104	e67	e393	764	849	779	188	178
2	e68	122	e95	e107	e104	e68	e811	720	792	666	210	183
3	e68	120	e94	e106	e104	e71	e1,400	625	678	600	223	181
4	e66	115	e94	e110	e103	e75	1,750	555	701	539	183	197
5	e69	113	e94	e110	e103	e81	2,000	539	957	492	177	259
6	e70	e95	e94	e110	e103	e83	e2,220	542	1,410	567	187	541
7	e71	e100	e94	e111	e102	e80	e2,270	542	1,960	540	219	536
8	e71	108	e94	e111	e102	e110	e2,430	540	2,470	492	194	381
9	e72	112	e95	e110	e102	e116	2,500	510	e2,240	425	187	302
10	e72	106	e96	e110	e102	e153	2,630	443	e2,100	377	189	259
11	e78	115	e95	e109	e101	e179	2,660	422	e2,060	521	186	232
12	e80	127	e95	e109	e101	e210	2,850	412	e2,140	e678	183	219
13	e82	136	e94	e109	e101	e234	2,940	379	e2,050	e848	192	211
14	e84	124	e94	e108	e101	e251	2,990	383	e2,000	e684	201	e206
15	e84	120	e94	e107	e100	e261	3,030	368	e1,850	524	186	e270
16	77	118	e92	e107	e100	e265	3,070	352	e1,850	457	178	e332
17	78	116	e93	e107	e100	e269	3,080	376	e1,810	436	180	e360
18	83	136	e94	e106	e98	e269	3,080	489	e1,750	414	201	e370
19	95	127	e97	e106	e94	e266	3,090	543	e1,750	393	196	e370
20	103	128	e98	e106	e87	e261	3,010	588	e1,630	389	196	e357
21	104	e122	e102	e106	e86	e251	2,690	583	e1,460	386	191	327
22	105	e113	e107	e105	e81	e247	2,140	580	1,260	386	191	301
23	109	e102	e107	e105	e77	e254	e2,010	560	1,050	372	186	286
24	111	e79	e107	e105	e75	e280	e1,920	501	966	361	187	297
25	e111	e84	e108	e105	e73	e356	e1,850	423	952	357	184	313
26	e112	e91	e108	e105	e72	e427	1,780	381	946	323	190	315
27	e113	e98	e108	e105	e70	e464	1,520	365	968	283	189	291
28	e115	e100	e107	e104	e69	e470	1,170	362	e1,020	259	183	256
29	119	e99	e107	e104	e68	e420	930	342	1,060	227	188	236
30	118	e97	e107	e104	---	e400	801	469	1,020	206	186	282
31	119	---	e107	e104	---	e370	---	773	---	196	181	---
TOTAL	2,777	3,345	3,067	3,318	2,683	7,308	65,015	15,431	43,749	14,177	5,912	8,848
MEAN	89.6	112	98.9	107	92.5	236	2,167	498	1,458	457	191	295
MAX	119	136	108	111	104	470	3,090	773	2,470	848	223	541
MIN	66	79	92	104	68	67	393	342	678	196	177	178
AC-FT	5,510	6,630	6,080	6,580	5,320	14,500	129,000	30,610	86,780	28,120	11,730	17,550

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2004, BY WATER YEAR (WY)

MEAN	83.9	103	86.8	71.2	77.3	276	822	494	303	240	137	94.2
MAX	713	687	468	276	320	1,184	3,312	3,235	1,785	1,373	2,218	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 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1903 - 2004	
ANNUAL TOTAL	79,719		175,630			
ANNUAL MEAN	218		480		232	
HIGHEST ANNUAL MEAN					804	1997
LOWEST ANNUAL MEAN					37.1	1934
HIGHEST DAILY MEAN	857	May 26	3,090	Apr 19	4,800	Apr 19, 1997
LOWEST DAILY MEAN	53	Mar 10	66	Oct 4	a1.0	Sep 23, 1976
ANNUAL SEVEN-DAY MINIMUM	55	Mar 5	69	Oct 1	2.0	Sep 17, 1976
MAXIMUM PEAK FLOW			b3,150	Apr 18	c4,810	Apr 19, 1997
MAXIMUM PEAK STAGE			d17.72	Apr 18	f22.90	Apr 9, 1997
ANNUAL RUNOFF (AC-FT)	158,100		348,400		168,100	
10 PERCENT EXCEEDS	554		1,670		520	
50 PERCENT EXCEEDS	115		188		85	
90 PERCENT EXCEEDS	61		87		22	

a Caused by diversion to Red River of the North
b All flow through diversion channel April 11-21
c All flow through diversion channel; gage height, 22.68 ft
d Maximum gage height in diversion channel
e Estimated
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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
30...	1340	114	--	--	--	1,180	3.0	4.0	--	--	--	--	--
DEC													
15...	1530	97	--	--	--	1,280	-2.5	0.0	--	--	--	--	--
JAN													
23...	1510	105	--	--	--	1,090	-9.0	0.0	--	--	--	--	--
MAR													
09...	1240	112	--	--	--	1,080	2.0	0.0	--	--	--	--	--
27...	1320	400	--	--	--	695	9.0	0.0	--	--	--	--	--
APR													
29...	1155	522	--	--	--	716	14.5	11.5	--	--	--	--	--
JUN													
04...	1440	560	--	--	--	750	27.0	17.0	--	--	--	--	--
07...	1650	705	--	--	--	916	29.5	20.5	--	--	--	--	--
23...	1810	461	--	--	--	949	--	19.0	--	--	--	--	--
JUL													
27...	1620	277	7.8	8.2	1,080	1,080	26.5	23.0	390	82.4	44.8	11.2	2
SEP													
08...	1525	342	--	--	--	700	17.5	17.0	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)
OCT													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
27...	91.9	33	296	22.8	0.26	19.2	274	707	542	8.1	<1	80	<10
SEP													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--

05059500 SHEYENNE RIVER AT WEST FARGO, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Mercury water, fltrd, ug/L (71890)	Molyb-denum, water, fltrd, ug/L (01060)	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
OCT				
30...	--	--	--	--
DEC				
15...	--	--	--	--
JAN				
23...	--	--	--	--
MAR				
09...	--	--	--	--
27...	--	--	--	--
APR				
29...	--	--	--	--
JUN				
04...	--	--	--	--
07...	--	--	--	--
23...	--	--	--	--
JUL				
27...	<0.20	4	2	410
SEP				
08...	--	--	--	--

Remark codes used in this table:
< -- Less than

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 National Geodetic Vertical Datum of 1929.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,000 ft^3/s, Mar. 28, gage height, 6.98 ft; maximum gage height, 7.24 ft, Mar. 28 (from floodmark), backwater from ice; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e0.00	e45	0.55	176	0.01	0.00	1.9
2	---	---	---	---	---	e0.00	e27	0.45	119	0.00	0.00	0.65
3	---	---	---	---	---	e0.00	e18	0.38	85	0.00	0.00	0.36
4	---	---	---	---	---	e0.00	e13	0.38	64	0.00	0.00	0.23
5	---	---	---	---	---	e0.00	e9.0	0.30	47	0.00	0.00	0.47
6	---	---	---	---	---	e0.00	e8.0	0.25	32	0.09	0.00	16
7	---	---	---	---	---	e0.00	6.0	0.16	20	0.13	0.11	6.7
8	---	---	---	---	---	e0.00	4.0	0.12	11	0.10	0.05	4.8
9	---	---	---	---	---	e0.00	3.0	0.18	7.8	0.10	0.00	28
10	---	---	---	---	---	e0.00	2.2	0.18	5.0	0.06	0.00	14
11	---	---	---	---	---	e0.00	1.7	0.35	34	0.13	0.00	6.9
12	---	---	---	---	---	e0.00	1.4	1.4	115	1.4	0.00	3.8
13	---	---	---	---	---	e0.00	1.1	1.5	63	0.75	0.00	2.0
14	---	---	---	---	---	e0.00	0.84	1.4	50	0.22	0.00	2.0
15	---	---	---	---	---	e0.01	0.74	2.4	36	0.12	0.00	1.9
16	---	---	---	---	---	e0.03	0.61	4.8	27	0.03	0.00	1.5
17	---	---	---	---	---	e0.12	0.42	4.0	18	0.00	0.00	1.1
18	---	---	---	---	---	e1.1	0.37	2.9	10	0.00	0.00	0.59
19	---	---	---	---	---	e2.7	0.49	2.0	6.5	0.00	0.00	4.4
20	---	---	---	---	---	e6.0	0.44	2.1	5.2	0.00	0.00	1.6
21	---	---	---	---	---	e9.5	0.57	1.9	3.5	0.00	0.00	4.0
22	---	---	---	---	---	e15	1.5	2.2	2.6	0.00	0.00	2.5
23	---	---	---	---	---	e25	1.3	2.3	2.2	0.00	0.00	9.6
24	---	---	---	---	---	e46	0.96	1.9	1.6	0.00	0.00	52
25	---	---	---	---	---	95	1.1	3.2	1.1	0.00	0.00	25
26	---	---	---	---	---	170	1.2	2.4	0.70	0.00	0.00	47
27	---	---	---	---	---	e339	0.91	1.8	0.56	0.00	8.3	40
28	---	---	---	---	---	e640	1.1	1.4	0.39	0.00	12	16
29	---	---	---	---	---	e222	0.87	1.3	0.24	0.00	7.3	10
30	---	---	---	---	---	e104	0.47	47	0.10	0.00	14	9.7
31	---	---	---	---	---	e70	---	125	---	0.00	4.2	---
TOTAL	---	---	---	---	---	1,745.46	153.29	216.20	944.49	3.14	45.96	314.70
MEAN	---	---	---	---	---	56.3	5.11	6.97	31.5	0.10	1.48	10.5
MAX	---	---	---	---	---	640	45	125	176	1.4	14	52
MIN	---	---	---	---	---	0.00	0.37	0.12	0.10	0.00	0.00	0.23
AC-FT	---	---	---	---	---	3,460	304	429	1,870	6.2	91	624

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2004, BY WATER YEAR (WY)

MEAN	0.06	0.00	0.00	0.00	0.00	11.8	14.9	3.60	3.58	4.49	0.85	0.71
MAX	1.07	0.05	0.00	0.00	0.01	56.3	63.8	44.0	34.5	65.3	13.7	15.3
(WY)	(1966)	(1966)	(1965)	(1965)	(1981)	(2004)	(1997)	(1999)	(1968)	(1993)	(2001)	(1994)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
(WY)	(1965)	(1965)	(1965)	(1965)	(1965)	(1969)	(1991)	(1980)	(1973)	(1973)	(1967)	(1967)

05059600 MAPLE RIVER NEAR HOPE, ND—Continued

SUMMARY STATISTICS	WATER YEARS 1965 - 2004	
ANNUAL MEAN	a2.82	
HIGHEST ANNUAL MEAN	a5.55	1969
LOWEST ANNUAL MEAN	a0.002	1981
HIGHEST DAILY MEAN	640	Mar 28, 2004
LOWEST DAILY MEAN	0.00	Oct 1, 1964
ANNUAL SEVEN-DAY MINIMUM	0.00	Oct 1, 1964
MAXIMUM PEAK FLOW	b1,000	Mar 28, 2004
MAXIMUM PEAK STAGE	c8.83	Mar 31,1997
ANNUAL RUNOFF (AC-FT)	a2,040	
10 PERCENT EXCEEDS	2.5	
50 PERCENT EXCEEDS	0.00	
90 PERCENT EXCEEDS	0.00	

a Based on complete water years only (1965-82)
b Gage height, 6.98 ft
c Backwater from ice
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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
MAR													
25...	1345	135	--	--	--	223	10.0	0.5	--	--	--	--	--
28...	1615	561	--	--	--	373	3.0	3.5	--	--	--	--	--
APR													
02...	1435	23	7.6	7.8	944	984	15.0	4.0	350	71.7	40.7	11.7	2
MAY													
27...	1115	1.7	--	--	--	2,830	11.5	12.5	--	--	--	--	--
JUN													
22...	1220	2.6	--	--	--	1,680	20.5	16.0	--	--	--	--	--
JUL													
08...	1320	0.08	--	--	--	1,940	--	16.5	--	--	--	--	--
AUG													
09...	1125	0.01	7.1	7.4	2,510	2,500	15.1	15.8	1,100	202	134	3.50	3
SEP													
01...	1435	1.7	--	--	--	1,850	24.0	19.0	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
MAR													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
02...	73.9	31	154	26.9	0.18	21.8	299	618	39.8	2.5	70	<1	50
MAY													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
09...	234	32	468	53.7	0.34	36.0	967	1,880	0.03	3.8	70	1	200
SEP													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
MAR					
25...	--	--	--	--	--
28...	--	--	--	--	--
APR					
02...	40	<0.20	2	<1	260
MAY					
27...	--	--	--	--	--
JUN					
22...	--	--	--	--	--
JUL					
08...	--	--	--	--	--
AUG					
09...	3,660	<0.20	2	3	820
SEP					
01...	--	--	--	--	--

Remark codes used in this table:
< -- Less than

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 Creek, 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.--June 1956 to current year.

REVISED RECORDS.--WSP 1728: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,056.72 ft above National Geodetic Vertical Datum of 1929. 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 for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	2.4	e3.1	e2.6	e2.8	e3.2	1,280	24	129	24	25	4.1
2	1.5	2.3	e2.7	e2.5	e2.7	e3.0	1,150	23	400	19	21	3.9
3	1.5	2.3	e2.6	e2.7	e2.7	e2.8	1,060	21	825	17	20	3.9
4	1.5	2.4	e2.5	e2.4	e2.6	e3.0	987	20	1,010	16	20	5.8
5	1.8	2.1	e2.4	e2.4	e2.6	e3.2	905	19	1,040	14	17	5.7
6	2.8	2.1	e2.5	e2.4	e2.4	e3.2	826	17	901	18	19	5.6
7	2.6	e2.0	e2.5	e2.4	e2.7	e3.1	730	14	717	17	23	5.0
8	2.6	e2.0	e2.5	e2.4	e2.8	e3.9	634	13	578	16	25	4.7
9	3.0	e2.0	e2.5	e2.4	e2.6	e10	537	12	472	16	24	4.6
10	3.0	e2.0	e2.6	e2.4	e2.6	e25	439	11	392	15	22	4.9
11	4.4	e2.0	e2.7	e2.5	e2.8	e26	349	12	330	57	23	6.7
12	3.9	e2.7	e2.7	e2.6	e2.8	e10	277	17	276	90	23	5.4
13	4.2	e3.7	e2.6	e3.0	e2.8	e11	221	19	229	189	23	4.6
14	3.9	e3.4	e2.7	e2.5	e2.8	e15	172	64	189	263	19	4.3
15	4.5	e3.5	e2.8	e2.4	e2.8	e7.0	132	90	152	343	15	4.7
16	4.5	e3.6	e3.4	e2.3	e2.8	e8.6	106	70	118	347	15	5.5
17	4.5	e3.6	e2.8	e2.2	e2.8	e8.0	85	56	102	312	14	11
18	2.9	e3.3	e2.6	e2.4	e2.6	e10	74	44	103	298	11	21
19	2.7	e3.4	e2.6	e2.9	e2.5	e13	66	39	104	290	9.2	15
20	2.6	e3.2	e2.7	e2.7	e2.5	e32	61	36	101	271	7.7	12
21	2.9	e2.9	e2.6	e2.4	e2.5	87	57	33	94	248	6.7	11
22	3.1	e2.2	e2.5	e2.8	e2.4	176	50	32	85	230	6.2	11
23	3.1	e2.2	e2.6	e2.4	e2.4	259	46	32	79	213	5.8	14
24	2.9	e2.1	e2.6	e2.5	e2.4	304	43	34	71	179	5.1	16
25	2.7	e2.0	e2.5	e2.6	e2.5	312	41	35	59	133	4.8	21
26	2.5	e2.0	e2.5	e2.5	e2.8	346	38	32	49	88	4.6	21
27	2.5	e2.0	e2.6	e2.6	e2.6	410	35	31	44	61	4.5	21
28	2.6	e2.1	e2.5	e2.8	e3.0	541	34	30	40	52	4.3	20
29	2.7	e3.0	e2.5	e2.8	e3.0	744	30	32	32	44	4.3	19
30	2.7	e2.9	e2.4	e2.8	---	1,180	27	46	29	36	4.4	20
31	2.5	---	e2.5	e2.8	---	1,330	---	67	---	29	4.0	---
TOTAL	90.6	77.4	81.3	79.1	77.3	5,890.0	10,492	1,025	8,750	3,945	430.6	312.4
MEAN	2.92	2.58	2.62	2.55	2.67	190	350	33.1	292	127	13.9	10.4
MAX	4.5	3.7	3.4	3.0	3.0	1,330	1,280	90	1,040	347	25	21
MIN	1.5	2.0	2.4	2.2	2.4	2.8	27	11	29	14	4.0	3.9
AC-FT	180	154	161	157	153	11,680	20,810	2,030	17,360	7,820	854	620

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2004, BY WATER YEAR (WY)

MEAN	10.2	7.57	4.65	2.69	5.78	144	281	71.0	50.4	66.0	21.5	12.8
MAX	211	63.6	50.4	7.78	123	622	2,162	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	1.27	2.10	2.06	2.19	1.41	1.44	1.33	1.28
(WY)	(1993)	(1961)	(1961)	(1969)	(2002)	(1969)	(1991)	(1992)	(1961)	(1961)	(1961)	(1984)

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1956 - 2004	
ANNUAL TOTAL	10,094.5		31,250.7			
ANNUAL MEAN	27.7		85.4		56.7	
HIGHEST ANNUAL MEAN					242	1997
LOWEST ANNUAL MEAN					2.14	1990
HIGHEST DAILY MEAN	392	Jul 1	1,330	Mar 31	5,450	Jun 30, 1975
LOWEST DAILY MEAN	1.5	Oct 2	1.5	Oct 2	0.10	Dec 7, 1963
ANNUAL SEVEN-DAY MINIMUM	2.0	Oct 1	2.0	Oct 1	0.67	Dec 7, 1963
MAXIMUM PEAK FLOW			1,380	Mar 31	7,610	Jun 30, 1975
MAXIMUM PEAK STAGE			8.93	Mar 31	15.41	Jun 30, 1975
ANNUAL RUNOFF (AC-FT)	20,020		61,990		41,110	
10 PERCENT EXCEEDS	86		272		90	
50 PERCENT EXCEEDS	3.6		5.8		4.0	
90 PERCENT EXCEEDS	2.5		2.4		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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
08...	1540	2.7	--	--	--	1,830	27.5	16.5	--	--	--	--	--
NOV													
04...	1545	2.7	--	--	--	1,860	-3.0	1.0	--	--	--	--	--
DEC													
18...	1620	2.9	--	--	--	1,960	-3.0	1.5	--	--	--	--	--
JAN													
27...	1710	2.8	--	--	--	1,930	-19.5	0.0	--	--	--	--	--
MAR													
11...	1715	24	--	--	--	963	-7.0	0.0	--	--	--	--	--
23...	1545	255	--	--	--	408	11.0	1.5	--	--	--	--	--
31...	1820	1,350	7.6	7.2	925	920	9.0	7.5	360	79.8	38.6	16.2	1
MAY													
06...	1350	18	--	--	--	1,900	15.5	15.5	--	--	--	--	--
JUN													
15...	1715	148	--	--	--	1,510	--	20.0	--	--	--	--	--
AUG													
03...	1440	22	7.6	7.6	1,570	1,560	25.0	21.5	500	117	50.3	12.7	3
SEP													
17...	1005	12	--	--	--	2,520	18.5	15.0	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
31...	55.6	24	130	35.3	0.16	23.9	281	587	2,220	5.8	80	<1	50
MAY													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
03...	147	38	299	92.3	0.45	27.5	425	1,030	61.7	7.4	<10	<1	90
SEP													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--

05059700 MAPLE RIVER NEAR ENDERLIN, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
08...	--	--	--	--	--
NOV					
04...	--	--	--	--	--
DEC					
18...	--	--	--	--	--
JAN					
27...	--	--	--	--	--
MAR					
11...	--	--	--	--	--
23...	--	--	--	--	--
31...	110	<0.20	2	7	300
MAY					
06...	--	--	--	--	--
JUN					
15...	--	--	--	--	--
AUG					
03...	410	<0.20	4	3	490
SEP					
17...	--	--	--	--	--

Remark codes used in this table:
< -- Less than

05060000 MAPLE RIVER NEAR MAPLETON, ND

LOCATION.--Lat 46°51'58", long 97°06'22", in SW¼NE¼ sec.10, T.139 N., R.51 W., Cass County, Hydrologic Unit 09020204, on right bank upstream of county bridge and 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 current year (seasonal). Record not equivalent to extreme high flows to station 05060100 that was operated from April 1944 to September 1958 (7 mi downstream) published as "at Mapleton" and March 1995 to present (9 mi downstream) published as "below Mapleton".

GAGE.--Water-stage recorder and rubble masonary dam. Datum of gage is 886.43 ft above National Geodetic Vertical Datum of 1929 (survey by North Dakota State Water Commission, 2004), revised. Prior to Oct. 1, 2001, at datum 7.10 ft higher.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,450 ft^3/s, July 13, gage height, 16.61 ft; minimum daily discharge, 4.5 ft^3/s, Mar. 1-2.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e4.5	887	69	546	45	92	7.1
2	---	---	---	---	---	e4.5	1,130	64	580	40	85	8.0
3	---	---	---	---	---	e4.6	1,280	63	340	35	79	6.8
4	---	---	---	---	---	e4.6	1,290	52	319	29	68	8.9
5	---	---	---	---	---	e4.7	1,190	54	567	27	57	20
6	---	---	---	---	---	e4.7	1,080	43	820	32	52	47
7	---	---	---	---	---	e5.0	976	46	954	38	65	42
8	---	---	---	---	---	e5.4	874	41	944	33	61	25
9	---	---	---	---	---	e6.0	736	40	796	32	57	19
10	---	---	---	---	---	e7.2	606	37	609	64	54	12
11	---	---	---	---	---	e10	499	52	462	530	49	7.2
12	---	---	---	---	---	e24	412	89	358	1,220	47	5.7
13	---	---	---	---	---	e48	336	84	282	1,420	44	5.5
14	---	---	---	---	---	e58	281	65	239	1,280	42	4.7
15	---	---	---	---	---	e62	237	65	207	886	40	4.9
16	---	---	---	---	---	e66	198	55	177	595	37	8.9
17	---	---	---	---	---	e72	168	73	151	451	35	11
18	---	---	---	---	---	e70	144	100	127	399	29	10
19	---	---	---	---	---	e98	132	95	110	355	26	10
20	---	---	---	---	---	e180	122	99	100	328	22	9.1
21	---	---	---	---	---	e250	111	84	96	329	21	7.0
22	---	---	---	---	---	e275	106	78	94	326	18	25
23	---	---	---	---	---	e296	98	77	91	309	16	29
24	---	---	---	---	---	e302	96	71	92	266	16	30
25	---	---	---	---	---	e321	88	66	87	236	14	34
26	---	---	---	---	---	e440	83	64	82	210	15	36
27	---	---	---	---	---	e690	82	61	76	182	14	26
28	---	---	---	---	---	e590	79	64	70	157	11	26
29	---	---	---	---	---	e520	75	60	62	138	11	30
30	---	---	---	---	---	e620	73	65	54	117	8.8	30
31	---	---	---	---	---	684	---	167	---	103	8.0	---
TOTAL	---	---	---	---	---	5,727.2	13,469	2,143	9,492	10,212	1,193.8	545.8
MEAN	---	---	---	---	---	185	449	69.1	316	329	38.5	18.2
MAX	---	---	---	---	---	690	1,290	167	954	1,420	92	47
MIN	---	---	---	---	---	4.5	73	37	54	27	8.0	4.7
AC-FT	---	---	---	---	---	11,360	26,720	4,250	18,830	20,260	2,370	1,080

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2004, BY WATER YEAR (WY)

MEAN	12.3	11.0	4.22	1.24	0.72	136	489	140	119	218	33.5	18.2
MAX	49.1	36.2	12.2	4.30	4.85	1,040	1,708	428	478	2,375	267	65.8
(WY)	(1972)	(1972)	(1963)	(1973)	(1973)	(1966)	(1969)	(1970)	(1970)	(1975)	(1962)	(1962)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	13.9	8.35	1.71	0.00	0.00	0.00
(WY)	(1961)	(1961)	(1961)	(1959)	(1959)	(1969)	(1959)	(1959)	(1961)	(1961)	(1960)	(1959)

05060000 MAPLE RIVER NEAR MAPLETON, ND—Continued

SUMMARY STATISTICS	WATER YEARS 1958 - 2004	
ANNUAL MEAN	a95.8	
HIGHEST ANNUAL MEAN	a374	
LOWEST ANNUAL MEAN	a5.98	
HIGHEST DAILY MEAN	11,300	Jul 2, 1975
LOWEST DAILY MEAN	0.00	Dec 13, 1958
ANNUAL SEVEN-DAY MINIMUM	0.00	Dec 13, 1958
MAXIMUM PEAK FLOW	11,600	Jul 2, 1975
MAXIMUM PEAK STAGE	23.03	Jul 2, 1975
ANNUAL RUNOFF (AC-FT)	a69,430	
10 PERCENT EXCEEDS	149	
50 PERCENT EXCEEDS	7.4	
90 PERCENT EXCEEDS	0.00	

a Based on complete water years only (1959-75)
e Estimated

05060000 MAPLE RIVER NEAR MAPLETON, ND—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2001 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
07...	0920	3.7	--	--	--	1,610	11.0	12.5	--	--	--	--	--
MAR													
23...	1300	291	--	--	--	651	6.0	0.5	--	--	--	--	--
APR													
02...	1600	1,140	7.2	7.3	939	950	16.5	8.5	380	83.8	40.2	16.5	1
28...	1425	81	--	--	--	1,650	33.0	16.0	--	--	--	--	--
JUN													
09...	1450	795	--	--	--	1,300	21.5	21.0	--	--	--	--	--
JUL													
15...	1300	867	--	--	--	480	26.5	26.0	--	--	--	--	--
AUG													
02...	1640	87	7.8	8.1	1,140	1,110	26.5	26.5	420	96.0	43.6	11.0	2
SEP													
04...	1255	4.6	--	--	--	1,230	19.0	21.0	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
02...	56.9	24	142	36.7	0.17	23.5	283	604	1,930	5.2	40	<1	50
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
02...	94.2	32	258	32.3	0.23	29.2	312	746	182	13.0	40	<1	60
SEP													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
07...	--	--	--	--	--
MAR					
23...	--	--	--	--	--
APR					
02...	470	<0.20	3	5	320
28...	--	--	--	--	--
JUN					
09...	--	--	--	--	--
JUL					
15...	--	--	--	--	--
AUG					
02...	10	<0.20	4	2	390
SEP					
04...	--	--	--	--	--

Remark codes used in this table:
< -- Less than

05060100 MAPLE RIVER BELOW MAPLETON, ND

LOCATION.--Lat 46°54'19", long 97°03'08", in NW¼NW¼NW¼ 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 1958, 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 beginnning in March 2001.

GAGE.--Water-stage recorder. Datum of gage is 880.43 ft above National Geodetic Vertical Datum of 1929 (surveyed by North Dakota State Water Commission, 2004), revised. From Feb. 16, 1944, to Sept. 30, 1958, nonrecording gage at site 2 mi upstream at datum 6.34 ft higher.

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	11	e7.0	e5.6	e2.7	e4.6	807	61	595	47	96	11
2	3.1	11	e7.0	e5.0	e2.7	e4.6	1,000	58	726	40	85	9.0
3	3.3	11	e7.0	e4.4	e2.7	e4.7	1,140	52	474	37	80	8.4
4	3.2	e10	e7.0	e4.2	e2.7	e4.7	1,180	50	388	35	67	8.0
5	3.0	e9.0	e7.0	e4.2	e2.8	e4.8	1,130	44	577	32	55	9.8
6	2.7	e8.4	e7.0	e4.0	e2.9	e4.9	1,050	47	804	38	51	16
7	2.4	e7.8	e6.8	e4.1	e3.0	e5.0	976	46	923	38	56	37
8	2.2	e7.6	e6.4	e4.2	e3.0	e5.4	890	44	946	36	57	41
9	2.2	7.6	e6.2	e4.2	e3.0	e5.8	778	44	856	34	50	27
10	1.9	7.1	e6.0	e4.4	e3.0	e7.0	670	43	693	45	51	18
11	3.4	7.1	e6.0	e4.5	e3.0	e9.0	579	74	551	563	46	12
12	5.2	7.4	e6.0	e4.6	e3.1	e17	497	108	432	1,180	43	8.6
13	6.2	8.4	e6.0	e4.6	e3.1	e42	423	108	358	1,460	41	6.5
14	8.1	9.6	e6.0	e4.4	e3.2	e56	361	69	311	1,340	38	5.2
15	10	10	e6.0	e4.2	e3.2	e64	297	59	271	1,010	36	5.6
16	12	11	e6.0	e3.8	e3.4	e68	243	58	231	681	35	5.5
17	13	13	e6.0	e3.7	e3.6	e71	204	59	191	529	32	9.0
18	12	13	e6.0	e3.6	e3.8	e74	171	99	160	471	29	12
19	12	13	e6.1	e3.5	e4.0	e98	146	107	130	429	23	11
20	9.1	e12	e6.1	e3.4	e4.2	e170	130	118	109	389	22	12
21	8.9	e13	e6.2	e3.4	e4.3	e235	120	110	105	395	21	10
22	9.8	e12	e6.2	e3.3	e4.3	e271	108	85	e100	387	20	14
23	10	e10	e6.1	e3.3	e4.3	e285	100	87	e95	380	19	26
24	7.7	e8.8	e6.0	e3.2	e4.4	e306	90	79	e95	337	18	24
25	6.6	e8.0	e6.0	e3.1	e4.4	e319	79	69	e88	293	15	25
26	7.0	e7.0	e6.0	e3.0	e4.5	e400	74	62	83	261	13	31
27	7.5	e7.2	e5.9	e3.0	e4.5	e689	69	63	75	224	13	36
28	6.6	e8.0	e5.8	e2.9	e4.6	e623	71	64	66	190	13	32
29	7.9	e7.6	e5.6	e2.8	e4.6	e551	70	71	58	161	12	34
30	10	e7.4	e5.4	e2.8	---	649	67	73	52	137	11	37
31	11	---	e5.7	e2.8	---	672	---	169	---	115	11	---
TOTAL	211.0	284.0	192.5	118.2	103.0	5,720.5	13,520	2,280	10,543	11,314	1,159	541.6
MEAN	6.81	9.47	6.21	3.81	3.55	185	451	73.5	351	365	37.4	18.1
MAX	13	13	7.0	5.6	4.6	689	1,180	169	946	1,460	96	41
MIN	1.9	7.0	5.4	2.8	2.7	4.6	67	43	52	32	11	5.2
AC-FT	419	563	382	234	204	11,350	26,820	4,520	20,910	22,440	2,300	1,070

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 2004, BY WATER YEAR (WY)

MEAN	15.4	24.9	12.2	4.55	17.0	215	543	179	149	96.1	18.8	31.7
MAX	96.5	256	125	20.7	288	1,376	2,956	1,035	867	373	57.0	401
(WY)	(1999)	(2001)	(1999)	(1999)	(1998)	(1998)	(1997)	(1999)	(2000)	(2000)	(2001)	(1999)
MIN	0.00	1.75	0.63	0.02	0.00	0.00	21.0	6.30	6.52	2.90	0.04	0.00
(WY)	(1953)	(1953)	(1956)	(1956)	(1945)	(1956)	(1953)	(1955)	(1954)	(1956)	(1946)	(1949)

05060100 MAPLE RIVER BELOW MAPLETON, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1944 - 2004	
ANNUAL TOTAL	22,716.91		45,986.8			
ANNUAL MEAN	62.2		126		108	
HIGHEST ANNUAL MEAN					343	1999
LOWEST ANNUAL MEAN					11.1	1954
HIGHEST DAILY MEAN	743	Jun 30	1,460	Jul 13	6,620	Apr 16, 1997
LOWEST DAILY MEAN	0.95	Mar 9	1.9	Oct 10	0.00	Jan 16, 1945
ANNUAL SEVEN-DAY MINIMUM	0.97	Mar 6	2.5	Oct 4	0.00	Jan 16, 1945
MAXIMUM PEAK FLOW			1,480	Jul 13	a7,150	Apr 16, 1997
MAXIMUM PEAK STAGE			16.92	Jul 13	b24.96	Apr 8, 1997
INSTANTANEOUS LOW FLOW					0.00	Jan 16, 1945
ANNUAL RUNOFF (AC-FT)	45,060		91,210		78,080	
10 PERCENT EXCEEDS	225		430		182	
50 PERCENT EXCEEDS	9.6		13		11	
90 PERCENT EXCEEDS	1.9		3.4		0.10	

a Gage height, 23.76 ft
b Observed, backwater from ice; may have been higher during period of no gage-height record, April 6-9, 1997
e Estimated

05060100 MAPLE RIVER BELOW MAPLETON, ND—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1995 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
06...	1510	2.7	--	--	--	1,510	28.5	16.0	--	--	--	--	--
31...	1200	11	--	--	--	1,690	2.5	3.0	--	--	--	--	--
DEC													
22...	1200	6.2	--	--	--	2,800	-1.0	-0.5	--	--	--	--	--
JAN													
23...	1650	3.3	--	--	--	2,340	-20.0	0.0	--	--	--	--	--
MAR													
09...	1620	5.8	--	--	--	1,520	5.5	0.5	--	--	--	--	--
23...	1125	284	--	--	--	583	4.0	0.0	--	--	--	--	--
26...	0930	397	--	--	--	496	-1.5	0.0	--	--	--	--	--
APR													
07...	1220	948	7.5	7.4	851	857	13.0	10.4	350	79.5	36.0	14.0	1
28...	1650	68	--	--	--	1,560	27.0	16.0	--	--	--	--	--
JUN													
09...	1745	836	--	--	--	1,300	21.0	21.5	--	--	--	--	--
JUL													
12...	2005	1,380	--	--	--	308	--	25.0	--	--	--	--	--
15...	1725	932	--	--	--	515	26.5	27.0	--	--	--	--	--
AUG													
03...	1000	81	7.8	8.2	1,120	1,090	20.5	24.0	420	94.8	43.2	11.2	2
SEP													
04...	1515	11	--	--	--	1,220	20.0	20.5	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
07...	47.2	22	142	23.7	0.20	25.0	260	548	1,460	4.1	50	<1	40
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
03...	91.4	32	261	31.1	0.24	28.7	307	737	168	14.1	--	<1	60
SEP													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--

05060100 MAPLE RIVER BELOW MAPLETON, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
06...	--	--	--	--	--
31...	--	--	--	--	--
DEC					
22...	--	--	--	--	--
JAN					
23...	--	--	--	--	--
MAR					
09...	--	--	--	--	--
23...	--	--	--	--	--
26...	--	--	--	--	--
APR					
07...	100	<0.20	3	<1	300
28...	--	--	--	--	--
JUN					
09...	--	--	--	--	--
JUL					
12...	--	--	--	--	--
15...	--	--	--	--	--
AUG					
03...	<10	<0.20	4	2	390
SEP					
04...	--	--	--	--	--

Remark codes used in this table:
< -- Less than

05060400 SHEYENNE RIVER AT HARWOOD, ND

LOCATION.--Lat 46°58'39", long 96°53'29", in SW¼SE¼SW¼ 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 National Geodetic Vertical Datum of 1929. Nonrecording gage at same site and datum from March 1995 to March 1997.

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 3,800 ft^3/s, Apr. 12, gage height, 79.83 ft.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66.84	67.48	67.92	68.22	68.60	68.95	74.71	---	74.48	72.18	68.94	67.75
2	66.86	67.51	67.81	68.25	68.63	69.14	75.75	---	---	71.70	68.83	67.75
3	66.84	67.49	67.80	68.30	68.71	68.89	77.00	---	---	71.41	---	67.74
4	66.82	67.60	67.92	---	68.74	68.86	78.40	71.11	---	71.13	---	67.75
5	66.83	67.49	67.94	---	68.68	68.95	78.98	70.99	---	70.72	68.42	68.33
6	66.84	67.46	67.89	68.31	68.71	69.01	79.24	70.85	---	71.06	68.34	69.97
7	66.84	67.38	67.93	68.37	68.79	69.04	79.28	70.77	---	71.36	68.57	71.50
8	66.98	67.32	67.94	68.29	68.74	69.12	79.36	70.70	78.98	71.09	68.60	---
9	67.12	67.44	68.01	68.15	68.66	69.22	79.44	70.56	79.28	70.56	68.41	---
10	67.11	67.54	67.95	68.19	68.81	69.45	79.63	70.22	78.92	70.05	68.30	68.92
11	67.30	67.63	67.98	68.10	68.93	69.33	79.50	70.13	78.26	73.59	68.22	68.57
12	67.30	67.86	67.94	68.12	68.85	69.28	79.66	70.67	77.91	76.85	68.17	68.38
13	67.19	67.91	67.88	68.22	68.79	69.49	79.77	70.66	77.52	78.64	68.16	68.26
14	67.15	67.92	67.85	68.32	68.80	70.06	79.68	70.31	77.15	78.28	68.25	68.27
15	67.14	67.89	67.85	68.43	68.77	70.44	79.67	70.01	76.78	76.61	68.17	68.54
16	67.09	67.88	67.87	68.42	68.82	70.71	79.66	69.82	76.55	74.87	68.07	69.23
17	67.08	67.83	67.87	68.44	68.79	70.81	79.63	69.81	76.40	73.73	68.08	69.41
18	67.10	67.73	67.91	68.52	68.72	71.02	79.57	70.29	76.24	72.98	68.16	69.43
19	67.21	67.85	67.93	68.48	68.72	71.51	79.40	71.00	75.98	72.59	68.11	69.44
20	67.37	67.86	67.94	68.38	68.93	72.39	79.09	71.19	75.31	72.31	68.06	69.49
21	67.38	67.85	67.97	68.37	68.89	72.88	78.48	71.24	74.56	72.34	67.99	69.40
22	67.37	68.17	67.97	68.46	68.75	74.01	77.22	71.07	74.38	72.20	67.93	69.13
23	67.39	68.17	68.02	68.32	68.71	74.60	76.24	70.96	73.58	72.03	67.87	69.02
24	67.40	68.15	68.04	68.35	68.67	74.95	75.78	70.82	73.09	71.78	68.08	69.14
25	67.42	67.75	68.06	68.44	68.61	75.59	75.40	70.55	72.88	71.47	67.99	69.19
26	67.38	67.52	68.10	68.38	68.63	76.20	75.05	70.21	72.79	71.09	67.97	69.29
27	67.41	67.61	68.16	68.45	68.69	76.50	---	69.98	72.67	70.64	67.96	69.17
28	67.45	67.84	68.25	68.47	68.94	77.26	---	70.02	72.52	70.24	67.87	68.91
29	67.41	68.06	68.23	68.54	68.87	77.66	---	69.86	72.47	69.82	67.83	68.66
30	67.44	68.07	68.22	68.37	---	76.02	---	70.27	72.52	69.44	67.93	68.78
31	67.46	---	68.21	68.45	---	---	---	72.71	---	69.16	67.77	---
MEAN	67.18	67.74	67.98	---	68.76	---	---	---	---	72.32	---	---
MAX	67.46	68.17	68.25	---	68.94	---	---	---	---	78.64	---	---
MIN	66.82	67.32	67.80	---	68.60	---	---	---	---	69.16	---	---

Miscellaneous discharge measurement for Sheyenne River at Harwood

Date	Discharge
April 7, 2004	3,500
April16, 2004	3,740

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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
APR													
07...	1815	3,500	7.9	7.9	913	932	7.5	9.0	330	67.2	38.6	11.7	2
16...	1115	3,740	--	--	--	658	--	7.5	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
APR													
07...	79.1	33	248	19.8	0.21	22.8	233	601	5,880	4.6	30	<1	60
16...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
APR					
07...	90	<0.20	3	2	310
16...	--	--	--	--	--

Remark codes used in this table:
< -- Less than

05060500 RUSH RIVER AT AMENIA, ND

LOCATION.--Lat 47°01'00", long 97°12'50", in SE¼NW¼ 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.--August 1946 to current year.

REVISED RECORDS.--WSP 1728: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 943 ft above National Geodetic Vertical Datum of 1929, from topographic map. See WSP 1913 for history of changes prior to June 10, 1961.

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.24	1.5	e1.1	e0.59	e0.34	e0.88	164	5.2	348	0.71	5.8	0.07
2	0.20	1.4	e1.1	e0.56	e0.32	e0.92	119	4.3	308	0.76	5.3	0.09
3	0.16	1.5	e0.95	e0.57	e0.36	e1.0	90	3.9	121	1.3	4.9	0.09
4	0.13	1.5	e0.93	e0.60	e0.36	e1.0	74	4.2	68	1.9	6.1	0.23
5	0.10	1.5	e0.93	e0.54	e0.42	e1.0	62	3.8	47	2.3	7.0	0.85
6	0.07	1.4	e0.88	e0.53	e0.43	e1.0	49	3.2	35	2.1	5.5	1.6
7	0.05	1.3	e0.92	e0.52	e0.45	e1.1	43	2.6	25	2.6	4.6	1.7
8	0.04	1.2	e0.88	e0.46	e0.43	e1.0	37	2.9	19	6.1	3.3	2.9
9	0.03	1.1	e0.90	e0.51	e0.47	e1.1	32	3.2	15	6.0	4.0	2.6
10	0.03	1.1	e0.78	e0.54	e0.45	e1.2	26	3.1	12	7.9	4.7	1.8
11	0.08	1.1	e0.78	e0.55	e0.46	e1.2	22	4.5	9.6	582	4.0	1.4
12	0.11	1.2	e0.79	e0.50	e0.49	e1.4	19	18	12	432	3.2	1.3
13	0.19	1.2	e0.80	e0.50	e0.48	e1.9	14	33	12	225	2.4	1.1
14	0.26	1.3	e0.78	e0.46	e0.45	e2.1	14	21	7.8	105	1.7	1.1
15	0.27	1.5	e0.71	e0.46	e0.51	e3.0	13	15	6.5	54	1.4	1.1
16	0.72	1.6	e0.66	e0.44	e0.47	e3.8	13	11	5.7	33	1.1	1.1
17	0.96	1.8	e0.59	e0.42	e0.48	e4.7	11	9.4	6.2	23	0.86	2.6
18	0.67	2.1	e0.59	e0.40	e0.49	e5.8	11	8.0	5.6	18	0.80	3.8
19	0.52	2.6	e0.57	e0.41	e0.53	e7.5	11	7.3	4.5	22	0.57	3.2
20	0.48	2.9	e0.58	e0.45	e0.56	e10	11	7.5	3.6	36	0.39	2.9
21	0.36	2.8	e0.54	e0.42	e0.60	e23	11	8.1	3.0	28	0.34	3.1
22	0.34	2.7	e0.50	e0.41	e0.63	e48	11	10	2.6	20	0.34	6.0
23	0.34	2.4	e0.50	e0.36	e0.60	e56	11	7.7	2.5	16	0.13	5.6
24	0.34	2.2	e0.50	e0.37	e0.64	e220	10	6.8	2.2	12	0.23	6.4
25	0.28	1.8	e0.47	e0.37	e0.70	e300	8.3	7.4	1.8	9.5	0.91	7.5
26	0.33	1.6	e0.50	e0.37	e0.74	e330	7.5	9.7	1.7	7.7	0.36	7.9
27	0.41	1.4	e0.52	e0.41	e0.81	332	7.1	9.6	1.6	6.6	0.17	6.0
28	0.41	1.4	e0.55	e0.34	e0.81	945	6.6	7.5	1.4	6.1	0.15	4.4
29	0.46	1.3	e0.52	e0.34	e0.84	707	5.8	6.4	1.3	6.1	0.11	3.3
30	0.59	e1.2	e0.63	e0.34	---	345	5.1	6.6	0.96	5.3	0.09	2.8
31	1.3	---	e0.52	e0.34	---	236	---	44	---	5.1	0.09	---
TOTAL	10.47	49.6	21.97	14.08	15.32	3,593.60	918.4	294.9	1,090.56	1,684.07	70.54	84.53
MEAN	0.34	1.65	0.71	0.45	0.53	116	30.6	9.51	36.4	54.3	2.28	2.82
MAX	1.3	2.9	1.1	0.60	0.84	945	164	44	348	582	7.0	7.9
MIN	0.03	1.1	0.47	0.34	0.32	0.88	5.1	2.6	0.96	0.71	0.09	0.07
AC-FT	21	98	44	28	30	7,130	1,820	585	2,160	3,340	140	168

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2004, BY WATER YEAR (WY)

MEAN	2.16	1.62	0.64	0.23	1.76	29.8	70.0	14.3	14.4	12.6	1.40	2.19
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	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.12	0.01	0.00	0.00	0.00
(WY)	(1949)	(1953)	(1950)	(1947)	(1947)	(1948)	(1981)	(1955)	(1988)	(1955)	(1946)	(1946)

05060500 RUSH RIVER AT AMENIA, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1946 - 2004	
ANNUAL TOTAL	3,145.55		7,848.04			
ANNUAL MEAN	8.62		21.4		12.6	
HIGHEST ANNUAL MEAN					62.9	1997
LOWEST ANNUAL MEAN					0.68	1977
HIGHEST DAILY MEAN	540	Jun 26	945	Mar 28	3,160	Apr 19, 1979
LOWEST DAILY MEAN	0.00	Mar 2	0.03	Oct 9	0.00	Aug 1, 1946
ANNUAL SEVEN-DAY MINIMUM	0.00	Mar 2	0.06	Oct 5	0.00	Aug 1, 1946
MAXIMUM PEAK FLOW			1,070	Mar 28	a3,490	Apr 19, 1979
MAXIMUM PEAK STAGE			9.08	Mar 28	b12.15	Mar 23, 1966
ANNUAL RUNOFF (AC-FT)	6,240		15,570		9,110	
10 PERCENT EXCEEDS	16		25		16	
50 PERCENT EXCEEDS	0.80		1.5		0.20	
90 PERCENT EXCEEDS	0.00		0.34		0.00	

a Gage height, 10.37 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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
NOV													
03...	1205	1.4	--	--	--	1,450	-2.0	2.5	--	--	--	--	--
DEC													
22...	1350	0.48	--	--	--	1,080	-1.0	0.0	--	--	--	--	--
FEB													
02...	1410	0.32	--	--	--	1,940	-17.5	0.0	--	--	--	--	--
MAR													
08...	1700	1.0	--	--	--	1,610	2.0	0.0	--	--	--	--	--
29...	1320	716	7.8	7.0	563	560	4.5	4.5	240	58.6	23.4	10.4	0.5
APR													
02...	1535	107	--	--	--	595	16.5	8.0	--	--	--	--	--
MAY													
07...	1005	2.5	--	--	--	982	12.5	12.0	--	--	--	--	--
JUN													
17...	1340	6.3	--	--	--	1,080	--	20.0	--	--	--	--	--
JUL													
13...	1030	206	--	--	--	453	18.3	23.0	--	--	--	--	--
AUG													
04...	0950	5.5	7.5	8.2	957	950	20.7	21.5	480	111	48.5	8.40	0.7
SEP													
01...	1157	0.06	--	--	--	1,060	20.5	19.0	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
NOV													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
29...	19.3	14	104	7.5	0.19	18.1	149	333	676	3.3	70	<1	40
APR													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
04...	36.9	14	266	9.7	0.27	13.8	261	638	9.74	10.5	--	7	80
SEP													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--

05060500 RUSH RIVER AT AMENIA, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
NOV					
03...	--	--	--	--	--
DEC					
22...	--	--	--	--	--
FEB					
02...	--	--	--	--	--
MAR					
08...	--	--	--	--	--
29...	180	<0.20	2	<1	230
APR					
02...	--	--	--	--	--
MAY					
07...	--	--	--	--	--
JUN					
17...	--	--	--	--	--
JUL					
13...	--	--	--	--	--
AUG					
04...	140	<0.20	3	2	480
SEP					
01...	--	--	--	--	--

Remark codes used in this table:
< -- Less than

05064500 RED RIVER OF THE NORTH AT HALSTAD, MN

LOCATION.--Lat 47°21'10", long 96°50'50", sec.25, T.145 N., R.49 W., Traill County, Hydrologic Unit 09020107, on left bank on downstream 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), June 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 estimated daily discharges, 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	271	379	e380	e370	e305	e420	11,000	2,000	8,170	1,980	1,370	509
2	264	377	e370	e370	e305	e445	8,950	1,870	9,970	1,900	1,190	465
3	259	380	e360	e385	e310	e475	7,240	1,780	10,700	1,780	e1,100	441
4	259	401	e350	e390	e315	e510	6,260	1,700	10,500	1,690	e1,030	430
5	256	409	e350	e390	e315	e540	5,720	1,580	9,960	1,690	e950	421
6	261	444	e340	e390	e320	e560	5,520	1,450	9,490	1,630	e930	977
7	286	471	e340	e390	e325	e570	5,450	1,370	9,010	1,760	e1,100	4,220
8	299	446	e330	e390	e330	e600	5,300	1,310	8,300	1,970	1,280	6,310
9	308	439	e330	e375	e330	e670	5,200	1,290	7,540	1,860	1,380	6,040
10	311	432	e320	e360	e330	e735	5,160	1,270	6,740	1,870	1,340	5,240
11	333	445	e300	e355	e330	e750	5,190	1,290	6,010	2,250	1,280	4,300
12	364	e460	e295	e355	e330	e760	5,160	1,960	5,470	4,400	1,230	3,520
13	483	e495	e290	e360	e330	e790	5,080	2,880	5,170	6,800	1,190	3,050
14	434	e525	e290	e360	e325	e850	5,020	3,310	5,010	7,180	1,160	2,690
15	e375	e560	e285	e355	e325	e950	4,930	3,190	4,920	6,310	e1,090	2,340
16	e370	e595	e285	e350	e325	e1,040	4,860	2,980	4,850	5,310	e1,000	2,070
17	e360	e628	e280	e340	e330	e1,140	4,800	2,800	4,720	4,520	e910	1,920
18	e370	e650	e285	e330	e330	e1,250	4,750	2,650	4,560	4,060	e845	1,730
19	e380	e650	e290	e325	e335	e1,350	4,740	2,570	4,370	3,610	e800	1,600
20	e390	e660	e295	e325	e340	e1,550	4,790	2,550	4,200	3,150	e700	1,550
21	389	e665	e300	e325	e340	e1,750	4,800	2,540	3,920	2,890	e660	1,670
22	407	e510	e305	e325	e350	e2,610	4,620	2,410	3,570	2,680	e640	1,740
23	410	e415	e310	e325	e355	e3,350	4,150	2,240	3,320	2,550	e680	1,690
24	416	e365	e320	e325	e365	e4,900	3,650	2,110	3,060	2,410	e755	1,960
25	403	e420	e330	e325	e370	e6,200	3,350	2,030	2,840	2,260	e720	2,740
26	388	e475	e340	e320	e380	e9,600	3,140	1,980	2,620	2,080	707	3,530
27	377	e475	e350	e320	e385	e12,100	2,940	1,890	2,430	1,900	683	4,110
28	371	e445	e360	e315	e395	e16,800	2,710	1,820	2,270	1,740	696	4,420
29	372	e410	e365	e310	e405	e18,000	2,460	1,770	2,130	1,660	720	4,440
30	383	e400	e370	e305	---	15,100	2,190	1,960	2,050	1,660	641	4,160
31	374	---	e370	e305	---	12,900	---	5,050	---	1,580	550	---
TOTAL	10,923	14,426	10,085	10,765	9,830	119,265	149,130	67,600	167,870	89,130	29,327	80,283
MEAN	352	481	325	347	339	3,847	4,971	2,181	5,596	2,875	946	2,676
MAX	483	665	380	390	405	18,000	11,000	5,050	10,700	7,180	1,380	6,310
MIN	256	365	280	305	305	420	2,190	1,270	2,050	1,580	550	421
AC-FT	21,670	28,610	20,000	21,350	19,500	236,600	295,800	134,100	333,000	176,800	58,170	159,200

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2004, BY WATER YEAR (WY)

MEAN	878	898	669	528	563	2,617	7,922	4,002	3,208	3,078	1,226	918
MAX	2,875	5,707	2,413	1,240	1,952	9,444	38,460	15,570	10,480	20,060	11,700	4,705
(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)

05064500 RED RIVER OF THE NORTH AT HALSTAD, MN—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1961 - 2004	
ANNUAL TOTAL	561,006		758,634			
ANNUAL MEAN	1,537		2,073		2,223	
HIGHEST ANNUAL MEAN					6,028	1997
LOWEST ANNUAL MEAN					214	1977
HIGHEST DAILY MEAN	11,800	Jun 29	18,000	Mar 29	69,900	Apr 19, 1997
LOWEST DAILY MEAN	225	Sep 12	256	Oct 5	10	Sep 2, 1976
ANNUAL SEVEN-DAY MINIMUM	245	Sep 7	265	Oct 1	17	Aug 28, 1976
MAXIMUM PEAK FLOW			a18,200	Mar 29	71,500	Apr 19, 1997
MAXIMUM PEAK STAGE			b24.75	Mar 29	40.74	Apr 19, 1997
INSTANTANEOUS LOW FLOW					5.4	Oct 8, 1936
ANNUAL RUNOFF (AC-FT)	1,113,000		1,505,000		1,611,000	
10 PERCENT EXCEEDS	3,730		5,180		4,940	
50 PERCENT EXCEEDS	628		822		910	
90 PERCENT EXCEEDS	296		320		235	

a About
b Backwater from ice
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 fair and incomplete because of poor circulation in sampling well. Monitor moved outside of well on Sept. 4.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Maximum recorded, 29.0°C, Aug. 8, 2001; minimum recorded, -0.4°C, Feb. 2 and Mar. 2, 2004.
SPECIFIC CONDUCTANCE: Maximum recorded, 1,170 microsiemens, Dec. 31, 1998; minimum recorded, 235 microsiemens, June 21, 2000.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 23.7°C, July 3; minimum recorded, -0.4°C, Feb. 2 and Mar. 2.
SPECIFIC CONDUCTANCE: Maximum recorded, 1,170 microsiemens, Jan. 7; minimum recorded, 331 microsiemens, Mar. 28.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Discharge, cfs (00060)	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
APR													
07...	1230	--	5,460	--	--	--	--	8.1	7.8	886	894	10.5	9.5
MAY													
12...	1430	1,960	--	370	730	9.7	92	8.3	8.2	669	653	8.5	11.0
SEP													
09...	1530	--	6,030	--	--	--	--	7.8	7.3	391	394	23.0	18.5

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)
APR													
07...	340	72.2	38.9	10.7	1	61.2	27	223	19.6	0.21	20.6	216	555
MAY													
12...	260	55.5	29.2	6.10	0.8	30.9	20	203	18.5	--	--	127	395
SEP													
09...	160	34.4	17.3	7.10	0.5	13.5	15	142	8.1	0.17	16.6	56.5	224

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Organic nitrogen, water, fltrd, mg/L (00607)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)
APR													
07...	8,460	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
12...	2,080	0.61	0.39	0.130	0.132	0.793	0.780	0.48	0.26	0.180	0.171	0.538	1.4
SEP													
09...	3,890	--	--	--	--	--	--	--	--	--	--	--	--

05064500 RED RIVER OF THE NORTH AT HALSTAD, MN—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Total nitrogen, water, unfltrd mg/L (00600)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
APR													
07...	--	--	--	--	3.5	40	<1	50	20	<0.20	3	<1	300
MAY													
12...	1.2	3,500	48.1	1.7	--	<10	--	--	<10	--	--	--	--
SEP													
09...	--	--	--	--	4.9	70	<1	20	<10	<0.20	2	2	130

Remark codes used in this table:
< -- Less than

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	9.7	7.8	8.8	3.2	2.1	2.4	0.0	0.0	0.0	-0.1	-0.2	-0.1
2	9.2	7.5	8.4	2.7	1.6	2.2	0.1	0.0	0.0	-0.1	-0.3	-0.1
3	10.7	8.8	9.6	2.0	0.6	1.0	0.0	0.0	0.0	-0.1	-0.2	-0.1
4	12.5	9.9	11.0	0.6	0.3	0.4	0.0	0.0	0.0	-0.1	-0.1	-0.1
5	13.3	10.9	12.0	0.4	0.2	0.3	0.0	0.0	0.0	-0.1	-0.2	-0.1
6	14.1	11.8	12.9	0.3	0.2	0.2	0.1	0.0	0.0	0.0	-0.2	-0.1
7	14.8	12.7	13.6	0.3	0.2	0.2	0.1	0.0	0.0	-0.1	-0.2	-0.1
8	16.4	13.8	14.9	0.3	0.2	0.2	0.1	0.0	0.0	-0.1	-0.1	-0.1
9	17.9	15.8	16.8	0.3	0.2	0.2	0.0	-0.1	0.0	-0.1	-0.1	-0.1
10	18.5	16.4	17.4	0.3	0.2	0.2	0.0	-0.1	0.0	-0.1	-0.3	-0.1
11	18.1	15.8	16.8	0.4	0.2	0.2	0.0	-0.1	0.0	-0.1	-0.2	-0.1
12	15.8	14.1	14.8	0.3	0.1	0.2	0.0	-0.1	0.0	-0.1	-0.2	-0.1
13	14.4	12.7	13.7	0.3	0.1	0.1	0.0	-0.1	-0.1	-0.1	-0.2	-0.1
14	13.7	12.0	12.8	0.3	0.1	0.1	0.0	-0.1	-0.1	-0.1	-0.2	-0.2
15	12.5	10.5	11.3	0.3	0.1	0.2	0.0	-0.1	-0.1	-0.1	-0.2	-0.2
16	11.2	9.8	10.5	0.2	0.1	0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2
17	10.4	8.8	9.7	0.3	0.1	0.2	0.0	-0.1	-0.1	0.0	-0.2	-0.2
18	11.1	9.3	10.2	0.4	0.1	0.2	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2
19	11.7	9.6	10.7	0.4	0.0	0.1	0.0	-0.1	-0.1	-0.1	-0.2	-0.2
20	12.2	10.9	11.5	0.2	0.0	0.1	0.0	-0.1	-0.1	-0.1	-0.3	-0.2
21	12.8	11.3	12.0	0.1	0.0	0.0	-0.1	-0.1	-0.1	0.0	-0.3	-0.2
22	12.4	10.9	11.8	0.2	0.0	0.0	0.0	-0.2	-0.1	-0.1	-0.2	-0.2
23	11.8	10.2	11.0	0.1	0.0	0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2
24	11.2	10.1	10.7	0.1	0.0	0.0	-0.1	-0.1	-0.1	0.0	-0.2	-0.2
25	10.3	7.6	8.9	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.2	-0.3	-0.2
26	7.6	6.2	6.8	0.0	-0.1	0.0	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2
27	6.6	5.5	5.9	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2
28	5.5	4.5	4.8	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2
29	4.7	4.0	4.4	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2
30	4.4	4.1	4.2	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2
31	4.1	3.2	3.7	---	---	---	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2
MONTH	18.5	3.2	10.7	3.2	-0.1	0.3	0.1	-0.2	-0.1	0.0	-0.3	-0.2

05064500 RED RIVER OF THE NORTH AT HALSTAD, MN—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	-0.1	-0.3	-0.2	---	---	---	4.3	3.0	3.5	12.4	11.7	12.1
2	-0.1	-0.4	-0.2	-0.2	-0.4	-0.2	5.5	4.1	4.7	12.8	11.2	11.9
3	---	---	---	-0.1	-0.3	-0.2	6.3	5.1	5.7	12.3	11.5	11.9
4	---	---	---	-0.1	-0.2	-0.2	7.1	5.9	6.4	13.1	11.2	12.1
5	---	---	---	-0.2	-0.2	-0.2	7.6	6.3	6.9	14.2	11.7	12.8
6	---	---	---	-0.2	-0.3	-0.2	8.6	7.2	7.8	14.4	12.7	13.5
7	---	---	---	-0.2	-0.3	-0.2	9.2	8.4	8.8	14.0	12.8	13.4
8	---	---	---	-0.2	-0.2	-0.2	9.0	8.3	8.7	15.0	12.6	13.6
9	---	---	---	-0.2	-0.2	-0.2	8.6	7.6	8.1	15.0	14.3	14.6
10	---	---	---	-0.2	-0.2	-0.2	7.6	6.9	7.2	15.9	13.9	14.8
11	---	---	---	-0.1	-0.2	-0.2	7.1	6.1	6.5	15.5	12.8	14.1
12	---	---	---	-0.2	-0.2	-0.2	6.8	5.8	6.2	12.8	10.4	11.1
13	---	---	---	-0.2	-0.2	-0.2	6.9	5.8	6.4	10.4	9.1	9.5
14	---	---	---	-0.2	-0.3	-0.2	7.7	6.5	7.0	9.6	8.3	8.9
15	---	---	---	-0.2	-0.2	-0.2	8.3	6.9	7.6	10.0	8.7	9.3
16	---	---	---	-0.1	-0.2	-0.2	8.9	7.4	8.1	11.5	10.0	10.7
17	---	---	---	-0.2	-0.2	-0.2	9.0	8.0	8.5	12.9	11.2	11.9
18	---	---	---	-0.2	-0.3	-0.2	9.3	8.1	8.7	14.3	12.4	13.2
19	---	---	---	-0.2	-0.3	-0.2	9.7	8.3	8.9	15.0	14.2	14.4
20	---	---	---	-0.2	-0.3	-0.2	9.5	9.0	9.2	16.0	14.7	15.3
21	---	---	---	-0.2	-0.3	-0.2	10.6	9.1	9.7	16.4	15.3	15.8
22	---	---	---	-0.2	-0.3	-0.2	10.6	9.2	9.9	16.8	15.8	16.3
23	---	---	---	-0.2	-0.2	-0.2	10.9	9.7	10.3	16.4	15.1	15.7
24	---	---	---	-0.2	-0.2	-0.2	11.4	9.8	10.5	15.1	14.0	14.6
25	---	---	---	-0.1	-0.2	-0.2	11.4	10.6	11.2	14.0	13.3	13.6
26	---	---	---	-0.2	-0.3	-0.2	11.4	10.3	10.9	14.5	12.7	13.6
27	---	---	---	0.0	-0.2	-0.1	11.6	10.6	11.1	15.6	13.8	14.5
28	---	---	---	1.4	0.0	0.7	12.6	11.2	11.8	16.9	14.9	15.8
29	---	---	---	1.6	1.3	1.5	12.4	11.2	11.9	17.3	16.8	17.0
30	---	---	---	1.6	1.0	1.3	12.6	11.8	12.2	16.8	15.6	16.5
31	---	---	---	3.0	1.6	2.2	---	---	---	15.6	14.8	15.0
MONTH	-0.1	-0.4	-0.2	3.0	-0.4	0.0	12.6	3.0	8.5	17.3	8.3	13.5
		JUNE			JULY			AUGUST			SEPTEMBER	
1	14.8	14.5	14.6	23.2	21.7	22.4	---	---	---	21.8	20.0	20.8
2	15.5	14.5	14.9	23.0	22.8	22.9	---	---	---	22.8	20.3	21.6
3	16.0	15.3	15.6	23.7	22.7	23.1	---	---	---	23.1	21.3	22.2
4	16.8	15.9	16.3	23.4	21.7	22.6	---	---	---	22.9	21.7	22.1
5	18.2	16.8	17.4	21.7	20.5	21.1	---	---	---	21.7	20.2	21.0
6	19.4	18.1	18.6	---	---	---	---	---	---	20.2	18.7	19.4
7	20.9	19.4	20.1	---	---	---	---	---	---	19.4	17.5	18.4
8	21.1	20.5	20.8	---	---	---	---	---	---	17.5	16.7	16.9
9	21.3	20.4	20.8	---	---	---	---	---	---	---	---	---
10	20.9	20.3	20.6	---	---	---	---	---	---	---	---	---
11	20.7	19.9	20.3	---	---	---	---	---	---	---	---	---
12	20.9	19.8	20.3	---	---	---	---	---	---	---	---	---
13	21.2	20.1	20.6	---	---	---	---	---	---	---	---	---
14	21.4	20.3	20.8	---	---	---	---	---	---	---	---	---
15	21.1	20.4	20.7	---	---	---	---	---	---	---	---	---
16	20.7	19.7	20.2	---	---	---	---	---	---	---	---	---
17	20.5	19.5	20.0	---	---	---	---	---	---	---	---	---
18	20.2	19.2	19.7	---	---	---	---	---	---	---	---	---
19	20.1	18.8	19.5	---	---	---	---	---	---	---	---	---
20	20.1	18.7	19.4	---	---	---	19.2	17.3	18.4	---	---	---
21	20.0	19.2	19.5	---	---	---	18.6	17.0	17.9	---	---	---
22	19.5	18.7	19.2	---	---	---	18.8	17.3	17.9	---	---	---
23	19.3	18.6	18.8	---	---	---	18.1	16.9	17.5	---	---	---
24	19.0	17.9	18.5	---	---	---	20.4	17.8	18.8	20.1	16.4	17.9
25	18.8	18.1	18.4	---	---	---	20.1	18.8	19.5	17.0	15.9	16.4
26	18.8	17.8	18.3	---	---	---	21.3	19.4	20.1	16.8	16.1	16.5
27	19.9	18.3	18.9	---	---	---	20.9	19.8	20.1	16.7	16.0	16.3
28	20.6	19.0	19.7	---	---	---	20.8	18.5	19.6	16.0	15.3	15.6
29	21.7	20.0	20.7	---	---	---	20.2	18.7	19.3	15.5	14.7	15.1
30	22.5	21.1	21.7	---	---	---	20.8	18.3	19.4	15.0	14.8	14.9
31	---	---	---	---	---	---	21.7	19.3	20.4	---	---	---
MONTH	22.5	14.5	19.2	23.7	20.5	22.4	21.7	16.9	19.1	23.1	14.7	18.3
YEAR	23.7	-0.4	7.9									

05064500 RED RIVER OF THE NORTH AT HALSTAD, MN—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	902	891	896	906	802	859	1,020	990	1,010	1,120	989	1,070
2	900	881	892	870	844	858	1,030	1,020	1,020	1,120	1,040	1,050
3	887	872	882	875	861	866	1,060	1,030	1,050	1,120	1,050	1,080
4	882	872	878	878	861	871	1,060	1,040	1,060	1,100	1,100	1,100
5	878	870	874	894	867	874	1,040	1,020	1,030	1,110	1,090	1,100
6	887	877	880	904	883	896	1,020	1,010	1,010	1,110	1,080	1,090
7	903	886	891	927	890	907	1,020	1,000	1,010	1,170	1,100	1,120
8	948	903	922	957	927	941	1,040	989	1,010	1,120	1,090	1,100
9	---	---	895	968	955	961	1,020	989	1,010	1,090	1,080	1,080
10	886	870	879	988	951	961	1,050	1,020	1,040	1,080	1,050	1,060
11	873	842	855	1,030	988	1,010	1,030	1,020	1,030	1,050	1,040	1,050
12	854	844	848	1,050	1,030	1,040	1,030	998	1,010	---	---	1,050
13	953	854	896	1,030	991	1,010	1,010	994	1,000	1,050	1,020	1,040
14	1,030	953	990	992	970	982	1,050	999	1,010	1,030	1,010	1,020
15	1,060	854	927	987	952	964	1,070	1,000	1,030	1,010	1,000	1,000
16	912	880	903	1,010	976	995	1,020	1,010	1,020	1,050	996	1,010
17	944	905	920	988	962	974	1,010	995	999	1,020	1,000	1,010
18	1,010	944	984	962	938	949	1,030	994	1,000	1,010	994	998
19	1,000	975	984	952	928	940	1,010	1,000	1,010	998	983	992
20	975	932	946	931	904	917	1,060	1,010	1,020	984	970	977
21	932	898	912	904	877	893	1,080	1,030	1,040	984	972	982
22	898	872	883	885	813	854	1,120	1,020	1,060	987	978	983
23	893	863	882	888	827	864	1,100	1,020	1,040	979	956	963
24	866	858	862	917	888	905	1,070	989	1,020	960	948	955
25	891	858	880	923	899	916	1,040	985	998	960	949	953
26	891	875	885	923	901	909	1,060	975	1,010	981	960	972
27	885	875	880	967	921	934	1,070	977	1,010	982	974	977
28	906	876	887	1,010	967	996	1,050	961	997	981	970	975
29	906	880	889	1,010	972	988	962	952	957	984	978	981
30	880	824	849	990	972	979	967	956	961	984	975	981
31	824	804	817	---	---	---	989	963	968	976	972	974
MONTH	1,060	804	896	1,050	802	934	1,120	952	1,010	1,170	948	1,020
	FEBRUARY			MARCH			APRIL			MAY		
1	1,000	973	983	---	---	---	474	445	463	662	650	657
2	1,050	1,000	1,030	---	---	---	515	472	500	681	661	671
3	---	---	---	---	---	---	569	512	547	701	681	690
4	---	---	---	941	859	902	639	569	612	714	701	708
5	---	---	---	859	813	826	749	638	694	729	710	720
6	---	---	---	827	799	807	853	749	815	729	719	722
7	---	---	---	843	827	838	882	819	841	724	716	720
8	---	---	---	849	833	842	869	772	819	729	715	721
9	---	---	---	833	796	815	810	735	772	720	713	717
10	---	---	---	796	767	783	781	718	742	713	707	711
11	---	---	---	784	765	774	752	702	726	711	691	704
12	---	---	---	833	781	808	734	682	712	691	578	628
13	---	---	---	781	708	731	730	681	704	578	540	562
14	---	---	---	730	698	714	710	654	688	550	508	527
15	---	---	---	698	679	685	686	644	666	612	540	575
16	---	---	---	706	689	700	666	633	645	675	608	648
17	---	---	---	720	696	701	643	626	637	665	588	621
18	---	---	---	780	701	735	643	628	635	597	581	588
19	---	---	---	759	703	736	632	620	627	634	597	618
20	---	---	---	714	672	695	620	612	616	665	633	643
21	---	---	---	708	641	680	615	606	612	702	665	686
22	---	---	---	683	615	650	607	594	602	733	685	701
23	---	---	---	615	564	591	608	597	603	718	695	705
24	---	---	---	575	515	553	625	608	618	723	710	717
25	---	---	---	569	410	495	634	625	629	729	721	725
26	---	---	---	410	349	385	634	616	627	729	708	721
27	---	---	---	356	336	346	618	609	612	717	701	709
28	---	---	---	345	331	337	620	608	613	713	696	705
29	---	---	---	376	345	364	636	618	623	707	693	702
30	---	---	---	416	376	397	650	633	639	694	551	673
31	---	---	---	451	416	438	---	---	---	551	443	486
MONTH	1,050	973	1,010	941	331	655	882	445	655	733	443	667

05064500 RED RIVER OF THE NORTH AT HALSTAD, MN—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	486	457	473	895	875	883	---	---	---	782	756	775
2	620	486	545	878	865	872	---	---	---	840	778	812
3	506	491	499	865	833	850	---	---	---	795	781	786
4	512	484	492	838	814	827	---	---	---	807	795	803
5	543	512	536	845	816	832	---	---	---	812	806	810
6	597	531	550	---	---	---	---	---	---	875	806	817
7	735	597	666	---	---	---	---	---	---	875	618	704
8	785	734	748	---	---	---	---	---	---	635	533	593
9	798	779	790	---	---	---	---	---	---	---	---	---
10	793	778	784	---	---	---	---	---	---	---	---	---
11	812	793	804	---	---	---	---	---	---	---	---	---
12	829	811	819	---	---	---	---	---	---	---	---	---
13	840	829	833	---	---	---	---	---	---	---	---	---
14	867	840	852	---	---	---	---	---	---	---	---	---
15	917	867	896	---	---	---	---	---	---	---	---	---
16	939	917	930	---	---	---	---	---	---	---	---	---
17	943	935	938	---	---	---	---	---	---	---	---	---
18	952	933	941	---	---	---	---	---	---	---	---	---
19	950	911	923	---	---	---	---	---	---	---	---	---
20	922	916	919	---	---	---	798	785	791	---	---	---
21	938	922	927	---	---	---	797	782	790	---	---	---
22	949	937	942	---	---	---	782	767	773	---	---	---
23	952	943	949	---	---	---	769	759	763	---	---	---
24	957	943	951	---	---	---	760	725	737	822	674	726
25	976	957	966	---	---	---	786	736	762	823	722	784
26	989	975	982	---	---	---	749	729	740	731	663	686
27	975	946	960	---	---	---	846	749	788	754	607	657
28	946	939	941	---	---	---	837	802	817	670	606	629
29	951	929	939	---	---	---	802	757	787	729	670	707
30	929	895	910	---	---	---	769	746	754	751	729	738
31	---	---	---	---	---	---	756	742	748	---	---	---
MONTH	989	457	814	895	814	853	846	725	771	875	533	735
YEAR	1,170	331	828									

05066500 GOOSE RIVER AT HILLSBORO, ND

LOCATION.--Lat 47°24'34", long 97°03'39", in NW¼ 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.--April 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 National Geodetic Vertical Datum of 1929. 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 good except for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	19	21	e17	e10	e14	6,400	203	1,080	93	40	77
2	16	20	20	e17	e10	e14	5,270	193	1,500	87	38	61
3	15	18	19	e16	e10	e14	4,130	183	1,550	87	36	51
4	14	19	20	e16	e10	e14	2,930	179	1,450	85	34	46
5	14	17	20	e15	e10	e14	1,820	172	1,360	99	33	45
6	13	18	20	e15	e10	e14	1,510	162	1,150	93	34	62
7	13	18	21	e15	e10	e15	1,310	153	906	88	33	112
8	17	17	21	e15	e10	e15	1,140	147	710	91	35	142
9	13	15	e20	e15	e10	e15	999	148	564	94	39	149
10	10	14	e20	e15	e11	e15	874	146	452	93	57	136
11	12	13	e20	e15	e11	e16	775	154	372	98	57	117
12	11	13	e18	e15	e12	e17	687	193	572	103	55	102
13	15	13	e17	e14	e12	e17	611	207	1,200	149	50	98
14	13	13	e17	e14	e12	e18	545	213	962	134	46	92
15	14	14	e18	e14	e12	e19	490	243	638	129	44	83
16	13	15	e18	e13	e12	e20	418	259	477	118	42	76
17	13	17	e17	e13	e12	e21	367	342	354	102	41	74
18	14	20	18	e13	e12	e22	337	372	295	92	38	72
19	16	23	18	e13	e12	e23	312	321	259	91	35	71
20	16	25	19	e13	e12	e25	297	275	235	115	33	71
21	15	27	18	e13	e12	e28	305	240	208	104	32	64
22	17	30	19	e13	e12	e34	342	216	182	93	30	63
23	17	30	19	e12	e12	e46	343	199	163	77	28	70
24	18	27	19	e12	e13	e93	326	199	144	68	40	92
25	16	26	19	e12	e13	e170	303	211	128	64	46	99
26	15	25	18	e12	e14	e510	285	200	118	59	87	127
27	18	23	19	e11	e14	e1,200	266	193	111	54	120	156
28	16	22	19	e11	e14	e2,400	253	193	105	54	128	145
29	17	21	e19	e11	e14	4,630	238	190	101	49	134	130
30	19	21	e18	e10	---	6,100	218	210	97	48	115	107
31	19	---	e17	e10	---	7,060	---	340	---	44	97	---
TOTAL	466	593	586	420	338	22,613	34,101	6,656	17,443	2,755	1,677	2,790
MEAN	15.0	19.8	18.9	13.5	11.7	729	1,137	215	581	88.9	54.1	93.0
MAX	19	30	21	17	14	7,060	6,400	372	1,550	149	134	156
MIN	10	13	17	10	10	14	218	146	97	44	28	45
AC-FT	924	1,180	1,160	833	670	44,850	67,640	13,200	34,600	5,460	3,330	5,530

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2004, BY WATER YEAR (WY)

MEAN	17.4	20.6	9.28	5.75	9.45	178	518	146	94.4	83.9	27.2	19.6
MAX	436	469	79.9	47.1	217	1,220	3,412	2,275	954	821	515	326
(WY)	(1995)	(2001)	(1995)	(2001)	(1998)	(1995)	(1997)	(1950)	(2000)	(2002)	(1993)	(1994)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	6.51	1.12	1.35	0.00	0.00	0.00
(WY)	(1939)	(1939)	(1939)	(1939)	(1939)	(1940)	(1938)	(1939)	(1938)	(1940)	(1938)	(1938)

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1931 - 2004	
ANNUAL TOTAL	35,105.5		90,438			
ANNUAL MEAN	96.2		247		96.7	
HIGHEST ANNUAL MEAN					400	1999
LOWEST ANNUAL MEAN					3.47	1937
HIGHEST DAILY MEAN	1,120	Jun 26	7,060	Mar 31	14,400	Apr 21, 1979
LOWEST DAILY MEAN	2.9	Mar 10	10	Oct 10	0.00	Mar 1, 1936
ANNUAL SEVEN-DAY MINIMUM	3.1	Mar 8	10	Jan 30	0.00	Mar 1, 1936
MAXIMUM PEAK FLOW			7,180	Mar 31	14,800	Apr 21, 1979
MAXIMUM PEAK STAGE			14.40	Mar 31	16.76	Apr 21, 1979
ANNUAL RUNOFF (AC-FT)	69,630		179,400		70,070	
10 PERCENT EXCEEDS	273		428		156	
50 PERCENT EXCEEDS	25		35		7.1	
90 PERCENT EXCEEDS	11		13		0.18	

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 2003 TO SEPTEMBER 2004

Date	Time	Discharge, cfs (00060)	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
NOV													
03...	1110	--	14	--	--	--	--	--	--	--	1,520	19.0	2.5
FEB													
04...	1115	--	10	--	--	--	--	--	--	--	1,970	-18.0	0.5
MAR													
29...	1240	--	4,650	--	--	--	--	7.8	7.3	508	539	8.0	1.5
31...	1250	--	6,830	--	--	--	--	--	--	--	515	8.5	3.0
APR													
09...	1000	--	1,010	--	--	--	--	--	--	--	853	--	7.0
MAY													
12...	1320	193	--	25	730	10.3	98	8.4	8.3	1,380	1,360	7.0	11.0
JUN													
04...	1130	--	1,440	--	--	--	--	--	--	--	1,330	24.0	16.0
15...	1200	--	644	--	--	--	--	--	--	--	918	18.5	18.5
JUL													
26...	1510	--	59	--	--	--	--	--	--	--	1,430	29.0	23.0
SEP													
02...	0920	--	62	--	--	--	--	8.1	8.0	1,120	1,110	24.4	20.5

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)
NOV													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
29...	200	46.9	20.6	10.0	0.4	13.0	12	107	8.6	0.19	16.0	122	288
31...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
12...	650	148	68.6	10.4	2	90.8	23	281	37.1	--	--	455	981
JUN													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
02...	510	109	58.1	7.10	0.9	46.5	16	227	20.4	0.28	15.0	378	758

05066500 GOOSE RIVER AT HILLSBORO, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Organic nitro-gen, water, fltrd, mg/L (00607)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, fltrd, mg/L (00602)
NOV													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
29...	3,800	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
12...	511	0.69	0.69	0.032	<0.010	0.375	0.360	0.65	0.66	0.017	0.024	0.070	1.1
JUN													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
02...	129	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Total nitro-gen, water, unfltrd mg/L (00600)	Fecal coli-form, M-FC 0.7u MF col/ 100 mL (31625)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Mangan-ese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molyb-denum, water, fltrd, ug/L (01060)	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
NOV													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
29...	--	--	--	--	3.9	120	<1	30	490	<0.20	2	3	170
31...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
12...	1.1	91	<60.0	<20.0	--	20	--	--	150	--	--	--	--
JUN													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
02...	--	--	--	--	5.6	--	<1	80	110	<0.20	4	9	520

Remark codes used in this table:
< -- Less than

05070000 RED RIVER OF THE NORTH NEAR THOMPSON, ND

LOCATION.--Lat 47°45'32", long 96°56'37", in NW¼NE¼ 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.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1999 to current year. Gage heights and maximum discharge only, March 1999 to September 2003.

GAGE.--Water stage recorder. Datum of gage is 779.00 ft above National Geodetic Vertical Datum of 1929 (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, 15.12 ft., Sept. 12, 2003.

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.

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	362	440	e410	e400	e320	e425	23,400	2,570	8,080	2,250	e1,500	e570
2	311	442	e390	e404	e315	e435	21,600	2,370	9,720	2,190	e1,350	e530
3	304	455	e380	e420	e320	e440	19,300	2,200	10,600	2,130	e1,200	e490
4	284	432	e370	e420	e330	e450	16,300	2,100	10,900	2,040	e1,100	e470
5	257	410	e370	e420	e340	e520	13,100	1,990	10,700	1,950	e1,030	e460
6	248	388	e360	e420	e340	e580	10,500	1,880	10,300	1,980	e970	e600
7	227	385	e360	e420	e340	e610	8,780	1,700	9,820	1,950	e950	962
8	220	e396	e350	e407	e340	e640	7,720	1,580	9,340	2,010	e980	3,670
9	259	415	e350	e395	e355	e670	6,990	1,490	8,720	2,190	e1,150	5,740
10	282	431	e340	e380	e360	e695	6,510	1,450	8,030	2,150	e1,350	6,060
11	355	453	e330	e367	e360	e700	6,180	1,450	7,300	2,140	e1,350	5,450
12	377	463	e320	e359	e355	e715	5,850	2,190	6,650	2,460	e1,300	4,570
13	391	445	e320	e348	e350	e750	5,560	4,350	6,120	4,170	e1,220	3,810
14	440	467	e320	e347	e345	e810	5,330	5,060	5,990	6,140	e1,180	3,280
15	498	511	e320	e349	e345	e900	5,170	5,580	5,850	6,700	e1,150	2,920
16	478	543	e320	e349	e350	e1,010	5,040	5,420	5,580	6,460	e1,030	2,610
17	434	581	e320	e348	e360	e1,130	4,920	4,670	5,310	5,920	e980	2,340
18	425	615	e320	e344	e360	e1,270	4,830	3,920	5,050	5,160	e910	2,140
19	405	644	e320	e344	e355	e1,380	4,760	3,420	4,770	4,570	e850	1,990
20	416	680	e320	e344	e350	e1,500	4,720	3,280	4,520	4,040	e770	1,910
21	422	647	e320	e344	e345	e1,620	4,730	3,330	4,300	3,550	e730	1,890
22	441	e560	e325	e341	e350	e2,010	4,700	3,430	4,040	3,190	e700	1,950
23	437	e430	e345	e341	e355	e2,450	4,560	3,270	3,770	2,950	e740	2,090
24	462	e340	e365	e341	e365	e2,980	4,240	3,040	3,540	2,750	e790	2,160
25	457	e355	e365	e338	e375	e4,020	3,890	2,890	3,310	2,580	e800	2,370
26	432	e410	e360	e330	e385	e7,030	3,630	2,770	3,100	2,390	e760	2,990
27	431	e470	e370	e325	e395	e13,000	3,430	2,710	2,900	2,190	e740	3,640
28	472	e480	e390	e320	e405	e16,800	3,250	2,620	2,680	2,010	e760	4,050
29	439	e460	e390	e320	e415	21,900	3,070	2,550	2,480	1,840	e730	4,240
30	434	e430	e390	e325	---	24,300	2,840	2,890	2,350	1,700	e670	4,260
31	449	---	e390	e325	---	25,200	---	5,480	---	1,650	e610	---
TOTAL	11,849	14,178	10,900	11,235	10,280	136,940	224,900	93,650	185,820	95,400	30,350	80,212
MEAN	382	473	352	362	354	4,417	7,497	3,021	6,194	3,077	979	2,674
MAX	498	680	410	420	415	25,200	23,400	5,580	10,900	6,700	1,500	6,060
MIN	220	340	320	320	315	425	2,840	1,450	2,350	1,650	610	460
AC-FT	23,500	28,120	21,620	22,280	20,390	271,600	446,100	185,800	368,600	189,200	60,200	159,100

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2004 - 2004, BY WATER YEAR (WY)

MEAN	382	473	352	362	354	4,417	7,497	3,021	6,194	3,077	979	2,674
MAX	382	473	352	362	354	4,417	7,497	3,021	6,194	3,077	979	2,674
(WY)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)
MIN	382	473	352	362	354	4,417	7,497	3,021	6,194	3,077	979	2,674
(WY)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)

05070000 RED RIVER OF THE NORTH NEAR THOMPSON, ND—Continued

SUMMARY STATISTICS	FOR 2004 WATER YEAR	
ANNUAL TOTAL	905,714	
ANNUAL MEAN	2,475	
HIGHEST DAILY MEAN	25,200	Mar 31
LOWEST DAILY MEAN	220	Oct 8
ANNUAL SEVEN-DAY MINIMUM	254	Oct 4
MAXIMUM PEAK FLOW	25,400	Mar 31
MAXIMUM PEAK STAGE	47.27	Mar 31
ANNUAL RUNOFF (AC-FT)	1,796,000	
10 PERCENT EXCEEDS	5,870	
50 PERCENT EXCEEDS	805	
90 PERCENT EXCEEDS	340	

e Estimated

05080000 RED LAKE RIVER AT FISHER, MN

LOCATION.--Lat 47°48'01", long 96°48'31", in SW¼NE¼ 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.--5,680 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Mar. to Sept. 1999 (gage heights and maximum discharge only), Oct. 1, 1999, to current year.

GAGE.--Water-stage recorder. Datum of gage is 800.00 ft above sea level (levels by Minnesota Department of Transportation).

REMARKS.-- Records good except 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 comtrolled by dam at outlet of Lower Red Lake. Flow partially affected by occasional runoff of Thief and Mud Lakes in Thief River Basin.

EXTREMES OUTSIDE PERIOD OF RECORD.-- A stage of 41.00 ft occurred in spring of 1997 (from information provided by the National Weather Service).

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	149	174	e140	e170	e115	e125	6,890	1,040	10,800	1,300	460	494
2	147	175	e155	e170	e115	e125	6,220	1,030	9,760	1,290	460	460
3	150	e175	e165	e165	e110	e125	5,410	884	7,380	1,250	448	509
4	147	e165	e165	e160	e110	e120	4,310	892	5,610	1,290	424	512
5	153	e150	e165	e160	e110	e120	3,520	835	4,420	1,260	403	492
6	139	e140	e165	e160	e110	e125	2,820	694	3,710	1,300	410	533
7	130	e130	e165	e160	e110	e130	2,090	606	3,440	1,390	476	562
8	141	e130	e165	e165	e110	e135	1,800	509	3,270	1,440	425	737
9	119	e130	e165	e170	e110	e140	1,640	439	3,110	1,480	424	1,010
10	144	e145	e160	e175	e110	e140	1,690	447	2,940	1,440	450	1,080
11	142	e160	e155	e175	e115	e140	1,530	454	2,730	1,200	467	989
12	195	e190	e145	e175	e115	e145	1,420	1,480	2,620	1,220	516	949
13	153	e190	e145	e170	e115	e145	1,320	6,870	2,470	1,240	566	909
14	190	e150	e145	e170	e110	e155	1,220	9,410	2,330	1,310	544	886
15	191	e170	e145	e165	e110	e165	1,250	8,680	2,250	1,320	515	814
16	168	e175	e145	e165	e110	e175	1,280	6,760	2,200	1,190	516	769
17	140	e180	e150	e160	e110	e175	1,370	5,420	2,150	1,150	458	663
18	123	e190	e150	e150	e115	e175	1,480	4,730	2,080	997	441	789
19	134	e200	e150	e145	e115	e180	1,430	4,040	1,970	914	421	965
20	132	e210	e150	e145	e115	e180	1,360	3,890	1,920	903	387	1,070
21	164	e210	e155	e145	e115	e190	1,400	4,440	1,880	856	367	1,100
22	165	e175	e160	e140	e115	e210	1,300	4,140	1,840	744	361	1,320
23	161	e160	e165	e135	e115	e250	1,280	3,600	1,790	556	345	1,620
24	133	e155	e165	e135	e115	e350	1,230	3,250	1,730	643	353	1,840
25	131	e155	e170	e135	e120	e550	1,250	3,080	1,720	572	352	2,130
26	153	e150	e170	e135	e120	e1,150	1,250	3,000	1,650	572	653	2,240
27	159	e135	e170	e130	e120	e2,150	1,250	2,960	1,490	539	1,260	2,170
28	160	e135	e175	e125	e125	e5,200	1,200	2,950	1,250	534	1,090	1,870
29	139	e135	e175	e120	e125	e8,200	1,210	2,890	1,220	549	834	1,680
30	174	e140	e175	e115	---	e8,100	1,080	4,110	1,190	490	661	1,580
31	181	---	e170	e115	---	e7,800	---	8,510	---	466	570	---
TOTAL	4,707	4,879	4,940	4,705	3,310	37,070	62,500	102,040	92,920	31,405	16,057	32,742
MEAN	152	163	159	152	114	1,196	2,083	3,292	3,097	1,013	518	1,091
MAX	195	210	175	175	125	8,200	6,890	9,410	10,800	1,480	1,260	2,240
MIN	119	130	140	115	110	120	1,080	439	1,190	466	345	460
AC-FT	9,340	9,680	9,800	9,330	6,570	73,530	124,000	202,400	184,300	62,290	31,850	64,940

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2004, BY WATER YEAR (WY)

MEAN	1,193	1,801	1,007	751	677	1,323	2,954	2,262	3,312	2,338	1,555	1,292
MAX	2,261	4,103	1,582	1,187	1,106	2,280	8,063	3,666	6,374	5,711	3,188	2,878
(WY)	(2000)	(2001)	(2002)	(2001)	(2001)	(2000)	(2001)	(2001)	(2002)	(2002)	(2001)	(2002)
MIN	152	163	159	152	114	917	594	750	1,398	674	208	164
(WY)	(2004)	(2004)	(2004)	(2004)	(2004)	(2002)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)

05080000 RED LAKE RIVER AT FISHER, MN—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 2000 - 2004	
ANNUAL TOTAL	178,351		397,275			
ANNUAL MEAN	489		1,085		1,706	
HIGHEST ANNUAL MEAN					2,591	2001
LOWEST ANNUAL MEAN					672	2003
HIGHEST DAILY MEAN	4,060	Jun 27	10,800	Jun 1	22,200	Apr 10, 2001
LOWEST DAILY MEAN	101	Sep 9	a110	Feb 3	101	Sep 9, 2003
ANNUAL SEVEN-DAY MINIMUM	126	Sep 5	110	Feb 3	110	Feb 3, 2004
MAXIMUM PEAK FLOW			11,000	Jun 1	24,500	Apr 10, 2001
MAXIMUM PEAK STAGE			30.23	Jun 1	38.00	Apr 10, 2001
ANNUAL RUNOFF (AC-FT)	353,800		788,000		1,236,000	
ANNUAL RUNOFF (CFSM)	0.086		0.191		0.300	
ANNUAL RUNOFF (INCHES)	1.17		2.60		4.08	
10 PERCENT EXCEEDS	1,010		2,940		3,480	
50 PERCENT EXCEEDS	235		406		1,200	
90 PERCENT EXCEEDS	145		125		175	

a Also occurred Feb. 4-10 and Feb 14-17
e Estimated

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 discharges during Nov. 27 to Jan. 17, which are fair and for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	536	653	494	e580	e430	e550	32,800	3,690	17,700	3,300	1,970	1,070
2	476	628	515	e590	e430	e557	31,100	3,440	21,200	3,320	1,730	1,020
3	429	676	526	e600	e440	e567	28,800	3,190	21,900	3,280	1,640	918
4	e405	665	502	e600	e450	e570	25,000	3,100	20,700	3,180	1,490	933
5	e385	637	617	e600	e455	e635	21,500	2,950	19,100	3,050	1,440	887
6	363	616	557	e590	e444	e700	16,700	2,830	17,600	3,100	1,340	1,040
7	376	615	519	e580	e444	e725	13,900	2,370	16,600	3,100	1,170	1,130
8	361	648	529	e570	e444	e760	11,700	2,240	15,400	3,160	1,180	3,500
9	373	646	e529	e560	e472	e800	10,300	2,090	14,700	3,540	1,430	4,760
10	405	563	e527	e550	e472	e830	9,820	2,000	13,200	3,410	e1,660	6,610
11	520	573	e524	e530	e472	e840	9,850	1,890	12,200	3,390	e1,670	6,290
12	566	648	e524	e520	e470	e850	9,860	2,670	11,000	e3,730	e1,660	5,430
13	640	673	506	e510	e455	e890	8,710	8,130	10,000	5,100	1,570	4,710
14	654	679	483	e500	e450	1,020	7,560	12,700	9,530	7,350	1,540	4,170
15	745	e687	459	e500	e455	e1,120	6,990	15,200	9,180	8,260	1,500	3,750
16	699	e695	e460	e500	e470	e1,240	6,830	14,700	8,840	8,250	1,480	3,290
17	593	702	462	e498	e470	e1,350	6,650	11,100	8,280	7,240	1,510	2,890
18	578	772	445	e498	e470	e1,480	6,640	9,650	7,740	6,210	1,170	2,600
19	535	791	428	e497	e470	e1,560	6,590	8,440	7,230	5,460	1,060	2,610
20	517	859	402	e497	e465	e1,710	6,490	7,670	6,870	4,830	1,050	2,700
21	541	977	434	e485	e460	e1,890	6,480	7,720	6,430	4,370	968	2,720
22	571	875	475	e477	e465	e2,240	6,450	7,740	6,150	3,910	957	2,800
23	625	e680	526	e493	e465	e2,650	6,450	6,990	5,680	3,490	873	3,170
24	653	429	532	e487	e481	e3,220	5,840	6,340	5,390	3,210	984	3,520
25	621	e530	524	e470	e499	e4,280	5,630	5,930	4,990	3,090	915	3,810
26	634	633	508	e460	e510	e7,680	5,280	5,520	4,730	2,850	1,410	4,660
27	606	646	516	e455	e523	15,400	4,860	5,450	4,440	2,680	1,660	5,620
28	603	611	e560	e450	e536	19,400	4,670	5,300	3,970	2,570	1,990	6,020
29	599	517	e580	e450	e543	29,100	4,570	5,150	3,670	2,420	1,870	5,690
30	593	460	e580	e445	---	31,200	4,050	5,840	3,460	2,210	1,450	5,960
31	579	---	e580	e435	---	32,900	---	12,100	---	2,130	1,390	---
TOTAL	16,781	19,784	15,823	15,977	13,610	168,714	332,070	194,130	317,880	125,190	43,727	104,278
MEAN	541	659	510	515	469	5,442	11,070	6,262	10,600	4,038	1,411	3,476
MAX	745	977	617	600	543	32,900	32,800	15,200	21,900	8,260	1,990	6,610
MIN	361	429	402	435	430	550	4,050	1,890	3,460	2,130	873	887
AC-FT	33,290	39,240	31,380	31,690	27,000	334,600	658,700	385,100	630,500	248,300	86,730	206,800

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2004, BY WATER YEAR (WY)

MEAN	1,495	1,376	1,077	891	870	2,813	10,230	5,590	4,378	3,782	1,888	1,623
MAX	5,127	9,971	3,832	2,656	3,520	15,370	56,210	36,510	19,340	25,270	17,050	11,340
(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)

05082500 RED RIVER OF THE NORTH AT GRAND FORKS, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1904 - 2004	
ANNUAL TOTAL	816,997		1,367,964			
ANNUAL MEAN	2,238		3,738		2,986	
HIGHEST ANNUAL MEAN					10,070	1997
LOWEST ANNUAL MEAN					244	1934
HIGHEST DAILY MEAN	16,200	Jun 29	32,900	Mar 31	127,000	Apr 18, 1997
LOWEST DAILY MEAN	318	Sep 10	361	Oct 8	1.80	Sep 2, 1977
ANNUAL SEVEN-DAY MINIMUM	365	Sep 6	381	Oct 4	2.5	Feb 12, 1937
MAXIMUM PEAK FLOW			34,300	Apr 1	a137,000	Apr 18, 1997
MAXIMUM PEAK STAGE			38.34	Apr 1	b54.35	Apr 22, 1997
ANNUAL RUNOFF (AC-FT)	1,621,000		2,713,000		2,163,000	
10 PERCENT EXCEEDS	5,300		9,570		6,500	
50 PERCENT EXCEEDS	906		1,180		1,440	
90 PERCENT EXCEEDS	484		465		290	

a Maximum observed, affected by breakout from Red River of the North about 20 mi upstream of gage that entered Red Lake River about 2 mi upstream of confluence with the Red River of the North

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 2003 TO SEPTEMBER 2004

Date	Time	Discharge, cfs (00060)	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
DEC													
18...	1220	--	439	--	--	--	--	--	--	--	917	-2.0	0.0
JAN													
20...	1325	--	482	--	--	--	--	--	--	--	881	-6.5	0.0
MAR													
02...	1330	--	554	--	--	--	--	--	--	--	785	--	0.0
31...	0925	--	33,100	--	--	--	--	--	--	--	247	5.5	0.5
APR													
06...	1530	--	16,000	--	--	--	--	7.8	7.1	507	503	7.5	6.5
MAY													
04...	1500	--	3,000	--	--	--	--	--	--	--	690	12.0	12.0
13...	0800	8,130	--	460	742	11.2	96	7.4	8.4	678	670	0.8	7.5
25...	1405	--	5,700	--	--	--	--	--	--	--	569	10.0	13.0
JUN													
09...	1500	--	14,100	--	--	--	--	--	--	--	719	20.5	20.0
22...	1655	--	5,910	--	--	--	--	--	--	--	844	23.5	19.0
JUL													
30...	1550	--	2,290	--	--	--	--	--	--	--	908	18.5	23.0
SEP													
14...	1440	--	4,350	--	--	--	--	7.9	8.0	556	559	18.0	19.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)
DEC													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
06...	210	50.3	21.2	8.30	0.5	16.5	14	129	10.8	0.17	14.4	104	291
MAY													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	320	73.8	33.9	6.50	0.7	29.3	16	228	16.5	--	--	128	428
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
14...	250	54.1	27.8	6.90	0.5	17.6	13	188	11.9	0.17	17.1	99.8	333

05082500 RED RIVER OF THE NORTH AT GRAND FORKS, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, fltrd, mg/L (00602)	Total nitro-gen, water, unfltrd mg/L (00600)	Fecal coli-form, M-FC 0.7u MF col/ 100 mL (31625)
DEC													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
06...	13,100	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
13...	9,370	0.57	0.51	<0.010	<0.010	0.388	0.380	0.066	0.048	0.233	0.96	0.89	40
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
14...	4,090	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Mangan-ese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molyb-denum, water, fltrd, ug/L (01060)	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
DEC											
18...	--	--	--	--	--	--	--	--	--	--	--
JAN											
20...	--	--	--	--	--	--	--	--	--	--	--
MAR											
02...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
APR											
06...	--	--	2.5	70	<1	20	70	<0.20	3	2	160
MAY											
04...	--	--	--	--	--	--	--	--	--	--	--
13...	<3.0	<1.0	--	180	--	--	<10	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--
JUN											
09...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
JUL											
30...	--	--	--	--	--	--	--	--	--	--	--
SEP											
14...	--	--	5.1	200	<1	30	20	<0.20	3	3	190

Remark codes used in this table:
< -- Less than

05082625 TURTLE RIVER AT TURTLE RIVER STATE PARK NEAR ARVILLA, ND

LOCATION.--Lat 47°55'55", long 97°30'51", in NE¼NW¼NW¼ 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, 0.25 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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	7.8	e7.8	e7.4	e5.5	e2.4	758	48	281	16	12	9.0
2	6.5	8.0	e7.8	e7.5	e5.3	e2.5	e645	46	447	17	11	8.9
3	6.6	e8.4	e7.8	e7.5	e4.9	e2.5	e574	44	340	17	11	9.3
4	6.8	8.2	e7.7	e7.6	e4.8	e2.5	e508	43	213	16	10	10
5	6.9	8.3	e7.7	e7.8	e4.8	e2.5	e418	43	147	16	9.7	10
6	7.2	8.1	e7.6	e8.2	e4.7	e2.5	368	42	113	17	9.7	14
7	6.9	7.9	e7.6	e8.7	e4.4	e2.5	336	40	91	17	11	15
8	7.0	8.0	e7.4	e8.8	e4.2	e2.5	310	40	73	17	11	15
9	7.0	8.5	e7.4	e8.9	e3.8	e2.5	286	39	57	18	11	14
10	7.2	8.6	e7.2	e8.8	e3.6	e2.5	266	38	47	18	10	13
11	7.3	8.6	e7.1	e8.9	e3.6	e2.5	243	39	41	18	10	12
12	7.1	8.8	e7.0	e8.8	e3.5	e2.5	223	70	37	18	9.7	12
13	6.9	8.7	e6.9	e8.9	e3.4	e2.6	205	102	33	18	9.4	11
14	7.1	8.7	e6.7	e9.2	e3.3	e2.5	182	129	30	17	9.2	12
15	7.4	8.8	e6.7	e9.2	e3.2	e2.5	163	106	28	16	8.6	12
16	7.5	8.8	e6.6	e8.9	e3.0	e2.5	148	89	27	16	8.6	12
17	7.4	8.9	e6.7	e8.7	e3.0	e2.6	123	78	26	15	8.3	12
18	7.5	8.9	e6.6	e8.5	e2.9	e2.6	107	69	24	14	7.8	12
19	8.2	8.9	e6.6	e8.3	e2.7	e2.6	101	64	23	14	7.5	12
20	7.6	8.6	e6.6	e7.9	e2.7	e2.6	95	61	21	13	7.3	12
21	7.5	8.2	e6.6	e7.7	e2.7	e2.8	92	57	20	12	7.1	13
22	7.7	e8.2	e6.6	e7.3	e2.7	e3.7	85	55	20	12	7.2	13
23	7.6	e8.2	e6.6	e7.2	e2.6	e7.0	79	53	19	12	7.4	14
24	8.6	e8.1	e6.7	e7.0	e2.5	e16	74	51	18	11	9.3	16
25	e8.4	e8.1	e6.8	e6.9	e2.5	e29	69	52	18	11	9.2	16
26	7.7	e8.1	e6.8	e6.7	e2.6	e49	65	51	17	11	11	16
27	8.0	e8.1	e6.7	e6.5	e2.5	e128	62	49	17	11	10	15
28	8.2	e8.1	e6.9	e6.3	e2.5	e641	58	47	16	12	10	15
29	7.9	e7.9	e7.0	e6.2	e2.5	e1,900	54	46	16	12	10	14
30	8.2	e7.9	e7.0	e6.1	---	1,290	51	57	15	12	9.6	13
31	8.0	---	e7.3	e5.8	---	965	---	100	---	12	9.3	---
TOTAL	230.4	250.4	218.5	242.2	100.4	5,081.9	6,748	1,848	2,275	456	292.9	382.2
MEAN	7.43	8.35	7.05	7.81	3.46	164	225	59.6	75.8	14.7	9.45	12.7
MAX	8.6	8.9	7.8	9.2	5.5	1,900	758	129	447	18	12	16
MIN	6.5	7.8	6.6	5.8	2.5	2.4	51	38	15	11	7.1	8.9
AC-FT	457	497	433	480	199	10,080	13,380	3,670	4,510	904	581	758

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2004, BY WATER YEAR (WY)

MEAN	15.7	18.3	11.3	9.29	11.4	93.7	166	56.6	119	48.4	24.2	20.0
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	3.46	11.5	18.3	12.5	13.8	12.6	5.47	2.80
(WY)	(1993)	(1993)	(1993)	(1993)	(2004)	(1996)	(2000)	(1993)	(1993)	(2003)	(1998)	(1998)

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1993 - 2004	
ANNUAL TOTAL	5,105.1		18,125.9			
ANNUAL MEAN	14.0		49.5		49.4	
HIGHEST ANNUAL MEAN					94.7	2000
LOWEST ANNUAL MEAN					14.8	2003
HIGHEST DAILY MEAN	130	Mar 20	1,900	Mar 29	5,000	Jun 13, 2000
LOWEST DAILY MEAN	2.1	Sep 8	2.4	Mar 1	2.1	Sep 8, 2003
ANNUAL SEVEN-DAY MINIMUM	2.2	Sep 3	2.5	Feb 27	2.2	Sep 3, 2003
MAXIMUM PEAK FLOW			2,230	Mar 29	12,400	Jun 13, 2000
MAXIMUM PEAK STAGE			10.09	Mar 29	a18.74	Jun 13, 2000
ANNUAL RUNOFF (AC-FT)	10,130		35,950		35,810	
10 PERCENT EXCEEDS	29		91		98	
50 PERCENT EXCEEDS	8.0		8.9		14	
90 PERCENT EXCEEDS	6.2		3.3		7.0	

a From floodmark
e Estimated

05082625 TURTLE RIVER AT TURTLE RIVER STATE PARK NEAR ARVILLA, ND—Continued

WATER-QUALITY RECORDS

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

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
NOV													
20...	1410	8.6	--	--	--	840	--	0.0	--	--	--	--	--
JAN													
15...	1140	9.2	--	--	--	890	-6.5	0.0	--	--	--	--	--
FEB													
24...	1450	2.5	--	--	--	892	0.0	0.0	--	--	--	--	--
MAR													
23...	1600	12	--	--	--	797	2.0	0.0	--	--	--	--	--
29...	1710	2,110	--	--	--	456	10.0	0.5	--	--	--	--	--
APR													
02...	1750	644	7.8	7.4	531	531	7.0	4.0	180	43.7	16.3	8.10	1
28...	1335	63	--	--	--	1,060	--	12.5	--	--	--	--	--
JUN													
01...	1035	243	--	--	--	1,070	13.5	13.0	--	--	--	--	--
JUL													
09...	1340	18	--	--	--	1,060	--	20.5	--	--	--	--	--
AUG													
19...	1215	7.1	8.4	8.3	883	921	22.8	17.9	360	86.4	36.0	4.90	1

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
NOV													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
02...	37.3	30	101	13.2	0.17	15.7	131	312	568	4.0	150	<1	20
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
19...	43.3	20	237	23.9	0.27	18.8	212	549	10.9	6.9	40	<1	50

05082625 TURTLE RIVER AT TURTLE RIVER STATE PARK NEAR ARVILLA, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
NOV					
20...	--	--	--	--	--
JAN					
15...	--	--	--	--	--
FEB					
24...	--	--	--	--	--
MAR					
23...	--	--	--	--	--
29...	--	--	--	--	--
APR					
02...	160	<0.20	2	5	140
28...	--	--	--	--	--
JUN					
01...	--	--	--	--	--
JUL					
09...	--	--	--	--	--
AUG					
19...	90	<0.20	4	2	330

Remark codes used in this table:
< -- Less than

05083500 RED RIVER OF THE NORTH AT OSLO, MN

LOCATION.--Lat 48°11'38", long 97°08'25", in SW$^1/_4$SW$^1/_4$ sec.36, T.154 N., R.50 W., Marshall County, MN, Hydrologic Unit 09020306, on bridge crossing the Red River of the North, 0.5 mi west of Oslo, and at mile 271.2.

DRAINAGE AREA.--31,200 mi^2, approximately, including 3,800 mi^2 in closed basins.

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--1936-37, 1941-47 (high-water periods only), April 1948 to September 1960 (spring and summer months only), October 1973 to September 1976, October 1984 to September 2001 (peak gage height and discharge only), April 2002 to current year (gage height and maximum discharge only).

GAGE.--Water stage recorder. Datum of gage is 772.79 ft above National Geodetic Vertical Datum of 1929. Prior to September 1959 at datum 5.00 ft higher.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 120,000 ft^3/s, Apr. 23, 1997, gage height, 38.00 ft (observed).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 36,000 ft^3/s, gage height, 35.35 ft, Apr. 1, from floodmark; minimum gage height, 3.95 ft, Oct. 9.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.31	4.57	5.02	5.36	5.31	6.21	---	10.87	22.23	9.24	7.54	6.50
2	4.25	4.58	4.90	5.42	5.33	6.25	---	10.38	25.71	9.12	7.36	6.10
3	4.12	4.53	4.94	5.47	5.34	6.32	---	10.04	27.29	9.08	7.04	5.75
4	4.08	4.54	5.04	5.51	5.33	6.41	---	9.60	27.70	9.06	6.66	5.59
5	4.07	4.42	5.14	5.53	5.31	6.56	---	9.27	27.39	8.77	6.48	5.60
6	4.03	4.37	5.22	5.52	5.32	6.76	31.33	8.78	26.70	8.70	6.41	6.11
7	4.01	4.48	5.23	5.48	5.35	6.94	29.44	8.46	25.84	8.75	6.31	6.20
8	3.99	4.39	5.21	5.43	5.38	7.04	27.67	8.02	24.93	8.72	6.29	7.67
9	3.97	4.46	5.19	5.40	5.41	7.09	26.16	7.82	23.95	9.06	6.33	11.90
10	4.03	4.45	5.19	5.41	5.47	7.20	24.91	7.46	22.89	9.31	6.68	14.17
11	4.07	4.48	5.23	5.41	5.53	7.33	---	7.44	21.71	9.27	6.96	14.54
12	4.21	4.58	5.23	5.41	5.57	7.36	---	9.65	20.52	9.13	6.99	13.86
13	4.30	4.67	5.17	5.37	5.58	7.37	21.90	13.64	19.35	10.08	6.98	12.79
14	4.37	4.64	5.09	5.32	5.53	7.51	20.66	18.73	18.43	12.73	6.99	11.81
15	4.52	4.62	5.05	5.28	5.52	7.71	19.46	21.13	17.93	15.19	6.93	11.03
16	4.68	4.68	5.04	5.27	5.50	8.01	18.27	21.88	17.52	16.09	6.76	10.40
17	4.62	4.80	5.03	5.27	5.53	8.34	17.13	21.05	17.11	---	6.60	9.80
18	4.47	4.90	5.03	5.27	5.58	8.61	16.10	19.89	16.55	---	6.38	9.29
19	4.37	4.94	5.04	5.23	5.63	8.85	15.39	18.86	15.92	12.82	6.15	9.01
20	4.31	4.97	5.05	5.22	5.67	9.20	14.78	17.79	15.35	---	5.98	9.02
21	4.29	5.12	5.07	5.24	5.70	9.43	14.48	---	14.73	---	5.86	9.12
22	4.32	5.15	5.11	5.27	5.73	9.73	14.33	---	14.16	---	5.71	9.07
23	4.41	5.09	5.16	5.26	5.74	10.35	14.17	---	13.40	---	5.65	9.44
24	4.54	5.33	5.11	5.30	5.79	11.31	13.83	---	12.57	---	5.67	10.04
25	4.51	5.61	5.06	5.33	5.86	12.86	13.31	---	11.98	---	5.67	10.47
26	4.54	5.26	5.04	5.35	5.93	15.66	12.83	---	11.58	---	6.02	11.34
27	4.55	5.25	5.10	5.35	6.00	20.00	12.42	---	11.20	8.77	6.68	12.50
28	4.55	5.33	5.19	5.33	6.09	25.75	12.04	---	10.66	8.46	7.43	13.34
29	4.61	5.34	5.24	5.33	6.16	30.28	11.71	12.66	9.99	8.18	7.63	13.67
30	4.55	5.21	5.29	5.33	---	---	11.36	13.23	9.54	7.92	7.26	13.70
31	4.51	---	5.34	5.32	---	---	---	16.74	---	7.70	6.91	---
MEAN	4.33	4.83	5.12	5.35	5.59	---	---	---	18.49	---	6.59	9.99
MAX	4.68	5.61	5.34	5.53	6.16	---	---	---	27.70	---	7.63	14.54
MIN	3.97	4.37	4.90	5.22	5.31	---	---	---	9.54	---	5.65	5.59

Miscellaneous discharge measurements for Red River of the North at Oslo, MN

Date	Discharge
April 1, 2004	35,900
May 12, 2004	3,590

05083500 RED RIVER OF THE NORTH AT OSLO, MN—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973-77, 1986-96, 1998 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)
APR													
01...	1115	36,000	--	--	--	--	7.5	7.5	445	434	11.5	2.0	170
MAY													
12...	1010	3,590	450	729	10.0	91	8.3	7.9	675	665	2.0	9.0	250

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)
APR													
01...	40.7	16.5	8.30	0.5	15.8	16	110	17.9	0.16	13.9	74.7	242	24,700
MAY													
12...	57.5	26.8	5.60	0.9	34.1	22	171	31.2	--	--	139	401	3,880

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Organic nitrogen, water, fltrd, mg/L (00607)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)
APR													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
12...	0.89	0.67	0.306	0.264	0.595	0.570	0.58	0.41	0.107	0.108	0.682	1.5	1.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
APR												
01...	--	--	--	4.5	120	<1	20	80	<0.20	2	4	160
MAY												
12...	E83k	<15.0	<5.0	--	100	--	--	40	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range

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 National Geodetic Vertical Datum of 1929, from topographic map. Prior to July 21, 1951, nonrecording gage at site 50 ft downstream at same datum.

REMARKS.--Records good except for estimated daily discharges, 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	15	e10	e7.9	e8.7	e8.2	1,150	133	240	35	22	15
2	13	15	e10	e7.9	e8.7	e8.1	1,080	121	221	34	e21	17
3	14	15	e10	e7.9	e8.8	e8.4	982	116	211	35	e20	16
4	14	16	e10	e7.9	e8.7	e8.1	872	109	205	34	e19	17
5	14	15	e9.7	e8.3	e8.6	e8.0	815	105	199	38	e19	18
6	14	14	e9.1	e9.0	e8.8	e8.1	773	98	190	44	e19	22
7	15	e14	e8.7	e9.3	e8.8	e7.8	742	93	182	40	e18	25
8	13	e14	e8.2	e9.3	e8.8	e8.1	745	83	165	37	e16	24
9	13	e14	e8.0	e9.3	e8.8	e8.3	678	75	148	41	e19	21
10	14	e14	e8.0	e9.3	e8.6	e8.0	619	70	131	40	e17	20
11	15	e14	e8.0	e9.4	e8.4	e7.9	581	71	123	39	e16	18
12	15	e13	e8.0	e9.5	e8.4	e8.3	550	98	116	37	e16	17
13	14	e13	e8.0	e9.3	e8.2	e8.0	526	113	108	36	e15	17
14	15	e13	e8.0	e9.4	e8.3	e7.9	516	115	105	34	e15	17
15	14	e13	e8.0	e9.6	e8.4	e7.9	506	109	102	32	e15	18
16	13	e13	e8.0	e9.5	e8.1	e8.2	494	108	102	31	e14	17
17	13	e13	e8.0	e9.4	e8.1	e8.3	479	104	99	30	e14	17
18	13	e13	e8.0	e9.4	e8.2	e8.1	462	101	86	30	e14	16
19	14	e13	e8.3	e9.4	e8.2	e8.6	445	96	75	30	e12	15
20	14	e13	e8.7	e9.2	e8.4	e8.6	421	92	71	28	12	15
21	15	e12	e8.7	e9.2	e8.3	e8.4	393	82	67	28	12	17
22	14	e11	e8.7	e9.1	e8.5	e8.4	356	77	63	28	12	17
23	14	e11	e8.7	e9.3	e8.0	e9.6	327	73	61	28	12	19
24	14	e11	e8.7	e9.1	e8.0	e9.6	299	70	55	26	13	22
25	14	e11	e8.7	e9.1	e8.2	e60	286	74	52	24	13	32
26	14	e11	e8.7	e9.2	e8.4	e400	258	72	50	23	16	34
27	15	e11	e8.7	e9.2	e8.1	e70	231	69	47	22	19	32
28	18	e11	e8.5	e9.0	e8.4	4,960	204	64	45	26	19	30
29	17	e10	e7.9	e8.8	e8.1	2,870	177	63	42	23	17	28
30	16	e10	e7.9	e8.7	---	1,220	153	77	38	23	16	26
31	16	---	e7.9	e8.9	---	1,160	---	148	---	23	14	---
TOTAL	444	386	265.8	279.8	244.0	10,938.9	16,120	2,879	3,399	979	496	619
MEAN	14.3	12.9	8.57	9.03	8.41	353	537	92.9	113	31.6	16.0	20.6
MAX	18	16	10	9.6	8.8	4,960	1,150	148	240	44	22	34
MIN	13	10	7.9	7.9	8.0	7.8	153	63	38	22	12	15
AC-FT	881	766	527	555	484	21,700	31,970	5,710	6,740	1,940	984	1,230

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2004, BY WATER YEAR (WY)

MEAN	10.7	9.97	8.07	6.97	8.11	71.1	212	70.0	37.7	28.6	14.0	9.49
MAX	57.9	36.5	19.3	16.3	38.4	353	1,182	1,037	255	232	280	53.3
(WY)	(1983)	(2001)	(1998)	(1986)	(1998)	(2004)	(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	0.91
(WY)	(1941)	(1941)	(1941)	(1941)	(1963)	(1941)	(1991)	(1961)	(1940)	(1941)	(1945)	(1940)

05084000 FOREST RIVER NEAR FORDVILLE, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1940 - 2004	
ANNUAL TOTAL	14,573.8		37,050.5			
ANNUAL MEAN	39.9		101		40.9	
HIGHEST ANNUAL MEAN					193	1950
LOWEST ANNUAL MEAN					6.37	1990
HIGHEST DAILY MEAN	353	Apr 10	4,960	Mar 28	10,900	Apr 18, 1950
LOWEST DAILY MEAN	7.4	Sep 5	7.8	Mar 7	0.00	Apr 1, 1940
ANNUAL SEVEN-DAY MINIMUM	8.0	Aug 31	7.9	Dec 29	0.00	Apr 1, 1940
MAXIMUM PEAK FLOW			6,180	Mar 28	a16,400	Apr 18, 1950
MAXIMUM PEAK STAGE			11.26	Mar 28	b14.48	Apr 18, 1950
ANNUAL RUNOFF (AC-FT)	28,910		73,490		29,640	
10 PERCENT EXCEEDS	99		204		59	
50 PERCENT EXCEEDS	14		15		9.2	
90 PERCENT EXCEEDS	8.3		8.2		3.9	

a From ratng 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.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
09...	0935	13	--	--	--	930	12.0	12.0	--	--	--	--	--
NOV													
17...	1140	13	--	--	--	998	4.0	2.0	--	--	--	--	--
JAN													
07...	1220	9.3	--	--	--	528	-5.0	0.5	--	--	--	--	--
FEB													
12...	1125	8.2	--	--	--	453	-2.0	0.5	--	--	--	--	--
APR													
09...	0915	691	7.5	7.1	612	634	4.5	4.0	210	48.1	21.7	8.10	1
JUN													
09...	1440	150	--	--	--	1,280	24.0	17.0	--	--	--	--	--
JUL													
14...	1105	34	--	--	--	1,080	--	21.0	--	--	--	--	--
AUG													
23...	1530	12	8.5	6.9	876	907	17.8	14.3	360	82.3	36.4	5.10	1

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
09...	44.2	30	106	10.3	0.13	15.0	177	375	725	1.7	100	<1	30
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
23...	44.1	21	177	14.1	0.19	18.3	214	504	16.7	5.0	30	<1	40

05084000 FOREST RIVER NEAR FORDVILLE, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
09...	--	--	--	--	--
NOV					
17...	--	--	--	--	--
JAN					
07...	--	--	--	--	--
FEB					
12...	--	--	--	--	--
APR					
09...	150	<0.20	1	<1	170
JUN					
09...	--	--	--	--	--
JUL					
14...	--	--	--	--	--
AUG					
23...	200	<0.20	2	2	280

Remark codes used in this table:
< -- Less than

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 National Geodetic Vertical Datum of 1929. Prior to July 15, 1954, nonrecording gage at site 400 ft upstream at same datum.

REMARKS.--Records good 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.7	18	e9.9	e7.0	e8.0	e8.4	1,890	e206	212	48	24	19
2	9.2	20	e9.5	e7.0	e8.0	e8.4	1,460	e170	350	46	23	20
3	11	17	e9.3	e7.0	e8.0	e8.4	1,310	e150	393	47	22	19
4	11	20	e8.7	e7.0	e7.9	e8.4	1,180	144	337	47	21	23
5	14	21	e8.5	e7.0	e7.9	e8.5	1,060	132	298	46	21	25
6	13	21	e8.4	e7.5	e7.8	e8.6	973	119	267	46	21	28
7	16	20	e7.9	e8.0	e8.0	e8.8	911	110	243	51	20	30
8	15	18	e7.5	e8.5	e8.0	e8.9	865	108	228	52	20	31
9	15	18	e7.4	e8.6	e7.8	e9.0	845	105	211	50	23	30
10	18	19	e7.3	e8.6	e7.7	e9.1	796	94	188	49	21	28
11	20	e15	e7.4	e8.6	e7.8	e9.3	738	95	167	48	19	26
12	23	e13	e7.1	e8.5	e7.7	e9.5	697	186	153	46	19	26
13	23	e13	e7.0	e8.5	e7.6	e9.7	663	190	145	45	19	26
14	21	e13	e6.9	e8.4	e7.7	e10	631	174	127	44	18	27
15	22	e13	e6.7	e8.4	e7.8	e10	612	172	119	42	19	26
16	23	e13	e6.5	e8.4	e8.0	e11	603	158	116	41	18	26
17	23	e13	e6.7	e8.4	e7.7	e11	586	146	112	40	19	27
18	22	e13	e7.0	e8.4	e7.9	e11	575	136	101	37	18	26
19	24	e14	e7.4	e8.4	e8.0	e12	569	138	93	36	17	24
20	25	e14	e7.8	e8.3	e8.0	e13	546	139	90	34	17	20
21	25	e11	e8.0	e8.3	e8.0	e15	517	123	86	32	16	19
22	27	e12	e8.0	e8.3	e8.1	e17	488	116	80	31	18	21
23	23	e11	e8.0	e8.2	e8.2	e20	449	110	77	30	15	22
24	27	e11	e8.0	e8.2	e8.4	30	417	102	75	29	16	26
25	21	e11	e8.0	e8.2	e8.4	53	391	102	65	28	18	28
26	18	e11	e8.0	e8.2	e8.4	136	371	102	59	26	18	31
27	19	e11	e8.0	e8.1	e8.4	490	344	95	58	26	21	33
28	19	e10	e7.8	e8.1	e8.4	e3,000	316	90	57	26	23	31
29	22	e10	e7.5	e8.1	e8.4	5,700	e280	91	50	26	25	30
30	22	e10	e7.1	e8.1	---	4,630	e244	104	51	27	22	29
31	23	---	e7.0	e8.0	---	3,040	---	140	---	25	20	---
TOTAL	602.9	434	240.3	250.3	232.0	17,324.0	21,327	4,047	4,608	1,201	611	777
MEAN	19.4	14.5	7.75	8.07	8.00	559	711	131	154	38.7	19.7	25.9
MAX	27	21	9.9	8.6	8.4	5,700	1,890	206	393	52	25	33
MIN	8.7	10	6.5	7.0	7.6	8.4	244	90	50	25	15	19
AC-FT	1,200	861	477	496	460	34,360	42,300	8,030	9,140	2,380	1,210	1,540

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 2004, BY WATER YEAR (WY)

MEAN	10.3	10.2	6.14	3.66	3.73	78.4	305	101	51.8	35.2	17.5	10.3
MAX	59.1	32.4	20.9	15.8	50.2	559	1,573	1,515	267	348	328	69.0
(WY)	(1983)	(2001)	(1998)	(1998)	(1998)	(2004)	(1950)	(1950)	(1964)	(1997)	(1993)	(1993)
MIN	0.00	0.97	0.29	0.00	0.00	0.00	17.8	10.6	4.21	1.87	0.00	0.00
(WY)	(1991)	(1991)	(1990)	(1977)	(1961)	(1962)	(2000)	(1946)	(1991)	(1980)	(1946)	(1961)

05085000 FOREST RIVER AT MINTO, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1944 - 2004	
ANNUAL TOTAL	17,199.3		51,654.5			
ANNUAL MEAN	47.1		141		53.2	
HIGHEST ANNUAL MEAN					268	1950
LOWEST ANNUAL MEAN					4.36	1990
HIGHEST DAILY MEAN	417	Apr 11	5,700	Mar 29	11,600	Apr 19, 1950
LOWEST DAILY MEAN	6.5	Dec 16	6.5	Dec 16	0.00	Sep 5, 1945
ANNUAL SEVEN-DAY MINIMUM	6.8	Dec 12	6.8	Dec 12	0.00	Sep 5, 1945
MAXIMUM PEAK FLOW			6,750	Mar 29	a16,600	Apr 18, 1950
MAXIMUM PEAK STAGE			9.27	Mar 29	b11.80	Apr 18, 1950
ANNUAL RUNOFF (AC-FT)	34,110		102,500		38,520	
10 PERCENT EXCEEDS	118		303		82	
50 PERCENT EXCEEDS	19		21		9.2	
90 PERCENT EXCEEDS	8.6		8.0		0.50	

a From rating curve extended above 7,200 ft^3/s on basis of contracted opening measurement of peak flow
b 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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
09...	1445	16	--	--	--	1,030	18.5	14.5	--	--	--	--	--
NOV													
17...	1445	13	--	--	--	1,620	7.0	0.5	--	--	--	--	--
MAR													
18...	1110	12	--	--	--	426	0.0	0.5	--	--	--	--	--
30...	1100	4,510	--	--	--	434	6.0	1.5	--	--	--	--	--
APR													
01...	1420	1,850	7.5	7.5	559	552	11.5	2.0	200	46.2	19.6	8.90	1
JUN													
15...	1530	119	--	--	--	1,260	--	16.0	--	--	--	--	--
JUL													
16...	1325	41	--	--	--	1,160	--	24.5	--	--	--	--	--
AUG													
23...	1025	14	8.4	8.2	972	1,020	15.7	14.9	400	91.3	42.1	6.50	1

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
01...	32.3	25	98	10.3	0.15	14.5	154	332	1,730	3.6	120	<1	20
JUN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
23...	48.8	20	255	27.3	0.20	18.1	244	615	24.7	4.9	20	3	40

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
09...	--	--	--	--	--
NOV					
17...	--	--	--	--	--
MAR					
18...	--	--	--	--	--
30...	--	--	--	--	--
APR					
01...	270	<0.20	2	4	150
JUN					
15...	--	--	--	--	--
JUL					
16...	--	--	--	--	--
AUG					
23...	150	<0.20	3	3	320

Remark codes used in this table:
< -- Less than

05090000 PARK RIVER AT GRAFTON, ND

LOCATION.--Lat 48°25'29", long 97°24'42", in NE¼ 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.--May 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 National Geodetic Vertical Datum of 1929. 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 discharges below 1.0 ft^3/s and for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e0.10	e0.10	e0.10	e0.05	e0.04	e0.11	3,700	131	475	48	11	29
2	e0.10	e0.10	e0.10	e0.05	e0.04	e0.11	3,400	115	704	54	10	41
3	e0.10	e0.10	e0.10	e0.05	e0.04	e0.11	3,160	108	734	67	9.8	31
4	e0.10	e0.10	e0.10	e0.05	e0.04	e0.11	2,680	101	665	83	8.6	24
5	e0.10	e0.10	e0.10	e0.05	e0.04	e0.11	2,170	96	526	153	8.1	23
6	e0.10	e0.10	e0.10	e0.05	e0.04	e0.12	1,660	93	408	182	8.5	30
7	e0.10	e0.10	e0.10	e0.05	e0.04	e0.12	1,140	82	323	156	9.6	31
8	e0.10	e0.10	e0.10	e0.05	e0.04	e0.13	1,070	82	270	162	8.4	30
9	e0.10	e0.10	e0.09	e0.05	e0.04	e0.14	1,120	106	231	157	9.3	30
10	e0.10	e0.10	e0.08	e0.05	e0.04	e0.14	1,050	107	218	138	7.4	29
11	e0.10	e0.10	e0.07	e0.05	e0.04	e0.14	887	110	207	112	7.0	27
12	e0.10	e0.10	e0.06	e0.05	e0.04	e0.18	633	129	180	103	8.7	31
13	e0.10	e0.10	e0.05	e0.05	e0.04	e0.25	536	172	156	93	9.1	33
14	e0.10	e0.10	e0.05	e0.05	e0.04	e0.50	468	278	133	84	9.0	35
15	e0.10	e0.10	e0.05	e0.05	e0.04	e2.7	426	392	130	74	8.9	29
16	e0.10	e0.10	e0.05	e0.05	e0.04	e3.0	395	427	129	61	8.3	21
17	e0.10	e0.10	e0.05	e0.05	e0.05	e3.3	382	405	121	52	8.0	15
18	e0.10	e0.10	e0.05	e0.05	e0.05	e3.6	360	363	117	46	6.6	8.2
19	e0.10	e0.10	e0.05	e0.05	e0.05	e3.7	342	317	107	41	4.8	5.7
20	e0.10	e0.10	e0.05	e0.05	e0.05	e3.9	346	279	95	38	4.8	5.0
21	e0.10	e0.10	e0.05	e0.05	e0.06	e4.0	329	248	91	36	4.8	4.8
22	e0.10	e0.10	e0.05	e0.05	e0.06	e4.2	303	230	72	31	4.4	5.2
23	e0.10	e0.10	e0.05	e0.05	e0.07	e4.4	289	240	76	26	5.4	6.1
24	e0.10	e0.10	e0.05	e0.05	e0.07	e5.0	262	219	69	20	5.6	9.2
25	e0.10	e0.10	e0.05	e0.05	e0.07	e7.0	235	203	62	18	5.2	16
26	e0.10	e0.10	e0.05	e0.05	e0.08	e30	208	191	54	16	6.8	33
27	e0.10	e0.10	e0.05	e0.05	e0.09	e300	185	179	53	16	9.2	31
28	e0.10	e0.10	e0.05	e0.05	e0.10	e2,100	173	183	53	17	7.7	34
29	e0.10	e0.10	e0.05	e0.04	e0.11	e4,200	162	177	56	14	12	26
30	e0.10	e0.10	e0.05	e0.04	---	e5,000	140	183	53	12	12	24
31	e0.10	---	e0.05	e0.04	---	4,450	---	234	---	11	12	---
TOTAL	3.10	3.00	2.05	1.52	1.55	16,127.07	28,211	6,180	6,568	2,121	251.0	697.2
MEAN	0.10	0.10	0.07	0.05	0.05	520	940	199	219	68.4	8.10	23.2
MAX	0.10	0.10	0.10	0.05	0.11	5,000	3,700	427	734	182	12	41
MIN	0.10	0.10	0.05	0.04	0.04	0.11	140	82	53	11	4.4	4.8
AC-FT	6.1	6.0	4.1	3.0	3.1	31,990	55,960	12,260	13,030	4,210	498	1,380

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2004, BY WATER YEAR (WY)

MEAN	5.12	3.79	2.56	1.50	2.55	82.5	420	119	54.3	34.2	15.0	9.53
MAX	69.9	31.3	17.4	13.9	45.7	654	2,051	2,071	576	441	569	185
(WY)	(1983)	(1981)	(1983)	(1983)	(1981)	(1995)	(1950)	(1950)	(1964)	(1997)	(1993)	(2002)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.05	0.00	0.00	0.00	0.00
(WY)	(1934)	(1934)	(1933)	(1932)	(1933)	(1936)	(1991)	(1939)	(1961)	(1990)	(1932)	(1932)

05090000 PARK RIVER AT GRAFTON, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1931 - 2004	
ANNUAL TOTAL	23,191.25		60,166.49			
ANNUAL MEAN	63.5		164		62.6	
HIGHEST ANNUAL MEAN					353	1950
LOWEST ANNUAL MEAN					1.38	1990
HIGHEST DAILY MEAN	869	Apr 11	5,000	Mar 30	11,700	Apr 19, 1950
LOWEST DAILY MEAN	0.05	Dec 13	0.04	Jan 29	0.00	Aug 10, 1931
ANNUAL SEVEN-DAY MINIMUM	0.05	Dec 13	0.04	Jan 29	0.00	Aug 21, 1931
MAXIMUM PEAK FLOW			a5,100	Mar 30	b12,600	Apr 19, 1950
MAXIMUM PEAK STAGE			c16.15	Mar 29	d20.13	Apr 19, 1950
ANNUAL RUNOFF (AC-FT)	46,000		119,300		45,340	
10 PERCENT EXCEEDS	185		319		86	
50 PERCENT EXCEEDS	0.56		5.2		2.0	
90 PERCENT EXCEEDS	0.10		0.05		0.00	

a Gage height, 15.78
b From rating curve extended above 9,000 ft^3/s
c Backwater from ice
d 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.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
APR													
08...	1100	1,040	7.1	7.0	596	605	0.5	6.0	210	53.8	19.5	8.40	1
JUN													
03...	1215	759	--	--	--	564	20.5	16.5	--	--	--	--	--
JUL													
16...	1125	53	--	--	--	1,120	--	23.0	--	--	--	--	--
AUG													
23...	1300	6.4	8.4	8.2	1,400	1,460	14.4	15.1	470	102	53.2	9.10	2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
APR													
08...	36.3	26	106	20.3	0.22	19.7	150	354	1,050	2.6	70	<1	30
JUN													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
23...	116	34	264	96.2	0.34	19.5	365	902	15.8	5.7	20	4	80

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
APR					
08...	70	<0.20	2	1	210
JUN					
03...	--	--	--	--	--
JUL					
16...	--	--	--	--	--
AUG					
23...	190	<0.20	6	4	500

Remark codes used in this table:
< -- Less than

05092000 RED RIVER OF THE NORTH AT DRAYTON, ND

LOCATION.--Lat 48°34'20", long 97°08'50", in SE¼SE¼SE¼ 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	642	650	e540	e570	e450	e545	e35,000	4,980	12,700	3,890	2,640	2,270
2	612	623	e545	e590	e435	e550	37,000	4,620	17,400	3,750	2,550	2,070
3	575	636	e545	e600	e430	e560	36,900	4,310	21,200	3,680	2,450	1,850
4	571	638	e530	e605	e430	e575	36,100	4,050	22,900	3,710	2,300	1,680
5	533	628	e530	e620	e430	e585	35,000	3,830	23,300	3,700	2,120	1,580
6	511	578	e535	e620	e430	e600	33,700	3,680	22,900	3,650	2,020	1,680
7	496	553	e560	e610	e430	e620	32,100	3,550	21,900	3,630	2,000	2,070
8	495	e530	e570	e600	e435	e670	30,400	3,330	20,400	3,620	1,930	2,150
9	483	e550	e580	e590	e445	e735	28,400	3,130	18,700	3,690	1,920	2,860
10	460	e570	e580	e580	e450	e780	26,200	2,960	17,200	3,810	1,940	4,920
11	473	e580	e565	e560	e450	e800	23,800	2,820	16,300	3,890	2,060	6,320
12	506	e595	e560	e540	e450	e865	21,200	3,990	15,400	3,870	2,190	6,710
13	520	605	e550	e530	e460	e895	18,700	6,590	14,200	3,820	2,240	6,350
14	564	619	e545	e520	e470	e915	17,900	9,880	12,900	4,390	2,230	5,630
15	600	642	e540	e520	e470	e960	17,100	13,800	11,700	5,890	2,230	4,920
16	687	643	e520	e530	e480	e1,060	16,000	16,700	10,700	7,470	2,210	4,410
17	821	646	e500	e530	e480	e1,160	14,500	e17,000	9,940	8,060	2,160	4,030
18	788	698	e490	e530	e480	e1,260	12,900	e16,500	9,380	7,800	2,060	3,740
19	714	781	e490	e530	e480	e1,360	11,400	e15,000	8,930	7,070	1,990	3,480
20	605	871	e490	e530	e480	e1,460	9,960	e13,000	8,530	6,170	1,860	3,350
21	585	896	e490	e530	e480	e1,600	9,350	e11,500	8,290	5,360	1,750	3,310
22	556	e860	e490	e515	e480	e1,750	e8,900	e10,300	8,050	4,770	1,630	3,340
23	570	e750	e490	e515	e485	e1,930	e8,300	e9,500	7,460	4,300	1,580	3,360
24	569	e630	e505	e515	e490	e2,160	e7,800	e8,700	6,870	3,910	1,540	3,590
25	587	e530	e525	e515	e490	e2,550	e7,300	e7,900	6,270	3,650	1,520	3,910
26	631	e560	e535	e530	e495	e3,600	e6,800	e7,400	5,770	3,490	1,560	4,190
27	643	e600	e530	e530	e505	e4,650	e6,500	e6,900	5,300	3,340	1,660	4,700
28	651	e610	e530	e520	e520	e8,000	6,220	e6,500	4,930	3,220	1,980	5,390
29	671	e600	e530	e485	e530	e17,500	5,800	6,060	4,550	3,050	2,370	5,970
30	652	e540	e535	e450	---	e25,000	5,340	6,490	4,160	2,910	2,530	6,320
31	650	---	e550	e450	---	e31,000	---	8,780	---	2,760	2,440	---
TOTAL	18,421	19,212	16,475	16,860	13,540	116,695	566,570	243,750	378,230	136,320	63,660	116,150
MEAN	594	640	531	544	467	3,764	18,890	7,863	12,610	4,397	2,054	3,872
MAX	821	896	580	620	530	31,000	37,000	17,000	23,300	8,060	2,640	6,710
MIN	460	530	490	450	430	545	5,340	2,820	4,160	2,760	1,520	1,580
AC-FT	36,540	38,110	32,680	33,440	26,860	231,500	1,124,000	483,500	750,200	270,400	126,300	230,400

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2004, BY WATER YEAR (WY)

MEAN	1,960	1,885	1,441	1,185	1,146	3,379	15,320	9,533	6,193	5,553	2,664	2,189
MAX	5,194	11,840	4,168	2,679	2,598	16,290	54,710	58,890	23,420	28,240	21,580	12,140
(WY)	(1995)	(2001)	(1999)	(2001)	(1998)	(1998)	(1997)	(1950)	(1962)	(1975)	(1993)	(1999)
MIN	317	277	149	174	201	280	1,275	938	676	348	243	329
(WY)	(1991)	(1977)	(1977)	(1990)	(1977)	(1962)	(1981)	(1977)	(1977)	(1988)	(1977)	(1988)

05092000 RED RIVER OF THE NORTH AT DRAYTON, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1949 - 2004	
ANNUAL TOTAL	909,317		1,705,883			
ANNUAL MEAN	2,491		4,661		4,393	
HIGHEST ANNUAL MEAN					11,280	1997
LOWEST ANNUAL MEAN					536	1977
HIGHEST DAILY MEAN	15,300	Jul 2	37,000	Apr 2	124,000	Apr 24, 1997
LOWEST DAILY MEAN	351	Sep 14	430	Feb 3	110	Dec 23, 1989
ANNUAL SEVEN-DAY MINIMUM	399	Sep 10	431	Feb 2	118	Dec 28, 1989
MAXIMUM PEAK FLOW			a37,400	Apr 2	124,000	Apr 24, 1997
MAXIMUM PEAK STAGE			39.55	Apr 5	45.55	Apr 24, 1997
INSTANTANEOUS LOW FLOW					7.7	Oct 16, 1936
ANNUAL RUNOFF (AC-FT)	1,804,000		3,384,000		3,183,000	
10 PERCENT EXCEEDS	5,890		13,900		10,100	
50 PERCENT EXCEEDS	984		1,750		1,930	
90 PERCENT EXCEEDS	530		490		498	

a Gage height, 38.65 ft
e Estimated

05092000 RED RIVER OF THE NORTH AT DRAYTON, ND—Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Discharge, cfs (00060)	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
OCT													
02...	1730	--	580	--	--	--	--	--	--	--	1,060	16.0	9.5
31...	1255	--	642	--	--	--	--	--	--	--	1,260	4.0	4.0
DEC													
15...	1320	--	537	--	--	--	--	--	--	--	1,300	-3.5	0.0
JAN													
27...	1205	--	535	--	--	--	--	--	--	--	1,370	-22.0	0.0
MAR													
16...	1140	--	1,080	--	--	--	--	--	--	--	1,060	0.0	0.0
APR													
02...	1610	--	37,200	--	--	--	--	8.2	7.5	413	405	3.5	3.5
13...	1225	--	18,400	--	--	--	--	--	--	--	700	5.5	5.5
20...	1015	--	9,930	--	--	--	--	--	--	--	770	9.5	7.5
MAY													
04...	1130	--	3,990	--	--	--	--	--	--	--	790	4.0	10.0
11...	0905	2,820	--	83	736	11.6	114	8.4	8.3	854	858	0.3	13.0
JUN													
01...	1625	--	14,000	--	--	--	--	--	--	--	744	19.0	15.5
10...	1200	--	17,000	--	--	--	--	--	--	--	763	20.5	19.0
JUL													
20...	1300	--	6,040	--	--	--	--	--	--	--	664	33.0	26.5
SEP													
14...	1145	--	5,760	--	--	--	--	7.9	7.8	560	565	17.5	18.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)
OCT													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
02...	160	38.0	15.7	7.80	0.5	14.4	16	108	15.0	0.16	13.1	67.2	225
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	340	77.3	36.6	7.80	1	56.5	26	218	50.6	--	--	170	533
JUN													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
14...	200	44.1	22.2	7.20	1	31.5	24	149	38.0	0.19	15.5	84.8	319

05092000 RED RIVER OF THE NORTH AT DRAYTON, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Organic nitro-gen, water, fltrd, mg/L (00607)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, fltrd, mg/L (00602)
OCT													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
02...	23,700	--	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	4,050	0.65	0.57	0.063	<0.010	0.420	0.420	0.59	0.51	0.159	0.061	0.162	1.1
JUN													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
14...	5,180	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Total nitro-gen, water, unfltrd mg/L (00600)	Fecal coli-form, M-FC 0.7u MF col/ 100 mL (31625)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Mangan-ese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molyb-denum, water, fltrd, ug/L (01060)	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
OCT													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
02...	--	--	--	--	4.6	80	<1	20	80	<0.20	2	4	130
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	0.99	E12k	126	9.2	--	<10	--	--	<10	--	--	--	--
JUN													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
14...	--	--	--	--	5.1	40	<1	30	<10	<0.20	2	4	210

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range

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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e494	225	185	14	7.1	17
2	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	632	209	152	14	7.5	17
3	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	724	198	141	18	6.9	20
4	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	809	171	133	19	7.2	34
5	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	897	165	123	9.9	7.3	28
6	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	943	143	112	8.7	18	24
7	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	1,000	134	406	7.4	94	22
8	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	975	122	232	7.9	40	22
9	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	953	111	181	33	30	21
10	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	918	96	160	22	29	20
11	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	897	95	148	17	29	18
12	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	893	49	145	16	28	16
13	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	855	90	132	14	26	14
14	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	798	96	120	12	25	14
15	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	749	107	112	11	25	12
16	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	720	123	101	10	25	9.7
17	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	681	127	85	10	25	8.5
18	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	639	132	70	9.2	25	6.5
19	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	590	148	62	9.5	24	5.8
20	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	576	141	55	8.6	23	6.8
21	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	491	130	48	9.9	23	6.0
22	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	459	122	42	9.4	23	3.6
23	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	420	116	38	9.1	22	3.6
24	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	403	114	34	7.1	24	4.9
25	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	357	108	32	7.1	22	3.9
26	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	320	103	30	6.9	23	3.6
27	e0.00	e0.00	e0.00	e0.00	e0.00	e1.2	308	94	26	7.5	21	2.9
28	e0.00	e0.00	e0.00	e0.00	e0.00	e4.4	280	88	22	8.1	20	2.4
29	e0.00	e0.00	e0.00	e0.00	e0.00	e14	242	86	19	8.1	20	2.4
30	e0.00	e0.00	e0.00	e0.00	---	e49	237	114	16	8.1	19	2.6
31	e0.00	---	e0.00	e0.00	---	e155	---	188	---	7.4	19	---
TOTAL	0.00	0.00	0.00	0.00	0.00	223.60	19,260	3,945	3,162	359.9	738.0	372.2
MEAN	0.00	0.00	0.00	0.00	0.00	7.21	642	127	105	11.6	23.8	12.4
MAX	0.00	0.00	0.00	0.00	0.00	155	1,000	225	406	33	94	34
MIN	0.00	0.00	0.00	0.00	0.00	0.00	237	49	16	6.9	6.9	2.4
AC-FT	0.00	0.00	0.00	0.00	0.00	444	38,200	7,820	6,270	714	1,460	738

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2004, BY WATER YEAR (WY)

MEAN	5.16	2.22	0.26	0.04	0.15	8.57	150	88.3	25.8	21.9	11.1	5.92
MAX	70.5	39.9	7.67	1.36	4.90	74.6	668	945	131	529	139	99.7
(WY)	(1995)	(1995)	(1995)	(1995)	(1981)	(1995)	(1995)	(1997)	(2002)	(1997)	(1997)	(1993)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.06	0.00	0.00	0.00	0.00
(WY)	(1962)	(1962)	(1962)	(1962)	(1962)	(1962)	(1973)	(1988)	(1962)	(1961)	(1961)	(1961)

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1961 - 2004	
ANNUAL TOTAL	2,379.17		28,060.70			
ANNUAL MEAN	6.52		76.7		27.2	
HIGHEST ANNUAL MEAN					197	1997
LOWEST ANNUAL MEAN					0.14	2000
HIGHEST DAILY MEAN	105	Apr 9	1,000	Apr 7	2,160	Apr 30, 1997
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 1	0.00	Mar 1, 1961
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Oct 1	0.00	Mar 1, 1961
MAXIMUM PEAK FLOW			(a)		2,710	Jul 12, 1997
MAXIMUM PEAK STAGE			(a)		1,232.08	Apr 24, 1997
ANNUAL RUNOFF (AC-FT)	4,720		55,660		19,700	
10 PERCENT EXCEEDS	18		186		49	
50 PERCENT EXCEEDS	0.00		3.2		0.04	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

a Unavailable
e Estimated

05099150 MOWBRAY CREEK NEAR MOWBRAY, MANITOBA
(International gaging station)

LOCATION.--Lat 49°00'00", long 98°27'15", in SE¼ 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.--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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e267	11	151	1.1	0.53	2.9
2	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	1,090	11	130	1.3	0.49	2.5
3	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	1,010	8.7	92	2.5	0.46	2.7
4	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	936	6.4	54	3.4	0.39	3.4
5	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	840	14	30	1.7	0.35	2.9
6	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	717	6.8	20	1.4	0.71	2.6
7	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	724	4.1	139	1.1	32	2.4
8	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	618	3.0	139	1.7	53	1.8
9	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	523	2.8	101	4.1	45	1.4
10	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	410	2.2	66	3.4	35	1.3
11	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	351	3.0	40	2.5	27	1.3
12	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	283	2.2	25	2.4	20	1.1
13	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	199	1.5	18	1.8	14	1.2
14	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	138	2.9	14	1.6	11	1.3
15	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	96	62	11	1.5	11	1.2
16	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	72	136	9.1	1.3	9.8	1.2
17	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	58	139	7.3	1.1	8.7	1.1
18	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	44	115	8.4	0.92	8.0	0.95
19	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	35	71	16	0.78	6.6	0.88
20	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	30	50	12	0.78	5.5	1.0
21	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	23	31	7.3	0.78	4.6	1.3
22	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	17	20	5.9	1.0	3.6	0.99
23	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	14	16	5.9	0.95	3.0	5.2
24	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	15	14	7.1	0.78	3.7	13
25	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	17	16	4.9	0.71	5.6	13
26	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	14	16	3.2	0.64	7.8	13
27	0.00	e0.00	e0.00	e0.00	e0.00	e0.14	14	14	2.6	0.71	6.6	15
28	e0.00	e0.00	e0.00	e0.00	e0.00	e0.71	13	18	2.0	0.95	5.3	15
29	e0.00	e0.00	e0.00	e0.00	e0.00	e3.2	12	17	1.6	0.78	4.6	13
30	e0.00	e0.00	e0.00	e0.00	---	e9.9	12	24	1.3	0.67	4.3	9.2
31	e0.00	---	e0.00	e0.00	---	e59	---	108	---	0.60	3.7	---
TOTAL	0.00	0.00	0.00	0.00	0.00	72.95	8,592	946.6	1,124.6	44.95	342.33	133.82
MEAN	0.00	0.00	0.00	0.00	0.00	2.35	286	30.5	37.5	1.45	11.0	4.46
MAX	0.00	0.00	0.00	0.00	0.00	59	1,090	139	151	4.1	53	15
MIN	0.00	0.00	0.00	0.00	0.00	0.00	12	1.5	1.3	0.60	0.35	0.88
AC-FT	0.00	0.00	0.00	0.00	0.00	145	17,040	1,880	2,230	89	679	265

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2004, BY WATER YEAR (WY)

MEAN	1.97	0.88	0.06	0.00	0.23	14.3	86.0	19.7	9.90	8.97	8.33	1.94
MAX	56.5	16.4	1.35	0.08	5.68	122	344	159	69.0	189	161	28.6
(WY)	(1995)	(1995)	(1995)	(1995)	(1981)	(1995)	(1997)	(1974)	(2002)	(1997)	(1995)	(1995)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.01	0.00	0.00	0.00	0.00
(WY)	(1963)	(1963)	(1963)	(1963)	(1963)	(1962)	(2000)	(1973)	(1968)	(1968)	(1962)	(1962)

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1962 - 2004	
ANNUAL TOTAL	1,430.74		11,257.25			
ANNUAL MEAN	3.92		30.8		15.8	
HIGHEST ANNUAL MEAN					57.9	1997
LOWEST ANNUAL MEAN					0.59	1963
HIGHEST DAILY MEAN	72	Mar 24	1,090	Apr 2	1,350	Apr 24, 1997
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 1	0.00	Mar 1, 1962
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Oct 1	0.00	Mar 1, 1962
MAXIMUM PEAK FLOW			(a)		1,470	Apr 23, 1997
MAXIMUM PEAK STAGE			1,534.73	Apr 1	1,534.83	Apr 21, 1997
ANNUAL RUNOFF (AC-FT)	2,840		22,330		11,440	
10 PERCENT EXCEEDS	14		41		20	
50 PERCENT EXCEEDS	0.00		0.51		0.00	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

05099150 MOWBRAY CREEK NEAR MOWBRAY, MANITOBA—Continued

a Unavailable
e Estimated

05099300 PEMBINA RIVER NEAR WINDYGATES, MANITOBA
(International gaging station)

LOCATION.--Lat 49°01'53", long 98°16'40", in SE¼ 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 1,102.02 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	e7.1	e2.1	2.2	0.49	1.8	3,810	904	1,520	438	136	149
2	12	e8.5	e1.2	2.2	0.49	1.6	3,500	862	1,400	434	133	138
3	11	e7.9	e1.3	2.0	0.49	1.6	3,280	819	1,170	452	127	130
4	8.4	e10	e2.0	2.0	0.49	1.6	3,100	773	953	530	121	185
5	9.2	e9.9	e2.7	1.9	0.49	1.6	3,020	745	812	533	116	179
6	9.4	e8.1	e1.3	1.8	0.53	1.4	2,940	717	713	494	128	155
7	10	e8.7	e1.1	1.8	0.53	1.4	3,190	671	1,640	463	269	136
8	9.0	e6.3	e1.2	1.7	0.56	1.4	3,170	650	1,680	452	245	120
9	7.3	e6.2	e1.7	1.6	0.56	1.4	2,940	618	1,190	508	239	116
10	7.0	e5.6	e1.0	1.5	0.60	1.2	2,710	593	960	558	217	112
11	6.4	e6.2	e2.0	1.4	0.60	1.1	2,550	625	830	544	191	111
12	6.3	e5.6	e3.6	1.4	0.64	1.1	2,440	618	752	491	175	109
13	6.5	e3.9	e3.4	1.3	0.64	1.2	2,330	583	681	427	162	113
14	7.3	e4.1	e3.2	1.2	0.71	1.4	2,180	593	671	406	153	117
15	8.1	e3.2	e2.9	1.1	0.88	1.6	2,050	593	664	381	154	119
16	7.9	e2.5	e3.1	1.1	1.1	1.8	1,930	879	685	339	165	129
17	7.7	e3.3	e3.3	0.99	1.2	1.8	1,850	1,070	689	302	162	133
18	7.2	e4.1	e3.4	0.92	1.4	1.8	1,790	1,010	657	269	171	138
19	7.1	e3.7	e3.5	0.85	1.6	1.9	1,690	915	632	244	156	150
20	9.2	e3.4	e3.7	0.78	2.1	2.1	1,630	883	614	226	151	169
21	9.7	e3.0	e3.9	0.71	2.7	2.3	1,550	809	597	223	151	175
22	9.5	e2.7	e3.5	0.64	3.4	2.5	1,430	713	586	208	147	188
23	9.4	e3.2	e3.3	0.53	3.8	2.8	1,380	639	590	203	148	195
24	9.2	e1.8	e3.1	0.49	3.8	3.2	1,300	604	579	186	156	178
25	9.4	e1.2	e3.0	0.49	3.5	3.9	1,260	611	568	177	154	185
26	e9.8	e1.7	e2.9	0.49	3.2	26	1,180	614	551	163	159	182
27	9.5	e2.2	e2.8	0.49	2.8	134	1,140	611	537	156	162	178
28	9.2	e1.3	e2.7	0.49	2.5	1,610	1,090	579	508	155	160	171
29	8.9	e1.3	e2.5	0.49	2.1	2,720	999	558	480	153	159	167
30	8.4	e1.9	e2.4	0.49	---	2,580	964	639	455	147	149	162
31	e9.0	---	e2.3	0.49	---	3,490	---	1,140	---	141	146	---
TOTAL	272.0	138.6	80.1	35.54	43.90	10,605.5	64,393	22,638	24,364	10,403	5,062	4,489
MEAN	8.77	4.62	2.58	1.15	1.51	342	2,146	730	812	336	163	150
MAX	13	10	3.9	2.2	3.8	3,490	3,810	1,140	1,680	558	269	195
MIN	6.3	1.2	1.0	0.49	0.49	1.1	964	558	455	141	116	109
AC-FT	540	275	159	70	87	21,040	127,700	44,900	48,330	20,630	10,040	8,900

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2004, BY WATER YEAR (WY)

MEAN	55.3	35.4	17.2	9.12	7.95	102	1,111	838	367	176	113	75.0
MAX	343	391	195	82.7	64.9	949	4,257	3,616	1,752	1,128	719	543
(WY)	(1969)	(1995)	(1995)	(1995)	(1995)	(1995)	(1998)	(1974)	(1999)	(1997)	(1993)	(1993)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	21.3	27.0	4.03	0.07	0.00	0.00
(WY)	(1989)	(1989)	(1989)	(1965)	(1963)	(1964)	(1977)	(1988)	(1988)	(1988)	(1988)	(1988)

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1962 - 2004	
ANNUAL TOTAL	17,088.57		142,524.64			
ANNUAL MEAN	46.8		389		246	
HIGHEST ANNUAL MEAN					936	1995
LOWEST ANNUAL MEAN					9.61	1977
HIGHEST DAILY MEAN	306	Apr 12	3,810	Apr 1	13,500	Apr 26, 1997
LOWEST DAILY MEAN	0.00	Mar 8	0.49	Jan 24	0.00	Jan 29, 1963
ANNUAL SEVEN-DAY MINIMUM	0.01	Mar 7	0.49	Jan 24	0.00	Jan 29, 1963
MAXIMUM PEAK FLOW			(a)		13,700	Apr 26, 1997
MAXIMUM PEAK STAGE			1,114.04	Apr 1	1,122.27	Apr 26, 1997
ANNUAL RUNOFF (AC-FT)	33,900		282,700		177,900	
10 PERCENT EXCEEDS	164		1,150		611	
50 PERCENT EXCEEDS	9.2		116		32	
90 PERCENT EXCEEDS	0.87		1.1		0.07	

a Unavailable
e Estimated

05099400 LITTLE SOUTH PEMBINA RIVER NEAR WALHALLA, ND

LOCATION.--Lat 48°51'55", long 98°00'20", in SE$^1/_4$SW$^1/_4$ 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 current year.

REVISED RECORDS.--WSP 1728: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,101.04 ft above National Geodetic Vertical Datum of 1929 (levels by North Dakota State Water Commission). From March 2001 to September 2002, at datum 80.00 ft lower and prior to March 2001, at datum 1.56 ft lower. Prior to September 10, 1956, nonrecording gage at bridge 25 ft downstream at datum 1.56 ft lower.

REMARKS.--Records fair except for discharges during Mar. 31 to Apr. 14 and for estimated daily discharges, which are poor.

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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	1.9	e0.48	e0.58	e0.00	e0.00	1,360	e43	356	34	6.3	6.8
2	1.6	e1.7	e0.45	e0.54	e0.00	e0.00	900	e36	216	36	6.7	6.5
3	1.5	e1.3	e0.44	e0.50	e0.00	e0.00	636	33	163	37	6.1	6.4
4	1.6	e0.97	e0.44	e0.48	e0.00	e0.00	491	33	134	39	5.7	7.2
5	1.5	e0.67	e0.44	e0.46	e0.00	e0.00	457	32	119	31	5.5	6.9
6	1.6	e0.66	e0.44	e0.44	e0.00	e0.00	475	31	103	27	7.6	7.0
7	1.5	e0.66	e0.43	e0.43	e0.00	e0.00	802	29	246	22	52	6.3
8	1.6	e0.70	e0.43	e0.42	e0.00	e0.00	733	28	291	21	44	5.8
9	1.6	e0.73	e0.42	e0.42	e0.00	e0.00	417	28	189	24	40	5.4
10	1.7	e0.76	e0.39	e0.42	e0.00	e0.00	333	27	147	24	30	5.1
11	1.8	e0.80	e0.34	e0.42	e0.00	e0.00	288	37	122	21	24	4.8
12	1.7	e0.92	e0.28	e0.42	e0.00	e0.00	235	66	106	20	20	4.6
13	1.7	e0.83	e0.31	e0.42	e0.00	e0.00	195	96	90	20	17	4.8
14	2.0	e0.85	e0.36	e0.41	e0.00	e0.00	162	180	78	19	15	5.3
15	1.7	e0.76	e0.42	e0.40	e0.00	e0.02	139	319	70	18	12	4.4
16	2.0	e0.77	e0.44	e0.38	e0.00	e0.04	130	507	63	16	11	3.7
17	2.0	e0.94	e0.45	e0.36	e0.00	e0.06	123	233	55	16	10	3.8
18	1.9	e0.88	e0.47	e0.34	e0.00	e0.08	126	166	48	15	9.7	4.2
19	1.6	e0.80	e0.49	e0.32	e0.00	e0.10	114	146	41	14	8.4	3.7
20	1.6	e0.75	e0.55	e0.30	e0.00	e0.15	108	138	36	13	7.4	7.8
21	2.0	e0.68	e0.62	e0.22	e0.00	e0.25	106	114	33	13	6.2	39
22	1.6	e0.65	e0.64	e0.17	e0.00	e0.50	95	99	30	13	5.8	28
23	2.1	e0.60	e0.56	e0.15	e0.00	e0.75	91	85	28	12	5.0	18
24	1.8	e0.56	e0.60	e0.14	e0.00	e1.5	85	77	26	9.4	12	45
25	1.9	e0.53	e0.63	e0.13	e0.00	e5.0	85	86	24	8.5	14	57
26	1.9	e0.52	e0.64	e0.11	e0.00	e10	83	79	43	7.6	15	34
27	2.2	e0.57	e0.64	e0.10	e0.00	e50	79	71	55	6.6	12	22
28	2.5	e0.48	e0.65	e0.05	e0.00	e700	75	64	48	7.1	9.8	15
29	2.3	e0.47	e0.63	e0.02	e0.00	e950	e65	62	42	7.8	9.4	12
30	2.1	e0.52	e0.62	e0.00	---	885	e55	88	39	7.7	8.0	11
31	2.0	---	e0.61	e0.00	---	1,220	---	376	---	7.2	7.6	---
TOTAL	56.0	23.93	15.31	9.55	0.00	3,823.45	9,043	3,409	3,041	566.9	443.2	391.5
MEAN	1.81	0.80	0.49	0.31	0.00	123	301	110	101	18.3	14.3	13.1
MAX	2.5	1.9	0.65	0.58	0.00	1,220	1,360	507	356	39	52	57
MIN	1.4	0.47	0.28	0.00	0.00	0.00	55	27	24	6.6	5.0	3.7
AC-FT	111	47	30	19	0.00	7,580	17,940	6,760	6,030	1,120	879	777

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2004, BY WATER YEAR (WY)

MEAN	1.73	1.28	0.66	0.39	1.33	25.1	178	43.4	25.0	9.66	4.10	3.47
MAX	5.45	3.94	2.22	1.09	30.1	139	461	255	162	62.6	23.1	20.7
(WY)	(1981)	(1971)	(2003)	(2003)	(1981)	(1966)	(1970)	(1974)	(2002)	(1970)	(2002)	(2002)
MIN	0.18	0.18	0.05	0.00	0.00	0.00	4.92	2.34	0.44	0.18	0.01	0.09
(WY)	(1962)	(1962)	(1977)	(1973)	(1961)	(1962)	(1973)	(1958)	(1958)	(1961)	(1961)	(1961)

05099400 LITTLE SOUTH PEMBINA RIVER NEAR WALHALLA, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1956 - 2004[d]	
ANNUAL TOTAL	4,172.15		20,822.84			
ANNUAL MEAN	11.4		56.9		22.6	
HIGHEST ANNUAL MEAN					63.2	1974
LOWEST ANNUAL MEAN					1.78	1958
HIGHEST DAILY MEAN	227	Apr 8	1,360	Apr 1	3,260	Apr 10, 1969
LOWEST DAILY MEAN	0.02	Mar 26	0.00	Jan 30	0.00	Jan 4, 1958
ANNUAL SEVEN-DAY MINIMUM	0.03	Mar 22	0.00	Jan 30	0.00	Jan 4, 1958
MAXIMUM PEAK FLOW			a2,010	Mar 31	6,600	Apr 25, 1970
MAXIMUM PEAK STAGE			b8.68	Mar 28	c13.95	Apr 25, 1970
ANNUAL RUNOFF (AC-FT)	8,280		41,300		16,360	
10 PERCENT EXCEEDS	29		127		28	
50 PERCENT EXCEEDS	1.4		4.8		1.0	
90 PERCENT EXCEEDS	0.06		0.00		0.12	

a Gage height, 7.15 ft
b Backwater from ice
c Site and datum then in use
d Complete water years only
e Estimated

05099400 LITTLE SOUTH PEMBINA RIVER NEAR WALHALLA, ND—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2001 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
08...	1035	1.4	--	--	--	807	15.0	13.0	--	--	--	--	--
JAN													
12...	1355	0.42	--	--	--	734	-5.0	0.0	--	--	--	--	--
APR													
14...	1050	168	7.9	7.4	586	590	4.0	5.5	190	48.4	16.0	9.90	1
MAY													
03...	1355	33	--	--	--	896	--	9.0	--	--	--	--	--
JUN													
04...	0830	137	--	--	--	841	--	13.5	--	--	--	--	--
JUL													
13...	1420	21	--	--	--	909	--	25.0	--	--	--	--	--
AUG													
25...	0830	14	8.4	8.2	853	892	6.6	12.4	270	69.9	22.6	9.10	2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
14...	45.8	33	109	9.8	0.26	20.2	155	352	168	3.4	40	<1	30
MAY													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
25...	73.5	36	223	15.0	0.30	23.0	212	539	21.1	5.8	20	<1	60

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
08...	--	--	--	--	--
JAN					
12...	--	--	--	--	--
APR					
14...	30	<0.20	2	4	230
MAY					
03...	--	--	--	--	--
JUN					
04...	--	--	--	--	--
JUL					
13...	--	--	--	--	--
AUG					
25...	20	<0.20	4	2	360

Remark codes used in this table:
< -- Less than

05099600 PEMBINA RIVER AT WALHALLA, ND

LOCATION.--Lat 48°54'48", long 97°55'00", in SW¼NE¼NE¼ 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. Water years 1991-94 and 1997, miscellaneous discharge measurements only. 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 National Geodetic Vertical Datum of 1929. 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 fair except 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	e14	e10	e7.4	e6.3	e8.0	5,890	e1,140	e2,000	465	177	160
2	16	e13	e10	e7.3	e6.3	e8.0	5,190	1,070	1,730	462	171	155
3	18	e12	e10	e7.2	e6.4	e8.2	4,300	1,000	1,490	474	162	151
4	17	e11	e10	e7.1	e6.5	e8.3	3,700	977	1,220	547	155	159
5	17	e11	e10	e7.0	e6.5	e8.5	3,480	932	1,040	498	148	217
6	15	e10	e10	e6.8	e6.6	e8.6	3,360	911	914	481	267	185
7	13	e10	e10	e6.6	e6.7	e8.7	3,950	860	2,060	434	417	171
8	12	e10	e10	e6.4	e6.6	e8.8	4,340	828	2,320	411	279	162
9	9.5	e11	e9.9	e6.2	e6.7	e9.0	3,060	878	1,620	444	323	156
10	8.4	e11	e9.9	e6.1	e6.9	e9.0	2,630	879	1,260	460	288	152
11	8.5	e11	e9.9	e6.0	e7.0	e9.3	2,380	898	1,080	472	276	149
12	8.6	e11	e9.8	e6.0	e7.2	e9.6	2,530	959	980	436	262	146
13	8.5	e11	e9.7	e5.9	e7.4	e10	2,210	914	901	397	240	149
14	8.4	e10	e9.5	e6.0	e7.5	e11	2,140	1,020	e880	374	218	153
15	10	e10	e9.4	e6.1	e7.9	e11	2,010	1,250	846	360	199	150
16	13	e10	e9.1	e6.0	e8.1	e11	1,940	1,890	821	338	190	147
17	8.4	e10	e9.2	e6.0	e8.2	e12	1,850	1,690	774	320	182	147
18	8.1	e10	e9.0	e6.0	e8.4	e12	1,810	1,520	735	307	192	141
19	8.3	e11	e9.0	e6.2	e8.7	e12	1,790	1,400	689	294	185	137
20	8.2	e10	e8.9	e6.3	e8.7	e13	e1,700	1,360	665	282	175	212
21	14	e10	e8.7	e6.2	e8.6	e13	e1,630	1,310	640	270	171	344
22	13	e11	e8.5	e6.2	e8.5	e14	e1,600	1,210	616	267	173	215
23	12	e11	e8.3	e6.2	e8.4	e14	e1,500	e1,050	609	258	165	198
24	12	e11	e8.1	e6.1	e8.3	e15	e1,440	e1,000	583	245	233	396
25	12	e11	e8.2	e6.1	e8.2	e20	e1,400	e930	562	235	209	300
26	12	e10	e8.0	e6.1	e8.1	e45	e1,320	e1,000	562	223	220	238
27	14	e11	e8.2	e6.0	e8.1	e200	e1,250	e940	563	211	192	208
28	17	e11	e7.9	e6.2	e8.1	e2,500	e1,230	e880	538	208	180	189
29	16	e12	e7.7	e6.3	e8.1	e4,500	e1,210	e850	513	194	176	180
30	16	e11	e7.6	e6.3	---	4,230	e1,150	e1,090	491	188	176	176
31	15	---	e7.5	e6.2	---	5,370	---	e2,370	---	183	168	---
TOTAL	382.9	326	282.0	196.5	219.0	17,117.0	73,990	35,006	29,702	10,738	6,569	5,643
MEAN	12.4	10.9	9.10	6.34	7.55	552	2,466	1,129	990	346	212	188
MAX	18	14	10	7.4	8.7	5,370	5,890	2,370	2,320	547	417	396
MIN	8.1	10	7.5	5.9	6.3	8.0	1,150	828	491	183	148	137
AC-FT	759	647	559	390	434	33,950	146,800	69,430	58,910	21,300	13,030	11,190

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2004, BY WATER YEAR (WY)

MEAN	64.3	43.2	21.1	12.1	9.23	129	1,086	778	359	171	117	78.0
MAX	600	454	216	120	68.9	1,206	4,950	4,672	1,933	814	960	432
(WY)	(1995)	(1995)	(1995)	(1995)	(1995)	(1995)	(1995)	(1974)	(1974)	(1970)	(1995)	(1944)
MIN	0.04	0.15	0.00	0.00	0.00	0.00	49.6	18.8	2.83	0.74	0.10	0.00
(WY)	(1940)	(1941)	(1941)	(1940)	(1940)	(1940)	(1977)	(1940)	(1940)	(1940)	(1961)	(1940)

05099600 PEMBINA RIVER AT WALHALLA, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1940 - 2004	
ANNUAL TOTAL	25,756.7		180,171.4			
ANNUAL MEAN	70.6		492		241	
HIGHEST ANNUAL MEAN					1,146	1995
LOWEST ANNUAL MEAN					9.77	1940
HIGHEST DAILY MEAN	620	May 19	5,890	Apr 1	13,800	Apr 18, 1950
LOWEST DAILY MEAN	2.9	Mar 9	5.9	Jan 13	0.00	Oct 14, 1939
ANNUAL SEVEN-DAY MINIMUM	3.0	Mar 7	6.0	Jan 11	0.00	Oct 14, 1939
MAXIMUM PEAK FLOW			a6,770	Apr 1	b20,400	Apr 18, 1950
MAXIMUM PEAK STAGE			c13.55	Mar 28	d16.20	Apr 18, 1950
ANNUAL RUNOFF (AC-FT)	51,090		357,400		174,600	
10 PERCENT EXCEEDS	235		1,490		580	
50 PERCENT EXCEEDS	20		148		38	
90 PERCENT EXCEEDS	4.6		7.0		2.0	

a Gage height, 12.32 ft
b From rating curve extended above 7,000 ft^3/s on basis of contracted-opening measurement of discharge
c Backwater from ice
d Approximate stage, from rating curve, at present location and datum; stage at site and datum then in use, 19.2 ft
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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
08...	0900	12	--	--	--	960	13.0	12.5	--	--	--	--	--
JAN													
12...	1605	6.0	--	--	--	631	-2.5	0.0	--	--	--	--	--
FEB													
19...	0945	8.6	--	--	--	881	3.0	0.0	--	--	--	--	--
MAR													
17...	1245	12	--	--	--	586	2.5	2.0	--	--	--	--	--
APR													
07...	1110	3,480	7.6	7.2	459	445	3.0	5.5	150	38.3	12.8	9.00	0.9
JUN													
02...	1240	1,800	--	--	--	755	25.0	14.0	--	--	--	--	--
15...	1145	858	--	--	--	1,780	17.5	15.0	--	--	--	--	--
JUL													
13...	1245	395	--	--	--	807	--	23.5	--	--	--	--	--
AUG													
25...	1100	215	8.4	8.2	781	821	19.2	15.1	270	65.4	25.3	9.20	1

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
07...	25.1	25	101	7.2	0.25	19.4	103	258	2,590	3.6	160	<1	20
JUN													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
25...	55.4	30	202	11.1	0.30	21.8	199	489	295	5.3	80	<1	60

05099600 PEMBINA RIVER AT WALHALLA, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
08...	--	--	--	--	--
JAN					
12...	--	--	--	--	--
FEB					
19...	--	--	--	--	--
MAR					
17...	--	--	--	--	--
APR					
07...	40	<0.20	3	5	180
JUN					
02...	--	--	--	--	--
15...	--	--	--	--	--
JUL					
13...	--	--	--	--	--
AUG					
25...	20	<0.20	4	3	350

Remark codes used in this table:
< -- Less than

05100000 PEMBINA RIVER AT NECHE, ND
(International gaging station)

LOCATION.--Lat 48°59'23", long 97°33'24", in NW¼NW¼ 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 National Geodetic Vertical Datum of 1929. From Apr. 18, 1939, to July 21, 1999, at site 0.8 mi 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 estimated daily discharges, 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	17	e13	e8.3	e6.3	e8.1	5,770	1,250	2,110	574	267	187
2	20	15	e13	e8.1	e6.3	e8.1	5,420	1,200	2,290	556	261	180
3	20	14	e13	e7.8	e6.4	e8.0	5,050	1,150	1,920	547	254	174
4	19	15	e13	e7.6	e6.5	e8.0	4,440	1,100	1,630	543	246	172
5	20	16	e12	e7.5	e6.5	e8.3	3,760	1,060	1,390	594	237	171
6	23	15	e12	e7.3	e6.6	e8.4	3,380	1,010	1,230	559	237	217
7	23	14	e12	e7.2	e6.6	e8.5	3,270	981	1,140	543	294	224
8	20	13	e12	e7.1	e6.6	e8.6	3,980	930	2,470	515	470	203
9	17	13	e12	e6.7	e6.7	e8.8	4,730	895	2,450	502	356	189
10	17	15	e12	e6.6	e6.7	e9.0	4,120	859	1,780	506	363	179
11	16	15	e12	e6.5	e6.9	e9.0	3,530	851	1,480	515	332	174
12	16	15	e12	e6.4	e7.0	e9.0	3,220	890	1,300	523	312	168
13	15	15	e12	e6.2	e7.2	e10	3,050	1,040	1,180	503	297	165
14	15	16	e12	e6.2	e7.4	e10	2,890	1,050	1,090	482	277	165
15	16	16	e11	e6.2	e7.7	e10	2,730	1,120	1,030	469	254	165
16	15	16	e11	e6.1	e7.9	e11	2,580	1,460	987	460	234	163
17	15	16	e11	e6.2	e8.0	e12	2,430	1,920	944	444	219	160
18	17	16	e11	e6.2	e8.0	e12	2,320	1,750	890	425	214	158
19	17	16	e11	e6.2	e8.0	e14	2,230	1,550	847	393	211	154
20	16	17	e11	e6.1	e8.3	e16	2,120	1,430	801	384	210	156
21	16	16	e10	e6.2	e8.5	e16	2,030	1,350	775	371	197	171
22	16	16	e10	e6.4	e8.2	e16	1,950	1,230	739	363	195	346
23	16	14	e10	e6.4	e8.5	e17	1,820	1,120	712	356	193	239
24	16	14	e9.9	e6.4	e8.4	e17	1,740	1,020	695	348	191	212
25	16	e14	e9.6	e6.3	e8.3	e18	1,650	955	672	335	228	336
26	16	e14	e9.5	e6.3	e8.3	e20	1,590	980	652	323	271	327
27	17	e13	e9.2	e6.2	e8.2	e100	1,510	936	645	312	252	253
28	20	e13	e9.0	e6.3	e8.2	e500	1,450	899	639	304	245	219
29	19	e13	e8.9	e6.3	e8.2	e3,000	1,400	855	620	295	218	203
30	20	e13	e8.8	e6.2	---	e5,500	1,320	835	597	284	201	194
31	19	---	e8.5	e6.4	---	e5,000	---	1,030	---	274	195	---
TOTAL	549	445	341.4	205.9	216.4	14,400.8	87,480	34,706	35,705	13,602	7,931	6,024
MEAN	17.7	14.8	11.0	6.64	7.46	465	2,916	1,120	1,190	439	256	201
MAX	23	17	13	8.3	8.5	5,500	5,770	1,920	2,470	594	470	346
MIN	15	13	8.5	6.1	6.3	8.0	1,320	835	597	274	191	154
AC-FT	1,090	883	677	408	429	28,560	173,500	68,840	70,820	26,980	15,730	11,950

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2004, BY WATER YEAR (WY)

MEAN	74.9	48.7	24.0	12.8	9.20	109	938	731	358	192	115	82.6
MAX	643	486	261	120	65.8	1,216	4,713	4,770	1,894	1,509	946	648
(WY)	(1995)	(1995)	(1995)	(1995)	(1995)	(1995)	(1998)	(1997)	(1999)	(1997)	(1993)	(1993)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	24.7	11.8	6.56	0.00	0.00	0.00
(WY)	(1939)	(1939)	(1939)	(1933)	(1933)	(1936)	(1939)	(1939)	(1940)	(1940)	(1939)	(1938)

05100000 PEMBINA RIVER AT NECHE, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1903 - 2004	
ANNUAL TOTAL	31,719.9		201,606.5			
ANNUAL MEAN	86.9		551		227	
HIGHEST ANNUAL MEAN					1,116	1995
LOWEST ANNUAL MEAN					3.96	1939
HIGHEST DAILY MEAN	611	May 20	5,770	Apr 1	14,300	Apr 27, 1997
LOWEST DAILY MEAN	4.7	Mar 8	6.1	Jan 16	0.00	Feb 1, 1932
ANNUAL SEVEN-DAY MINIMUM	4.8	Mar 4	6.2	Jan 14	0.00	Feb 1, 1932
MAXIMUM PEAK FLOW			a6,120	Apr 1	15,100	Apr 27, 1997
MAXIMUM PEAK STAGE			b21.00	Mar 30	b24.51	Apr 21, 1997
ANNUAL RUNOFF (AC-FT)	62,920		399,900		164,300	
10 PERCENT EXCEEDS	273		1,640		516	
50 PERCENT EXCEEDS	25		162		43	
90 PERCENT EXCEEDS	7.4		7.2		1.5	

a Gage height, 20.77 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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
06...	1535	20	--	--	--	925	22.0	15.0	--	--	--	--	--
JAN													
13...	1025	6.2	--	--	--	801	-11.5	0.0	--	--	--	--	--
APR													
01...	1025	5,840	7.6	7.5	350	--e	7.0	0.5	100	27.4	8.40	5.50	0.8
07...	1545	3,200	--	--	--	439	8.5	7.0	--	--	--	--	--
JUN													
04...	1135	1,560	--	--	--	800	--	16.0	--	--	--	--	--
09...	1120	2,400	--	--	--	599	16.0	16.5	--	--	--	--	--
JUL													
13...	1020	489	--	--	--	832	--	23.5	--	--	--	--	--
AUG													
25...	1355	218	8.3	8.4	852	887	23.5	17.1	330	78.6	32.0	9.70	1

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
01...	18.0	26	96	4.6	0.22	13.4	60.0	184	3,080	2.8	80	<1	20
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
25...	52.8	25	243	14.1	0.24	25.1	202	536	330	7.0	50	<1	60

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
06...	--	--	--	--	--
JAN					
13...	--	--	--	--	--
APR					
01...	170	<0.20	3	3	120
07...	--	--	--	--	--
JUN					
04...	--	--	--	--	--
09...	--	--	--	--	--
JUL					
13...	--	--	--	--	--
AUG					
25...	20	<0.20	4	2	380

Remark codes used in this table:
< -- Less than

Null value qualifier codes used in this table:
e -- Required equipment not functional/avail

05100460 TONGUE RIVER NEAR OLGA, ND

LOCATION.--Lat 48°45'65", long 98°06'14", in NE$^1/_4$ sec.14, T.161 N., R.58 W., Pembina County, Hydrologic Unit 09020313, on right bank 95 ft upstream of North Dakota Highway 5, 3 mi west of Olga and 12 mi east of Langdon.

DRAINAGE AREA.--Not determined.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 2003 to September 2004, seasonal records only (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 1,556.69 ft above National Geodetic Vertical Datum of 1929.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 169 ft^3/s, Apr. 7, gage height, 5.45 ft; maximum gage height, 11.16 ft, on or about Mar. 30 (from floodmark), backwater from ice; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e0.00	e90	e32	43	0.00	0.00	e0.00
2	---	---	---	---	---	e0.00	e70	e30	30	0.00	0.00	e0.00
3	---	---	---	---	---	e0.00	e45	e28	13	0.00	0.00	e0.00
4	---	---	---	---	---	e0.00	e35	e26	5.7	0.00	0.00	e0.00
5	---	---	---	---	---	e0.00	20	e19	3.1	0.00	0.00	e0.00
6	---	---	---	---	---	e0.00	14	14	1.7	0.00	0.00	e0.00
7	---	---	---	---	---	e0.00	60	8.8	8.2	0.00	0.00	e0.00
8	---	---	---	---	---	e0.00	35	5.9	7.6	0.00	0.00	e0.00
9	---	---	---	---	---	e0.00	12	4.7	5.6	0.00	0.00	e0.00
10	---	---	---	---	---	e0.00	e5.0	3.8	1.9	0.00	0.00	e0.00
11	---	---	---	---	---	e0.00	e30	4.1	0.39	0.00	0.00	e0.00
12	---	---	---	---	---	e0.00	e140	6.4	0.29	0.00	0.00	e0.00
13	---	---	---	---	---	e0.00	e130	42	0.15	0.00	0.00	e0.00
14	---	---	---	---	---	e0.00	e110	81	0.15	0.00	0.00	e0.00
15	---	---	---	---	---	e0.00	e100	67	0.08	0.00	0.00	e0.00
16	---	---	---	---	---	e0.00	e90	50	0.06	0.00	0.00	e0.00
17	---	---	---	---	---	e0.00	e85	41	0.03	0.00	0.00	e0.00
18	---	---	---	---	---	e0.00	e77	33	0.01	0.00	0.00	e0.00
19	---	---	---	---	---	e0.00	e70	21	0.02	0.00	0.00	e0.00
20	---	---	---	---	---	e0.00	e62	14	0.02	0.00	e0.00	e0.00
21	---	---	---	---	---	e0.00	e65	7.2	0.01	0.00	e0.00	e0.00
22	---	---	---	---	---	e0.02	e55	4.3	0.00	0.00	e0.00	e0.00
23	---	---	---	---	---	e0.04	e50	3.3	0.00	0.00	e0.00	e0.00
24	---	---	---	---	---	e0.10	e47	2.7	0.00	0.00	e0.00	e0.00
25	---	---	---	---	---	e0.60	e44	3.1	0.00	0.00	e0.00	e0.00
26	---	---	---	---	---	e1.5	e42	3.4	0.00	0.00	e0.00	e0.00
27	---	---	---	---	---	e6.0	e40	2.7	0.00	0.00	e0.00	e0.00
28	---	---	---	---	---	e20	e38	1.8	0.00	0.00	e0.00	e0.00
29	---	---	---	---	---	e60	e36	1.4	0.00	0.00	e0.00	e0.00
30	---	---	---	---	---	e150	e34	3.3	0.00	0.00	e0.00	e0.00
31	---	---	---	---	---	e120	---	41	---	0.00	e0.00	---
TOTAL	---	---	---	---	---	358.26	1,731.0	605.9	121.01	0.00	0.00	0.00
MEAN	---	---	---	---	---	11.6	57.7	19.5	4.03	0.00	0.00	0.00
MAX	---	---	---	---	---	150	140	81	43	0.00	0.00	0.00
MIN	---	---	---	---	---	0.00	5.0	1.4	0.00	0.00	0.00	0.00
AC-FT	---	---	---	---	---	711	3,430	1,200	240	0.00	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2004, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	11.6	34.8	11.6	2.53	0.10	0.00	0.00
MAX	---	---	---	---	---	11.6	57.7	19.5	4.03	0.19	0.00	0.00
(WY)	---	---	---	---	---	(2004)	(2004)	(2004)	(2004)	(2003)	(2003)	(2003)
MIN	---	---	---	---	---	11.6	11.9	3.61	1.03	0.00	0.00	0.00
(WY)	---	---	---	---	---	(2004)	(2003)	(2003)	(2003)	(2004)	(2003)	(2003)

SUMMARY STATISTICS	WATER YEARS 2003 - 2004	
HIGHEST DAILY MEAN	150	Mar 30, 2004
LOWEST DAILY MEAN	0.00	Jul 18, 2003
ANNUAL SEVEN-DAY MINIMUM	0.00	Jul 18, 2003
MAXIMUM PEAK FLOW	a169	Apr 7, 2004
MAXIMUM PEAK STAGE	b11.16	Mar 30, 2004

a Gage height, 5.45 ft
b Backwater from ice
e Estimated

05100460 TONGUE RIVER AT OLGA, ND—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2003 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Organic nitrogen, water, unfltrd mg/L (00605)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)	Suspnd. sediment, sieve diametr percent <.063mm (70331)
MAR													
30...	1335	122	8.1	260	2.0	0.5	1.5	0.859	3.63	0.62	0.452	5.1	94
APR													
05...	1435	19	7.6	540	14.0	6.5	1.4	0.476	3.77	0.91	0.542	5.2	99
20...	1100	62	7.9	553	10.0	7.0	2.2	0.502	6.30	1.7	0.490	8.5	100
MAY													
06...	1030	17	7.5	887	7.0	9.5	2.9	0.567	5.28	2.3	0.724	8.2	100
25...	1345	3.0	8.2	1,260	9.5	8.5	1.8	<0.010	0.080	--	0.201	2.6	46
JUN													
02...	1310	30	7.9	1,100	15.5	16.0	1.1	0.036	4.06	1.1	0.193	5.2	91

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
MAR		
30...	37	12
APR		
05...	30	1.5
20...	117	19
MAY		
06...	301	14
25...	7	0.06
JUN		
02...	14	1.1

Remark codes used in this table:
< -- Less than

05100480 TONGUE RIVER BELOW YOUNG DAM NEAR CONCRETE, ND

LOCATION.--Lat 48°45'18", long 98°00'50", in NE¼ sec.22, T.161 N., R.57 W., Cavalier County, Hydrologic Unit 09020313, on right bank, 4 mi west of Concrete and 16 mi east of Langdon.

DRAINAGE AREA.--Not determined.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 2003 to September 2004, seasonal records only (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 1,360 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 647 ft^3/s, Apr. 1, gage height, 10.85 ft; maximum gage height, 11.42 ft, Mar. 29 (from floodmark); no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e0.00	472	65	110	0.46	0.24	0.31
2	---	---	---	---	---	e0.00	303	58	70	0.75	0.25	0.25
3	---	---	---	---	---	e0.00	190	52	41	0.86	0.24	0.18
4	---	---	---	---	---	e0.00	127	45	21	0.71	0.23	0.25
5	---	---	---	---	---	e0.00	72	38	13	0.59	0.20	0.21
6	---	---	---	---	---	e0.00	57	23	8.1	0.61	0.24	0.34
7	---	---	---	---	---	e0.00	120	10	43	0.51	0.35	0.16
8	---	---	---	---	---	e0.00	e350	5.3	26	0.51	0.35	0.13
9	---	---	---	---	---	e0.00	e250	3.6	16	0.96	0.38	0.11
10	---	---	---	---	---	e0.00	e200	2.3	10	0.60	0.31	0.11
11	---	---	---	---	---	e0.00	e175	5.1	6.3	0.46	0.28	0.13
12	---	---	---	---	---	e0.00	e200	18	5.4	0.51	0.26	0.12
13	---	---	---	---	---	e0.00	e175	38	3.8	0.38	0.22	0.13
14	---	---	---	---	---	e0.00	150	124	3.3	0.33	0.19	0.15
15	---	---	---	---	---	e0.00	146	140	3.2	0.30	0.18	0.12
16	---	---	---	---	---	e0.00	143	81	2.9	0.27	0.16	0.10
17	---	---	---	---	---	e0.00	139	60	2.2	0.25	0.16	0.10
18	---	---	---	---	---	e0.00	133	47	1.6	0.27	0.16	0.11
19	---	---	---	---	---	e0.00	128	39	1.4	0.27	0.13	0.12
20	---	---	---	---	---	e0.00	127	25	1.2	0.25	0.12	0.47
21	---	---	---	---	---	e0.00	132	15	1.4	0.27	0.12	0.64
22	---	---	---	---	---	e0.02	120	8.8	1.3	0.29	0.11	0.40
23	---	---	---	---	---	e0.10	113	5.7	1.1	0.29	0.10	0.43
24	---	---	---	---	---	e0.50	108	4.8	0.98	0.27	0.33	1.2
25	---	---	---	---	---	e1.5	95	6.5	0.86	0.26	0.20	0.95
26	---	---	---	---	---	e10	93	5.0	0.87	0.24	1.4	0.60
27	---	---	---	---	---	e30	88	4.5	0.89	0.23	0.69	0.43
28	---	---	---	---	---	e100	81	3.7	0.71	0.25	0.38	0.38
29	---	---	---	---	---	e550	78	3.7	0.61	0.24	0.34	0.30
30	---	---	---	---	---	e400	72	19	0.50	0.23	0.29	0.43
31	---	---	---	---	---	458	---	131	---	0.25	0.42	---
TOTAL	---	---	---	---	---	1,550.12	4,637	1,087.0	398.62	12.67	9.03	9.36
MEAN	---	---	---	---	---	50.0	155	35.1	13.3	0.41	0.29	0.31
MAX	---	---	---	---	---	550	472	140	110	0.96	1.4	1.2
MIN	---	---	---	---	---	0.00	57	2.3	0.50	0.23	0.10	0.10
AC-FT	---	---	---	---	---	3,070	9,200	2,160	791	25	18	19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2004, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	50.0	91.3	23.2	7.66	0.30	0.15	0.16
MAX	---	---	---	---	---	50.0	155	35.1	13.3	0.41	0.29	0.31
(WY)	---	---	---	---	---	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)
MIN	---	---	---	---	---	50.0	28.0	11.3	2.04	0.18	0.01	0.00
(WY)	---	---	---	---	---	(2004)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)

SUMMARY STATISTICS	WATER YEARS 2003 - 2004	
HIGHEST DAILY MEAN	550	Mar 29, 2004
LOWEST DAILY MEAN	0.00	Aug 9, 2003
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 9, 2003
MAXIMUM PEAK FLOW	a647	Apr 1, 2004
MAXIMUM PEAK STAGE	b11.42	Mar 29, 2004

a Gage height, 10.85 ft
b From floodmark
e Estimated

05100480 TONGUE RIVER BELOW YOUNG DAM NEAR CONCRETE, ND—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 2003 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Organic nitrogen, water, unfltrd mg/L (00605)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)	Suspnd. sediment, sieve diametr percent <.063mm (70331)
MAR													
30...	0830	E350	8.4	272	-3.0	1.5	1.1	0.525	4.05	0.60	0.434	5.2	100
APR													
06...	1405	57	7.6	635	15.0	5.0	1.1	0.406	3.59	0.69	0.349	4.7	99
21...	1010	124	7.7	578	1.0	6.0	1.8	0.446	5.98	1.4	0.434	7.8	100
MAY													
25...	1450	6.4	8.2	879	11.5	11.0	2.4	0.015	5.79	2.4	0.224	8.2	79
JUN													
02...	1435	66	8.0	803	18.0	14.5	0.53	0.038	4.44	0.49	0.265	5.0	98
28...	1325	0.67	8.5	700	23.5	20.5	1.1	0.142	0.080	0.98	0.065	1.2	100
AUG													
19...	1115	0.16	7.8	713	15.5	15.0	1.7	0.171	0.440	1.5	0.454	2.1	94
SEP													
14...	1215	0.15	7.2	706	13.0	15.0	1.4	0.123	0.230	1.3	0.505	1.7	94

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
MAR		
30...	68	--
APR		
06...	81	13
21...	109	36
MAY		
25...	19	0.33
JUN		
02...	47	8.4
28...	5	0.01
AUG		
19...	11	0.00
SEP		
14...	9	0.00

Remark codes used in this table:
E -- Estimated value

05100800 TONGUE RIVER ABOVE RENWICK DAM NEAR AKRA, ND

LOCATION.--Lat 48°46'44", long 97°47'42", in NW¼SW¼ sec.8, T.161 N., R.55 W., Pembina County, Hydrologic Unit 09020313, on left bank, 3 mi west and 1.25 mi north of Akra.

DRAINAGE AREA.--Not determined.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 2003 to September 2004, seasonal records only (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 960 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 667 ft^3/s, Mar. 28, gage height, 15.14 ft; minimum daily 0.88 ft^3/s, Sept. 12.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e3.0	515	79	301	7.2	5.3	1.1
2	---	---	---	---	---	e3.0	512	73	199	8.1	4.9	1.2
3	---	---	---	---	---	e4.0	419	68	138	8.9	4.7	0.96
4	---	---	---	---	---	e4.5	315	63	98	12	3.9	1.2
5	---	---	---	---	---	e5.0	250	52	65	13	3.6	2.8
6	---	---	---	---	---	e5.5	244	44	47	9.8	3.8	2.4
7	---	---	---	---	---	e5.7	297	32	56	7.9	7.9	2.0
8	---	---	---	---	---	e6.0	475	25	79	7.5	7.2	1.3
9	---	---	---	---	---	e7.0	305	22	53	12	5.0	1.0
10	---	---	---	---	---	e7.5	184	19	40	10	3.9	1.0
11	---	---	---	---	---	e8.0	151	28	33	7.9	3.4	0.98
12	---	---	---	---	---	e9.0	187	83	29	7.2	2.8	0.88
13	---	---	---	---	---	e10	217	115	27	6.7	2.7	1.3
14	---	---	---	---	---	e11	204	146	23	5.6	2.0	4.1
15	---	---	---	---	---	e12	186	183	21	5.3	1.9	2.4
16	---	---	---	---	---	e14	188	166	21	5.3	1.8	2.1
17	---	---	---	---	---	e16	188	122	18	5.0	1.9	2.8
18	---	---	---	---	---	e17	173	90	18	4.9	2.2	1.9
19	---	---	---	---	---	e18	154	83	18	4.9	1.5	2.5
20	---	---	---	---	---	e20	138	82	17	4.8	1.4	4.2
21	---	---	---	---	---	e25	131	61	16	5.1	1.4	6.0
22	---	---	---	---	---	e35	124	46	15	7.0	1.2	7.6
23	---	---	---	---	---	e35	120	38	17	7.2	1.3	5.9
24	---	---	---	---	---	e35	115	34	27	6.7	3.4	7.3
25	---	---	---	---	---	e40	108	42	16	6.6	4.0	7.4
26	---	---	---	---	---	e75	101	e38	15	6.5	10	5.2
27	---	---	---	---	---	e250	99	33	14	6.4	9.0	4.9
28	---	---	---	---	---	623	94	27	12	7.5	3.1	22
29	---	---	---	---	---	548	87	23	8.6	6.7	2.0	34
30	---	---	---	---	---	508	85	41	8.4	5.8	1.5	36
31	---	---	---	---	---	496	---	228	---	5.6	1.4	---
TOTAL	---	---	---	---	---	2,856.2	6,366	2,186	1,450.0	225.1	110.1	174.42
MEAN	---	---	---	---	---	92.1	212	70.5	48.3	7.26	3.55	5.81
MAX	---	---	---	---	---	623	515	228	301	13	10	36
MIN	---	---	---	---	---	3.0	85	19	8.4	4.8	1.2	0.88
AC-FT	---	---	---	---	---	5,670	12,630	4,340	2,880	446	218	346

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2004, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	92.1	145	49.4	35.2	5.50	2.97	3.41
MAX	---	---	---	---	---	92.1	212	70.5	48.3	7.26	3.55	5.81
(WY)	---	---	---	---	---	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)
MIN	---	---	---	---	---	92.1	77.6	28.3	22.0	3.74	2.38	1.01
(WY)	---	---	---	---	---	(2004)	(2003)	(2003)	(2003)	(2003)	(2003)	(2003)

SUMMARY STATISTICS	WATER YEARS 2003 - 2004	
HIGHEST DAILY MEAN	623	Mar 28, 2004
LOWEST DAILY MEAN	0.00	Sep 12, 2003
ANNUAL SEVEN-DAY MINIMUM	0.13	Sep 9, 2003
MAXIMUM PEAK FLOW	667	Mar 28, 2004
MAXIMUM PEAK STAGE	15.14	Mar 28, 2004

e Estimated

05100800 TONGUE RIVER ABOVE RENWICK DAM NEAR AKRA, ND—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 2003 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Organic nitrogen, water, unfltrd mg/L (00605)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)	Suspnd. sediment, sieve diametr percent <.063mm (70331)
OCT													
08...	1220	14	--	640	21.0	12.0	--	--	--	--	--	--	--
MAR													
29...	1430	564	8.7	294	1.5	0.5	0.73	0.225	2.64	0.51	0.428	3.4	99
APR													
06...	0745	236	8.0	445	4.0	4.0	0.68	0.310	3.16	0.37	0.448	3.8	84
20...	1420	143	7.8	589	15.5	6.5	1.1	0.282	5.08	0.81	0.383	6.2	89
MAY													
26...	0910	41	8.1	724	10.5	9.5	0.62	<0.010	1.21	--	0.171	1.8	99
JUN													
03...	0715	--	7.9	647	12.5	15.5	0.46	<0.010	2.12	--	0.557	2.6	77
28...	1515	11	7.6	690	31.5	19.0	0.47	0.115	0.140	0.36	0.183	0.61	100
AUG													
19...	1235	1.3	7.8	587	16.0	15.0	0.48	<0.010	0.110	--	0.182	0.59	18
SEP													
14...	1100	5.0	7.6	588	13.0	14.5	0.47	<0.010	0.020	--	0.228	0.49	73

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
OCT		
08...	--	--
MAR		
29...	388	591
APR		
06...	937	597
20...	465	180
MAY		
26...	55	6.1
JUN		
03...	1,060	--
28...	15,100	456
AUG		
19...	84	0.29
SEP		
14...	279	3.7

Remark codes used in this table:
< -- Less than

05101000 TONGUE RIVER AT AKRA, ND

LOCATION.--Lat 48°46'42", long 97°44'47", in SW¼ 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 National Geodetic Vertical Datum of 1929. 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 good 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 discharge, 630 ft^3/s, Mar. 29, gage height, 15.11 ft; minimum daily discharge, 0.05 ft^3/s, Sept. 10, due to gate closure on Renwick Dam.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e3.0	592	95	254	12	3.4	2.7
2	---	---	---	---	---	e3.0	617	90	276	11	3.3	2.3
3	---	---	---	---	---	e3.0	601	70	233	12	3.0	2.1
4	---	---	---	---	---	5.7	540	54	187	14	2.7	2.1
5	---	---	---	---	---	5.7	453	59	142	14	2.4	2.1
6	---	---	---	---	---	5.6	362	55	105	14	2.4	18
7	---	---	---	---	---	5.6	332	47	91	13	3.0	52
8	---	---	---	---	---	5.6	404	38	97	12	3.6	50
9	---	---	---	---	---	7.5	417	30	93	13	4.0	32
10	---	---	---	---	---	9.2	334	25	77	13	3.7	e0.05
11	---	---	---	---	---	9.2	261	27	63	13	3.3	0.23
12	---	---	---	---	---	9.0	226	45	52	12	2.8	0.16
13	---	---	---	---	---	9.1	231	106	45	11	2.4	0.11
14	---	---	---	---	---	9.1	238	147	38	9.8	2.0	0.12
15	---	---	---	---	---	11	230	183	33	8.7	1.9	0.12
16	---	---	---	---	---	12	218	211	30	8.0	1.6	0.04
17	---	---	---	---	---	13	209	203	27	7.3	1.4	0.06
18	---	---	---	---	---	e17	201	170	24	6.9	1.3	0.06
19	---	---	---	---	---	20	186	142	22	6.6	1.0	0.05
20	---	---	---	---	---	20	169	130	21	6.2	0.93	0.11
21	---	---	---	---	---	20	157	116	20	5.9	0.83	0.21
22	---	---	---	---	---	30	146	98	19	5.8	0.82	0.20
23	---	---	---	---	---	35	139	80	19	5.8	0.78	0.21
24	---	---	---	---	---	34	132	68	21	5.2	0.91	0.17
25	---	---	---	---	---	34	127	65	22	5.1	0.98	0.40
26	---	---	---	---	---	37	120	65	20	4.7	2.3	0.96
27	---	---	---	---	---	41	114	60	19	3.9	3.9	1.5
28	---	---	---	---	---	270	111	51	17	4.5	4.6	2.8
29	---	---	---	---	---	585	104	44	15	4.4	4.3	6.5
30	---	---	---	---	---	602	99	48	13	4.1	3.7	14
31	---	---	---	---	---	583	---	121	---	3.9	3.3	---
TOTAL	---	---	---	---	---	2,454.3	8,070	2,743	2,095	270.8	76.55	191.36
MEAN	---	---	---	---	---	79.2	269	88.5	69.8	8.74	2.47	6.38
MAX	---	---	---	---	---	602	617	211	276	14	4.6	52
MIN	---	---	---	---	---	3.0	99	25	13	3.9	0.78	0.04
AC-FT	---	---	---	---	---	4,870	16,010	5,440	4,160	537	152	380

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2004, BY WATER YEAR (WY)

MEAN	6.29	6.76	4.46	3.16	3.60	24.6	122	62.4	23.3	14.9	7.53	7.02
MAX	30.1	22.7	12.9	7.27	18.7	135	451	587	196	216	144	42.8
(WY)	(1981)	(1981)	(1971)	(1971)	(1981)	(1966)	(1950)	(1950)	(2002)	(1997)	(1993)	(2002)
MIN	0.51	0.56	0.06	0.51	0.24	0.22	0.43	1.63	0.47	0.09	0.21	0.10
(WY)	(1962)	(1976)	(1953)	(1953)	(1953)	(1964)	(1991)	(1980)	(1988)	(1978)	(1988)	(1989)

05101000 TONGUE RIVER AT AKRA, ND—Continued

SUMMARY STATISTICS	WATER YEARS 1950 - 2004	
ANNUAL MEAN	a21.4	
HIGHEST ANNUAL MEAN	a50.1	1956
LOWEST ANNUAL MEAN	a3.11	1961
HIGHEST DAILY MEAN	5,240	Apr 18, 1950
LOWEST DAILY MEAN	0.00	Dec 1, 1952
ANNUAL SEVEN-DAY MINIMUM	0.00	Dec 1, 1952
MAXIMUM PEAK FLOW	b11,800	Apr 18, 1950
MAXIMUM PEAK STAGE	c16.75	Apr 22, 1979
ANNUAL RUNOFF (AC-FT)	a15,480	
10 PERCENT EXCEEDS	39	
50 PERCENT EXCEEDS	4.1	
90 PERCENT EXCEEDS	0.80	

a Based on complete water years only (1952-82)
b From indirect measurement of flow; gage height, 48.7 ft; from floodmark; site and datum then in use
c Present location
e Estimated

05101000 TONGUE RIVER AT AKRA, 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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
08...	1330	11	--	--	--	812	22.0	16.0	--	--	--	--	--
MAR													
03...	1310	2.8	--	--	--	762	-0.5	3.5	--	--	--	--	--
23...	1205	35	--	--	--	731	1.0	3.0	--	--	--	--	--
30...	1550	567	7.1	7.0	311	327	7.0	3.0	120	32.3	8.40	6.50	0.5
30...	1555	567	7.1	--	--	327	7.0	3.0	--	--	--	--	--
APR													
06...	1605	348	8.2	--	--	383	7.0	3.0	--	--	--	--	--
20...	1525	151	7.7	--	--	592	16.0	7.0	--	--	--	--	--
MAY													
26...	0705	65	8.0	--	--	716	8.5	11.0	--	--	--	--	--
JUN													
03...	0820	220	8.4	--	--	672	14.0	16.5	--	--	--	--	--
28...	1635	18	8.6	--	--	668	28.5	20.5	--	--	--	--	--
AUG													
19...	1340	1.1	7.8	8.1	621	610	16.0	15.5	230	60.4	18.2	5.30	0.9
SEP													
14...	0910	0.10	7.4	--	--	605	12.0	14.5	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Organic nitrogen, water, unfltrd mg/L (00605)
OCT													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	13.2	19	83	7.1	0.16	11.6	50.5	170	276	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	0.82	0.246	2.00	0.57
APR													
06...	--	--	--	--	--	--	--	--	--	0.74	0.257	2.90	0.48
20...	--	--	--	--	--	--	--	--	--	0.77	0.264	4.41	0.51
MAY													
26...	--	--	--	--	--	--	--	--	--	0.95	<0.010	2.81	--
JUN													
03...	--	--	--	--	--	--	--	--	--	0.41	0.018	1.70	0.39
28...	--	--	--	--	--	--	--	--	--	0.75	0.023	0.020	0.72
AUG													
19...	29.8	22	226	9.8	0.34	7.72	96.7	358	1.05	0.73	<0.010	0.040	--
SEP													
14...	--	--	--	--	--	--	--	--	--	0.78	0.079	0.600	0.70

05101000 TONGUE RIVER AT AKRA, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)
OCT													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	<1.0	140	<1	20	360	<0.20	1	<1	110	--	--
30...	0.386	2.8	--	--	--	--	--	--	--	--	--	98	271
APR													
06...	0.390	3.6	--	--	--	--	--	--	--	--	--	74	355
20...	0.219	5.2	--	--	--	--	--	--	--	--	--	73	136
MAY													
26...	0.119	3.8	--	--	--	--	--	--	--	--	--	97	52
JUN													
03...	0.125	2.1	--	--	--	--	--	--	--	--	--	40	193
28...	0.074	0.77	--	--	--	--	--	--	--	--	--	97	21
AUG													
19...	0.123	0.77	6.6	20	<1	30	420	<0.20	4	1	260	98	22
SEP													
14...	0.214	1.4	--	--	--	--	--	--	--	--	--	98	11

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Suspended sediment discharge, tons/d (80155)
OCT	
08...	--
MAR	
03...	--
23...	--
30...	--
30...	415
APR	
06...	334
20...	55
MAY	
26...	9.1
JUN	
03...	115
28...	0.99
AUG	
19...	0.06
SEP	
14...	0.00

Remark codes used in this table:
< -- Less than

05102490 RED RIVER OF THE NORTH AT PEMBINA, ND

LOCATION.--Lat 48°58'25", long 97°14'29", in NE$^1/_4$ sec.4, T.163 N., R.51 W., Pembina County, Hydrologic Unit 09020311, on left bank on bridge crossing the Red River of the North, 0.2 mi north of Pembina.

DRAINAGE AREA.--40,200 mi^2.

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--March 1985 to September 2002 (peak gage height and discharge only), October 2002 to current year (gage height and maximum discharge only).

GAGE.--Water stage recorder. Datum of gage is 739.45 ft above National Geodetic Vertical Datum of 1929 (levels by North Dakota State Water Commission).

REMARKS.--Gage heights for Oct. 2, Dec. 11, Jan. 4-5, Jan. 24, Jan. 27-31, Feb. 3-4, and Feb. 7 based on incomplete daily record.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 141,000 ft^3/s, Apr. 26, 1997, gage height, 54.94 ft; minimum recorded gage height, 7.37 ft, Sept. 15, 2003.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, about 45,000 ft^3/s, gage height, 46.64 ft, Apr. 7; minimum gage height, 7.67 ft, Oct. 12-13.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.46	8.51	8.70	9.08	9.31	9.82	42.30	19.64	27.03	18.90	12.75	12.24
2	8.41	8.48	8.80	9.16	9.27	9.91	44.51	19.05	30.27	18.29	12.52	12.05
3	8.34	8.43	8.84	9.27	9.29	9.98	45.40	18.47	32.92	17.82	12.33	11.70
4	8.24	8.43	8.84	9.30	9.29	10.03	45.89	17.89	34.55	17.51	12.13	11.36
5	8.14	8.51	8.79	9.37	9.27	10.11	46.26	17.35	35.49	17.32	11.87	11.03
6	8.02	8.53	8.74	9.41	9.25	10.17	46.46	16.80	35.95	17.13	11.62	10.80
7	7.92	8.47	8.75	9.43	9.26	10.25	46.57	16.36	36.21	16.87	11.50	10.96
8	7.86	8.49	8.82	9.43	9.29	10.35	46.53	15.95	36.24	16.64	11.49	11.89
9	7.82	8.39	8.89	9.47	9.27	10.48	46.32	15.54	36.26	16.52	12.17	12.62
10	7.78	8.34	8.96	9.51	9.26	10.63	45.96	15.11	35.90	16.43	12.71	14.03
11	7.72	8.35	8.97	9.53	9.31	10.79	45.42	14.80	35.16	16.47	13.63	16.64
12	7.69	8.42	8.98	9.54	9.33	10.92	44.69	14.82	34.31	16.51	14.11	18.19
13	7.73	8.44	8.99	9.53	9.36	11.03	43.74	17.01	33.29	16.42	13.98	18.59
14	7.78	8.50	9.01	9.54	9.36	11.14	42.58	21.18	32.10	16.36	13.58	18.32
15	7.86	8.56	9.03	9.53	---	11.23	41.17	25.27	30.84	17.05	13.19	17.66
16	8.00	8.63	9.01	9.50	9.44	11.31	39.49	28.42	29.61	18.55	12.85	16.87
17	8.14	8.69	8.97	9.46	9.42	11.38	37.52	30.53	28.48	19.78	12.56	16.12
18	8.30	8.72	8.91	9.43	9.43	11.52	35.40	31.57	27.47	20.23	12.26	15.47
19	8.43	8.76	8.87	9.44	9.44	11.72	33.27	31.74	26.57	20.02	12.01	14.86
20	8.42	8.82	8.85	9.41	9.44	11.98	31.17	31.34	25.72	19.38	11.77	14.36
21	8.36	8.89	8.84	9.40	9.46	12.26	29.12	30.55	24.95	18.50	11.52	14.07
22	8.24	8.92	8.84	9.38	9.50	12.56	27.36	29.55	24.19	17.59	11.26	14.00
23	8.17	8.97	8.85	9.39	9.53	12.88	25.89	28.54	23.57	16.73	11.04	14.22
24	8.10	8.92	8.87	9.36	9.56	13.21	24.78	27.54	22.99	15.96	10.88	14.61
25	8.10	8.88	8.90	9.38	9.60	13.65	23.83	26.45	22.33	15.27	10.73	15.44
26	8.15	8.67	8.93	9.40	9.63	14.47	23.00	25.28	21.71	14.68	10.82	16.24
27	8.34	8.52	8.95	9.43	9.66	16.21	22.25	24.23	21.18	14.22	10.89	16.87
28	8.46	8.50	8.96	9.40	9.69	22.66	21.48	23.40	20.69	13.92	10.95	17.45
29	8.49	8.57	8.97	9.41	9.73	30.31	20.84	22.73	20.17	13.64	11.32	18.02
30	8.52	8.64	8.98	9.39	---	35.48	20.24	22.75	19.58	13.35	11.83	18.45
31	8.50	---	9.02	9.34	---	39.16	---	24.32	---	13.04	12.19	---
MEAN	8.14	8.60	8.90	9.41	---	14.12	36.31	22.72	28.86	16.81	12.08	14.84
MAX	8.52	8.97	9.03	9.54	---	39.16	46.57	31.74	36.26	20.23	14.11	18.59
MIN	7.69	8.34	8.70	9.08	---	9.82	20.24	14.80	19.58	13.04	10.73	10.80

Miscellaneous discharge measurement for Red River of the North at Pembina

Date	Discharge
April 6, 2004	44,200

05102490 RED RIVER OF THE NORTH AT PEMBINA, ND

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1994 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)
APR													
06...	1205	44,200	7.6	7.5	408	395	6.0	150	36.8	14.3	7.60	0.5	14.4

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)
APR													
06...	16	108	13.2	0.18	13.4	68.4	221	27,800	3.2	110	<1	20	90

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
APR				
06...	<0.20	2	2	130

Remark codes used in this table:
< -- Less than

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.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	788	781	e551	e508	e463	e498	e36,000	6,460	14,700	7,520	2,420	2,280
2	763	774	e572	e530	e452	e523	39,900	5,970	18,700	6,990	2,300	2,190
3	739	e763	e587	e558	e445	e544	41,700	5,580	22,000	6,600	2,210	2,020
4	703	e749	e580	e568	e438	e561	43,100	5,160	24,100	6,320	2,120	1,840
5	664	e686	e562	e576	e431	e579	44,100	4,800	25,400	6,140	2,010	1,660
6	622	e636	e544	e579	e424	e593	44,800	4,450	26,100	5,970	1,900	1,540
7	583	e604	e541	e579	e420	e614	45,200	4,170	26,600	5,720	1,840	1,580
8	562	e594	e551	e576	e417	e643	44,500	3,880	26,700	5,510	1,820	2,040
9	544	e562	e569	e579	e410	e678	43,400	3,710	26,800	5,400	2,140	2,440
10	537	e544	e587	e586	e403	e727	42,000	3,460	26,300	5,330	2,480	3,270
11	523	e548	e587	e590	e410	e777	40,300	3,320	25,500	5,330	3,070	5,160
12	509	e558	e583	e586	e413	e823	38,800	3,330	24,500	5,370	3,420	6,500
13	516	e572	e580	e579	e417	e865	37,400	4,800	23,300	5,260	3,380	6,890
14	534	e587	e580	e576	e424	e900	35,700	8,300	21,900	5,190	3,140	6,670
15	562	e604	e580	e572	e434	e932	33,400	12,300	20,400	5,610	2,900	6,140
16	601	e629	e572	e561	e441	e960	31,100	15,900	19,000	6,710	2,700	5,470
17	647	e647	e558	e544	e438	e996	28,400	18,400	17,600	7,700	2,540	4,870
18	703	e657	e534	e533	e438	e1,040	25,600	19,600	16,400	8,120	2,390	4,340
19	749	e664	e512	e526	e438	e1,120	22,800	19,700	15,300	7,940	2,260	3,880
20	756	e678	e502	e516	e438	e1,230	20,100	19,200	14,400	7,380	2,130	3,520
21	731	e696	e495	e512	e438	e1,360	17,300	18,300	13,500	6,640	2,010	3,310
22	693	e700	e491	e508	e441	e1,500	15,000	17,100	12,700	5,860	1,880	3,250
23	664	e710	e488	e505	e448	e1,650	13,100	15,800	12,000	5,160	1,750	3,390
24	640	e689	e488	e494	e452	e1,810	11,800	14,700	11,400	4,550	1,670	3,670
25	643	e671	e491	e494	e455	e2,020	10,600	13,500	10,800	4,030	1,570	4,340
26	654	e597	e495	e498	e463	e2,430	9,640	12,200	10,200	3,600	1,590	4,980
27	714	e537	e498	e501	e470	e3,450	8,760	11,100	9,670	3,290	1,630	5,470
28	763	e516	e498	e505	e470	e9,290	7,870	10,300	9,220	3,090	1,650	5,930
29	774	e527	e495	e501	e477	e18,600	7,340	9,670	8,720	2,920	1,800	6,360
30	784	e541	e491	e494	---	e25,700	6,890	9,850	8,160	2,760	2,060	6,710
31	784	---	e498	e480	---	e31,000	---	11,700	---	2,590	2,250	---
TOTAL	20,449	19,021	16,660	16,714	12,708	114,413	846,600	316,710	542,070	170,600	69,030	121,710
MEAN	660	634	537	539	438	3,691	28,220	10,220	18,070	5,503	2,227	4,057
MAX	788	781	587	590	477	31,000	45,200	19,700	26,800	8,120	3,420	6,890
MIN	509	516	488	480	403	498	6,890	3,320	8,160	2,590	1,570	1,540
AC-FT	40,560	37,730	33,050	33,150	25,210	226,900	1,679,000	628,200	1,075,000	338,400	136,900	241,400

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 2004, BY WATER YEAR (WY)

MEAN	1,645	1,599	1,126	903	858	2,590	13,990	9,597	5,740	4,778	2,291	1,872
MAX	6,015	13,780	4,257	2,684	2,459	20,490	48,890	72,820	25,430	28,020	27,000	11,480
(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	1,282	663	196	121	46.6	23.8
(WY)	(1937)	(1937)	(1937)	(1937)	(1937)	(1937)	(1938)	(1934)	(1934)	(1936)	(1934)	(1934)

05102500 RED RIVER OF THE NORTH AT EMERSON, MANITOBA—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1912 - 2004	
ANNUAL TOTAL	988,417		2,266,685			
ANNUAL MEAN	2,708		6,193		3,927	
HIGHEST ANNUAL MEAN					12,830	1997
LOWEST ANNUAL MEAN					333	1934
HIGHEST DAILY MEAN	14,200	Jul 3	45,200	Apr 7	133,000	Apr 26, 1997
LOWEST DAILY MEAN	452	Sep 15	403	Feb 10	0.90	Feb 6, 1937
ANNUAL SEVEN-DAY MINIMUM	481	Sep 12	413	Feb 7	0.97	Feb 4, 1937
MAXIMUM PEAK FLOW			45,600	Apr 7	133,000	Apr 26, 1997
MAXIMUM PEAK STAGE			785.04	Apr 8	792.41	Apr 26, 1997
INSTANTANEOUS LOW FLOW					0.90	Feb 6, 1937
ANNUAL RUNOFF (AC-FT)	1,961,000		4,496,000		2,845,000	
10 PERCENT EXCEEDS	6,690		19,600		9,040	
50 PERCENT EXCEEDS	1,030		1,710		1,580	
90 PERCENT EXCEEDS	548		494		288	

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 National Geodetic Vertical Datum of 1929 (international boundary survey).

REMARKS.--Records good except for estimated daily discharges and June peak flows, which are fair.

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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	e0.00	e0.00	e0.00	e0.04	2.4	226	32	3.2	0.14
2	0.00	0.00	0.00	e0.00	e0.00	e0.00	e0.04	2.1	243	31	3.0	0.11
3	0.00	0.00	0.00	e0.00	e0.00	e0.00	e0.04	1.6	242	28	2.8	0.11
4	0.00	0.00	0.00	e0.00	e0.00	e0.00	e2.6	1.2	268	27	2.6	0.11
5	0.00	0.00	0.00	e0.00	e0.00	e0.00	e15	1.2	250	25	2.4	0.07
6	0.00	0.00	0.00	e0.00	e0.00	e0.00	e76	0.99	203	23	2.2	0.04
7	0.00	0.00	0.00	e0.00	e0.00	e0.00	e114	0.88	168	21	2.2	0.04
8	0.00	0.00	0.00	e0.00	e0.00	e0.00	e71	0.81	145	21	2.4	0.04
9	0.00	0.00	0.00	e0.00	e0.00	e0.00	e40	0.71	108	20	2.3	0.04
10	0.00	0.00	0.00	e0.00	e0.00	e0.00	e29	0.56	92	18	2.5	0.04
11	0.00	0.00	0.00	e0.00	e0.00	e0.00	e25	1.4	99	17	2.3	0.04
12	0.00	0.00	0.00	e0.00	e0.00	e0.00	e22	1.8	107	17	2.2	0.04
13	0.00	0.00	0.00	e0.00	e0.00	e0.00	22	1.7	119	14	2.0	0.04
14	0.00	0.00	0.00	e0.00	e0.00	e0.00	20	1.3	113	13	1.7	0.04
15	0.00	0.00	0.00	e0.00	e0.00	e0.00	17	1.2	107	16	1.4	0.04
16	0.00	0.00	0.00	e0.00	e0.00	e0.00	15	2.3	92	13	1.1	0.04
17	0.00	0.00	0.00	e0.00	e0.00	e0.00	14	4.9	76	11	0.92	0.04
18	0.00	0.00	0.00	e0.00	e0.00	e0.00	12	4.6	65	10	0.71	0.00
19	0.00	0.00	0.00	e0.00	e0.00	e0.00	11	13	59	9.7	0.56	0.00
20	0.00	0.00	0.00	e0.00	e0.00	e0.00	9.4	18	60	9.5	0.46	0.00
21	0.00	0.00	0.00	e0.00	e0.00	e0.00	8.5	17	63	9.0	0.42	0.00
22	0.00	0.00	0.00	e0.00	e0.00	e0.00	7.5	16	64	7.6	0.32	0.00
23	0.00	0.00	0.00	e0.00	e0.00	e0.00	6.7	16	61	6.7	0.28	0.00
24	0.00	0.00	0.00	e0.00	e0.00	e0.00	6.4	23	57	6.3	0.28	0.00
25	0.00	0.00	0.00	e0.00	e0.00	e0.00	5.4	37	53	5.8	0.28	0.00
26	0.00	0.00	0.00	e0.00	e0.00	e0.00	4.7	54	49	5.3	0.35	0.00
27	0.00	0.00	0.00	e0.00	e0.00	e0.00	4.0	56	46	4.9	0.39	0.00
28	0.00	0.00	0.00	e0.00	e0.00	e0.00	3.6	64	42	4.7	0.32	0.00
29	0.00	0.00	0.00	e0.00	e0.00	e0.00	3.0	62	38	4.4	0.25	0.00
30	0.00	0.00	0.00	e0.00	---	e0.00	2.6	53	34	4.1	0.18	0.00
31	0.00	---	0.00	e0.00	---	e0.04	---	92	---	3.5	0.18	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.04	567.52	552.65	3,349	438.5	42.20	1.02
MEAN	0.00	0.00	0.00	0.00	0.00	0.00	18.9	17.8	112	14.1	1.36	0.03
MAX	0.00	0.00	0.00	0.00	0.00	0.04	114	92	268	32	3.2	0.14
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.56	34	3.5	0.18	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	0.08	1,130	1,100	6,640	870	84	2.0

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2004, BY WATER YEAR (WY)

MEAN	0.89	0.29	0.22	0.11	1.14	82.5	187	49.6	28.7	27.8	5.75	2.43
MAX	25.1	4.17	2.75	1.75	26.5	545	1,052	578	360	415	115	61.4
(WY)	(1979)	(1979)	(1994)	(2001)	(1981)	(1994)	(1979)	(1970)	(1976)	(1978)	(1993)	(1978)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(WY)	(1960)	(1960)	(1960)	(1960)	(1960)	(1964)	(1961)	(1961)	(1961)	(1961)	(1960)	(1960)

05113360 LONG CREEK AT WESTERN CROSSING OF INTERNATIONAL BOUNDARY, SASKATCHEWAN—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1960 - 2004	
ANNUAL TOTAL	7,303.67		4,950.93			
ANNUAL MEAN	20.0		13.5		32.2	
HIGHEST ANNUAL MEAN					150	1976
LOWEST ANNUAL MEAN					0.00	1988
HIGHEST DAILY MEAN	1,060	Mar 19	268	Jun 4	4,350	Apr 1, 1976
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 1	0.00	Oct 1, 1959
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Oct 1	0.00	Oct 1, 1959
MAXIMUM PEAK FLOW			272	Jun 4	4,690	Apr 1, 1976
MAXIMUM PEAK STAGE			4.07	Jun 4	12.05	Apr 1, 1976
ANNUAL RUNOFF (AC-FT)	14,490		9,820		23,320	
10 PERCENT EXCEEDS	50		43		34	
50 PERCENT EXCEEDS	0.00		0.00		0.00	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

e Estimated

05113600 LONG CREEK NEAR NOONAN, ND
(International gaging station)

LOCATION.--Lat 48°58'52", long 103°04'34", near north line of NE¼ 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 National Geodetic Vertical Datum of 1929, from topographic map. Prior to Aug. 18, 1960, nonrecording gage at same site and datum.

REMARKS.--Records good except for estimated daily discharges, 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	e0.00	e0.30	e0.14	e0.05	e0.00	e40	5.6	108	48	8.5	0.79
2	0.00	0.00	e0.30	e0.14	e0.05	e0.00	e50	4.5	246	50	8.5	0.96
3	0.00	e0.00	e0.25	e0.13	e0.04	e0.00	40	4.1	263	50	8.0	1.1
4	0.00	0.00	e0.23	e0.13	e0.04	e0.00	44	3.5	264	45	6.7	1.1
5	0.00	e0.00	e0.20	e0.12	e0.03	e0.00	45	3.4	283	42	6.1	0.59
6	0.00	e0.00	e0.20	e0.11	e0.02	e0.02	60	3.1	259	41	5.2	0.38
7	0.00	e0.00	e0.22	e0.11	e0.01	e0.03	119	2.0	217	39	e5.0	0.35
8	0.00	e0.00	e0.23	e0.10	e0.00	e0.05	166	1.6	180	40	e4.8	0.51
9	0.00	e0.00	e0.22	e0.09	e0.00	e0.07	121	1.5	157	39	e4.6	0.34
10	0.00	e0.00	e0.20	e0.10	e0.00	e0.09	72	1.0	123	35	e4.4	0.22
11	0.00	0.00	e0.18	e0.11	e0.00	e0.10	57	2.0	136	35	e4.2	0.15
12	0.00	e0.00	e0.16	e0.12	e0.00	e0.12	49	3.5	175	40	e4.0	0.20
13	0.00	e0.00	0.31	e0.11	e0.00	e0.13	40	3.8	185	44	e3.7	0.41
14	0.00	e0.09	0.33	e0.10	e0.00	e0.15	36	3.8	177	34	e3.2	0.57
15	0.00	e0.09	0.40	e0.10	e0.00	0.17	33	4.1	162	49	e2.8	1.2
16	0.00	e0.06	0.41	e0.09	e0.00	0.18	29	3.8	146	64	e2.4	1.7
17	0.00	0.06	0.39	e0.10	e0.00	0.22	25	4.1	125	42	e2.0	1.6
18	0.00	0.04	0.42	e0.09	e0.00	0.24	24	5.0	102	30	1.8	1.3
19	0.00	0.05	0.43	e0.09	e0.00	0.58	24	10	85	25	1.4	1.3
20	0.00	0.10	0.43	e0.10	e0.00	0.71	21	17	76	23	1.1	1.3
21	0.00	e0.08	0.42	e0.11	e0.00	0.50	19	31	72	19	1.1	1.3
22	0.00	e0.05	0.44	e0.12	e0.00	0.53	17	33	73	22	0.90	1.1
23	0.00	e0.12	0.44	e0.11	e0.00	0.65	16	30	74	22	0.84	1.1
24	0.00	e0.20	0.40	e0.11	e0.00	1.0	14	32	70	19	1.0	0.86
25	0.00	e0.25	0.41	e0.10	e0.00	2.1	12	45	65	16	0.85	0.78
26	0.00	e0.30	0.42	e0.10	e0.00	1.6	12	60	61	13	1.1	0.75
27	0.00	e0.30	e0.20	e0.09	e0.00	1.7	11	79	57	12	1.2	0.51
28	0.00	e0.40	e0.18	e0.09	e0.00	2.3	7.5	79	55	12	1.5	0.45
29	0.00	e0.35	e0.17	e0.08	e0.00	2.7	6.7	85	52	11	1.3	0.33
30	0.00	e0.30	e0.16	e0.07	---	4.7	7.2	89	50	9.3	0.75	0.20
31	0.00	---	e0.15	e0.06	---	e51	---	77	---	8.3	0.73	---
TOTAL	0.00	2.84	9.20	3.22	0.24	71.64	1,217.4	727.4	4,098	978.6	99.67	23.45
MEAN	0.00	0.09	0.30	0.10	0.01	2.31	40.6	23.5	137	31.6	3.22	0.78
MAX	0.00	0.40	0.44	0.14	0.05	51	166	89	283	64	8.5	1.7
MIN	0.00	0.00	0.15	0.06	0.00	0.00	6.7	1.0	50	8.3	0.73	0.15
AC-FT	0.00	5.6	18	6.4	0.5	142	2,410	1,440	8,130	1,940	198	47

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2004, BY WATER YEAR (WY)

MEAN	1.45	0.84	0.64	0.43	2.66	105	244	62.3	34.4	36.7	7.53	3.24
MAX	31.0	7.17	4.35	5.11	71.3	600	1,396	728	376	452	131	77.2
(WY)	(1979)	(1979)	(1976)	(1976)	(1981)	(1994)	(1979)	(1970)	(1976)	(1978)	(1993)	(1978)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(WY)	(1960)	(1961)	(1961)	(1961)	(1961)	(1965)	(1990)	(1990)	(1961)	(1961)	(1960)	(1960)

05113600 LONG CREEK NEAR NOONAN, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1960 - 2004	
ANNUAL TOTAL	8,660.94		7,231.66			
ANNUAL MEAN	23.7		19.8		41.5	
HIGHEST ANNUAL MEAN					200	1976
LOWEST ANNUAL MEAN					0.02	1988
HIGHEST DAILY MEAN	1,100	Mar 20	283	Jun 5	5,710	Apr 1, 1976
LOWEST DAILY MEAN	0.00	Feb 24	0.00	Oct 1	0.00	Oct 1, 1959
ANNUAL SEVEN-DAY MINIMUM	0.00	Feb 24	0.00	Oct 1	0.00	Oct 1, 1959
MAXIMUM PEAK FLOW			287	Jun 5	6,310	Mar 31, 1976
MAXIMUM PEAK STAGE			6.11	Jun 5	17.61	Mar 31, 1976
ANNUAL RUNOFF (AC-FT)	17,180		14,340		30,090	
10 PERCENT EXCEEDS	64		60		47	
50 PERCENT EXCEEDS	0.30		0.52		0.40	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

e Estimated

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.44	---	2.98	---	---	2.91	3.98	3.28	4.58	3.92	3.34	3.13
2	2.44	---	2.97	---	---	2.91	4.05	3.24	5.81	3.94	3.34	3.15
3	2.44	---	2.96	---	---	2.91	3.83	3.23	5.95	3.94	3.33	3.17
4	2.44	---	---	---	---	2.92	3.87	3.21	5.95	3.89	3.30	3.18
5	2.44	---	---	---	2.92	2.93	3.89	3.21	6.08	3.85	3.29	3.15
6	2.44	---	2.95	---	---	2.95	4.06	3.20	5.92	3.84	3.27	3.13
7	2.44	---	2.95	---	2.92	2.96	4.70	3.15	5.60	3.81	---	3.13
8	2.44	---	---	---	2.92	2.96	5.15	3.13	5.28	3.83	---	3.17
9	2.44	---	---	2.92	2.91	2.98	4.72	3.12	5.06	3.82	---	3.15
10	2.44	---	---	2.93	2.92	3.03	---	3.09	4.74	3.77	---	3.13
11	2.44	2.63	---	2.94	2.92	---	---	3.14	4.86	3.77	---	3.12
12	2.44	---	---	2.94	2.92	2.99	3.93	3.21	5.24	3.83	---	3.15
13	2.46	---	2.92	2.94	2.91	2.98	3.83	3.22	5.32	3.87	---	3.20
14	2.46	---	2.92	---	2.90	2.97	3.78	3.22	5.25	3.75	---	3.24
15	2.46	---	2.94	2.94	2.90	2.97	3.74	3.23	5.12	3.93	---	3.30
16	2.46	---	2.94	2.94	2.90	2.98	3.69	3.22	4.96	4.11	---	3.34
17	2.47	2.86	2.94	2.95	2.90	2.99	3.64	3.23	4.76	3.85	---	3.34
18	2.47	2.86	2.94	---	2.90	2.99	3.62	3.26	4.53	3.70	3.17	3.34
19	2.47	2.86	2.95	2.94	2.91	3.05	3.61	3.38	4.35	3.63	3.15	3.34
20	2.47	---	2.95	2.94	2.91	3.07	3.57	3.50	4.25	3.60	3.13	3.36
21	2.47	---	2.94	2.96	2.91	3.04	3.54	3.71	4.21	3.54	3.14	3.36
22	2.47	---	2.95	2.95	2.91	3.05	3.51	3.74	4.22	3.59	3.12	3.36
23	2.47	---	2.95	2.94	2.91	3.06	3.48	3.70	4.23	3.59	3.12	3.37
24	2.47	---	2.94	2.95	2.91	3.09	3.45	3.73	4.19	3.54	3.13	3.37
25	2.47	---	2.94	---	2.91	3.15	3.42	3.88	4.13	3.48	3.12	3.37
26	2.47	---	2.94	---	2.91	3.13	3.41	4.06	4.07	3.44	3.15	3.37
27	2.50	---	2.95	---	2.91	3.14	3.39	4.29	4.04	3.42	3.16	3.36
28	2.49	---	2.98	---	2.91	3.16	3.32	4.29	4.00	3.41	3.18	3.36
29	2.50	3.05	---	---	2.91	3.18	3.30	4.36	3.97	3.39	3.16	3.35
30	2.55	2.99	---	---	---	3.23	3.31	4.40	3.94	3.36	3.12	3.34
31	---	---	---	2.96	---	4.22	---	4.27	---	3.34	3.13	---
MEAN	---	---	---	---	---	---	---	3.51	4.82	3.70	---	3.26
MAX	---	---	---	---	---	---	---	4.40	6.08	4.11	---	3.37
MIN	---	---	---	---	---	---	---	3.09	3.94	3.34	---	3.12

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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV													
18...	0900	0.05	--	--	--	--	1,580	--	--	--	--	--	--
JAN													
14...	1155	0.10	--	--	--	--	3,100	-13.5	0.0	--	--	--	--
MAR													
24...	1515	1.2	--	--	--	--	1,890	5.0	0.5	--	--	--	--
31...	1500	51	712	7.7	7.1	1,080	1,090	20.5	0.5	230	38.7	32.4	11.6
APR													
07...	1630	123	--	--	--	--	1,140	12.5	3.5	--	--	--	--
15...	1645	32	--	--	--	--	1,500	10.0	6.0	--	--	--	--
MAY													
26...	1350	66	--	--	--	--	1,840	16.5	12.0	--	--	--	--
JUN													
16...	1410	146	--	--	--	--	1,510	18.0	17.5	--	--	--	--
AUG													
03...	1300	7.7	--	--	--	--	1,760	22.5	21.5	--	--	--	--
SEP													
14...	1300	0.58	--	7.8	8.5	1,540	1,550	17.0	15.5	450	76.4	62.1	11.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)
NOV													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
31...	5	163	59	123	13.8	0.12	11.4	383	718	101	3.6	250	<1
APR													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
14...	3	166	44	354	22.7	0.21	4.95	488	1,040	1.64	6.8	30	<1

05113600 LONG CREEK NEAR NOONAN, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Lithium water, fltrd, ug/L (01130)	Mangan-ese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molyb-denum, water, fltrd, ug/L (01060)	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
NOV						
18...	--	--	--	--	--	--
JAN						
14...	--	--	--	--	--	--
MAR						
24...	--	--	--	--	--	--
31...	50	190	<0.20	2	<1	260
APR						
07...	--	--	--	--	--	--
15...	--	--	--	--	--	--
MAY						
26...	--	--	--	--	--	--
JUN						
16...	--	--	--	--	--	--
AUG						
03...	--	--	--	--	--	--
SEP						
14...	80	60	<0.20	1	6	460

Remark codes used in this table:
< -- Less than

05113750 EAST BRANCH SHORT CREEK RESERVOIR NEAR COLUMBUS, ND

LOCATION.--Lat 48°59'26", long 102°47'07", in SW ¼NW ¼ 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 National Geodetic Vertical Datum of 1929.

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, 1,450 acre-ft, June 12, gage height, 29.07 ft; minimum contents, 1,070 acre-ft, Oct. 27, gage height, 25.82 ft.

MONTHEND GAGE HEIGHT AND CONTENTS AT 2400, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Gage height (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	26.04	1,090	--
Oct. 31	25.91	1,080	-10
Nov. 30	25.94	1,080	0
Dec. 31	[e]25.98	[e]1,090	+10
CAL YR 2003	--	--	+60
Jan. 31	26.08	1,100	+10
Feb. 29	26.10	1,100	0
Mar. 31	26.60	1,160	+60
Apr. 30	27.50	1,260	+100
May 31	28.67	1,400	+140
June 30	28.26	1,350	-50
July 31	28.14	1,340	-10
Aug. 31	27.58	1,270	-70
Sept. 30	26.94	1,190	-80
WTR YR 2004	--	--	+100

e 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. Records provided by the Water Survey of Canada.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.07	0.04	e0.00	e0.00	e0.04	e34	1.7	150	13	5.6	1.8
2	0.00	0.04	0.04	e0.00	e0.00	e0.04	e40	1.6	165	14	5.4	1.7
3	0.00	0.04	0.04	e0.00	e0.00	e0.04	e27	1.4	147	13	5.3	1.7
4	0.00	0.04	0.04	e0.00	e0.00	e0.04	26	1.1	120	12	4.9	1.5
5	0.00	0.07	0.04	e0.00	e0.00	e0.04	25	1.6	92	12	4.6	1.5
6	0.00	0.07	0.04	e0.00	e0.00	e0.07	20	1.3	70	11	4.6	1.4
7	0.00	0.07	0.04	e0.00	e0.00	e0.04	17	0.85	52	10	5.2	1.4
8	0.00	0.04	0.04	e0.00	e0.00	e0.07	15	0.60	39	12	5.1	1.3
9	0.00	0.04	0.04	e0.00	e0.00	e0.14	17	0.53	32	11	4.7	1.2
10	0.00	0.04	0.04	e0.00	e0.00	e0.11	14	0.53	30	9.8	4.1	1.2
11	0.00	0.07	0.04	e0.00	e0.00	e0.00	11	1.3	86	9.3	4.2	0.92
12	0.00	0.07	0.04	e0.00	e0.00	e0.04	9.5	1.6	195	11	3.8	1.1
13	0.00	0.07	0.04	e0.00	e0.00	e0.04	8.3	1.7	235	10	3.5	1.1
14	0.00	0.07	0.04	e0.00	e0.00	e0.04	7.4	1.9	230	9.4	3.4	1.1
15	0.00	0.07	0.04	e0.00	e0.00	e0.04	5.9	2.8	191	16	3.0	0.95
16	0.00	0.07	0.04	e0.00	e0.00	e0.04	5.0	5.3	144	36	2.8	0.88
17	0.00	0.07	0.04	e0.00	e0.00	e0.07	4.6	16	103	35	2.6	0.88
18	0.00	0.07	0.04	e0.00	e0.04	e0.07	4.9	14	77	30	2.6	0.81
19	0.00	0.07	0.04	e0.00	e0.04	e0.18	4.6	13	59	25	2.4	0.81
20	0.00	0.07	0.04	e0.00	e0.04	e0.07	4.9	13	46	23	2.2	0.81
21	0.00	0.07	0.04	e0.00	e0.07	e0.04	5.3	12	38	20	2.1	0.78
22	0.00	0.04	0.04	e0.00	e0.07	e0.04	4.9	13	34	17	2.0	0.81
23	0.00	0.04	0.04	e0.00	e0.07	e0.04	4.5	18	29	15	2.0	0.81
24	0.00	0.04	0.04	e0.00	e0.14	e0.11	3.9	27	25	13	1.9	0.74
25	0.00	0.07	0.04	e0.00	e0.14	e0.18	3.3	33	22	11	1.9	0.60
26	0.00	0.07	0.04	e0.00	e0.14	e0.04	2.8	50	20	9.6	2.1	0.53
27	0.00	0.04	0.04	e0.00	e0.04	e0.07	2.6	55	19	8.4	2.0	0.46
28	0.04	0.04	0.04	e0.00	e0.04	e0.07	2.8	49	17	7.3	1.9	0.42
29	0.04	0.04	0.00	e0.00	e0.04	e0.04	2.3	55	16	6.5	1.7	0.53
30	0.11	0.04	0.00	e0.00	---	e35	2.2	83	14	6.0	1.7	0.71
31	0.07	---	0.00	e0.00	---	e55	---	117	---	5.9	1.8	---
TOTAL	0.26	1.71	1.12	0.00	0.87	91.85	335.7	593.81	2,497	442.2	101.1	30.45
MEAN	0.01	0.06	0.04	0.00	0.03	2.96	11.2	19.2	83.2	14.3	3.26	1.01
MAX	0.11	0.07	0.04	0.00	0.14	55	40	117	235	36	5.6	1.8
MIN	0.00	0.04	0.00	0.00	0.00	0.00	2.2	0.53	14	5.9	1.7	0.42
AC-FT	0.5	3.4	2.2	0.00	1.7	182	666	1,180	4,950	877	201	60

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2004, BY WATER YEAR (WY)

MEAN	0.75	0.32	0.08	0.03	1.25	36.5	59.7	19.1	9.75	6.31	3.87	1.19
MAX	10.9	6.00	1.42	0.28	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	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00
(WY)	(1962)	(1962)	(1961)	(1962)	(1962)	(1965)	(1991)	(1990)	(1980)	(1961)	(1961)	(1961)

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1960 - 2004	
ANNUAL TOTAL	2,914.00		4,096.07			
ANNUAL MEAN	7.98		11.2		11.4	
HIGHEST ANNUAL MEAN					51.9	1976
LOWEST ANNUAL MEAN					0.03	1988
HIGHEST DAILY MEAN	193	Mar 18	235	Jun 13	1,410	Apr 7, 1969
LOWEST DAILY MEAN	0.00	Jan 13	0.00	Oct 1	0.00	Mar 1, 1960
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 24	0.00	Oct 1	0.00	Mar 1, 1960
MAXIMUM PEAK FLOW			240	Jun 13	1,700	Apr 7, 1969
MAXIMUM PEAK STAGE			6.45	Jun 13	14.39	Mar 28, 1960
ANNUAL RUNOFF (AC-FT)	5,780		8,120		8,250	
10 PERCENT EXCEEDS	18		29		14	
50 PERCENT EXCEEDS	0.04		0.50		0.07	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

05113800 SHORT CREEK BELOW INTERNATIONAL BOUNDARY NEAR ROCHE PERCEE, SASKATCHEWAN—Continued

e Estimated

05114000 SOURIS (MOUSE) RIVER NEAR SHERWOOD, ND
(International gaging station)

LOCATION.--Lat 48°59'24", long 101°57'28", in NW¼SE¼NE¼ 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 National Geodetic Vertical Datum of 1929. Prior to Apr. 8, 1935, nonrecording gage at same site and datum.

REMARKS.--Records good except 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	19	e1.4	e0.74	e0.57	e0.42	50	19	102	35	25	8.6
2	41	14	e1.3	e0.72	e0.58	e0.42	70	15	116	33	23	8.1
3	42	12	e1.3	e0.70	e0.57	e0.41	64	14	125	34	21	7.7
4	42	e10	e1.3	e0.69	e0.56	e0.41	64	12	165	34	19	7.7
5	42	e8.0	e1.3	e0.68	e0.55	e0.40	114	11	197	32	17	7.6
6	41	e6.0	e1.3	e0.68	e0.55	e0.40	105	10	207	29	16	7.3
7	41	e4.0	e1.3	e0.66	e0.54	e0.40	85	9.3	208	26	16	7.0
8	42	e3.1	e1.2	e0.65	e0.54	e0.43	70	8.2	172	27	16	6.9
9	42	e2.8	e1.2	e0.65	e0.53	e0.45	70	8.1	136	31	17	6.8
10	43	e2.6	e1.2	e0.64	e0.53	e0.48	86	7.3	119	30	17	6.3
11	43	e2.5	e1.2	e0.64	e0.52	e0.51	81	8.9	220	27	16	6.3
12	43	e2.4	e1.2	e0.63	e0.52	e0.70	77	9.9	271	778	15	6.4
13	44	e2.3	e1.2	e0.61	e0.51	e1.0	73	12	219	707	15	6.8
14	44	e2.3	e1.1	e0.61	e0.51	e1.5	69	13	187	427	14	6.8
15	44	e2.3	e1.1	e0.61	e0.50	e3.0	81	15	244	403	14	7.0
16	44	e2.2	e1.1	e0.60	e0.48	e2.7	98	16	333	293	13	7.0
17	44	e2.2	e1.1	e0.60	e0.47	e2.4	96	16	358	207	13	7.0
18	44	e2.1	e1.0	e0.60	e0.46	e2.2	96	14	340	167	13	6.9
19	45	e2.1	e1.0	e0.60	e0.45	e2.3	96	16	283	139	13	6.9
20	44	e2.0	e0.98	e0.60	e0.45	e2.5	94	18	215	e130	12	6.6
21	44	e1.9	e0.96	e0.60	e0.44	e2.7	92	18	156	e110	12	6.3
22	44	e1.9	e0.95	e0.60	e0.44	e3.3	86	21	119	100	12	6.3
23	51	e1.8	e0.93	e0.59	e0.43	e3.8	84	24	100	81	11	6.1
24	56	e1.7	e0.92	e0.58	e0.43	e5.0	84	32	83	67	11	19
25	49	e1.7	e0.91	e0.58	e0.43	e6.0	82	44	68	58	11	52
26	47	e1.6	e0.90	e0.57	e0.43	e8.0	79	52	59	50	10	54
27	47	e1.6	e0.88	e0.56	e0.42	e11	78	50	53	44	10	54
28	48	e1.6	e0.85	e0.55	e0.42	13	73	49	48	39	10	54
29	49	e1.5	e0.81	e0.55	e0.42	15	43	60	45	34	10	56
30	49	e1.5	e0.78	e0.56	---	22	27	80	40	30	9.4	56
31	33	---	e0.77	e0.57	---	37	---	97	---	28	9.3	---
TOTAL	1,372	120.7	33.44	19.22	14.25	149.83	2,367	779.7	4,988	4,230	440.7	505.4
MEAN	44.3	4.02	1.08	0.62	0.49	4.83	78.9	25.2	166	136	14.2	16.8
MAX	56	19	1.4	0.74	0.58	37	114	97	358	778	25	56
MIN	33	1.5	0.77	0.55	0.42	0.40	27	7.3	40	26	9.3	6.1
AC-FT	2,720	239	66	38	28	297	4,690	1,550	9,890	8,390	874	1,000

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2004, BY WATER YEAR (WY)

MEAN	13.8	9.64	4.72	3.04	6.22	135	674	402	125	83.9	26.8	16.5
MAX	121	65.4	47.7	44.5	143	1,148	6,739	3,995	954	1,050	324	173
(WY)	(1994)	(1955)	(1976)	(1976)	(1981)	(1972)	(1976)	(1975)	(1953)	(1953)	(1999)	(1999)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	1.82	2.63	0.17	0.00	0.00	0.00
(WY)	(1932)	(1935)	(1932)	(1931)	(1931)	(1936)	(1988)	(1988)	(1988)	(1937)	(1931)	(1931)

05114000 SOURIS (MOUSE) RIVER NEAR SHERWOOD, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1930 - 2004	
ANNUAL TOTAL	16,141.44		15,020.24			
ANNUAL MEAN	44.2		41.0		126	
HIGHEST ANNUAL MEAN					878	1976
LOWEST ANNUAL MEAN					0.62	1988
HIGHEST DAILY MEAN	630	Mar 23	778	Jul 12	13,700	Apr 10, 1976
LOWEST DAILY MEAN	0.60	Mar 12	0.40	Mar 5	0.00	Sep 4, 1930
ANNUAL SEVEN-DAY MINIMUM	0.64	Mar 7	0.41	Mar 1	0.00	Sep 4, 1930
MAXIMUM PEAK FLOW			972	Jul 12	14,800	Apr 10, 1976
MAXIMUM PEAK STAGE			9.70	Jul 12	25.15	Apr 10, 1976
ANNUAL RUNOFF (AC-FT)	32,020		29,790		91,230	
10 PERCENT EXCEEDS	130		99		215	
50 PERCENT EXCEEDS	6.0		11		6.3	
90 PERCENT EXCEEDS	1.1		0.55		0.00	

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. 8.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
NOV													
13...	1100	2.3	720	8.6	63	8.0	8.0	1,060	1,200	1.0	0.5	450	80.3
JAN													
14...	1730	0.61	--	--	--	7.6	--	--	1,480	-15.0	-1.0	--	--
FEB													
25...	1500	0.43	717	5.3	38	7.7	7.8	1,480	1,510	0.0	-1.1	580	124c
MAR													
24...	1830	5.1	--	--	--	--	--	--	2,150	--	0.0	--	--
APR													
01...	1515	52	718	15.0	111	8.5	8.3	1,660	1,720	15.5	0.5	320	54.4
22...	1120	87	720	11.7	105	8.7	8.4	1,060	1,090	11.0	7.9	390	68.4
MAY													
26...	1700	54	705	12.5	129	8.7	8.6	1,110	1,210	11.0	13.0	390	67.4
JUN													
16...	1815	345	--	--	--	--	--	--	1,350	21.0	19.0	--	--
JUL													
21...	1120	114	711	4.9	63	7.6	8.1	955	990	23.0	24.5	310	60.3
AUG													
17...	1445	13	723	8.1	95	7.5	--	--	1,320	22.1	20.5	--	--
SEP													
08...	1105	6.5	--	7.8	--	7.8	8.1	1,330	1,280	15.2	14.3	400	79.7
13...	1620	7.1	--	--	--	--	--	--	1,290	13.5	16.0	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Magnesium, water, fltrd, mg/L (00925)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Organic nitrogen, water, unfltrd mg/L (00605)
NOV													
13...	61.6	2	83.2	343	28.1	<0.2	234	753	<10	1.3	<0.04	<0.06	--
JAN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
25...	64.8c	2	128c	345@c	81.5c	0.2	208c	977	<10	1.6	0.73	0.43	0.85
MAR													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
01...	44.3	7	286	398@	55.8d	0.2	423d	1,150	13d	1.6	E.03n	0.07	--
22...	52.8	2	102	315@c	28.6	0.2	251	750	18	--	--	--	--
MAY													
26...	54.5	3	136	301@c	57.3	0.2	272	821	<10	1.2	<0.04	<0.06	--
JUN													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
21...	38.2	3	115	247@c	16.2	<0.2	261	710	19d	1.8	0.12	0.25	1.6
AUG													
17...	--	--	--	--	--	--	--	--	--	1.2	<0.04	<0.06	--
SEP													
08...	47.7	3	141	363@c	59.4	0.2	281	901	14	1.3	<0.04	<0.06	--
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

05114000 SOURIS RIVER NEAR SHERWOOD, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Aluminum, water, unfltrd recoverable, ug/L (01105)	Arsenic water unfltrd ug/L (01002)	Barium, water, unfltrd recoverable, ug/L (01007)	Beryllium, water, unfltrd recoverable, ug/L (01012)	Boron, water, unfltrd recoverable, ug/L (01022)	Cadmium water, unfltrd ug/L (01027)	Chromium, water, unfltrd recoverable, ug/L (01034)
NOV													
13...	0.10	--	21.5	280k	<0.5d	<0.1d	39	3	52	<0.06	116v	<0.04	<0.8
JAN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
25...	0.14	2.0	19.5	4	--	--	90	E2n	74	<0.06	125	E.04n	<0.8
MAR													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
01...	0.30	1.7	30.2	20k	12.8d	3.8d	100	4	49	<0.06	227	E.02n	<0.8
22...	--	--	--	54	4.9d	0.4d	170	3	75	<0.06	149	E.03n	<0.8
MAY													
26...	0.33	--	19.6	92	11.8d	3.7d	150	6	24	<0.06	167	<0.04	E.6n
JUN													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
21...	0.51	2.0	24.3	220	7.7d	0.9d	380	7	76	E.03n	110	0.04	E.7n
AUG													
17...	0.21	--	19.2	70k	13.8d	<0.1d	--	--	--	--	--	--	--
SEP													
08...	0.18	--	23.4	--	18.4d	2.2d	210	4	78	<0.06	166	E.03n	<0.8
13...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Cobalt water, unfltrd recoverable, ug/L (01037)	Copper, water, unfltrd recoverable, ug/L (01042)	Iron, water, unfltrd recoverable, ug/L (01045)	Lead, water, unfltrd recoverable, ug/L (01051)	Molybdenum, water, unfltrd recoverable, ug/L (01062)	Nickel, water, unfltrd recoverable, ug/L (01067)	Selenium, water, unfltrd ug/L (01147)	Zinc, water, unfltrd recoverable, ug/L (01092)	Phenolic compounds, water, unfltrd ug/L (32730)	Triazine screen, wat unf ELISA, ug/L as atrazin (34757)	2,4-D screen total ug/L (99906)
NOV											
13...	0.794	4.0	170	0.10	1.8	4.87	E.3n	E2n	<16	--	--
JAN											
14...	--	--	--	--	--	--	--	--	--	--	--
FEB											
25...	1.02	2.1	240	0.64	1.1	5.04	E.3n	3	<16	<0.1	<0.700
MAR											
24...	--	--	--	--	--	--	--	--	--	--	--
APR											
01...	0.834	3.2	720	0.31	2.0	3.78	<0.4	E1n	<16	--	--
22...	0.811	2.8	310	0.24	2.7	4.27	0.8	E2n	--	<0.1	<0.700
MAY											
26...	0.772	3.5	300	0.29	1.9	4.45	0.4	4	<16	<0.1	<0.700
JUN											
16...	--	--	--	--	--	--	--	--	--	--	--
JUL											
21...	1.21	5.5	860	0.76	2.1	7.20	1.1	5	<16	<0.1	0.840
AUG											
17...	--	--	--	--	--	--	--	--	<16	--	--
SEP											
08...	1.04	4.1	490	0.33	2.2	5.66	0.5	13	<16	<0.1	<0.700
13...	--	--	--	--	--	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL
v -- Analyte detected in laboratory blank

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 National Geodetic Vertical Datum of 1929. 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 1,598 ft, legal full-capacity level. Flood-emergency maximum level is 1,601 ft (148,600 acre-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, 113,700 acre-ft, July 16, elevation, 1,597.50 ft; minimum daily observed contents, 94,880 acre-ft, Oct. 23, elevation, 1,595.53 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	1,595.59	95,440	--
Oct. 31	1,595.63	95,820	+380
Nov. 30	1,595.72	96,670	+850
Dec. 31	1,595.80	97,420	+750
CAL YR 2003	--	--	+2,920
Jan. 31	1,595.95	98,840	+1,420
Feb. 29	1,595.96	98,940	+100
Mar. 31	1,596.03	99,600	+660
Apr. 30	1,596.24	101,600	+2,000
May 31	1,596.65	105,500	+3,900
June 30	1,597.02	109,100	+3,600
July 31	1,597.02	109,100	0
Aug. 31	1,596.76	106,600	-2,500
Sept. 30	1,596.20	101,200	-5,400
WTR YR 2004	--	--	+5,760

05115500 LAKE DARLING NEAR FOXHOLM, ND—Continued

WATER-QUALITY RECORDS

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

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Depth to bottom of samplng intrval meters (82048)	Depth to top of samplng intrval meters (82047)	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
07...	1335	1.2	0.80	8.4	956	300	54.4	39.6	3	110	261	29.4	0.2
07...	1340	5.0	2.5	--	--	--	--	--	--	--	--	--	--
07...	1345	5.7	5.3	8.4	961	310	55.3	40.7	3	112	261	29.1	0.2
APR													
16...	1025	1.0	1.0	8.0	905	290	51.7	38.7	3	105	255@c	29.3	0.2
16...	1030	2.2	1.1	--	--	--	--	--	--	--	--	--	--
16...	1035	7.0	7.0	7.8	922	290	51.2	38.2	3	103	255@c	29.5	0.2
MAY													
21...	1000	1.0	1.0	8.5	977	310	56.2	41.6	3	114	270@c	30.5	0.3
21...	1010	4.5	2.2	--	--	--	--	--	--	--	--	--	--
21...	1015	6.0	6.0	8.5	935	310	56.7	41.6	3	114	270@c	30.4	0.3
JUN													
24...	1000	1.5	1.0	8.7	1,010	300	53.7	39.5	3	114	268@c	30.2	0.2
24...	1005	3.0	1.5	--	--	--	--	--	--	--	--	--	--
24...	1010	7.0	6.5	8.7	1,000	300	53.8	39.3	3	113	268@c	29.7	0.2
JUL													
20...	1305	1.0	1.0	8.7	977	300	51.6	41.4	3	116	260@c	30.3	0.2
20...	1310	3.9	1.9	--	--	--	--	--	--	--	--	--	--
20...	1315	6.2	6.2	8.2	1,000	300	52.9	41.7	3	116	266@c	30.4	0.2
AUG													
11...	1400	1.0	1.0	8.7	1,000	300	50.0	42.5	3	112	266@c	30.2	0.2
11...	1405	3.0	1.5	--	--	--	--	--	--	--	--	--	--
11...	1410	5.0	5.0	8.7	968	300	51.1	42.5	3	112	267@c	30.4	0.2
SEP													
02...	1025	5.9	2.9	--	--	--	--	--	--	--	--	--	--
02...	1030	6.5	6.5	8.7	964	300	51.0	41.3	3	114	275@c	30.9	0.2
02...	1035	0.50	0.50	8.7	964	290	48.3	40.2	3	111	273@c	31.0	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, sus-pended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Organic nitro-gen, water, unfltrd mg/L (00605)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Alum-inum, water, unfltrd recover-able, ug/L (01105)
OCT													
07...	230	662	<10	0.97	E.04n	0.16	--	0.17	1.1	13.2	--	--	70
07...	--	--	--	--	--	--	--	--	--	--	1.4d	<0.1d	--
07...	228	658	<10	1.0	E.03n	0.18	--	0.19	1.2	15.0	--	--	120
APR													
16...	220	654	<10	1.1	<0.04	<0.06	--	0.09	--	12.7	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	5.2d	0.5d	--
16...	221	657	25	1.5	<0.04	<0.06	--	0.12	--	14.9	--	--	--
MAY													
21...	237	683	<10	0.99	E.02n	<0.06	--	0.06	--	15.7	--	--	23
21...	--	--	--	--	--	--	--	--	--	--	1.0d	<0.1d	--
21...	237	672	21	1.0	E.02n	<0.06	--	0.08	--	16.8	--	--	190
JUN													
24...	233	670	<10	1.1	<0.04	<0.06	--	0.08	--	14.4	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	3.1d	0.5d	--
24...	234	692	<10	1.0	<0.04	<0.06	--	0.08	--	16.3	--	--	--
JUL													
20...	232	666	<10	1.1	E.03n	<0.06	--	0.09	--	17.6	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	4.1d	0.2d	--
20...	228	681	<10	1.6	0.38	<0.06	1.2	0.41	--	13.4	--	--	--
AUG													
11...	238	685	<10	1.4	0.06	<0.06	1.4	0.21	--	17.8	--	--	80
11...	--	--	--	--	--	--	--	--	--	--	15.8d	<0.1d	--
11...	238	684	14	1.6	0.06	<0.06	1.6	0.23	--	22.9	--	--	170
SEP													
02...	--	--	--	--	--	--	--	--	--	--	1.4d	<0.1d	--
02...	232	693	<10	1.2	0.06	<0.06	1.2	0.19	--	14.6	--	--	--
02...	232	696	<10	1.3	0.06	<0.06	1.3	0.20	--	18.0	--	--	--

05115500 LAKE DARLING NEAR FOXHOLM, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Arsenic water unfltrd ug/L (01002)	Barium, water, unfltrd recover -able, ug/L (01007)	Beryll- ium, water, unfltrd recover -able, ug/L (01012)	Boron, water, unfltrd recover -able, ug/L (01022)	Cadmium water, unfltrd ug/L (01027)	Chrom- ium, water, unfltrd recover -able, ug/L (01034)	Cobalt water, unfltrd recover -able, ug/L (01037)	Copper, water, unfltrd recover -able, ug/L (01042)	Iron, water, unfltrd recover -able, ug/L (01045)	Lead, water, unfltrd recover -able, ug/L (01051)	Mercury water, unfltrd recover -able, ug/L (71900)	Molyb- denum, water, unfltrd recover -able, ug/L (01062)	Nickel, water, unfltrd recover -able, ug/L (01067)
OCT													
07...	6	86	<0.06	287	E.04n	<0.8	0.514	4.3	70	0.09	<0.02	8.1	4.52
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
07...	6	87	<0.06	293	E.03n	<0.8	0.543	4.3	140	0.10	<0.02	7.9	4.53
APR													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
21...	3	83	<0.06	256	E.03n	<0.8	0.490	2.9	60	E.05n	<0.02	7.0	4.61
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	3	88	<0.06	255	E.03n	<0.8	0.623	3.2	390	0.26	<0.02	6.8	4.78
JUN													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	8	58	<0.06	226	E.03n	<0.8	0.470	2.8	90	0.25	<0.02	6.9	3.82
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
11...	7	62	<0.06	230	E.03n	<0.8	0.603	3.3	350	0.36	<0.02	6.8	4.35
SEP													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--	--	--

05115500 LAKE DARLING NEAR FOXHOLM, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Selen-ium, water, unfltrd ug/L (01147)	Zinc, water, unfltrd recover -able, ug/L (01092)	Phen-olic com-pounds, water, unfltrd ug/L (32730)	Tria-zine screen, wat unf ELISA, ug/L as atrazin (34757)	2,4-D screen total ug/L (99906)
OCT					
07...	0.6	2	<16	<0.1	<0.700
07...	--	--	--	--	--
07...	0.9	3	<16	--	--
APR					
16...	--	--	<16	<0.1	0.710
16...	--	--	--	--	--
16...	--	--	<16	--	--
MAY					
21...	E.3n	E1n	<16	--	--
21...	--	--	--	--	--
21...	0.4	2	<16	--	--
JUN					
24...	--	--	<16	<0.1	<0.700
24...	--	--	--	--	--
24...	--	--	--	--	--
JUL					
20...	--	--	<16	<0.1	<0.700
20...	--	--	--	--	--
20...	--	--	<16	--	--
AUG					
11...	0.6	E2n	<16	<0.1	<0.700
11...	--	--	--	--	--
11...	E.4n	3	<16	--	--
SEP					
02...	--	--	--	--	--
02...	--	--	<16	--	--
02...	--	--	<16	<0.1	<0.700

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

05115500 LAKE DARLING NEAR FOXHOLM, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Depth of lake, maximum meters (85310)	Sampling depth, meters (00098)	Transparency Secchi disc, inches (00077)	Wind direction, clkwise from north, degrees (00036)	Wind speed, mph (00035)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)
OCT													
07...	1320	7.2	0.00	98.0	210	<5.0	0.0	720	10.2	101	8.4	1,030	28.0
07...	1321	--	1.0	--	--	--	0.0	--	9.6	--	8.4	1,030	--
07...	1322	--	2.0	--	--	--	0.0	--	8.0	--	8.3	1,030	--
07...	1323	--	3.0	--	--	--	0.6	--	7.2	--	8.3	1,040	--
07...	1324	--	4.0	--	--	--	1.6	--	7.1	--	8.3	1,040	--
07...	1325	--	5.0	--	--	--	1.5	--	6.8	--	8.3	1,030	--
07...	1326	--	6.0	--	--	--	2.0	--	6.5	--	8.2	1,030	--
07...	1327	--	7.0	--	--	--	3.0	--	6.4	--	8.2	1,030	--
07...	1328	--	7.2	--	--	--	3.0	--	6.4	--	8.2	1,030	--
APR													
16...	1015	7.3	0.00	42.0	330	12	--	730	11.2	96	7.2	1,040	1.0
16...	1016	--	1.0	--	--	--	--	--	11.2	--	7.2	1,040	--
16...	1017	--	2.1	--	--	--	--	--	11.2	--	7.2	1,040	--
16...	1018	--	3.5	--	--	--	--	--	11.1	--	7.2	1,040	--
16...	1019	--	4.9	--	--	--	--	--	11.1	--	7.4	1,040	--
16...	1020	--	6.1	--	--	--	--	--	11.1	--	7.5	1,040	--
16...	1021	--	7.3	--	--	--	--	--	11.1	--	7.5	1,040	--
MAY													
21...	0945	6.5	0.00	87.0	45	7.0	--	717	10.6	106	8.4	1,030	7.0
21...	0946	--	0.50	--	--	--	--	--	10.5	--	8.4	1,030	--
21...	0947	--	1.0	--	--	--	--	--	10.3	--	8.4	1,030	--
21...	0948	--	2.3	--	--	--	--	--	10.2	--	8.4	1,030	--
21...	0949	--	3.7	--	--	--	--	--	10.2	--	8.4	1,030	--
21...	0950	--	5.0	--	--	--	--	--	9.9	--	8.5	1,030	--
21...	0951	--	6.2	--	--	--	--	--	9.9	--	8.5	1,030	--
21...	0952	--	6.5	--	--	--	--	--	9.9	--	8.5	1,030	--
JUN													
24...	0950	7.0	0.00	60.0	330	11	--	724	10.0	106	8.7	1,020	8.0
24...	0951	--	0.50	--	--	--	--	--	10.0	--	8.7	1,020	--
24...	0952	--	1.0	--	--	--	--	--	9.9	--	8.7	1,030	--
24...	0953	--	2.5	--	--	--	--	--	9.8	--	8.7	1,030	--
24...	0954	--	3.7	--	--	--	--	--	9.8	--	8.7	1,030	--
24...	0955	--	4.8	--	--	--	--	--	9.8	--	8.7	1,030	--
24...	0956	--	6.0	--	--	--	--	--	9.7	--	8.7	1,030	--
24...	0957	--	7.0	--	--	--	--	--	9.6	--	8.7	1,030	--
JUL													
20...	1245	6.7	0.00	76.0	210	5.0	--	722	9.4	121	8.8	1,010	27.5
20...	1247	--	0.50	--	--	--	--	--	9.4	--	8.8	1,010	--
20...	1249	--	1.0	--	--	--	--	--	9.2	--	8.8	1,010	--
20...	1251	--	2.1	--	--	--	--	--	8.0	--	8.7	1,020	--
20...	1253	--	3.2	--	--	--	--	--	2.4	--	8.4	1,040	--
20...	1255	--	4.3	--	--	--	--	--	1.1	--	8.3	1,040	--
20...	1257	--	5.3	--	--	--	--	--	0.9	--	8.3	1,040	--
20...	1259	--	6.2	--	--	--	--	--	0.7	--	8.3	1,040	--
20...	1301	--	6.7	--	--	--	--	--	0.5	--	8.3	1,040	--
AUG													
11...	1345	5.4	0.00	60.0	340	15	--	732	9.9	110	8.4	1,040	20.0
11...	1346	--	0.50	--	--	--	--	--	8.7	--	8.6	1,040	--
11...	1347	--	1.0	--	--	--	--	--	8.6	--	8.6	1,040	--
11...	1348	--	2.1	--	--	--	--	--	8.6	--	8.6	1,040	--
11...	1349	--	3.3	--	--	--	--	--	8.5	--	8.7	1,040	--
11...	1350	--	4.3	--	--	--	--	--	8.4	--	8.7	1,040	--
11...	1351	--	5.4	--	--	--	--	--	8.4	--	8.7	1,040	--
SEP													
02...	1018	6.8	0.00	116	330	<5.0	--	721	9.2	103	8.4	1,060	21.0
02...	1019	--	0.50	--	--	--	--	--	9.0	--	8.6	1,070	--
02...	1020	--	2.0	--	--	--	--	--	8.9	--	8.7	1,070	--
02...	1021	--	3.5	--	--	--	--	--	8.8	--	8.7	1,070	--
02...	1022	--	5.0	--	--	--	--	--	8.6	--	8.7	1,080	--
02...	1023	--	6.5	--	--	--	--	--	8.2	--	8.7	1,080	--
02...	1024	--	6.8	--	--	--	--	--	8.0	--	8.7	1,080	--

05115500 LAKE DARLING NEAR FOXHOLM, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Temperature, water, deg C (00010)
OCT	
07...	12.5
07...	11.7
07...	11.3
07...	10.9
07...	10.7
07...	10.7
07...	10.6
07...	10.6
07...	10.6
APR	
16...	6.6
16...	6.6
16...	6.6
16...	6.6
16...	6.6
16...	6.6
16...	6.6
MAY	
21...	12.4
21...	12.4
21...	12.4
21...	12.4
21...	12.4
21...	12.4
21...	12.4
21...	12.4
JUN	
24...	15.7
24...	15.7
24...	15.7
24...	15.7
24...	15.7
24...	15.7
24...	15.7
24...	15.7
JUL	
20...	24.9
20...	24.9
20...	24.7
20...	23.7
20...	22.3
20...	21.0
20...	20.9
20...	20.9
20...	20.8
AUG	
11...	18.2
11...	18.2
11...	18.2
11...	18.2
11...	18.2
11...	18.2
11...	18.2
SEP	
02...	17.7
02...	17.7
02...	17.5
02...	17.5
02...	17.4
02...	17.2
02...	17.2

Remark codes used in this table:
< -- Less than

05116000 SOURIS (MOUSE) RIVER NEAR FOXHOLM, ND

LOCATION.--Lat 48°22'20", long 101°30'18", in SW¼SE¼ 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, 1904-06.

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 National Geodetic Vertical Datum of 1929. 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. 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 acre-ft - 1992) and several small reservoirs, combined capacity, about 646,000 acre-ft. Some small diversions for irrigation and municipal supply.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.01	0.02	0.04	0.04	e0.02	0.04	0.19	0.73	2.1	0.32	68	103
2	0.00	0.02	0.04	0.04	e0.02	0.04	0.20	0.53	1.4	0.00	66	106
3	0.00	0.02	0.04	e0.04	e0.02	0.04	0.21	1.0	2.6	0.00	64	108
4	0.00	0.02	0.04	e0.03	e0.02	0.04	0.19	1.5	4.4	0.00	63	110
5	0.00	0.03	0.04	e0.03	e0.02	0.04	0.22	1.2	4.6	0.00	62	110
6	0.00	0.04	0.04	e0.03	e0.03	0.04	0.22	1.3	3.5	0.00	62	110
7	0.00	0.04	0.04	e0.04	e0.03	0.03	0.24	0.85	5.3	0.00	61	111
8	0.00	0.04	0.04	e0.04	e0.03	0.03	0.23	0.54	3.4	0.00	60	111
9	0.00	0.04	0.04	0.04	e0.03	0.03	0.21	0.47	2.1	0.00	57	112
10	0.00	0.04	0.04	0.04	e0.03	e0.02	0.19	0.56	2.2	0.05	46	113
11	0.00	0.05	0.03	0.05	e0.03	e0.03	0.17	1.1	4.7	0.08	44	113
12	0.00	0.07	0.03	0.05	e0.03	0.03	0.14	3.4	8.3	9.8	44	114
13	0.00	0.08	0.03	0.05	e0.03	0.03	0.12	2.4	5.3	93	43	116
14	0.00	0.08	0.03	0.05	e0.04	0.02	0.10	1.9	3.2	138	43	116
15	0.00	0.08	0.02	0.05	e0.04	0.01	0.09	1.8	42	221	43	115
16	0.00	0.08	0.02	0.05	e0.04	0.01	0.08	1.8	226	346	49	114
17	0.00	0.07	0.02	0.05	e0.04	0.01	0.08	1.4	273	368	66	115
18	0.00	0.07	0.02	0.05	e0.04	0.01	0.08	1.1	299	367	65	115
19	0.00	0.07	0.02	0.04	e0.04	0.02	0.07	1.5	317	359	64	113
20	0.00	0.07	0.02	0.04	e0.04	e0.02	0.07	1.4	329	349	59	114
21	0.00	0.07	0.02	0.04	0.04	0.02	0.05	1.1	342	336	54	113
22	0.00	0.07	0.03	0.04	0.04	0.02	0.03	1.5	353	330	54	113
23	0.00	0.07	0.03	0.04	0.04	0.02	0.03	1.2	311	292	53	111
24	0.00	0.06	0.03	0.04	0.04	0.02	0.02	1.4	117	138	52	111
25	0.00	0.05	0.03	e0.04	0.04	0.05	0.03	2.3	87	97	52	111
26	0.00	0.06	0.03	e0.03	0.04	0.07	0.17	1.9	84	83	37	110
27	0.00	0.05	0.04	e0.03	0.04	0.09	0.19	2.1	87	76	4.0	111
28	0.00	0.05	0.04	e0.03	0.04	0.12	0.65	2.0	74	72	1.9	111
29	0.00	0.05	0.05	e0.02	0.04	0.15	1.3	1.7	35	69	1.8	109
30	0.01	0.05	0.04	e0.02	---	0.16	0.75	2.3	20	50	44	106
31	0.02	---	0.04	e0.02	---	0.18	---	2.9	---	57	97	---
TOTAL	0.04	1.61	1.02	1.20	0.98	1.44	6.32	46.88	3,049.1	3,851.25	1,579.7	3,345
MEAN	0.00	0.05	0.03	0.04	0.03	0.05	0.21	1.51	102	124	51.0	112
MAX	0.02	0.08	0.05	0.05	0.04	0.18	1.3	3.4	353	368	97	116
MIN	0.00	0.02	0.02	0.02	0.02	0.01	0.02	0.47	1.4	0.00	1.8	103
AC-FT	0.08	3.2	2.0	2.4	1.9	2.9	13	93	6,050	7,640	3,130	6,630

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 2004, BY WATER YEAR (WY)

MEAN	25.9	24.9	24.5	25.5	31.4	102	486	479	140	99.1	57.1	38.4
MAX	146	137	144	166	334	1,058	5,443	4,242	1,138	1,238	440	345
(WY)	(2000)	(1952)	(1976)	(1976)	(1997)	(1976)	(1976)	(1975)	(1975)	(1953)	(1999)	(1999)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00
(WY)	(1937)	(1937)	(1937)	(1937)	(1937)	(1937)	(1942)	(1942)	(1991)	(1991)	(1937)	(1937)

05116000 SOURIS (MOUSE) RIVER NEAR FOXHOLM, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1937 - 2004	
ANNUAL TOTAL	8,676.26		11,884.54			
ANNUAL MEAN	23.8		32.5		128	
HIGHEST ANNUAL MEAN					948	1976
LOWEST ANNUAL MEAN					1.13	1989
HIGHEST DAILY MEAN	218	May 15	368	Jul 17	8,500	Apr 17, 1976
LOWEST DAILY MEAN	0.00	Feb 21	0.00	Oct 2	-5.0	Apr 5, 1949
ANNUAL SEVEN-DAY MINIMUM	0.00	Feb 21	0.00	Oct 2	d0.00	Oct 1, 1936
MAXIMUM PEAK FLOW			a370	Jul 17	8,600	Apr 17, 1976
MAXIMUM PEAK STAGE			8.99	Jul 18	17.17	Apr 17, 1976
INSTANTANEOUS LOW FLOW			b0.00	Oct 2	c-25	Apr 4, 1949
ANNUAL RUNOFF (AC-FT)	17,210		23,570		92,780	
10 PERCENT EXCEEDS	112		111		237	
50 PERCENT EXCEEDS	0.06		0.07		11	
90 PERCENT EXCEEDS	0.00		0.01		0.00	

a Gage height, 8.98
b No flow all or part of Oct. 1-30 and July 1-9
c Rerverse flow caused by backwater from Des Lacs River
d 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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
DEC													
19...	1500	0.02	--	--	--	--	1,630	2.0	0.0	--	--	--	--
JAN													
13...	1645	0.05	--	--	--	--	1,790	--	0.0	--	--	--	--
FEB													
25...	1755	0.04	--	--	--	--	1,980	1.0	0.5	--	--	--	--
MAR													
31...	0915	0.17	--	--	--	--	900	8.5	3.5	--	--	--	--
APR													
23...	1115	0.03	729	8.7	8.6	1,160	1,120	7.3	11.7	330	52.5	47.4	12.9
MAY													
20...	1735	1.1	--	--	--	--	1,190	19.0	18.5	--	--	--	--
JUN													
17...	1245	272	724	8.4	8.4	1,200	1,180	14.0	17.4	330	52.3	47.6	16.3
JUL													
20...	1630	336	--	--	--	--	1,000	32.0	26.0	--	--	--	--
AUG													
04...	1500	62	--	--	--	--	1,060	21.0	21.5	--	--	--	--
SEP													
15...	1315	113	--	--	--	--	1,060	17.5	16.0	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)
DEC													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
31...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
23...	3	136	46	363	40.0	0.22	<2.00	220	728	0.06	7.3	20	<1
MAY													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
17...	3	134	46	339	41.8	0.23	2.63	250	747	550	5.5	30	<1
JUL													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--

05116000 SOURIS (MOUSE) RIVER NEAR FOXHOLM, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Lithium water, fltrd, ug/L (01130)	Mangan-ese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molyb-denum, water, fltrd, ug/L (01060)	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
DEC						
19...	--	--	--	--	--	--
JAN						
13...	--	--	--	--	--	--
FEB						
25...	--	--	--	--	--	--
MAR						
31...	--	--	--	--	--	--
APR						
23...	60	50	<0.20	2	<1	360
MAY						
20...	--	--	--	--	--	--
JUN						
17...	60	40	<0.20	4	<1	370
JUL						
20...	--	--	--	--	--	--
AUG						
04...	--	--	--	--	--	--
SEP						
15...	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than

05116500 DES LACS RIVER AT FOXHOLM, ND

LOCATION.--Lat 48°22'14", long 101°34'11", in NW¼NE¼NW¼ 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 National Geodetic Vertical Datum of 1929. June 14 to Oct. 23, 1955, nonrecording 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 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	e1.3	e0.79	e0.47	e0.18	0.44	12	7.9	16	32	11	4.5
2	1.4	e1.3	e0.77	e0.45	e0.16	0.48	59	7.4	15	31	11	4.1
3	1.4	e1.3	e0.75	e0.43	e0.14	0.49	56	6.9	23	30	11	4.0
4	1.4	e1.3	e0.73	e0.41	e0.13	0.49	97	6.2	26	27	11	4.2
5	1.2	e1.3	e0.72	e0.39	e0.14	0.47	66	5.8	20	26	9.8	4.0
6	1.1	e1.3	e0.71	e0.38	e0.15	0.49	54	5.1	17	26	10	3.8
7	3.0	e1.3	e0.70	0.37	e0.16	0.52	73	4.8	16	24	9.9	3.5
8	1.6	e1.3	e0.68	0.38	e0.17	0.61	56	4.5	16	23	9.5	3.6
9	1.2	e1.3	e0.65	0.38	e0.18	0.81	37	4.6	16	22	9.3	3.6
10	1.2	e1.3	e0.62	0.42	e0.18	1.2	30	4.2	13	21	9.3	3.9
11	1.2	e1.3	0.61	0.45	e0.19	1.0	24	5.5	28	20	9.9	7.3
12	1.2	e1.3	0.57	0.44	e0.20	0.90	19	7.6	84	21	9.8	23
13	1.3	e1.3	0.48	0.48	e0.20	0.85	16	9.1	177	20	10	25
14	1.3	e1.3	0.52	0.49	e0.21	0.80	13	12	116	21	9.3	26
15	1.4	e1.3	0.60	0.49	0.21	0.81	12	13	90	26	8.6	26
16	1.5	e1.3	0.63	e0.48	0.21	1.0	13	16	89	24	8.3	26
17	1.5	e1.3	0.59	e0.45	0.23	1.2	14	18	90	56	8.1	26
18	1.5	e1.4	0.64	e0.41	0.24	1.2	14	15	86	38	7.6	40
19	1.5	e1.4	0.65	e0.40	0.23	1.4	13	13	85	25	7.5	44
20	1.5	e1.5	0.64	e0.37	0.24	1.7	12	11	81	21	13	44
21	1.5	e1.2	0.61	e0.35	0.24	1.5	11	11	75	20	9.4	49
22	1.8	e1.1	0.70	e0.33	0.23	1.6	13	11	70	27	6.9	52
23	1.8	e1.0	0.68	e0.32	0.25	1.8	15	11	66	24	5.4	62
24	1.8	e0.95	0.62	e0.30	0.27	2.1	14	11	61	21	4.8	59
25	1.7	e0.90	0.58	e0.26	0.29	3.0	12	13	55	19	4.5	61
26	1.7	e0.88	0.61	e0.25	0.31	4.9	11	14	51	16	5.3	59
27	1.6	e0.85	0.61	e0.22	0.36	4.5	10	20	47	15	5.2	54
28	e1.5	e0.83	e0.59	e0.21	0.37	5.2	9.2	20	43	14	5.6	50
29	e1.4	e0.81	e0.56	e0.19	0.39	5.4	8.6	22	39	13	5.3	48
30	e1.4	e0.80	e0.53	e0.18	---	7.3	8.2	22	35	13	5.0	57
31	e1.3	---	e0.50	e0.18	---	8.5	---	17	---	12	5.0	---
TOTAL	46.4	35.72	19.64	11.33	6.46	62.66	802.0	349.6	1,646	728	256.3	877.5
MEAN	1.50	1.19	0.63	0.37	0.22	2.02	26.7	11.3	54.9	23.5	8.27	29.2
MAX	3.0	1.5	0.79	0.49	0.39	8.5	97	22	177	56	13	62
MIN	1.1	0.80	0.48	0.18	0.13	0.44	8.2	4.2	13	12	4.5	3.5
AC-FT	92	71	39	22	13	124	1,590	693	3,260	1,440	508	1,740

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2004, BY WATER YEAR (WY)

MEAN	9.50	6.35	2.91	1.34	4.19	47.4	115	60.0	36.7	22.5	11.7	11.1
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	0.00	0.00	0.00	0.00	0.00	0.10	1.77	0.30	0.02	0.00	0.00	0.00
(WY)	(1993)	(1993)	(1959)	(1946)	(1946)	(1948)	(1963)	(1993)	(1961)	(1961)	(1961)	(1958)

05116500 DES LACS RIVER AT FOXHOLM, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1904 - 2004	
ANNUAL TOTAL	4,407.22		4,841.61			
ANNUAL MEAN	12.1		13.2		27.4	
HIGHEST ANNUAL MEAN					148	1976
LOWEST ANNUAL MEAN					0.44	1991
HIGHEST DAILY MEAN	214	Apr 11	177	Jun 13	3,200	Apr 30, 1970
LOWEST DAILY MEAN	0.01	Mar 8	0.13	Feb 4	0.00	Dec 11, 1945
ANNUAL SEVEN-DAY MINIMUM	0.02	Mar 4	0.15	Feb 2	0.00	Dec 11, 1945
MAXIMUM PEAK FLOW			208	Jun 13	4,260	Apr 19, 1979
MAXIMUM PEAK STAGE			7.82	Jun 13	a21.23	Apr 19, 1979
ANNUAL RUNOFF (AC-FT)	8,740		9,600		19,880	
10 PERCENT EXCEEDS	40		43		58	
50 PERCENT EXCEEDS	1.5		4.0		3.0	
90 PERCENT EXCEEDS	0.06		0.34		0.01	

a 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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
DEC													
19...	1545	0.60	--	--	--	--	3,130	--	0.0	--	--	--	--
JAN													
13...	1530	0.45	--	--	--	--	2,480	--	0.0	--	--	--	--
FEB													
25...	1715	0.31	--	--	--	--	1,870	1.0	0.0	--	--	--	--
APR													
01...	1215	9.2	--	--	--	--	1,050	13.0	0.5	--	--	--	--
08...	1005	58	718	8.0	7.9	1,080	1,100	2.5	1.5	380	80.3	42.9	9.40
MAY													
20...	1625	11	--	--	--	--	1,920	18.5	18.0	--	--	--	--
JUN													
17...	1100	90	--	--	--	--	1,740	13.5	17.0	--	--	--	--
JUL													
14...	1655	20	--	--	--	--	1,670	25.0	24.5	--	--	--	--
AUG													
10...	1740	9.7	--	--	--	--	1,740	25.0	27.5	--	--	--	--
SEP													
15...	1015	26	--	7.7	8.3	2,250	2,270	14.0	13.5	560	86.7	83.3	20.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)
DEC													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
08...	3	120	40	177	12.1	0.20	15.2	381	754	121	<1.0	40	<1
MAY													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
15...	6	303	53	348	28.9	0.30	18.8	911	1,640	118	8.9	20	<1

05116500 DES LACS RIVER AT FOXHOLM, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Lithium water, fltrd, ug/L (01130)	Mangan-ese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molyb-denum, water, fltrd, ug/L (01060)	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
DEC						
19...	--	--	--	--	--	--
JAN						
13...	--	--	--	--	--	--
FEB						
25...	--	--	--	--	--	--
APR						
01...	--	--	--	--	--	--
08...	50	150	<0.20	2	<1	380
MAY						
20...	--	--	--	--	--	--
JUN						
17...	--	--	--	--	--	--
JUL						
14...	--	--	--	--	--	--
AUG						
10...	--	--	--	--	--	--
SEP						
15...	100	30	<0.20	3	7	620

Remark codes used in this table:
< -- Less than

05117500 SOURIS (MOUSE) RIVER ABOVE MINOT, ND

LOCATION.--Lat 48°14'45", long 101°22'15", in NW¼NW¼SE¼ 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 National Geodetic Vertical Datum of 1929. 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 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	2.2	e1.8	e1.6	2.0	22	6.9	32	85	111	26
2	0.00	0.00	1.9	e1.8	e1.7	2.0	32	6.1	27	71	74	75
3	0.00	0.00	1.8	e1.7	e1.7	2.0	75	5.8	23	56	61	92
4	0.00	0.00	1.8	e1.7	1.7	2.0	79	5.8	23	45	55	99
5	0.00	0.00	2.0	e1.7	1.7	2.0	77	4.8	35	38	54	101
6	0.00	0.00	2.0	e1.7	1.7	2.1	82	4.6	45	32	55	101
7	0.00	0.00	e2.0	e1.7	1.7	2.0	70	3.9	68	27	59	102
8	0.00	0.00	e2.0	e1.7	1.6	2.3	76	3.6	25	27	61	100
9	0.00	0.00	e1.9	1.8	1.5	3.1	72	3.9	20	25	62	100
10	0.00	0.00	e1.9	1.8	1.5	4.5	54	3.4	20	23	64	102
11	0.00	0.00	e1.8	1.9	1.5	4.2	58	4.3	35	21	62	104
12	0.00	e0.01	e1.8	1.8	1.5	3.6	34	8.5	123	19	55	104
13	0.00	0.02	1.7	1.8	1.5	3.3	24	9.6	190	17	50	114
14	0.00	0.02	1.5	2.0	1.5	3.3	18	9.4	245	25	48	124
15	0.00	0.03	1.5	2.0	1.5	2.8	16	12	167	147	46	123
16	0.00	0.03	1.6	2.0	1.5	3.1	14	14	117	219	47	122
17	0.00	0.06	1.3	2.0	1.5	3.6	14	16	216	272	48	126
18	0.00	0.10	1.6	2.1	1.3	3.8	14	18	271	315	51	128
19	0.00	0.23	1.7	1.9	1.3	4.3	14	26	274	325	57	135
20	0.00	0.58	1.7	1.9	1.3	5.6	13	21	277	322	57	146
21	0.00	1.2	1.6	1.9	1.2	6.1	12	17	276	317	59	149
22	0.00	1.7	1.8	1.9	1.2	6.3	12	15	273	313	63	151
23	0.00	2.0	1.9	1.8	1.1	6.5	13	14	269	310	63	156
24	0.00	2.0	1.8	e1.8	1.1	7.6	13	15	247	287	68	163
25	0.00	2.1	1.6	e1.8	1.2	8.6	14	18	187	238	68	162
26	0.00	2.1	1.7	e1.8	1.2	9.9	13	18	157	205	74	166
27	0.00	2.1	1.8	e1.7	1.4	e11	11	19	140	183	65	167
28	0.00	2.1	e1.8	e1.6	1.7	e12	10	19	134	181	54	164
29	0.00	1.9	e1.7	e1.6	1.9	e14	9.0	29	132	182	37	162
30	0.00	2.0	e1.7	e1.6	---	e16	8.1	30	107	181	22	163
31	0.00	---	e1.7	e1.6	---	17	---	34	---	168	15	---
TOTAL	0.00	20.28	54.8	55.9	42.8	176.6	973.1	415.6	4,155	4,676	1,765	3,727
MEAN	0.00	0.68	1.77	1.80	1.48	5.70	32.4	13.4	138	151	56.9	124
MAX	0.00	2.1	2.2	2.1	1.9	17	82	34	277	325	111	167
MIN	0.00	0.00	1.3	1.6	1.1	2.0	8.1	3.4	20	17	15	26
AC-FT	0.00	40	109	111	85	350	1,930	824	8,240	9,270	3,500	7,390

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2004, BY WATER YEAR (WY)

MEAN	32.4	27.6	22.4	20.6	28.0	136	640	555	193	123	62.0	46.6
MAX	266	159	164	170	399	1,272	6,209	4,916	1,402	1,393	480	748
(WY)	(1904)	(1952)	(1976)	(1976)	(1997)	(1976)	(1976)	(1904)	(1975)	(1953)	(1999)	(1903)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	1.27	0.31	0.00	0.00	0.00	0.00
(WY)	(1935)	(1935)	(1935)	(1935)	(1935)	(1936)	(1937)	(1993)	(1938)	(1937)	(1937)	(1935)

05117500 SOURIS (MOUSE) RIVER ABOVE MINOT, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1903 - 2004	
ANNUAL TOTAL	12,832.26		16,062.08			
ANNUAL MEAN	35.2		43.9		157	
HIGHEST ANNUAL MEAN					1,105	1976
LOWEST ANNUAL MEAN					1.30	1931
HIGHEST DAILY MEAN	350	Mar 19	325	Jul 19	11,400	Apr 22, 1904
LOWEST DAILY MEAN	0.00	Aug 2	a0.00	Oct 1	0.00	Sep 26, 1917
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 2	0.00	Oct 1	0.00	Sep 26, 1917
MAXIMUM PEAK FLOW			328	Jul 19	b12,000	Apr 20, 1904
MAXIMUM PEAK STAGE			6.53	Jul 19	c21.90	Apr 20, 1904
ANNUAL RUNOFF (AC-FT)	25,450		31,860		113,500	
10 PERCENT EXCEEDS	165		156		306	
50 PERCENT EXCEEDS	1.7		6.2		21	
90 PERCENT EXCEEDS	0.00		0.00		0.20	

a No flow on all or part of Oct. 1 to Nov. 11
b At site in Minot, from rating curve extended above 8,000 ft^3/s
c At site in Minot, maximum stage at present location about 23 ft
e Estimated

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.52	3.58	4.02	4.03	4.02	4.01	4.37	4.19	4.43	4.83	4.99	4.34
2	3.52	3.58	4.00	4.04	4.01	4.01	4.43	4.18	4.41	4.73	4.72	4.67
3	3.52	3.59	4.00	4.05	4.00	4.01	4.68	4.17	4.38	4.63	4.63	4.79
4	3.52	3.61	4.00	4.04	3.99	4.01	4.73	4.17	4.38	4.56	4.58	4.85
5	3.52	3.62	4.01	4.04	3.99	4.01	4.74	4.15	4.45	4.51	4.56	4.87
6	3.52	3.63	4.01	4.02	3.99	4.02	4.78	4.14	4.50	4.47	4.57	4.87
7	3.51	3.64	4.02	4.02	3.99	4.01	4.71	4.12	4.61	4.43	4.59	4.87
8	3.51	3.64	4.02	4.01	3.98	4.03	4.74	4.12	4.40	4.43	4.60	4.86
9	3.51	3.65	4.03	4.00	3.98	4.06	4.71	4.12	4.36	4.41	4.60	4.85
10	3.50	3.65	4.02	4.00	3.98	4.11	4.59	4.11	4.36	4.39	4.62	4.87
11	3.50	3.67	4.00	4.00	3.98	4.10	4.62	4.13	4.45	4.38	4.60	4.88
12	3.48	3.69	4.01	4.00	3.98	4.08	4.46	4.22	4.89	4.36	4.54	4.89
13	3.49	3.70	3.99	4.00	3.98	4.07	4.39	4.23	5.31	4.34	4.50	4.96
14	3.48	3.71	3.98	4.01	3.98	4.06	4.35	4.23	5.77	4.40	4.48	5.04
15	3.48	3.71	3.98	4.01	3.98	4.05	4.32	4.26	5.37	5.27	4.46	5.04
16	3.49	3.72	3.99	4.01	3.98	4.06	4.30	4.30	5.05	5.80	4.46	5.03
17	3.49	3.74	3.97	4.01	3.98	4.08	4.30	4.31	5.77	6.18	4.46	5.06
18	3.50	3.78	3.98	4.02	3.97	4.08	4.30	4.34	6.17	6.45	4.48	5.07
19	3.50	3.83	3.99	4.01	3.97	4.11	4.30	4.40	6.19	6.52	4.53	5.12
20	3.51	3.89	3.99	4.00	3.97	4.15	4.29	4.37	6.21	6.51	4.54	5.21
21	3.50	3.96	3.98	4.01	3.96	4.16	4.28	4.33	6.21	6.47	4.55	5.22
22	3.50	3.99	4.00	4.01	3.96	4.17	4.26	4.31	6.18	6.45	4.58	5.25
23	3.50	4.01	4.00	4.00	3.95	4.17	4.27	4.29	6.16	6.43	4.58	5.28
24	3.51	4.01	4.00	4.01	3.95	4.19	4.28	4.30	6.00	6.28	4.61	5.33
25	3.49	4.02	3.99	4.04	3.96	4.21	4.29	4.34	5.56	5.94	4.61	5.33
26	3.49	4.02	3.99	4.03	3.96	4.24	4.28	4.34	5.33	5.70	4.66	5.36
27	3.51	4.02	4.00	4.02	3.98	4.34	4.26	4.35	5.21	5.53	4.59	5.37
28	3.51	4.02	4.03	4.02	3.99	4.43	4.24	4.35	5.17	5.51	4.51	5.34
29	3.51	4.01	4.04	4.02	4.00	4.41	4.23	4.42	5.15	5.51	4.41	5.33
30	3.56	4.01	4.04	4.01	---	4.35	4.21	4.42	4.98	5.51	4.32	5.34
31	3.57	---	4.04	4.02	---	4.33	---	4.45	---	5.40	4.28	---
MEAN	3.51	3.79	4.00	4.02	3.98	4.13	4.42	4.26	5.18	5.30	4.56	5.04
MAX	3.57	4.02	4.04	4.05	4.02	4.43	4.78	4.45	6.21	6.52	4.99	5.37
MIN	3.48	3.58	3.97	4.00	3.95	4.01	4.21	4.11	4.36	4.34	4.28	4.34

05117500 SOURIS (MOUSE) RIVER ABOVE MINOT, ND—Continued

WATER-QUALITY RECORDS

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

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
JAN													
13...	1415	1.8	--	--	--	--	--	--	2,520	-5.0	0.0	--	--
FEB													
26...	1015	1.3	726	0.8	6	7.6	7.7	2,540	2,610	-2.0	-0.4	710	124
APR													
01...	0940	24	719	14.4	105	8.4	8.0	942	994	12.4	0.2	290	55.3
08...	1220	76	--	--	--	--	--	--	1,100	10.0	7.0	--	--
23...	0945	12	720	11.6	108	8.9	8.5	1,090	1,120	6.5	9.5	340	67.7
MAY													
27...	1645	19	713	12.4	132	8.4	8.4	1,560	1,700	17.5	15.0	510	95.0
JUN													
15...	1730	147	--	--	--	--	--	--	1,520	20.0	19.5	--	--
JUL													
20...	1815	322	711	5.0	67	7.8	8.0	1,120	1,120	32.5	26.5	320	49.1
AUG													
17...	1635	49	721	9.1	109	7.9	--	--	1,250	23.0	21.1	--	--
SEP													
08...	0855	110	--	6.4	--	7.8	8.1	1,150	1,180	15.0	15.5	310	52.7

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Magnesium, water, fltrd, mg/L (00925)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Organic nitrogen, water, unfltrd mg/L (00605)	Phosphorus, water, unfltrd mg/L (00665)
JAN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
26...	96.6	6	381	603	106d	0.4	662d	1,860	3.4	1.67d	0.14	1.7	0.56
APR													
01...	36.8	3	112	244@	26.8	0.2	224	655	2.3	<0.04	0.78	--	0.59
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	41.8	3	124	197@c	17.5	0.2	365d	788	--	--	--	--	--
MAY													
27...	65.1	4	224	336@c	32.8	0.3	542d	1,240	1.0	<0.04	<0.06	--	0.12
JUN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
20...	47.1	3	141	268@c	32.3	0.2	284	769	1.5	0.12	<0.06	1.3	0.36
AUG													
17...	--	--	--	--	--	--	--	--	1.4	<0.04	<0.06	--	0.40
SEP													
08...	44.5	3	121	320@c	34.4	0.3	253	782	1.4	0.12	0.15	1.3	0.35

05117500 SOURIS (MOUSE) RIVER ABOVE MINOT, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Total nitrogen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Aluminum, water, unfltrd recoverable, ug/L (01105)	Arsenic water unfltrd ug/L (01002)	Barium, water, unfltrd recoverable, ug/L (01007)	Beryllium, water, unfltrd recoverable, ug/L (01012)	Boron, water, unfltrd recoverable, ug/L (01022)	Cadmium water, unfltrd ug/L (01027)	Chromium, water, unfltrd recoverable, ug/L (01034)	Cobalt water, unfltrd recoverable, ug/L (01037)
JAN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
26...	3.5	26.5	<2k	--	--	<150d	5	111d	<0.12d	237d	<0.08d	<0.8	1.23d
APR													
01...	3.1	23.7	8k	E58.1d	5.1d	260	4	59	<0.06	112	E.04n	<0.8	0.756
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	14k	3.9d	0.3d	110	2	52	<0.06	70	<0.04	<0.8	0.708
MAY													
27...	--	15.5	17k	6.0d	0.6d	110	3	60	<0.06	134	<0.04	<0.8	0.862
JUN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
20...	--	18.3	74	4.7d	0.3d	140	6	59	<0.06	238	0.18	<0.8	0.702
AUG													
17...	--	19.8	15k	6.5d	0.7d	--	--	--	--	--	--	--	--
SEP													
08...	1.6	17.3	83	0.7d	<0.1d	20	7	82	<0.06	265	E.04n	<0.8	0.617

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Copper, water, unfltrd recoverable, ug/L (01042)	Iron, water, unfltrd recoverable, ug/L (01045)	Lead, water, unfltrd recoverable, ug/L (01051)	Molybdenum, water, unfltrd recoverable, ug/L (01062)	Nickel, water, unfltrd recoverable, ug/L (01067)	Selenium, water, unfltrd ug/L (01147)	Zinc, water, unfltrd recoverable, ug/L (01092)	Phenolic compounds, water, unfltrd ug/L (32730)
JAN								
13...	--	--	--	--	--	--	--	--
FEB								
26...	4.0d	13,40d	0.16d	2.6d	8.30d	1.2d	<4d	<16
APR								
01...	3.3	600	0.43	1.3	3.59	0.7	3	<16
08...	--	--	--	--	--	--	--	--
23...	3.2	160	0.18	2.6	4.52	2.3	E1n	--
MAY								
27...	4.5	140	0.12	3.2	5.53	0.9	3	<16
JUN								
15...	--	--	--	--	--	--	--	--
JUL								
20...	4.1	240	0.31	4.9	4.97	0.5	4	<16
AUG								
17...	--	--	--	--	--	--	--	<16
SEP								
08...	2.8	60	0.15	5.6	4.29	0.5	E2n	<16

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL

05120000 SOURIS (MOUSE) RIVER NEAR VERENDRYE, ND

LOCATION.--Lat 48°09'35", long 100°43'45", in NW¼SW¼ 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 National Geodetic Vertical Datum of 1929. 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 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	18	e12	e7.3	e5.6	e6.4	226	24	60	149	163	61
2	7.0	13	e12	e6.8	e5.6	e6.0	196	24	67	149	159	50
3	10	12	e12	e6.3	e5.7	e5.9	180	23	72	144	144	45
4	7.9	9.0	e12	e6.1	e5.7	e6.2	166	22	76	138	116	41
5	7.0	6.8	e12	e5.9	e5.8	e6.5	150	22	61	118	94	50
6	6.7	6.1	e11	e5.8	e5.9	e6.6	142	21	54	95	82	90
7	6.7	8.1	e11	e5.7	e6.0	e6.6	143	20	56	81	76	97
8	6.3	9.4	e11	e5.7	e6.2	e6.6	151	22	93	72	71	99
9	6.5	9.4	e10	e5.8	e6.3	e6.8	151	26	185	68	72	101
10	6.9	9.5	e9.0	e6.0	e6.5	e6.9	137	27	172	63	72	103
11	6.9	10	e8.4	e6.2	e6.5	e7.0	123	32	167	58	76	104
12	6.6	11	e8.7	e6.3	e6.4	e7.1	112	44	234	52	81	107
13	6.1	11	e9.0	e6.4	e6.4	e7.2	94	57	347	47	94	115
14	6.6	12	e9.0	e6.3	e6.4	e7.5	86	63	335	44	82	118
15	6.5	12	e9.0	e6.2	e6.4	e7.8	78	83	271	50	69	122
16	6.3	12	e9.0	e6.1	e6.5	e8.0	69	83	277	49	61	139
17	6.7	12	e9.0	e6.1	e6.7	e8.2	58	67	276	119	58	139
18	7.2	12	e9.0	e6.0	e7.0	e8.5	45	55	205	177	57	138
19	7.8	12	e9.0	e5.9	e7.2	e9.0	39	51	179	197	54	135
20	9.9	13	e9.0	e5.8	e7.4	e9.5	37	49	253	237	52	133
21	9.5	13	e8.8	e5.8	e7.4	e11	35	48	287	267	51	134
22	10	13	e8.5	e5.8	e7.4	e12	39	66	287	280	59	139
23	10	13	e8.2	e5.8	e7.3	e13	39	68	286	280	65	147
24	10	e12	e8.4	e5.7	e7.3	e14	35	51	282	266	72	154
25	10	e12	e8.6	e5.7	e7.2	e16	33	51	279	264	77	155
26	10	e12	e8.5	e5.7	e7.0	e18	33	52	273	270	78	156
27	10	e12	e8.4	e5.6	e6.9	e90	32	61	245	246	75	160
28	23	e11	e8.2	e5.6	e6.8	e300	30	75	211	213	93	162
29	29	e12	e8.1	e5.6	e6.7	e500	28	61	188	186	97	162
30	42	e12	e7.8	e5.5	---	e406	26	56	169	168	81	164
31	30	---	e7.6	e5.5	---	e300	---	55	---	163	71	---
TOTAL	336.0	340.3	292.2	185.0	190.2	1,824.3	2,713	1,459	5,947	4,710	2,552	3,520
MEAN	10.8	11.3	9.43	5.97	6.56	58.8	90.4	47.1	198	152	82.3	117
MAX	42	18	12	7.3	7.4	500	226	83	347	280	163	164
MIN	6.1	6.1	7.6	5.5	5.6	5.9	26	20	54	44	51	41
AC-FT	666	675	580	367	377	3,620	5,380	2,890	11,800	9,340	5,060	6,980

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 2004, BY WATER YEAR (WY)

MEAN	51.1	42.8	33.8	30.2	47.6	228	668	666	256	162	85.7	56.6
MAX	225	169	160	171	277	1,209	6,280	4,918	2,122	1,599	512	363
(WY)	(2000)	(1976)	(1976)	(1976)	(1976)	(1976)	(1976)	(1975)	(1975)	(1953)	(1976)	(1999)
MIN	1.50	1.00	1.00	0.50	0.50	2.25	11.7	6.80	2.33	0.67	0.42	0.10
(WY)	(1938)	(1938)	(1938)	(1938)	(1938)	(1940)	(1937)	(1938)	(1938)	(1937)	(1937)	(1937)

05120000 SOURIS (MOUSE) RIVER NEAR VERENDRYE, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1937 - 2004	
ANNUAL TOTAL	24,316.8		24,069.0			
ANNUAL MEAN	66.6		65.8		197	
HIGHEST ANNUAL MEAN					1,185	1976
LOWEST ANNUAL MEAN					18.8	1991
HIGHEST DAILY MEAN	600	Mar 19	500	Mar 29	9,700	Apr 20, 1976
LOWEST DAILY MEAN	6.1	Oct 13	5.5	Jan 30	0.10	Sep 1, 1937
ANNUAL SEVEN-DAY MINIMUM	6.5	Oct 11	5.6	Jan 27	0.10	Sep 1, 1937
MAXIMUM PEAK FLOW			a550	Mar 29	9,900	Apr 19, 1976
MAXIMUM PEAK STAGE			b7.65	Mar 27	17.84	Apr 19, 1976
ANNUAL RUNOFF (AC-FT)	48,230		47,740		142,400	
10 PERCENT EXCEEDS	253		179		408	
50 PERCENT EXCEEDS	15		25		38	
90 PERCENT EXCEEDS	8.2		6.2		4.1	

a About; gage height, 7.38 ft
b 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.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
OCT													
08...	1325	6.2	--	--	--	--	--	--	1,890	22.5	5.5	--	--
NOV													
12...	1440	11	725	10.4	77	7.8	7.9	1,700	1,780	-3.0	1.0	520	110
JAN													
16...	1600	6.1	--	--	--	--	--	--	1,520	--	0.0	--	--
FEB													
24...	1100	7.3	725	5.7	40	7.8	8.0	2,020	2,040	-3.0	-1.1	580	127c
MAR													
30...	1430	406	726	12.5	88	7.9	8.1	E604	762	10.6	-0.9	220	45.8
APR													
09...	1310	153	--	--	--	--	--	--	1,410	2.0	9.0	--	--
21...	1300	34	719	9.9	94	8.4	8.2	1,320	1,330	10.8	10.2	410	87.0
MAY													
27...	1245	60	716	9.5	97	8.2	8.2	1,440	1,570	14.0	13.0	440	87.2
JUN													
15...	1300	271	--	--	--	--	--	--	1,290	18.0	18.5	--	--
JUL													
22...	1615	283	725	7.5	95	8.1	8.3	1,190	1,220	20.5	24.5	340	54.2
AUG													
18...	1000	60	715	7.5	88	8.1	--	--	1,240	18.0	19.5	--	--
SEP													
08...	1600	106	--	8.7	--	8.1	8.3	1,330	1,340	21.0	16.8	320	56.5

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Magnesium, water, fltrd, mg/L (00925)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Organic nitrogen, water, unfltrd mg/L (00605)
OCT													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
12...	59.9	4	226	325	68.5d	0.3	453d	1,240	<10	1.1	0.12	E.04n	0.97
JAN													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
24...	63.9c	5	270c	256@c	86.8dc	0.3	540dc	1,430	<10	1.5	0.69	0.41	0.81
MAR													
30...	25.7	2	78.1	131@	10.8	<0.2	223	527	60d	2.2	0.47	1.60	1.8
APR													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	47.8	3	150	300@c	30.4	0.2	376d	913	11	--	--	--	--
MAY													
27...	53.4	4	213	307@c	53.0	0.3	457d	1,120	16	1.3	<0.04	<0.06	--
JUN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
22...	48.6	4	157	286@c	37.7	0.3	328d	869	31	1.5	<0.04	<0.06	--
AUG													
18...	--	--	--	--	--	--	--	--	--	1.4	<0.04	<0.06	--
SEP													
08...	44.5	4	159	291@c	56.2	0.3	331	902	<10	1.2	E.03n	<0.06	--

05120000 SOURIS (MOUSE) RIVER NEAR VERENDRYE, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Aluminum, water, unfltrd recoverable, ug/L (01105)	Arsenic water unfltrd ug/L (01002)	Barium, water, unfltrd recoverable, ug/L (01007)	Beryllium, water, unfltrd recoverable, ug/L (01012)	Boron, water, unfltrd recoverable, ug/L (01022)	Cadmium water, unfltrd ug/L (01027)	Chromium, water, unfltrd recoverable, ug/L (01034)
OCT													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
12...	0.18	--	--b	11k	1.3d	<0.1d	74oc	5	47	<0.06	306v	E.03n	<0.8
JAN													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
24...	0.06	1.9	14.7	46	--	--	80	3	64	<0.06	302	E.02n	<0.8
MAR													
30...	0.37	3.8	17.8	13k	4.0d	0.4d	970	4	58	0.09	74	0.20	1.4
APR													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	2k	2.9d	<0.2d	160	3	60	<0.06	138	E.03n	<0.8
MAY													
27...	0.20	--	17.6	110	E12.4d	E2.2d	230	4	49	<0.06	238	E.03n	E.6n
JUN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
22...	0.44	--	24.7	190	21.8d	2.8d	350	9	62	<0.06	236	0.05	E.6n
AUG													
18...	0.35	--	19.9	35k	2.9d	<0.1d	--	--	--	--	--	--	--
SEP													
08...	0.35	--	19.6	140	1.3d	E.1d	70	7	48	<0.06	257	E.04n	<0.8

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Cobalt water, unfltrd recoverable, ug/L (01037)	Copper, water, unfltrd recoverable, ug/L (01042)	Iron, water, unfltrd recoverable, ug/L (01045)	Lead, water, unfltrd recoverable, ug/L (01051)	Molybdenum, water, unfltrd recoverable, ug/L (01062)	Nickel, water, unfltrd recoverable, ug/L (01067)	Selenium, water, unfltrd ug/L (01147)	Zinc, water, unfltrd recoverable, ug/L (01092)	Phenolic compounds, water, unfltrd ug/L (32730)
OCT									
08...	--	--	--	--	--	--	--	--	--
NOV									
12...	0.845	6.1	380	0.15	3.3	5.87	0.4	3	--b
JAN									
16...	--	--	--	--	--	--	--	--	--
FEB									
24...	1.06	3.6	430	0.08	5.0	6.20	0.7	3	<16
MAR									
30...	1.44	5.7	2,290	1.65	1.6	6.11	1.5	15	<16
APR									
09...	--	--	--	--	--	--	--	--	--
21...	0.947	3.5	380	0.39	3.5	5.20	1.1	2	--
MAY									
27...	1.11	4.5	460	0.40	3.4	6.20	0.6	3	<16
JUN									
15...	--	--	--	--	--	--	--	--	--
JUL									
22...	1.11	5.4	640	0.65	4.6	6.96	1.0	4	<16
AUG									
18...	--	--	--	--	--	--	--	--	<16
SEP									
08...	0.822	4.6	150	0.17	3.7	5.24	0.4	2	<16

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL
o -- Result determined by alternate method
v -- Analyte detected in laboratory blank

Null value qualifier codes used in this table:
b -- Sample broken/spilled in shipment

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 400 ft south of 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 National Geodetic Vertical Datum of 1929, from topographic map. Mar. 1937 to Sept. 30, 1994, at site 5 miles downstream, at datum 20 ft lower.

REMARKS.--Records fair except for estimated daily discharges, which are poor. 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	e1.8	e4.5	e6.2	e2.1	e2.3	127	40	25	25	e2.7	e2.5
2	2.6	e1.8	e4.6	e6.2	e2.1	e2.2	139	37	21	27	e3.6	e2.4
3	2.3	e1.7	e4.7	e6.2	e2.0	e2.1	149	35	19	26	e4.0	e2.4
4	2.2	e1.6	e4.7	e6.1	e2.1	e2.1	150	32	17	23	e3.9	e2.4
5	2.1	e1.6	e4.8	e6.1	e2.1	e2.1	148	31	18	22	e3.8	e2.4
6	2.0	e1.7	e4.8	e6.0	e2.1	e2.1	137	28	17	19	e3.7	e2.4
7	e2.0	e2.1	e4.9	e6.0	e2.0	e2.1	135	24	24	18	e3.7	e2.4
8	e1.9	e2.3	e5.0	e5.9	e2.1	e2.2	129	24	27	20	e4.0	e2.2
9	e1.9	e2.4	e5.0	e5.9	e2.1	e2.4	122	22	29	20	e3.9	e2.4
10	e1.9	e2.5	e4.9	e5.8	e2.1	e2.4	114	21	30	18	e3.7	e2.4
11	e1.9	e2.6	e5.0	e5.7	e2.1	e2.3	108	23	55	16	e3.5	e2.4
12	e1.9	e2.7	e5.2	e5.7	e2.0	e2.4	102	26	65	19	e3.3	e2.2
13	e1.9	e2.8	e5.4	e5.6	e2.0	e2.7	98	25	67	16	e3.2	e2.2
14	e1.8	e2.9	e5.6	e5.5	e2.0	e2.9	94	24	53	13	e3.2	e2.1
15	e1.8	e3.0	e5.8	e5.5	e2.0	e3.1	89	22	49	17	e3.2	e2.1
16	e1.8	e3.2	e6.0	e5.5	e2.0	e3.4	85	20	48	13	e3.2	e2.1
17	e1.8	e3.4	e6.1	e5.4	e2.1	e3.8	79	18	46	12	e3.2	e2.1
18	e1.9	e3.6	e6.3	e5.2	e2.1	e4.0	78	17	44	11	e3.2	e2.5
19	e1.9	e3.8	e6.5	e5.0	e2.1	e4.2	74	25	44	9.8	e3.2	e5.0
20	e1.9	e4.0	e6.3	e4.9	e2.1	e4.0	70	28	43	9.0	e3.2	e3.0
21	e1.9	e3.9	e6.4	e4.7	e2.1	e4.5	64	24	42	7.6	e3.0	e2.4
22	e1.9	e3.8	e6.7	e4.5	e2.1	e6.4	61	24	41	6.1	e2.9	e2.4
23	e1.9	e3.7	e7.0	e4.3	e2.0	e8.3	59	23	39	5.4	e2.9	e2.3
24	e1.9	e3.6	e7.2	e4.1	e2.1	e11	56	18	37	4.6	e2.9	e6.0
25	e1.9	e3.7	e7.1	e3.8	e2.2	e15	54	20	35	3.7	e2.9	e3.8
26	e1.9	e3.8	e7.0	e3.4	e2.2	e30	50	18	33	2.9	e2.7	e2.7
27	e2.0	e4.0	e6.9	e3.0	e2.2	e55	48	17	31	2.1	e2.7	e2.4
28	e2.0	e4.2	e6.7	e2.6	e2.3	e90	46	14	29	e2.0	e2.7	e2.1
29	e2.0	e4.3	e6.5	e2.2	e2.3	e140	43	14	27	e1.9	e2.7	e2.1
30	e2.0	e4.4	e6.3	e2.0	---	e124	41	17	26	e1.9	e2.7	e2.1
31	e1.9	---	e6.3	e2.0	---	e115	---	18	---	e2.0	e2.7	---
TOTAL	61.4	90.9	180.2	151.0	60.8	654.0	2,749	729	1,081	394.0	100.2	77.9
MEAN	1.98	3.03	5.81	4.87	2.10	21.1	91.6	23.5	36.0	12.7	3.23	2.60
MAX	2.6	4.4	7.2	6.2	2.3	140	150	40	67	27	4.0	6.0
MIN	1.8	1.6	4.5	2.0	2.0	2.1	41	14	17	1.9	2.7	2.1
AC-FT	122	180	357	300	121	1,300	5,450	1,450	2,140	781	199	155

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 2004, BY WATER YEAR (WY)

MEAN	6.31	6.13	2.61	1.31	1.56	26.2	72.3	34.0	19.0	12.1	7.42	5.65
MAX	109	98.8	22.7	9.77	10.7	343	465	304	194	95.1	87.3	67.3
(WY)	(1995)	(1995)	(2001)	(2002)	(2000)	(1995)	(1997)	(1999)	(1999)	(1999)	(1993)	(1999)
MIN	0.03	0.50	0.00	0.00	0.00	0.00	2.81	1.65	0.43	0.23	0.01	0.00
(WY)	(1993)	(1938)	(1938)	(1938)	(1938)	(1951)	(1992)	(1992)	(1992)	(1989)	(1989)	(1992)

05120500 WINTERING RIVER NEAR KARLSRUHE, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1937 - 2004	
ANNUAL TOTAL	6,404.78		6,329.4			
ANNUAL MEAN	17.5		17.3		16.4	
HIGHEST ANNUAL MEAN					82.0	1999
LOWEST ANNUAL MEAN					1.36	1992
HIGHEST DAILY MEAN	242	Mar 30	150	Apr 4	2,500	Apr 7, 1949
LOWEST DAILY MEAN	0.00	Jan 1	1.6	Nov 4	0.00	Mar 1, 1937
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	1.7	Oct 31	0.00	Mar 1, 1937
MAXIMUM PEAK FLOW			a175	Mar 29	c3,000	Apr 7, 1949
MAXIMUM PEAK STAGE			b6.95	Mar 27	b12.00	Apr 7, 1949
ANNUAL RUNOFF (AC-FT)	12,700		12,550		11,890	
10 PERCENT EXCEEDS	45		48		34	
50 PERCENT EXCEEDS	4.8		4.3		3.5	
90 PERCENT EXCEEDS	0.00		2.0		0.10	

a About; gage height, 6.34
b Backwater from ice
c By velocity area study
e Estimated

05120500 WINTERING RIVER NEAR KARLSRUHE, ND—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1954-56, 1972 to current year.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT													
08...	1530	1.9	--	--	--	--	1,000	22.0	8.0	--	--	--	--
NOV													
12...	1255	2.7	--	--	--	--	880	-4.5	0.0	--	--	--	--
JAN													
16...	1625	5.5	--	--	--	--	1,190	-6.0	0.0	--	--	--	--
FEB													
23...	1400	2.1	--	--	--	--	780	-3.0	0.0	--	--	--	--
MAR													
23...	1515	8.3	--	--	--	--	748	6.0	0.0	--	--	--	--
30...	1730	124	726	7.9	7.1	575	578	11.5	0.4	140	29.2	15.8	14.7
APR													
09...	1110	122	--	--	--	--	1,200	-2.0	7.5	--	--	--	--
21...	1605	63	--	--	--	--	1,690	11.0	13.0	--	--	--	--
MAY													
27...	1115	16	--	--	--	--	1,950	11.0	12.0	--	--	--	--
JUN													
15...	1455	48	--	--	--	--	1,700	20.0	19.5	--	--	--	--
JUL													
22...	1400	5.8	724	7.9	8.4	1,800	1,720	19.7	23.0	360	62.7	49.8	6.50
AUG													
11...	1345	3.5	--	--	--	--	2,250	20.0	21.5	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)
OCT													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	3	73.4	50	117	9.5	0.10	11.4	147	362	125	1.4	300	<1
APR													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
22...	6	283	62	584	20.1	0.22	17.3	453	1,230	19.5	7.2	80	<1
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--

05120500 WINTERING RIVER NEAR KARLSRUHE, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Lithium water, fltrd, ug/L (01130)	Mangan-ese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molyb-denum, water, fltrd, ug/L (01060)	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
OCT						
08...	--	--	--	--	--	--
NOV						
12...	--	--	--	--	--	--
JAN						
16...	--	--	--	--	--	--
FEB						
23...	--	--	--	--	--	--
MAR						
23...	--	--	--	--	--	--
30...	20	80	<0.20	2	<1	100
APR						
09...	--	--	--	--	--	--
21...	--	--	--	--	--	--
MAY						
27...	--	--	--	--	--	--
JUN						
15...	--	--	--	--	--	--
JUL						
22...	90	120	<0.20	<1	1	330
AUG						
11...	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than

05121000 SOURIS RIVER WEST OUTFALL AT EATON DAM NEAR TOWNER, ND

LOCATION.--Lat 48°16'30", long 100°29'34", NW$^1/_4$SW$^1/_4$ sec.6, T.155 N., R.76 W., McHenry County, Hydrologic Unit 09010003, on left bank at Eaton Dam and 5.8 mi southwest of Towner.

DRAINAGE AREA.--Not determined.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March to April 2004.

GAGE.--Water-stage recorder. Datum of gage is 1,460 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 251 ft^3/s, Mar. 27, gage height, 4.93 ft; no flow on Mar. 23.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	146	---	---	---	---	---
2	---	---	---	---	---	---	151	---	---	---	---	---
3	---	---	---	---	---	---	153	---	---	---	---	---
4	---	---	---	---	---	---	151	---	---	---	---	---
5	---	---	---	---	---	---	148	---	---	---	---	---
6	---	---	---	---	---	---	145	---	---	---	---	---
7	---	---	---	---	---	---	146	---	---	---	---	---
8	---	---	---	---	---	---	146	---	---	---	---	---
9	---	---	---	---	---	---	144	---	---	---	---	---
10	---	---	---	---	---	---	144	---	---	---	---	---
11	---	---	---	---	---	---	140	---	---	---	---	---
12	---	---	---	---	---	---	140	---	---	---	---	---
13	---	---	---	---	---	---	146	---	---	---	---	---
14	---	---	---	---	---	---	147	---	---	---	---	---
15	---	---	---	---	---	---	130	---	---	---	---	---
16	---	---	---	---	---	---	20	---	---	---	---	---
17	---	---	---	---	---	---	56	---	---	---	---	---
18	---	---	---	---	---	---	129	---	---	---	---	---
19	---	---	---	---	---	---	127	---	---	---	---	---
20	---	---	---	---	---	---	71	---	---	---	---	---
21	---	---	---	---	---	---	20	---	---	---	---	---
22	---	---	---	---	---	---	115	---	---	---	---	---
23	---	---	---	---	---	e0.00	91	---	---	---	---	---
24	---	---	---	---	---	e0.20	70	---	---	---	---	---
25	---	---	---	---	---	e10	69	---	---	---	---	---
26	---	---	---	---	---	79	69	---	---	---	---	---
27	---	---	---	---	---	128	66	---	---	---	---	---
28	---	---	---	---	---	124	---	---	---	---	---	---
29	---	---	---	---	---	139	---	---	---	---	---	---
30	---	---	---	---	---	134	---	---	---	---	---	---
31	---	---	---	---	---	143	---	---	---	---	---	---
TOTAL	---	---	---	---	---	757.20	3080	---	---	---	---	---
MEAN	---	---	---	---	---	84.1	114	---	---	---	---	---
MAX	---	---	---	---	---	143	153	---	---	---	---	---
MIN	---	---	---	---	---	0.00	20	---	---	---	---	---
AC-FT	---	---	---	---	---	1500	6110	---	---	---	---	---

e Estimated

05121001 SOURIS RIVER EAST OUTFALL AT EATON DAM NEAR TOWNER, ND

LOCATION.--Lat 48°16'33", long 100°29'17", SE¼NW¼ sec.6, T.155 N., R.76 W., McHenry County, Hydrologic Unit 09010003, on right bank at Eaton Dam and 5.7 mi southwest of Towner.

DRAINAGE AREA.--Not determined.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March to May 2004.

GAGE.--Water-stage recorder. Datum of gage is 1,460 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 105 ft^3/s, Apr. 7-10, gage height, 6.69 ft; no flow on Mar. 23 and May 18-20.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	93	53	---	---	---	---
2	---	---	---	---	---	---	101	53	---	---	---	---
3	---	---	---	---	---	---	103	53	---	---	---	---
4	---	---	---	---	---	---	104	53	---	---	---	---
5	---	---	---	---	---	---	102	54	---	---	---	---
6	---	---	---	---	---	---	103	54	---	---	---	---
7	---	---	---	---	---	---	104	30	---	---	---	---
8	---	---	---	---	---	---	105	4.6	---	---	---	---
9	---	---	---	---	---	---	104	3.0	---	---	---	---
10	---	---	---	---	---	---	104	2.3	---	---	---	---
11	---	---	---	---	---	---	104	2.6	---	---	---	---
12	---	---	---	---	---	---	61	3.3	---	---	---	---
13	---	---	---	---	---	---	3.6	3.4	---	---	---	---
14	---	---	---	---	---	---	2.2	3.1	---	---	---	---
15	---	---	---	---	---	---	1.7	2.5	---	---	---	---
16	---	---	---	---	---	---	20	1.5	---	---	---	---
17	---	---	---	---	---	---	38	0.65	---	---	---	---
18	---	---	---	---	---	---	16	0.00	---	---	---	---
19	---	---	---	---	---	---	11	0.00	---	---	---	---
20	---	---	---	---	---	---	2.5	0.00	---	---	---	---
21	---	---	---	---	---	---	1.9	---	---	---	---	---
22	---	---	---	---	---	---	1.6	---	---	---	---	---
23	---	---	---	---	---	e0.00	1.6	---	---	---	---	---
24	---	---	---	---	---	e0.60	1.5	---	---	---	---	---
25	---	---	---	---	---	e3.0	1.3	---	---	---	---	---
26	---	---	---	---	---	e8.5	1.2	---	---	---	---	---
27	---	---	---	---	---	e40	1.2	---	---	---	---	---
28	---	---	---	---	---	e85	1.1	---	---	---	---	---
29	---	---	---	---	---	89	1.0	---	---	---	---	---
30	---	---	---	---	---	87	27	---	---	---	---	---
31	---	---	---	---	---	86	---	---	---	---	---	---
TOTAL	---	---	---	---	---	399.10	1,322.4	376.95	---	---	---	---
MEAN	---	---	---	---	---	44.3	44.1	18.8	---	---	---	---
MAX	---	---	---	---	---	89	105	54	---	---	---	---
MIN	---	---	---	---	---	0.00	1.0	0.00	---	---	---	---
AC-FT	---	---	---	---	---	792	2,620	748	---	---	---	---

e Estimated

05122000 SOURIS (MOUSE) RIVER NEAR BANTRY, ND

LOCATION.--Lat 48°30'20", long 100°26'04", in SE¼NW¼SE¼ 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 National Geodetic Vertical Datum of 1929. Prior to Mar. 16, 1938, nonrecording gage at same site at datum 0.17 ft lower.

REMARKS.--Records good except for estimated daily discharges, 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	25	e16	e15	e12	e14	e180	43	312	304	235	82
2	15	35	e16	e15	e12	e14	e393	43	376	305	224	85
3	15	43	e17	e14	e12	e14	e490	46	405	279	205	81
4	15	e40	e16	e14	e12	e14	e419	47	402	247	195	76
5	15	e35	e16	e14	e12	e14	e323	43	380	225	187	70
6	13	e27	e15	e14	e12	e15	e210	42	345	211	179	63
7	14	e20	e16	e14	e13	e15	e150	37	321	197	169	56
8	13	e17	e16	e14	e13	e15	e93	38	293	184	153	51
9	13	e16	e15	e14	e13	e16	67	35	259	171	139	51
10	14	e14	e15	e15	e13	e16	47	34	234	159	123	63
11	14	e14	e14	e15	e13	e17	38	37	308	149	112	77
12	13	e15	e14	e15	e13	e17	35	35	390	140	101	87
13	13	e15	e15	e15	e13	e18	33	44	450	128	97	96
14	13	e15	e15	e15	e14	e18	32	58	466	119	94	107
15	12	e15	e15	e15	e14	e19	32	86	493	118	93	109
16	12	e15	e15	e14	e14	e19	33	339	519	116	95	110
17	13	e16	e16	e14	e14	e20	34	451	515	106	97	113
18	13	e16	e16	e14	e15	e20	34	437	490	103	95	116
19	13	e17	e16	e15	e15	e20	34	415	466	111	88	122
20	13	e17	e16	e15	e15	e21	38	388	437	118	81	127
21	13	e17	e16	e15	e14	e21	36	369	398	133	74	130
22	14	e16	e16	e14	e14	e22	35	349	364	165	68	130
23	14	e16	e16	e14	e14	e22	39	326	357	200	64	130
24	16	e16	e16	e14	e14	e21	41	309	366	232	63	133
25	17	e16	e16	e13	e14	e21	46	304	370	254	60	134
26	19	e16	e16	e13	e15	e20	42	319	366	267	60	139
27	22	e16	e15	e12	e15	e20	41	354	360	271	63	146
28	21	e15	e15	e12	e15	e20	46	359	351	272	67	152
29	22	e16	e15	e12	e14	e25	42	334	339	272	72	156
30	25	e17	e16	e12	---	e45	41	303	322	267	73	158
31	25	---	e16	e12	---	e95	---	290	---	253	77	---
TOTAL	479	588	483	433	393	668	3,124	6,314	11,454	6,076	3,503	3,150
MEAN	15.5	19.6	15.6	14.0	13.6	21.5	104	204	382	196	113	105
MAX	25	43	17	15	15	95	490	451	519	305	235	158
MIN	12	14	14	12	12	14	32	34	234	103	60	51
AC-FT	950	1,170	958	859	780	1,320	6,200	12,520	22,720	12,050	6,950	6,250

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 2004, BY WATER YEAR (WY)

MEAN	65.9	58.6	42.1	33.2	41.9	142	620	795	407	217	121	72.3
MAX	421	219	172	175	388	912	5,666	5,161	2,821	1,616	1,080	633
(WY)	(2000)	(1976)	(1976)	(1976)	(1997)	(1995)	(1976)	(1979)	(1975)	(1953)	(1999)	(1999)
MIN	0.68	0.50	1.00	0.50	0.00	0.44	5.60	3.04	11.7	2.73	1.03	0.01
(WY)	(1941)	(1941)	(1938)	(1938)	(1938)	(1937)	(1990)	(1937)	(1992)	(1992)	(1992)	(1939)

05122000 SOURIS (MOUSE) RIVER NEAR BANTRY, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1937 - 2004	
ANNUAL TOTAL	31,075.1		36,665			
ANNUAL MEAN	85.1		100		221	
HIGHEST ANNUAL MEAN					1,226	1976
LOWEST ANNUAL MEAN					15.9	1938
HIGHEST DAILY MEAN	617	May 15	519	Jun 16	9,260	Apr 23, 1976
LOWEST DAILY MEAN	7.5	Sep 5	12	Oct 15	0.00	Mar 1, 1937
ANNUAL SEVEN-DAY MINIMUM	8.3	Sep 1	12	Jan 27	0.00	Mar 1, 1937
MAXIMUM PEAK FLOW			525	Jun 16	9,330	Apr 23, 1976
MAXIMUM PEAK STAGE			7.34	Jun 16	14.59	Apr 23, 1976
ANNUAL RUNOFF (AC-FT)	61,640		72,730		160,500	
10 PERCENT EXCEEDS	258		328		520	
50 PERCENT EXCEEDS	22		34		52	
90 PERCENT EXCEEDS	12		14		5.5	

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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
NOV													
14...	1220	15	--	--	--	--	1,500	3.5	0.5	--	--	--	--
JAN													
15...	1645	15	--	--	--	--	1,850	-3.0	0.0	--	--	--	--
FEB													
23...	1730	14	--	--	--	--	1,610	-2.5	0.0	--	--	--	--
APR													
02...	1600	393	724	7.7	7.2	674	692	6.0	0.0	210	46.6	23.7	11.4
08...	1645	93	--	--	--	--	718	9.5	7.5	--	--	--	--
21...	1745	36	--	--	--	--	961	--	15.5	--	--	--	--
MAY													
28...	1530	358	--	--	--	--	1,240	24.5	15.0	--	--	--	--
JUN													
15...	1310	18	--	--	--	--	1,120	18.5	17.5	--	--	--	--
AUG													
11...	1130	112	--	--	--	--	1,380	17.5	21.5	--	--	--	--
SEP													
16...	1700	111	--	7.7	8.4	1,300	1,310	17.5	16.0	340	60.1	45.4	13.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)
NOV													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
02...	2	67.4	39	155	18.2	0.12	12.8	160	422	460	<1.0	160	<1
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
16...	4	149	48	329	45.1	0.25	5.07	319	830	250	6.1	10	<1

05122000 SOURIS (MOUSE) RIVER NEAR BANTRY, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Lithium water, fltrd, ug/L (01130)	Mangan-ese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molyb-denum, water, fltrd, ug/L (01060)	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
NOV						
14...	--	--	--	--	--	--
JAN						
15...	--	--	--	--	--	--
FEB						
23...	--	--	--	--	--	--
APR						
02...	30	110	<0.20	1	<1	220
08...	--	--	--	--	--	--
21...	--	--	--	--	--	--
MAY						
28...	--	--	--	--	--	--
JUN						
15...	--	--	--	--	--	--
AUG						
11...	--	--	--	--	--	--
SEP						
16...	60	30	<0.20	3	5	370

Remark codes used in this table:
< -- Less than

05123400 WILLOW CREEK NEAR WILLOW CITY, ND

LOCATION.--Lat 48°35'20", long l00°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 mi^2, approximately, of which about 430 mi^2 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 National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 5, 1956, nonrecording gage at site 50 ft upstream at same datum.

REMARKS.--Records fair.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e12	11	135	191	21	14
2	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e20	9.1	169	179	24	10
3	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e40	9.0	216	169	25	9.9
4	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e60	9.3	253	159	24	22
5	0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e120	8.0	282	146	23	22
6	0.00	e0.00	e0.00	e0.00	e0.00	e0.01	e200	6.4	307	131	23	22
7	0.00	e0.00	e0.00	e0.00	e0.00	e0.01	e375	5.1	339	116	e22	23
8	0.00	e0.00	e0.00	e0.00	e0.00	e0.02	e325	3.7	363	103	e24	21
9	0.00	e0.00	e0.00	e0.00	e0.00	e0.03	296	3.8	410	94	e23	17
10	0.00	e0.00	e0.00	e0.00	e0.00	e0.07	259	2.8	452	87	e21	18
11	0.00	e0.00	e0.00	e0.00	e0.00	e0.10	217	6.8	491	79	e19	17
12	0.00	e0.00	e0.00	e0.00	e0.00	e0.08	190	8.9	497	76	18	16
13	0.00	e0.00	e0.00	e0.00	e0.00	e0.11	169	11	523	75	18	15
14	0.00	e0.00	e0.00	e0.00	e0.00	e0.15	148	15	584	72	17	15
15	0.00	e0.00	e0.00	e0.00	e0.00	e0.22	127	18	658	71	17	14
16	0.00	e0.00	e0.00	e0.00	e0.00	e0.30	108	25	753	64	17	13
17	0.00	e0.00	e0.00	e0.00	e0.00	e0.43	88	28	807	59	16	12
18	0.00	e0.00	e0.00	e0.00	e0.00	e0.50	72	37	731	54	15	12
19	0.00	e0.00	e0.00	e0.00	e0.00	e0.60	59	50	643	50	15	12
20	0.00	e0.00	e0.00	e0.00	e0.00	e0.52	49	58	573	46	14	12
21	0.00	e0.00	e0.00	e0.00	e0.00	e0.55	40	63	510	41	13	12
22	0.00	e0.00	e0.00	e0.00	e0.00	e0.60	33	67	452	39	14	11
23	e0.00	e0.00	e0.00	e0.00	e0.00	e0.69	30	72	411	37	14	10
24	e0.00	e0.00	e0.00	e0.00	e0.00	e0.78	27	73	376	35	14	11
25	e0.00	e0.00	e0.00	e0.00	e0.00	e0.90	24	77	351	34	15	12
26	e0.00	e0.00	e0.00	e0.00	e0.00	e1.1	22	80	319	32	19	14
27	e0.00	e0.00	e0.00	e0.00	e0.00	e1.4	20	84	287	30	20	15
28	e0.00	e0.00	e0.00	e0.00	e0.00	e1.9	14	95	258	28	19	14
29	e0.00	e0.00	e0.00	e0.00	e0.00	e3.0	14	102	233	26	17	13
30	e0.00	e0.00	e0.00	e0.00	---	e4.5	12	104	210	24	16	12
31	e0.00	---	e0.00	e0.00	---	e8.0	---	112	---	22	15	---
TOTAL	0.00	0.00	0.00	0.00	0.00	26.57	3,170	1,254.9	12,593	2,369	572	440.9
MEAN	0.00	0.00	0.00	0.00	0.00	0.86	106	40.5	420	76.4	18.5	14.7
MAX	0.00	0.00	0.00	0.00	0.00	8.0	375	112	807	191	25	23
MIN	0.00	0.00	0.00	0.00	0.00	0.00	12	2.8	135	22	13	9.9
AC-FT	0.00	0.00	0.00	0.00	0.00	53	6,290	2,490	24,980	4,700	1,130	875

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2004, BY WATER YEAR (WY)

MEAN	6.87	7.04	2.06	0.29	0.59	37.6	253	144	65.7	27.5	21.8	8.75
MAX	71.8	57.7	24.8	4.39	16.4	342	1,242	1,424	769	255	197	75.5
(WY)	(1981)	(2001)	(1960)	(1960)	(1981)	(1995)	(1969)	(1999)	(1999)	(1999)	(2001)	(1980)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(WY)	(1957)	(1957)	(1957)	(1957)	(1958)	(1959)	(1977)	(1959)	(1959)	(1958)	(1957)	(1957)

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1956 - 2004	
ANNUAL TOTAL	2,234.87		20,426.37			
ANNUAL MEAN	6.12		55.8		47.9	
HIGHEST ANNUAL MEAN					323	1999
LOWEST ANNUAL MEAN					0.01	1990
HIGHEST DAILY MEAN	160	Mar 29	807	Jun 17	5,310	Apr 12, 1969
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 1	0.00	Sep 23, 1956
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Oct 1	0.00	Sep 23, 1956
MAXIMUM PEAK FLOW			828	Jun 17	5,900	Apr 12, 1969
MAXIMUM PEAK STAGE			12.32	Jun 17	16.76	Apr 12, 1969
ANNUAL RUNOFF (AC-FT)	4,430		40,520		34,730	
10 PERCENT EXCEEDS	19		182		97	
50 PERCENT EXCEEDS	0.00		3.8		0.00	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

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.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
APR													
02...	1245	20	--	--	--	--	290	8.0	0.0	--	--	--	--
08...	1445	332	718	7.8	7.4	758	760	10.0	9.0	230	43.3	28.7	15.4
23...	1450	37	--	--	--	--	1,290	11.5	11.5	--	--	--	--
MAY													
28...	1815	93	--	--	--	--	1,790	22.0	14.5	--	--	--	--
JUN													
15...	1540	684	--	--	--	--	890	20.0	18.0	--	--	--	--
23...	1700	409	--	--	--	--	965	16.0	18.0	--	--	--	--
JUL													
22...	1010	39	--	--	--	--	1,010	17.0	23.5	--	--	--	--
AUG													
11...	0930	20	--	--	--	--	1,420	13.0	20.5	--	--	--	--
SEP													
15...	1745	13	--	7.7	8.4	1,150	1,170	15.0	16.0	390	61.4	56.8	10.4

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)
APR													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
08...	2	82.9	42	143	19.5	0.12	23.4	211	489	457	3.2	140	<1
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
15...	2	99.9	35	344	23.1	0.18	9.31	283	743	27.2	5.4	30	<1

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
APR						
02...	--	--	--	--	--	--
08...	60	20	<0.20	2	<1	200
23...	--	--	--	--	--	--
MAY						
28...	--	--	--	--	--	--
JUN						
15...	--	--	--	--	--	--
23...	--	--	--	--	--	--
JUL						
22...	--	--	--	--	--	--
AUG						
11...	--	--	--	--	--	--
SEP						
15...	100	<10	<0.20	3	4	320

Remark codes used in this table:
< -- Less than

05123510 DEEP RIVER NEAR UPHAM, ND

LOCATION.--Lat 48°35'03", long 100°51'44", in SW¼NW¼ 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 National Geodetic Vertical Datum of 1929, from topographic map.

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

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, 512 ft^3/s, June 17, gage height, 11.13 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	0.00	0.00	5.2	7.1	71	57	20
2	---	---	---	---	---	0.00	0.00	4.7	7.3	67	54	20
3	---	---	---	---	---	0.00	0.00	4.2	7.4	64	51	20
4	---	---	---	---	---	0.00	0.06	3.8	8.1	61	49	20
5	---	---	---	---	---	0.00	0.39	3.4	9.5	59	46	19
6	---	---	---	---	---	0.00	0.61	3.0	12	56	43	19
7	---	---	---	---	---	0.00	2.8	2.7	26	54	42	17
8	---	---	---	---	---	0.00	2.5	2.5	40	52	40	16
9	---	---	---	---	---	0.00	2.1	2.4	41	51	39	15
10	---	---	---	---	---	0.00	2.8	2.3	37	50	38	14
11	---	---	---	---	---	0.00	2.9	2.4	43	49	37	13
12	---	---	---	---	---	0.00	2.3	3.5	70	48	37	12
13	---	---	---	---	---	0.00	1.6	4.1	89	47	36	11
14	---	---	---	---	---	0.00	1.1	4.3	91	46	36	12
15	---	---	---	---	---	0.00	0.84	4.5	207	45	35	11
16	---	---	---	---	---	0.00	2.2	4.5	420	44	34	11
17	---	---	---	---	---	0.00	8.2	4.4	487	43	34	10
18	---	---	---	---	---	0.00	12	4.1	455	42	33	10
19	---	---	---	---	---	0.00	14	4.0	363	41	31	10
20	---	---	---	---	---	0.00	14	4.1	300	40	30	10
21	---	---	---	---	---	0.00	14	4.0	253	39	29	9.8
22	---	---	---	---	---	0.00	12	3.8	211	59	28	9.9
23	---	---	---	---	---	0.00	12	3.8	179	129	27	9.6
24	---	---	---	---	---	0.00	11	3.9	154	126	25	9.5
25	---	---	---	---	---	0.00	10	4.3	133	112	24	9.8
26	---	---	---	---	---	0.00	9.2	4.6	116	97	25	10
27	---	---	---	---	---	0.00	8.2	4.7	103	85	24	9.9
28	---	---	---	---	---	0.00	7.4	4.8	93	77	22	9.8
29	---	---	---	---	---	0.00	6.5	5.2	84	70	22	9.9
30	---	---	---	---	---	0.00	5.8	5.6	77	64	22	9.6
31	---	---	---	---	---	0.00	---	6.0	---	60	21	---
TOTAL	---	---	---	---	---	0.00	166.50	124.8	4,123.4	1,948	1,071	387.8
MEAN	---	---	---	---	---	0.00	5.55	4.03	137	62.8	34.5	12.9
MAX	---	---	---	---	---	0.00	14	6.0	487	129	57	20
MIN	---	---	---	---	---	0.00	0.00	2.3	7.1	39	21	9.5
AC-FT	---	---	---	---	---	0.00	330	248	8,180	3,860	2,120	769

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2004, BY WATER YEAR (WY)

MEAN	0.12	0.72	0.24	0.03	0.10	26.8	139	43.6	10.9	5.94	4.06	0.51
MAX	1.99	16.1	5.08	0.77	2.37	276	1,300	469	137	62.8	81.5	12.9
(WY)	(1976)	(1976)	(1976)	(1976)	(1976)	(1976)	(1976)	(1999)	(2004)	(2004)	(2001)	(2004)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(WY)	(1958)	(1958)	(1958)	(1958)	(1958)	(1959)	(1959)	(1959)	(1958)	(1958)	(1958)	(1958)

05123510 DEEP RIVER NEAR UPHAM, ND—Continued

SUMMARY STATISTICS	WATER YEARS 1958 - 2004	
ANNUAL MEAN	a20.5	
HIGHEST ANNUAL MEAN	a140	1976
LOWEST ANNUAL MEAN	a0.00	1959
HIGHEST DAILY MEAN	5,700	Apr 12, 1969
LOWEST DAILY MEAN	0.00	Oct1, 1957
ANNUAL SEVEN-DAY MINIMUM	0.00	Oct 1, 1957
MAXIMUM PEAK FLOW	6,760	Apr 12, 1969
MAXIMUM PEAK STAGE	18.18	Apr 12, 1969
ANNUAL RUNOFF (AC-FT)	a14,820	
10 PERCENT EXCEEDS	6.8	
50 PERCENT EXCEEDS	0.00	
90 PERCENT EXCEEDS	0.00	

a Based on complete water years only (1958-80)

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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
APR													
08...	1110	2.5	--	--	--	--	1,070	8.0	5.5	--	--	--	--
23...	1315	12	730	8.8	8.2	826	800	8.6	11.0	340	55.3	49.2	15.7
MAY													
28...	1120	4.5	--	--	--	--	910	22.0	14.5	--	--	--	--
JUN													
15...	1740	379	--	--	--	--	821	20.5	18.5	--	--	--	--
24...	1345	152	--	--	--	--	994	16.0	17.0	--	--	--	--
JUL													
21...	1755	40	--	--	--	--	1,010	27.5	28.0	--	--	--	--
SEP													
16...	1350	11	--	7.9	8.4	903	915	19.0	14.5	360	58.2	52.1	15.6

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)
APR													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	1	41.1	20	196	36.0	0.11	7.02	195	512	17.0	3.7	20	<1
MAY													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
16...	1	46.5	21	355	36.2	0.13	4.42	109	532	15.5	4.5	30	<1

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
APR						
08...	--	--	--	--	--	--
23...	40	<10	<0.20	2	4	190
MAY						
28...	--	--	--	--	--	--
JUN						
15...	--	--	--	--	--	--
24...	--	--	--	--	--	--
JUL						
21...	--	--	--	--	--	--
SEP						
16...	40	20	<0.20	<1	4	230

Remark codes used in this table:
< -- Less than

05123990 J. CLARK SALYER POOL 357 NEAR WESTHOPE, ND

LOCATION.--Lat 48°58'40", long 100°57'45", in SW¼ 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.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Depth to bottom of samplng intrval meters (82048)	Depth to top of samplng intrval meters (82047)	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
08...	0855	0.80	0.80	8.9	1,490	300	33.0	54.0	6	241	311	48.7	0.2
08...	0900	2.1	2.1	8.8	1,510	310	34.9	54.2	6	239	312	48.1	0.2
08...	0905	0.50	0.21	--	--	--	--	--	--	--	--	--	--
APR													
22...	1510	1.0	1.0	7.6	1,380	340	52.1	50.2	4	187	346@c	43.9	0.2
22...	1515	0.60	0.30	--	--	--	--	--	--	--	--	--	--
22...	1520	3.0	3.0	E7.6	1,390	340	53.2	50.8	4	190	347@c	43.5	0.2
MAY													
25...	1335	1.0	1.0	8.3	1,070	310	50.9	44.7	4	153	286@c	33.7	0.2
25...	1345	0.60	0.30	--	--	--	--	--	--	--	--	--	--
25...	1350	2.6	2.6	8.2	1,060	310	51.4	44.6	4	150	286@c	33.4	0.2
JUN													
23...	1300	1.0	1.0	8.3	1,050	330	63.2	42.5	3	114	262@c	27.5	0.2
23...	1305	1.2	0.61	--	--	--	--	--	--	--	--	--	--
23...	1310	3.0	3.0	8.3	1,040	330	63.1	42.0	3	112	261@c	27.5	0.2
JUL													
21...	1415	1.0	1.0	8.5	1,160	410	76.5	53.5	3	136	326@c	31.2	0.2
21...	1420	1.8	0.90	--	--	--	--	--	--	--	--	--	--
21...	1425	2.2	2.2	8.4	1,160	410	76.1	53.3	3	135	326@c	30.5	0.2
AUG													
10...	1345	1.0	1.0	8.3	1,230	440	77.5	59.5	3	135	366@c	33.1	0.2
10...	1350	2.8	2.8	8.3	1,190	420	74.7	57.7	3	130	368@c	33.4	0.2
10...	1355	0.70	0.35	--	--	--	--	--	--	--	--	--	--
SEP													
01...	1335	0.50	0.50	8.7	1,230	470	78.6	66.7	3	154	368@c	36.6	0.2
01...	1340	3.0	3.0	8.7	1,230	470	79.9	65.6	3	155	368@c	36.6	0.2
01...	1345	0.40	0.20	--	--	--	--	--	--	--	--	--	--

05123990 J. CLARK SALYER POOL 357 NEAR WESTHOPE, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, sus-pended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Organic nitro-gen, water, unfltrd mg/L (00605)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Alum-inum, water, unfltrd recover-able, ug/L (01105)
OCT													
08...	429d	1,070	98d	4.1	<0.04	<0.06	--	0.32	--	41.5	--	--	290
08...	425d	1,050	60	4.3	<0.04	<0.06	--	0.42	--	46.6d	--	--	410
08...	--	--	--	--	--	--	--	--	--	--	61.1d	<0.1d	--
APR													
22...	336d	981	104d	3.3	<0.04	0.07	--	0.70	3.3	51.7	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	E243	22.5d	--
22...	334d	983	106d	3.8	E.03n	0.07	--	0.73	3.9	48.9	--	--	--
MAY													
25...	277	795	18	2.4	0.19	E.04n	2.2	0.21	--	23.7	--	--	400
25...	--	--	--	--	--	--	--	--	--	--	15.4d	1.5d	--
25...	280	818	22	2.2	0.23	0.09	1.9	0.17	2.2	29.7	--	--	420
JUN													
23...	266	732	<10	1.5	<0.04	<0.06	--	0.40	--	23.8	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	4.2d	0.6d	--
23...	266	734	<10	1.5	0.04	<0.06	1.4	0.39	--	18.7	--	--	--
JUL													
21...	288	856	<10	2.0	0.10	<0.06	1.9	0.53	--	37.8	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	11.3d	1.1d	--
21...	288	855	10	1.9	0.10	<0.06	1.8	0.52	--	29.5	--	--	--
AUG													
10...	299d	935	15	2.6	0.27	E.06n	2.3	0.43	--	30.7	--	--	280
10...	309d	923	26	2.5	0.32	E.05n	2.2	0.44	--	30.3	--	--	6oc
10...	--	--	--	--	--	--	--	--	--	--	18.6d	1.0d	--
SEP													
01...	313d	871	40	3.4	<0.04	<0.06	--	0.38	--	27.9	--	--	--
01...	313d	880	66d	3.3	<0.04	<0.06	--	0.41	--	36.6	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	59.9d	2.9d	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Arsenic water unfltrd ug/L (01002)	Barium, water, unfltrd recover-able, ug/L (01007)	Beryll-ium, water, unfltrd recover-able, ug/L (01012)	Boron, water, unfltrd recover-able, ug/L (01022)	Cadmium water, unfltrd ug/L (01027)	Chrom-ium, water, unfltrd recover-able, ug/L (01034)	Cobalt water, unfltrd recover-able, ug/L (01037)	Copper, water, unfltrd recover-able, ug/L (01042)	Iron, water, unfltrd recover-able, ug/L (01045)	Lead, water, unfltrd recover-able, ug/L (01051)	Mercury water, unfltrd recover-able, ug/L (71900)	Molyb-denum, water, unfltrd recover-able, ug/L (01062)	Nickel, water, unfltrd recover-able, ug/L (01067)
OCT													
08...	10	55	<0.06	259	E.02n	<0.8	1.30	16.1	410	0.70	E.01n	3.0	6.09
08...	10	61	<0.06	258	E.03n	E.6n	1.34	6.6	510	0.80	<0.02	2.9	6.85
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
25...	6	74	E.04n	244	E.03n	E.7n	1.06	3.8	580	0.82	<0.02	3.5	5.46
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	5	75	E.04n	253	E.03n	E.7n	1.09	3.9	610	0.85	<0.02	3.5	5.49
JUN													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
10...	6	78	E.03n	211	E.03n	E.7n	0.935	3.4	430	1.09	E.01n	1.5	5.51
10...	7	72	<0.06	225	<0.04	<0.8	0.947	2.5	20	0.07	E.01n	1.6	4.04
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
01...	--	--	--	--	--	--	--	--	--	--	--	--	--

05123990 J. CLARK SALYER POOL 357 NEAR WESTHOPE, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Selen-ium, water, unfltrd ug/L (01147)	Zinc, water, unfltrd recover -able, ug/L (01092)	Phen-olic com-pounds, water, unfltrd ug/L (32730)	Tria-zine screen, wat unf ELISA, ug/L as atrazin (34757)	2,4-D screen total ug/L (99906)
OCT					
08...	0.6	5	<16	0.1	<0.700
08...	0.6	6	<16	--	--
08...	--	--	--	--	--
APR					
22...	--	--	<16	<0.1	1.16
22...	--	--	--	--	--
22...	--	--	<16	--	--
MAY					
25...	E.2n	4	<16	--	--
25...	--	--	--	--	--
25...	E.4n	4	<16	--	--
JUN					
23...	--	--	<16	0.1	0.810
23...	--	--	--	--	--
23...	--	--	<16	--	--
JUL					
21...	--	--	<16	<0.1	1.62
21...	--	--	--	--	--
21...	--	--	<16	--	--
AUG					
10...	E.3n	5	<16	<0.1	2.03
10...	0.4	2	<16	--	--
10...	--	--	--	--	--
SEP					
01...	--	--	<16	<0.1	0.820
01...	--	--	<16	--	--
01...	--	--	--	--	--

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL
o -- Result determined by alternate method

05123990 J. CLARK SALYER POOL 357 NEAR WESTHOPE, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Depth of lake, maximum meters (85310)	Sampling depth, meters (00098)	Transparency Secchi disc, inches (00077)	Wind direction, clkwise from north, degrees (00036)	Wind speed, mph (00035)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
OCT													
08...	0845	2.5	0.00	9.50	210	5.0	726	11.3	114	9.1	1,570	12.5	13.4
08...	0846	--	0.50	--	--	--	--	11.2	--	9.1	1,560	--	13.3
08...	0847	--	1.0	--	--	--	--	11.0	--	9.1	1,560	--	13.2
08...	0848	--	1.5	--	--	--	--	10.8	--	9.1	1,560	--	13.1
08...	0849	--	2.0	--	--	--	--	10.8	--	9.1	1,560	--	12.9
08...	0850	--	2.5	--	--	--	--	0.7	--	9.0	1,580	--	12.3
APR													
22...	1500	3.2	0.00	12.0	200	20	736	12.1	105	7.4	1,420	12.5	7.4
22...	1501	--	0.50	--	--	--	--	11.9	--	7.4	1,420	--	7.4
22...	1502	--	1.0	--	--	--	--	11.7	--	7.4	1,420	--	7.4
22...	1503	--	1.5	--	--	--	--	11.6	--	7.5	1,420	--	7.4
22...	1504	--	2.0	--	--	--	--	11.5	--	7.6	1,420	--	7.4
22...	1505	--	2.5	--	--	--	--	11.5	--	7.7	1,420	--	7.4
22...	1506	--	3.2	--	--	--	--	11.4	--	7.8	1,420	--	7.4
MAY													
25...	1325	2.6	0.00	12.0	240	7.0	721	9.2	89	8.1	1,170	10.0	11.0
25...	1326	--	0.50	--	--	--	--	9.2	--	8.1	1,170	--	11.1
25...	1327	--	1.0	--	--	--	--	9.2	--	8.1	1,170	--	10.9
25...	1328	--	1.5	--	--	--	--	9.2	--	8.1	1,170	--	10.9
25...	1329	--	2.0	--	--	--	--	9.1	--	8.1	1,170	--	10.9
25...	1330	--	2.6	--	--	--	--	9.1	--	8.1	1,170	--	10.8
JUN													
23...	1250	3.0	0.00	24.0	330	12	722	9.3	100	8.0	1,070	14.5	16.4
23...	1251	--	0.50	--	--	--	--	9.1	--	8.1	1,070	--	16.4
23...	1252	--	1.0	--	--	--	--	9.0	--	8.2	1,070	--	16.4
23...	1253	--	1.5	--	--	--	--	8.9	--	8.2	1,070	--	16.4
23...	1254	--	2.0	--	--	--	--	8.9	--	8.3	1,070	--	16.3
23...	1255	--	2.5	--	--	--	--	8.9	--	8.3	1,070	--	16.2
23...	1256	--	3.0	--	--	--	--	8.9	--	8.3	1,070	--	16.2
JUL													
21...	1404	2.5	0.00	36.0	300	13	718	8.1	105	8.6	1,200	26.0	25.4
21...	1405	--	0.50	--	--	--	--	8.0	--	8.6	1,200	--	25.4
21...	1406	--	1.0	--	--	--	--	7.9	--	8.6	1,200	--	25.4
21...	1407	--	1.5	--	--	--	--	7.8	--	8.6	1,200	--	25.4
21...	1408	--	2.0	--	--	--	--	7.9	--	8.6	1,200	--	25.4
21...	1409	--	2.5	--	--	--	--	7.7	--	8.6	1,200	--	25.4
AUG													
10...	1231	3.0	0.70	13.5	20	<5.0	728	7.4	79	8.6	1,280	12.7	15.8
10...	1232	--	1.5	--	--	--	--	7.4	--	8.5	1,290	--	15.8
10...	1233	--	2.3	--	--	--	--	7.2	--	8.4	1,300	--	15.8
10...	1234	--	2.5	--	--	--	--	7.1	--	8.4	1,300	--	15.8
10...	1235	--	3.0	--	--	--	--	7.1	--	8.4	1,310	--	15.8
SEP													
01...	1325	3.4	1.0	8.00	224	15	748	10.3	109	8.5	1,300	21.1	16.9
01...	1326	--	1.5	--	--	--	--	10.5	--	8.5	1,320	--	16.9
01...	1327	--	2.0	--	--	--	--	10.7	--	8.6	1,310	--	16.9
01...	1328	--	2.5	--	--	--	--	10.8	--	8.6	1,310	--	16.9
01...	1329	--	3.0	--	--	--	--	10.9	--	8.6	1,320	--	16.9
01...	1330	--	3.4	--	--	--	--	10.9	--	8.7	1,310	--	16.9

Remark codes used in this table:
< -- Less than

05124000 SOURIS (MOUSE) RIVER NEAR WESTHOPE, ND
(International gaging station)

LOCATION.--Lat 48°59'47", long 100°57'29", in SW¼SE¼ 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 National Geodetic Vertical Datum of 1929. Prior to Mar. 28, 1938, nonrecording gage at site 6.3 mi upstream at datum 2.52 ft higher.

REMARKS.--Records good except 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	20	0.35	e0.55	0.45	e0.50	e1.3	16	276	826	394	164
2	25	2.7	0.42	e0.53	0.45	e0.49	e1.6	16	301	782	394	159
3	24	e0.80	0.49	e0.52	0.45	e0.48	e2.0	21	327	758	394	158
4	25	e0.40	0.54	e0.51	0.45	e0.49	e2.7	17	312	747	394	158
5	25	e0.20	0.62	e0.51	0.43	e0.51	e3.7	18	328	735	393	158
6	24	e0.10	0.72	e0.50	0.43	0.54	e5.0	16	363	707	393	152
7	24	e0.08	0.81	e0.50	0.43	0.56	e4.7	28	406	669	394	153
8	25	e0.05	0.94	e0.49	e0.43	0.58	e4.5	21	592	656	395	155
9	24	e0.04	0.97	e0.49	e0.43	0.60	e4.3	20	701	637	394	154
10	22	e0.03	0.97	e0.49	e0.43	0.61	e4.1	19	875	602	398	152
11	24	e0.03	0.97	e0.48	0.43	0.61	e3.9	21	957	593	352	153
12	24	e0.03	0.97	e0.47	0.44	0.61	e3.8	19	1,010	585	261	153
13	23	e0.03	0.97	e0.46	0.44	0.60	e3.7	20	1,080	528	241	153
14	23	e0.03	0.97	e0.45	0.45	0.60	e4.3	21	1,110	508	231	153
15	25	e0.04	0.97	e0.44	0.45	0.61	e5.2	20	1,170	503	223	152
16	24	e0.04	0.97	0.44	0.45	0.61	e6.5	18	1,250	498	205	152
17	25	e0.04	0.97	0.45	0.45	0.62	e7.9	24	1,400	497	185	154
18	25	e0.04	0.99	0.45	e0.44	0.66	9.4	81	1,430	498	176	156
19	25	e0.04	1.0	0.45	e0.44	0.66	13	161	1,430	502	176	153
20	24	e0.04	1.0	0.45	e0.43	0.64	21	172	1,470	477	176	149
21	25	e0.05	1.0	0.45	e0.43	0.64	20	209	1,510	415	175	146
22	25	e0.05	0.85	0.45	e0.43	0.64	20	205	1,420	403	173	148
23	25	e0.06	e0.75	0.45	e0.43	0.63	17	206	1,340	396	175	146
24	23	e0.07	e0.70	0.45	e0.43	0.65	23	210	1,250	396	173	145
25	20	e0.08	e0.65	0.45	e0.43	1.0	15	207	1,190	396	170	145
26	23	e0.10	e0.62	0.45	e0.44	1.1	13	208	1,120	396	168	141
27	22	e0.14	e0.59	0.45	e0.46	1.5	13	229	1,100	395	167	141
28	20	e0.18	e0.57	e0.45	e0.47	1.0	12	290	1,060	401	167	142
29	26	0.22	e0.57	0.45	e0.49	0.87	13	292	1,000	402	163	140
30	26	0.30	e0.56	e0.45	---	0.92	14	279	945	404	162	136
31	26	---	e0.55	0.45	---	e1.1	---	275	---	399	162	---
TOTAL	746	26.01	24.02	14.58	12.81	21.63	272.6	3,359	28,723	16,711	8,024	4,521
MEAN	24.1	0.87	0.77	0.47	0.44	0.70	9.09	108	957	539	259	151
MAX	26	20	1.0	0.55	0.49	1.5	23	292	1,510	826	398	164
MIN	20	0.03	0.35	0.44	0.43	0.48	1.3	16	276	395	162	136
AC-FT	1,480	52	48	29	25	43	541	6,660	56,970	33,150	15,920	8,970

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2004, BY WATER YEAR (WY)

MEAN	67.5	54.9	34.2	27.5	26.2	70.9	846	990	587	284	133	74.6
MAX	473	387	201	191	190	779	8,850	5,967	4,919	1,726	1,014	657
(WY)	(1976)	(1995)	(1976)	(1976)	(1976)	(1983)	(1976)	(1976)	(1999)	(1999)	(1953)	(1999)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
(WY)	(1933)	(1935)	(1935)	(1935)	(1935)	(1936)	(1941)	(1937)	(1937)	(1937)	(1931)	(1931)

05124000 SOURIS (MOUSE) RIVER NEAR WESTHOPE, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1929 - 2004	
ANNUAL TOTAL	26,360.23		62,455.65			
ANNUAL MEAN	72.2		171		269	
HIGHEST ANNUAL MEAN					1,697	1976
LOWEST ANNUAL MEAN					0.15	1937
HIGHEST DAILY MEAN	482	May 26	1,510	Jun 21	12,400	Apr 26, 1976
LOWEST DAILY MEAN	0.03	Nov 10	0.03	Nov 10	0.00	Jul 20, 1931
ANNUAL SEVEN-DAY MINIMUM	0.03	Nov 9	0.03	Nov 9	0.00	Jul 20, 1931
MAXIMUM PEAK FLOW			1,540	Jun 20	12,600	Apr 26, 1976
MAXIMUM PEAK STAGE			9.69	Jun 20	19.16	Apr 26, 1976
INSTANTANEOUS LOW FLOW			0.03	Nov 10	a-35	Apr 8, 1943
ANNUAL RUNOFF (AC-FT)	52,290		123,900		194,600	
10 PERCENT EXCEEDS	201		514		603	
50 PERCENT EXCEEDS	25		18		27	
90 PERCENT EXCEEDS	0.61		0.43		0.00	

a 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. 8.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Sodium adsorption ratio (00931)
OCT													
08...	1020	24	--	9.4	--	--	1,530	13.5	--	--	--	--	--
NOV													
13...	1515	0.03	--	8.3	--	--	2,010	1.0	0.0	--	--	--	--
JAN													
16...	1120	0.43	--	--	--	--	3,260	--	0.0	--	--	--	--
FEB													
24...	1545	0.43	--	7.9	--	--	4,220	-3.0	-3.0	--	--	--	--
MAR													
25...	1220	0.78	--	--	--	--	3,450	0.5	6.0	--	--	--	--
APR													
22...	1650	23	--	7.8	--	--	1,370	--	8.0	--	--	--	--
MAY													
25...	1500	209	--	8.3	--	--	1,170	11.5	10.5	--	--	--	--
JUN													
16...	1320	1,260	--	--	--	--	1,220	18.0	20.5	--	--	--	--
JUL													
21...	1500	398	--	8.6	--	--	1,200	26.0	25.5	--	--	--	--
AUG													
10...	1530	371	--	8.5	--	--	1,290	12.5	16.0	--	--	--	--
SEP													
08...	1410	137	8.8	8.1	8.5	1,350	1,350	16.1	14.5	420	71.5	58.5	3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Phosphorus, water, unfltrd mg/L (00665)	Organic carbon, water, unfltrd mg/L (00680)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)
OCT													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
08...	140	382@c	37.1	0.3	327	953	11	2.4	<0.04	<0.06	0.30	32.9	47.9d

05124000 SOURIS RIVER NEAR WESTHOPE, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Aluminum, water, unfltrd recoverable, ug/L (01105)	Arsenic water unfltrd ug/L (01002)	Barium, water, unfltrd recoverable, ug/L (01007)	Beryllium, water, unfltrd recoverable, ug/L (01012)	Boron, water, unfltrd recoverable, ug/L (01022)	Cadmium water, unfltrd ug/L (01027)	Chromium, water, unfltrd recoverable, ug/L (01034)	Cobalt water, unfltrd recoverable, ug/L (01037)	Copper, water, unfltrd recoverable, ug/L (01042)	Iron, water, unfltrd recoverable, ug/L (01045)	Lead, water, unfltrd recoverable, ug/L (01051)	Molybdenum, water, unfltrd recoverable, ug/L (01062)
OCT													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
08...	4.5d	330	6	82	E.04n	248	E.04n	E.5n	1.18	4.2	500	0.82	2.1

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Nickel, water, unfltrd recoverable, ug/L (01067)	Selenium, water, unfltrd ug/L (01147)	Zinc, water, unfltrd recoverable, ug/L (01092)	Phenolic compounds, water, unfltrd ug/L (32730)
OCT				
08...	--	--	--	--
NOV				
13...	--	--	--	--
JAN				
16...	--	--	--	--
FEB				
24...	--	--	--	--
MAR				
25...	--	--	--	--
APR				
22...	--	--	--	--
MAY				
25...	--	--	--	--
JUN				
16...	--	--	--	--
JUL				
21...	--	--	--	--
AUG				
10...	--	--	--	--
SEP				
08...	5.08	E.3n	7	<16

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

06185500 MISSOURI RIVER NEAR CULBERTSON, MT

(National stream quality accounting network station)

LOCATION.--Lat 48°07'30", long 104°28'20" (NAD 27), in SE¼NW¼ 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. Elevation of gage is 1,883.4 ft (NGVD 29) (U.S. Army Corps of Engineers bench mark). July 1 to Nov. 6, 1941, water-stage recorder at site 400 ft upstream at elevation 0.11 ft higher. Nov. 7, 1941, to Aug. 17, 1950, water-stage recorder at site 580 ft downstream at present elevation. Aug. 18, 1950, to Dec. 31, 1951, nonrecording gage on bridge at present elevation. Apr. 1, 1958, to Nov. 1, 1967, water-stage recorder at site 580 ft downstream at present elevation.

REMARKS.--Records good except 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4,720	4,910	e8,700	e8,600	e9,000	e9,200	11,200	11,200	12,700	6,110	7,680	6,860
2	4,630	4,830	e8,400	e8,900	e9,000	e8,000	10,500	11,100	11,400	6,220	7,770	6,980
3	4,600	4,840	e8,600	e9,100	e9,000	e7,900	10,200	11,200	10,300	6,220	8,010	7,000
4	4,600	4,830	e8,600	e9,200	e9,100	e7,400	9,590	11,100	9,450	6,890	8,210	7,000
5	4,580	e4,200	e8,300	e9,200	e9,100	e6,800	9,120	11,000	9,590	7,570	8,570	7,110
6	4,540	e3,500	e8,500	e8,900	e9,000	e6,600	8,570	11,100	9,280	7,780	7,730	7,340
7	4,500	e3,700	e8,700	e8,900	e9,300	e6,500	8,120	10,900	8,700	7,890	7,240	7,520
8	4,490	e4,300	e8,800	e8,800	e9,200	e6,700	7,690	11,000	8,210	8,070	7,350	7,320
9	4,460	e4,900	e8,700	e8,700	e9,500	e6,400	7,210	10,900	8,080	8,210	7,310	7,170
10	4,510	e4,900	e8,600	e8,800	e9,600	e6,700	6,860	10,800	7,940	7,980	7,220	7,150
11	4,550	e4,800	e8,600	e9,000	e9,500	e6,700	6,650	11,300	8,000	7,790	7,130	7,140
12	4,500	e4,900	e8,600	e9,100	e9,300	e6,500	6,390	11,400	7,950	7,830	7,010	7,120
13	4,470	e4,900	e8,800	e9,000	e9,100	e6,500	6,450	11,600	8,000	7,710	6,850	6,740
14	4,500	e4,900	e9,300	e9,000	e8,900	e6,400	6,430	11,700	8,200	7,720	7,050	6,890
15	4,520	e4,800	e8,700	e9,200	e9,100	e6,000	6,270	11,600	9,300	7,500	7,160	7,000
16	4,520	e4,800	e8,600	e9,200	e9,100	e6,000	7,020	11,400	10,200	7,530	6,950	7,120
17	4,610	e4,800	e8,600	e8,800	e8,900	e5,900	7,190	11,400	9,970	7,660	6,960	7,010
18	4,820	e4,800	e8,500	e9,000	e8,900	e7,100	6,790	11,300	8,820	7,540	6,870	6,980
19	4,760	e4,800	e8,600	e9,200	e9,000	e7,900	6,680	11,500	8,160	7,430	6,740	6,900
20	4,620	e4,800	e8,500	e9,400	e8,900	e8,500	6,600	11,700	7,800	7,290	6,840	e6,800
21	4,590	e5,000	e8,500	e9,600	e8,600	e9,800	6,460	11,800	7,570	7,380	e7,000	e6,500
22	4,580	e4,800	e8,600	e9,300	e8,500	e11,000	6,560	11,400	7,190	7,290	e6,900	e6,100
23	4,600	e4,800	e8,600	e9,300	e8,700	e11,000	7,020	11,700	7,010	6,930	e7,000	e5,600
24	4,580	e4,600	e8,600	e9,300	e9,100	e12,000	7,250	12,100	6,800	6,870	6,690	5,390
25	4,610	e5,000	e8,700	e9,100	e9,800	e13,000	7,220	12,900	6,520	7,020	6,620	5,010
26	4,610	e6,700	e8,400	e9,300	e9,500	e14,000	7,110	13,500	6,380	7,070	6,650	4,800
27	4,630	e7,200	e8,200	e9,000	e9,300	e14,000	8,230	14,000	6,230	6,930	6,680	4,950
28	4,660	e8,100	e8,000	e9,100	e9,400	e13,000	9,120	14,700	6,170	6,850	6,850	5,070
29	4,760	e8,900	e8,300	e9,200	e9,400	12,200	10,800	15,700	6,200	6,930	6,860	4,970
30	4,850	e9,200	e8,700	e9,000	---	12,100	11,600	15,500	6,170	7,180	6,890	4,880
31	4,960	---	e8,300	e9,000	---	11,700	---	13,100	---	7,450	6,870	---
TOTAL	142,930	157,510	265,600	281,200	264,800	273,500	236,900	371,600	248,290	226,840	221,660	194,420
MEAN	4,611	5,250	8,568	9,071	9,131	8,823	7,897	11,990	8,276	7,317	7,150	6,481
MAX	4,960	9,200	9,300	9,600	9,800	14,000	11,600	15,700	12,700	8,210	8,570	7,520
MIN	4,460	3,500	8,000	8,600	8,500	5,900	6,270	10,800	6,170	6,110	6,620	4,800
AC-FT	283,500	312,400	526,800	557,800	525,200	542,500	469,900	737,100	492,500	449,900	439,700	385,600

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941- 2004, BY WATER YEAR (WY)*

MEAN	10,490	9,127	9,149	9,902	10,490	10,290	10,450	9,599	9,698	10,150	11,220	10,950
MAX	28,570	22,440	13,280	14,400	17,450	20,690	32,840	26,650	26,650	37,050	25,300	20,590
(WY)	(1949)	(1952)	(1944)	(1986)	(1976)	(1976)	(1979)	(1975)	(1975)	(1975)	(1948)	(1948)
MIN	1,237	1,126	1,061	1,010	1,167	2,674	1,965	1,366	1,366	1,273	3,823	3,771
(WY)	(1942)	(1942)	(1942)	(1943)	(1942)	(1950)	(1945)	(1945)	(1945)	(1945	(1963)	(1992)

06185500 MISSOURI RIVER NEAR CULBERTSON, MT—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1941 - 2004*	
ANNUAL TOTAL	2,896,580		2,885,250			
ANNUAL MEAN	7,936		7,883		10,130	
HIGHEST ANNUAL MEAN					19,910	1952
LOWEST ANNUAL MEAN					4,083	1942
HIGHEST DAILY MEAN	12,000	May 15	15,700	May 29	69,200	Mar 27, 1943
LOWEST DAILY MEAN	3,500	Nov 6	3,500	Nov 6	575	Nov 22, 1941
ANNUAL SEVEN-DAY MINIMUM	4,310	Nov 2	4,310	Nov 2	709	Nov 19, 1941
MAXIMUM PEAK FLOW			16,000	May 29	a78,200	Mar 26, 1943
MAXIMUM PEAK STAGE			7.65	May 29	b19.66	Apr 14, 1979
INSTANTANEOUS LOW FLOW			3,500	Nov 6	575	Nov 22, 1941
ANNUAL RUNOFF (AC-FT)	5,745,000		5,723,000		7,337,000	
10 PERCENT EXCEEDS	10,300		11,100		15,800	
50 PERCENT EXCEEDS	8,200		7,750		9,330	
90 PERCENT EXCEEDS	4,740		4,800		4,500	

SUMMARY STATISTICS	WATER YEARS 1941 - 1951**		WATER YEARS 1958 - 2004***	
ANNUAL MEAN	9,245		10,280	
HIGHEST ANNUAL MEAN	14,520	1948	16,580	1975
LOWEST ANNUAL MEAN	4,083	1942	6,121	1963
HIGHEST DAILY MEAN	69,200	Mar 27, 1943	52,000	Apr 18, 1979
LOWEST DAILY MEAN	575	Nov 22, 1941	2,000	Nov 20, 1964
ANNUAL SEVEN-DAY MINIMUM	709	Nov 19, 1941	2,130	Nov 19, 1964
MAXIMUM PEAK FLOW	a78,200	Mar 26, 1943	c55,000	Mar 23, 1960
MAXIMUM PEAK STAGE	b15.12	Mar 26, 1943	b19.66	Apr 14, 1979
ANNUAL RUNOFF (AC-FT)	6,698,000		7,444,000	
10 PERCENT EXCEEDS	21,000		15,000	
50 PERCENT EXCEEDS	6,190		9,510	
90 PERCENT EXCEEDS	1,400		5,700	

* 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 Gage height, 14.80 ft, from rating curve extended above 30,000 ft^3/s
b Backwater from ice
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 National Geodetic Vertical Datum of 1929. Prior to Apr. 18, 1962, at datum 60.00 ft lower.

REMARKS.--Stage regulated by Fort Peck Lake. Gage heights for Oct. 6 and Apr. 15 based on incomplete daily record.

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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.52	---	---	---	---	---	---	12.63	13.23	10.32	11.00	10.73
2	9.48	---	---	---	---	---	---	12.48	13.02	10.34	11.06	10.77
3	9.43	---	---	---	---	---	---	12.59	12.50	10.37	11.18	10.83
4	9.42	---	---	---	---	---	---	12.54	12.16	10.47	11.28	10.84
5	9.41	---	---	---	---	---	---	12.55	12.00	10.90	11.35	10.85
6	9.40	---	---	---	---	---	---	12.54	11.99	11.03	11.38	10.96
7	---	---	---	---	---	---	---	12.52	11.75	11.09	10.86	11.04
8	---	---	---	---	---	---	---	12.46	11.55	11.25	10.90	11.05
9	---	---	---	---	---	---	---	12.52	11.39	11.21	10.90	10.96
10	---	---	---	---	---	---	---	12.41	11.42	11.25	10.88	10.92
11	---	---	---	---	---	---	---	12.54	11.37	11.11	10.82	10.91
12	---	---	---	---	---	---	---	12.65	11.33	11.12	10.79	10.92
13	---	---	---	---	---	---	---	12.71	11.37	11.01	10.72	10.81
14	---	---	---	---	---	---	---	12.76	11.33	11.03	10.72	10.73
15	---	---	---	---	---	---	10.50	12.81	11.64	10.95	10.84	10.82
16	---	---	---	---	---	---	10.64	12.75	12.04	10.88	10.78	10.89
17	---	---	---	---	---	---	10.93	12.70	12.21	10.96	10.72	10.89
18	---	---	---	---	---	---	10.80	12.70	11.86	10.97	10.72	10.85
19	---	---	---	---	---	---	10.67	12.75	11.48	10.91	10.66	10.85
20	---	---	---	---	---	---	10.65	12.76	11.23	10.84	10.64	10.82
21	---	---	---	---	---	---	10.60	12.86	11.13	10.80	10.68	10.61
22	---	---	---	---	---	---	10.57	12.80	10.97	10.89	10.60	10.40
23	---	---	---	---	---	---	10.70	12.75	10.86	10.70	10.70	10.23
24	---	---	---	---	---	---	10.91	12.91	10.75	10.62	10.72	10.11
25	---	---	---	---	---	---	10.93	13.11	10.65	10.65	10.61	9.92
26	---	---	---	---	---	---	10.83	13.37	10.52	10.70	10.65	9.74
27	---	---	---	---	---	---	11.07	13.52	10.47	10.73	10.63	9.69
28	---	---	---	---	---	---	11.54	13.75	10.40	10.62	10.69	9.81
29	---	---	---	---	---	---	12.01	14.07	10.38	10.64	10.74	9.81
30	---	---	---	---	---	---	12.56	14.21	10.38	10.71	10.73	9.75
31	---	---	---	---	---	---	---	13.80	---	10.86	10.76	---
MEAN	---	---	---	---	---	---	---	12.89	11.45	10.84	10.83	10.58
MAX	---	---	---	---	---	---	---	14.21	13.23	11.25	11.38	11.05
MIN	---	---	---	---	---	---	---	12.41	10.38	10.32	10.60	9.69

06185650 MISSOURI RIVER STAGE GAGE NO. 5 AT NOHLY, MT

LOCATION.--Lat 48°00'10", long 104°05'30", in SE¼ 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 National Geodetic Vertical Datum of 1929.

REMARKS.--Stage regulated by Fort Peck Lake. Gage height for Oct. 6 based on incomplete daily record.

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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62.59	---	---	---	---	---	---	65.48	66.14	63.68	64.04	63.69
2	62.56	---	---	---	---	---	---	65.36	66.04	63.67	64.09	63.71
3	62.51	---	---	---	---	---	---	65.38	65.56	63.67	64.19	63.76
4	62.50	---	---	---	---	---	---	65.36	65.22	63.72	64.30	63.77
5	62.49	---	---	---	---	---	---	65.35	65.04	64.12	64.36	63.75
6	62.47	---	---	---	---	---	---	65.34	65.03	64.26	64.43	63.84
7	---	---	---	---	---	---	---	65.34	64.83	64.32	63.96	63.94
8	---	---	---	---	---	---	---	65.31	64.62	64.45	63.95	63.97
9	---	---	---	---	---	---	---	65.34	64.44	64.50	63.96	63.87
10	---	---	---	---	---	---	---	65.28	64.54	64.52	63.93	63.80
11	---	---	---	---	---	---	---	65.37	64.67	64.36	63.86	63.82
12	---	---	---	---	---	---	---	65.51	64.77	64.34	63.82	63.80
13	---	---	---	---	---	---	---	65.57	64.93	64.26	63.76	63.75
14	---	---	---	---	---	---	---	65.62	65.58	64.23	63.74	63.66
15	---	---	---	---	---	---	---	65.67	65.70	64.16	63.76	63.74
16	---	---	---	---	---	---	63.58	65.64	65.71	64.08	63.69	63.80
17	---	---	---	---	---	---	63.89	65.59	65.60	64.12	63.62	63.82
18	---	---	---	---	---	---	63.81	65.60	65.25	64.14	63.62	63.78
19	---	---	---	---	---	---	63.70	65.62	64.79	64.09	63.58	63.76
20	---	---	---	---	---	---	63.69	65.66	64.50	64.03	63.55	63.73
21	---	---	---	---	---	---	63.66	65.75	64.36	63.97	63.59	63.60
22	---	---	---	---	---	---	63.62	65.72	64.22	64.04	63.52	63.39
23	---	---	---	---	---	---	63.72	65.66	64.10	63.89	63.59	63.23
24	---	---	---	---	---	---	63.88	65.77	63.99	63.80	63.67	63.11
25	---	---	---	---	---	---	63.93	65.94	63.91	63.80	63.62	62.96
26	---	---	---	---	---	---	63.88	66.17	63.79	63.83	63.64	62.80
27	---	---	---	---	---	---	64.01	66.39	63.74	63.85	63.62	62.74
28	---	---	---	---	---	---	64.43	66.61	63.68	63.76	63.65	62.85
29	---	---	---	---	---	---	64.83	66.81	63.69	63.76	63.69	62.86
30	---	---	---	---	---	---	65.33	66.96	63.73	63.80	63.69	62.80
31	---	---	---	---	---	---	---	66.73	---	63.92	63.69	---
MEAN	---	---	---	---	---	---	---	65.74	64.74	64.04	63.81	63.54
MAX	---	---	---	---	---	---	---	66.96	66.14	64.52	64.43	63.97
MIN	---	---	---	---	---	---	---	65.28	63.68	63.67	63.52	62.74

06329500 YELLOWSTONE RIVER NEAR SIDNEY
(National water-quality assessment program)

LOCATION.--Lat 47°40'42", long 104°09'22" (NAD 27), in SW¼NE¼SW¼ 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.--69,083 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.

REVISED RECORDS.--WDR MT-04-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,881.3 ft (NGVD 29) (levels by U.S. Army Corps of Engineers). Jan. 1, 1911, to Sept. 30, 1931, nonrecording gage at site 32 miles upstream at different elevation. 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 elevation 1.36 ft higher. Apr. 4, 1952, to Nov. 19, 1967, water-stage recorder at site 4.5 mi upstream at different elevation.

REMARKS.--Records good except 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 NW¼ 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3,940	4,950	e4,000	e3,400	e3,000	e4,800	5,280	2,890	7,100	14,200	4,670	3,720
2	3,940	e5,000	e4,400	e3,000	e2,600	e4,800	5,170	2,700	9,150	13,700	4,490	3,590
3	3,930	e5,000	e4,600	e2,800	e2,400	e4,800	5,020	2,790	9,950	13,100	4,350	3,270
4	4,000	e5,000	e4,800	e2,700	e2,600	e4,800	4,860	3,590	8,970	13,600	4,460	3,060
5	4,110	e4,400	e4,800	e2,600	e3,200	e4,900	4,830	3,100	7,670	13,400	4,410	2,890
6	4,110	e3,800	e4,800	e2,500	e4,500	e5,000	5,080	2,430	6,770	13,100	4,590	2,910
7	4,090	e3,700	e4,800	e2,400	e4,500	e5,100	5,400	2,030	6,470	12,900	4,590	3,120
8	4,050	e3,500	e4,800	e2,200	e4,500	e5,400	5,550	1,890	7,510	14,500	4,300	3,490
9	4,030	e3,700	e4,700	e2,100	e4,500	e5,600	5,410	3,330	11,400	14,600	4,340	3,660
10	3,950	e4,000	e4,700	e2,100	e4,600	e5,800	5,480	6,440	15,200	13,400	4,170	3,610
11	3,910	e4,300	e4,700	e2,100	e4,600	e6,000	5,770	8,320	17,700	12,300	3,880	3,510
12	3,870	e4,500	e4,500	e2,300	e4,600	e5,800	6,130	9,010	17,600	12,900	3,640	3,540
13	3,850	e4,600	e4,400	e2,600	e4,600	e6,000	6,580	9,090	22,500	11,100	3,350	3,660
14	3,990	e4,400	e5,000	e3,000	e4,600	e6,100	6,810	8,440	24,900	10,400	3,050	3,930
15	4,100	e4,800	e5,000	e4,000	e4,400	e6,200	6,490	7,980	21,700	9,490	2,740	4,060
16	4,260	e4,800	e4,600	e5,200	e4,300	e6,000	6,020	7,890	18,900	8,420	2,520	4,270
17	4,310	e4,600	e4,700	e5,200	e4,200	e6,000	5,870	6,780	16,600	7,600	2,170	4,330
18	4,450	e4,600	e4,800	e5,200	e4,300	e5,900	5,770	5,980	14,900	6,860	1,960	4,420
19	4,490	e4,700	e5,100	e5,200	e4,400	e6,000	6,000	5,440	14,300	6,390	1,780	4,390
20	4,480	e4,800	e5,100	e5,200	e4,500	e5,800	6,280	5,070	13,800	6,070	1,660	4,810
21	4,420	e4,700	e5,100	e5,200	e4,600	e5,700	6,040	4,790	13,100	5,740	1,540	5,220
22	4,390	e3,500	e5,200	e5,200	e4,800	e5,600	5,670	5,040	12,600	5,340	1,480	5,310
23	4,540	e3,000	e5,200	e5,200	e4,800	e5,700	5,460	5,150	12,300	5,120	1,510	5,570
24	4,740	e2,500	e5,200	e5,200	e4,800	5,720	5,310	5,900	12,000	5,640	1,680	5,830
25	4,550	e3,000	e5,200	e5,200	e4,800	5,540	5,130	6,940	11,500	5,810	1,890	6,070
26	4,400	e3,200	e5,300	e5,300	e4,800	5,470	4,640	7,760	11,500	5,570	1,870	6,300
27	4,310	e3,600	e5,200	e5,300	e4,800	5,280	3,870	8,970	12,000	5,540	1,960	6,170
28	4,400	e3,300	e5,100	e5,300	e4,800	5,140	3,680	9,330	13,500	5,480	1,870	5,970
29	4,580	e3,400	e5,100	e5,300	e4,800	5,180	3,490	9,250	14,500	5,210	1,900	5,850
30	4,860	e3,500	e4,700	e5,000	---	5,330	3,110	7,940	14,600	4,930	2,200	5,930
31	5,140	---	e3,800	e3,700	---	5,370	---	7,160	---	4,760	2,660	---
TOTAL	132,190	122,850	149,400	121,700	123,900	170,830	160,200	183,420	400,690	287,170	91,680	132,460
MEAN	4,264	4,095	4,819	3,926	4,272	5,511	5,340	5,917	13,360	9,264	2,957	4,415
MAX	5,140	5,000	5,300	5,300	4,800	6,200	6,810	9,330	24,900	14,600	4,670	6,300
MIN	3,850	2,500	3,800	2,100	2,400	4,800	3,110	1,890	6,470	4,760	1,480	2,890
AC-FT	262,200	243,700	296,300	241,400	245,800	338,800	317,800	363,800	794,800	569,600	181,800	262,700

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911- 2004, BY WATER YEAR (WY)*

MEAN	8,227	7,290	5,925	5,691	6,812	10,860	10,230	18,090	38,440	22,730	8,596	7,082
MAX	29,130	12,150	9,594	13,110	17,750	25,980	39,160	38,100	77,280	55,000	20,470	16,000
(WY)	(1924)	(1924)	(1976)	(1925)	(1971)	(1972)	(1924)	(1928)	(1918)	(1917)	(1912)	(1941)
MIN	3,726	3,700	3,019	2,0875	2,702	3,235	2,821	5,409	11,580	3,311	1,602	2,389
(WY)	(1922)	(1922)	(1961)	(1937)	(1936)	(2002)	(19861)	(1961)	(1919)	(1919)	(1961)	(1934)

06329500 YELLOWSTONE RIVER NEAR SIDNEY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 19611 - 2004*	
ANNUAL TOTAL	2,758,240		2,076,490			
ANNUAL MEAN	7,557		5,673		12,510	
HIGHEST ANNUAL MEAN					21,250	1924
LOWEST ANNUAL MEAN					5,673	2004
HIGHEST DAILY MEAN	48,400	Jun 5	24,900	Jun 14	142,000	Jun 21, 1921
LOWEST DAILY MEAN	1,720	Aug 30	1,480	Aug 22	570	May 17, 1961
ANNUAL SEVEN-DAY MINIMUM	1,800	Aug 26	1,650	Aug 19	1,010	Aug 8, 1961
MAXIMUM PEAK FLOW			25,800	Jun 14	a159,000	Jun 21, 1921
MAXIMUM PEAK STAGE			9.99	Jun 14	b24.03	Mar 6, 1994
INSTANTANEOUS LOW FLOW					c470	May 17, 1961
ANNUAL RUNOFF (AC-FT)	5,471,000		4,119,000		9,065,000	
10 PERCENT EXCEEDS	17,300		10,100		28,000	
50 PERCENT EXCEEDS	4,700		4,800		8,000	
90 PERCENT EXCEEDS	2,880		2,800		4,040	

SUMMARY STATISTICS	WATER YEARS 1911 - 1965**		WATER YEARS 1967 - 2004***	
ANNUAL MEAN	12,890		12,100	
HIGHEST ANNUAL MEAN	21,250	1924	19,150	1997
LOWEST ANNUAL MEAN	5,814	1934	5,673	2004
HIGHEST DAILY MEAN	142,000	Jun 21, 1921	104,000	May 23, 1978
LOWEST DAILY MEAN	570	May 17, 1961	800	Jan 2, 1989
ANNUAL SEVEN-DAY MINIMUM	1,010	Aug 8, 1961	1,060	Aug 23, 2001
MAXIMUM PEAK FLOW	a159,000	Jun 21, 1921	d111,000	May 23, 1978
MAXIMUM PEAK STAGE	b21.85	Mar 22, 1947	b24.03	Mar 6, 1994
INSTANTANEOUS LOW FLOW	c470	May 17, 1961		
ANNUAL RUNOFF (AC-FT)	9,341,000		8,763,000	
10 PERCENT EXCEEDS	29,900		26,000	
50 PERCENT EXCEEDS	7,690		8,500	
90 PERCENT EXCEEDS	3,820		4,550	

* 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, 12.60 ft, site and datum then in use
b Backwater from ice
c Gage height, 2.73 ft, site and datum then in use
d Gage height, 20.02 ft
e Estimated

06329590 YELLOWSTONE RIVER STAGE GAGE NO. 1 NEAR FAIRVIEW, MT

LOCATION.--Lat 47°48'29", long 104°02'32", 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 National Geodetic Vertical Datum of 1929. 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.93	---	---	---	---	---	---	8.52	10.26	12.69	9.20	8.42
2	8.90	---	---	---	---	---	---	8.38	10.63	12.53	9.10	8.59
3	8.89	---	---	---	---	---	---	8.25	11.23	12.29	9.02	8.47
4	8.89	---	---	---	---	---	---	8.63	11.03	12.35	9.05	8.35
5	8.95	---	---	---	---	---	---	8.66	10.63	12.48	9.09	8.23
6	8.98	---	---	---	---	---	---	8.30	10.25	12.32	9.03	8.20
7	---	---	---	---	---	---	---	7.97	10.04	12.20	9.19	8.28
8	---	---	---	---	---	---	---	7.82	10.15	12.50	8.96	8.46
9	---	---	---	---	---	---	---	8.11	11.18	12.83	8.99	8.59
10	---	---	---	---	---	---	---	9.50	12.76	12.50	8.91	8.61
11	---	---	---	---	---	---	---	10.50	13.87	12.02	8.77	8.59
12	---	---	---	---	---	---	---	10.80	13.94	12.02	8.65	8.55
13	---	---	---	---	---	---	---	10.93	14.90	11.72	8.51	8.63
14	---	---	---	---	---	---	---	10.80	16.11	11.36	8.33	8.74
15	---	---	---	---	---	---	10.09	10.56	15.43	11.13	8.16	8.87
16	---	---	---	---	---	---	9.91	10.58	14.57	10.82	8.03	8.88
17	---	---	---	---	---	---	9.84	10.30	13.74	10.55	7.85	8.98
18	---	---	---	---	---	---	9.77	9.97	13.11	10.30	7.67	8.96
19	---	---	---	---	---	---	9.80	9.75	12.76	10.12	7.59	8.97
20	---	---	---	---	---	---	9.92	9.60	12.55	9.96	7.52	9.04
21	---	---	---	---	---	---	9.91	9.46	12.34	9.82	7.44	9.27
22	---	---	---	---	---	---	9.75	9.45	12.10	9.66	7.41	9.30
23	---	---	---	---	---	---	9.65	9.64	11.96	9.50	7.40	9.38
24	---	---	---	---	---	---	9.56	9.67	11.87	9.57	7.40	9.46
25	---	---	---	---	---	---	9.50	10.09	11.75	9.77	7.59	9.56
26	---	---	---	---	---	---	9.38	10.38	11.70	9.65	7.62	9.65
27	---	---	---	---	---	---	8.99	10.74	11.77	9.60	7.67	9.65
28	---	---	---	---	---	---	8.88	11.01	12.17	9.59	7.63	9.57
29	---	---	---	---	---	---	8.82	11.06	12.60	9.48	7.59	9.49
30	---	---	---	---	---	---	8.63	10.66	12.75	9.36	7.68	9.47
31	---	---	---	---	---	---	---	10.31	---	9.23	7.91	---
MEAN	---	---	---	---	---	---	---	9.69	12.34	10.97	8.22	8.91
MAX	---	---	---	---	---	---	---	11.06	16.11	12.83	9.20	9.65
MIN	---	---	---	---	---	---	---	7.82	10.04	9.23	7.40	8.20

06329610 YELLOWSTONE RIVER STAGE GAGE NO. 2 NEAR CARTWRIGHT, ND

LOCATION.--Lat 47°51'43", long 103°57'59", in NW¼NW¼NW¼, 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 September 2001 (seasonal), October 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,800.00 ft above National Geodetic Vertical Datum of 1929.

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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63.60	63.95	64.35	65.74	66.16	68.69	64.15	63.29	64.78	67.40	63.97	63.33
2	63.58	63.96	64.95	65.71	65.82	68.30	64.12	63.19	65.04	67.26	63.88	63.50
3	63.58	64.03	65.24	65.64	65.55	67.24	64.06	63.11	65.67	67.02	63.82	63.41
4	63.57	64.08	65.24	65.53	65.48	67.02	63.98	63.35	65.51	67.05	63.82	63.30
5	63.62	64.01	66.02	65.44	65.78	66.77	63.95	63.42	65.11	67.21	63.86	63.22
6	63.64	63.72	66.35	65.33	66.35	66.62	63.98	63.15	64.74	67.05	63.83	63.20
7	63.63	64.15	66.13	65.72	66.80	66.56	64.10	62.91	64.56	66.93	63.99	63.24
8	63.61	65.29	65.94	65.74	66.84	66.65	64.18	62.78	64.61	67.19	63.81	63.37
9	63.61	65.36	66.19	65.45	66.69	66.95	64.17	62.98	65.53	67.57	63.83	63.48
10	63.59	65.37	66.31	65.25	66.69	67.90	64.13	63.97	67.11	67.27	63.76	63.50
11	63.56	65.43	66.10	65.18	66.87	68.43	64.22	64.87	68.29	66.80	63.64	63.48
12	63.55	65.40	66.02	65.17	66.98	68.19	64.33	65.27	68.44	66.78	63.54	63.46
13	63.53	65.36	65.91	65.35	67.04	67.86	64.46	65.39	69.30	66.55	63.45	63.51
14	63.55	65.40	65.95	65.58	67.02	67.84	64.61	65.28	70.64	66.13	63.32	63.58
15	63.62	65.36	66.16	66.09	66.92	67.68	64.56	65.06	70.03	65.90	63.20	63.69
16	63.66	65.48	66.10	66.78	66.83	67.62	64.41	65.04	69.20	65.57	63.10	63.70
17	63.69	65.54	65.95	67.34	66.69	67.43	64.31	64.80	68.45	65.29	62.97	63.79
18	63.74	65.42	66.09	67.52	66.65	67.30	64.27	64.46	67.85	65.03	62.83	63.77
19	63.77	65.51	66.21	67.49	66.67	67.30	64.28	64.27	67.53	64.82	62.77	63.78
20	63.78	65.36	66.55	67.38	66.71	67.16	64.40	64.11	67.35	64.68	62.70	63.84
21	63.76	64.80	66.18	67.24	66.83	67.21	64.39	64.00	67.15	64.55	62.65	64.01
22	63.74	64.27	65.31	67.24	66.98	67.07	64.27	63.98	66.90	64.38	62.59	64.05
23	63.74	64.31	65.16	67.24	67.21	66.88	64.15	64.12	66.75	64.22	62.59	64.12
24	63.86	64.13	65.26	67.23	67.60	65.76	64.10	64.18	66.64	64.27	62.61	64.19
25	63.85	63.88	65.14	67.27	68.02	64.71	64.05	64.57	66.51	64.49	62.73	64.28
26	63.76	64.17	65.03	67.29	68.09	64.40	63.94	64.83	66.44	64.39	62.77	64.38
27	63.70	64.15	65.07	67.27	---	64.41	63.65	65.17	66.50	64.34	62.80	64.38
28	63.74	64.38	65.13	67.20	68.33	64.16	63.56	65.45	66.87	64.33	62.78	64.29
29	63.77	64.39	65.69	67.13	68.67	64.12	63.50	65.55	67.29	64.22	62.75	64.22
30	63.88	64.24	66.31	66.94	---	64.14	63.37	65.24	67.45	64.11	62.80	64.22
31	64.00	---	65.97	66.57	---	64.16	---	64.93	---	63.99	62.97	---
MEAN	63.69	64.70	65.74	66.39	---	66.66	64.12	64.28	66.94	65.70	63.23	63.74
MAX	64.00	65.54	66.55	67.52	---	68.69	64.61	65.55	70.64	67.57	63.99	64.38
MIN	63.53	63.72	64.35	65.17	---	64.12	63.37	62.78	64.56	63.99	62.59	63.20

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 National Geodetic Vertical Datum of 1929. 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.97	---	---	---	---	---	---	9.41	11.70	13.74	9.70	8.70
2	8.91	---	---	---	---	---	---	9.19	11.75	13.59	9.63	9.13
3	8.89	---	---	---	---	---	---	9.09	12.28	13.33	9.56	9.03
4	8.88	---	---	---	---	---	---	9.30	12.08	13.28	9.58	8.89
5	8.95	---	---	---	---	---	---	9.58	11.57	13.54	9.66	8.76
6	8.99	---	---	---	---	---	---	9.23	11.15	13.38	9.65	8.73
7	---	---	---	---	---	---	---	8.87	10.85	13.26	9.78	8.78
8	---	---	---	---	---	---	---	8.63	10.76	13.45	9.56	8.96
9	---	---	---	---	---	---	---	8.77	11.62	13.98	9.54	9.13
10	---	---	---	---	---	---	---	9.94	13.37	13.71	9.46	9.17
11	---	---	---	---	---	---	---	11.17	14.76	13.15	9.31	9.15
12	---	---	---	---	---	---	---	11.80	15.16	13.03	9.15	9.11
13	---	---	---	---	---	---	---	12.01	15.74	12.92	9.02	9.18
14	---	---	---	---	---	---	---	11.98	17.37	12.32	8.83	9.23
15	---	---	---	---	---	---	10.38	11.78	17.03	12.08	8.67	9.40
16	---	---	---	---	---	---	10.21	11.71	16.13	11.68	8.48	9.45
17	---	---	---	---	---	---	10.13	11.49	15.27	11.35	8.28	9.58
18	---	---	---	---	---	---	10.10	11.07	14.51	11.05	---	9.54
19	---	---	---	---	---	---	10.05	10.84	14.01	10.77	---	9.56
20	---	---	---	---	---	---	10.16	10.64	13.74	10.57	---	9.59
21	---	---	---	---	---	---	10.18	10.53	13.50	10.40	---	9.78
22	---	---	---	---	---	---	10.02	10.52	13.20	10.19	---	9.81
23	---	---	---	---	---	---	9.88	10.64	13.01	9.98	---	9.86
24	---	---	---	---	---	---	9.86	10.68	12.89	9.97	---	9.92
25	---	---	---	---	---	---	9.83	11.20	12.75	10.26	---	10.01
26	---	---	---	---	---	---	9.68	11.65	12.64	10.17	---	10.11
27	---	---	---	---	---	---	9.31	12.06	12.69	10.09	---	10.12
28	---	---	---	---	---	---	9.26	12.48	13.06	10.07	---	10.03
29	---	---	---	---	---	---	9.32	12.70	13.55	9.97	---	9.94
30	---	---	---	---	---	---	9.38	12.60	13.79	9.84	---	9.91
31	---	---	---	---	---	---	---	12.22	---	9.70	8.27	---
MEAN	---	---	---	---	---	---	---	10.77	13.40	11.77	---	9.42
MAX	---	---	---	---	---	---	---	12.70	17.37	13.98	---	10.12
MIN	---	---	---	---	---	---	---	8.63	10.76	9.70	---	8.70

06329640 MISSOURI RIVER STAGE GAGE NO. 5A AT BUFORD, ND

LOCATION.--Lat 47°59'08", long 103°59'07", in SE¼ 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 National Geodetic Vertical Datum of 1929. 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	8.40	10.44	10.63	7.67	6.75
2	---	---	---	---	---	---	---	8.27	10.27	10.51	7.68	7.08
3	---	---	---	---	---	---	---	8.13	---	10.32	7.70	7.08
4	---	---	---	---	---	---	---	8.22	---	10.29	7.80	7.00
5	---	---	---	---	---	---	---	8.46	---	10.69	7.86	6.91
6	---	---	---	---	---	---	---	8.15	---	10.69	7.90	6.92
7	---	---	---	---	---	---	---	7.94	---	10.64	7.74	7.02
8	---	---	---	---	---	---	---	7.85	---	10.79	7.52	7.16
9	---	---	---	---	---	---	---	7.95	9.36	11.27	7.50	7.24
10	---	---	---	---	---	---	---	8.66	10.71	11.15	7.43	7.23
11	---	---	---	---	---	---	---	9.68	11.93	10.64	7.29	7.23
12	---	---	---	---	---	---	---	10.25	12.39	10.45	7.17	7.20
13	---	---	---	---	---	---	---	10.48	12.72	10.39	7.03	7.23
14	---	---	---	---	---	---	---	10.54	14.16	9.86	6.89	7.17
15	---	---	---	---	---	---	---	10.35	14.13	9.64	6.84	7.36
16	---	---	---	---	---	---	---	10.28	13.55	9.28	6.71	7.45
17	---	---	---	---	---	---	---	10.13	12.94	9.03	6.52	7.57
18	---	---	---	---	---	---	---	9.81	12.24	8.81	6.39	7.51
19	---	---	---	---	---	---	---	9.63	11.57	8.56	6.29	7.52
20	---	---	---	---	---	---	---	9.50	11.15	8.34	6.19	7.50
21	---	---	---	---	---	---	---	9.41	10.87	8.15	6.21	7.60
22	---	---	---	---	---	---	---	9.43	10.55	8.02	6.14	7.46
23	---	---	---	---	---	---	7.83	9.48	10.31	7.81	6.14	7.37
24	---	---	---	---	---	---	7.85	9.54	10.15	7.70	6.17	7.31
25	---	---	---	---	---	---	7.84	10.01	9.99	7.92	6.17	7.28
26	---	---	---	---	---	---	7.74	10.43	9.82	7.91	6.23	7.19
27	---	---	---	---	---	---	7.55	10.82	9.81	7.84	6.27	7.15
28	---	---	---	---	---	---	7.64	11.32	10.05	7.76	6.29	7.15
29	---	---	---	---	---	---	7.95	11.70	10.44	7.71	6.30	7.08
30	---	---	---	---	---	---	8.21	11.54	10.68	7.63	6.35	7.00
31	---	---	---	---	---	---	---	11.13	---	7.60	6.51	---
MEAN	---	---	---	---	---	---	---	9.60	---	9.29	6.87	7.22
MAX	---	---	---	---	---	---	---	11.70	---	11.27	7.90	7.60
MIN	---	---	---	---	---	---	---	7.85	---	7.60	6.14	6.75

06329650 MISSOURI RIVER STAGE GAGE NO. 6 NEAR BUFORD, ND

LOCATION.--Lat 47°57'21", long 103°54'31", 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.--April 1959 to current year (seasonal).

GAGE.--Water-stage recorder. Datum of gage is 1,840.00 ft above National Geodetic Vertical Datum of 1929. 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 and 22, 1963.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.24	---	---	---	---	---	---	15.62	17.68	17.93	15.11	14.08
2	13.19	---	---	---	---	---	---	15.44	17.55	17.84	15.14	14.40
3	13.16	---	---	---	---	---	---	15.32	17.77	17.67	15.14	14.40
4	13.13	---	---	---	---	---	---	15.42	17.55	17.60	15.21	14.34
5	13.15	---	---	---	---	---	---	15.61	17.07	17.97	15.28	14.24
6	13.19	---	---	---	---	---	---	15.43	16.77	18.02	15.34	14.24
7	---	---	---	---	---	---	---	15.22	16.45	17.95	15.22	14.33
8	---	---	---	---	---	---	---	15.05	16.21	18.06	15.02	14.46
9	---	---	---	---	---	---	---	15.06	16.54	18.54	14.98	14.52
10	---	---	---	---	---	---	---	15.66	17.75	18.47	14.92	14.52
11	---	---	---	---	---	---	---	16.62	18.96	18.03	14.79	14.50
12	---	---	---	---	---	---	---	17.26	19.54	17.80	14.66	14.46
13	---	---	---	---	---	---	---	17.50	19.79	17.80	14.54	14.50
14	---	---	---	---	---	---	---	17.58	21.24	17.28	14.41	14.45
15	---	---	---	---	---	---	---	17.49	21.39	17.09	14.35	14.61
16	---	---	---	---	---	---	---	17.38	20.84	16.78	14.24	14.72
17	---	---	---	---	---	---	---	17.24	20.24	16.52	14.05	14.82
18	---	---	---	---	---	---	---	16.92	19.53	16.32	13.92	14.80
19	---	---	---	---	---	---	---	16.73	18.85	16.06	13.81	14.82
20	---	---	---	---	---	---	---	16.59	18.45	15.83	13.70	14.80
21	---	---	---	---	---	---	---	16.52	18.17	15.64	13.70	14.89
22	---	---	---	---	---	---	15.02	16.52	17.87	15.50	13.64	14.79
23	---	---	---	---	---	---	14.94	16.55	17.63	15.30	13.62	14.71
24	---	---	---	---	---	---	14.99	16.61	17.48	15.16	13.66	14.66
25	---	---	---	---	---	---	15.03	17.00	17.33	15.33	13.65	14.65
26	---	---	---	---	---	---	14.94	17.43	17.15	15.34	13.69	14.60
27	---	---	---	---	---	---	14.69	17.84	17.14	15.30	13.72	14.56
28	---	---	---	---	---	---	14.79	18.26	17.33	15.23	13.73	14.56
29	---	---	---	---	---	---	15.08	18.54	17.69	15.16	13.74	14.53
30	---	---	---	---	---	---	15.44	18.63	17.95	15.08	13.76	14.47
31	---	---	---	---	---	---	---	18.29	---	15.05	13.89	---
MEAN	---	---	---	---	---	---	---	16.69	18.20	16.70	14.34	14.55
MAX	---	---	---	---	---	---	---	18.63	21.39	18.54	15.34	14.89
MIN	---	---	---	---	---	---	---	15.05	16.21	15.05	13.62	14.08

06330000 MISSOURI RIVER NEAR WILLISTON, ND

LOCATION.--Lat 48°06'29", long 103°42'51", in NW¼NE¼ 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 National Geodetic Vertical Datum of 1929. 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.61	13.00	---	---	---	19.31	15.87	14.38	16.60	16.41	13.76	12.75
2	12.54	12.94	---	---	---	19.32	15.68	14.35	16.27	16.37	13.81	13.06
3	12.50	12.97	---	---	---	19.14	15.47	14.17	16.26	16.23	13.81	13.16
4	12.46	13.29	---	---	---	18.93	15.27	14.22	16.18	16.11	13.91	13.14
5	12.47	---	---	---	---	18.62	14.99	14.33	15.77	16.35	13.98	13.06
6	12.51	---	---	---	---	18.25	14.79	14.29	15.39	16.55	14.01	12.99
7	12.50	---	---	---	---	17.96	14.65	14.11	15.03	16.53	14.01	13.08
8	12.46	---	---	---	---	17.81	14.59	13.94	14.81	16.54	13.74	13.20
9	12.44	---	---	---	---	17.83	14.51	13.81	14.95	16.83	13.69	13.29
10	12.42	---	---	---	---	18.11	---	14.21	15.85	16.99	13.65	13.29
11	12.39	---	---	---	---	18.68	---	15.08	16.97	16.73	13.54	13.29
12	12.40	---	---	---	---	18.97	---	15.71	17.66	16.37	13.40	13.25
13	12.38	---	---	---	---	19.03	14.15	16.08	17.90	16.32	13.28	13.27
14	12.35	---	---	---	---	19.02	14.30	16.25	18.74	15.93	13.13	13.23
15	12.40	---	---	---	---	19.01	14.29	16.25	19.03	15.64	13.05	13.31
16	12.48	---	---	---	---	18.94	14.18	16.16	18.83	15.33	12.93	13.43
17	12.53	---	---	---	---	18.84	14.19	16.01	18.46	15.05	12.79	13.49
18	12.61	---	---	---	---	18.73	14.22	15.75	18.05	14.84	12.64	13.52
19	12.72	---	---	---	---	18.75	14.13	15.50	17.62	14.59	12.46	13.48
20	12.75	---	---	---	---	18.92	14.08	15.36	17.23	14.40	12.42	13.47
21	12.71	---	---	---	---	19.11	14.10	15.26	16.91	14.21	---	13.55
22	12.67	---	---	---	---	19.43	14.02	15.23	16.62	14.09	12.40	13.52
23	12.65	---	---	---	18.40	19.70	13.92	15.26	16.35	13.98	12.40	13.40
24	12.58	---	---	---	18.48	19.93	13.89	15.31	16.17	13.80	12.40	13.34
25	12.76	---	---	---	18.74	20.02	13.89	15.51	16.02	13.91	12.39	13.31
26	12.73	---	---	---	18.93	20.43	13.88	15.87	15.83	14.00	12.41	13.23
27	12.63	---	---	---	19.01	---	13.67	16.26	15.76	13.94	12.44	13.19
28	12.62	---	---	---	19.04	---	13.61	16.64	15.82	13.90	12.45	13.19
29	12.73	---	---	---	19.14	---	13.85	16.93	16.06	13.86	12.45	13.15
30	12.79	---	---	---	---	16.11	14.14	17.13	16.32	13.80	---	13.08
31	12.89	---	---	---	---	16.01	---	17.01	---	13.75	12.59	---
MEAN	12.57	---	---	---	---	---	---	15.37	16.65	15.27	---	13.26
MAX	12.89	---	---	---	---	---	---	17.13	19.03	16.99	---	13.55
MIN	12.35	---	---	---	---	---	---	13.81	14.81	13.75	---	12.75

06330110 MISSOURI RIVER STAGE GAGE NO. 9 AT WILLISTON, ND

LOCATION.--Lat 48°08'13", long 103°36'16", in NE¼NE¼ 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 National Geodetic Vertical Datum of 1929. 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. Estimated daily gage heights are based on incomplete daily record. The incomplete daily record generally is the result of water transfer to the city of Williston, which causes temporary fluctuations in gage height.

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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.90	21.93	e23.13	23.84	24.66	26.11	23.86	e22.07	24.37	24.08	21.92	e21.92
2	e21.86	21.88	e23.71	23.54	24.51	e26.20	e23.74	22.11	24.08	24.08	e21.91	e21.91
3	e21.91	e21.89	e24.12	23.33	24.44	e26.14	23.48	e22.13	24.04	e24.00	e21.97	e21.88
4	21.90	e22.09	e24.45	23.15	24.44	e26.01	23.32	e22.06	24.04	e23.79	e21.96	e21.86
5	21.85	e22.13	e24.57	23.02	24.48	e25.86	23.05	e22.10	23.74	e23.96	e22.02	e21.79
6	21.86	e22.14	24.59	22.97	24.59	25.62	e22.87	e22.07	23.41	e24.21	e22.01	21.76
7	e21.88	e22.06	24.48	e22.97	24.82	25.36	22.71	e22.07	e23.07	24.29	21.96	e21.75
8	21.89	22.03	e24.38	23.00	25.07	e25.22	e22.64	e22.05	e22.77	e24.28	e21.91	e21.91
9	21.86	22.05	e24.28	23.09	25.20	e25.23	e22.55	21.90	22.78	24.35	e21.91	e21.89
10	e21.86	e22.04	e24.33	23.12	25.23	25.33	e22.46	e21.86	23.41	24.49	21.92	e21.90
11	21.83	e22.04	e24.46	23.15	25.24	25.63	22.41	e22.41	24.34	24.43	21.88	e21.84
12	21.84	22.01	24.36	23.37	25.30	25.97	e22.37	e23.20	24.92	24.17	e21.91	e21.80
13	21.86	21.97	24.12	23.69	25.38	26.08	e22.40	e23.73	e25.19	24.05	21.89	21.81
14	e21.85	e21.97	23.86	23.99	25.41	26.11	e22.45	e24.01	25.65	23.99	21.86	21.79
15	e21.94	e22.19	23.84	24.25	25.39	e26.13	---	24.07	25.92	e23.65	21.85	e21.77
16	e22.00	e22.36	24.07	24.54	25.35	26.12	e22.36	23.98	25.85	e23.38	e21.88	e21.86
17	e21.95	e22.39	24.28	24.87	e25.30	26.09	22.35	23.92	25.64	23.06	e21.93	e21.87
18	e21.93	e22.53	e24.32	25.14	e25.28	26.00	22.30	23.74	e25.37	22.83	e21.92	e21.83
19	21.90	e22.63	e24.39	25.29	e25.24	25.79	e22.22	23.57	e25.11	e22.62	e21.91	21.78
20	e21.93	e22.73	24.47	25.36	e25.24	25.69	e22.25	e23.38	24.83	e22.41	e21.91	21.78
21	e22.08	e22.80	24.58	25.35	25.24	25.74	e22.27	e23.28	24.58	e22.21	e21.85	e21.80
22	e21.97	e22.70	e24.57	25.27	25.29	25.88	e22.25	e23.17	e24.36	e22.10	21.83	e21.82
23	e21.98	22.53	e24.56	25.23	e25.37	e25.99	e22.22	23.16	e24.10	e22.01	e21.84	e21.88
24	21.83	e22.41	24.58	25.29	e25.43	26.17	e22.08	e23.25	e23.90	e21.97	e21.90	e21.85
25	21.71	e22.38	24.57	25.31	25.61	26.21	e21.98	23.38	e23.77	e21.99	e21.89	e21.81
26	21.75	e22.42	24.48	25.30	e25.75	26.36	e22.08	e23.68	e23.68	21.94	e21.91	21.77
27	e21.80	22.37	24.38	25.29	e25.80	27.41	e22.20	23.97	e23.58	e21.94	e21.91	e21.77
28	e21.83	22.30	24.29	25.18	e25.87	25.84	e22.13	24.29	e23.57	e21.99	e21.82	e21.84
29	e21.94	22.29	24.28	24.98	e25.97	24.74	e22.11	24.57	23.72	e21.98	e21.80	21.81
30	e22.00	22.57	24.21	24.85	---	24.32	e22.07	24.70	23.95	e21.97	e21.80	21.77
31	e21.96	---	24.09	24.81	---	24.02	---	24.61	---	21.95	e21.90	---
MEAN	21.89	22.26	24.28	24.28	25.20	25.79	---	23.18	24.26	23.17	21.90	21.83
MAX	22.08	22.80	24.59	25.36	25.97	27.41	---	24.70	25.92	24.49	22.02	21.92
MIN	21.71	21.88	23.13	22.97	24.44	24.02	---	21.86	22.77	21.94	21.80	21.75

e Estimated

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.--June 1954 to current year (seasonal records only 1984 to 2001).

GAGE.--Water-stage recorder. Datum of gage is 1,863.18 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharges, which are poor. Some small diversions for irrigation. Some regulation by Lake Zahl, Fish and Wildlife Service reservoir, 22 mi upstream and by Blacktail Dam about 15 mi upstream.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	e8.1	e9.1	e8.2	e8.9	e11	85	e15	22	9.4	7.5	6.5
2	4.9	e8.1	e8.9	e8.3	e8.8	e11	80	e14	21	10	7.3	6.2
3	4.9	e8.1	e8.8	e8.3	e8.8	e11	73	e14	19	10	7.4	6.5
4	4.7	e8.0	e8.7	e8.3	e8.6	e12	60	e13	17	9.8	7.7	6.9
5	4.5	e7.9	e8.6	e8.3	e8.6	e12	50	e13	16	10	7.6	7.1
6	4.5	e7.9	e8.5	e8.3	e8.5	e13	45	e13	15	9.8	8.3	7.0
7	4.5	e7.9	e8.5	e8.3	e8.4	e13	44	e12	13	9.6	8.8	7.3
8	4.6	e8.0	e8.5	e8.4	e8.4	e14	41	e12	12	14	10	7.3
9	4.9	e8.1	e8.5	e8.5	e8.4	e14	38	e11	12	12	19	6.9
10	5.0	e8.2	e8.4	e8.6	e8.5	e14	36	e11	17	12	15	6.4
11	5.1	e8.4	e8.4	e8.7	e8.5	e15	34	e11	23	12	12	6.1
12	5.1	e8.5	e8.4	e8.7	e8.5	e15	36	e10	28	16	11	6.1
13	5.4	e8.7	e8.4	e8.7	e8.4	e16	33	e10	28	139	9.9	6.6
14	5.6	e8.8	e8.4	e8.7	e8.3	e17	29	e10	28	78	9.3	6.7
15	5.7	e8.9	e8.4	e8.7	e8.3	e18	26	e9.8	27	50	8.2	7.0
16	6.0	e9.0	e8.4	e8.7	e8.4	e20	26	e9.6	23	37	7.5	7.3
17	e6.5	e9.2	e8.5	e8.8	e8.4	e23	26	e9.2	21	33	6.8	6.8
18	e7.2	e9.3	e8.4	e8.9	e8.4	e24	26	e8.8	21	27	6.3	6.6
19	e7.7	e9.3	e8.4	e8.9	e8.4	e30	26	e8.5	18	22	6.0	6.6
20	e8.1	e9.3	e8.4	e8.9	e8.4	e33	27	e9.2	16	19	6.1	6.9
21	e8.3	e9.1	e8.4	e8.9	e8.4	e41	26	e11	14	16	6.3	7.0
22	e8.5	e8.9	e8.4	e8.8	e8.5	e46	25	e14	12	14	6.5	7.3
23	e8.7	e8.6	e8.4	e8.9	e8.6	e43	23	e18	12	12	6.5	7.4
24	e8.7	e8.6	e8.3	e9.0	e8.7	e50	22	e22	11	11	6.7	7.4
25	e8.4	e8.9	e8.3	e9.0	e9.0	e65	20	e25	11	9.8	6.6	7.4
26	e8.3	e8.9	e8.2	e9.0	e9.2	e92	19	30	11	8.7	8.5	7.3
27	e8.2	e8.7	e8.1	e9.0	e9.4	e115	19	29	11	8.2	11	6.9
28	e8.2	e8.6	e8.0	e8.9	e9.8	e110	17	27	10	7.8	7.6	6.9
29	e8.1	e8.7	e8.0	e8.8	e10	e175	17	26	9.8	7.6	7.0	e7.1
30	e8.2	e9.1	e8.0	e8.8	---	e90	e16	23	9.4	7.4	6.4	e7.0
31	e8.1	---	e8.1	e8.8	---	e87	---	23	---	7.4	6.5	---
TOTAL	201.3	257.8	260.8	269.1	251.5	1,250	1,045	472.1	508.2	649.5	261.3	206.5
MEAN	6.49	8.59	8.41	8.68	8.67	40.3	34.8	15.2	16.9	21.0	8.43	6.88
MAX	8.7	9.3	9.1	9.0	10	175	85	30	28	139	19	7.4
MIN	4.5	7.9	8.0	8.2	8.3	11	16	8.5	9.4	7.4	6.0	6.1
AC-FT	399	511	517	534	499	2,480	2,070	936	1,010	1,290	518	410

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2004, BY WATER YEAR (WY)

MEAN	9.92	10.9	8.72	7.26	24.4	182	105	26.0	19.0	25.1	8.09	7.47
MAX	17.4	17.7	12.1	24.5	363	1,018	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	0.91	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)

06331000 LITTLE MUDDY RIVER BELOW COW CREEK NEAR WILLISTON, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1954 - 2004	
ANNUAL TOTAL	21,479.4		5,633.1			
ANNUAL MEAN	58.8		15.4		a38.0	
HIGHEST ANNUAL MEAN					a110	1976
LOWEST ANNUAL MEAN					a9.24	1961
HIGHEST DAILY MEAN	5,600	Mar 18	175	Mar 29	6,610	Apr 18, 1979
LOWEST DAILY MEAN	2.9	Aug 23	4.5	Oct 5	0.50	Feb 17, 1959
ANNUAL SEVEN-DAY MINIMUM	3.0	Aug 20	4.7	Oct 2	0.50	Feb 17, 1959
MAXIMUM PEAK FLOW			b500	Mar 29	c9,180	Apr 18, 1979
MAXIMUM PEAK STAGE			d7.50	Mar 29	13.57	Mar 27, 1960
ANNUAL RUNOFF (AC-FT)	42,600		11,170		a27,510	
10 PERCENT EXCEEDS	47		28		39	
50 PERCENT EXCEEDS	9.3		8.8		9.6	
90 PERCENT EXCEEDS	5.0		6.7		4.6	

a Based on complete water years only (1954-83, 2002-04)
b About
c Gage height, 12.77 ft
d Backwater from ice
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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT													
06...	1410	4.4	--	--	--	--	2,120	10.0	5.0	--	--	--	--
NOV													
17...	1505	9.1	--	--	--	--	2,290	2.0	1.0	--	--	--	--
JAN													
12...	1250	8.7	--	--	--	--	2,460	-3.0	1.0	--	--	--	--
FEB													
23...	1250	8.6	--	--	--	--	2,410	0.0	0.5	--	--	--	--
MAR													
24...	1310	44	--	--	--	--	1,980	20.0	1.5	--	--	--	--
MAY													
25...	1230	28	--	--	--	--	2,180	12.0	11.0	--	--	--	--
JUL													
29...	0825	7.6	710	8.1	8.5	2,290	2,230	8.0	17.5	460	57.0	76.2	10.2
SEP													
14...	1530	6.7	--	8.5	8.4	2,080	2,090	20.5	16.5	360	44.5	61.1	9.10

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)
OCT													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
29...	8	379	64	532	10.2	0.33	6.48	752	1,610	33.2	5.8	40	<1
SEP													
14...	8	343	66	576	9.0	0.40	5.63	604	1,420	25.5	5.5	40	<1

06331000 LITTLE MUDDY RIVER BELOW COW CREEK NEAR WILLISTON, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Lithium water, fltrd, ug/L (01130)	Mangan-ese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molyb-denum, water, fltrd, ug/L (01060)	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
OCT						
06...	--	--	--	--	--	--
NOV						
17...	--	--	--	--	--	--
JAN						
12...	--	--	--	--	--	--
FEB						
23...	--	--	--	--	--	--
MAR						
24...	--	--	--	--	--	--
MAY						
25...	--	--	--	--	--	--
JUL						
29...	90	10	<0.20	4	<1	800
SEP						
14...	80	10	<0.20	4	6	670

Remark codes used in this table:
< -- Less than

06332515 BEAR DEN CREEK NEAR MANDAREE, ND

LOCATION.--Lat 47°47'14", long 102°46'05", in NW1/4 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.--July 1966 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,947.58 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.13	0.23	e0.20	e0.16	e0.06	e0.07	0.32	0.25	0.19	0.16	e0.09	e0.13
2	0.14	0.22	e0.20	e0.15	e0.06	e0.07	0.32	0.26	0.19	0.18	e0.10	0.12
3	0.14	0.20	e0.20	e0.15	e0.06	e0.08	0.29	0.27	0.17	0.17	e0.10	0.12
4	0.14	e0.20	e0.20	e0.14	e0.06	e0.08	0.30	0.27	0.19	0.14	0.11	0.16
5	0.13	e0.20	e0.20	e0.14	e0.06	e0.08	0.30	0.27	0.18	0.16	0.12	0.18
6	0.12	e0.20	e0.20	e0.14	e0.06	e0.08	0.30	0.27	0.17	0.15	0.12	0.14
7	0.13	e0.20	e0.21	e0.14	e0.06	e0.10	0.28	0.26	0.17	0.15	0.13	0.14
8	0.13	e0.20	e0.21	e0.13	e0.06	e0.18	0.28	0.25	0.14	0.18	0.18	0.14
9	0.13	e0.20	e0.20	e0.18	e0.06	e0.75	0.28	0.25	0.12	0.14	0.13	0.17
10	0.14	e0.20	e0.20	e0.15	e0.06	e5.0	0.31	0.22	0.30	0.12	0.09	0.18
11	0.16	e0.20	e0.18	e0.17	e0.06	e6.0	0.32	0.24	0.34	0.10	0.10	0.21
12	0.18	e0.20	e0.20	e0.17	e0.06	e15	0.31	0.26	0.26	0.14	0.11	0.19
13	0.20	e0.20	e0.20	e0.16	e0.06	e80	0.30	0.24	0.22	0.11	0.11	0.55
14	0.19	e0.20	e0.20	e0.16	e0.06	e10	0.27	0.23	0.17	0.09	0.12	0.30
15	0.19	e0.20	e0.19	e0.17	e0.06	e3.5	0.27	0.23	0.14	0.08	0.12	0.29
16	0.21	e0.20	e0.19	e0.14	e0.07	e2.5	0.29	0.22	0.11	0.07	0.12	0.24
17	0.22	e0.20	e0.19	e0.14	e0.07	e1.9	0.29	0.21	0.11	0.05	0.12	0.19
18	0.22	e0.20	e0.20	e0.11	e0.07	2.4	0.34	0.22	0.11	0.05	0.13	0.17
19	0.21	e0.21	e0.19	e0.09	e0.07	2.9	0.31	0.22	0.14	0.06	0.12	0.18
20	0.21	e0.21	e0.19	e0.09	e0.07	3.0	0.30	0.21	0.14	0.06	0.13	0.21
21	0.21	e0.21	e0.19	e0.08	e0.07	1.8	0.28	0.23	0.15	0.07	0.14	0.20
22	0.21	e0.20	e0.19	e0.07	e0.07	1.0	0.27	0.23	0.15	0.06	0.14	0.17
23	0.21	e0.21	e0.18	e0.07	e0.07	0.84	0.26	0.22	0.15	0.08	0.15	0.16
24	0.22	e0.21	e0.18	e0.07	e0.07	1.3	0.25	0.22	0.14	0.08	0.16	0.15
25	0.22	e0.22	e0.18	e0.06	e0.07	1.6	0.24	0.20	0.13	0.08	0.17	0.13
26	0.22	e0.21	e0.18	e0.06	e0.07	0.92	0.23	0.19	0.13	0.09	e0.15	0.12
27	0.24	e0.21	e0.18	e0.06	e0.07	2.6	0.24	0.18	0.14	0.09	0.12	0.11
28	0.23	e0.21	e0.18	e0.06	e0.07	1.2	0.23	0.18	0.16	e0.09	0.10	0.10
29	0.25	e0.21	e0.18	e0.06	e0.07	0.62	0.24	0.17	0.15	e0.09	0.11	0.14
30	0.25	e0.21	e0.16	e0.06	---	0.45	0.25	0.15	0.16	e0.09	0.12	0.18
31	0.24	---	e0.16	e0.06	---	0.38	---	0.16	---	e0.09	e0.12	---
TOTAL	5.82	6.17	5.91	3.59	1.88	146.40	8.47	6.98	5.02	3.27	3.83	5.47
MEAN	0.19	0.21	0.19	0.12	0.06	4.72	0.28	0.23	0.17	0.11	0.12	0.18
MAX	0.25	0.23	0.21	0.18	0.07	80	0.34	0.27	0.34	0.18	0.18	0.55
MIN	0.12	0.20	0.16	0.06	0.06	0.07	0.23	0.15	0.11	0.05	0.09	0.10
AC-FT	12	12	12	7.1	3.7	290	17	14	10	6.5	7.6	11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2004, BY WATER YEAR (WY)

MEAN	1.34	0.31	0.14	0.15	6.12	35.4	18.6	3.69	2.70	3.13	0.30	0.59
MAX	23.0	1.45	0.33	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	0.11	0.13	0.03	0.00	0.00	0.30	0.26	0.15	0.12	0.08	0.07	0.06
(WY)	(2000)	(1968)	(1985)	(1967)	(1967)	(2000)	(2000)	(1981)	(1987)	(1968)	(1988)	(1999)

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1967 - 2004	
ANNUAL TOTAL	2,144.04		202.81			
ANNUAL MEAN	5.87		0.55		6.05	
HIGHEST ANNUAL MEAN					22.7	1982
LOWEST ANNUAL MEAN					0.21	2000
HIGHEST DAILY MEAN	450	Mar 17	80	Mar 13	1,110	Mar 14, 1972
LOWEST DAILY MEAN	0.03	Mar 8	0.05	Jul 17	0.00	Dec 10, 1966
ANNUAL SEVEN-DAY MINIMUM	0.03	Mar 5	0.06	Jan 25	0.00	Dec 25, 1966
MAXIMUM PEAK FLOW			a100	Mar 13	b2,840	Mar 13, 1972
MAXIMUM PEAK STAGE			c6.00	Mar 13	10.03	Apr 6, 1969
ANNUAL RUNOFF (AC-FT)	4,250		402		4,380	
10 PERCENT EXCEEDS	2.2		0.30		3.7	
50 PERCENT EXCEEDS	0.20		0.18		0.22	
90 PERCENT EXCEEDS	0.09		0.07		0.03	

a About
b Gage height, 9.02 ft
c About, from floodmark
e Estimated

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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
08...	0935	0.13	--	--	--	2,950	8.5	10.0	--	--	--	--	--
NOV													
24...	1130	0.21	--	--	--	3,150	-7.0	0.0	--	--	--	--	--
JAN													
12...	1700	0.18	--	--	--	3,270	-5.0	0.0	--	--	--	--	--
APR													
12...	1220	0.31	--	--	--	2,460	5.0	5.0	--	--	--	--	--
JUN													
09...	1225	0.13	--	--	--	2,910	16.0	18.5	--	--	--	--	--
JUL													
07...	1000	0.14	--	--	--	2,810	13.0	17.5	--	--	--	--	--
AUG													
03...	1615	0.10	--	--	--	3,130	25.0	21.5	--	--	--	--	--
SEP													
01...	1620	0.12	8.8	8.8	2,780	2,790	37.7	26.4	130	18.1	20.3	6.20	24

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	637	91	850	2.4	0.36	3.98	668	1,860	0.60	5.3	90	<1	70

06332515 BEAR DEN CREEK NEAR MANDAREE, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
08...	--	--	--	--	--
NOV					
24...	--	--	--	--	--
JAN					
12...	--	--	--	--	--
APR					
12...	--	--	--	--	--
JUN					
09...	--	--	--	--	--
JUL					
07...	--	--	--	--	--
AUG					
03...	--	--	--	--	--
SEP					
01...	10	<0.20	3	6	280

Remark codes used in this table:
< -- Less than

06332523 EAST FORK SHELL CREEK NEAR PARSHALL, ND

LOCATION.--Lat 47°56'55", long 102°12'52", in NW¼NW¼NW¼ 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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records poor because of beaver activity.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.05	0.48	e0.74	e0.43	e0.08	e0.00	21	e1.7	2.6	e0.58	e0.00	e0.00
2	0.09	0.59	e0.71	e0.39	e0.00	e0.00	19	e1.6	2.4	0.73	e0.00	e0.00
3	0.09	0.55	e0.70	e0.36	e0.00	e0.10	18	e1.5	2.0	e0.56	e0.00	e0.00
4	0.07	0.69	e0.68	e0.32	e0.00	e0.12	15	e1.5	2.7	e0.46	e0.00	e0.00
5	0.10	0.72	e0.66	e0.29	e0.00	e0.15	12	e1.4	1.4	e0.38	e0.00	e0.00
6	0.15	0.65	e0.63	e0.28	e0.00	e0.20	9.4	e1.3	1.6	0.33	e0.00	e0.00
7	0.15	0.71	e0.61	e0.27	e0.00	e0.26	7.9	e1.3	0.98	0.41	e0.00	e0.00
8	0.16	0.76	e0.60	e0.26	e0.00	e0.36	5.2	e1.2	0.89	0.62	e0.00	e0.00
9	0.15	0.83	e0.53	e0.26	e0.00	e0.50	6.1	e1.2	0.92	0.62	e0.00	e0.00
10	0.13	0.84	e0.50	e0.25	e0.00	e0.60	7.3	e2.0	1.2	0.64	e0.20	e0.00
11	0.14	0.95	e0.48	e0.25	e0.00	e0.48	4.9	e5.0	1.8	0.74	e0.12	e0.00
12	0.17	0.98	e0.51	e0.28	e0.00	e0.44	2.2	e3.0	2.4	0.53	e0.05	e0.00
13	0.14	0.97	e0.60	e0.31	e0.00	e0.53	3.3	e2.5	e2.0	0.30	e0.00	e0.02
14	0.16	1.0	e0.65	e0.35	e0.00	e0.70	3.5	e2.0	e1.7	0.23	e0.00	e0.04
15	0.16	1.0	e0.67	e0.40	e0.00	e1.0	3.1	e1.8	e1.4	0.19	e0.00	e0.06
16	0.19	1.0	e0.68	e0.42	e0.00	e1.4	2.3	e1.6	e1.3	0.18	e0.00	e0.07
17	0.22	1.0	e0.68	e0.44	e0.00	e1.8	2.5	e1.5	e1.1	0.40	e0.00	e0.08
18	0.22	1.0	e0.68	e0.46	e0.00	e2.4	3.4	e2.4	e1.0	0.50	e0.00	e0.09
19	0.21	1.1	e0.68	e0.46	e0.00	e3.0	9.0	4.3	e0.94	0.43	e0.00	e0.09
20	0.21	1.1	e0.68	e0.44	e0.00	e4.0	5.1	3.7	e0.84	0.34	e0.00	e0.10
21	0.25	1.1	e0.68	e0.46	e0.00	e5.4	3.8	e2.8	e0.78	0.21	e0.00	e0.10
22	0.25	0.97	e0.70	e0.42	e0.00	13	1.5	e2.4	e0.72	0.09	e0.00	e0.11
23	0.27	e0.75	e0.70	e0.37	e0.00	21	4.0	e2.2	e0.67	0.05	e0.00	e0.11
24	0.24	e0.60	e0.69	e0.32	e0.00	24	2.3	e2.8	e0.63	e0.00	e0.00	e0.12
25	0.24	e0.70	e0.66	e0.28	e0.00	e34	e2.0	e1.8	e0.58	e0.00	e0.00	e0.12
26	0.36	e0.80	e0.64	e0.24	e0.00	37	e1.9	1.3	e0.53	0.12	e0.12	e0.11
27	0.41	e0.82	e0.64	e0.20	e0.00	44	e1.8	2.9	e0.50	0.19	e0.16	e0.10
28	0.38	e0.80	e0.64	e0.17	e0.00	35	e1.8	4.4	e0.47	0.10	e0.10	e0.10
29	0.49	e0.80	e0.60	e0.15	e0.00	28	e1.8	3.6	e0.44	0.07	e0.00	e0.10
30	0.53	e0.76	e0.54	e0.13	---	27	e1.7	2.3	e0.48	e0.00	e0.00	e0.10
31	0.48	---	e0.48	e0.11	---	21	---	2.3	---	e0.00	e0.00	---
TOTAL	6.86	25.02	19.64	9.77	0.08	307.44	182.8	71.3	36.97	10.00	0.75	1.62
MEAN	0.22	0.83	0.63	0.32	0.00	9.92	6.09	2.30	1.23	0.32	0.02	0.05
MAX	0.53	1.1	0.74	0.46	0.08	44	21	5.0	2.7	0.74	0.20	0.12
MIN	0.05	0.48	0.48	0.11	0.00	0.00	1.5	1.2	0.44	0.00	0.00	0.00
AC-FT	14	50	39	19	0.2	610	363	141	73	20	1.5	3.2

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2004, BY WATER YEAR (WY)

MEAN	1.32	1.64	0.94	0.39	0.76	35.5	14.7	5.16	4.71	2.91	1.25	0.71
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	0.18	0.74	0.02	0.00	0.00	4.04	2.97	1.64	0.66	0.01	0.00	0.00
(WY)	(2001)	(2001)	(2001)	(2001)	(2001)	(2002)	(2000)	(1992)	(1992)	(2001)	(2003)	(2001)

06332523 EAST FORK SHELL CREEK NEAR PARSHALL, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1991 - 2004	
ANNUAL TOTAL	1,356.99		672.25			
ANNUAL MEAN	3.72		1.84		5.88	
HIGHEST ANNUAL MEAN					15.1	1999
LOWEST ANNUAL MEAN					1.84	2004
HIGHEST DAILY MEAN	128	Mar 22	44	Mar 27	930	Mar 27, 1999
LOWEST DAILY MEAN	0.00	Jul 31	0.00	Feb 2	0.00	Sep 2, 1991
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 10	0.00	Feb 2	0.00	Sep 10, 1998
MAXIMUM PEAK FLOW			a46	Mar 25	b1,170	Mar 27, 1999
MAXIMUM PEAK STAGE			c4.63	Mar 27	6.46	Mar 27, 1997
ANNUAL RUNOFF (AC-FT)	2,690		1,330		4,260	
10 PERCENT EXCEEDS	6.9		3.0		8.4	
50 PERCENT EXCEEDS	0.61		0.48		1.0	
90 PERCENT EXCEEDS	0.00		0.00		0.09	

a Gage height, 4.52 ft
b Gage height, 6.39 ft
c Backwater from ice
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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
MAR													
29...	1240	30	8.3	8.1	2,120	2,140	7.5	1.0	330	49.7	50.1	9.10	10

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
MAR													
29...	423	73	373	11.4	0.18	19.5	771	1,540	126	4.3	190	<1	90

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
MAR					
29...	110	<0.20	2	4	920

Remark codes used in this table:
< -- Less than

06332770 DEEPWATER CREEK AT MOUTH NEAR RAUB, ND

LOCATION.--Lat 47°44'16", long 102°06'26", in NW¼NW¼SW¼ 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, and 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 National Geodetic Vertical Datum of 1929, from topographic map.

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.06	e0.84	e0.62	e0.36	e1.2	21	1.9	2.8	0.05	0.04	0.00
2	e0.00	0.07	e0.82	e0.60	e0.37	e1.2	20	1.2	2.6	0.06	0.03	0.00
3	0.00	0.07	e0.80	e0.56	e0.38	e1.2	18	1.7	3.3	0.06	0.01	0.00
4	e0.00	0.07	e0.78	e0.53	e0.39	e1.3	16	1.6	3.8	0.04	0.01	0.00
5	e0.00	0.07	e0.76	e0.51	e0.40	e1.3	11	1.1	3.1	0.04	0.01	0.00
6	e0.00	0.08	e0.75	e0.50	e0.42	e1.3	9.2	0.84	2.2	0.03	0.00	0.00
7	e0.00	0.08	e0.74	e0.50	e0.43	e1.3	8.8	0.75	1.8	0.03	0.00	0.00
8	e0.00	0.06	e0.73	e0.50	e0.45	e1.5	7.9	0.58	1.2	0.05	0.00	0.00
9	e0.00	0.06	e0.72	e0.51	e0.46	e2.0	7.3	0.97	1.0	0.04	0.00	0.00
10	0.00	0.07	e0.71	e0.52	e0.48	e2.3	5.7	0.59	1.5	0.03	0.00	0.00
11	0.00	0.09	e0.70	e0.53	e0.49	e2.5	4.9	0.50	2.1	0.03	0.00	0.00
12	0.00	1.1	e0.70	e0.57	e0.51	e3.4	3.9	0.51	3.4	0.04	0.00	0.00
13	0.00	0.98	e0.70	e0.63	e0.53	e4.5	5.1	0.33	5.3	0.02	0.00	0.00
14	e0.00	0.97	e0.71	e0.82	e0.56	e6.3	5.1	0.25	6.2	0.01	0.00	0.01
15	e0.00	1.0	e0.72	e0.90	e0.59	e6.8	4.3	2.3	5.7	0.00	0.00	0.01
16	0.03	0.99	e0.74	e0.90	e0.63	e6.9	3.5	2.1	4.2	0.00	0.00	0.01
17	0.05	1.0	e0.76	e0.93	e0.66	e6.5	5.3	1.1	2.1	0.00	0.00	0.01
18	0.05	1.2	e0.78	e0.95	e0.70	e6.0	3.3	0.56	0.39	0.00	0.00	0.01
19	0.04	e1.2	e0.80	e0.93	e0.72	e10	3.8	0.47	0.37	0.00	0.00	0.00
20	0.05	e1.2	e0.85	e0.92	e0.77	e100	6.1	0.31	0.26	0.01	0.00	0.00
21	0.04	e1.2	e0.88	e0.93	e0.80	80	6.6	0.20	0.18	0.00	0.00	0.00
22	0.02	e1.0	e0.89	e0.92	e0.83	48	5.5	0.19	0.15	0.00	0.00	0.00
23	e0.00	e0.85	e0.89	e0.87	e0.87	29	3.7	2.1	0.11	0.00	0.00	0.00
24	e0.00	e0.79	e0.89	e0.79	e0.93	26	3.1	4.2	0.07	0.00	0.00	0.00
25	e0.00	e0.81	e0.86	e0.69	e0.98	48	3.2	2.5	0.06	0.00	0.00	0.00
26	e0.00	e0.84	e0.83	e0.57	e1.0	76	2.5	2.0	0.07	0.00	0.00	0.00
27	e0.00	e0.88	e0.77	e0.43	e1.1	60	2.2	2.4	0.06	0.83	0.00	0.00
28	0.02	e0.91	e0.74	e0.38	e1.1	48	1.8	2.8	0.05	0.96	0.00	0.00
29	0.04	e0.91	e0.72	e0.36	e1.1	40	2.0	3.2	0.05	0.12	0.00	0.00
30	0.06	e0.88	e0.68	e0.35	---	27	2.1	2.7	0.05	0.09	0.00	0.00
31	0.06	---	e0.65	e0.35	---	24	---	2.3	---	0.06	0.00	---
TOTAL	0.46	19.49	23.91	20.07	19.01	673.5	202.9	44.25	54.17	2.60	0.10	0.05
MEAN	0.01	0.65	0.77	0.65	0.66	21.7	6.76	1.43	1.81	0.08	0.00	0.00
MAX	0.06	1.2	0.89	0.95	1.1	100	21	4.2	6.2	0.96	0.04	0.01
MIN	0.00	0.06	0.65	0.35	0.36	1.2	1.8	0.19	0.05	0.00	0.00	0.00
AC-FT	0.9	39	47	40	38	1,340	402	88	107	5.2	0.2	0.1

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2004, BY WATER YEAR (WY)

MEAN	1.09	1.80	1.11	0.61	1.13	60.3	19.3	6.36	5.16	2.16	0.82	0.45
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	0.00	0.16	0.05	0.00	0.00	5.34	4.09	0.80	0.04	0.01	0.00	0.00
(WY)	(2002)	(1993)	(2001)	(1993)	(2001)	(2002)	(2000)	(1992)	(1992)	(1992)	(1994)	(1995)

06332770 DEEPWATER CREEK AT MOUTH NEAR RAUB, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1991 - 2004	
ANNUAL TOTAL	1,181.20		1,060.51			
ANNUAL MEAN	3.24		2.90		8.42	
HIGHEST ANNUAL MEAN					29.8	1999
LOWEST ANNUAL MEAN					2.04	1992
HIGHEST DAILY MEAN	70	Mar 17	100	Mar 20	1,100	Mar 27, 1997
LOWEST DAILY MEAN	0.00	Jul 30	0.00	Oct 1	0.00	Jul 27, 1991
ANNUAL SEVEN-DAY MINIMUM	0.00	Jul 30	0.00	Oct 1	0.00	Jul 27, 1991
MAXIMUM PEAK FLOW			a120	Mar 26	a1,300	Mar 27, 1997
MAXIMUM PEAK STAGE			b8.88	Mar 26	b13.26	(c)
ANNUAL RUNOFF (AC-FT)	2,340		2,100		6,100	
10 PERCENT EXCEEDS	9.3		5.1		11	
50 PERCENT EXCEEDS	0.54		0.57		0.83	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

a About
b Backwater from ice
c March 13, 1996, backwater from ice and March 27, 1997, from floodmark; backwater from ice
e Estimated

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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
NOV													
17...	1110	1.2	--	--	--	2,180	-10.0	0.0	--	--	--	--	--
JAN													
15...	1400	0.90	--	--	--	3,540	1.5	0.0	--	--	--	--	--
FEB													
25...	1245	0.97	--	--	--	3,080	0.5	0.5	--	--	--	--	--
MAR													
18...	1330	5.6	--	--	--	2,150	3.5	0.0	--	--	--	--	--
23...	1440	24	8.0	7.5	1,050	1,050	6.5	6.0	220	38.9	30.4	12.6	5
APR													
15...	1200	4.3	--	--	--	1,760	3.5	6.5	--	--	--	--	--
JUN													
02...	1340	2.5	--	--	--	2,340	22.0	19.0	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
NOV													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	161	59	233	7.7	0.22	15.0	310	703	45.5	2.0	170	<1	40
APR													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
NOV					
17...	--	--	--	--	--
JAN					
15...	--	--	--	--	--
FEB					
25...	--	--	--	--	--
MAR					
18...	--	--	--	--	--
23...	80	<0.20	1	1	510
APR					
15...	--	--	--	--	--
JUN					
02...	--	--	--	--	--

Remark codes used in this table:
< -- Less than

06335500 LITTLE MISSOURI RIVER AT MARMARTH, ND

LOCATION.--Lat 46°17'52", long 103°55'03", 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 National Geodetic Vertical Datum of 1929. 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 estimated daily discharges, 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	e16	e15	e8.9	e2.2	e369	75	22	68	6.1	6.9	13
2	13	e18	e16	e8.2	e2.2	e625	65	22	60	7.6	5.4	11
3	11	e18	e16	e7.7	e2.2	e461	59	20	e50	58	7.5	16
4	11	e18	e15	e6.6	e2.2	e383	54	18	e40	67	671	18
5	11	e18	e15	e5.7	e2.2	e336	50	17	e45	134	934	17
6	10	e20	e15	e3.9	e2.2	e461	46	17	e50	63	1,080	22
7	10	e20	e14	e3.0	e2.2	e565	43	18	e45	61	826	15
8	9.5	e21	e14	e2.6	e2.2	e825	39	18	e30	88	781	13
9	9.4	e21	e13	e2.5	e2.1	e2,120	36	16	e20	56	1,270	13
10	8.6	e22	e13	e2.5	e2.1	e2,700	35	14	18	36	533	12
11	8.2	e23	e13	e2.7	e2.1	e1,140	33	8.6	25	27	276	11
12	7.8	e24	e13	e2.9	e2.0	e900	32	9.2	32	290	163	10
13	7.7	e26	e13	e3.0	e2.0	e1,450	32	12	26	244	117	19
14	8.1	e28	e13	e3.1	e1.9	e950	29	12	20	148	92	32
15	8.3	e29	e13	e3.0	e1.9	679	29	13	18	101	74	83
16	8.9	e30	e13	e3.0	e2.2	565	28	14	16	73	61	171
17	10	e32	e13	e3.1	e2.8	455	34	14	15	56	51	99
18	12	e33	e13	e3.0	e3.8	412	35	17	14	43	42	46
19	11	e35	e13	e3.0	e4.8	376	37	19	12	34	36	30
20	11	e30	e13	e3.0	e7.1	318	37	21	13	27	32	25
21	11	e24	e13	e2.9	e13	225	34	23	9.1	23	28	22
22	11	e19	e13	e2.8	e58	174	31	60	7.8	22	25	21
23	9.3	e15	e13	e2.7	e107	148	30	51	7.7	17	24	19
24	8.1	e14	e13	e2.6	e299	133	26	76	9.4	16	45	18
25	9.3	e14	e12	e2.6	e349	120	24	88	9.0	14	22	16
26	9.7	e14	e12	e2.5	e394	110	23	68	9.1	12	19	15
27	11	e14	e12	e2.5	e364	677	23	45	7.9	11	20	14
28	12	e14	e11	e2.4	e484	376	23	33	6.9	8.6	19	13
29	e12	e14	e11	e2.3	e428	187	22	184	6.1	8.6	19	13
30	e13	e15	e10	e2.3	---	113	20	134	5.6	11	17	12
31	e15	---	e9.3	e2.3	---	86	---	89	---	9.0	14	---
TOTAL	320.9	639	405.3	109.3	2,548.4	18,439	1,084	1,172.8	695.6	1,771.9	7,310.8	839
MEAN	10.4	21.3	13.1	3.53	87.9	595	36.1	37.8	23.2	57.2	236	28.0
MAX	15	35	16	8.9	484	2,700	75	184	68	290	1,270	171
MIN	7.7	14	9.3	2.3	1.9	86	20	8.6	5.6	6.1	5.4	10
AC-FT	637	1,270	804	217	5,050	36,570	2,150	2,330	1,380	3,510	14,500	1,660

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2004, BY WATER YEAR (WY)

MEAN	106	38.3	17.0	17.2	189	918	755	572	640	219	82.7	69.3
MAX	1,489	250	107	260	2,208	5,079	6,691	3,840	4,705	1,917	400	526
(WY)	(1972)	(1999)	(1952)	(1973)	(1943)	(1978)	(1952)	(1975)	(1944)	(1993)	(1993)	(1941)
MIN	0.87	0.37	0.00	0.00	0.00	22.1	10.7	4.75	3.51	0.10	0.16	0.00
(WY)	(1959)	(1956)	(1956)	(1939)	(1939)	(2002)	(1981)	(1980)	(1961)	(1980)	(1988)	(1955)

06335500 LITTLE MISSOURI RIVER AT MARMARTH, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1938 - 2004	
ANNUAL TOTAL	27,287.76		35,336.0			
ANNUAL MEAN	74.8		96.5		303	
HIGHEST ANNUAL MEAN					986	1944
LOWEST ANNUAL MEAN					20.5	1988
HIGHEST DAILY MEAN	2,000	Mar 19	2,700	Mar 10	28,600	Apr 5, 1944
LOWEST DAILY MEAN	0.00	Aug 7	1.9	Feb 14	0.00	Dec 18, 1938
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 24	2.0	Feb 9	0.00	Dec 18, 1938
MAXIMUM PEAK FLOW			a2,800	Mar 10	c45,000	Mar 23, 1947
MAXIMUM PEAK STAGE			b6.74	Mar 10	b23.40	Mar 31, 1952
ANNUAL RUNOFF (AC-FT)	54,130		70,090		219,900	
10 PERCENT EXCEEDS	123		280		619	
50 PERCENT EXCEEDS	14		18		32	
90 PERCENT EXCEEDS	0.40		3.0		1.0	

a About
b Backwater from ice
c Gage height, 21.7 ft
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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
08...	1345	9.4	--	--	--	1,630	21.0	14.5	--	--	--	--	--
NOV													
19...	1220	35	--	--	--	1,730	14.5	0.0	--	--	--	--	--
JAN													
08...	1540	2.6	--	--	--	3,110	0.5	0.0	--	--	--	--	--
MAR													
25...	1305	118	8.4	8.2	1,080	1,080	13.0	11.5	170	38.9	16.7	6.10	7
APR													
13...	1220	33	--	--	--	1,750	20.5	11.0	--	--	--	--	--
MAY													
27...	1230	45	--	--	--	1,520	22.0	16.5	--	--	--	--	--
JUL													
13...	1245	243	--	--	--	305	29.5	25.5	--	--	--	--	--
AUG													
26...	0950	18	8.2	8.3	1,240	1,230	19.5	18.0	130	33.7	11.7	8.80	8

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
25...	199	71	251	5.9	0.27	8.80	306	725	233	1.7	230	<1	40
APR													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
26...	225	77	244	6.1	0.34	8.76	371	804	40.4	5.3	--	<1	50

06335500 LITTLE MISSOURI RIVER AT MARMARTH, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
08...	--	--	--	--	--
NOV					
19...	--	--	--	--	--
JAN					
08...	--	--	--	--	--
MAR					
25...	10	<0.20	5	1	340
APR					
13...	--	--	--	--	--
MAY					
27...	--	--	--	--	--
JUL					
13...	--	--	--	--	--
AUG					
26...	<10	<0.20	9	4	420

Remark codes used in this table:
< -- Less than

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, April, May, and December 1922, May 1923 to September 1924, October 1928 to September 1934, October 1945 to September 1975, March 2001 to current year. 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 National Geodetic Vertical Datum of 1929. 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.

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

REVISIONS (WATER YEARS).--WSP 546: Drainage area. WSP 1279: 1903-7, 1923-24, 1930-31, 1934(M).

CORRECTION.--When the gage was re-established in March 2001, the base gage was incorrectly set 0.84 ft too low. All gage heights since Oct. 1, 2002, and the 2001 peak stage have been corrected. Unit values and daily values data for water years 2001-02 have not been adjusted. Discharge data for those years are unaffected by this correction.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	e18	e16	e10	e2.4	e302	301	33	117	e5.6	e12	16
2	6.8	e19	e17	e9.8	e2.4	e241	215	31	156	e5.1	e12	15
3	5.1	e19	e17	e9.2	e2.4	e230	170	30	119	e5.1	e12	14
4	5.0	e19	e16	e8.3	e2.4	e236	141	29	94	e5.4	e11	15
5	5.2	e20	e16	e7.4	e2.4	e307	122	28	73	12	13	16
6	5.9	e20	e16	e6.2	e2.4	e369	109	26	54	35	34	13
7	7.0	e21	e15	e5.3	e2.4	e435	97	26	41	130	820	11
8	9.0	e22	e14	e4.1	e2.4	e563	93	24	33	304	1,000	12
9	12	e23	e14	e3.4	e2.3	e1,370	84	18	37	211	790	13
10	14	e24	e14	e3.3	e2.3	e5,050	78	14	38	185	607	14
11	15	e25	e14	e3.4	e2.2	e4,160	74	18	68	162	977	15
12	16	e27	e14	e3.6	e2.1	e2,650	68	21	55	76	654	16
13	19	e29	e14	e4.0	e2.1	1,600	62	18	48	47	394	21
14	21	e31	e14	e4.2	e2.1	1,370	59	21	42	35	231	21
15	21	e33	e14	e4.2	e2.0	1,520	55	21	34	114	144	28
16	22	e34	e14	e3.9	e2.1	1,120	51	18	42	198	104	37
17	22	e34	e15	e3.8	e2.5	892	47	18	43	126	85	261
18	e20	e34	e14	e3.6	e3.3	845	52	20	36	88	70	156
19	e17	e32	e15	e3.4	e4.4	734	72	23	28	57	53	163
20	e13	e31	e14	e3.3	e6.5	686	74	22	19	e49	47	118
21	e14	e24	e15	e3.3	e9.8	620	87	23	12	e38	42	75
22	e15	e19	e14	e3.2	e20	542	76	26	8.8	e33	38	49
23	e13	e17	e14	e3.2	e60	438	57	37	e7.8	e29	36	40
24	e11	e15	e14	e3.1	e200	349	49	60	e7.0	e25	32	33
25	e12	e15	e14	e3.0	e294	297	51	75	e6.6	e21	30	29
26	e14	e15	e14	e2.9	e410	261	49	194	e6.4	e20	27	25
27	e13	e15	e14	e2.8	e466	278	47	166	e6.6	e18	24	23
28	e13	e15	e13	e2.6	e442	755	43	133	7.0	e16	28	21
29	e14	e15	e13	e2.6	e389	947	41	119	e6.8	e15	28	20
30	e15	e15	e12	e2.5	---	617	37	87	e6.3	e14	23	19
31	e16	---	e11	e2.5	---	467	---	63	---	e13	19	---
TOTAL	413.2	680	445	136.1	2,343.9	30,251	2,561	1,442	1,252.3	2,092.2	6,397	1,309
MEAN	13.3	22.7	14.4	4.39	80.8	976	85.4	46.5	41.7	67.5	206	43.6
MAX	22	34	17	10	466	5,050	301	194	156	304	1,000	261
MIN	5.0	15	11	2.5	2.0	230	37	14	6.3	5.1	11	11
AC-FT	820	1,350	883	270	4,650	60,000	5,080	2,860	2,480	4,150	12,690	2,600

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2004, BY WATER YEAR (WY)

MEAN	152	48.7	20.3	15.0	155	1,231	1,220	747	1,071	426	233	145
MAX	2,226	369	127	213	1,075	6,831	9,847	4,077	4,692	3,541	2,521	1,314
(WY)	(1924)	(1947)	(1947)	(1974)	(1947)	(1972)	(1952)	(1975)	(1929)	(1905)	(1903)	(1903)
MIN	1.67	1.97	0.02	0.00	0.00	32.8	8.12	3.94	41.7	11.4	0.75	0.29
(WY)	(1959)	(1956)	(1956)	(1950)	(1950)	(1964)	(1905)	(1931)	(2004)	(2002)	(1934)	(1934)

06336000 LITTLE MISSOURI RIVER AT MEDORA, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1903 - 2004	
ANNUAL TOTAL	46,192.61		49,322.7			
ANNUAL MEAN	127		135		a447	
HIGHEST ANNUAL MEAN					a1,329	1929
LOWEST ANNUAL MEAN					a52.7	2002
HIGHEST DAILY MEAN	2,400	Mar 18	5,050	Mar 10	39,600	Apr 8, 1952
LOWEST DAILY MEAN	0.00	Aug 6	2.0	Feb 15	0.00	Feb 1, 1932
ANNUAL SEVEN-DAY MINIMUM	0.11	Aug 11	2.1	Feb 10	0.00	Jan 21, 1933
MAXIMUM PEAK FLOW			b5,500	Mar 10	65,000	Mar 23, 1947
MAXIMUM PEAK STAGE			c9.51	Mar 10	20.50	Mar 23, 1947
ANNUAL RUNOFF (AC-FT)	91,620		97,830		323,800	
10 PERCENT EXCEEDS	243		303		991	
50 PERCENT EXCEEDS	18		21		50	
90 PERCENT EXCEEDS	0.89		3.7		1.1	

a Based on complete water years only
b About
c Backwater from ice
e Estimated

06336000 LITTLE MISSOURI RIVER AT MEDORA, ND—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 2001 to present.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
09...	1350	12	--	--	--	1,740	--	13.5	--	--	--	--	--
NOV													
18...	1535	33	--	--	--	2,250	9.0	0.0	--	--	--	--	--
JAN													
13...	1330	4.2	--	--	--	1,630	-5.0	0.0	--	--	--	--	--
MAR													
18...	1420	820	7.4	7.3	677	667	10.0	1.0	110	23.8	11.5	5.80	4
APR													
15...	1610	54	--	--	--	2,030	15.0	7.0	--	--	--	--	--
MAY													
21...	1100	22	--	--	--	2,710	14.0	15.5	--	--	--	--	--
JUL													
06...	1650	58	--	--	--	2,520	29.0	24.0	--	--	--	--	--
SEP													
02...	1000	15	8.5	8.4	1,760	1,760	23.8	18.0	240	54.0	26.4	12.2	9

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
18...	105	66	132	3.7	0.20	6.80	197	429	960	1.2	120	<1	20
APR													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
02...	309	72	281	9.0	0.39	6.66	629	1,210	49.9	3.0	<10	<1	60

06336000 LITTLE MISSOURI RIVER AT MEDORA, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
09...	--	--	--	--	--
NOV					
18...	--	--	--	--	--
JAN					
13...	--	--	--	--	--
MAR					
18...	<10	<0.20	3	2	220
APR					
15...	--	--	--	--	--
MAY					
21...	--	--	--	--	--
JUL					
06...	--	--	--	--	--
SEP					
02...	<10	<0.20	9	10	690

Remark codes used in this table:
< -- Less than

06336600 BEAVER CREEK NEAR TROTTERS, ND

LOCATION.--Lat 47°09'47", long 103°59'32", in SW¼SW¼NE¼ 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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for discharges below 1.0 ft^3/s and for estimated daily discharges, which are poor.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, about 1,100 ft^3/s, Mar. 10, gage height, 14.48 ft, from floodmark; minimum daily discharge, 0.04 ft^3/s, Sept. 11-12.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	e1.0	e2.3	27	9.4	4.4	0.75	0.27	0.15
2	---	---	---	---	e1.0	e2.0	25	9.3	4.2	0.74	0.34	0.13
3	---	---	---	---	e1.1	e2.0	23	9.1	3.9	1.2	0.35	0.13
4	---	---	---	---	e1.1	e2.0	21	9.0	3.6	0.98	0.41	0.14
5	---	---	---	---	e1.1	e20	20	8.9	3.4	0.85	0.41	0.15
6	---	---	---	---	e1.1	e69	19	8.6	3.0	1.1	0.36	0.16
7	---	---	---	---	e1.1	e132	18	8.4	2.6	1.1	0.30	0.14
8	---	---	---	---	e1.1	e236	17	8.2	2.5	1.3	0.40	0.12
9	---	---	---	---	e1.1	e502	16	8.0	2.5	1.2	0.43	0.09
10	---	---	---	---	e1.1	e1,000	15	7.7	2.6	1.2	0.40	0.05
11	---	---	---	---	e1.1	e720	14	7.7	2.6	1.1	0.36	0.04
12	---	---	---	---	e1.1	e800	14	7.7	2.7	0.97	0.30	0.04
13	---	---	---	---	e1.1	e570	13	7.7	2.6	0.70	0.27	0.07
14	---	---	---	---	e1.1	e490	13	7.4	2.5	0.56	0.30	0.12
15	---	---	---	---	e1.1	e280	12	7.3	2.1	0.53	0.34	0.14
16	---	---	---	---	e1.3	e190	12	6.9	2.0	0.51	0.31	0.13
17	---	---	---	---	e1.4	e160	12	6.6	1.9	0.37	0.28	0.19
18	---	---	---	---	e1.4	e130	12	6.3	1.7	0.27	0.28	0.20
19	---	---	---	---	e1.4	107	12	6.3	1.8	0.24	0.37	0.21
20	---	---	---	---	e1.4	86	12	5.7	1.7	0.51	0.36	0.21
21	---	---	---	---	e1.5	72	12	4.7	1.5	0.53	0.46	0.19
22	---	---	---	---	e1.7	66	11	4.9	1.4	0.40	0.30	0.14
23	---	---	---	---	e2.2	64	11	5.1	1.5	0.38	0.19	0.17
24	---	---	---	---	e2.8	60	11	5.7	1.6	0.35	0.17	0.15
25	---	---	---	---	e3.4	52	10	6.0	1.4	0.32	0.17	0.20
26	---	---	---	---	e3.2	45	10	5.8	1.3	0.29	0.17	0.26
27	---	---	---	---	e2.7	40	10	5.2	1.6	0.27	0.17	0.24
28	---	---	---	---	e2.5	36	9.8	5.2	0.92	0.26	0.18	0.21
29	---	---	---	---	e2.3	32	9.7	4.9	0.74	0.28	0.18	0.18
30	---	---	---	---	---	29	9.5	4.8	0.84	0.28	0.19	0.14
31	---	---	---	---	---	28	---	4.4	---	0.30	0.19	---
TOTAL	---	---	---	---	45.5	6,024.3	431.0	212.9	67.10	19.84	9.21	4.49
MEAN	---	---	---	---	1.57	194	14.4	6.87	2.24	0.64	0.30	0.15
MAX	---	---	---	---	3.4	1,000	27	9.4	4.4	1.3	0.46	0.26
MIN	---	---	---	---	1.0	2.0	9.5	4.4	0.74	0.24	0.17	0.04
AC-FT	---	---	---	---	90	11,950	855	422	133	39	18	8.9

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 2004, BY WATER YEAR (WY)

MEAN	1.10	2.62	2.59	4.40	26.5	122	45.7	15.3	17.8	10.1	2.04	0.68
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	0.01	0.01	0.03	0.00	0.00	1.21	1.11	1.05	0.12	0.00	0.00	0.00
(WY)	(1982)	(1982)	(1982)	(1982)	(1989)	(1991)	(1991)	(1981)	(1992)	(1988)	(1985)	(1981)

06336600 BEAVER CREEK NEAR TROTTERS, ND—Continued

SUMMARY STATISTICS	WATER YEARS 1978 - 2004	
ANNUAL MEAN	a33.3	
HIGHEST ANNUAL MEAN	a79.7	1978
LOWEST ANNUAL MEAN	a2.77	1981
HIGHEST DAILY MEAN	2,500	Mar 22, 1978
LOWEST DAILY MEAN	0.00	Aug 1, 1981
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 10, 1981
MAXIMUM PEAK FLOW	b2,720	Mar 29, 1978
MAXIMUM PEAK STAGE	c19.27	Mar 22, 1978
ANNUAL RUNOFF (AC-FT)	a24,110	
10 PERCENT EXCEEDS	51	
50 PERCENT EXCEEDS	2.8	
90 PERCENT EXCEEDS	0.03	

a Based on complete water years only (1978-83)
b Gage height, 18.61 ft
c Backwater from ice
e Estimated

06336600 BEAVER CREEK NEAR TROTTERS, ND—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1978 to current year.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT													
09...	1100	0.06	--	--	--	--	2,050	20.0	10.0	--	--	--	--
FEB													
24...	1140	2.8	--	--	--	--	2,800	0.0	0.0	--	--	--	--
MAR													
11...	1435	698	--	--	--	--	424	1.0	1.0	--	--	--	--
18...	1355	128	--	7.9	7.4	889	905	7.0	4.5	250	46.0	32.0	10.6
APR													
14...	1225	12	--	--	--	--	2,060	10.5	8.5	--	--	--	--
JUN													
08...	1430	2.5	--	--	--	--	2,590	19.0	16.5	--	--	--	--
JUL													
29...	1600	0.31	697	8.5	8.6	2,860	2,770	16.7	18.1	540	59.1	94.8	11.6
SEP													
02...	1245	0.12	--	--	--	--	3,070	26.0	20.0	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)
OCT													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	3	106	47	150	4.8	0.12	7.68	304	596	208	1.1	110	<1
APR													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
29...	9	487	66	431	11.7	0.30	<2.00	1,170	2,090	1.75	1.4	20	<1
SEP													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT						
09...	--	--	--	--	--	--
FEB						
24...	--	--	--	--	--	--
MAR						
11...	--	--	--	--	--	--
18...	20	90	<0.20	2	<1	490
APR						
14...	--	--	--	--	--	--
JUN						
08...	--	--	--	--	--	--
JUL						
29...	80	<10	<0.20	4	<1	1,200
SEP						
02...	--	--	--	--	--	--

Remark codes used in this table:
< -- Less than

06337000 LITTLE MISSOURI RIVER NEAR WATFORD CITY, ND

LOCATION.--Lat 47°35'45", long 103°15'45", in SE¼SE¼NW¼ 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 National Geodetic Vertical Datum of 1929. 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 for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	e19	e17	e15	e2.7	e527	e838	65	112	19	21	30
2	29	e20	e17	e15	e2.6	e540	e1,160	64	93	19	22	28
3	28	e20	e17	e13	e2.6	e489	e807	58	82	19	21	25
4	20	e21	e17	e13	e2.6	e431	e489	57	91	18	19	25
5	18	e21	e17	e11	e2.5	e380	e361	54	123	17	18	23
6	17	e22	e17	e9.5	e2.5	e327	e284	52	108	17	18	21
7	18	e24	e17	e7.8	e2.5	e327	e232	50	84	18	17	22
8	17	e26	e16	e6.4	e2.4	e361	e200	48	70	23	17	23
9	17	e26	e16	e5.2	e2.4	e400	e181	48	65	29	130	22
10	15	e27	e16	e4.2	e2.4	e503	e168	42	302	138	608	20
11	15	e28	e15	e3.3	e2.4	e858	e155	41	303	200	598	22
12	15	e30	e15	e2.9	e2.3	e2,010	e142	45	150	189	525	20
13	15	e32	e15	e2.8	e2.3	e3,930	127	44	77	131	658	26
14	15	e34	e15	e2.9	e2.2	5,070	120	43	81	98	657	47
15	17	e36	e17	e3.2	e2.1	5,360	113	39	84	62	517	35
16	17	e38	e18	e3.6	e2.0	4,870	106	38	52	47	334	37
17	16	e39	e18	e3.8	e1.9	e3,990	105	37	40	38	240	31
18	16	e37	e19	e3.9	e1.9	e1,760	109	35	35	50	180	26
19	17	e36	e20	e3.8	e1.8	e2,100	107	38	31	110	133	32
20	14	e32	e20	e3.8	e1.8	e1,630	106	37	28	87	111	148
21	15	e25	e20	e3.7	e1.8	e1,270	105	35	28	62	100	121
22	16	e20	e20	e3.7	e1.9	e1,040	111	35	28	44	78	119
23	17	e18	e20	e3.5	e1.9	e962	106	39	26	40	78	108
24	11	e16	e19	e3.5	e1.9	e860	101	47	24	36	70	85
25	14	e15	e19	e3.4	e12	774	94	49	21	31	63	58
26	15	e15	e19	e3.3	e104	717	85	44	20	29	61	52
27	13	e15	e19	e3.2	e250	e750	78	50	20	27	81	48
28	e14	e15	e19	e3.0	e374	e536	70	67	20	24	61	40
29	e15	e16	e19	e2.9	e489	e414	72	416	19	23	43	40
30	e16	e17	e18	e2.8	---	e361	68	426	19	22	35	37
31	e17	---	e17	e2.8	---	e401	---	153	---	22	32	---
TOTAL	530	740	548	169.9	1,282.4	43,948	6,800	2,296	2,236	1,689	5,546	1,371
MEAN	17.1	24.7	17.7	5.48	44.2	1,418	227	74.1	74.5	54.5	179	45.7
MAX	31	39	20	15	489	5,360	1,160	426	303	200	658	148
MIN	11	15	15	2.8	1.8	327	68	35	19	17	17	20
AC-FT	1,050	1,470	1,090	337	2,540	87,170	13,490	4,550	4,440	3,350	11,000	2,720

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2004, BY WATER YEAR (WY)

MEAN	158	62.9	18.0	11.5	256	1,843	1,414	727	1,035	503	217	161
MAX	2,364	509	138	121	3,023	10,220	12,170	4,302	5,646	2,759	1,405	1,174
(WY)	(1972)	(2001)	(1947)	(1983)	(1943)	(1972)	(1952)	(1975)	(1944)	(1993)	(1937)	(1941)
MIN	0.83	0.33	0.00	0.00	0.00	22.2	29.5	18.0	14.8	9.26	0.02	1.38
(WY)	(1989)	(1989)	(1989)	(1935)	(1935)	(1964)	(1981)	(1981)	(1988)	(1980)	(1988)	(1936)

06337000 LITTLE MISSOURI RIVER NEAR WATFORD CITY, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1935 - 2004	
ANNUAL TOTAL	71,177.07		67,156.3			
ANNUAL MEAN	195		183		535	
HIGHEST ANNUAL MEAN					1,637	1971
LOWEST ANNUAL MEAN					38.0	1988
HIGHEST DAILY MEAN	8,000	Mar 17	5,360	Mar 15	55,000	Mar 25, 1947
LOWEST DAILY MEAN	0.45	Mar 10	1.8	Feb 19	0.00	Jan 1, 1935
ANNUAL SEVEN-DAY MINIMUM	0.48	Mar 6	1.9	Feb 17	0.00	Jan 1, 1935
MAXIMUM PEAK FLOW			a5,900	Mar 14	110,000	Mar 25, 1947
MAXIMUM PEAK STAGE			b10.71	Mar 11	24.00	Mar 25, 1947
ANNUAL RUNOFF (AC-FT)	141,200		133,200		387,300	
10 PERCENT EXCEEDS	313		415		1,160	
50 PERCENT EXCEEDS	24		29		72	
90 PERCENT EXCEEDS	0.72		3.5		0.65	

a Gage height, 6.99 ft
b Backwater from ice
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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT													
07...	1455	19	--	--	--	--	1,970	23.0	12.5	--	--	--	--
NOV													
24...	1230	15	--	--	--	--	3,240	-1.0	0.0	--	--	--	--
JAN													
13...	1000	2.8	--	--	--	--	3,640	-10.0	0.0	--	--	--	--
APR													
12...	1530	141	--	--	--	--	1,710	10.0	5.0	--	--	--	--
JUN													
09...	1000	65	--	--	--	--	2,210	13.5	14.5	--	--	--	--
JUL													
29...	1340	23	707	8.4	8.7	1,900	1,830	18.0	18.3	260	56.3	30.0	11.9
SEP													
01...	1430	33	--	8.5	8.4	1,580	1,590	35.0	26.0	260	64.4	24.9	11.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)
OCT													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
29...	9	335	72	327	9.5	0.56	10.3	667	1,310	81.8	0.64	0.58	<0.010
SEP													
01...	7	261	67	281	8.1	0.39	10.1	536	1,080	96.7	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Arsenic water, fltrd, ug/L (01000)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)
OCT													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
29...	<0.010	<0.020	<0.020	<0.004	0.032	0.66	0.60	2.0	<1	80	<10	<0.20	10
SEP													
01...	--	--	--	--	--	--	--	3.0	<1	50	<10	<0.20	8

06337000 LITTLE MISSOURI RIVER NEAR WATFORD CITY, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
OCT		
07...	--	--
NOV		
24...	--	--
JAN		
13...	--	--
APR		
12...	--	--
JUN		
09...	--	--
JUL		
29...	3	690
SEP		
01...	8	700

Remark codes used in this table:
< -- Less than

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 National Geodetic Vertical Datum of 1929.

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, 11,644,000 acre-ft, Sept. 29, 2004, adjusted for wind effect; minimum elevation, 1,813.2 ft, Sept. 28, 2004.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 13,497,000 acre-ft, Oct. 1, adjusted for wind effect, elevation, 1,820.8 ft; maximum elevation, 1,820.9 ft, Oct. 2; minimum contents, 11,644,000 acre-ft, Sept. 29, elevation, 1,813.3; minimum elevation, 1,813.2 ft, Sept. 28.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	1,820.9	13,512,000	--
Oct. 31	1,820.1	13,301,000	-211,000
Nov. 30	1,819.1	13,046,000	-255,000
Dec. 31	1,818.4	12,881,000	-165,000
CAL YR 2003	--	--	-1,036,000
Jan. 31	1,816.6	12,446,000	-435,000
Feb. 29	1,814.3	11,891,000	-555,000
Mar. 31	1,815.6	12,197,000	+306,000
Apr. 30	1,814.6	11,989,000	-208,000
May 31	1,815.3	12,121,000	+132,000
June 30	1,816.5	12,426,000	+305,000
July 31	1,816.5	12,401,000	-25,000
Aug. 31	1,814.3	11,914,000	-487,000
Sept. 30	1,813.3	11,645,000	-269,000
WTR YR 2004	--	--	-1,867,000

06338490 MISSOURI RIVER AT GARRISON DAM, ND

LOCATION.--Lat 47°30'08", long 101°25'50", in S½ 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13,900	10,800	12,700	16,900	22,300	22,800	14,200	13,700	19,000	17,900	18,000	16,700
2	12,100	10,600	12,700	17,200	21,900	22,900	14,000	13,700	17,600	17,700	18,100	17,200
3	12,300	10,500	12,900	17,300	21,600	22,200	13,600	13,600	17,900	17,600	18,300	17,200
4	10,600	10,800	13,100	17,200	21,800	21,900	14,250	13,900	18,200	17,800	17,100	17,300
5	10,400	10,800	13,100	17,200	22,000	21,400	16,000	14,100	18,200	18,000	17,000	17,000
6	10,400	10,800	13,000	17,800	21,600	21,100	15,900	14,200	18,400	17,900	17,200	17,300
7	10,500	10,900	13,000	18,100	23,900	20,100	15,600	14,300	18,200	17,900	17,300	17,300
8	10,700	10,900	14,400	17,800	22,900	20,300	16,000	14,300	18,300	17,600	17,100	17,200
9	10,300	10,900	14,300	17,900	22,200	19,200	15,900	14,200	18,100	17,900	16,900	17,000
10	10,400	10,800	15,100	17,300	22,900	19,000	16,400	14,200	18,200	17,900	17,000	17,000
11	10,500	10,700	15,100	17,700	22,500	18,000	15,900	14,300	18,400	17,700	17,000	17,100
12	10,400	10,700	16,100	17,600	22,700	17,900	15,900	13,800	18,000	17,900	17,200	17,000
13	10,300	10,700	16,000	18,400	22,400	17,100	17,200	13,800	18,100	17,800	17,400	16,700
14	11,200	10,900	16,000	18,800	23,500	15,900	18,500	15,200	17,200	18,100	17,300	17,100
15	11,200	10,800	15,700	18,800	23,700	14,700	18,100	18,800	17,800	18,000	17,000	16,700
16	11,200	11,100	16,700	19,300	23,800	13,500	19,500	15,900	17,900	17,900	17,200	16,400
17	11,200	13,100	16,800	19,700	23,400	13,700	19,500	15,600	17,800	17,900	17,200	16,900
18	11,300	12,900	16,700	20,300	23,600	14,200	19,200	18,900	17,800	17,800	17,300	13,900
19	10,800	12,700	17,800	20,100	23,800	13,900	19,000	15,700	17,900	17,900	17,000	13,900
20	10,400	12,600	17,900	20,000	23,500	13,800	18,900	15,900	17,700	18,000	17,000	13,800
21	10,400	12,800	18,000	20,400	23,900	14,100	19,500	19,200	18,100	18,100	17,100	13,800
22	10,100	12,400	18,000	20,200	24,000	14,000	19,700	16,000	17,900	18,100	17,100	11,800
23	10,600	12,600	18,100	20,500	24,000	13,600	20,500	15,900	17,800	17,900	17,400	11,800
24	10,200	12,500	18,100	20,100	23,800	13,800	20,100	19,100	17,900	18,100	17,100	11,700
25	10,300	12,800	18,400	20,300	24,100	14,200	20,300	16,100	17,900	18,200	17,000	11,700
26	10,300	13,600	17,400	20,800	23,900	13,900	18,300	15,900	17,800	18,000	17,100	11,900
27	10,100	13,100	17,400	21,100	24,000	14,000	14,200	19,100	17,800	18,100	17,300	12,000
28	10,600	13,200	17,200	21,200	24,000	13,800	14,000	16,000	18,100	18,000	17,000	11,800
29	10,600	12,700	17,200	21,600	22,800	13,600	14,400	15,800	17,900	18,100	17,100	11,900
30	10,500	12,700	17,300	22,000	---	13,500	13,900	18,600	17,900	18,000	17,200	11,400
31	10,500	---	17,300	22,000	---	14,300	---	18,700	---	18,100	17,000	---
TOTAL	334,300	352,400	493,500	595,600	670,500	516,400	508,450	488,500	539,800	555,900	534,000	450,500
MEAN	10,780	11,750	15,920	19,210	23,120	16,660	16,950	15,760	17,990	17,930	17,230	15,020
MAX	13,900	13,600	18,400	22,000	24,100	22,900	20,500	19,200	19,000	18,200	18,300	17,300
MIN	10,100	10,500	12,700	16,900	21,600	13,500	13,600	13,600	17,200	17,600	16,900	11,400
AC-FT	663,100	699,000	978,900	1,181,000	1,330,000	1,024,000	1,009,000	968,900	1,071,000	1,103,000	1,059,000	893,600

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 2004, BY WATER YEAR (WY)

MEAN	19,240	20,500	20,660	23,270	24,600	19,820	19,280	21,740	23,890	25,140	24,530	20,810
MAX	49,450	42,350	29,530	30,500	31,500	28,210	37,500	38,490	42,430	61,800	54,130	46,570
(WY)	(1998)	(1998)	(1970)	(1979)	(1976)	(1983)	(1972)	(1972)	(1997)	(1975)	(1975)	(1997)
MIN	9,945	10,110	12,900	13,070	13,230	10,370	10,280	10,560	11,080	13,220	13,960	10,990
(WY)	(1994)	(1993)	(2002)	(2002)	(2002)	(1993)	(1993)	(1986)	(1995)	(1995)	(2001)	(1990)

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1970 - 2004	
ANNUAL TOTAL	6,515,310		6,039,850			
ANNUAL MEAN	17,850		16,500		21,950	
HIGHEST ANNUAL MEAN					33,000	1975
LOWEST ANNUAL MEAN					13,710	1993
HIGHEST DAILY MEAN	23,500	Feb 24	24,100	Feb 25	65,200	Jul 25, 1975
LOWEST DAILY MEAN	10,100	Oct 22	10,100	Oct 22	4,100	Mar 25, 1997
ANNUAL SEVEN-DAY MINIMUM	10,300	Oct 21	10,300	Oct 21	7,960	Mar 22, 1997
ANNUAL RUNOFF (AC-FT)	12,920,000		11,980,000		15,900,000	
10 PERCENT EXCEEDS	21,500		21,500		31,400	
50 PERCENT EXCEEDS	19,000		17,200		20,400	
90 PERCENT EXCEEDS	10,900		10,900		12,800	

06338490 MISSOURI RIVER AT GARRISON DAM, ND—Continued
(National Stream-Quality Accounting Network Station)

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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, wat unf lab, Hach 2100AN NTU (99872)	UV absorbance, 254 nm, wat flt units /cm (50624)	UV absorbance, 280 nm, wat flt units /cm (61726)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)
NOV													
19...	1030	13,900	2.5	0.082	0.058	--	10.5	--	8.2	8.2	611	647	--
MAR													
15...	1000	15,900	<2.0	0.076	0.053	716	12.0	91	8.1	8.1	590	666	-2.0
APR													
28...	1015	16,800	<2.0	0.075	0.053	706	12.9	108	8.1	8.1	586	638	21.0
MAY													
27...	1030	18,900	<2.0	0.070	0.048	701	11.9	108	8.3	8.2	584	637	18.5
JUN													
23...	0930	19,300	3.2	0.068	0.047	714	10.6	106	8.4	8.2	601	610	15.5
SEP													
08...	1045	15,300	3.7	0.086	0.065	--	7.5	--	8.4	8.2	607	613	19.5

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, wat flt fxd end lab, mg/L as CaCO3 (29801)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Carbonate, wat flt incrm. titr., field, mg/L (00452)	Chloride, water, fltrd, mg/L (00940)
NOV													
19...	6.2	210	49.8	20.4	4.25	2	55.3	36	157	152	180	0.0	9.48
MAR													
15...	1.3	200	47.7	19.4	3.84	2	51.4	35	163	148	178	2	9.49
APR													
28...	4.4	210	50.4	20.1	4.20	2	55.1	36	161@c	154	186	0.0	9.76
MAY													
27...	7.4	210	50.3	19.9	4.01	2	55.0	36	160@c	196	233	3	9.66
JUN													
23...	12.5	210	52.0	20.2	3.87	2	52.6	34	161@c	154	184	1	9.54
SEP													
08...	16.0	220	52.3	20.9	4.15	2	51.5	34	162@c	159	188	3	9.18

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitrogen, water, fltrd, mg/L (00607)
NOV													
19...	0.6	7.01	146	383	15,100	404	0.18	0.19	E.006n	--	0.124	E.001n	--
MAR													
15...	0.7	7.03	146	375	17,600	409	0.17	0.20	0.025	--	0.111	E.001n	0.15
APR													
28...	0.6	7.19	143	384	18,500	407	0.15	0.21	<0.010	--	0.118	E.001n	--
MAY													
27...	0.6	6.91	140	405	19,900	391	0.20	0.20	<0.010	0.09	0.095	0.002	--
JUN													
23...	0.6	6.76	143	381	20,600	394	0.15	0.21	E.008n	--	0.084	E.001n	--
SEP													
08...	0.7	6.16	147	388	17,000	411	0.22	0.21	E.008n	--	0.076	E.001n	--

06338490 MISSOURI RIVER AT GARRISON DAM, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Arsenic water, fltrd, ug/L (01000)	Boron, water, fltrd, ug/L (01020)	Iron, water, fltrd, ug/L (01046)	Lithium water, fltrd, ug/L (01130)
NOV													
19...	--	<0.006	E.003n	0.007	0.30	0.31	0.2	3.4	1.9	1.7	128	<6	44.0
MAR													
15...	0.18	E.004n	0.006	0.009	0.29	0.32	0.3	3.1+c	0.3	2.3	138	<6	48.3
APR													
28...	--	<0.006	0.006	0.009	0.27	0.33	0.3	3.3+c	1.9	2.4	113	<6	45.4
MAY													
27...	--	E.003n	<0.004	0.008	0.30	0.30	0.2	3.7	1.4	2.5	115	<6	43.1
JUN													
23...	--	<0.006	E.003n	0.008	0.24	0.30	0.2	3.1	2.4	2.1	116	<6	44.3
SEP													
08...	--	<0.006	E.003n	0.008	0.30	0.28	0.2	2.6	1.0	1.9	136	<6	55.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)	Vanadium, water, fltrd, ug/L (01085)	2,6-Diethylaniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	Acetochlor, water, fltrd, ug/L (49260)	Alachlor, water, fltrd, ug/L (46342)	alpha-HCH, water, fltrd, ug/L (34253)	Atrazine, water, fltrd, ug/L (39632)	Azinphosmethyl, water, fltrd 0.7u GF ug/L (82686)	Benfluralin, water, fltrd 0.7u GF ug/L (82673)	Butylate, water, fltrd, ug/L (04028)	Carbaryl, water, fltrd 0.7u GF ug/L (82680)
NOV													
19...	0.8	474	1.4	<0.006	<0.006	<0.006	<0.005	<0.005	E.003t	<0.050	<0.010	<0.004	<0.041
MAR													
15...	0.9	484	2.4	<0.006	<0.006	<0.006	<0.005	<0.005	<0.007	<0.050	<0.010	<0.004	<0.041
APR													
28...	0.9	501	1.8	<0.006	<0.006	<0.006	<0.005	<0.005	0.008	<0.050	<0.010	<0.004	<0.041
MAY													
27...	1.0	482	1.8	<0.006	<0.006	<0.006	<0.005	<0.005	E.006n	<0.050	E.004t	<0.004	<0.041
JUN													
23...	0.9	478	1.3	<0.006	<0.006	<0.006	<0.005	<0.005	E.005n	<0.050	<0.010	<0.004	<0.041
SEP													
08...	0.7	498	1.5	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Carbofuran, water, fltrd 0.7u GF ug/L (82674)	Chlorpyrifos water, fltrd, ug/L (38933)	cis-Permethrin water fltrd 0.7u GF ug/L (82687)	Cyanazine, water, fltrd, ug/L (04041)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazinon, water, fltrd, ug/L (39572)	Dieldrin, water, fltrd, ug/L (39381)	Disulfoton, water, fltrd 0.7u GF ug/L (82677)	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethalfluralin, water, fltrd 0.7u GF ug/L (82663)	Ethoprop, water, fltrd 0.7u GF ug/L (82672)	Fonofos water, fltrd, ug/L (04095)	Lindane water, fltrd, ug/L (39341)
NOV													
19...	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.009	<0.02	<0.004	<0.009	<0.005	<0.003	<0.004
MAR													
15...	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.009	<0.02	<0.004	<0.009	<0.005	<0.003	<0.004
APR													
28...	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.009	<0.02	<0.004	<0.009	<0.005	<0.003	<0.004
MAY													
27...	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.009	<0.02	<0.004	<0.009	<0.005	<0.003	<0.004
JUN													
23...	<0.020	<0.005	<0.006	<0.018	<0.003	<0.005	<0.009	<0.02	<0.004	<0.009	<0.005	<0.003	<0.004
SEP													
08...	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r

06338490 MISSOURI RIVER AT GARRISON DAM, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Linuron water fltrd 0.7u GF ug/L (82666)	Malathion, water, fltrd, ug/L (39532)	Methyl parathion, water, fltrd 0.7u GF ug/L (82667)	Metolachlor, water, fltrd, ug/L (39415)	Metribuzin, water, fltrd, ug/L (82630)	Molinate, water, fltrd 0.7u GF ug/L (82671)	Napropamide, water, fltrd 0.7u GF ug/L (82684)	p,p-' DDE, water, fltrd, ug/L (34653)	Parathion, water, fltrd, ug/L (39542)	Pebulate, water, fltrd 0.7u GF ug/L (82669)	Pendimethalin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)	Propyzamide, water, fltrd 0.7u GF ug/L (82676)
NOV													
19...	<0.035	<0.027	<0.015	E.001t	<0.006	<0.003	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	<0.004
MAR													
15...	<0.035	<0.027	<0.015	<0.013	<0.006	<0.003	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	<0.004
APR													
28...	<0.035	<0.027	<0.015	<0.013	<0.006	<0.003	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	<0.004
MAY													
27...	<0.035	<0.027	<0.015	E.005t	<0.006	<0.003	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	<0.004
JUN													
23...	<0.035	<0.027	<0.015	<0.013	<0.006	<0.003	<0.007	<0.003	<0.010	<0.004	<0.022	<0.011	<0.004
SEP													
08...	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Propachlor, water, fltrd, ug/L (04024)	Propanil, water, fltrd 0.7u GF ug/L (82679)	Propargite, water, fltrd 0.7u GF ug/L (82685)	Simazine, water, fltrd, ug/L (04035)	Tebuthiuron water fltrd 0.7u GF ug/L (82670)	Terbacil, water, fltrd 0.7u GF ug/L (82665)	Terbufos, water, fltrd 0.7u GF ug/L (82675)	Thiobencarb water fltrd 0.7u GF ug/L (82681)	Triallate, water, fltrd 0.7u GF ug/L (82678)	Trifluralin, water, fltrd 0.7u GF ug/L (82661)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
NOV													
19...	<0.025	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02	<0.010	<0.002	<0.009	--b	--b	--
MAR													
15...	<0.025	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02	<0.010	<0.002	<0.009	99	1	43
APR													
28...	<0.025	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02	<0.010	<0.002	<0.009	93	2	91
MAY													
27...	<0.025	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02	<0.010	<0.002	<0.009	100	1	51
JUN													
23...	<0.025	<0.011	<0.02	<0.005	<0.02	<0.034	<0.02	<0.010	<0.002	<0.009	98	3	156
SEP													
08...	--r	--r	--r	--r	--r	--r	--r	--r	--r	--r	99	3	124

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
+ -- Improper preservation
@ -- Holding time exceeded
c -- See laboratory comment
n -- Below the LRL and above the LT-MDL
t -- Below the long-term MDL

Null value qualifier codes used in this table:
b -- Sample broken/spilled in shipment
r -- Sample ruined in preparation

06338490 MISSOURI RIVER AT GARRISON DAM, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Dis-solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, water, deg C (00010)	Loca-tion in X-sect. looking dwnstrm ft from l bank (00009)
NOV						
19...	1031	10.4	8.2	647	6.2	100
19...	1032	10.8	8.1	647	6.2	210
19...	1033	10.3	8.2	642	6.2	320
MAR						
15...	0945	12.2	7.9	664	1.3	240
15...	0946	12.0	8.1	666	1.2	360
15...	0947	12.0	8.2	666	1.2	120
APR						
28...	1020	13.1	7.8	638	4.4	240
28...	1040	12.8	8.1	639	4.5	360
28...	1100	12.7	8.1	638	4.4	120
MAY						
27...	1040	11.8	8.5	637	7.4	240
27...	1041	11.8	8.3	636	7.4	360
27...	1042	12.2	8.3	637	7.5	120
JUN						
23...	0941	10.8	8.4	611	12.5	95.0
23...	0942	10.6	8.4	611	12.2	200
23...	0943	10.5	8.4	610	12.2	325
SEP						
08...	1056	7.5	8.4	613	16.0	240
08...	1057	7.4	8.4	613	16.0	360
08...	1058	7.5	8.4	613	16.0	120

06339010 MISSOURI RIVER ABOVE STANTON, ND

LOCATION.--Lat 47°21'45", long 101°21'25", SE¼NE¼SE¼ 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 National Geodetic Vertical Datum of 1929.

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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	63.64	---	---	---	64.06	63.84	64.87	64.13	64.61	64.29
2	---	---	63.60	---	---	---	63.97	63.84	64.74	64.22	64.70	64.64
3	---	---	63.69	---	---	---	63.91	63.86	64.59	64.19	64.70	64.55
4	---	---	63.72	---	---	---	64.01	63.86	64.31	64.32	64.43	64.49
5	---	---	63.66	---	---	65.60	64.34	63.89	64.37	---	64.45	64.45
6	---	---	63.77	---	---	65.72	64.38	63.94	64.33	---	64.51	64.54
7	---	---	63.65	---	---	65.39	64.20	63.92	64.37	---	64.49	64.51
8	---	---	63.91	---	---	65.58	64.45	64.05	64.36	---	64.51	64.55
9	---	---	63.95	---	---	65.40	64.37	63.91	64.34	---	64.43	64.46
10	---	---	64.05	---	---	65.40	64.42	63.85	64.29	---	64.43	64.48
11	---	---	64.12	---	---	65.43	64.45	64.05	64.37	---	64.46	64.53
12	---	---	64.14	---	---	64.93	64.38	63.83	64.29	---	64.50	64.50
13	---	---	64.49	---	---	---	64.52	63.82	64.36	---	64.47	64.26
14	---	---	64.25	---	---	---	64.91	64.09	64.36	---	64.54	64.57
15	---	---	64.31	---	---	---	64.87	64.50	64.28	---	64.50	64.48
16	---	---	64.35	---	---	---	65.06	64.55	64.34	---	64.45	64.29
17	---	---	64.51	---	---	---	65.03	64.23	64.34	---	64.52	64.56
18	---	---	64.50	---	---	---	65.03	64.53	64.31	---	64.53	64.04
19	---	---	64.55	---	---	---	64.97	64.49	64.34	---	64.45	63.97
20	---	---	---	---	---	---	64.79	64.27	64.32	---	64.44	63.82
21	---	63.61	---	---	---	---	65.17	64.69	64.28	---	64.48	63.86
22	---	63.56	---	---	---	---	65.13	64.55	64.15	---	64.43	63.58
23	---	63.53	---	---	---	---	65.12	64.24	64.35	64.62	64.57	63.46
24	---	63.60	---	---	---	---	65.19	64.70	64.19	64.63	64.53	63.44
25	---	63.62	---	---	---	---	65.13	64.60	64.30	64.68	64.41	63.41
26	---	63.88	---	---	---	---	64.87	64.24	64.22	64.66	64.47	63.44
27	---	63.61	---	---	---	---	64.24	64.70	64.31	64.67	64.52	63.45
28	---	63.79	---	---	---	---	63.79	64.52	64.28	64.60	64.47	63.49
29	---	63.59	---	---	---	---	63.88	64.33	64.19	64.68	64.49	63.45
30	---	63.64	---	---	---	---	63.95	64.60	64.31	64.59	64.49	63.40
31	---	---	---	---	---	---	---	64.83	---	64.64	64.47	---
MEAN	---	---	---	---	---	---	64.55	64.24	64.35	---	64.50	64.10
MAX	---	---	---	---	---	---	65.19	64.83	64.87	---	64.70	64.64
MIN	---	---	---	---	---	---	63.79	63.82	64.15	---	64.41	63.40

06339100 KNIFE RIVER AT MANNING, ND

LOCATION.--Lat 47°14'10", long 102°46'10", in SE¼NW¼ 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.--August 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,156.55 ft above National Geodetic Vertical Datum of 1929.

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e0.30	e2.6	e1.4	e0.70	e0.35	e4.2	18	2.7	1.6	0.64	0.32	0.07
2	e0.35	e2.5	e1.1	e0.65	e0.30	e3.4	16	2.5	1.6	0.68	0.28	0.08
3	e0.40	e2.3	e1.0	e0.60	e0.25	e2.7	13	2.3	1.6	0.62	0.27	0.14
4	0.45	e2.4	e1.1	e0.55	e0.30	e2.6	11	2.4	1.3	0.54	0.24	0.21
5	0.46	e2.2	e1.1	e0.50	e0.35	e2.2	10	2.4	1.3	0.58	0.21	0.40
6	0.46	e2.1	e0.95	e0.45	e0.40	e1.4	8.9	2.4	1.5	0.67	0.22	0.56
7	0.44	e2.1	e0.99	e0.40	e0.50	e1.3	8.1	2.2	0.97	0.54	0.27	0.51
8	0.44	e2.0	e1.1	e0.45	e0.70	e5.7	7.2	2.2	0.78	0.73	0.34	0.38
9	0.45	e1.8	e1.0	e0.50	e0.85	e105	6.2	2.1	0.87	1.4	0.48	0.23
10	0.46	e2.0	e1.0	e0.55	e0.90	e701	5.7	1.7	0.92	1.5	0.49	0.17
11	0.48	e2.2	e0.90	e0.60	e0.95	e304	5.4	1.7	1.6	1.7	0.41	0.15
12	0.50	e2.2	e0.82	e0.65	e1.0	e149	5.1	2.0	2.8	1.8	0.29	0.14
13	0.51	e2.1	e0.80	e0.70	e1.3	e243	4.7	2.0	3.0	2.1	0.15	0.20
14	0.53	2.3	e0.78	e0.70	e1.2	e234	4.5	2.2	2.5	2.2	0.13	0.25
15	e0.53	2.3	e0.80	e0.75	e1.2	e90	4.0	2.5	2.1	2.0	0.13	0.32
16	e0.53	2.2	e0.85	e0.80	e1.2	e80	3.9	2.5	2.3	1.5	0.15	0.39
17	e0.54	2.2	e0.80	e0.85	e1.2	e75	3.9	2.4	2.1	1.4	0.17	0.40
18	0.59	2.3	e0.85	e0.80	e1.3	e80	4.5	2.1	1.6	1.1	0.08	0.48
19	0.67	2.5	e0.83	e0.75	e1.4	e117	5.1	2.1	1.2	1.1	0.09	0.71
20	0.60	2.8	e0.80	e0.70	e1.5	e164	5.7	2.0	1.1	0.85	0.12	0.94
21	0.90	e2.9	e0.78	e0.75	e1.6	e79	5.3	1.9	0.87	0.75	0.11	1.3
22	1.2	e2.7	e0.85	e0.70	e1.8	e44	5.0	1.9	0.70	0.68	0.19	1.3
23	1.2	e2.3	e0.86	e0.75	e1.9	e31	4.6	1.9	0.63	0.60	0.26	1.2
24	1.1	e1.8	e0.80	e0.70	e1.9	e38	4.1	2.0	0.53	0.73	0.21	1.3
25	1.1	1.5	e0.75	e0.70	e1.9	e63	3.9	2.2	0.45	0.69	0.12	1.0
26	1.1	1.5	e0.70	e0.75	e1.8	e69	3.5	2.2	0.53	0.51	0.17	0.86
27	1.1	1.4	e0.65	e0.70	e1.9	69	3.1	2.6	0.64	0.41	0.16	0.71
28	1.1	1.2	e0.70	e0.65	e3.2	74	2.7	3.3	0.62	0.39	0.06	0.51
29	1.5	1.1	e0.80	e0.55	e4.5	58	2.7	2.5	0.81	0.39	0.05	0.44
30	2.1	1.4	e0.85	e0.50	---	35	2.7	2.0	0.66	0.37	0.06	0.48
31	e2.2	---	e0.80	e0.45	---	22	---	1.6	---	0.33	0.05	---
TOTAL	24.29	62.9	27.51	19.85	37.65	2,947.5	188.5	68.5	39.18	29.50	6.28	15.83
MEAN	0.78	2.10	0.89	0.64	1.30	95.1	6.28	2.21	1.31	0.95	0.20	0.53
MAX	2.2	2.9	1.4	0.85	4.5	701	18	3.3	3.0	2.2	0.49	1.3
MIN	0.30	1.1	0.65	0.40	0.25	1.3	2.7	1.6	0.45	0.33	0.05	0.07
AC-FT	48	125	55	39	75	5,850	374	136	78	59	12	31

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2004, BY WATER YEAR (WY)

MEAN	3.77	1.87	1.36	2.99	15.7	89.0	46.9	15.0	16.4	11.5	2.75	3.89
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	0.00	0.06	0.07	0.00	0.20	1.37	1.32	0.45	0.08	0.02	0.00	0.00
(WY)	(1991)	(1991)	(1991)	(1991)	(2001)	(1990)	(1990)	(1993)	(1992)	(1992)	(1988)	(1990)

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1967 - 2004	
ANNUAL TOTAL	8,858.03		3,467.49			
ANNUAL MEAN	24.3		9.47		17.6	
HIGHEST ANNUAL MEAN					48.1	1975
LOWEST ANNUAL MEAN					0.90	1990
HIGHEST DAILY MEAN	3,500	Mar 18	701	Mar 10	3,500	Mar 21, 1997
LOWEST DAILY MEAN	0.10	Sep 20	0.05	Aug 29	0.00	Sep 18, 1972
ANNUAL SEVEN-DAY MINIMUM	0.12	Aug 20	0.07	Aug 28	0.00	Aug 17, 1973
MAXIMUM PEAK FLOW			a1,000	Mar 10	a3,800	Mar 18, 2003
MAXIMUM PEAK STAGE			b13.58	Mar 10	b17.63	Mar 18, 2003
ANNUAL RUNOFF (AC-FT)	17,570		6,880		12,780	
10 PERCENT EXCEEDS	8.0		5.3		19	
50 PERCENT EXCEEDS	1.1		1.1		1.5	
90 PERCENT EXCEEDS	0.26		0.29		0.14	

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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
15...	1040	0.55	--	--	--	2,720	-2.0	6.5	--	--	--	--	--
NOV													
24...	1540	1.8	--	--	--	2,860	-5.0	0.0	--	--	--	--	--
JAN													
08...	1125	0.41	--	--	--	3,020	-10.0	0.0	--	--	--	--	--
MAR													
17...	1640	70	7.7	6.9	369	357	10.0	1.0	62	14.9	6.10	7.40	3
APR													
08...	1120	7.1	--	--	--	1,250	5.0	5.0	--	--	--	--	--
MAY													
21...	1315	2.0	--	--	--	2,080	15.0	16.5	--	--	--	--	--
JUL													
06...	1150	0.65	--	--	--	2,320	20.0	18.0	--	--	--	--	--
SEP													
02...	1510	0.08	8.8	8.6	2,780	2,800	31.0	18.8	210	29.0	32.9	9.10	18

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	52.9	62	85	3.7	0.10	6.47	85.9	224	43.3	<1.0	380	<1	<10
APR													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
02...	608	86	785	12.5	1.00	<2.00	744	1,910	0.41	6.2	90	<1	60

06339100 KNIFE RIVER AT MANNING, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
15...	--	--	--	--	--
NOV					
24...	--	--	--	--	--
JAN					
08...	--	--	--	--	--
MAR					
17...	40	<0.20	1	<1	100
APR					
08...	--	--	--	--	--
MAY					
21...	--	--	--	--	--
JUL					
06...	--	--	--	--	--
SEP					
02...	20	<0.20	5	8	600

Remark codes used in this table:
< -- Less than

06339500 KNIFE RIVER NEAR GOLDEN VALLEY, ND

LOCATION.--Lat 47°09'16", long 102°03'34", in NW¼NW¼NW¼ sec.2, T.142 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.--June 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 May 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 National Geodetic Vertical Datum of 1929. See WSP 1729 or 1917 for history of changes prior to May 1, 1946.

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	8.5	e6.1	e4.4	e3.4	e66	186	17	14	5.1	2.4	4.2
2	4.1	8.9	e6.0	e4.2	e3.4	e166	136	16	13	9.2	2.2	3.4
3	4.5	9.3	e6.0	e3.9	e3.3	e75	102	16	13	7.7	2.0	3.1
4	4.6	9.5	e6.0	e3.6	e3.1	e60	80	15	13	5.2	1.8	3.1
5	4.5	9.1	e6.0	e3.3	e3.5	e66	67	14	19	4.8	2.2	3.1
6	4.4	8.7	e5.9	e3.0	e3.6	e69	54	13	29	4.8	2.4	2.8
7	4.8	9.1	e5.8	e2.9	e3.8	e64	46	13	16	4.9	2.7	2.6
8	5.0	8.8	e5.8	e2.9	e4.0	e65	41	13	11	6.2	3.7	2.6
9	5.8	8.8	e5.8	e3.1	e4.4	e125	37	13	8.7	6.9	4.1	2.3
10	5.6	8.7	e5.5	e3.5	e4.4	e1,320	35	12	8.9	7.1	4.7	2.1
11	6.7	8.7	e5.1	e3.8	e4.2	e2,660	35	12	11	6.5	4.2	2.3
12	6.3	9.1	e5.0	e4.2	e4.5	e1,400	34	12	14	6.3	4.9	2.5
13	6.2	8.8	e5.0	e4.4	e4.7	e1,030	31	12	12	5.9	9.6	3.0
14	5.7	8.9	e5.0	e4.5	e4.6	e740	29	12	16	5.2	8.2	3.2
15	4.2	8.9	e5.0	e4.8	e5.1	e606	27	12	13	4.9	6.3	3.5
16	6.7	8.8	e5.0	e5.1	e5.4	e513	26	12	9.9	4.9	5.7	3.8
17	5.0	8.7	e4.8	e5.4	e5.3	e575	25	12	8.4	5.5	5.1	3.7
18	4.8	8.7	e4.6	e5.7	e5.3	499	26	11	7.4	5.4	4.1	3.3
19	5.7	9.1	e4.6	e5.6	e5.3	500	26	12	6.6	5.1	3.7	3.3
20	5.9	10	e4.5	e5.2	e5.4	526	27	12	6.4	5.0	3.2	3.4
21	5.9	9.4	e4.4	e5.2	e5.4	487	26	11	9.6	4.6	2.7	3.3
22	5.7	8.7	e4.5	e4.8	e5.8	442	26	11	9.6	3.7	2.4	3.8
23	6.0	e8.3	e4.7	e4.6	e6.2	e390	27	11	8.9	3.2	2.4	4.0
24	6.7	e7.7	e4.3	e4.9	e7.0	330	26	12	8.0	2.6	2.5	4.3
25	7.1	e7.1	e4.0	e4.5	e7.8	287	24	13	6.9	2.5	2.4	3.6
26	5.9	e6.8	e3.8	e4.3	e8.1	246	23	13	6.3	2.1	2.3	3.5
27	7.5	e6.4	e3.6	e4.1	e8.5	350	22	13	6.3	1.8	3.7	3.4
28	8.0	e6.1	e3.7	e3.9	e22	664	21	13	6.1	1.9	6.4	3.0
29	8.2	e5.7	e4.1	e3.7	e32	516	19	13	5.6	1.9	9.6	3.0
30	8.0	e5.8	e4.4	e3.5	---	346	18	14	5.1	2.1	8.2	3.0
31	8.2	---	e4.5	e3.5	---	261	---	14	---	2.2	5.6	---
TOTAL	181.9	251.1	153.5	130.5	189.5	15,444	1,302	399	322.7	145.2	131.4	96.2
MEAN	5.87	8.37	4.95	4.21	6.53	498	43.4	12.9	10.8	4.68	4.24	3.21
MAX	8.2	10	6.1	5.7	32	2,660	186	17	29	9.2	9.6	4.3
MIN	4.1	5.7	3.6	2.9	3.1	60	18	11	5.1	1.8	1.8	2.1
AC-FT	361	498	304	259	376	30,630	2,580	791	640	288	261	191

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2004, BY WATER YEAR (WY)

MEAN	16.2	11.2	7.20	8.81	40.6	347	293	86.2	136	47.2	32.9	14.6
MAX	245	69.7	23.0	140	299	1,729	2,448	1,031	1,193	255	725	97.5
(WY)	(1983)	(1983)	(1983)	(1974)	(1982)	(1972)	(1952)	(1970)	(1914)	(1969)	(1918)	(1978)
MIN	0.46	1.93	0.52	0.03	0.00	2.30	6.98	1.42	1.03	1.91	0.28	0.12
(WY)	(1993)	(1962)	(1962)	(1962)	(1959)	(1964)	(1981)	(1923)	(1961)	(1992)	(1959)	(1992)

06339500 KNIFE RIVER NEAR GOLDEN VALLEY, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1903 - 2004	
ANNUAL TOTAL	19,116.52		18,747.0			
ANNUAL MEAN	52.4		51.2		86.4	
HIGHEST ANNUAL MEAN					235	1982
LOWEST ANNUAL MEAN					5.38	1991
HIGHEST DAILY MEAN	2,400	Mar 17	2,660	Mar 11	10,300	Apr 17, 1950
LOWEST DAILY MEAN	0.46	Aug 28	1.8	Jul 27	0.00	Sep 6, 1905
ANNUAL SEVEN-DAY MINIMUM	0.65	Aug 24	2.1	Jul 26	0.00	Jan 22, 1959
MAXIMUM PEAK FLOW			a3,000	Mar 10	d11,200	May 9, 1970
MAXIMUM PEAK STAGE			b16.16	Mar 10	c26.70	Mar 26, 1943
ANNUAL RUNOFF (AC-FT)	37,920		37,180		62,610	
10 PERCENT EXCEEDS	45		56		115	
50 PERCENT EXCEEDS	6.1		6.0		10	
90 PERCENT EXCEEDS	2.7		3.1		2.1	

a About
b Backwater from ice
c From floodmark
d Gage height, 25.84 ft
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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
01...	1115	4.1	--	--	--	2,480	-3.0	6.5	--	--	--	--	--
NOV													
19...	1000	9.2	--	--	--	2,540	-2.0	0.0	--	--	--	--	--
JAN													
08...	1430	2.8	--	--	--	2,730	-5.0	0.0	--	--	--	--	--
FEB													
26...	1235	8.1	--	--	--	2,980	-5.0	0.5	--	--	--	--	--
MAR													
17...	1110	575	7.6	6.9	442	440	-5.0	1.0	83	18.5	9.00	9.20	3
APR													
07...	1115	46	--	--	--	1,280	5.0	5.0	--	--	--	--	--
MAY													
26...	1300	13	--	--	--	2,390	15.0	14.0	--	--	--	--	--
JUN													
28...	1045	6.1	--	--	--	1,950	15.0	20.5	--	--	--	--	--
AUG													
25...	1240	2.5	8.6	8.6	2,520	2,470	24.0	22.1	250	35.5	38.8	10.3	14

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	59.6	58	97	2.4	0.12	7.07	110	269	426	<1.0	380	<1	<10
APR													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
25...	491	80	625	8.1	0.59	5.08	710	1,670	11.4	6.0	30	<1	70

06339500 KNIFE RIVER NEAR GOLDEN VALLEY, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
01...	--	--	--	--	--
NOV					
19...	--	--	--	--	--
JAN					
08...	--	--	--	--	--
FEB					
26...	--	--	--	--	--
MAR					
17...	80	<0.20	1	<1	180
APR					
07...	--	--	--	--	--
MAY					
26...	--	--	--	--	--
JUN					
28...	--	--	--	--	--
AUG					
25...	<10	<0.20	7	1	770

Remark codes used in this table:
< -- Less than

06340000 SPRING CREEK AT ZAP, ND

LOCATION.--Lat 47°17'10", long 101°55'31", in SE¼SE¼SW¼ 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 National Geodetic Vertical Datum of 1929. Mar. 4 to Sept. 30, 1924, nonrecording 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 estimated daily discharges, which are 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.3	e14	e7.1	e6.9	e6.2	e8.1	67	13	10	6.0	5.2	6.0
2	5.6	e13	e7.2	e6.8	e6.1	e7.9	55	12	10	13	5.2	5.9
3	6.2	e12	e7.4	e6.7	e6.1	e7.6	46	11	9.3	8.4	5.1	6.0
4	6.4	e11	e7.3	e6.5	e6.0	e7.4	39	11	8.8	7.1	5.2	6.4
5	6.5	e10	e7.2	e6.3	e6.0	e7.8	33	11	8.7	6.8	5.1	6.4
6	6.4	e9.3	e7.3	e6.2	e6.1	e9.0	27	10	8.8	6.9	5.3	6.4
7	6.5	e8.7	e7.3	e6.0	e6.2	e11	23	10	8.0	6.5	5.5	6.4
8	7.0	e8.4	e7.2	e6.2	e6.2	e16	21	9.9	7.7	7.1	6.6	6.0
9	7.7	e8.2	e7.0	e6.4	e6.2	e30	19	9.7	7.5	8.0	6.8	6.5
10	8.9	e8.0	e6.4	e6.5	e6.3	e100	19	9.2	8.9	7.5	6.0	6.1
11	9.2	e7.7	e6.3	e6.5	e6.4	e80	18	9.5	12	7.3	6.0	6.2
12	9.7	e7.4	e6.6	e6.7	e6.3	e60	17	10	11	7.2	6.4	6.3
13	13	e7.3	e6.7	e6.8	e6.3	e48	17	10	9.6	7.1	6.1	6.6
14	14	e7.4	e6.9	e7.0	e6.3	e43	16	11	23	6.7	5.9	6.9
15	13	e7.4	e7.1	e7.1	e6.4	e42	17	10	25	6.8	5.6	6.8
16	15	e7.3	e7.3	e7.1	e6.5	52	15	9.9	16	7.2	5.5	6.6
17	13	e7.3	e7.3	e7.0	e6.6	73	14	9.8	13	7.0	5.4	6.5
18	12	e7.5	e7.4	e6.9	e6.8	91	15	9.7	11	6.8	16	6.3
19	13	e7.7	e7.4	e6.8	e6.9	150	15	10	9.4	6.3	13	6.1
20	11	e7.9	e7.4	e6.6	e7.0	193	15	9.8	8.6	6.8	10	6.5
21	12	e7.7	e7.4	e6.5	e7.2	215	15	9.5	7.7	7.6	7.9	6.9
22	12	e7.4	e7.5	e6.4	e7.4	182	15	9.3	7.5	7.1	7.3	6.8
23	13	e7.0	e7.6	e6.3	e7.6	139	15	9.2	7.1	6.8	6.8	6.7
24	14	e6.7	e7.6	e6.2	e7.8	130	14	9.6	6.7	6.5	6.8	6.8
25	14	e6.5	e7.5	e6.1	e8.0	137	13	10	6.5	6.1	6.4	6.4
26	14	e6.3	e7.4	e6.1	e8.3	142	12	9.9	6.3	5.8	6.2	5.8
27	17	e6.4	e7.3	e6.0	e8.5	158	12	9.9	6.6	5.5	6.4	6.1
28	18	e6.5	e7.3	e5.9	e8.5	151	11	10	6.4	5.4	7.2	5.8
29	18	e6.7	e7.2	e5.8	e8.3	116	10	10	6.1	5.4	7.1	5.3
30	e17	e7.0	e7.1	e5.9	---	85	11	9.9	6.1	5.4	6.1	5.2
31	e16	---	e7.0	e6.0	---	74	---	9.5	---	5.3	6.5	---
TOTAL	354.4	245.7	222.7	200.2	198.5	2,565.8	636	313.3	293.3	213.4	210.6	188.7
MEAN	11.4	8.19	7.18	6.46	6.84	82.8	21.2	10.1	9.78	6.88	6.79	6.29
MAX	18	14	7.6	7.1	8.5	215	67	13	25	13	16	6.9
MIN	5.3	6.3	6.3	5.8	6.0	7.4	10	9.2	6.1	5.3	5.1	5.2
AC-FT	703	487	442	397	394	5,090	1,260	621	582	423	418	374

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2004, BY WATER YEAR (WY)

MEAN	10.6	9.77	6.73	5.81	26.3	160	132	35.8	41.2	24.8	10.9	7.72
MAX	74.4	51.9	21.2	30.6	183	933	1,044	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	0.80	0.00	0.00	3.39	9.41	5.77	3.10	1.84	0.96	1.10
(WY)	(1959)	(1962)	(1962)	(1959)	(1949)	(1949)	(1992)	(1992)	(1961)	(1961)	(1961)	(1958)

06340000 SPRING CREEK AT ZAP, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1924 - 2004	
ANNUAL TOTAL	12,024.3		5,642.6			
ANNUAL MEAN	32.9		15.4		39.4	
HIGHEST ANNUAL MEAN					99.5	1972
LOWEST ANNUAL MEAN					6.95	1961
HIGHEST DAILY MEAN	1,800	Mar 17	215	Mar 21	5,640	Apr 7, 1952
LOWEST DAILY MEAN	3.1	Sep 8	5.1	Aug 3	0.00	Jan 30, 1946
ANNUAL SEVEN-DAY MINIMUM	3.3	Sep 3	5.2	Jul 31	0.00	Jan 30, 1946
MAXIMUM PEAK FLOW			a245	Mar 21	b6,130	Apr 7, 1952
MAXIMUM PEAK STAGE			c6.88	Mar 10	20.70	Mar 15, 1972
INSTANTANEOUS LOW FLOW					0.00	Jan 30, 1946
ANNUAL RUNOFF (AC-FT)	23,850		11,190		28,520	
10 PERCENT EXCEEDS	34		18		50	
50 PERCENT EXCEEDS	7.3		7.4		8.9	
90 PERCENT EXCEEDS	4.2		6.0		3.0	

a Gage height, 6.09 ft
b Gage height, 20.03 ft
c 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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
01...	1230	5.3	--	--	--	1,980	10.0	7.5	--	--	--	--	--
NOV													
19...	1130	7.7	--	--	--	2,140	5.0	0.0	--	--	--	--	--
JAN													
09...	1135	6.4	--	--	--	1,510	-5.0	0.0	--	--	--	--	--
FEB													
25...	1250	8.0	--	--	--	1,810	0.0	0.5	--	--	--	--	--
MAR													
22...	1335	182	7.8	7.2	729	730	10.0	2.3	190	35.8	24.7	9.50	3
APR													
07...	1300	22	--	--	--	1,180	7.0	5.0	--	--	--	--	--
MAY													
19...	1012	10	--	--	--	1,840	14.0	16.5	--	--	--	--	--
JUN													
28...	1215	6.4	--	--	--	1,730	24.0	18.0	--	--	--	--	--
AUG													
25...	1315	6.0	8.6	8.6	2,160	2,120	19.3	18.3	380	50.0	61.1	8.90	8

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
22...	84.1	47	130	4.1	0.18	8.62	232	470	235	<1.0	340	<1	20
APR													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
25...	344	66	398	10.9	0.48	2.46	747	1,460	23.9	5.3	60	<1	90

06340000 SPRING CREEK AT ZAP, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
01...	--	--	--	--	--
NOV					
19...	--	--	--	--	--
JAN					
09...	--	--	--	--	--
FEB					
25...	--	--	--	--	--
MAR					
22...	70	<0.20	<1	<1	640
APR					
07...	--	--	--	--	--
MAY					
19...	--	--	--	--	--
JUN					
28...	--	--	--	--	--
AUG					
25...	20	<0.20	2	<1	1,500

Remark codes used in this table:
< -- Less than

06340500 KNIFE RIVER AT HAZEN, ND

LOCATION.--Lat 47°17'07", long 101°37'18", in SW¼SE¼SE¼ 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, June 1929 to September 1933, September 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 National Geodetic Vertical Datum of 1929. Prior to Sept. 25, 1947, nonrecording gages at same site and datum.

REMARKS.--Records good except 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	e27	e25	e20	e17	e270	382	47	40	19	14	22
2	15	e27	e25	e19	e17	e180	291	47	40	20	14	20
3	16	e28	e25	e19	e17	e200	226	45	39	25	14	18
4	16	e28	e25	e18	e17	e310	184	43	38	25	14	17
5	16	e28	e25	e17	e17	e250	153	42	36	25	15	17
6	16	29	e24	e16	e17	e190	131	41	35	22	15	16
7	16	29	e24	e15	e17	e200	116	41	38	21	15	16
8	16	29	e24	e16	e17	e190	105	42	42	22	15	15
9	18	29	e23	e16	e17	e350	96	40	35	22	16	15
10	17	29	e22	e16	e17	e2,900	89	38	33	22	16	15
11	18	29	e22	e16	e16	e5,000	85	39	37	22	16	15
12	17	29	e20	e16	e17	e3,900	81	41	39	28	17	15
13	17	29	e21	e16	e17	e2,500	79	42	40	27	17	15
14	17	29	e21	e16	e18	e2,000	75	40	39	24	17	16
15	18	28	e21	e16	e17	e1,250	70	40	44	23	16	16
16	19	27	e21	e16	e17	e850	68	41	50	21	18	16
17	19	26	e21	e16	e18	e880	65	41	41	20	18	16
18	20	25	e21	e15	e18	e770	65	39	34	19	17	16
19	20	25	e21	e15	e18	e750	69	39	30	19	17	16
20	21	25	e20	e15	e18	e980	70	39	28	19	25	16
21	21	26	e20	e15	e18	e900	69	38	25	18	22	16
22	21	26	e20	e15	e18	e840	67	40	25	17	20	16
23	21	27	e19	e15	e18	e770	65	43	23	18	19	16
24	20	e26	e19	e15	e19	e680	62	43	24	17	19	17
25	21	e28	e19	e15	e20	632	59	42	23	17	18	17
26	21	e28	e19	e16	e21	576	56	41	23	16	17	17
27	22	e30	e18	e16	e26	662	54	39	23	15	17	17
28	22	e27	e18	e16	e39	1,000	52	40	22	14	17	16
29	25	e24	e19	e15	e160	1,070	49	40	21	14	19	16
30	26	e24	e20	e15	---	763	47	40	20	14	20	17
31	26	---	e20	e16	---	498	---	39	---	14	20	---
TOTAL	593	821	662	498	683	32,311	3,080	1,272	987	619	534	493
MEAN	19.1	27.4	21.4	16.1	23.6	1,042	103	41.0	32.9	20.0	17.2	16.4
MAX	26	30	25	20	160	5,000	382	47	50	28	25	22
MIN	15	24	18	15	16	180	47	38	20	14	14	15
AC-FT	1,180	1,630	1,310	988	1,350	64,090	6,110	2,520	1,960	1,230	1,060	978

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2004, BY WATER YEAR (WY)

MEAN	38.6	32.2	22.7	20.2	93.9	699	494	160	219	115	48.1	33.8
MAX	365	223	83.1	145	927	3,228	4,293	1,530	1,041	979	215	143
(WY)	(1983)	(1983)	(1983)	(1974)	(1930)	(1943)	(1952)	(1970)	(1944)	(1938)	(1954)	(1978)
MIN	6.39	7.71	3.79	0.70	0.00	11.6	26.3	17.0	8.70	10.5	2.00	0.50
(WY)	(1962)	(1962)	(1962)	(1962)	(1962)	(1965)	(1981)	(1931)	(1961)	(1961)	(1933)	(1933)

06340500 KNIFE RIVER AT HAZEN, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1929 - 2004	
ANNUAL TOTAL	37,444.0		42,553			
ANNUAL MEAN	103		116		166	
HIGHEST ANNUAL MEAN					441	1943
LOWEST ANNUAL MEAN					21.7	1991
HIGHEST DAILY MEAN	4,500	Mar 17	5,000	Mar 11	22,400	Mar 27, 1943
LOWEST DAILY MEAN	9.1	Aug 28	14	Jul 28	0.00	Jan 21, 1933
ANNUAL SEVEN-DAY MINIMUM	9.5	Aug 28	14	Jul 28	0.00	Jan 21, 1933
MAXIMUM PEAK FLOW			a5,300	Mar 11	35,300	Jun 24, 1966
MAXIMUM PEAK STAGE			b19.08	Mar 11	27.01	Jun 24, 1966
ANNUAL RUNOFF (AC-FT)	74,270		84,400		119,900	
10 PERCENT EXCEEDS	101		155		249	
50 PERCENT EXCEEDS	24		22		33	
90 PERCENT EXCEEDS	12		16		10	

a About
b Backwater from ice
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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
NOV													
19...	1320	24	--	--	--	2,320	10.0	0.0	--	--	--	--	--
JAN													
09...	1350	16	--	--	--	2,340	-10.0	0.0	--	--	--	--	--
FEB													
25...	1115	19	--	--	--	2,230	-3.0	0.5	--	--	--	--	--
MAR													
22...	1140	791	7.6	7.1	673	660	5.0	1.0	150	29.4	17.4	9.30	3
APR													
08...	1445	107	--	--	--	1,340	10.0	5.0	--	--	--	--	--
MAY													
19...	1230	39	--	--	--	1,900	16.0	15.5	--	--	--	--	--
JUN													
28...	1430	21	7.6	--	--	1,940	25.0	20.6	--	--	--	--	--
AUG													
25...	1500	18	8.4	8.5	1,700	1,720	25.0	19.0	300	52.5	41.0	8.40	7
SEP													
23...	1530	16	8.5	8.4	1,740	1,770	12.5	13.0	330	57.8	45.1	8.50	7

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)
NOV													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
22...	89.1	55	129	3.2	0.15	7.52	199	427	925	--	--	--	--
APR													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
28...	--	--	--	--	--	--	--	--	--	0.63	0.69	<0.010	<0.010
AUG													
25...	281	66	466	7.5	0.39	7.55	455	1,130	54.8	0.49	0.54	<0.010	<0.010
SEP													
23...	289	65	488	8.6	0.40	8.00	491	1,190	53.2	--	--	--	--

06340500 KNIFE RIVER AT HAZEN, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, fltrd, mg/L (00602)	Total nitro-gen, water, unfltrd mg/L (00600)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Mangan-ese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molyb-denum, water, fltrd, ug/L (01060)
NOV													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
22...	--	--	--	--	--	--	<1.0	220	<1	10	60	<0.20	1
APR													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
28...	<0.020	0.020	0.018	0.056	0.65	0.71	--	--	--	--	--	--	--
AUG													
25...	<0.020	<0.020	0.024	0.051	0.51	0.56	3.1	30	<1	60	30	<0.20	4
SEP													
23...	--	--	--	--	--	--	2.7	30	<1	60	50	<0.20	4

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
NOV		
19...	--	--
JAN		
09...	--	--
FEB		
25...	--	--
MAR		
22...	<1	390
APR		
08...	--	--
MAY		
19...	--	--
JUN		
28...	--	--
AUG		
25...	<1	990
SEP		
23...	5	1,070

Remark codes used in this table:
< -- Less than

06340700 MISSOURI RIVER NEAR STANTON, ND

LOCATION.--Lat 47°17'14", long 101°20'23", in SW¼ 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 National Geodetic Vertical Datum of 1929 (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 daily recorded, 8.30 ft, Nov. 1, 2001.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.67	8.64	9.35	---	---	---	9.94	9.59	10.74	10.48	10.50	10.10
2	9.40	8.83	9.36	---	---	---	9.82	9.59	10.62	10.49	10.62	10.49
3	9.18	8.74	9.46	---	---	---	9.72	9.56	10.50	10.39	10.61	10.39
4	8.95	8.70	9.47	---	---	12.04	9.78	9.59	10.71	10.43	10.33	10.28
5	8.75	8.73	9.44	---	---	11.59	10.09	9.61	10.63	10.56	10.30	10.28
6	8.75	8.72	9.60	---	---	11.71	10.20	9.70	10.78	10.44	10.35	10.31
7	8.71	8.73	9.46	---	---	11.27	9.94	9.67	10.81	10.49	10.34	10.33
8	8.82	8.84	9.69	---	---	11.50	10.29	9.85	10.58	10.51	10.32	10.38
9	8.71	8.79	9.82	---	---	11.30	10.17	9.67	10.53	10.51	10.23	10.28
10	8.74	8.79	9.91	---	---	11.23	10.21	9.59	10.68	10.45	10.27	10.28
11	8.59	8.78	10.04	---	---	11.56	10.25	10.03	10.62	10.49	10.28	10.33
12	8.76	8.67	10.07	---	---	11.55	10.14	9.56	10.55	10.52	10.34	10.35
13	8.68	8.72	10.48	---	---	11.25	10.27	9.55	10.58	10.46	10.30	9.97
14	8.78	8.79	10.32	---	---	10.74	10.83	9.79	10.06	10.59	10.37	10.35
15	8.87	8.75	10.28	---	---	10.52	10.70	10.17	10.47	10.47	10.34	10.32
16	8.89	8.89	10.27	---	---	10.19	10.89	10.58	10.81	10.51	10.27	10.0
17	8.87	9.07	10.51	---	---	10.01	10.84	10.03	10.49	10.51	10.37	10.34
18	8.96	9.45	10.48	---	---	10.02	10.84	10.20	10.46	10.52	10.35	9.79
19	8.86	9.49	10.57	---	---	10.14	10.94	10.46	10.49	10.48	10.27	9.62
20	8.69	9.07	10.75	---	---	10.06	10.60	10.07	10.47	10.49	10.26	9.43
21	8.66	9.35	10.80	---	---	10.05	11.11	10.45	10.49	10.52	10.32	9.46
22	8.56	9.32	10.73	---	---	9.96	11.03	10.57	10.54	10.56	10.25	9.26
23	8.73	9.25	10.80	---	---	9.94	10.98	10.06	10.48	10.51	10.45	8.98
24	8.49	9.36	10.81	---	---	9.85	11.15	10.46	10.48	10.51	10.37	8.95
25	8.55	9.27	10.77	---	---	9.83	11.08	10.58	10.51	10.58	10.21	8.94
26	8.61	9.67	10.85	---	---	10.02	10.86	9.98	10.48	10.54	10.28	8.95
27	8.55	9.31	10.73	---	---	9.96	10.19	10.42	10.47	10.55	10.35	8.97
28	8.54	9.56	10.69	---	---	9.88	9.52	10.48	10.55	10.48	10.31	9.06
29	8.74	9.35	10.47	---	---	9.89	9.59	10.13	10.51	10.58	10.30	8.97
30	8.71	9.29	---	---	---	9.81	9.75	10.25	10.42	10.47	10.32	8.93
31	8.67	---	---	---	---	9.87	---	10.64	---	10.51	10.29	---
MEAN	8.79	9.03	---	---	---	---	10.39	10.03	10.55	10.50	10.34	9.80
MAX	9.67	9.67	---	---	---	---	11.15	10.64	10.81	10.59	10.62	10.49
MIN	8.49	8.64	---	---	---	---	9.52	9.55	10.06	10.39	10.21	8.93

06340900 MISSOURI RIVER NEAR HENSLER, ND

LOCATION.--Lat 47°16'49", long 101°11'07", in SW¼ 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 National Geodetic Vertical Datum of 1929 (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. Gage heights for Nov. 10, Nov. 20, Nov. 23-24, Dec. 10-11, Jan. 7, Jan. 26-28, Feb. 1-4, Mar. 2-3, Mar. 11, May 1-3, and June 3 based on incomplete daily record.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily gage height recorded, 27.77 ft, Mar. 20, 1965; minimum daily recorded, 12.91 ft, Nov. 1, 2001.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.39	13.25	13.71	15.49	19.69	16.42	14.79	14.28	15.46	15.32	15.42	15.05
2	14.17	13.50	13.74	15.21	19.71	16.39	14.70	14.42	15.41	15.36	15.54	15.37
3	13.83	13.41	13.76	15.40	19.18	16.27	14.64	14.49	14.84	15.26	15.52	15.32
4	13.71	13.34	13.83	15.68	19.15	16.39	14.58	14.50	15.38	15.28	15.28	15.20
5	13.45	13.38	13.78	15.42	19.15	16.28	14.87	14.48	15.38	15.42	15.25	15.24
6	13.41	13.39	13.91	19.30	18.99	16.21	15.08	14.58	15.47	15.35	15.28	15.20
7	13.39	13.40	13.83	19.88	18.74	15.81	14.81	14.50	15.60	15.36	15.29	15.25
8	13.49	13.44	13.93	20.06	19.34	16.05	15.15	14.65	15.30	15.38	15.28	15.26
9	13.35	13.43	14.13	19.75	18.96	15.93	15.04	14.58	15.28	15.39	15.19	15.23
10	13.40	13.39	14.18	19.22	18.49	15.84	15.07	14.42	15.42	15.34	15.25	15.21
11	13.24	---	14.35	18.72	18.79	16.11	15.10	14.89	15.37	15.38	15.23	15.22
12	13.39	---	14.38	18.29	19.02	16.13	15.00	14.44	15.34	15.42	15.30	15.28
13	13.34	---	14.64	17.92	18.92	15.93	15.04	14.40	15.36	15.37	15.24	14.98
14	13.39	---	14.61	17.65	18.57	15.43	15.61	14.55	14.90	15.47	15.32	15.22
15	13.50	---	14.52	17.65	18.50	15.24	15.58	14.75	15.18	15.40	15.27	15.30
16	13.55	---	14.54	17.15	18.80	14.99	15.71	15.58	15.60	15.43	15.23	14.93
17	13.51	---	14.79	16.84	18.21	14.79	15.65	14.92	15.27	15.42	15.31	15.19
18	13.60	---	14.74	17.23	18.02	14.73	15.66	14.76	15.24	15.45	15.30	14.80
19	13.54	---	14.76	18.80	17.72	14.92	15.90	15.46	15.28	15.42	15.22	14.52
20	13.36	13.36	14.94	19.27	17.32	14.83	15.46	14.88	15.26	15.42	15.20	14.40
21	13.32	13.72	15.02	18.28	17.41	14.87	15.90	15.03	15.27	15.46	15.25	14.34
22	13.23	13.75	14.96	19.16	17.29	14.83	15.82	15.55	15.32	15.51	15.21	14.35
23	13.35	13.65	15.00	19.30	17.23	14.84	15.67	14.88	15.27	15.46	15.31	13.94
24	13.18	13.74	15.03	18.66	17.13	14.74	15.93	15.05	15.29	15.45	15.35	13.90
25	13.20	13.64	14.95	18.34	16.93	14.70	15.84	15.54	15.30	15.51	15.17	13.90
26	13.25	13.98	15.09	19.17	16.85	14.84	15.71	14.80	15.29	15.46	15.22	13.88
27	13.23	13.82	14.94	19.11	16.73	14.89	15.19	15.00	15.29	15.48	15.28	13.91
28	13.19	13.83	14.90	18.96	16.69	14.79	14.34	15.41	15.36	15.41	15.26	14.01
29	13.38	13.78	14.87	19.48	16.57	14.78	14.41	14.93	15.37	15.50	15.25	13.89
30	13.38	13.68	14.80	19.38	---	14.67	14.56	14.86	15.24	15.40	15.24	13.89
31	13.33	---	15.21	19.50	---	14.69	---	15.42	---	15.44	15.24	---
MEAN	13.45	---	14.51	18.20	18.21	15.40	15.23	14.84	15.31	15.41	15.28	14.74
MAX	14.39	---	15.21	20.06	19.71	16.42	15.93	15.58	15.60	15.51	15.54	15.37
MIN	13.18	---	13.71	15.21	16.57	14.67	14.34	14.28	14.84	15.26	15.17	13.88

06341000 MISSOURI RIVER AT WASHBURN, ND

LOCATION.--Lat 47°17'20", long 101°02'15", in SE¼SW¼ 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 National Geodetic Vertical Datum of 1929. Prior to Sept. 30, 1964, at datum 40 ft lower.

REMARKS.--Stage regulated by releases from Garrison Dam (station 06338490) 35 mi upstream. Gage heights for Jan. 2-4, Jan. 6-13, Jan. 15-16 and Mar. 10-11 based on incomplete daily record.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily gage height recorded, 22.76 ft, Jan. 11, 1964; minimum daily recorded, 8.66 ft, Nov. 2, 2001.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.87	8.87	9.38	11.68	14.69	11.65	9.90	9.63	10.64	10.50	10.55	10.31
2	9.71	9.07	9.42	11.30	14.75	11.63	9.79	9.67	10.67	10.53	10.64	10.51
3	9.37	8.98	9.42	10.88	14.61	11.52	9.75	9.61	10.53	10.45	10.63	10.52
4	9.31	8.93	9.48	12.43	14.47	11.47	9.70	9.65	10.58	10.44	10.48	10.42
5	9.04	8.99	9.44	---	14.52	11.38	9.88	9.64	10.61	10.56	10.43	10.45
6	8.99	9.00	9.57	15.13	14.52	11.32	10.16	9.73	10.70	10.51	10.43	10.41
7	8.98	8.99	9.50	15.54	14.37	10.93	9.88	9.70	10.81	10.54	10.46	10.47
8	9.06	9.02	9.53	14.92	14.85	11.09	10.18	9.78	10.54	10.53	10.46	10.47
9	8.98	9.02	9.72	14.81	14.80	11.03	10.09	9.79	10.53	10.53	10.34	10.48
10	8.99	9.02	9.80	14.65	14.51	10.86	10.13	9.60	10.64	10.49	10.40	10.44
11	8.88	8.99	10.0	14.63	14.36	11.13	10.15	9.91	10.62	10.53	10.37	10.45
12	8.98	8.90	9.98	14.21	14.54	11.32	10.10	9.66	10.59	10.56	10.44	10.48
13	8.95	8.92	10.21	14.87	14.54	10.96	10.10	9.60	10.58	10.51	10.40	10.33
14	8.98	8.98	10.21	14.78	14.54	10.56	10.55	9.72	10.25	10.58	10.49	10.43
15	9.06	8.94	10.08	14.82	14.42	10.38	10.60	9.89	10.40	10.54	10.42	10.54
16	9.12	9.07	10.12	14.05	14.68	10.15	10.68	10.71	10.72	10.55	10.40	10.26
17	9.09	9.05	10.33	13.80	14.59	9.94	10.69	10.15	10.50	10.55	10.46	10.41
18	9.16	9.54	10.30	13.72	14.69	9.87	10.69	9.93	10.46	10.56	10.44	10.24
19	9.13	9.56	10.29	13.79	14.25	10.06	10.96	10.66	10.49	10.54	10.40	9.88
20	8.97	9.22	10.46	14.20	13.62	9.93	10.60	10.11	10.48	10.54	10.36	9.81
21	8.92	9.39	10.55	14.15	13.38	10.02	10.86	10.17	10.47	10.56	10.41	9.70
22	8.84	9.41	10.48	13.56	13.05	9.96	10.91	10.72	10.51	10.58	10.40	9.76
23	8.93	9.33	10.51	14.09	12.81	9.98	10.76	10.14	10.47	10.54	10.47	9.37
24	8.82	9.48	10.55	13.78	12.65	9.89	11.04	10.21	10.49	10.54	10.53	9.32
25	8.79	9.34	10.49	13.06	12.42	9.83	10.94	10.74	10.49	10.60	10.38	9.34
26	8.86	9.59	10.59	13.85	12.37	9.94	10.89	10.11	10.49	10.57	10.41	9.31
27	8.84	9.55	10.45	14.15	12.21	10.00	10.47	10.17	10.49	10.59	10.45	9.33
28	8.76	9.45	10.42	13.85	12.03	9.89	9.60	10.66	10.53	10.55	10.46	9.44
29	8.95	9.48	10.45	14.32	11.82	9.87	9.66	10.19	10.55	10.59	10.44	9.32
30	8.96	9.37	10.37	14.30	---	9.79	9.79	10.07	10.42	10.52	10.43	9.34
31	8.92	---	10.72	14.39	---	9.83	---	10.62	---	10.57	10.44	---
MEAN	9.04	9.18	10.09	---	13.90	10.52	10.32	10.03	10.54	10.54	10.45	10.05
MAX	9.87	9.59	10.72	---	14.85	11.65	11.04	10.74	10.81	10.60	10.64	10.54
MIN	8.76	8.87	9.38	---	11.82	9.79	9.60	9.60	10.25	10.44	10.34	9.31

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 National Geodetic Vertical Datum of 1929 (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. Gage heights for Jan. 27-28, Feb. 2-4, and Feb. 6-7 are based on incomplete daily record.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily gage height recorded, 30.12 ft, Jan. 22, 1967; minimum daily recorded, 16.84 ft, Nov. 2, 2001.

GAGE HEIGHT, FEET
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.54	17.35	17.89	19.92	23.09	21.12	18.49	18.32	19.32	19.18	19.20	18.95
2	18.43	17.49	17.94	20.31	23.20	20.92	18.45	18.30	19.38	19.24	19.25	18.95
3	18.03	17.47	17.90	21.42	23.10	20.71	18.37	18.26	19.25	19.16	19.26	19.12
4	18.00	17.39	18.01	23.03	22.94	20.40	18.24	18.27	19.20	19.10	19.21	19.03
5	17.63	17.44	17.94	22.86	22.98	20.25	18.41	18.33	19.31	19.18	19.05	19.02
6	17.55	17.51	18.22	23.01	23.03	20.04	18.75	18.40	19.29	19.18	19.04	18.99
7	17.56	17.46	18.08	23.54	22.85	19.71	18.61	18.36	19.41	19.19	19.09	19.01
8	17.60	17.47	17.97	23.96	23.15	19.61	18.66	18.42	19.31	19.18	19.10	19.02
9	17.58	17.53	18.20	23.99	23.38	19.65	18.72	18.55	19.27	19.17	18.99	19.05
10	17.53	17.50	18.33	23.93	23.10	19.55	18.72	18.32	19.31	19.16	19.02	19.01
11	17.50	17.49	18.75	23.75	22.92	19.56	18.74	18.40	19.36	19.17	19.00	19.01
12	17.51	17.40	18.90	23.55	22.98	20.07	18.71	18.48	19.33	19.21	19.06	19.01
13	17.54	17.38	18.87	23.42	23.08	19.68	18.68	18.24	19.29	19.18	19.04	19.00
14	17.53	17.44	18.86	23.41	23.12	19.31	18.96	18.28	19.16	19.18	19.10	18.89
15	17.63	17.44	18.68	23.39	23.04	19.06	19.20	18.56	19.03	19.20	19.05	19.07
16	17.70	17.50	18.67	23.30	23.22	18.87	19.25	19.30	19.28	19.17	19.04	18.89
17	17.69	17.53	18.83	23.21	23.21	18.63	19.36	19.02	19.28	19.18	19.04	18.83
18	17.72	18.01	18.85	22.80	23.22	18.51	19.36	18.65	19.19	19.20	19.06	18.90
19	17.74	18.07	18.81	22.56	23.21	18.72	19.51	19.29	19.20	19.19	19.03	18.35
20	17.57	17.93	18.97	22.83	23.13	18.65	19.38	18.95	19.20	19.19	18.96	18.34
21	17.43	17.87	19.09	23.04	23.08	18.69	19.38	18.83	19.20	19.20	18.99	18.10
22	17.36	17.95	19.06	22.44	23.18	18.63	19.55	19.38	19.21	19.22	19.02	18.20
23	17.36	17.87	19.11	22.63	23.23	18.62	19.46	19.00	19.20	19.22	19.02	17.78
24	17.39	17.97	19.12	22.66	23.28	18.56	19.64	18.83	19.20	19.21	19.14	17.67
25	17.24	17.92	19.06	21.88	23.26	18.50	19.63	19.34	19.18	19.25	19.02	17.66
26	17.32	18.01	19.10	22.15	23.27	18.56	19.60	19.00	19.20	19.24	18.99	17.64
27	17.35	18.20	19.01	22.68	22.82	18.70	19.32	18.81	19.22	19.25	19.04	17.64
28	17.21	17.95	19.01	22.37	22.16	18.61	18.48	19.32	19.22	19.21	19.06	17.74
29	17.37	18.11	19.08	22.67	21.55	18.55	18.35	18.99	19.27	19.22	19.04	17.64
30	17.45	17.90	19.45	22.80	---	18.44	18.40	18.78	19.16	19.20	19.01	17.68
31	17.38	---	19.58	22.80	---	18.41	---	19.21	---	19.21	19.02	---
MEAN	17.59	17.68	18.69	22.78	23.03	19.27	18.95	18.72	19.25	19.19	19.06	18.54
MAX	18.54	18.20	19.58	23.99	23.38	21.12	19.64	19.38	19.41	19.25	19.26	19.12
MIN	17.21	17.35	17.89	19.92	21.55	18.41	18.24	18.24	19.03	19.10	18.96	17.64

06342260 SQUARE BUTTE CREEK BELOW CENTER, ND

LOCATION.--Lat 47°03'25", long 101°11'35", in SE¼ 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.--June 1965 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,865 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	0.89	e1.0	e1.4	e1.1	e1.1	33	1.5	1.8	1.8	0.82	0.99
2	3.0	0.84	e1.1	e1.3	e1.0	e1.1	32	1.4	1.4	2.4	1.2	0.90
3	3.3	1.1	e1.0	e1.4	e1.0	e1.0	25	1.5	1.1	2.0	1.1	0.98
4	2.9	1.0	e1.2	e1.4	e0.99	e1.0	12	1.5	1.2	2.1	1.2	1.3
5	2.7	1.0	e1.0	e1.4	e0.99	e1.0	1.7	1.6	1.3	2.3	1.0	1.7
6	2.8	1.1	e1.0	e1.5	e0.99	e1.0	1.5	1.6	1.1	2.1	0.92	1.6
7	2.3	1.2	e1.1	e1.5	e1.0	e1.1	1.4	1.7	1.1	2.1	1.00	1.5
8	2.1	1.1	e1.1	e1.5	e1.1	e1.9	1.5	1.8	1.1	2.4	1.3	1.6
9	2.6	1.2	e1.0	e1.4	e1.1	e3.0	1.4	1.7	1.1	2.2	1.2	1.7
10	2.6	1.2	e1.0	e1.4	e1.2	e2.5	1.3	1.6	1.7	2.2	1.3	1.6
11	2.8	1.4	e1.1	e1.4	e1.2	e2.0	1.4	1.7	2.2	2.2	1.3	1.7
12	2.3	1.3	e1.2	e1.3	e1.3	e1.8	1.3	1.8	1.8	2.2	1.3	1.5
13	2.0	1.3	e1.1	e1.3	e1.3	e1.5	1.3	1.8	1.5	2.1	1.1	1.6
14	1.8	1.4	e1.2	e1.2	e1.4	e1.3	1.4	1.7	1.5	2.2	1.1	1.5
15	1.8	1.3	e1.3	e1.2	e1.4	e1.1	1.4	1.8	1.4	2.2	0.92	1.5
16	2.2	1.0	e1.2	e1.1	e1.5	e1.0	1.5	1.8	1.3	2.3	0.86	1.4
17	2.1	1.4	e1.3	e1.1	e1.5	e2.0	1.5	1.7	1.3	2.4	0.86	1.3
18	1.3	1.2	e1.2	e1.1	e1.6	e4.5	2.5	1.7	1.2	2.3	0.85	1.3
19	1.7	1.2	e1.3	e1.0	e1.6	e5.0	1.6	2.0	1.3	2.3	0.90	1.3
20	1.8	1.4	e1.2	e1.0	e1.7	e3.0	1.6	1.7	1.5	2.3	1.0	1.6
21	1.3	1.3	e1.2	e1.0	e1.7	e1.6	1.5	1.7	1.4	2.0	1.2	1.5
22	1.1	1.2	e1.3	e1.0	e1.5	e2.0	1.8	2.0	1.5	1.9	1.2	1.6
23	1.2	1.1	e1.2	e1.0	e1.5	e2.3	1.5	1.7	1.5	1.8	1.2	2.0
24	1.1	1.1	e1.2	e1.1	e1.5	e2.4	1.4	1.8	1.4	1.6	1.3	2.1
25	1.1	1.2	e1.2	e1.1	e1.4	e2.5	1.4	1.6	1.3	1.6	1.1	2.1
26	1.3	1.1	e1.3	e1.1	e1.4	e2.4	1.4	1.6	1.4	1.3	1.1	2.2
27	1.2	1.1	e1.3	e1.2	e1.2	e41	1.6	1.3	1.7	1.3	1.4	2.2
28	0.99	1.0	e1.3	e1.1	e1.2	140	1.4	1.5	1.4	1.2	1.2	2.3
29	1.2	1.2	e1.2	e1.2	e1.1	59	1.3	1.5	1.4	1.2	1.2	2.5
30	0.96	1.1	e1.3	e1.2	---	32	1.4	1.5	1.5	1.2	0.97	2.6
31	1.0	---	e1.3	e1.1	---	32	---	1.6	---	1.1	0.96	---
TOTAL	58.95	34.93	36.4	38.0	37.47	355.1	141.0	51.4	42.4	60.3	34.06	49.67
MEAN	1.90	1.16	1.17	1.23	1.29	11.5	4.70	1.66	1.41	1.95	1.10	1.66
MAX	3.3	1.4	1.3	1.5	1.7	140	33	2.0	2.2	2.4	1.4	2.6
MIN	0.96	0.84	1.0	1.0	0.99	1.0	1.3	1.3	1.1	1.1	0.82	0.90
AC-FT	117	69	72	75	74	704	280	102	84	120	68	99

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2004, BY WATER YEAR (WY)

MEAN	1.58	1.45	1.39	1.35	6.91	52.7	34.5	9.13	6.55	9.74	2.91	1.64
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	0.24	0.19	0.21	0.20	0.09	1.24	1.00	0.79	0.57	0.71	0.83	0.35
(WY)	(1968)	(1968)	(1968)	(1968)	(1966)	(1998)	(1998)	(1989)	(1989)	(1989)	(1982)	(1967)

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1965 - 2004	
ANNUAL TOTAL	755.12		939.68			
ANNUAL MEAN	2.07		2.57		10.9	
HIGHEST ANNUAL MEAN					30.0	1969
LOWEST ANNUAL MEAN					0.86	1968
HIGHEST DAILY MEAN	58	May 16	140	Mar 28	2,670	Jul 18, 1969
LOWEST DAILY MEAN	0.84	Nov 2	0.82	Aug 1	0.00	Feb 14, 1966
ANNUAL SEVEN-DAY MINIMUM	0.97	Oct 30	0.93	Aug 14	0.00	Feb 14, 1966
MAXIMUM PEAK FLOW			195	Mar 28	9,700	Jun 24, 1966
MAXIMUM PEAK STAGE			4.04	Mar 28	14.35	Jun 24, 1966
INSTANTANEOUS LOW FLOW					0.00	Feb 14, 1966
ANNUAL RUNOFF (AC-FT)	1,500		1,860		7,870	
10 PERCENT EXCEEDS	2.2		2.3		6.8	
50 PERCENT EXCEEDS	1.5		1.4		1.5	
90 PERCENT EXCEEDS	1.0		1.0		0.92	

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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
NOV													
20...	1400	1.6	--	--	--	1,520	-5.0	0.0	--	--	--	--	--
JAN													
07...	1440	1.5	--	--	--	1,220	-10.0	0.0	--	--	--	--	--
FEB													
20...	1135	1.6	--	--	--	1,490	-10.0	0.5	--	--	--	--	--
MAR													
19...	1045	5.3	7.4	7.1	600	605	5.0	1.0	160	35.6	17.6	9.90	2
APR													
05...	1425	1.9	--	--	--	1,560	10.0	5.0	--	--	--	--	--
MAY													
17...	1540	1.8	--	--	--	1,700	16.0	17.0	--	--	--	--	--
JUN													
24...	1040	1.7	--	--	--	1,740	20.0	21.0	--	--	--	--	--
AUG													
09...	1455	1.4	--	--	--	1,510	22.0	26.0	--	--	--	--	--
SEP													
02...	1130	0.86	8.2	8.2	1,760	1,740	28.0	20.0	440	94.6	49.7	10.1	5

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
NOV													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
19...	67.6	46	139	4.8	0.14	10.7	154	375	5.50	1.3	170	<1	20
APR													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
02...	255	55	433	18.2	0.41	17.6	519	1,210	2.85	5.6	<10	<1	50

06342260 SQUARE BUTTE CREEK BELOW CENTER, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
NOV					
20...	--	--	--	--	--
JAN					
07...	--	--	--	--	--
FEB					
20...	--	--	--	--	--
MAR					
19...	120	<0.20	1	<1	380
APR					
05...	--	--	--	--	--
MAY					
17...	--	--	--	--	--
JUN					
24...	--	--	--	--	--
AUG					
09...	--	--	--	--	--
SEP					
02...	150	<0.20	4	4	1,260

Remark codes used in this table:
< -- Less than

06342450 BURNT CREEK NEAR BISMARCK, ND

LOCATION.--Lat 46°54'54", long 100°48'48", in SW¼NW¼SW¼ 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 National Geodetic Vertical Datum of 1929, from topographic map.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 70 ft^3/s, Mar. 21, gage height, 5.75 ft; maximum observed gage height, 5.95 ft, Feb. 24; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	e0.02	e0.10	8.4	0.89	2.6	0.27	0.00	0.12
2	---	---	---	---	e0.02	e0.12	6.9	0.93	3.7	0.41	0.00	0.09
3	---	---	---	---	e0.03	e0.16	5.8	0.81	4.6	0.36	0.00	0.05
4	---	---	---	---	e0.03	e0.20	5.0	0.73	4.9	0.32	0.00	0.14
5	---	---	---	---	e0.03	e0.25	4.3	0.68	4.3	0.34	0.00	0.10
6	---	---	---	---	e0.04	e0.30	3.7	0.62	2.9	0.41	0.00	0.07
7	---	---	---	---	e0.05	e0.38	3.6	0.52	1.7	0.39	0.00	0.05
8	---	---	---	---	e0.05	e0.50	3.4	0.47	0.79	0.37	0.00	0.05
9	---	---	---	---	e0.06	e1.6	3.1	0.58	0.52	0.35	0.00	0.04
10	---	---	---	---	e0.06	e3.3	3.3	1.5	0.56	0.45	0.00	0.02
11	---	---	---	---	e0.07	e5.8	3.2	3.0	4.0	0.36	0.00	0.00
12	---	---	---	---	e0.07	e4.9	3.0	3.1	23	1.6	0.00	0.00
13	---	---	---	---	e0.07	e3.6	2.7	2.4	20	3.4	0.00	0.00
14	---	---	---	---	e0.08	e2.2	2.6	2.0	11	8.9	0.00	0.00
15	---	---	---	---	e0.07	e1.5	2.4	1.7	7.6	6.1	0.00	0.00
16	---	---	---	---	e0.07	e2.9	2.5	1.5	13	3.2	0.00	0.00
17	---	---	---	---	e0.07	e3.5	2.0	1.0	11	0.82	0.00	0.00
18	---	---	---	---	e0.08	18	2.2	0.64	6.5	0.37	0.00	0.00
19	---	---	---	---	e0.08	29	2.9	e1.0	4.8	0.24	0.00	0.00
20	---	---	---	---	e0.07	43	4.5	e1.2	3.4	0.20	0.00	0.00
21	---	---	---	---	e0.08	43	5.4	0.46	2.4	0.17	0.00	0.00
22	---	---	---	---	e0.07	21	5.2	0.93	1.8	0.11	0.00	0.00
23	---	---	---	---	e0.08	15	4.7	3.6	1.2	0.08	0.09	0.00
24	---	---	---	---	e0.08	7.3	4.0	3.8	1.2	0.06	0.02	0.00
25	---	---	---	---	e0.09	5.7	3.6	3.2	0.65	0.01	0.13	0.00
26	---	---	---	---	e0.10	7.9	3.0	3.5	0.64	0.00	0.79	0.00
27	---	---	---	---	e0.12	16	2.1	3.1	0.62	0.03	1.9	0.00
28	---	---	---	---	e0.12	26	1.5	2.1	0.54	0.06	1.2	0.00
29	---	---	---	---	e0.11	15	1.0	1.7	0.35	0.04	0.48	0.00
30	---	---	---	---	---	10	0.82	1.3	0.28	0.00	0.23	0.00
31	---	---	---	---	---	8.7	---	1.3	---	0.00	0.14	---
TOTAL	---	---	---	---	1.97	296.91	106.82	50.26	140.55	29.42	4.98	0.73
MEAN	---	---	---	---	0.07	9.58	3.56	1.62	4.68	0.95	0.16	0.02
MAX	---	---	---	---	0.12	43	8.4	3.8	23	8.9	1.9	0.14
MIN	---	---	---	---	0.02	0.10	0.82	0.46	0.28	0.00	0.00	0.00
AC-FT	---	---	---	---	3.9	589	212	100	279	58	9.9	1.4

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2004, BY WATER YEAR (WY)

MEAN	0.31	0.26	0.10	0.05	12.1	43.9	30.0	4.90	3.07	3.62	1.21	0.38
MAX	1.97	1.19	0.66	0.45	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(WY)	(1968)	(1968)	(1968)	(1968)	(1968)	(1990)	(1990)	(1990)	(1977)	(1973)	(1972)	(1970)

06342450 BURNT CREEK NEAR BISMARCK, ND—Continued

SUMMARY STATISTICS	WATER YEARS 1968 - 2004	
ANNUAL MEAN	a7.57	
HIGHEST ANNUAL MEAN	a22.2	1969
LOWEST ANNUAL MEAN	a0.55	1977
HIGHEST DAILY MEAN	3,900	Apr 18, 1979
LOWEST DAILY MEAN	0.00	Oct 1, 1967
ANNUAL SEVEN-DAY MINIMUM	0.00	Oct 1, 1967
MAXIMUM PEAK FLOW	b10,000	Apr 18, 1979
MAXIMUM PEAK STAGE	16.93	Apr 18, 1979
ANNUAL RUNOFF (AC-FT)	a5,490	
10 PERCENT EXCEEDS	6.0	
50 PERCENT EXCEEDS	0.03	
90 PERCENT EXCEEDS	0.00	

a Based on complete water years only (1968-81)
b From rating curve extended above 2,200 ft^3/s on basis of 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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
FEB													
24...	1430	0.08	--	--	--	--	2,250	2.5	0.0	--	--	--	--
MAR													
22...	1045	22	--	8.0	7.5	495	510	-0.5	0.0	190	35.5	25.3	10.2
APR													
07...	1530	4.2	--	--	--	--	1,080	15.0	12.0	--	--	--	--
MAY													
20...	1550	1.2	--	--	--	--	1,470	21.0	18.0	--	--	--	--
JUL													
22...	1440	0.12	--	--	--	--	1,100	22.5	24.0	--	--	--	--
SEP													
01...	1040	0.12	723	8.3	8.3	1,420	1,400	22.5	18.5	430	55.2	70.0	7.90

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)
FEB													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
22...	1	34.1	26	164	6.6	0.13	12.9	86.7	299	18.2	1.2	170	<1
APR													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	4	168	46	395	9.9	0.24	2.96	393	943	0.31	5.5	<10	<1

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
FEB						
24...	--	--	--	--	--	--
MAR						
22...	30	30	<0.20	<1	<1	310
APR						
07...	--	--	--	--	--	--
MAY						
20...	--	--	--	--	--	--
JUL						
22...	--	--	--	--	--	--
SEP						
01...	110	20	<0.20	1	<1	610

Remark codes used in this table:
< -- Less than

06342500 MISSOURI RIVER AT BISMARCK, ND

LOCATION.--Lat 46°48'51", long 100°49'17", in SE¼NW¼SE¼ 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 National Geodetic Vertical Datum of 1929, revised. See WSP 1729 or 1917 for history of changes prior to Sept. 30, 1937.

REMARKS.--Records good except for estimated daily discharges, 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14,100	10,300	e13,000	e18,100	e23,400	e25,300	15,500	14,300	18,900	17,600	18,000	16,900
2	14,000	10,200	e13,000	e18,000	e23,500	e24,500	15,600	13,700	19,200	18,300	17,900	16,200
3	13,100	10,700	12,400	e17,800	e23,600	e24,400	15,100	13,600	19,000	18,300	18,300	17,400
4	12,100	10,500	12,600	e18,000	e23,200	e24,200	14,600	13,500	18,300	17,800	18,200	17,500
5	11,400	10,400	12,700	e18,000	e23,100	e23,600	14,600	13,600	18,800	17,800	17,400	17,000
6	e10,800	10,600	12,600	e18,000	e23,200	e23,200	15,700	13,600	18,700	18,300	17,000	17,000
7	e10,500	10,600	13,700	e18,200	e23,300	e22,700	16,600	13,800	19,200	18,000	17,200	16,900
8	e10,500	10,500	12,800	e18,700	e23,800	e22,100	15,600	13,800	19,600	18,100	17,500	17,000
9	e10,600	10,700	13,100	e18,900	e25,000	e21,400	16,600	14,400	18,500	18,200	17,400	17,100
10	10,300	10,600	13,800	e18,700	e24,300	e21,100	16,400	14,000	18,400	18,100	16,800	17,000
11	10,400	10,600	15,100	e18,500	e24,000	e20,300	16,600	13,300	19,400	17,900	16,900	16,900
12	10,000	10,500	e15,500	e18,300	e24,200	e19,700	16,600	14,600	19,100	18,300	17,000	17,000
13	10,400	10,200	e16,000	e18,500	e24,100	e19,000	16,300	13,700	18,800	18,300	17,200	17,100
14	10,300	10,300	e16,600	e18,700	e24,100	e18,500	16,500	13,300	18,700	18,000	17,000	16,300
15	10,500	10,500	e16,600	e19,400	e24,300	e17,500	18,400	14,000	17,000	18,400	17,300	16,900
16	10,800	10,400	e17,400	e19,700	e25,100	e16,200	19,000	15,500	17,700	18,100	17,100	17,100
17	10,900	10,800	17,300	e20,000	e25,400	18,000	19,600	18,200	19,200	18,100	17,000	15,900
18	10,900	11,000	17,600	e20,400	e25,300	17,000	19,800	16,000	18,200	18,000	17,200	16,600
19	11,000	e13,100	17,400	e21,000	e25,100	17,000	19,900	15,900	18,000	18,100	17,100	15,100
20	10,800	e13,200	17,400	e21,300	e25,300	17,700	20,600	18,100	18,100	18,000	16,800	14,000
21	10,300	12,000	18,000	e21,200	e25,400	17,300	19,100	15,900	18,000	18,000	16,600	13,400
22	10,100	12,400	18,300	e21,300	e25,300	17,200	20,400	17,000	18,000	18,100	16,900	13,100
23	9,760	12,500	18,100	e21,500	e25,600	16,700	20,700	18,600	18,100	18,200	17,000	12,800
24	10,200	12,700	18,200	e21,500	e25,700	16,600	20,200	16,200	17,900	18,000	17,700	11,700
25	9,850	13,300	18,200	e21,500	e25,600	16,200	21,400	17,200	18,000	18,000	17,500	11,300
26	9,790	12,600	18,000	e21,400	e25,600	16,000	21,000	18,700	18,000	18,200	16,800	11,300
27	10,100	13,300	18,200	e21,600	e25,700	16,700	20,200	16,200	18,100	18,100	17,100	11,200
28	9,970	12,900	17,800	e22,100	e25,700	16,800	17,200	16,900	18,000	18,300	17,200	11,300
29	9,780	13,500	17,300	e22,400	e25,700	16,400	13,900	18,200	18,200	18,000	17,100	11,600
30	10,300	12,900	18,100	e22,600	---	16,000	14,000	16,500	18,200	18,200	17,000	11,300
31	10,300	---	e18,000	e23,100	---	15,400	---	16,600	---	17,900	16,900	---
TOTAL	333,850	343,800	494,800	618,400	713,600	594,700	527,700	478,900	553,300	560,700	534,100	451,900
MEAN	10,770	11,460	15,960	19,950	24,610	19,180	17,590	15,450	18,440	18,090	17,230	15,060
MAX	14,100	13,500	18,300	23,100	25,700	25,300	21,400	18,700	19,600	18,400	18,300	17,500
MIN	9,760	10,200	12,400	17,800	23,100	15,400	13,900	13,300	17,000	17,600	16,600	11,200
AC-FT	662,200	681,900	981,400	1,227,000	1,415,000	1,180,000	1,047,000	949,900	1,097,000	1,112,000	1,059,000	896,300

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2004, BY WATER YEAR (WY)

MEAN	20,930	21,030	20,610	22,650	24,810	22,360	21,160	22,560	24,210	25,120	24,890	21,980
MAX	48,180	43,240	31,690	32,350	34,840	34,370	40,370	42,030	43,540	64,610	57,010	45,060
(WY)	(1998)	(1998)	(1970)	(1969)	(1969)	(1972)	(1972)	(1972)	(1975)	(1975)	(1975)	(1997)
MIN	8,399	8,155	7,890	6,519	5,883	6,317	10,420	9,234	8,445	10,840	9,271	8,121
(WY)	(1963)	(1963)	(1955)	(1955)	(1956)	(1955)	(1993)	(1963)	(1960)	(1960)	(1962)	(1962)

06342500 MISSOURI RIVER AT BISMARCK, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1954 - 2004[d]	
ANNUAL TOTAL	6,769,150		6,205,750			
ANNUAL MEAN	18,550		16,960		22,680	
HIGHEST ANNUAL MEAN					35,630	1975
LOWEST ANNUAL MEAN					14,320	1960
HIGHEST DAILY MEAN	24,800	Feb 25	25,700	Feb 24	68,800	Jul 13, 1975
LOWEST DAILY MEAN	9,760	Oct 23	9,760	Oct 23	4,000	Mar 25, 1955
ANNUAL SEVEN-DAY MINIMUM	9,920	Oct 23	9,920	Oct 23	4,860	Mar 21, 1955
MAXIMUM PEAK FLOW			a26,000	Feb 24	b68,900	Jul 13, 1975
MAXIMUM PEAK STAGE			c12.08	Jan 2	c14.80	Jan 13, 1983
ANNUAL RUNOFF (AC-FT)	13,430,000		12,310,000		16,430,000	
10 PERCENT EXCEEDS	23,000		22,800		33,900	
50 PERCENT EXCEEDS	19,500		17,300		21,800	
90 PERCENT EXCEEDS	10,800		10,800		12,000	

a About
b Gage height, 14.24 ft
c Backwater from ice
d Since completion of Garrison Dam
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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
MAR													
26...	1050	15,300	8.3	8.2	640	644	7.0	8.0	220	51.8	21.6	4.80	2
SEP													
03...	0920	16,300	8.4	8.3	638	627	19.0	19.0	210	49.6	19.6	3.90	2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
MAR													
26...	61.3	37	166	9.8	0.58	7.53	158	409	17,200	2.2	<10	<1	50
SEP													
03...	54.3	36	162	10.3	0.60	5.77	157	393	17,600	3.7	<10	<1	50

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
MAR					
26...	<10	<0.20	3	1	510
SEP					
03...	<10	<0.20	3	<1	490

Remark codes used in this table:
< -- Less than

06343500 E.A. PATTERSON LAKE NEAR DICKINSON, ND

LOCATION.--Lat 46°52'11", long 102°49'37", in NE ¼ NW ¼ SW ¼ 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 National Geodetic Vertical Datum of 1929 (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 9,550 acre-ft, Mar. 9, elevation, 2,420.76 ft; minimum, 5,870 acre-ft, Sept. 28 and 30, elevation, 2,417.40 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	2,417.94	6,380	--
Oct. 31	2,417.80	6,250	-130
Nov 30	2,417.85	6,290	+40
Dec. 31	2,417.90	6,340	+50
CAL YR 2003	--	--	-50
Jan. 31	2,417.94	6,380	+40
Feb. 29	2,420.46	9,170	+2,790
Mar. 31	2,420.30	8,980	-190
Apr. 30	2,419.96	8,560	-420
May 31	2,419.69	8,250	-310
June 30	2,419.26	7,760	-490
July 31	2,419.19	7,680	-80
Aug. 31	2,417.85	6,290	-1,390
Sept. 30	2,417.40	5,870	-420
WTR YR 2004	--	--	-510

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 2003 TO SEPTEMBER 2004

Date	Time	Depth to bottom of samplng intrval meters (82048)	Depth to top of samplng intrval meters (82047)	Color, water, fltrd, Pt-Co units (00080)	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)
OCT													
22...	1140	1.0	1.0	125d	8.1	955	190	43.0	20.8	12.7	5	157	62
FEB													
18...	1100	1.5	1.0	40d	8.0	1,270	260	54.8	28.7	13.2	6	207	62
MAY													
13...	1120	1.0	1.0	250d	8.0	569	110	25.2	12.3	9.08	3	78.1	58
SEP													
08...	1140	1.0	1.0	50d	8.2	846	170	36.9	17.8	10.3	4	119	59

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)
OCT													
22...	212	7.17	0.3	8.4	280	659	679	0.17	0.34	0.36	0.015	0.04	0.07
FEB													
18...	287	9.04	0.4	9.8	381d	878	905	0.24	--	0.45	E.006n	0.06	0.09
MAY													
13...	115@c	4.61	<0.2	5.5	152	358	379	0.15	0.23	0.24	0.008	0.03	0.05
SEP													
08...	184@c	5.41	0.3	8.3	245	554	592	0.10	--	0.06	E.007n	0.04	0.07

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Boron, water, fltrd, ug/L (01020)
OCT	
22...	207
FEB	
18...	265
MAY	
13...	112
SEP	
08...	171

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@-- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

06343500 E.A. PATTERSON LAKE NEAR DICKINSON, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Reservoir depth, feet (72025)	Ice thickness, meters (82131)	Sampling depth, meters (00098)	Transparency Secchi disc, inches (00077)	Wind direction, clkwise from north, degrees (00036)	Wind speed, mph (00035)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)
OCT													
22...	1128	20.0	--	0.00	12.0	15	9.0	709	9.2	91	7.8	1,030	18.5
22...	1129	--	--	0.50	--	--	--	--	9.1	--	7.9	1,030	--
22...	1130	--	--	1.0	--	--	--	--	9.0	--	7.9	1,030	--
22...	1131	--	--	2.0	--	--	--	--	8.9	--	7.9	1,030	--
22...	1132	--	--	3.0	--	--	--	--	8.9	--	7.9	1,030	--
22...	1133	--	--	4.0	--	--	--	--	8.9	--	7.9	1,030	--
22...	1134	--	--	5.0	--	--	--	--	8.8	--	7.9	1,030	--
22...	1135	--	--	6.1	--	--	--	--	7.9	--	7.9	1,030	--
FEB													
18...	1050	20.0	0.52	0.00	64.0	0.0	<5.0	706	7.6	58	7.2	1,360	3.5
18...	1051	--	--	0.50	--	--	--	--	7.5	--	7.2	1,340	--
18...	1052	--	--	1.0	--	--	--	--	7.4	--	7.2	1,330	--
18...	1053	--	--	2.1	--	--	--	--	6.7	--	7.2	1,340	--
18...	1054	--	--	3.1	--	--	--	--	6.2	--	7.2	1,370	--
18...	1055	--	--	4.1	--	--	--	--	5.8	--	7.2	1,390	--
18...	1056	--	--	5.2	--	--	--	--	5.4	--	7.2	1,440	--
18...	1057	--	--	6.1	--	--	--	--	2.6	--	7.2	1,530	--
MAY													
13...	1110	22.6	--	0.00	7.20	295	5.0	704	9.1	88	7.5	603	8.5
13...	1111	--	--	0.50	--	--	--	--	8.9	--	7.5	603	--
13...	1112	--	--	1.0	--	--	--	--	8.8	--	7.5	604	--
13...	1113	--	--	2.4	--	--	--	--	8.8	--	7.5	603	--
13...	1114	--	--	3.7	--	--	--	--	8.7	--	7.5	603	--
13...	1115	--	--	5.0	--	--	--	--	8.8	--	7.5	604	--
13...	1116	--	--	6.9	--	--	--	--	8.8	--	7.6	603	--
SEP													
08...	1130	21.6	--	0.00	12.0	110	5.0	712	8.2	90	8.2	870	18.0
08...	1131	--	--	0.50	--	--	--	--	8.1	--	8.2	870	--
08...	1132	--	--	1.0	--	--	--	--	8.0	--	8.1	870	--
08...	1133	--	--	2.5	--	--	--	--	8.0	--	8.1	871	--
08...	1134	--	--	4.0	--	--	--	--	7.8	--	8.1	867	--
08...	1135	--	--	5.5	--	--	--	--	8.0	--	8.1	867	--
08...	1136	--	--	6.6	--	--	--	--	7.5	--	8.1	868	--

06343500 E.A. PATTERSON LAKE NEAR DICKINSON, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Temperature, water, deg C (00010)
OCT	
22...	11.4
22...	11.4
22...	11.4
22...	11.4
22...	11.2
22...	11.2
22...	11.1
22...	10.9
FEB	
18...	1.1
18...	1.3
18...	1.8
18...	2.5
18...	3.0
18...	3.1
18...	3.2
18...	3.4
MAY	
13...	10.5
13...	10.5
13...	10.3
13...	10.2
13...	10.1
13...	9.9
13...	9.3
SEP	
08...	16.4
08...	16.4
08...	16.4
08...	16.2
08...	16.0
08...	15.9
08...	15.8

Remark codes used in this table:
< -- Less than

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.--March 1964 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,510 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.24	0.59	e0.62	e0.33	e0.23	e0.71	15	0.85	0.80	0.37	0.00	0.00
2	0.22	0.55	e0.62	e0.30	e0.22	e0.68	12	0.80	0.70	0.18	0.00	0.00
3	0.23	0.55	e0.61	e0.26	e0.22	e0.65	9.1	0.87	0.57	0.11	0.00	0.00
4	0.24	0.56	e0.60	e0.23	e0.23	e0.77	7.1	0.95	0.61	0.07	0.00	0.00
5	0.26	0.49	e0.59	e0.23	e0.23	e0.88	5.9	1.1	0.64	0.22	0.00	0.00
6	0.27	0.49	e0.58	e0.24	e0.23	e0.98	4.5	1.0	0.61	0.39	0.00	0.00
7	0.27	0.53	e0.58	e0.24	e0.23	e0.90	4.6	1.1	0.57	0.33	0.00	0.00
8	0.28	0.57	e0.59	e0.25	e0.24	e5.0	4.2	1.1	0.51	0.59	0.00	0.03
9	0.27	0.55	e0.58	e0.26	e0.24	e50	3.5	1.2	0.48	0.65	0.00	0.04
10	0.22	0.56	e0.56	e0.27	e0.24	e300	2.6	1.2	0.50	0.79	0.00	0.05
11	0.22	0.60	e0.55	e0.27	e0.24	e213	2.3	1.2	0.70	0.84	0.00	0.05
12	0.22	0.69	e0.53	e0.28	e0.24	e170	2.0	1.2	0.81	0.69	0.00	0.04
13	0.22	0.75	e0.53	e0.29	e0.23	e215	1.9	1.2	0.68	0.50	0.00	0.08
14	0.24	0.74	e0.47	e0.30	e0.25	e165	1.6	1.3	0.62	0.30	0.00	0.15
15	0.27	0.77	e0.48	e0.31	e0.27	e125	1.5	1.4	0.53	0.25	0.00	0.21
16	0.30	0.77	e0.49	e0.32	e0.30	e105	1.4	1.4	0.46	0.23	0.00	0.23
17	0.33	0.78	e0.50	e0.32	e0.35	e135	1.5	1.5	0.44	0.18	0.00	0.21
18	0.32	0.82	e0.51	e0.30	e0.42	e170	1.7	1.5	0.40	0.15	0.00	0.19
19	0.33	0.96	e0.52	e0.29	e0.48	e210	2.0	1.3	0.40	0.12	0.00	0.20
20	0.35	1.1	e0.50	e0.30	e0.54	e180	2.4	0.76	0.42	0.09	0.00	0.19
21	0.34	1.0	e0.50	e0.30	e0.52	e140	2.1	0.71	0.42	0.07	0.00	0.24
22	0.32	0.87	e0.50	e0.31	e0.50	e90	1.9	0.76	0.41	0.04	0.00	0.23
23	0.34	0.83	e0.49	e0.30	e0.49	e60	2.1	0.86	0.41	0.03	0.00	0.22
24	0.36	0.73	e0.49	e0.28	e0.50	e48	1.9	0.95	0.41	0.02	0.00	0.22
25	0.31	e0.70	e0.48	e0.27	e0.52	e60	1.6	1.1	0.41	e0.00	0.00	0.20
26	0.32	e0.67	e0.45	e0.25	e0.60	e58	1.3	1.0	0.37	0.00	0.00	0.19
27	0.38	e0.69	e0.43	e0.24	e0.70	55	1.1	1.3	0.33	0.00	0.00	0.17
28	0.38	e0.64	e0.39	e0.24	e0.80	53	1.0	1.1	0.34	0.00	0.00	0.14
29	0.52	e0.63	e0.37	e0.23	e0.75	41	0.95	1.1	0.31	0.00	0.00	0.10
30	0.62	e0.63	e0.35	e0.23	---	27	0.92	0.98	0.48	0.00	0.00	0.13
31	0.59	---	e0.36	e0.23	---	19	---	0.89	---	0.00	0.00	---
TOTAL	9.78	20.81	15.82	8.47	11.01	2,699.57	101.67	33.68	15.34	7.21	0.00	3.51
MEAN	0.32	0.69	0.51	0.27	0.38	87.1	3.39	1.09	0.51	0.23	0.00	0.12
MAX	0.62	1.1	0.62	0.33	0.80	300	15	1.5	0.81	0.84	0.00	0.24
MIN	0.22	0.49	0.35	0.23	0.22	0.65	0.92	0.71	0.31	0.00	0.00	0.00
AC-FT	19	41	31	17	22	5,350	202	67	30	14	0.00	7.0

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2004, BY WATER YEAR (WY)

MEAN	2.98	1.68	0.98	1.28	8.24	64.8	38.0	16.4	18.9	11.6	3.41	1.61
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	0.08	0.31	0.13	0.00	0.00	0.33	0.71	0.60	0.07	0.00	0.00	0.00
(WY)	(1993)	(1993)	(1993)	(1993)	(1993)	(1964)	(1990)	(1992)	(1988)	(1988)	(1988)	(1994)

06344600 GREEN RIVER NEAR NEW HRADEC, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1964 - 2004	
ANNUAL TOTAL	6,794.50		2,926.87			
ANNUAL MEAN	18.6		8.00		14.1	
HIGHEST ANNUAL MEAN					35.9	1972
LOWEST ANNUAL MEAN					0.74	1992
HIGHEST DAILY MEAN	3,000	Mar 18	300	Mar 10	3,000	Mar 18, 2003
LOWEST DAILY MEAN	0.00	Aug 18	0.00	Jul 25	0.00	May 25, 1964
ANNUAL SEVEN-DAY MINIMUM	0.02	Sep 4	0.00	Jul 25	0.00	May 31, 1964
MAXIMUM PEAK FLOW			a400	Mar 10	b4,120	May 9, 1970
MAXIMUM PEAK STAGE			c11.38	Mar 10	c19.58	Mar 21, 1997
INSTANTANEOUS LOW FLOW			0.00	Jul 25	0.00	May 25, 1964
ANNUAL RUNOFF (AC-FT)	13,480		5,810		10,240	
10 PERCENT EXCEEDS	4.6		2.2		13	
50 PERCENT EXCEEDS	0.61		0.47		1.0	
90 PERCENT EXCEEDS	0.18		0.00		0.20	

a About
b Gage height, 16.88 ft
c Backwater from ice
e Estimated

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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
NOV													
18...	1035	0.79	--	--	--	1,130	3.5	2.0	--	--	--	--	--
JAN													
08...	1030	0.25	--	--	--	1,230	-6.0	0.0	--	--	--	--	--
FEB													
24...	1710	0.50	--	--	--	1,090	2.5	1.0	--	--	--	--	--
MAR													
24...	1045	48	8.1	--e	311	340	3.5	2.0	69	15.2	7.40	5.70	2
APR													
14...	1630	1.5	--	--	--	906	15.0	9.0	--	--	--	--	--
MAY													
27...	1615	1.1	--	--	--	1,060	20.0	16.0	--	--	--	--	--
JUL													
15...	0830	0.25	--	--	--	1,040	21.0	24.0	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
NOV													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
24...	40.3	54	77	2.1	0.09	7.34	70.2	189	25.2	<1.0	330	<1	<10
APR													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
NOV					
18...	--	--	--	--	--
JAN					
08...	--	--	--	--	--
FEB					
24...	--	--	--	--	--
MAR					
24...	70	<0.20	2	<1	100
APR					
14...	--	--	--	--	--
MAY					
27...	--	--	--	--	--
JUL					
15...	--	--	--	--	--

Remark codes used in this table:
< -- Less than

Null value qualifier codes used in this table:
e -- Required equipment not functional/avail

06345500 HEART RIVER NEAR RICHARDTON, ND

LOCATION.--Lat 46°44'44", long 102°18'30", in NE¼NW¼ 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.--June 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 National Geodetic Vertical Datum of 1929. 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 estimated daily discharges, 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.3	e13	e12	e6.8	e6.3	e351	154	21	14	5.9	20	5.6
2	7.9	e13	e11	e6.8	e6.3	e150	133	20	14	7.6	20	4.7
3	7.7	e12	e11	e6.5	e6.3	e51	111	19	14	8.5	19	4.5
4	7.4	e12	e10	e6.4	e6.4	e11	94	18	14	7.7	19	4.3
5	7.2	e12	e9.6	e6.1	e6.5	e9.0	82	17	17	8.1	20	3.9
6	7.4	e12	e9.3	e5.6	e6.5	e20	70	16	14	8.6	44	3.4
7	8.0	e13	e9.3	e5.0	e6.7	e100	63	23	12	8.9	49	4.8
8	8.9	e14	e9.3	e4.4	e6.7	e197	57	47	10	17	46	10
9	9.7	e15	e9.4	e5.1	e6.9	e946	52	35	9.6	29	45	8.6
10	9.6	e15	e9.6	e5.7	e7.1	e2,500	47	23	9.7	31	51	8.2
11	9.5	e15	e9.5	e6.0	e7.2	e2,960	43	20	11	30	41	7.5
12	8.5	e15	e9.1	e6.2	e7.3	e2,620	40	18	12	18	41	7.2
13	8.2	e15	e8.9	e6.4	e7.4	e1,650	38	18	11	12	46	8.5
14	8.1	e14	e9.1	e6.7	e7.4	e971	36	17	12	9.3	46	10
15	8.4	e14	e9.0	e6.9	e7.5	e765	34	17	13	7.4	45	11
16	9.5	e14	e9.2	e7.0	e7.5	e644	32	16	11	6.5	44	13
17	10	e13	e9.3	e7.1	e7.7	e566	31	16	10	5.6	43	19
18	11	e13	e9.4	e7.1	e7.8	e440	33	15	9.2	4.8	44	15
19	11	e13	e9.4	e6.9	e7.8	e453	37	15	8.4	4.2	42	15
20	11	e13	e9.3	e6.7	e7.8	605	49	15	7.8	3.9	40	15
21	12	e13	e9.2	e6.5	e7.9	740	49	15	7.3	4.2	33	14
22	12	e13	e8.9	e6.5	e8.4	610	41	16	7.1	3.2	19	14
23	12	e12	e8.7	e6.5	e9.7	430	37	16	6.9	2.9	15	14
24	11	e12	e8.4	e6.5	e13	319	33	18	6.5	4.2	13	18
25	11	e12	e8.0	e6.5	e17	254	31	21	6.3	6.4	12	16
26	11	e11	e7.7	e6.4	e21	211	28	22	6.2	11	10	14
27	11	e11	e7.5	e6.4	e22	484	26	23	6.5	13	9.1	13
28	11	e11	e7.2	e6.4	e102	365	25	21	6.3	13	8.8	12
29	12	e11	e7.1	e6.4	e250	254	23	20	6.2	13	8.1	12
30	e13	e12	e7.0	e6.4	---	220	21	18	6.0	16	7.3	11
31	e13	---	e7.0	e6.4	---	179	---	16	---	19	6.3	---
TOTAL	305.3	388	279.4	196.3	592.1	20,075.0	1,550	612	299.0	339.9	906.6	317.2
MEAN	9.85	12.9	9.01	6.33	20.4	648	51.7	19.7	9.97	11.0	29.2	10.6
MAX	13	15	12	7.1	250	2,960	154	47	17	31	51	19
MIN	7.2	11	7.0	4.4	6.3	9.0	21	15	6.0	2.9	6.3	3.4
AC-FT	606	770	554	389	1,170	39,820	3,070	1,210	593	674	1,800	629

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1903 - 2004, BY WATER YEAR (WY)

MEAN	16.9	13.8	9.10	8.86	44.5	383	314	99.8	162	67.6	29.7	11.9
MAX	240	114	52.5	112	643	2,125	2,160	1,318	1,225	584	401	86.4
(WY)	(1983)	(1983)	(1983)	(1973)	(1982)	(1945)	(1950)	(1970)	(1906)	(1969)	(1909)	(1986)
MIN	0.10	1.93	1.00	0.00	0.00	1.66	5.77	2.78	0.37	0.40	0.00	0.00
(WY)	(1961)	(1961)	(1920)	(1962)	(1950)	(1964)	(1905)	(1992)	(1961)	(1919)	(1991)	(1958)

06345500 HEART RIVER NEAR RICHARDTON, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1903 - 2004	
ANNUAL TOTAL	32,554.0		25,860.8			
ANNUAL MEAN	89.2		70.7		97.4	
HIGHEST ANNUAL MEAN					316	1982
LOWEST ANNUAL MEAN					5.18	1961
HIGHEST DAILY MEAN	6,500	Mar 19	2,960	Mar 11	17,000	Apr 17, 1950
LOWEST DAILY MEAN	4.2	Sep 9	2.9	Jul 23	0.00	Jul 26, 1903
ANNUAL SEVEN-DAY MINIMUM	5.1	Sep 3	3.9	Jul 18	0.00	Jul 26, 1903
MAXIMUM PEAK FLOW			a3,500	Mar 11	23,400	Apr 16, 1950
MAXIMUM PEAK STAGE			b15.77	Mar 11	c28.05	Apr 16, 1950
ANNUAL RUNOFF (AC-FT)	64,570		51,290		70,590	
10 PERCENT EXCEEDS	63		59		125	
50 PERCENT EXCEEDS	11		12		12	
90 PERCENT EXCEEDS	7.7		6.4		2.0	

a About
b Backwater from ice
c From floodmark in gage well
e Estimated

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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
07...	1015	7.8	--	--	--	1,060	11.0	11.5	--	--	--	--	--
NOV													
17...	1605	13	--	--	--	1,970	9.0	0.5	--	--	--	--	--
DEC													
16...	1410	9.2	--	--	--	2,370	3.0	0.0	--	--	--	--	--
FEB													
26...	1045	21	--	--	--	1,860	4.5	0.0	--	--	--	--	--
MAR													
17...	1145	575	7.9	6.9	408	393	8.0	2.5	100	22.7	11.6	10.0	2
APR													
12...	1150	40	--	--	--	1,160	7.0	5.0	--	--	--	--	--
MAY													
26...	1135	22	--	--	--	1,580	20.0	14.0	--	--	--	--	--
JUL													
14...	1600	9.2	--	--	--	1,720	30.5	28.0	--	--	--	--	--
AUG													
30...	1205	7.1	8.3	8.2	1,230	1,230	21.0	18.5	220	37.3	31.3	12.4	5

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	42.9	44	86	3.5	0.11	7.79	105	249	397	1.1	320	<1	<10
APR													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
30...	184	63	217	35.4	0.47	<2.00	361	794	15.2	5.4	20	<1	30

06345500 HEART RIVER NEAR RICHARDTON, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
07...	--	--	--	--	--
NOV					
17...	--	--	--	--	--
DEC					
16...	--	--	--	--	--
FEB					
26...	--	--	--	--	--
MAR					
17...	80	<0.20	2	<1	240
APR					
12...	--	--	--	--	--
MAY					
26...	--	--	--	--	--
JUL					
14...	--	--	--	--	--
AUG					
30...	10	<0.20	6	1	600

Remark codes used in this table:
< -- Less than

06345780 HEART RIVER ABOVE LAKE TSCHIDA NEAR GLEN ULLIN, ND

LOCATION.--Lat 46°39'25", Long 102°04'44", in SW¼NE¼NE¼ 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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for discharges below 10 ft^3/s during June 20 to July 31, which are fair and for estimated daily discharges, which are poor. 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	e14	e14	e11	e6.6	e400	e241	28	21	7.9	17	8.4
2	6.0	e14	e14	e10	e6.6	e190	203	27	19	9.7	20	8.4
3	6.0	e13	e14	e9.8	e6.5	e95	173	27	18	11	22	8.0
4	6.6	e13	e14	e9.0	e6.6	e40	148	25	18	9.4	21	7.9
5	7.6	e13	e14	e8.8	e6.8	e21	128	23	19	12	21	7.8
6	8.5	e13	e14	e8.2	e6.8	e30	110	23	19	13	23	7.5
7	9.0	e13	e13	e7.0	e6.9	e100	96	23	18	12	40	6.9
8	8.8	e14	e13	e5.2	e7.0	e225	84	26	14	13	55	6.8
9	9.1	e15	e13	e5.6	e7.1	e1,040	74	59	13	17	53	6.5
10	9.2	e16	e13	e6.1	e7.3	e2,600	68	46	13	31	50	7.5
11	e9.2	e18	e13	e6.5	e7.3	e2,850	64	34	16	35	58	8.9
12	e8.0	e19	e12	e6.7	e7.5	e3,010	59	29	15	e41	49	8.4
13	e7.9	e20	e12	e6.9	e7.5	e1,740	56	27	15	26	48	8.6
14	e9.0	e20	e12	e7.0	e7.7	e1,050	54	25	15	18	55	9.0
15	11	e19	e12	e7.5	e8.0	e930	50	25	14	14	56	10
16	12	e18	e12	e8.1	e8.3	789	47	24	16	12	54	11
17	12	e18	e12	e8.3	e8.6	661	45	23	15	11	54	11
18	12	e17	e12	e8.3	e8.7	598	48	22	13	10	53	14
19	13	e16	e12	e8.0	e8.8	e584	51	22	12	e8.8	52	18
20	13	e16	e13	e7.7	e8.8	e597	58	20	11	e8.2	52	16
21	13	e15	e13	e7.4	e9.0	e699	74	21	10	7.3	51	16
22	13	e14	e13	e7.2	e10	e794	70	33	9.7	6.8	45	15
23	13	e14	e13	e7.0	e12	e855	59	27	9.5	6.4	34	15
24	13	e14	e12	e6.9	e13	e697	52	30	8.8	6.1	25	15
25	12	e14	e12	e6.6	e14	e483	47	30	7.9	5.6	19	16
26	13	e13	e12	e6.7	e17	e298	42	30	7.4	5.9	17	18
27	13	e13	e12	e6.5	e30	e475	39	31	8.4	7.5	16	16
28	12	e13	e12	e6.6	e74	e701	36	31	8.3	12	e14	14
29	13	e13	e12	e6.6	e240	e526	34	29	8.1	14	e13	13
30	14	e13	e12	e6.5	---	e420	32	26	8.0	14	e11	13
31	14	---	e12	e6.6	---	e317	---	24	---	14	e9.5	---
TOTAL	325.6	455	393	230.3	568.4	23,815	2,342	870	400.1	419.6	1,107.5	341.6
MEAN	10.5	15.2	12.7	7.43	19.6	768	78.1	28.1	13.3	13.5	35.7	11.4
MAX	14	20	14	11	240	3,010	241	59	21	41	58	18
MIN	4.7	13	12	5.2	6.5	21	32	20	7.4	5.6	9.5	6.5
AC-FT	646	902	780	457	1,130	47,240	4,650	1,730	794	832	2,200	678

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2004, BY WATER YEAR (WY)

MEAN	21.9	21.8	14.4	10.5	38.5	411	129	78.7	110	70.6	47.6	13.5
MAX	104	95.3	57.7	25.2	205	1,587	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	0.32	3.41	18.5	9.90	6.20	7.21	3.16	0.05	0.10
(WY)	(1992)	(1991)	(1993)	(1991)	(1989)	(1990)	(1992)	(1992)	(1992)	(1989)	(1991)	(1991)

06345780 HEART RIVER ABOVE LAKE TSCHIDA NEAR GLEN ULLIN, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1988 - 2004	
ANNUAL TOTAL	36,609.8		31,268.1			
ANNUAL MEAN	100		85.4		81.7	
HIGHEST ANNUAL MEAN					229	1997
LOWEST ANNUAL MEAN					9.17	1992
HIGHEST DAILY MEAN	5,690	Mar 19	3,010	Mar 12	11,000	Mar 22, 1997
LOWEST DAILY MEAN	3.7	Sep 9	4.7	Oct 1	0.00	Sep 1, 1991
ANNUAL SEVEN-DAY MINIMUM	4.4	Aug 16	6.3	Jan 7	0.00	Aug 30, 1991
MAXIMUM PEAK FLOW			a3,100	Mar 12	a11,500	Mar 22, 1997
MAXIMUM PEAK STAGE			b17.38	Mar 10	b26.74	Mar 21, 1997
ANNUAL RUNOFF (AC-FT)	72,620		62,020		59,180	
10 PERCENT EXCEEDS	78		87		119	
50 PERCENT EXCEEDS	14		14		18	
90 PERCENT EXCEEDS	6.4		7.0		4.0	

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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
06...	1640	8.5	--	--	--	1,250	28.5	14.0	--	--	--	--	--
NOV													
17...	1320	18	--	--	--	2,110	5.5	0.5	--	--	--	--	--
JAN													
07...	1310	6.8	--	--	--	2,400	-10.0	0.0	--	--	--	--	--
FEB													
26...	1405	20	--	--	--	1,920	7.5	0.5	--	--	--	--	--
MAR													
17...	1435	628	7.9	6.9	417	398	7.0	2.7	110	23.4	11.6	10.4	2
APR													
01...	1310	232	--	--	--	949	19.0	10.5	--	--	--	--	--
15...	1345	52	--	--	--	1,220	13.0	10.5	--	--	--	--	--
JUL													
15...	1145	15	--	--	--	1,770	29.0	26.5	--	--	--	--	--
AUG													
31...	1115	8.8	8.4	8.4	1,260	1,250	28.5	19.5	210	34.8	30.6	11.7	6

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	44.0	44	92	3.4	0.11	7.60	102	252	439	1.2	410	<1	<10
APR													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
31...	195	65	256	31.3	0.55	<2.00	360	818	19.5	3.8	40	<1	40

06345780 HEART RIVER ABOVE LAKE TSCHIDA NEAR GLEN ULLIN, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
06...	--	--	--	--	--
NOV					
17...	--	--	--	--	--
JAN					
07...	--	--	--	--	--
FEB					
26...	--	--	--	--	--
MAR					
17...	70	<0.20	2	<1	230
APR					
01...	--	--	--	--	--
15...	--	--	--	--	--
JUL					
15...	--	--	--	--	--
AUG					
31...	<10	<0.20	6	<1	580

Remark codes used in this table:
< -- Less than

06346000 LAKE TSCHIDA NEAR GLEN ULLIN, ND

LOCATION.--Lat 46°35'43", long 101°48'34", in SW ¼ NE ¼ 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 National Geodetic Vertical Datum of 1929 (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, 82,020 acre-ft, Mar. 12, elevation, 2,068.77 ft; minimum, 54,930 acre-ft, Oct. 28, elevation, 2,060.60 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	2,060.71	55,260	--
Oct. 31	2,060.66	55,110	-150
Nov. 30	2,060.87	55,740	+630
Dec. 31	2,061.01	56,160	+420
CAL YR 2003	--	--	+1,400
Jan. 31	2,061.15	56,580	+420
Feb. 29	2,061.52	57,700	+1,120
Mar. 31	2,066.05	72,360	+14,660
Apr. 30	2,064,89	68,440	-3,920
May 31	2,064.83	68,240	-200
June 30	2,063.96	65,370	-2,870
July 31	2,062.37	60,310	-5,060
Aug. 31	2,061.49	57,600	-2,710
Sept. 30	2,061.18	56,670	-930
WTR YR 2004	--	--	+1,410

06346000 LAKE TSCHIDA NEAR GLEN ULLIN, ND—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1971, 1980 to current year.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Depth to bottom of samplng intrval meters (82048)	Depth to top of samplng intrval meters (82047)	Color, water, fltrd, Pt-Co units (00080)	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)
OCT													
22...	1335	1.0	1.0	25	8.3	1,160	280	54.1	35.8	13.2	4	169	55
FEB													
18...	1400	1.5	1.0	25	8.3	1,310	310	57.2	41.0	13.0	5	187	55
MAY													
13...	1405	1.0	1.0	62d	8.2	860	210	41.5	26.8	11.2	4	118	53
SEP													
08...	1330	1.0	1.0	25	8.4	980	230	44.5	29.0	11.1	3	120	52

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)
OCT													
22...	233	10.6	0.3	4.8	382d	811	823	0.05	--	0.11	E.007n	0.02	0.04
FEB													
18...	262	11.8	0.4	2.0	429d	899	933	0.09	0.14	0.15	0.009	E.01n	0.04
MAY													
13...	181@c	8.22	0.2	4.7	270	591	622	0.26	0.38	0.40	0.017	0.04	0.05
SEP													
08...	207@c	8.29	0.3	3.6	293d	634	681	0.07	--	<0.06	0.008	E.01n	E.03n

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Boron, water, fltrd, ug/L (01020)
OCT	
22...	256
FEB	
18...	294
MAY	
13...	199
SEP	
08...	209

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@-- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

06346000 LAKE TSCHIDA NEAR GLEN ULLIN, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Reservoir depth, feet (72025)	Ice thickness, meters (82131)	Sampling depth, meters (00098)	Transparency Secchi disc, inches (00077)	Wind direction, clkwise from north, degrees (00036)	Wind speed, mph (00035)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)
OCT													
22...	1322	42.0	--	0.00	52.0	345	8.0	719	9.6	95	8.3	1,230	20.5
22...	1323	--	--	1.0	--	--	--	--	9.4	--	8.4	1,230	--
22...	1324	--	--	2.5	--	--	--	--	9.3	--	8.4	1,230	--
22...	1325	--	--	4.0	--	--	--	--	9.3	--	8.4	1,230	--
22...	1326	--	--	5.5	--	--	--	--	9.2	--	8.4	1,230	--
22...	1327	--	--	7.0	--	--	--	--	9.2	--	8.4	1,230	--
22...	1328	--	--	8.5	--	--	--	--	9.2	--	8.4	1,230	--
22...	1329	--	--	10.0	--	--	--	--	9.1	--	8.4	1,240	--
22...	1330	--	--	11.5	--	--	--	--	8.9	--	8.4	1,240	--
22...	1331	--	--	12.7	--	--	--	--	8.6	--	8.4	1,240	--
FEB													
18...	1345	40.0	0.58	0.00	101	130	<5.0	716	10.9	82	8.1	1,410	5.0
18...	1346	--	--	0.50	--	--	--	--	11.0	--	8.1	1,370	--
18...	1347	--	--	1.0	--	--	--	--	10.8	--	8.1	1,370	--
18...	1348	--	--	2.3	--	--	--	--	10.7	--	8.1	1,370	--
18...	1349	--	--	3.5	--	--	--	--	10.6	--	8.1	1,360	--
18...	1350	--	--	4.9	--	--	--	--	9.9	--	8.1	1,360	--
18...	1351	--	--	6.2	--	--	--	--	9.6	--	8.0	1,370	--
18...	1352	--	--	7.7	--	--	--	--	7.6	--	8.0	1,380	--
18...	1353	--	--	9.0	--	--	--	--	4.8	--	7.9	1,420	--
18...	1354	--	--	10.5	--	--	--	--	1.6	--	7.7	1,500	--
18...	1355	--	--	12.0	--	--	--	--	1.1	--	7.6	1,610	--
18...	1356	--	--	12.3	--	--	--	--	1.1	--	7.6	1,620	--
MAY													
13...	1350	51.8	--	0.00	40.0	280	5.0	713	9.6	92	8.0	924	7.0
13...	1351	--	--	0.50	--	--	--	--	9.5	--	8.0	924	--
13...	1352	--	--	1.0	--	--	--	--	9.5	--	8.0	925	--
13...	1353	--	--	2.7	--	--	--	--	9.4	--	8.0	925	--
13...	1354	--	--	4.1	--	--	--	--	9.4	--	8.0	926	--
13...	1355	--	--	5.9	--	--	--	--	9.3	--	8.0	926	--
13...	1356	--	--	7.4	--	--	--	--	9.3	--	8.0	927	--
13...	1357	--	--	9.2	--	--	--	--	9.3	--	8.0	927	--
13...	1358	--	--	10.9	--	--	--	--	9.3	--	8.0	927	--
13...	1359	--	--	12.7	--	--	--	--	9.2	--	8.0	928	--
13...	1400	--	--	14.3	--	--	--	--	9.2	--	8.1	927	--
13...	1401	--	--	15.8	--	--	--	--	9.1	--	8.0	928	--
SEP													
08...	1315	47.0	--	0.00	30.0	110	7.0	720	8.2	92	8.3	1,010	20.0
08...	1316	--	--	0.50	--	--	--	--	8.2	--	8.3	1,010	--
08...	1317	--	--	1.0	--	--	--	--	8.2	--	8.3	1,010	--
08...	1318	--	--	2.5	--	--	--	--	8.2	--	8.4	1,010	--
08...	1319	--	--	4.0	--	--	--	--	8.1	--	8.4	1,010	--
08...	1320	--	--	5.5	--	--	--	--	8.1	--	8.4	1,010	--
08...	1321	--	--	7.0	--	--	--	--	8.1	--	8.4	1,010	--
08...	1322	--	--	8.5	--	--	--	--	8.1	--	8.4	1,010	--
08...	1323	--	--	10.0	--	--	--	--	8.1	--	8.4	1,010	--
08...	1324	--	--	11.5	--	--	--	--	7.8	--	8.4	1,010	--
08...	1325	--	--	13.0	--	--	--	--	7.5	--	8.4	1,010	--
08...	1326	--	--	14.3	--	--	--	--	6.5	--	8.4	1,010	--

06346000 LAKE TSCHIDA NEAR GLEN ULLIN, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Temperature, water, deg C (00010)
OCT	
22...	12.1
22...	12.1
22...	12.0
22...	12.0
22...	12.0
22...	12.0
22...	12.0
22...	12.0
22...	12.0
22...	12.0
FEB	
18...	0.8
18...	1.8
18...	2.2
18...	2.5
18...	2.8
18...	3.3
18...	3.4
18...	3.7
18...	4.2
18...	4.6
18...	5.0
18...	4.9
MAY	
13...	10.7
13...	10.7
13...	10.7
13...	10.7
13...	10.6
13...	10.6
13...	10.6
13...	10.6
13...	10.6
13...	10.6
13...	10.5
13...	10.5
SEP	
08...	18.2
08...	18.1
08...	17.8
08...	17.6
08...	17.6
08...	17.6
08...	17.6
08...	17.6
08...	17.6
08...	17.6
08...	17.5
08...	17.4

Remark codes used in this table:
< -- Less than

06347000 ANTELOPE CREEK NEAR CARSON, ND

LOCATION.--Lat 46°32'43", long 101°38'42", in NE¼NE¼NW¼ 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 September 1975, February 1999 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,960 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to June 23, 1958, wire weight gage at site 1 mi upstream and June 24, 1958, to Sept. 30, 1975, 1.15 mi upstream at datum 14 ft higher.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, about 750 ft^3/s, Mar. 10; maximum gage height, 10.63 ft, Mar. 10, backwater from ice, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	e0.70	e9.8	15	3.7	2.5	0.28	0.11	0.01
2	---	---	---	---	e0.66	e9.5	14	2.6	2.6	0.45	0.02	0.00
3	---	---	---	---	e0.63	e9.2	13	2.2	2.1	0.39	0.10	0.00
4	---	---	---	---	e0.62	e8.6	12	2.1	2.0	0.34	0.04	0.05
5	---	---	---	---	e0.63	e8.5	11	2.0	2.5	0.33	0.10	0.16
6	---	---	---	---	e0.64	e8.0	10	1.8	2.6	0.39	0.09	0.31
7	---	---	---	---	e0.66	e13	9.6	1.8	1.9	0.30	0.07	0.21
8	---	---	---	---	e0.70	e50	9.1	1.7	1.6	0.56	0.12	0.16
9	---	---	---	---	e0.74	e240	8.4	1.7	1.6	1.4	0.16	0.14
10	---	---	---	---	e0.75	e700	8.6	1.6	1.8	1.6	0.09	0.15
11	---	---	---	---	e0.71	e450	8.6	1.5	4.8	0.79	0.13	0.20
12	---	---	---	---	e0.77	e337	8.1	1.6	9.0	0.69	0.19	0.17
13	---	---	---	---	e0.74	226	7.8	1.8	5.3	0.56	0.14	0.20
14	---	---	---	---	e0.68	159	7.4	1.8	4.9	0.40	0.10	0.29
15	---	---	---	---	e0.74	110	6.6	1.9	4.3	0.31	0.08	0.42
16	---	---	---	---	e0.90	95	6.4	1.8	3.4	0.25	0.05	0.48
17	---	---	---	---	e1.0	86	6.4	1.6	3.2	0.17	0.06	0.38
18	---	---	---	---	e1.2	77	6.8	1.6	3.2	0.23	0.05	0.32
19	---	---	---	---	e2.0	70	7.3	1.5	2.2	0.22	0.03	0.31
20	---	---	---	---	e2.3	67	7.1	1.3	1.4	0.16	0.02	0.54
21	---	---	---	---	e3.5	57	6.1	1.8	1.4	0.10	0.00	0.44
22	---	---	---	---	e4.3	50	5.4	121	1.3	0.05	0.00	0.46
23	---	---	---	---	e5.5	35	5.0	7.6	0.86	0.01	0.00	0.70
24	---	---	---	---	e7.0	30	4.9	7.1	0.65	0.00	0.01	0.40
25	---	---	---	---	e8.6	26	4.6	7.0	0.68	0.02	0.02	0.23
26	---	---	---	---	e10	22	4.2	5.1	1.1	0.01	0.04	0.13
27	---	---	---	---	e11	25	4.0	3.7	1.1	0.01	0.08	0.10
28	---	---	---	---	e10	22	3.9	6.7	0.51	0.00	0.13	0.08
29	---	---	---	---	e10	19	3.7	4.3	0.55	0.00	0.09	0.15
30	---	---	---	---	---	19	3.7	3.5	0.43	0.02	0.06	0.15
31	---	---	---	---	---	18	---	3.1	---	0.10	0.04	---
TOTAL	---	---	---	---	87.67	3,056.6	228.7	208.5	71.48	10.14	2.22	7.34
MEAN	---	---	---	---	3.02	98.6	7.62	6.73	2.38	0.33	0.07	0.24
MAX	---	---	---	---	11	700	15	121	9.0	1.6	0.19	0.70
MIN	---	---	---	---	0.62	8.0	3.7	1.3	0.43	0.00	0.00	0.00
AC-FT	---	---	---	---	174	6,060	454	414	142	20	4.4	15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 2004, BY WATER YEAR (WY)

MEAN	1.36	2.10	1.45	2.11	6.89	51.2	54.9	23.2	21.6	12.2	3.67	1.13
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	0.00	0.32	0.15	0.00	0.00	1.48	2.00	1.56	1.84	0.00	0.00	0.00
(WY)	(1960)	(1960)	(1962)	(1950)	(1949)	(1965)	(1961)	(1961)	(1959)	(1961)	(1958)	(1948)

06347000 ANTELOPE CREEK NEAR CARSON, ND—Continued

SUMMARY STATISTICS	WATER YEARS 1948 - 2004	
ANNUAL MEAN	15.6	
HIGHEST ANNUAL MEAN	a47.1	1952
LOWEST ANNUAL MEAN	a2.78	1961
HIGHEST DAILY MEAN	a4,400	Apr 17, 1950
LOWEST DAILY MEAN	0.00	Aug 24, 1948
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 24, 1948
MAXIMUM PEAK FLOW	b11,100	Apr 16, 1950
MAXIMUM PEAK STAGE	c17.95	Apr 16, 1950
ANNUAL RUNOFF (AC-FT)	a11,310	
10 PERCENT EXCEEDS	18	
50 PERCENT EXCEEDS	1.5	
90 PERCENT EXCEEDS	0.00	

a Based on complete water years only (1949-75, 2000)
b From rating curve extended above 1,100 ft^3/s on basis of slope-area measurement of peak flow at former site 1 mi upstream
c From floodmark at former site 1 mi upstream
e Estimated

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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
02...	1505	0.36	--	--	--	909	20.0	10.5	--	--	--	--	--
MAR													
22...	1510	53	7.6	7.4	717	723	4.5	3.5	250	48.7	30.7	11.0	2
APR													
22...	1415	5.2	--	--	--	1,060	15.5	12.5	--	--	--	--	--
JUN													
04...	1430	2.1	--	--	--	892	29.5	22.5	--	--	--	--	--
JUL													
26...	0930	0.02	--	--	--	859	26.0	21.0	--	--	--	--	--
SEP													
01...	0920	0.11	8.4	8.4	796	778	23.5	18.0	260	30.6	45.2	7.90	2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
22...	66.6	36	152	5.4	0.18	8.80	209	465	67.2	1.1	160	<1	30
APR													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	74.9	37	289	9.8	0.31	<2.00	144	487	0.14	3.8	10	<1	60

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
02...	--	--	--	--	--
MAR					
22...	120	<0.20	2	1	500
APR					
22...	--	--	--	--	--
JUN					
04...	--	--	--	--	--
JUL					
26...	--	--	--	--	--
SEP					
01...	20	<0.20	2	<1	440

Remark codes used in this table:
< -- Less than

06347500 BIG MUDDY CREEK NEAR ALMONT, ND

LOCATION.--Lat 46°41'40", long 101°28'01", in NE¼NE¼SE¼ 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 National Geodetic Vertical Datum of 1929, by barometer. Prior to Sept. 5, 1952, nonrecording gage at same site and datum.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, about 1,200 ft^3/s, Mar. 10, gage height, 14.26 ft, backwater from ice; maximum gage height, 14.99 ft, Mar. 11, backwater from ice; minimum daily discharge recorded, 0.49 ft^3/s, Sept. 13.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	e0.50	e5.0	57	5.8	2.9	1.4	e0.77	e1.1
2	---	---	---	---	e0.50	e5.0	46	5.2	2.8	1.7	e0.70	e0.90
3	---	---	---	---	e0.50	e4.0	38	4.6	2.8	1.4	e0.65	e0.88
4	---	---	---	---	e0.50	e4.0	33	4.5	2.8	1.7	e0.63	e1.2
5	---	---	---	---	e0.50	e5.0	29	4.6	4.5	1.5	e0.75	e1.4
6	---	---	---	---	e0.50	e8.0	25	4.0	3.8	1.5	e0.88	e1.1
7	---	---	---	---	e0.50	e10	22	3.8	2.9	1.7	e1.0	e0.95
8	---	---	---	---	e0.50	e30	20	3.3	2.3	1.6	e1.1	e0.83
9	---	---	---	---	e0.50	e300	19	3.3	2.2	1.5	e0.85	e0.73
10	---	---	---	---	e0.50	e1,000	17	3.5	2.7	1.3	e0.73	e0.62
11	---	---	---	---	e0.50	e570	15	3.0	5.1	1.1	e0.77	e0.55
12	---	---	---	---	e0.50	e360	14	3.6	5.4	1.2	e0.73	e0.52
13	---	---	---	---	e0.50	e260	13	3.8	3.7	1.2	e0.72	e0.49
14	---	---	---	---	e0.50	e190	11	4.0	3.3	1.5	e0.71	e0.54
15	---	---	---	---	e0.50	e150	9.2	3.8	2.9	1.8	e0.69	e0.67
16	---	---	---	---	e0.60	e130	8.4	3.6	2.7	1.3	e0.68	e0.71
17	---	---	---	---	e1.0	e120	8.2	3.5	2.5	1.2	e0.67	e0.69
18	---	---	---	---	e1.0	169	9.7	3.2	2.1	1.1	e0.68	e0.61
19	---	---	---	---	e1.2	237	11	3.8	2.0	0.95	e0.69	e0.66
20	---	---	---	---	e1.4	273	9.9	3.5	e1.9	0.83	e0.70	e0.66
21	---	---	---	---	e1.5	238	9.5	3.8	e1.8	0.76	e0.72	e0.64
22	---	---	---	---	e1.4	188	9.3	5.9	e1.7	0.80	e0.76	e0.60
23	---	---	---	---	e1.5	140	11	3.8	1.5	0.81	e0.70	e0.87
24	---	---	---	---	e2.0	108	11	4.5	1.3	1.2	e2.5	e1.6
25	---	---	---	---	e3.0	103	9.9	4.2	1.4	1.3	e2.8	e2.2
26	---	---	---	---	e4.0	102	8.7	4.1	1.4	1.3	e2.9	e1.8
27	---	---	---	---	e8.0	102	7.6	4.1	1.7	e1.2	e2.4	e1.1
28	---	---	---	---	e6.0	174	6.8	3.5	1.7	e1.1	e2.2	e1.0
29	---	---	---	---	e5.0	210	6.0	3.1	1.6	e1.0	e1.6	e0.85
30	---	---	---	---	---	122	5.6	3.0	1.5	e1.1	e0.88	e0.84
31	---	---	---	---	---	77	---	2.8	---	e0.85	e1.1	---
TOTAL	---	---	---	---	45.10	5,394.0	500.8	121.2	76.9	38.90	33.66	27.31
MEAN	---	---	---	---	1.56	174	16.7	3.91	2.56	1.25	1.09	0.91
MAX	---	---	---	---	8.0	1,000	57	5.9	5.4	1.8	2.9	2.2
MIN	---	---	---	---	0.50	4.0	5.6	2.8	1.3	0.76	0.63	0.49
AC-FT	---	---	---	---	89	10,700	993	240	153	77	67	54

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2004, BY WATER YEAR (WY)

MEAN	1.20	1.60	1.33	1.08	19.2	147	141	44.4	37.8	40.9	8.17	2.92
MAX	2.61	3.19	2.48	4.59	220	909	1,160	540	405	1,042	75.4	15.2
(WY)	(1952)	(1952)	(1952)	(1947)	(1995)	(1997)	(1950)	(1970)	(1966)	(1993)	(1998)	(1953)
MIN	0.39	0.58	0.35	0.06	0.00	0.73	1.48	1.01	0.43	0.04	0.12	0.35
(WY)	(1962)	(1961)	(1949)	(1949)	(1966)	(1965)	(1992)	(1961)	(1961)	(1961)	(1961)	(1991)

06347500 BIG MUDDY CREEK NEAR ALMONT, ND—Continued

SUMMARY STATISTICS	WATER YEARS 1946 - 2004	
ANNUAL MEAN	a37.0	
HIGHEST ANNUAL MEAN	a112	1950
LOWEST ANNUAL MEAN	a1.41	1961
HIGHEST DAILY MEAN	15,000	Apr 17, 1950
LOWEST DAILY MEAN	0.00	Jan 28, 1946
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 28, 1946
MAXIMUM PEAK FLOW	b20,200	Apr 17, 1950
MAXIMUM PEAK STAGE	30.99	Jul 23, 1993
ANNUAL RUNOFF (AC-FT)	a26,790	
10 PERCENT EXCEEDS	31	
50 PERCENT EXCEEDS	1.7	
90 PERCENT EXCEEDS	0.40	

a Based on complete water years only (1946-70)
b Gage height, 30.7 ft, from floodmark
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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
02...	1215	0.28	--	--	--	2,260	14.0	7.5	--	--	--	--	--
MAR													
09...	1500	315	7.9	7.1	556	546	12.0	0.5	87	18.2	10.1	10.1	4
10...	1245	1,070	--	--	--	310	-2.0	0.0	--	--	--	--	--
18...	1530	168	--	--	--	638	-1.0	1.0	--	--	--	--	--
22...	1200	183	--	--	--	692	7.0	1.0	--	--	--	--	--
APR													
22...	1640	9.6	--	--	--	2,000	19.5	15.0	--	--	--	--	--
JUN													
04...	1200	2.3	--	--	--	2,220	27.5	20.5	--	--	--	--	--
JUL													
26...	1235	1.5	--	--	--	2,240	31.0	24.0	--	--	--	--	--
SEP													
01...	1200	1.1	8.6	8.6	2,260	2,230	25.0	21.5	200	28.8	31.5	6.80	15

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
02...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
09...	88.1	66	128	4.4	0.11	7.98	135	345	299	1.9	340	<1	10
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	485	83	777	9.6	1.14	5.91	489	1,520	4.32	9.7	50	<1	70

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
02...	--	--	--	--	--
MAR					
09...	90	<0.20	1	<1	180
10...	--	--	--	--	--
18...	--	--	--	--	--
22...	--	--	--	--	--
APR					
22...	--	--	--	--	--
JUN					
04...	--	--	--	--	--
JUL					
26...	--	--	--	--	--
SEP					
01...	<10	<0.20	6	<1	590

Remark codes used in this table:
< -- Less than

06348300 HEART RIVER AT STARK BRIDGE NEAR JUDSON, ND

LOCATION.--Lat 46°42'12", long 101°12'49", in SE¼SW¼SW¼ 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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow regulated by Lake Tschida (station 06346000) since 1949.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	28	e23	e12	e7.3	e135	703	86	41	37	e27	e32
2	19	25	e22	e12	e7.2	e440	622	80	58	48	e22	28
3	19	30	e22	e11	e7.0	e400	557	75	56	48	e30	32
4	19	31	e21	e10	e7.0	e200	501	72	38	45	45	43
5	19	e30	e21	e9.3	e7.3	e160	449	67	e33	53	51	41
6	18	e29	e21	e8.6	e7.5	e140	401	67	e25	63	63	50
7	18	e28	e20	e7.8	e7.6	e180	365	62	e24	63	66	53
8	19	e28	e20	e7.3	e7.8	e200	326	51	e22	67	73	46
9	18	e27	e19	e6.9	e8.0	e300	296	47	e20	69	58	46
10	16	e26	e19	e7.8	e8.2	e600	266	45	e25	65	63	46
11	17	e26	e18	e8.6	e8.3	e2,000	243	42	84	57	62	46
12	16	e25	e17	e8.8	e8.4	e4,000	222	46	121	50	51	46
13	15	e25	e16	e9.0	e8.4	e5,600	201	51	126	e37	47	46
14	14	e26	e16	e9.0	e8.4	e4,400	183	46	126	e35	45	47
15	14	e29	e18	e9.0	e8.4	e3,000	165	44	115	e30	42	49
16	17	e32	e19	e9.0	e8.6	e2,400	149	44	110	e25	38	48
17	17	e35	e20	e9.0	e8.8	2,120	140	40	108	e20	34	39
18	16	e36	e20	e9.2	e9.0	1,830	135	38	84	e45	e28	30
19	15	e35	e20	e9.2	e9.2	1,670	130	36	63	42	e18	25
20	17	e34	e19	e8.8	e9.2	1,610	134	38	57	49	e35	26
21	16	e33	e19	e8.4	e9.4	1,460	126	34	52	50	46	26
22	16	e31	e18	e8.1	e9.6	1,310	119	e25	54	45	51	24
23	16	e30	e17	e8.0	e10	1,210	115	e40	56	48	57	25
24	18	e28	e15	e8.0	e11	1,100	110	88	54	50	65	29
25	19	e27	e14	e7.8	e13	987	108	64	52	51	63	26
26	18	e26	e13	e7.6	e16	894	105	50	51	54	58	25
27	21	e25	e13	e7.4	e30	836	103	45	50	52	48	22
28	19	e24	e13	e7.4	e50	803	95	47	46	63	38	22
29	22	e24	e13	e7.4	e90	935	90	46	45	46	36	21
30	23	e23	e13	e7.4	---	965	87	41	43	37	e34	20
31	23	---	e13	e7.4	---	808	---	38	---	33	e33	---
TOTAL	553	856	552	267.2	400.6	42,693	7,246	1,595	1,839	1,477	1,427	1,059
MEAN	17.8	28.5	17.8	8.62	13.8	1,377	242	51.5	61.3	47.6	46.0	35.3
MAX	23	36	23	12	90	5,600	703	88	126	69	73	53
MIN	14	23	13	6.9	7.0	135	87	25	20	20	18	20
AC-FT	1,100	1,700	1,090	530	795	84,680	14,370	3,160	3,650	2,930	2,830	2,100

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2004, BY WATER YEAR (WY)

MEAN	59.9	44.1	32.4	24.4	90.5	707	365	186	139	221	137	64.5
MAX	254	131	94.9	59.0	578	3,050	2,468	800	484	1,479	674	192
(WY)	(1995)	(1999)	(1999)	(1996)	(1995)	(1997)	(1997)	(1995)	(2001)	(1993)	(1998)	(1995)
MIN	12.3	14.1	7.07	0.34	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)

06348300 HEART RIVER AT STARK BRIDGE NEAR JUDSON, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1989 - 2004	
ANNUAL TOTAL	41,014.7		59,964.8			
ANNUAL MEAN	112		164		173	
HIGHEST ANNUAL MEAN					569	1997
LOWEST ANNUAL MEAN					22.3	1990
HIGHEST DAILY MEAN	3,460	Mar 21	5,600	Mar 13	15,000	Mar 23, 1997
LOWEST DAILY MEAN	6.7	Jul 14	6.9	Jan 9	0.21	Jan 1, 1991
ANNUAL SEVEN-DAY MINIMUM	13	Feb 26	7.2	Jan 30	0.22	Dec 31, 1990
MAXIMUM PEAK FLOW			a5,800	Mar 12	a18,000	Mar 23, 1997
MAXIMUM PEAK STAGE			b,c16.09	Mar 12	c,d21.90	Mar 23, 1997
ANNUAL RUNOFF (AC-FT)	81,350		118,900		125,700	
10 PERCENT EXCEEDS	146		228		319	
50 PERCENT EXCEEDS	31		34		48	
90 PERCENT EXCEEDS	14		8.9		12	

a About
b Maximum recorded, may have been higher during period of no record, March 12-15
c Backwater from ice
d 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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
06...	1220	17	--	--	--	1,260	22.0	13.0	--	--	--	--	--
NOV													
20...	1700	34	--	--	--	1,540	-1.5	0.0	--	--	--	--	--
JAN													
12...	1230	8.8	--	--	--	2,100	-3.0	0.0	--	--	--	--	--
MAR													
16...	1430	2,370	7.7	8.8	838	862	8.0	4.5	200	39.2	25.7	12.0	4
APR													
22...	1130	118	--	--	--	1,130	14.5	12.0	--	--	--	--	--
JUN													
15...	1225	114	--	--	--	1,050	18.0	19.5	--	--	--	--	--
JUL													
26...	1455	56	--	--	--	1,160	35.5	27.0	--	--	--	--	--
SEP													
01...	1445	30	8.4	8.4	1,380	1,380	34.0	2.6	300	57.0	37.2	10.5	5

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
16...	118	54	171	8.2	0.22	4.97	251	558	3,600	1.4	150	<1	20
APR													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	204	59	317	13.6	0.37	4.68	399	913	75.6	3.8	<10	<1	50

06348300 HEART RIVER AT STARK BRIDGE NEAR JUDSON, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
06...	--	--	--	--	--
NOV					
20...	--	--	--	--	--
JAN					
12...	--	--	--	--	--
MAR					
16...	10	<0.20	3	<1	450
APR					
22...	--	--	--	--	--
JUN					
15...	--	--	--	--	--
JUL					
26...	--	--	--	--	--
SEP					
01...	<10	<0.20	4	2	770

Remark codes used in this table:
< -- Less than

06348500 SWEETBRIAR CREEK NEAR JUDSON, ND

LOCATION.--Lat 46°51'06", long 101°15'10", in SW¼ sec.14, T.139 N., R.84 W., Morton County, Hydrologic Unit 10130203, on right bank 40 ft downstream from bridge on county highway, 2 mi northeast of Judson, and 16 mi upstream from mouth.

DRAINAGE AREA.--157 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1951 to September 1979, June 2002 to current year (seasonal records only).

REVISED RECORDS.--WSP 1439: 1955(M).

GAGE.--Water-stage recorder. Datum of gage is 1,886.42 ft above National Geodetic Vertical Datum of 1929. Prior to July 20, 1955, nonrecording gage 80 ft upstream at same datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow regulated by Sweetbriar Reservoir 2 mi upstream since April 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 12.5 ft, Apr. 17, 1950, from floodmarks at present site, discharge, 5,910 ft^3/s from rating curve extended above 2,000 ft^3/s on basis of contracted-opening measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, about 325 ft^3/s, Mar. 20, gage height, 4.37 ft, maximum gage height, 4.47 ft, Mar. 19, backwater from ice; minimum daily, 0.30 ft^3/s, Sept. 17-18.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	e0.40	e0.43	31	2.5	1.4	0.82	7.3	0.45
2	---	---	---	---	e0.40	e0.41	25	2.5	1.3	2.1	5.5	0.39
3	---	---	---	---	e0.40	e0.40	19	2.6	1.2	1.4	1.2	0.44
4	---	---	---	---	e0.40	e0.40	14	2.7	1.4	1.3	0.67	0.59
5	---	---	---	---	e0.40	e0.40	13	2.5	1.4	1.3	0.45	0.49
6	---	---	---	---	e0.40	e0.40	8.5	2.7	1.2	1.3	0.40	0.44
7	---	---	---	---	e0.40	e0.50	9.2	2.4	1.1	1.2	0.46	0.48
8	---	---	---	---	e0.40	e1.0	e5.5	2.7	1.1	1.3	e0.41	0.46
9	---	---	---	---	e0.40	e1.4	5.0	2.9	1.1	1.1	0.48	0.46
10	---	---	---	---	e0.40	e1.0	4.0	2.6	1.6	1.0	0.58	0.90
11	---	---	---	---	e0.40	e0.92	4.0	2.3	2.6	0.98	0.55	1.3
12	---	---	---	---	e0.40	e0.90	3.8	2.3	1.8	0.90	0.56	1.1
13	---	---	---	---	e0.40	e0.86	3.6	2.1	1.7	0.74	0.57	1.2
14	---	---	---	---	e0.40	e0.83	3.6	2.1	1.7	0.79	0.48	1.1
15	---	---	---	---	e0.40	e0.82	3.7	2.1	1.7	0.64	0.45	0.68
16	---	---	---	---	e0.41	e0.88	3.7	1.9	1.7	0.67	0.46	e0.41
17	---	---	---	---	e0.41	e0.92	3.1	1.8	1.6	0.60	0.45	e0.30
18	---	---	---	---	e0.41	e7.0	3.8	1.8	1.6	0.56	0.50	e0.30
19	---	---	---	---	e0.42	e150	3.8	1.8	1.4	0.58	0.59	e0.33
20	---	---	---	---	e0.42	e300	4.1	1.6	1.3	0.64	0.53	0.36
21	---	---	---	---	e0.43	e210	4.2	1.5	1.3	0.60	0.60	0.41
22	---	---	---	---	e0.44	e140	3.5	1.6	1.3	0.65	0.57	0.39
23	---	---	---	---	e0.45	e103	3.9	1.4	1.2	0.65	0.62	0.47
24	---	---	---	---	e0.46	90	3.7	1.6	1.1	0.58	0.61	0.49
25	---	---	---	---	e0.52	110	4.5	1.5	1.1	0.47	0.56	0.50
26	---	---	---	---	e0.58	106	3.4	1.4	1.1	0.46	0.59	0.46
27	---	---	---	---	e0.50	92	2.6	1.4	1.3	1.3	0.60	0.53
28	---	---	---	---	e0.48	97	3.2	1.4	1.2	7.0	0.46	0.51
29	---	---	---	---	e0.44	85	2.9	1.3	0.99	7.5	0.48	0.43
30	---	---	---	---	---	e53	2.4	1.4	0.90	7.4	0.46	0.58
31	---	---	---	---	---	39	---	1.4	---	7.4	0.46	---
TOTAL	---	---	---	---	12.37	1,594.47	205.7	61.8	41.39	53.93	28.60	16.95
MEAN	---	---	---	---	0.43	51.4	6.86	1.99	1.38	1.74	0.92	0.56
MAX	---	---	---	---	0.58	300	31	2.9	2.6	7.5	7.3	1.3
MIN	---	---	---	---	0.40	0.40	2.4	1.3	0.90	0.46	0.40	0.30
AC-FT	---	---	---	---	25	3,160	408	123	82	107	57	34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2004, BY WATER YEAR (WY)

MEAN	0.87	0.77	0.64	0.39	2.43	51.6	47.3	12.2	7.54	3.49	2.59	1.64
MAX	9.76	4.21	3.44	1.07	31.9	317	336	106	60.4	25.2	35.8	19.1
(WY)	(1978)	(1967)	(1967)	(1978)	(1954)	(1978)	(1952)	(1970)	(1953)	(1957)	(2003)	(1977)
MIN	0.09	0.28	0.22	0.05	0.00	0.42	0.66	0.42	0.21	0.15	0.00	0.02
(WY)	(1962)	(1974)	(1962)	(1962)	(1962)	(1969)	(1965)	(1977)	(1965)	(1961)	(1959)	(1959)

06348500 SWEETBRIAR CREEK NEAR JUDSON, ND—Continued

SUMMARY STATISTICS	WATER YEARS 1951 - 2004	
ANNUAL MEAN	a11.3	
HIGHEST ANNUAL MEAN	a33.9	1978
LOWEST ANNUAL MEAN	a0.41	1965
HIGHEST DAILY MEAN	2,930	Apr 7, 1969
LOWEST DAILY MEAN	0.00	Jan 28, 1954
ANNUAL SEVEN-DAY MINIMUM	a0.00	Feb 15, 1956
MAXIMUM PEAK FLOW	4,200	Apr 7, 1969
MAXIMUM PEAK STAGE	11.28	Apr 7, 1969
INSTANTANEOUS LOW FLOW	0.00	Jan 28, 1954
ANNUAL RUNOFF (AC-FT)	a8,210	
10 PERCENT EXCEEDS	7.6	
50 PERCENT EXCEEDS	0.58	
90 PERCENT EXCEEDS	0.14	

a Based on complete water years only (1952-79)
e Estimated

06348500 SWEETBRIAR CREEK NEAR JUDSON, ND—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 2002 to current year.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
FEB													
24...	1240	0.46	--	--	--	1,460	1.5	0.0	--	--	--	--	--
MAR													
11...	1645	0.85	--	--	--	630	-5.0	0.0	--	--	--	--	--
25...	1000	107	8.0	7.0	591	600	11.0	3.5	130	23.9	16.4	10.2	3
APR													
08...	1025	4.6	--	--	--	1,080	10.5	9.5	--	--	--	--	--
MAY													
25...	1400	1.5	--	--	--	1,380	10.0	11.5	--	--	--	--	--
AUG													
27...	1315	0.57	8.9	8.6	1,470	1,420	18.0	19.0	220	30.8	35.2	9.50	7

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
FEB													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
11...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	80.1	55	118	4.5	0.09	6.76	166	373	109	1.8	290	<1	20
APR													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
27...	240	69	381	7.8	0.35	<2.00	369	923	1.42	6.8	60	<1	60

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
FEB					
24...	--	--	--	--	--
MAR					
11...	--	--	--	--	--
25...	100	<0.20	<1	2	300
APR					
08...	--	--	--	--	--
MAY					
25...	--	--	--	--	--
AUG					
27...	20	<0.20	2	1	520

Remark codes used in this table:
< -- Less than

06349000 HEART RIVER NEAR MANDAN, ND

LOCATION.--Lat 46°50'02", long 100°58'27", in NW¼NE¼ 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, April 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 National Geodetic Vertical Datum of 1929 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 fair except for estimated daily discharges, 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	24	e25	e13	e8.3	e208	1,080	142	45	26	12	30
2	22	25	e24	e13	e8.6	e490	955	137	42	49	9.8	29
3	21	23	e23	e12	e8.5	e511	e890	122	55	51	8.4	29
4	21	26	e23	e11	e8.4	e380	e800	109	63	51	14	36
5	21	33	e23	e11	e8.3	e340	e760	104	50	52	28	45
6	21	e31	e23	e10	e8.3	e309	e680	91	41	57	37	47
7	20	e30	e22	e9.6	e8.5	e318	e630	88	33	73	45	46
8	20	e29	e21	e9.2	e8.6	e375	e561	86	24	75	73	68
9	18	e29	e21	e8.8	e9.0	e518	539	85	24	81	72	53
10	18	e28	e20	e8.3	e9.1	e789	491	67	30	92	59	51
11	18	e28	e20	e7.9	e9.1	e1,280	452	62	38	83	58	55
12	17	e27	e18	e7.6	e9.1	e3,070	419	58	78	89	53	55
13	16	e27	e18	e7.3	e9.2	e4,730	388	56	137	70	42	58
14	17	e27	e17	e6.9	e9.4	e6,030	359	61	147	53	38	57
15	16	e30	e17	e7.5	e9.6	e4,900	331	56	201	14	36	59
16	17	e34	e18	e9.3	e9.8	e3,880	304	51	189	12	34	62
17	16	e37	e20	e9.8	e9.9	e3,160	279	51	182	4.1	33	64
18	18	e37	e21	e9.8	e10	e2,840	273	47	176	0.88	30	55
19	19	e36	e21	e9.8	e11	e2,630	266	44	143	12	21	41
20	19	e36	e21	e9.8	e11	e2,580	264	40	102	25	8.7	34
21	17	e34	e20	e9.1	e12	e2,520	258	39	83	18	7.0	28
22	17	e32	e20	e9.0	e13	e2,330	245	42	72	35	36	27
23	17	e32	e18	e9.0	e14	2,070	235	40	74	26	46	29
24	16	e30	e18	e9.0	e15	1,870	222	38	70	32	68	32
25	17	e29	e16	e9.0	e16	1,720	205	90	65	35	76	29
26	17	e28	e15	e8.6	e29	1,590	196	68	59	35	78	29
27	22	e27	e15	e8.2	e58	1,470	188	54	40	47	76	26
28	22	e26	e15	e8.2	e90	1,360	185	48	33	61	65	23
29	22	e26	e15	e8.2	e136	1,350	166	46	23	65	43	20
30	25	e25	e15	e8.3	---	1,420	149	47	24	55	36	20
31	26	---	e14	e8.2	---	1,280	---	46	---	30	34	---
TOTAL	595	886	597	286.4	566.7	58,318	12,770	2,115	2,343	1,408.98	1,276.9	1,237
MEAN	19.2	29.5	19.3	9.24	19.5	1,881	426	68.2	78.1	45.5	41.2	41.2
MAX	26	37	25	13	136	6,030	1,080	142	201	92	78	68
MIN	16	23	14	6.9	8.3	208	149	38	23	0.88	7.0	20
AC-FT	1,180	1,760	1,180	568	1,120	115,700	25,330	4,200	4,650	2,790	2,530	2,450

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2004, BY WATER YEAR (WY)

MEAN	56.7	43.9	26.6	17.9	106	962	865	324	330	233	97.9	64.6
MAX	337	383	155	145	1,046	4,029	5,885	3,610	1,925	2,433	763	231
(WY)	(1995)	(1983)	(1983)	(1983)	(1930)	(1997)	(1950)	(1970)	(1941)	(1993)	(1998)	(1995)
MIN	5.41	6.95	0.21	0.00	0.00	0.28	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)

06349000 HEART RIVER NEAR MANDAN, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1924 - 2004	
ANNUAL TOTAL	54,711.7		82,399.98			
ANNUAL MEAN	150		225		262	
HIGHEST ANNUAL MEAN					898	1982
LOWEST ANNUAL MEAN					19.2	1990
HIGHEST DAILY MEAN	5,000	Mar 22	6,030	Mar 14	28,400	Apr 18, 1950
LOWEST DAILY MEAN	5.8	Jul 4	0.88	Jul 18	0.00	Aug 20, 1929
ANNUAL SEVEN-DAY MINIMUM	9.3	Feb 23	7.8	Jan 9	0.00	Feb 1, 1930
MAXIMUM PEAK FLOW			a,b6,100	Mar 14	a,c30,500	Apr 19, 1950
MAXIMUM PEAK STAGE			d13.84	Mar 13	d25.75	Apr 4, 1952
ANNUAL RUNOFF (AC-FT)	108,500		163,400		190,200	
10 PERCENT EXCEEDS	253		429		416	
50 PERCENT EXCEEDS	33		33		50	
90 PERCENT EXCEEDS	13		9.2		6.0	

a About
b Gage height, 13.68 ft
c Gage height, 23.64 ft
d 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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
03...	1100	21	--	--	--	1,690	15.0	9.0	--	--	--	--	--
DEC													
09...	1330	21	--	--	--	1,600	-6.0	0.0	--	--	--	--	--
MAR													
12...	1200	1,770	8.0	--e	443	425	5.0	0.4	110	22.8	12.1	9.30	2
22...	1540	2,330	--	--	--	651	11.0	2.5	--	--	--	--	--
APR													
08...	1330	561	--	--	--	1,030	13.0	11.0	--	--	--	--	--
MAY													
25...	1105	93	--	--	--	1,470	7.0	11.0	--	--	--	--	--
JUN													
04...	1150	65	8.1	8.3	1,310	1,300	28.0	23.0	330	63.0	41.5	10.8	5
JUL													
19...	1450	8.4	--	--	--	1,390	28.0	29.0	--	--	--	--	--
27...	1330	46	8.3	8.6	1,290	1,290	33.0	30.0	260	48.7	34.2	10.6	5
SEP													
02...	1400	30	8.4	8.5	1,410	1,340	31.5	25.0	280	50.5	37.0	10.0	5

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)
OCT													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
12...	46.2	46	108	4.2	0.13	6.27	103	264	1,290	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
04...	212	57	318	12.0	0.38	4.63	372	904	159	--	--	--	--
JUL													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
27...	179	58	298	12.7	0.39	4.69	380	845	105	0.66	0.64	<0.010	<0.010
SEP													
02...	200	60	313	15.1	0.35	2.97	408	910	73.2	0.62	0.57	<0.010	<0.010

06349000 HEART RIVER NEAR MANDAN, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, fltrd, mg/L (00602)	Total nitro-gen, water, unfltrd mg/L (00600)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Mangan-ese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molyb-denum, water, fltrd, ug/L (01060)
OCT													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
12...	--	--	--	--	--	--	<1.0	350	<1	10	20	<0.20	2
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
04...	--	--	--	--	--	--	<1.0	10	<1	50	10	<0.20	3
JUL													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
27...	0.024	0.020	<0.004	0.008	0.69	0.66	6.3	20	<1	40	<10	<0.20	5
SEP													
02...	<0.020	<0.020	0.022	0.031	0.64	0.59	4.2	10	<1	50	10	<0.20	4

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
OCT		
03...	--	--
DEC		
09...	--	--
MAR		
12...	<1	220
22...	--	--
APR		
08...	--	--
MAY		
25...	--	--
JUN		
04...	<1	660
JUL		
19...	--	--
27...	<1	680
SEP		
02...	<1	710

Remark codes used in this table:
< -- Less than

Null value qualifier codes used in this table:
e -- Required equipment not functional/avail

06349215 LONG LAKE CREEK ABOVE LONG LAKE NEAR MOFFIT, ND

LOCATION.--Lat 46°37'59", long 100°14'29", in NE¼NE¼NW¼ 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 September 2004 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 1,720 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except for discharges below 8.0 ft^3/s and for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.72	3.3	e4.2	e2.5	e2.0	e6.0	44	9.5	7.1	3.4	0.90	e0.30
2	0.69	3.4	e4.2	e2.5	e2.1	e5.9	39	9.9	9.3	3.4	0.55	e0.50
3	0.70	3.5	e4.2	e2.5	e2.2	e5.8	35	9.7	11	3.1	0.70	0.33
4	0.74	3.9	e4.2	e2.4	e2.2	e5.9	32	9.1	10	3.1	e0.80	0.47
5	0.74	4.1	e4.0	e2.4	e2.2	e6.0	29	9.5	11	3.1	0.89	0.57
6	0.75	4.0	e3.9	e2.4	e2.2	e5.9	27	9.1	11	2.9	0.91	0.29
7	0.77	4.0	e3.8	e2.4	e2.3	e6.0	25	8.4	11	3.1	0.98	0.07
8	0.82	4.0	e3.8	e2.4	e2.3	e6.4	21	8.5	9.9	3.2	1.5	0.00
9	1.1	4.1	e3.7	e2.4	e2.7	e14	20	10	10	4.1	1.7	0.00
10	1.3	4.2	e3.6	e2.3	e2.9	75	19	18	9.4	5.8	1.4	0.02
11	1.1	4.2	e3.4	e2.2	e3.1	76	18	16	14	4.5	1.3	0.00
12	1.2	4.3	e3.3	e2.2	e3.2	63	17	16	17	4.5	1.8	0.09
13	1.4	4.5	e3.3	e2.1	e3.4	120	16	14	21	5.2	1.1	0.08
14	3.2	5.6	e3.2	e2.1	e3.5	95	15	13	23	4.2	1.3	0.00
15	3.1	5.5	e3.1	e2.1	e3.6	82	15	13	19	5.0	1.8	0.00
16	2.7	5.2	e3.1	e2.1	e3.6	80	14	12	16	4.1	1.5	0.10
17	2.3	5.2	e3.1	e2.1	e3.6	78	13	11	15	3.9	1.8	0.24
18	2.2	5.4	e3.1	e2.2	e3.6	87	13	11	14	3.4	1.1	0.40
19	2.5	5.6	e3.1	e2.3	e3.6	93	13	12	12	2.6	0.53	e0.80
20	2.4	5.8	e3.1	e2.3	e3.6	101	14	12	11	2.6	0.72	1.6
21	2.2	e5.5	e3.1	e2.4	e3.6	97	15	12	9.8	2.8	e0.80	3.5
22	2.4	e5.5	e3.1	e2.3	e3.8	91	18	12	8.2	2.8	e0.88	4.4
23	2.5	e5.5	e3.1	e2.2	e4.3	80	18	13	7.6	2.7	0.87	4.0
24	2.4	e5.2	e3.1	e2.0	e4.4	72	17	11	7.4	2.1	0.98	4.3
25	2.4	e4.9	e3.0	e2.0	e4.8	65	15	11	6.7	2.3	e0.70	5.8
26	2.3	e4.6	e2.9	e2.0	e5.2	56	13	9.0	6.0	1.7	e0.80	4.8
27	2.6	e4.6	e2.8	e2.0	e5.5	54	12	7.3	5.1	1.6	0.90	5.2
28	2.8	e4.3	e2.8	e2.0	e6.0	59	12	7.4	4.4	1.1	0.82	4.1
29	2.7	e4.2	e2.7	e2.0	e6.1	60	10	8.9	5.1	1.1	0.62	4.1
30	2.7	e4.2	e2.7	e2.0	---	56	9.7	8.2	3.0	0.89	0.49	3.3
31	3.3	---	e2.6	e2.0	---	47	---	8.1	---	0.98	e0.40	---
TOTAL	58.73	138.3	103.3	68.8	101.6	1,748.9	578.7	339.6	325.0	95.27	31.54	49.36
MEAN	1.89	4.61	3.33	2.22	3.50	56.4	19.3	11.0	10.8	3.07	1.02	1.65
MAX	3.3	5.8	4.2	2.5	6.1	120	44	18	23	5.8	1.8	5.8
MIN	0.69	3.3	2.6	2.0	2.0	5.8	9.7	7.3	3.0	0.89	0.40	0.00
AC-FT	116	274	205	136	202	3,470	1,150	674	645	189	63	98

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2004, BY WATER YEAR (WY)

MEAN	5.69	6.71	5.28	3.69	8.31	105	83.7	38.1	23.4	35.4	11.6	5.00
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	0.24	0.34	0.22	0.05	0.00	3.67	5.74	2.19	0.63	0.32	0.12	0.15
(WY)	(1993)	(1991)	(1991)	(1991)	(1997)	(1991)	(1990)	(1992)	(1992)	(1989)	(1990)	(1990)

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1989 - 2004	
ANNUAL TOTAL	4,201.15		3,639.10			
ANNUAL MEAN	11.5		9.94		27.8	
HIGHEST ANNUAL MEAN					112	1997
LOWEST ANNUAL MEAN					3.06	1992
HIGHEST DAILY MEAN	156	Jun 24	120	Mar 13	3,200	Mar 29, 1997
LOWEST DAILY MEAN	0.69	Oct 2	0.00	Sep 8	0.00	Dec 30, 1990
ANNUAL SEVEN-DAY MINIMUM	0.72	Sep 29	0.03	Sep 8	0.00	Jan 11, 1997
MAXIMUM PEAK FLOW			136	Mar 13	3,200	Mar 29, 1997
MAXIMUM PEAK STAGE			2.48	Mar 13	12.99	Mar 29, 1997
ANNUAL RUNOFF (AC-FT)	8,330		7,220		20,140	
10 PERCENT EXCEEDS	32		18		49	
50 PERCENT EXCEEDS	3.5		3.6		6.8	
90 PERCENT EXCEEDS	0.90		0.80		0.40	

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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
NOV													
18...	1150	5.5	--	--	--	1,690	3.5	0.5	--	--	--	--	--
JAN													
12...	1430	2.2	--	--	--	1,770	-0.5	0.0	--	--	--	--	--
FEB													
26...	1430	5.2	--	--	--	1,540	2.5	0.0	--	--	--	--	--
MAR													
10...	1335	82	8.8	--e	391	--e	0.5	0.0	93	19.9	10.4	13.0	2
APR													
05...	1515	30	--	--	--	892	20.0	11.5	--	--	--	--	--
MAY													
26...	1400	8.3	--	--	--	1,330	18.5	15.5	--	--	--	--	--
JUL													
20...	1010	3.3	--	--	--	1,220	26.5	25.0	--	--	--	--	--
AUG													
19...	1515	0.36	--	--	--	1,080	24.0	19.5	--	--	--	--	--
25...	1130	0.57	8.6	8.3	1,100	1,040	22.0	18.6	250	48.4	31.3	10.4	4

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
NOV													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
10...	42.3	46	102	3.1	0.07	8.69	78.3	230	52.2	1.0	200	<1	50
APR													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	148	55	440	7.7	0.42	18.4	144	655	1.04	10.7	20	<1	180

06349215 LONG LAKE CREEK ABOVE LONG LAKE NEAR MOFFIT, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
NOV					
18...	--	--	--	--	--
JAN					
12...	--	--	--	--	--
FEB					
26...	--	--	--	--	--
MAR					
10...	120	<0.20	<1	<1	100
APR					
05...	--	--	--	--	--
MAY					
26...	--	--	--	--	--
JUL					
20...	--	--	--	--	--
AUG					
19...	--	--	--	--	--
25...	30	<0.20	3	<1	330

Remark codes used in this table:
< -- Less than

Null value qualifier codes used in this table:
e -- Required equipment not functional/avail

06349500 APPLE CREEK NEAR MENOKEN, ND

LOCATION.--Lat 46°47'40", long 100°39'25", in NW¼NE¼ 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 National Geodetic Vertical Datum of 1929. See WSP 1729 or 1917 for history of changes prior to Sept. 30, 1953.

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.67	2.4	e2.3	e1.7	e1.6	e3.3	129	9.8	11	7.4	3.2	6.4
2	0.65	e2.2	e2.3	e1.6	e1.6	e3.0	95	9.5	10	8.1	2.8	5.3
3	0.67	e2.2	e2.3	e1.6	e1.7	e3.0	66	8.8	9.4	7.9	2.5	4.5
4	0.70	e2.1	e2.2	e1.7	e1.7	e2.9	48	8.1	9.4	7.6	2.3	4.7
5	0.68	e2.1	e2.2	e1.7	e1.7	e3.0	38	7.7	12	7.6	2.1	4.7
6	0.66	e2.1	e2.3	e1.8	e1.8	e2.9	21	7.9	15	7.8	2.2	4.5
7	0.66	e2.1	e2.3	e1.8	e1.9	e3.0	2.6	7.7	16	7.5	2.2	3.9
8	0.63	e2.3	e2.3	e1.9	e2.0	e3.9	12	7.1	15	7.7	2.3	3.6
9	0.63	e2.3	e2.3	e2.0	e2.0	e6.9	22	7.3	16	7.9	2.0	3.4
10	0.62	e2.5	e2.3	e2.1	e2.2	e9.6	20	7.2	16	7.5	1.9	3.2
11	0.78	e2.6	e2.1	e2.1	e2.3	e11	18	6.9	32	7.3	2.0	2.9
12	0.90	e2.7	e2.1	e2.2	e2.3	e10	16	6.7	37	7.1	2.1	2.8
13	1.0	e2.7	e2.0	e2.2	e2.3	e8.7	15	6.5	29	6.8	1.8	2.7
14	0.84	e2.7	e2.0	e2.2	e2.4	e7.6	15	6.5	22	12	1.6	2.7
15	0.74	e2.7	e2.1	e2.2	e2.3	e6.7	13	6.4	27	18	1.5	2.8
16	0.74	e2.8	e2.1	e2.2	e2.3	e7.4	12	6.5	43	19	1.4	2.8
17	0.73	e2.8	e2.1	e2.1	e2.3	e8.3	12	7.3	45	17	1.3	2.7
18	0.74	e2.8	e2.2	e2.0	e2.3	e8.7	12	7.6	40	19	1.3	2.9
19	0.77	e2.8	e2.1	e2.1	e2.5	e9.8	12	7.5	32	19	1.2	2.3
20	0.78	e2.8	e2.1	e2.1	e2.5	e16	12	7.4	26	16	1.8	2.1
21	0.79	e2.7	e2.1	e2.1	e2.4	e25	12	7.3	21	12	2.3	2.1
22	0.81	e2.6	e2.1	e2.0	e2.6	e33	12	7.3	18	8.1	2.3	2.0
23	0.80	e2.6	e2.1	e1.9	e2.5	e39	11	7.5	16	6.5	2.4	2.7
24	3.9	e2.5	e2.1	e1.8	e2.6	e95	11	7.7	13	5.6	3.0	4.1
25	11	e2.4	e2.1	e1.8	e2.7	e100	12	8.0	11	4.7	1.8	3.8
26	4.8	e2.4	e2.0	e1.7	e2.9	e95	12	7.4	9.4	3.8	1.5	3.5
27	2.9	e2.3	e2.0	e1.7	e3.1	e139	12	7.1	10	3.5	3.9	3.3
28	2.3	e2.2	e2.0	e1.6	e3.7	164	11	7.0	8.9	5.2	11	3.3
29	2.4	e2.2	e1.9	e1.6	e3.8	191	11	7.4	7.5	4.6	11	3.5
30	2.6	e2.3	e1.8	e1.6	---	192	10	8.7	7.7	4.2	8.5	3.7
31	2.4	---	e1.7	e1.6	---	158	---	10	---	3.7	7.5	---
TOTAL	49.29	73.9	65.6	58.7	68.0	1,366.7	704.6	235.8	585.3	280.1	94.7	102.9
MEAN	1.59	2.46	2.12	1.89	2.34	44.1	23.5	7.61	19.5	9.04	3.05	3.43
MAX	11	2.8	2.3	2.2	3.8	192	129	10	45	19	11	6.4
MIN	0.62	2.1	1.7	1.6	1.6	2.9	2.6	6.4	7.5	3.5	1.2	2.0
AC-FT	98	147	130	116	135	2,710	1,400	468	1,160	556	188	204

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2004, BY WATER YEAR (WY)

MEAN	6.36	5.19	3.75	2.34	12.6	115	200	79.3	43.4	29.2	17.1	8.93
MAX	67.6	40.1	30.8	15.2	316	557	1,606	1,038	346	372	292	130
(WY)	(2000)	(2000)	(1998)	(2000)	(2000)	(1987)	(1997)	(1950)	(1953)	(1993)	(1999)	(1999)
MIN	0.05	0.06	0.06	0.04	0.09	0.99	0.53	0.23	0.07	0.03	0.03	0.03
(WY)	(1991)	(1990)	(1992)	(1977)	(1975)	(1977)	(1990)	(1977)	(1977)	(1977)	(1991)	(1990)

06349500 APPLE CREEK NEAR MENOKEN, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1946 - 2004	
ANNUAL TOTAL	3,626.51		3,685.59			
ANNUAL MEAN	9.94		10.1		43.6	
HIGHEST ANNUAL MEAN					268	1997
LOWEST ANNUAL MEAN					0.31	1990
HIGHEST DAILY MEAN	160	Mar 23	192	Mar 30	5,590	Apr 18, 1950
LOWEST DAILY MEAN	0.15	Sep 5	0.62	Oct 10	0.00	Aug 25, 1946
ANNUAL SEVEN-DAY MINIMUM	0.15	Sep 2	0.65	Oct 4	0.00	Aug 25, 1946
MAXIMUM PEAK FLOW			207	Mar 29	a6,750	Apr 18, 1950
MAXIMUM PEAK STAGE			6.64	Mar 29	17.46	Apr 19, 1979
ANNUAL RUNOFF (AC-FT)	7,190		7,310		31,570	
10 PERCENT EXCEEDS	20		17		76	
50 PERCENT EXCEEDS	2.6		2.9		2.5	
90 PERCENT EXCEEDS	0.64		1.6		0.15	

a Gage height, 17.07 ft
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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
01...	1105	0.67	--	--	--	1,820	9.5	7.5	--	--	--	--	--
NOV													
17...	1415	2.8	--	--	--	1,820	5.5	1.0	--	--	--	--	--
JAN													
20...	1020	2.1	--	--	--	1,900	-6.0	-0.5	--	--	--	--	--
FEB													
27...	1235	3.1	--	--	--	1,730	3.5	1.0	--	--	--	--	--
MAR													
09...	1000	6.7	--	--	--	1,390	--	--	--	--	--	--	--
24...	1255	91	8.1	7.3	824	827	14.5	7.5	220	40.6	27.8	8.80	3
APR													
07...	1230	2.2	--	--	--	835	7.5	11.0	--	--	--	--	--
JUL													
22...	1115	8.0	--	--	--	1,410	19.0	24.5	--	--	--	--	--
SEP													
01...	1555	6.2	8.4	8.5	1,610	1,560	35.0	21.5	390	66.3	54.8	9.60	5

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
27...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	105	50	147	7.5	0.11	9.15	272	552	138	2.0	130	<1	60
APR													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	236	56	444	17.6	0.30	15.7	424	1,080	18.3	13.4	<10	<1	130

06349500 APPLE CREEK NEAR MENOKEN, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
01...	--	--	--	--	--
NOV					
17...	--	--	--	--	--
JAN					
20...	--	--	--	--	--
FEB					
27...	--	--	--	--	--
MAR					
09...	--	--	--	--	--
24...	110	<0.20	1	<1	300
APR					
07...	--	--	--	--	--
JUL					
22...	--	--	--	--	--
SEP					
01...	20	<0.20	3	2	620

Remark codes used in this table:
< -- Less than

06349580 HAY CREEK AT 43RD AVENUE NEAR BISMARCK, ND

LOCATION.--Lat 46°51'10", long 100°45'30", in NW¼NW¼NE¼ sec.22, T.139 N., R.80 W., Burleigh County, Hydrologic Unit 10130103, on left bank on downstream side of bridge on 43rd Avenue north of Bismarck and approximately 0.5 mi east of Highway 83.

DRAINAGE AREA.--20.74 mi^2 (approximately).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 2002 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,730 ft from topographic map.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 110 ft^3/s, Aug. 23, gage height, 7.51 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e0.00	0.07	e0.00	0.24	e0.00	e0.00	0.00
2	---	---	---	---	---	e0.00	0.06	e0.00	0.16	e0.61	e0.00	0.00
3	---	---	---	---	---	e0.00	0.06	e0.00	0.07	e0.00	e0.00	0.00
4	---	---	---	---	---	e0.00	0.06	e0.00	e6.2	e0.00	0.00	0.58
5	---	---	---	---	---	e0.00	0.06	e0.18	e8.7	e0.04	0.00	0.00
6	---	---	---	---	---	e0.00	0.05	e0.01	0.10	e0.00	0.07	0.00
7	---	---	---	---	---	e0.10	0.05	e0.00	0.05	e0.00	1.2	0.00
8	---	---	---	---	---	e1.0	0.05	e0.05	0.03	e0.35	0.11	0.00
9	---	---	---	---	---	e14	0.04	0.47	0.29	e0.00	0.00	0.00
10	---	---	---	---	---	e6.0	0.04	e0.01	e12	e0.00	0.01	0.00
11	---	---	---	---	---	e2.5	0.04	e0.00	e24	e0.00	0.01	0.00
12	---	---	---	---	---	e1.0	0.04	e0.06	3.1	e19	0.00	0.00
13	---	---	---	---	---	e1.5	0.04	e0.02	0.47	2.4	0.00	0.00
14	---	---	---	---	---	e0.80	0.04	e0.00	0.10	0.34	0.00	0.00
15	---	---	---	---	---	e0.60	0.05	e0.00	0.04	0.12	0.00	0.07
16	---	---	---	---	---	e1.5	e0.04	e0.00	0.02	0.02	0.00	0.00
17	---	---	---	---	---	e4.0	e0.05	e0.00	0.00	e0.00	0.00	0.00
18	---	---	---	---	---	5.1	e0.10	e0.00	e0.00	e0.00	0.00	0.00
19	---	---	---	---	---	3.8	e0.09	e0.10	e0.00	e0.00	0.00	0.00
20	---	---	---	---	---	1.6	e0.20	e0.01	e0.00	e0.00	0.00	0.00
21	---	---	---	---	---	0.77	e0.12	e0.00	e0.00	e0.00	0.13	0.00
22	---	---	---	---	---	0.40	e0.07	0.82	e0.00	e0.00	0.00	0.00
23	---	---	---	---	---	0.26	e0.05	0.06	e0.00	e0.00	14	0.67
24	---	---	---	---	---	0.23	0.04	0.50	e0.00	e0.00	27	0.01
25	---	---	---	---	---	0.17	0.04	0.14	e0.00	e0.00	1.0	0.00
26	---	---	---	---	---	0.15	e0.03	0.08	e0.00	e0.00	0.25	0.00
27	---	---	---	---	---	3.2	e0.02	0.05	e1.0	e0.60	1.8	0.00
28	---	---	---	---	---	0.31	e0.02	0.04	e0.10	e0.01	0.08	0.00
29	---	---	---	---	---	0.12	e0.01	0.08	e0.00	e0.00	0.02	0.00
30	---	---	---	---	---	0.08	e0.00	0.06	e0.00	e0.00	0.00	0.00
31	---	---	---	---	---	0.07	---	0.06	---	e0.00	0.00	---
TOTAL	---	---	---	---	---	49.26	1.63	2.80	56.67	23.49	45.68	1.33
MEAN	---	---	---	---	---	1.59	0.05	0.09	1.89	0.76	1.47	0.04
MAX	---	---	---	---	---	14	0.20	0.82	24	19	27	0.67
MIN	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	---	---	---	---	---	98	3.2	5.6	112	47	91	2.6

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2004, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	1.31	0.07	0.63	0.67	0.26	0.49	0.01
MAX	---	---	---	---	---	1.59	0.09	1.18	1.89	0.76	1.47	0.04
(WY)	---	---	---	---	---	(2004)	(2003)	(2003)	(2004)	(2004)	(2004)	(2004)
MIN	---	---	---	---	---	1.03	0.05	0.09	0.00	0.00	0.00	0.00
(WY)	---	---	---	---	---	(2003)	(2004)	(2004)	(2002)	(2003)	(2003)	(2002)

SUMMARY STATISTICS	WATER YEARS 2002 - 2004	
HIGHEST DAILY MEAN	27	Aug 24, 2004
LOWEST DAILY MEAN	0.00	Jun 1, 2002
ANNUAL SEVEN-DAY MINIMUM	0.00	Jun 1, 2002
MAXIMUM PEAK FLOW	110	Aug 23, 2004
MAXIMUM PEAK STAGE	7.51	Aug 23, 2004

e Estimated

06349580 HAY CREEK AT 43RD AVENUE NEAR BISMARCK, ND—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 2004.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)
MAR			
09...	1200	98	138
25...	1200	60	2
27...	0845	99	320
JUL			
12...	1030	100	2,440
AUG			
23...	2140	--	6,150
24...	0925	93	269

06349590 HAY CREEK AT DIVIDE AVENUE IN BISMARCK, ND

LOCATION.--Lat 46°49'24", long 100°44'13", in SW¼SE¼SE¼ sec.26, T.139 N., R.80 W., Burleigh County, Hydrologic Unit 10130103, on left downstream side of walkway bridge, 300 ft downstream of Divide Avenue in east Bismarck.

DRAINAGE AREA.--29.9 mi^2 (approximately).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 2002 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,670 ft from topographic map.

REMARKS.--Records poor.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 252 ft^3/s, Aug. 23, gage height, 7.07 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e0.18	e1.4	e1.3	e2.0	e0.90	e0.28	e0.00
2	---	---	---	---	---	e0.27	e0.92	e1.2	e0.80	e5.5	e0.20	e0.00
3	---	---	---	---	---	e0.37	e0.84	e1.2	e1.3	e1.7	e0.10	e0.00
4	---	---	---	---	---	e0.62	e0.64	e0.83	e10	e0.59	e0.06	e1.5
5	---	---	---	---	---	e0.82	e0.84	e0.93	e7.8	e2.6	e0.04	e0.00
6	---	---	---	---	---	e0.98	e1.3	e1.6	e1.1	e1.0	e2.3	e0.00
7	---	---	---	---	---	e2.1	e1.0	e1.5	e0.70	e0.59	e1.5	e0.00
8	---	---	---	---	---	e5.6	e0.84	e2.0	e0.46	e5.6	e0.43	e0.00
9	---	---	---	---	---	e24	e0.64	e2.3	e0.40	e2.0	e0.25	e0.00
10	---	---	---	---	---	e11	e0.84	e1.5	e2.4	e1.5	e0.00	e0.00
11	---	---	---	---	---	e6.1	e0.84	e0.72	e36	e1.4	e0.00	e0.00
12	---	---	---	---	---	e5.2	e0.64	e1.4	e8.5	e35	e0.00	e0.00
13	---	---	---	---	---	e5.0	e0.54	e0.90	e2.0	e6.7	e0.00	e0.00
14	---	---	---	---	---	e4.4	e0.54	e1.2	e1.4	e2.1	e0.00	e0.00
15	---	---	---	---	---	e4.2	e1.0	e0.92	e1.2	e1.7	e0.00	e1.5
16	---	---	---	---	---	e7.5	e1.1	e0.60	e0.80	e1.1	e0.00	e0.36
17	---	---	---	---	---	e13	e1.1	e0.50	e1.3	e0.52	e0.00	e0.00
18	---	---	---	---	---	e9.2	e2.3	e0.50	e1.0	e0.32	e0.00	e0.00
19	---	---	---	---	---	e6.2	e2.1	e1.0	e0.85	e0.20	e0.00	e0.00
20	---	---	---	---	---	e4.8	e7.4	e0.60	e0.75	e0.10	e0.00	e0.00
21	---	---	---	---	---	e3.0	e3.4	e0.40	e0.65	e0.08	e0.00	e0.00
22	---	---	---	---	---	e2.2	e2.7	e3.5	e0.55	e0.06	e0.00	e0.00
23	---	---	---	---	---	e2.8	e2.5	e0.59	e0.46	e0.05	e20	e22
24	---	---	---	---	---	e6.4	e1.4	e2.8	e0.40	e0.18	e74	16
25	---	---	---	---	---	e5.0	e1.2	e1.0	e0.37	e0.10	e10	5.0
26	---	---	---	---	---	e5.6	e1.2	e0.70	e1.4	e0.08	e5.8	2.9
27	---	---	---	---	---	22	e1.4	e0.45	e6.9	e14	e7.6	2.0
28	---	---	---	---	---	8.5	e1.7	e0.30	e1.5	e1.8	e2.7	1.5
29	---	---	---	---	---	e4.4	e1.4	e1.6	e0.67	e0.60	e0.84	1.3
30	---	---	---	---	---	e2.8	e1.4	e0.74	e0.44	e0.50	e0.00	e0.96
31	---	---	---	---	---	e2.0	---	e0.60	---	e0.40	e0.00	---
TOTAL	---	---	---	---	---	176.24	45.12	35.38	94.10	88.97	126.10	55.02
MEAN	---	---	---	---	---	5.69	1.50	1.14	3.14	2.87	4.07	1.83
MAX	---	---	---	---	---	24	7.4	3.5	36	35	74	22
MIN	---	---	---	---	---	0.18	0.54	0.30	0.37	0.05	0.00	0.00
AC-FT	---	---	---	---	---	350	89	70	187	176	250	109

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2004, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	4.06	0.87	1.54	1.20	3.83	2.09	1.26
MAX	---	---	---	---	---	5.69	1.50	1.94	3.14	8.57	4.07	1.83
(WY)	---	---	---	---	---	(2004)	(2004)	(2003)	(2004)	(2002)	(2004)	(2004)
MIN	---	---	---	---	---	2.43	0.23	1.14	0.23	0.04	0.00	0.72
(WY)	---	---	---	---	---	(2003)	(2003)	(2004)	(2002)	(2003)	(2003)	(2002)

SUMMARY STATISTICS	WATER YEARS 2002 - 2004	
HIGHEST DAILY MEAN	170	Jul 9, 2002
LOWEST DAILY MEAN	0.00	Mar 1, 2003
ANNUAL SEVEN-DAY MINIMUM	0.00	Mar 1, 2003
MAXIMUM PEAK FLOW	252	Aug 23, 2004
MAXIMUM PEAK STAGE	7.07	Aug 23, 2004

e Estimated

06349590 HAY CREEK AT DIVIDE AVENUE IN BISMARCK, ND—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 2002 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)
MAR			
09...	1200	99	180
25...	1200	94	112
27...	0940	97	472
JUL			
12...	1100	100	316
AUG			
24...	1010	91	103

06349600 HAY CREEK AT MAIN AVENUE IN BISMARCK, ND

LOCATION.--Lat 46°48'27", long 100°43'59", in NE¼NE¼NE¼ sec.2, T.138 N., R.80 W., Burleigh County, Hydrologic Unit 10130103, on left bank, 150 ft downstream from bridge on Main Avenue in Bismarck.

DRAINAGE AREA.--31.2 mi^2 (approximately).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 2002 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,660 ft from topographic map.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 232 ft^3/s, Aug. 23, gage height, 6.68 ft; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e0.40	3.6	e4.0	3.4	1.8	1.5	e0.50
2	---	---	---	---	---	e0.50	3.3	e3.0	2.6	9.8	e1.0	e0.30
3	---	---	---	---	---	e0.70	2.7	e2.2	1.9	3.4	e0.70	e0.20
4	---	---	---	---	---	e0.80	2.8	e3.0	11	1.7	e0.50	e3.0
5	---	---	---	---	---	e1.1	2.7	e3.0	9.0	3.7	e0.40	e1.0
6	---	---	---	---	---	e1.2	3.3	4.7	3.0	2.3	e3.0	e0.70
7	---	---	---	---	---	e2.0	2.9	3.9	1.8	1.7	e1.4	e0.50
8	---	---	---	---	---	e8.0	2.3	6.6	1.2	7.2	e0.80	e0.30
9	---	---	---	---	---	e30	2.2	4.8	1.0	5.5	e0.50	e0.18
10	---	---	---	---	---	e16	2.0	3.0	e3.0	3.0	e0.30	e0.10
11	---	---	---	---	---	e10	1.9	2.1	e40	2.1	e0.30	e0.05
12	---	---	---	---	---	e8.5	1.8	2.5	13	38	e0.10	e0.00
13	---	---	---	---	---	e7.5	1.9	1.8	5.5	13	e0.05	e0.00
14	---	---	---	---	---	e7.0	2.0	2.1	2.3	3.8	e0.00	e0.00
15	---	---	---	---	---	e6.5	3.7	2.0	1.8	3.4	e0.00	e2.0
16	---	---	---	---	---	e14	3.2	1.9	2.0	1.6	e0.00	e0.80
17	---	---	---	---	---	e20	3.7	1.9	2.5	0.84	e0.00	e0.20
18	---	---	---	---	---	e16	7.3	1.8	2.3	0.70	e0.00	e0.08
19	---	---	---	---	---	e11	7.0	2.0	2.1	0.39	e0.00	e0.00
20	---	---	---	---	---	e8.0	11	1.3	2.0	0.35	e0.00	e0.00
21	---	---	---	---	---	e6.0	7.6	1.6	1.7	0.23	e0.00	e0.00
22	---	---	---	---	---	e6.0	6.1	5.4	1.6	0.15	e0.00	e0.10
23	---	---	---	---	---	e9.0	6.1	2.6	1.6	0.13	36	e30
24	---	---	---	---	---	e14	5.2	4.4	1.4	0.35	84	e28
25	---	---	---	---	---	e12	4.7	3.1	1.4	0.29	19	e13
26	---	---	---	---	---	15	4.3	2.0	2.7	0.33	12	e9.0
27	---	---	---	---	---	25	6.1	1.5	9.9	16	15	e6.0
28	---	---	---	---	---	9.8	e6.0	1.3	2.8	4.7	6.0	e4.0
29	---	---	---	---	---	7.2	e4.5	2.5	1.3	1.9	3.8	e2.0
30	---	---	---	---	---	6.5	e4.0	2.3	0.85	1.7	e2.0	e1.2
31	---	---	---	---	---	4.0	---	2.1	---	1.6	e0.90	---
TOTAL	---	---	---	---	---	283.70	125.9	86.4	136.65	131.66	189.25	103.21
MEAN	---	---	---	---	---	9.15	4.20	2.79	4.55	4.25	6.10	3.44
MAX	---	---	---	---	---	30	11	6.6	40	38	84	30
MIN	---	---	---	---	---	0.40	1.8	1.3	0.85	0.13	0.00	0.00
AC-FT	---	---	---	---	---	563	250	171	271	261	375	205

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2004, BY WATER YEAR (WY)

MEAN	---	---	---	---	---	7.80	2.83	4.48	5.70	7.20	3.43	2.42
MAX	---	---	---	---	---	9.15	4.20	6.17	11.2	16.8	6.10	3.44
(WY)	---	---	---	---	---	(2004)	(2004)	(2003)	(2002)	(2002)	(2004)	(2004)
MIN	---	---	---	---	---	6.45	1.46	2.79	1.40	0.51	0.00	1.57
(WY)	---	---	---	---	---	(2003)	(2003)	(2004)	(2003)	(2003)	(2003)	(2002)

SUMMARY STATISTICS	WATER YEARS 2002 - 2004	
HIGHEST DAILY MEAN	200	Jul 9, 2002
LOWEST DAILY MEAN	0.00	Mar 1, 2003
ANNUAL SEVEN-DAY MINIMUM	0.00	Mar 1, 2003
MAXIMUM PEAK FLOW	232	Aug 23, 2004
MAXIMUM PEAK STAGE	6.68	Aug 23, 2004

e Estimated

06349600 HAY CREEK AT MAIN AVENUE IN BISMARCK, ND—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 2002 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Suspnd. sedi-ment, sieve diametr percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)
MAR			
25...	1200	98	11
27...	1040	92	502
JUL			
12...	1220	87	193
27...	2030	100	797
AUG			
23...	2220	--	1,010
24...	0930	69	187

06349700 MISSOURI RIVER NEAR SCHMIDT, ND

LOCATION.--Lat 46°39'22", long 100°44'18", in SW¼NE¼ 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 National Geodetic Vertical Datum of 1929.

REMARKS.--Stage regulated by releases from Garrison Dam (station 06338490) 91.1 mi upstream and by backwater from Lake Oahe. Most days from Dec. 15 to Mar. 24 based on incomplete daily record.

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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.17	11.94	12.64	18.01	---	19.44	13.59	13.14	14.20	14.05	14.06	13.81
2	13.16	11.92	12.57	---	---	19.24	13.63	13.01	14.40	14.17	14.05	13.67
3	12.95	12.09	12.59	---	---	19.19	13.51	12.95	14.41	14.21	14.11	13.82
4	12.56	12.05	12.58	---	---	19.16	13.36	12.89	14.21	14.12	14.12	14.01
5	12.43	11.95	12.70	---	---	19.08	13.27	12.87	14.21	14.10	13.99	13.89
6	12.10	12.00	12.64	---	---	19.05	13.44	12.89	14.22	14.22	13.82	13.86
7	12.01	12.06	13.01	---	---	19.05	13.78	12.91	14.26	14.20	13.83	13.86
8	11.99	12.01	12.83	---	19.33	18.85	13.61	12.93	14.44	14.25	13.90	13.89
9	12.05	12.04	12.75	19.86	19.70	19.07	13.74	13.05	14.28	14.25	13.91	13.88
10	12.00	12.06	12.93	20.16	19.82	19.51	13.79	13.09	14.22	14.25	13.79	13.90
11	11.97	12.03	13.37	20.19	---	---	13.80	12.87	14.38	14.21	13.81	13.85
12	11.90	12.00	14.08	20.07	19.33	19.04	13.80	13.05	14.35	14.25	13.81	13.85
13	11.95	11.94	16.09	19.86	19.44	21.55	13.75	13.04	14.29	14.24	13.86	13.89
14	11.95	11.93	17.97	19.76	---	21.48	13.74	12.82	14.25	14.18	13.81	13.82
15	11.96	11.99	17.73	19.68	---	18.80	14.09	12.89	13.97	14.22	13.88	13.80
16	12.08	11.96	17.68	19.70	19.46	17.28	14.42	13.19	13.91	14.24	13.83	13.95
17	12.15	12.04	17.49	19.65	19.64	15.86	14.55	14.01	14.23	14.17	13.80	13.70
18	12.12	12.09	17.22	---	19.66	14.94	14.67	13.73	14.20	14.14	13.84	13.68
19	12.16	12.56	16.81	---	19.68	14.56	14.69	13.36	14.06	14.16	13.85	13.60
20	12.14	12.72	16.58	18.79	19.67	14.63	14.85	14.04	14.07	14.14	13.82	13.14
21	11.99	12.58	16.42	18.92	19.57	14.42	14.61	13.68	14.07	14.14	13.74	13.03
22	11.89	12.59	15.85	---	19.55	14.34	14.64	13.64	14.07	14.15	13.80	12.86
23	11.79	12.64	15.18	18.91	19.60	14.16	14.84	14.23	14.10	14.20	13.82	12.90
24	11.81	12.93	15.00	---	19.63	14.07	14.70	13.81	14.09	14.17	13.99	12.55
25	11.87	13.12	15.07	---	19.59	13.96	14.92	13.69	14.07	14.15	14.02	12.36
26	11.77	13.24	14.87	---	19.49	13.86	14.93	14.24	14.04	14.19	13.84	12.34
27	11.84	12.93	14.63	---	19.48	13.95	14.78	13.82	14.09	14.30	13.85	12.30
28	11.89	13.02	14.36	---	19.51	14.06	14.26	13.62	14.07	14.28	13.87	12.28
29	11.79	13.14	14.26	---	19.54	13.95	13.23	14.14	14.10	14.09	13.89	12.39
30	11.93	12.94	15.03	---	---	13.86	13.08	13.82	14.18	14.11	13.88	12.31
31	11.98	---	17.36	---	---	13.68	---	13.62	---	14.05	13.84	---
MEAN	12.11	12.35	14.85	---	---	---	14.07	13.39	14.18	14.18	13.88	13.37
MAX	13.17	13.24	17.97	---	---	---	14.93	14.24	14.44	14.30	14.12	14.01
MIN	11.77	11.92	12.57	---	---	---	13.08	12.82	13.91	14.05	13.74	12.28

06350000 CANNONBALL RIVER AT REGENT, ND

LOCATION.--Lat 46°25'36", long 102°33'05", in NE¼NE¼ 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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharges, 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	e1.7	e3.0	e1.8	e1.4	e200	29	8.2	4.9	4.5	1.7	2.2
2	2.3	e1.7	e3.0	e1.8	e1.4	e169	32	8.0	4.8	4.6	1.8	2.1
3	2.1	e1.7	e3.0	e1.7	e1.4	e150	27	7.9	4.1	4.5	2.1	2.2
4	2.0	e1.7	e3.0	e1.6	e1.4	111	e25	7.4	4.3	4.2	2.4	2.2
5	1.9	e1.7	e2.9	e1.4	e1.4	91	e25	7.1	6.6	4.3	3.0	2.2
6	1.9	e1.7	e2.9	e1.1	e1.5	80	e21	6.3	7.7	4.7	3.6	2.0
7	1.9	e1.6	e2.8	e1.0	e1.6	69	e20	5.7	7.4	4.6	3.3	1.8
8	2.1	e1.5	e2.8	e0.99	e1.6	140	e16	5.5	6.9	6.8	3.5	1.9
9	e2.0	e1.4	e2.8	e0.98	e1.7	e350	e18	5.4	6.8	6.8	3.6	2.0
10	e1.9	e1.5	e2.7	e1.0	e1.7	e783	e18	4.9	7.0	6.4	4.1	2.0
11	1.9	e1.9	e2.6	e1.2	e1.7	e1,400	e18	4.7	7.8	5.6	5.7	1.9
12	e2.0	e2.6	e2.6	e1.2	e1.7	e1,200	e16	4.9	7.4	5.0	5.2	2.3
13	2.0	e3.3	e2.6	e1.3	e1.8	599	14	5.0	7.1	4.4	4.4	2.6
14	e2.1	3.7	e2.6	e1.3	e1.8	416	13	5.4	7.3	4.0	3.7	2.7
15	e2.2	3.6	e2.5	e1.4	e2.0	276	13	5.5	7.7	3.6	3.4	3.1
16	e2.3	3.7	e2.5	e1.6	e2.3	195	12	5.5	8.1	3.1	3.1	3.3
17	e2.3	3.8	e2.5	e1.8	e2.3	157	12	5.4	7.3	2.8	2.6	3.4
18	e2.3	3.6	e2.5	e1.9	e3.6	135	13	5.6	6.7	2.6	2.4	3.6
19	e2.3	3.6	e2.6	e2.2	e3.8	120	14	5.9	6.5	2.3	2.1	3.6
20	e2.3	e3.7	e2.6	e2.1	e4.0	109	13	5.9	6.4	2.1	2.0	3.5
21	e2.3	e3.7	e2.6	e2.0	e4.1	91	13	6.3	6.4	2.2	1.9	3.4
22	e2.3	e3.6	e2.6	e1.9	e4.2	75	13	8.3	6.1	2.0	2.1	3.0
23	e2.2	e3.4	e2.5	e1.7	e4.2	64	13	8.3	5.8	1.7	3.0	3.1
24	e2.1	e3.3	e2.4	e1.8	e4.3	56	12	6.1	6.2	1.5	3.1	3.2
25	e2.0	e3.2	e2.4	e1.8	e4.4	49	12	5.7	5.8	1.6	2.4	2.9
26	e1.9	e2.9	e2.3	e1.8	e15	42	10	5.1	5.4	1.5	2.2	2.7
27	e1.9	e2.8	e2.2	e1.8	e62	49	9.8	4.6	5.6	1.4	2.6	2.4
28	e1.8	e3.0	e2.1	e1.4	e140	53	9.2	4.1	5.3	1.5	2.7	2.2
29	e1.8	e3.1	e2.0	e1.3	e179	54	8.7	3.9	4.9	1.5	2.7	2.1
30	e1.8	e3.1	e1.9	e1.4	---	39	8.4	3.7	4.7	1.7	2.4	2.0
31	e1.8	---	e1.9	e1.4	---	32	---	4.0	---	1.8	2.3	---
TOTAL	64.0	81.8	79.4	47.67	457.3	7,354	478.1	180.3	189.0	105.3	91.1	77.6
MEAN	2.06	2.73	2.56	1.54	15.8	237	15.9	5.82	6.30	3.40	2.94	2.59
MAX	2.3	3.8	3.0	2.2	179	1,400	32	8.3	8.1	6.8	5.7	3.6
MIN	1.8	1.4	1.9	0.98	1.4	32	8.4	3.7	4.1	1.4	1.7	1.8
AC-FT	127	162	157	95	907	14,590	948	358	375	209	181	154

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2004, BY WATER YEAR (WY)

MEAN	8.58	5.84	4.11	4.84	22.4	139	113	60.0	74.9	25.5	16.5	4.92
MAX	124	51.6	15.7	63.2	393	963	1,128	523	512	331	299	20.4
(WY)	(1983)	(1983)	(1983)	(1973)	(1982)	(1978)	(1952)	(1972)	(1957)	(1969)	(1981)	(1986)
MIN	1.25	1.87	0.52	0.00	0.00	3.23	3.80	2.94	1.57	0.69	0.67	0.70
(WY)	(1961)	(1961)	(1951)	(1952)	(1959)	(1964)	(1961)	(1992)	(1990)	(2002)	(1959)	(1960)

06350000 CANNONBALL RIVER AT REGENT, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1951 - 2004	
ANNUAL TOTAL	3,831.81		9,205.57			
ANNUAL MEAN	10.5		25.2		40.0	
HIGHEST ANNUAL MEAN					168	1982
LOWEST ANNUAL MEAN					3.11	1992
HIGHEST DAILY MEAN	405	Mar 20	1,400	Mar 11	7,880	Mar 27, 1978
LOWEST DAILY MEAN	0.61	Sep 9	0.98	Jan 9	0.00	Dec 5, 1950
ANNUAL SEVEN-DAY MINIMUM	0.73	Sep 3	1.1	Jan 6	0.00	Dec 5, 1950
MAXIMUM PEAK FLOW			1,500	Mar 11	c10,000	Mar 27, 1978
MAXIMUM PEAK STAGE			(a)	Mar 11	b21.01	Mar 21, 1997
ANNUAL RUNOFF (AC-FT)	7,600		18,260		29,010	
10 PERCENT EXCEEDS	13		28		44	
50 PERCENT EXCEEDS	2.8		3.1		5.0	
90 PERCENT EXCEEDS	1.1		1.7		1.5	

a Unknown
b Backwater from ice
c Gage height, 20.55 ft
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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
10...	1320	1.9	--	--	--	1,320	19.0	13.0	--	--	--	--	--
NOV													
20...	1230	3.7	--	--	--	2,060	0.5	1.5	--	--	--	--	--
JAN													
09...	1145	0.98	--	--	--	2,220	0.5	0.5	--	--	--	--	--
FEB													
25...	1530	4.2	--	--	--	1,790	8.5	1.0	--	--	--	--	--
MAR													
12...	1415	1,090	--	--	--	274	14.0	2.0	--	--	--	--	--
17...	1310	151	8.0	7.0	530	535	11.5	3.5	130	27.8	15.6	9.60	2
APR													
12...	1530	15	--	--	--	1,720	13.5	7.5	--	--	--	--	--
JUN													
03...	1300	4.5	--	--	--	1,640	23.5	16.0	--	--	--	--	--
JUL													
14...	1315	4.1	--	--	--	1,660	32.0	25.0	--	--	--	--	--
AUG													
27...	1030	3.0	8.6	8.5	1,760	1,740	15.0	18.0	260	35.7	40.1	8.10	9

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	62.1	48	99	3.3	0.14	7.89	154	334	139	1.1	210	<1	10
APR													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
27...	313	72	355	15.3	0.51	<2.00	551	1,180	9.60	4.9	10	<1	50

06350000 CANNONBALL RIVER AT REGENT, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
10...	--	--	--	--	--
NOV					
20...	--	--	--	--	--
JAN					
09...	--	--	--	--	--
FEB					
25...	--	--	--	--	--
MAR					
12...	--	--	--	--	--
17...	170	<0.20	2	<1	300
APR					
12...	--	--	--	--	--
JUN					
03...	--	--	--	--	--
JUL					
14...	--	--	--	--	--
AUG					
27...	10	<0.20	5	1	860

Remark codes used in this table:
< -- Less than

06351200 CANNONBALL RIVER NEAR RALEIGH, ND

LOCATION.--Lat 46°07'37", long 101°19'58", in SW¼SW¼NW¼ 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 current year.

GAGE.--Water-stage recorder. Datum of gage is 1,890 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge about 15,000 ft^3/s, Mar. 20, 1997, gage height, 16 ft (from floodmark), was probably higher in 1950.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.02	e0.31	e0.44	e0.16	e2.5	e9.9	210	26	15	31	3.3	e0.02
2	0.04	e0.24	e0.45	e0.15	e2.5	e13	176	26	15	53	2.9	0.00
3	0.10	e0.19	e0.44	e0.14	e2.5	e16	151	25	17	16	2.7	0.00
4	0.08	e0.16	e0.42	e0.13	e2.5	e20	129	24	16	12	2.5	0.14
5	0.12	e0.13	e0.39	e0.13	e2.5	e30	111	23	18	7.9	3.4	2.3
6	0.24	e0.11	e0.35	e0.12	e2.5	e56	97	22	15	13	8.2	1.4
7	0.26	e0.09	e0.35	e0.12	e2.5	e88	88	21	13	8.8	5.5	0.87
8	0.22	e0.08	e0.35	e0.13	e2.5	e218	82	21	11	37	3.0	0.54
9	0.20	e0.06	e0.35	e0.16	e2.6	e396	75	20	11	18	2.5	0.26
10	0.22	e0.05	e0.38	e0.20	e2.6	e783	67	19	12	12	2.0	0.09
11	0.24	e0.04	e0.42	e0.25	e2.6	e2,980	54	18	43	12	1.8	0.01
12	0.24	e0.04	e0.46	e0.30	e2.6	e4,730	51	17	15	50	1.9	0.00
13	0.32	e0.04	e0.49	e0.36	e2.6	e3,010	52	16	13	13	1.9	0.00
14	0.45	e0.04	e0.51	e0.42	e2.8	e2,070	51	16	13	9.2	1.5	0.00
15	0.51	e0.04	e0.52	e0.50	e2.8	e1,520	46	16	11	7.4	1.3	0.10
16	0.56	e0.04	e0.53	e0.89	e2.6	e1,180	43	16	13	6.6	1.3	0.16
17	0.60	e0.04	e0.55	e0.98	e2.3	e719	42	16	13	8.1	1.0	0.13
18	0.62	e0.05	e0.55	e1.1	e2.0	614	42	16	11	9.2	1.3	0.07
19	0.57	e0.05	e0.56	e1.3	e1.9	548	42	16	11	9.0	0.95	0.01
20	0.52	e0.05	e0.56	e1.7	e1.8	526	40	16	8.5	6.6	0.69	0.00
21	0.56	e0.06	e0.56	e2.0	e1.8	468	39	15	8.6	6.5	0.82	0.00
22	0.58	e0.06	e0.54	e2.2	e2.0	371	36	17	9.5	6.1	0.80	0.05
23	0.56	e0.08	e0.54	e2.3	e2.0	292	36	16	9.6	5.0	0.85	0.90
24	0.42	e0.10	e0.51	e2.4	e2.1	242	35	17	9.5	5.0	0.78	6.7
25	0.40	e0.14	e0.47	e2.4	e2.3	213	34	17	8.9	4.4	e0.62	2.6
26	0.60	e0.26	e0.44	e2.4	e2.6	193	32	14	8.1	3.4	e0.50	1.4
27	0.67	e0.37	e0.40	e2.5	e3.6	188	31	14	8.1	3.3	e0.32	1.3
28	0.67	e0.41	e0.33	e2.4	e5.9	179	29	15	7.5	4.1	e0.25	1.2
29	e0.61	e0.42	e0.29	e2.4	e6.9	175	28	15	7.0	3.7	e0.04	1.1
30	e0.52	e0.44	e0.23	e2.5	---	153	27	16	7.7	3.6	e0.02	1.0
31	e0.42	---	e0.19	e2.5	---	196	---	15	---	3.1	e0.01	---
TOTAL	12.14	4.19	13.57	35.24	78.4	22,196.9	1,976	561	379.0	388.0	54.65	22.35
MEAN	0.39	0.14	0.44	1.14	2.70	716	65.9	18.1	12.6	12.5	1.76	0.74
MAX	0.67	0.44	0.56	2.5	6.9	4,730	210	26	43	53	8.2	6.7
MIN	0.02	0.04	0.19	0.12	1.8	9.9	27	14	7.0	3.1	0.01	0.00
AC-FT	24	8.3	27	70	156	44,030	3,920	1,110	752	770	108	44

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2004, BY WATER YEAR (WY)

MEAN	5.22	8.37	7.42	6.09	6.62	449	99.5	26.2	29.5	45.9	24.6	3.08
MAX	13.5	14.0	13.2	12.1	12.3	853	254	34.8	86.9	154	93.5	10.8
(WY)	(2002)	(2002)	(2002)	(2002)	(2002)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)
MIN	0.39	0.14	0.44	1.14	2.70	24.1	37.9	18.1	5.52	1.03	0.01	0.33
(WY)	(2004)	(2004)	(2004)	(2004)	(2004)	(2002)	(2002)	(2004)	(2002)	(2003)	(2003)	(2003)

06351200 CANNONBALL RIVER NEAR RALEIGH, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 2001 - 2004	
ANNUAL TOTAL	9,163.31		25,721.44			
ANNUAL MEAN	25.1		70.3		37.3	
HIGHEST ANNUAL MEAN					70.3	2004
LOWEST ANNUAL MEAN					14.6	2002
HIGHEST DAILY MEAN	1,290	Mar 22	4,730	Mar 12	4,730	Mar 12, 2004
LOWEST DAILY MEAN	0.00	Jul 24	0.00	Sep 2	0.00	Sep 6, 2002
ANNUAL SEVEN-DAY MINIMUM	0.00	Jul 30	0.03	Aug 29	0.00	Sep 26, 2002
MAXIMUM PEAK FLOW			a6,500	Mar 12	a6,500	Mar 12, 2004
MAXIMUM PEAK STAGE			b12.76	Mar 12	b12.76	Mar 12, 2004
ANNUAL RUNOFF (AC-FT)	18,180		51,020		27,000	
10 PERCENT EXCEEDS	35		55		35	
50 PERCENT EXCEEDS	2.7		2.5		8.2	
90 PERCENT EXCEEDS	0.00		0.10		0.08	

a About
b Backwater from ice
e Estimated

06351200 CANNONBALL RIVER NEAR RALEIGH, ND—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 2001 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
01...	1150	0.03	--	--	--	1,090	11.5	10.0	--	--	--	--	--
NOV													
13...	1625	0.04	--	--	--	1,020	7.0	1.5	--	--	--	--	--
FEB													
19...	1345	1.9	--	--	--	2,260	4.5	0.5	--	--	--	--	--
MAR													
18...	1320	609	7.8	6.8	434	402	10.0	4.5	120	26.3	13.2	11.8	2
APR													
06...	1300	100	--	--	--	1,390	19.5	12.0	--	--	--	--	--
23...	1300	35	--	--	--	1,560	13.0	13.5	--	--	--	--	--
MAY													
25...	1315	17	--	--	--	1,800	15.0	12.0	--	--	--	--	--
SEP													
09...	1055	0.25	8.6	8.5	1,780	1,760	21.0	20.0	230	39.5	32.2	12.4	9

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
18...	39.8	39	97	2.9	0.12	8.11	106	260	439	1.4	390	<1	10
APR													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
09...	310	73	274	18.3	0.45	6.38	633	1,210	0.83	5.1	<10	<1	70

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
01...	--	--	--	--	--
NOV					
13...	--	--	--	--	--
FEB					
19...	--	--	--	--	--
MAR					
18...	50	<0.20	2	2	270
APR					
06...	--	--	--	--	--
23...	--	--	--	--	--
MAY					
25...	--	--	--	--	--
SEP					
09...	20	<0.20	9	10	700

Remark codes used in this table:
< -- Less than

06352000 CEDAR CREEK NEAR HAYNES, ND

LOCATION.--Lat 46°09'15", long 102°28'25", in W½ 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 National Geodetic Vertical Datum of 1929 (North Dakota Highway Department benchmark). Prior to May 20, 1951, nonrecording gage on former bridge 400 ft upstream at same datum.

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

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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.60	e1.1	e2.1	e1.1	e0.69	e131	42	5.4	5.2	1.3	0.70	0.90
2	0.71	e1.1	e2.1	e1.0	e0.70	e110	35	5.3	4.5	1.7	0.57	0.73
3	0.99	e1.1	e2.2	e0.93	e0.72	e95	30	5.0	4.1	1.5	0.77	0.81
4	0.50	e1.1	e2.1	e0.86	e0.73	e101	26	4.7	3.9	1.6	1.0	0.77
5	1.4	e1.1	e2.1	e0.81	e0.75	e75	23	4.1	3.7	2.1	1.6	0.66
6	0.40	e1.2	e2.1	e0.78	e0.76	e60	21	4.1	3.3	2.4	1.9	0.79
7	0.76	e1.5	e2.0	e0.76	e0.78	e58	19	4.3	2.8	3.0	1.3	0.86
8	0.71	e1.8	e2.0	e0.76	e0.80	e73	17	4.2	2.8	2.7	1.2	0.95
9	1.0	e2.0	e1.9	e0.86	e0.82	e500	16	4.3	2.6	2.2	0.86	1.0
10	0.91	e2.2	e1.9	e0.94	e0.85	e1,400	15	4.2	2.4	2.0	0.95	1.0
11	2.1	e2.4	e1.9	e1.1	e0.88	1,760	14	3.9	2.3	1.8	0.86	0.88
12	1.4	e2.6	e1.9	e1.1	e0.91	2,110	13	3.8	2.2	1.7	0.86	0.84
13	0.79	e2.6	e1.9	e1.1	e0.97	1,400	12	4.0	2.1	1.6	0.87	0.98
14	1.5	e2.6	e2.0	e1.0	e1.0	810	11	3.9	1.9	1.4	0.80	1.3
15	1.1	e2.6	e2.0	e1.0	e1.1	545	9.9	3.7	1.6	1.1	0.58	1.7
16	1.4	e2.5	e2.0	e1.0	e1.3	400	9.2	4.0	1.5	0.98	0.67	1.8
17	0.94	e2.5	e2.1	e0.99	e1.4	300	9.5	4.1	1.6	0.93	0.56	1.4
18	0.83	e2.5	e2.1	e0.98	e1.8	245	9.9	4.0	1.3	0.82	0.44	1.3
19	0.93	2.5	e2.1	e0.97	e2.8	190	10	4.0	1.2	0.69	0.64	1.1
20	1.1	e2.5	e2.1	e0.97	e5.0	155	9.5	3.7	1.4	0.55	0.51	1.2
21	1.1	e2.4	e2.1	e0.95	e10	130	8.9	3.6	1.3	0.70	0.51	1.2
22	1.0	e2.3	e2.1	e0.94	e20	110	9.3	4.4	1.2	0.74	0.46	1.2
23	2.2	e2.2	e2.0	e0.90	e4.8	98	9.4	7.0	1.3	0.79	0.51	1.3
24	1.3	e2.2	e2.0	e0.85	e3.6	83	9.0	6.0	1.4	0.89	0.59	1.5
25	1.3	e2.1	e2.0	e0.79	e9.0	68	8.6	4.6	1.3	0.84	0.69	1.5
26	1.6	e2.1	e1.9	e0.75	e29	56	8.3	4.4	1.2	0.72	0.74	1.2
27	1.6	e2.1	e1.9	e0.73	e84	54	7.3	5.4	1.1	0.58	0.86	1.1
28	1.1	e2.1	e1.8	e0.72	e135	47	6.5	8.7	1.1	0.70	1.0	1.2
29	e1.1	e2.1	e1.7	e0.71	e146	64	5.8	8.3	0.98	0.64	1.2	1.0
30	e1.1	e2.1	e1.3	e0.70	---	66	5.6	8.7	1.1	0.61	1.1	1.0
31	e1.1	---	e1.2	e0.70	---	50	---	6.8	---	0.56	0.89	---
TOTAL	34.57	61.2	60.6	27.75	466.16	11,344	430.7	152.6	64.38	39.84	26.19	33.17
MEAN	1.12	2.04	1.95	0.90	16.1	366	14.4	4.92	2.15	1.29	0.84	1.11
MAX	2.2	2.6	2.2	1.1	146	2,110	42	8.7	5.2	3.0	1.9	1.8
MIN	0.40	1.1	1.2	0.70	0.69	47	5.6	3.6	0.98	0.55	0.44	0.66
AC-FT	69	121	120	55	925	22,500	854	303	128	79	52	66

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2004, BY WATER YEAR (WY)

MEAN	4.57	5.01	3.59	4.22	14.6	125	107	53.1	51.8	17.1	10.3	3.46
MAX	43.2	54.4	20.4	59.4	242	837	1,159	522	339	177	94.1	21.7
(WY)	(1983)	(1983)	(1983)	(1973)	(1982)	(1978)	(1952)	(1975)	(1964)	(1969)	(1981)	(1995)
MIN	0.25	0.60	0.22	0.00	0.00	1.05	1.58	1.66	0.77	0.00	0.00	0.00
(WY)	(1961)	(1962)	(1962)	(1962)	(1962)	(1964)	(1961)	(1961)	(1956)	(1961)	(1959)	(1960)

06352000 CEDAR CREEK NEAR HAYNES, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1951 - 2004	
ANNUAL TOTAL	2,353.01		12,741.16			
ANNUAL MEAN	6.45		34.8		33.4	
HIGHEST ANNUAL MEAN					122	1972
LOWEST ANNUAL MEAN					1.04	1961
HIGHEST DAILY MEAN	243	Mar 22	2,110	Mar 12	7,060	Apr 8, 1952
LOWEST DAILY MEAN	0.02	Aug 27	0.40	Oct 6	0.00	Jan 29, 1957
ANNUAL SEVEN-DAY MINIMUM	0.03	Aug 23	0.52	Aug 17	0.00	Jul 26, 1959
MAXIMUM PEAK FLOW			2,300	Mar 12	a7,870	Apr 7, 1952
MAXIMUM PEAK STAGE			16.53	Mar 12	b22.05	Mar 28, 1978
ANNUAL RUNOFF (AC-FT)	4,670		25,270		24,200	
10 PERCENT EXCEEDS	9.5		32		40	
50 PERCENT EXCEEDS	2.0		1.7		3.5	
90 PERCENT EXCEEDS	0.50		0.73		0.69	

a Gage height, 21.25 ft
b 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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
07...	1500	0.79	--	--	--	1,840	28.0	13.5	--	--	--	--	--
NOV													
19...	1600	2.5	--	--	--	2,010	11.0	1.0	--	--	--	--	--
JAN													
09...	1350	0.90	--	--	--	2,600	2.0	0.0	--	--	--	--	--
FEB													
23...	1510	4.9	--	--	--	2,050	3.0	0.0	--	--	--	--	--
MAR													
09...	1615	543	--	--	--	293	14.0	3.0	--	--	--	--	--
23...	1525	96	8.0	7.2	848	860	13.0	6.5	250	48.3	32.0	11.0	3
APR													
13...	1540	11	--	--	--	1,740	24.0	11.0	--	--	--	--	--
MAY													
26...	1505	4.6	--	--	--	1,900	19.5	15.0	--	--	--	--	--
AUG													
27...	1255	1.2	9.0	9.1	1,800	1,790	15.0	18.0	330	25.9	63.4	10.6	7

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	95.9	44	136	4.9	0.18	8.77	296	572	149	1.4	90	<1	20
APR													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
27...	310	66	384	11.8	0.40	<2.00	584	1,240	4.04	8.1	40	<1	70

06352000 CEDAR CREEK NEAR HAYNES, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
07...	--	--	--	--	--
NOV					
19...	--	--	--	--	--
JAN					
09...	--	--	--	--	--
FEB					
23...	--	--	--	--	--
MAR					
09...	--	--	--	--	--
23...	180	<0.20	2	1	560
APR					
13...	--	--	--	--	--
MAY					
26...	--	--	--	--	--
AUG					
27...	<10	<0.20	6	2	570

Remark codes used in this table:
< -- Less than

06353000 CEDAR CREEK NEAR RALEIGH, ND

LOCATION.--Lat 46°05'30", long 101°20'00", in NE¼SE¼ 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, April 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,881.23 ft above National Geodetic Vertical Datum of 1929. 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 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	e0.23	e0.09	e0.00	e104	105	16	3.7	0.89	0.00	0.00
2	0.00	0.00	e0.22	e0.07	e0.00	e82	95	16	3.5	5.8	0.00	0.00
3	0.00	0.00	e0.21	e0.06	e0.00	e72	91	15	3.4	2.4	0.00	0.01
4	0.00	0.00	e0.20	e0.05	e0.00	e72	98	14	2.9	1.3	0.00	0.02
5	0.00	0.00	e0.18	e0.05	e0.00	e104	87	14	2.5	0.94	0.00	0.04
6	0.00	0.00	e0.17	e0.05	e0.00	e131	77	13	2.1	2.1	0.00	0.04
7	0.00	0.00	e0.16	e0.05	e0.00	e183	70	12	1.3	2.1	0.00	0.05
8	0.00	0.00	e0.15	e0.05	e0.00	e370	64	12	1.0	4.0	0.00	0.05
9	0.00	0.00	e0.14	e0.05	e0.00	e877	57	10	1.5	2.1	0.00	0.05
10	0.00	0.00	e0.14	e0.05	e0.00	e350	52	9.8	1.8	0.84	0.00	0.05
11	0.00	e0.06	e0.13	e0.05	e0.00	e450	48	9.7	5.7	0.57	0.00	0.05
12	0.00	e0.06	e0.13	e0.04	e0.00	e750	45	8.8	2.4	0.76	0.00	0.04
13	0.00	e0.06	e0.14	e0.04	e0.00	e1,300	42	8.4	1.7	0.69	0.00	0.03
14	0.00	0.05	e0.14	e0.04	e0.00	1,900	40	8.3	1.9	0.66	0.00	0.03
15	0.00	0.05	e0.15	e0.04	e0.00	1,910	37	7.7	1.5	0.40	0.00	0.03
16	0.00	e0.05	e0.16	e0.04	e0.00	1,440	34	7.3	1.1	0.38	0.00	0.03
17	0.00	e0.06	e0.17	e0.04	e0.00	938	32	8.1	0.81	0.42	0.00	0.02
18	0.00	e0.06	e0.17	e0.03	e0.00	752	32	8.1	0.58	0.48	0.00	0.01
19	0.00	e0.07	e0.18	e0.03	e0.00	593	32	8.9	0.42	0.40	0.00	0.00
20	0.00	e0.08	e0.18	e0.03	e0.50	494	31	7.9	0.31	0.53	0.00	0.00
21	0.00	e0.09	e0.18	e0.03	e1.0	420	29	7.9	0.17	0.20	0.00	0.00
22	0.00	e0.10	e0.19	e0.03	e5.0	363	27	8.5	0.14	0.11	0.00	0.00
23	0.00	e0.11	e0.19	e0.02	e11	314	25	8.2	0.14	0.07	0.00	0.00
24	0.00	e0.13	e0.19	e0.01	e9.6	270	23	8.2	0.08	e0.05	0.00	0.00
25	0.00	e0.15	e0.18	e0.00	e16	231	21	8.4	0.06	0.03	0.00	0.00
26	0.00	e0.18	e0.18	e0.00	e32	201	20	7.8	0.41	0.01	0.00	0.00
27	0.00	e0.21	e0.17	e0.00	e65	182	19	7.1	0.87	0.00	0.00	0.00
28	0.00	e0.22	e0.15	e0.00	e111	161	18	6.8	1.1	0.00	0.00	0.00
29	0.00	e0.22	e0.14	e0.00	e135	143	17	8.0	1.2	0.00	0.00	0.00
30	0.00	e0.23	e0.12	e0.00	---	132	17	5.8	1.0	0.00	0.00	0.00
31	0.00	---	e0.10	e0.00	---	117	---	4.2	---	0.00	0.00	---
TOTAL	0.00	2.24	5.14	1.04	386.10	15,406	1,385	295.9	45.29	28.23	0.00	0.55
MEAN	0.00	0.07	0.17	0.03	13.3	497	46.2	9.55	1.51	0.91	0.00	0.02
MAX	0.00	0.23	0.23	0.09	135	1,910	105	16	5.7	5.8	0.00	0.05
MIN	0.00	0.00	0.10	0.00	0.00	72	17	4.2	0.06	0.00	0.00	0.00
AC-FT	0.00	4.4	10	2.1	766	30,560	2,750	587	90	56	0.00	1.1

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2004, BY WATER YEAR (WY)

MEAN	10.4	9.29	6.86	10.5	41.8	380	247	161	91.7	67.5	20.6	8.06
MAX	66.4	48.8	31.3	217	664	2,368	1,526	1,043	605	545	96.9	76.5
(WY)	(1978)	(1983)	(1983)	(1973)	(1982)	(1997)	(1997)	(1975)	(1964)	(1993)	(1984)	(1995)
MIN	0.00	0.00	0.00	0.00	0.00	0.25	0.35	0.89	1.51	0.25	0.00	0.00
(WY)	(1965)	(1964)	(1964)	(1964)	(1964)	(1964)	(1991)	(1992)	(2004)	(1990)	(1974)	(1939)

06353000 CEDAR CREEK NEAR RALEIGH, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1939 - 2004	
ANNUAL TOTAL	3,882.36		17,555.49			
ANNUAL MEAN	10.6		48.0		89.5	
HIGHEST ANNUAL MEAN					369	1997
LOWEST ANNUAL MEAN					1.91	1991
HIGHEST DAILY MEAN	224	Mar 27	1,910	Mar 15	11,900	Mar 24, 1997
LOWEST DAILY MEAN	0.00	Jul 17	0.00	Oct 1	0.00	Aug 1, 1939
ANNUAL SEVEN-DAY MINIMUM	0.00	Jul 17	0.00	Oct 1	0.00	Aug 20, 1939
MAXIMUM PEAK FLOW			a1,990	Mar 14	14,600	Mar 24, 1997
MAXIMUM PEAK STAGE			b7.25	Mar 9	b17.05	Mar 24, 1997
ANNUAL RUNOFF (AC-FT)	7,700		34,820		64,840	
10 PERCENT EXCEEDS	27		78		150	
50 PERCENT EXCEEDS	0.19		0.14		9.5	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

a Gage height, 6.43 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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
NOV													
13...	1425	0.06	--	--	--	2,320	6.0	2.5	--	--	--	--	--
JAN													
06...	1340	0.05	--	--	--	1,340	-9.0	0.5	--	--	--	--	--
MAR													
18...	1130	761	7.8	7.1	514	484	8.0	2.5	140	26.8	17.1	12.1	2
APR													
06...	1500	77	--	--	--	1,310	18.5	13.0	--	--	--	--	--
23...	1530	24	--	--	--	1,610	13.5	15.5	--	--	--	--	--
MAY													
25...	1510	7.6	--	--	--	1,980	14.5	12.5	--	--	--	--	--
JUL													
21...	1140	0.22	--	--	--	1,400	32.0	29.0	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
NOV													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
18...	51.7	42	101	3.2	0.13	8.21	145	319	669	1.3	390	<1	10
APR													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
NOV					
13...	--	--	--	--	--
JAN					
06...	--	--	--	--	--
MAR					
18...	110	<0.20	3	2	320
APR					
06...	--	--	--	--	--
23...	--	--	--	--	--
MAY					
25...	--	--	--	--	--
JUL					
21...	--	--	--	--	--

Remark codes used in this table:
< -- Less than

06354000 CANNONBALL RIVER AT BREIEN, ND

LOCATION.--Lat 46°22'34", long 100°56'04", 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 National Geodetic Vertical Datum of 1929. 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 poor. Some storage in several small lakes above station.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.27	e1.2	e3.0	e1.9	e3.8	e160	325	52	30	8.0	e3.5	e0.08
2	0.28	e1.1	e3.0	e1.8	e3.8	e152	314	51	32	18	e3.3	0.03
3	0.27	e1.1	e3.0	e1.8	e3.8	e120	279	48	28	24	e2.9	0.02
4	0.42	e1.0	e3.0	e1.8	e3.8	e116	258	46	27	37	e2.8	0.03
5	0.38	e1.0	e3.0	e1.9	e3.8	e148	250	45	34	24	e3.6	e0.11
6	0.58	e0.97	e3.0	e2.0	e3.9	e216	226	42	29	19	e5.1	e0.25
7	0.74	e1.0	e3.0	e2.2	e3.9	e300	e200	41	26	14	e6.9	e0.41
8	0.34	e0.97	e3.0	e2.5	e4.0	e512	e190	39	21	24	e4.0	e0.53
9	0.38	e1.00	e2.9	e3.0	e4.0	e1,160	e170	37	20	54	e2.6	e0.61
10	0.28	e2.2	e2.9	e3.3	e4.0	e1,180	e148	34	23	56	e2.3	0.63
11	0.42	e2.8	e2.8	e3.4	e4.0	e2,320	e133	32	112	32	e2.0	e0.68
12	0.48	e3.2	e2.8	e3.4	e4.1	e4,210	e119	31	115	20	e2.1	e0.57
13	0.44	e3.3	e2.7	e3.4	e4.1	e6,940	e109	31	62	43	e2.1	e0.55
14	0.59	e3.3	e2.6	e3.4	e4.1	e4,460	e103	31	40	47	e1.8	e0.49
15	0.69	e3.4	e2.5	e3.5	e4.0	e4,420	e99	29	36	24	e1.5	0.44
16	0.72	e3.4	e2.4	e3.5	e4.0	e3,710	e96	28	30	15	e1.5	0.80
17	0.74	e3.3	e2.3	e3.5	e3.9	e2,740	e95	30	27	11	e1.3	e2.0
18	0.73	e3.3	e2.1	e3.6	e3.8	e2,200	e93	29	21	9.3	e1.4	e1.1
19	0.76	e3.1	e2.0	e3.7	e3.7	e1,740	e91	30	21	8.2	e1.2	e0.70
20	0.64	e2.9	e1.9	e3.9	e6.4	e1,390	e88	27	18	7.2	e1.0	e0.50
21	0.69	e2.7	e1.9	e3.9	e8.2	e1,180	e86	28	15	6.5	e0.99	e0.46
22	0.82	e2.5	e1.9	e4.0	e10	e1,000	80	156	15	5.9	e0.97	e0.40
23	0.91	e2.5	e1.9	e3.9	e14	e749	73	82	16	5.2	e1.1	e1.0
24	0.63	e2.6	e1.9	e3.9	e21	610	71	49	12	4.7	e0.88	e2.4
25	0.74	e2.7	e1.9	e3.9	e28	514	67	40	12	4.3	e0.75	e6.0
26	0.81	e2.8	e1.9	e3.9	e45	452	66	37	12	4.3	e0.63	e4.6
27	0.88	e2.8	e1.9	e3.9	e79	426	62	34	13	3.7	e0.48	e3.8
28	0.95	e3.0	e1.9	e3.9	e139	392	59	32	11	4.4	e0.34	e3.2
29	e1.2	e3.1	e1.9	e3.9	e172	357	56	31	10	e4.1	e0.11	e2.9
30	e1.2	e3.1	e1.9	e3.9	---	334	54	29	9.2	e3.9	e0.07	e2.6
31	e1.2	---	e1.9	e3.9	---	303	---	27	---	3.6	0.05	---
TOTAL	20.18	71.34	74.8	100.5	597.1	44,511	4,060	1,278	877.2	545.3	59.27	37.89
MEAN	0.65	2.38	2.41	3.24	20.6	1,436	135	41.2	29.2	17.6	1.91	1.26
MAX	1.2	3.4	3.0	4.0	172	6,940	325	156	115	56	6.9	6.0
MIN	0.27	0.97	1.9	1.8	3.7	116	54	27	9.2	3.6	0.05	0.02
AC-FT	40	142	148	199	1,180	88,290	8,050	2,530	1,740	1,080	118	75

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 2004, BY WATER YEAR (WY)

MEAN	34.1	28.3	17.2	15.7	74.7	893	831	337	362	194	66.3	32.3
MAX	281	238	98.8	342	1,058	5,428	10,070	2,399	2,384	1,409	459	267
(WY)	(1978)	(1983)	(1999)	(1973)	(1982)	(1997)	(1950)	(1975)	(1937)	(1969)	(1999)	(1977)
MIN	0.21	0.63	0.38	0.00	0.00	3.29	17.1	6.48	3.10	0.17	0.04	0.01
(WY)	(1961)	(1961)	(1935)	(1941)	(1935)	(1965)	(1961)	(1992)	(1936)	(1936)	(2003)	(1974)

06354000 CANNONBALL RIVER AT BREIEN, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1934 - 2004	
ANNUAL TOTAL	15,148.74		52,232.58			
ANNUAL MEAN	41.5		143		241	
HIGHEST ANNUAL MEAN					994	1950
LOWEST ANNUAL MEAN					9.90	1961
HIGHEST DAILY MEAN	1,350	Mar 23	6,940	Mar 13	63,100	Apr 19, 1950
LOWEST DAILY MEAN	0.00	Aug 11	0.02	Sep 3	0.00	Jan 11, 1935
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 11	0.06	Aug 29	0.00	Jan 11, 1935
MAXIMUM PEAK FLOW			a7,000	Mar 13	b94,800	Apr 19, 1950
MAXIMUM PEAK STAGE			c11.33	Mar 12	d22.30	Apr 19, 1950
ANNUAL RUNOFF (AC-FT)	30,050		103,600		174,500	
10 PERCENT EXCEEDS	97		163		400	
50 PERCENT EXCEEDS	3.0		3.9		28	
90 PERCENT EXCEEDS	0.01		0.63		0.80	

a About; gage height, 10.40 ft
b From rating curve extended above 16,000 ft^3/s on basis of indirect measurement of discharge
c Observed, backwater from ice; was higher during period of incomplete gage-height record, Mar. 9-12
d From floodmark; site and datum then in use
e Estimated

06354000 CANNONBALL RIVER AT BREIEN, ND—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1946-50, 1971 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
01...	1515	0.23	--	--	--	2,230	15.0	16.5	--	--	--	--	--
NOV													
12...	1330	3.2	--	--	--	3,140	2.0	0.5	--	--	--	--	--
MAR													
15...	1355	4,380	8.1	--e	416	376	4.0	2.5	100	22.2	11.9	11.1	1
APR													
21...	1315	87	8.3	8.5	1,510	1,500	13.0	14.0	370	71.1	45.8	11.2	5
JUN													
14...	1355	38	7.9	8.4	1,420	1,380	26.0	23.0	240	47.5	30.0	11.3	8
JUL													
28...	1130	4.0	8.1	8.4	1,750	1,740	20.0	21.5	260	47.8	34.4	11.6	8
SEP													
09...	1420	0.62	--	--	--	1,850	25.5	23.5	--	--	--	--	--
30...	1315	2.6	--	--	--	1,900	14.0	16.5	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)
OCT													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
15...	33.6	38	109	2.8	0.14	6.34	88.9	238	2,870	--	--	--	--
APR													
21...	203	54	291	9.7	0.33	4.15	519	1,040	244	0.58	0.56	0.036	0.041
JUN													
14...	269	69	271	9.1	0.41	9.72	448	981	101	0.90	0.46	<0.010	<0.010
JUL													
28...	292	70	344	17.7	0.53	7.98	550	1,160	12.7	--	--	--	--
SEP													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Organic nitrogen, water, fltrd, mg/L (00607)	Organic nitrogen, water, unfltrd mg/L (00605)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)
OCT													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
15...	--	--	--	--	--	--	--	--	<1.0	150	<1	10	40
APR													
21...	<0.020	0.090	0.54	0.52	0.009	0.029	0.60	0.65	2.0	40	<1	50	10
JUN													
14...	0.368	0.380	--	--	<0.004	0.043	1.3	0.84	1.3	50	<1	50	10
JUL													
28...	--	--	--	--	--	--	--	--	8.9	20	<1	80	<10
SEP													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--	--

06354000 CANNONBALL RIVER AT BREIEN, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Mercury water, fltrd, ug/L (71890)	Molyb-denum, water, fltrd, ug/L (01060)	Selen-ium, water, fltrd, ug/L (01145)	Stront-ium, water, fltrd, ug/L (01080)
OCT				
01...	--	--	--	--
NOV				
12...	--	--	--	--
MAR				
15...	<0.20	3	2	240
APR				
21...	<0.20	4	5	870
JUN				
14...	<0.20	5	<1	550
JUL				
28...	<0.20	8	<1	730
SEP				
09...	--	--	--	--
30...	--	--	--	--

Remark codes used in this table:
< -- Less than

Null value qualifier codes used in this table:
e -- Required equipment not functional/avail

06354580 BEAVER CREEK BELOW LINTON, ND

LOCATION.--Lat 46°16'07", long 100°15'05", in NW¼NW¼SW¼ 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 National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for discharges below 3.0 ft^3/s and for estimated daily discharges, which are poor.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	8.5	e5.0	e3.6	e3.2	e4.5	65	12	19	8.1	3.6	e0.96
2	5.2	8.3	e5.0	e3.5	e3.1	e4.8	56	12	21	8.0	3.4	e0.81
3	4.8	8.1	e5.0	e3.5	e3.1	e5.2	47	11	24	8.0	3.2	e1.1
4	4.7	8.2	e5.0	e3.5	e3.1	e5.7	40	10	27	7.8	3.3	e0.82
5	5.8	7.9	e4.9	e3.5	e3.1	e6.2	32	9.9	26	9.5	3.6	e0.61
6	3.5	7.6	e4.8	e3.5	e3.1	e7.0	27	9.6	26	8.7	3.7	e2.0
7	1.8	7.3	e4.7	e3.5	e3.1	e7.7	24	9.0	21	8.0	3.8	e2.0
8	1.6	7.0	e4.6	e3.5	e3.1	e8.3	24	8.8	18	8.8	4.0	e1.7
9	3.2	6.8	e4.5	e3.5	e3.1	83	23	8.6	17	9.6	3.5	e1.6
10	3.4	6.7	e4.4	e3.5	e3.1	276	21	8.2	18	8.0	3.0	e0.76
11	5.4	6.6	e4.3	e3.5	e3.0	e120	21	8.1	57	7.6	3.1	e0.80
12	7.5	6.5	e4.2	e3.4	e3.0	119	20	8.3	48	7.6	3.3	e0.82
13	7.0	6.3	e4.1	e3.4	e3.0	123	18	8.6	38	7.0	2.9	e0.85
14	8.4	6.2	e4.0	e3.4	e3.0	122	17	9.4	48	6.6	2.5	e1.0
15	9.6	6.2	e3.8	e3.4	e3.0	100	17	11	54	6.5	2.6	e1.2
16	9.7	6.2	e3.8	e3.4	e3.0	95	16	10	50	5.7	1.6	e1.4
17	8.7	5.8	e3.8	e3.4	e3.0	85	15	11	39	5.3	1.0	e1.5
18	8.6	6.0	e3.8	e3.5	e3.0	85	15	11	28	5.1	0.88	e1.7
19	9.4	e6.0	e3.8	e3.6	e3.0	90	15	12	22	4.0	0.37	e1.6
20	8.7	e6.2	e3.8	e3.6	e3.0	92	18	12	17	3.4	e0.24	e2.3
21	9.1	e6.1	e3.8	e3.7	e3.0	77	21	11	14	3.6	e0.23	e2.8
22	8.3	e6.1	e3.8	e3.6	e3.2	84	18	16	13	4.6	e0.24	e2.3
23	8.7	e6.1	e3.8	e3.5	e3.5	81	17	14	12	5.4	e0.24	e2.7
24	8.7	e5.9	e3.8	e3.4	e3.7	81	18	13	11	5.6	e0.25	e3.9
25	8.7	e5.3	e3.8	e3.4	e4.0	71	17	13	9.9	4.6	e0.25	e3.3
26	8.8	e5.5	e3.7	e3.4	e4.2	63	16	13	9.1	4.8	e1.1	e3.1
27	8.6	e5.3	e3.7	e3.2	e4.2	65	15	12	9.3	4.8	e0.46	e2.7
28	8.6	e5.1	e3.7	e3.2	e4.3	70	14	13	9.1	4.6	e0.32	e2.9
29	8.7	e5.0	e3.7	e3.2	e4.4	74	13	13	10	4.6	e0.49	e2.6
30	8.9	e5.0	e3.6	e3.2	---	88	13	15	8.5	4.4	e0.82	e2.3
31	8.7	---	e3.6	e3.2	---	81	---	18	---	4.4	e0.60	---
TOTAL	217.8	193.8	128.3	106.7	95.6	2,274.4	693	351.5	723.9	194.7	58.59	54.13
MEAN	7.03	6.46	4.14	3.44	3.30	73.4	23.1	11.3	24.1	6.28	1.89	1.80
MAX	9.7	8.5	5.0	3.7	4.4	276	65	18	57	9.6	4.0	3.9
MIN	1.6	5.0	3.6	3.2	3.0	4.5	13	8.1	8.5	3.4	0.23	0.61
AC-FT	432	384	254	212	190	4,510	1,370	697	1,440	386	116	107

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2004, BY WATER YEAR (WY)

MEAN	11.9	12.7	9.87	6.70	34.9	216	229	69.6	50.1	63.0	28.4	14.6
MAX	26.5	35.3	34.6	15.9	206	693	1,840	231	194	330	174	73.8
(WY)	(2000)	(1999)	(1999)	(2000)	(1996)	(1997)	(1997)	(1999)	(1996)	(1993)	(1993)	(1999)
MIN	0.16	0.31	0.36	0.30	1.32	5.05	6.32	2.76	1.25	0.80	0.12	0.06
(WY)	(1991)	(1991)	(1991)	(1991)	(1991)	(1991)	(1991)	(1992)	(1992)	(1992)	(1990)	(1991)

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1990 - 2004	
ANNUAL TOTAL	7,246.64		5,092.42			
ANNUAL MEAN	19.9		13.9		62.3	
HIGHEST ANNUAL MEAN					237	1997
LOWEST ANNUAL MEAN					4.76	1990
HIGHEST DAILY MEAN	230	Mar 19	276	Mar 10	6,080	Apr 2, 1997
LOWEST DAILY MEAN	0.74	Aug 25	0.23	Aug 21	0.00	Aug 12, 1990
ANNUAL SEVEN-DAY MINIMUM	0.75	Aug 22	0.26	Aug 19	0.00	Aug 12, 1990
MAXIMUM PEAK FLOW			424	Mar 10	6,780	Mar 31, 1997
MAXIMUM PEAK STAGE			7.09	Mar 10	15.34	Mar 31, 1997
ANNUAL RUNOFF (AC-FT)	14,370		10,100		45,120	
10 PERCENT EXCEEDS	59		27		116	
50 PERCENT EXCEEDS	5.3		5.4		12	
90 PERCENT EXCEEDS	1.3		2.0		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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
06...	1115	3.3	--	--	--	1,390	18.5	14.0	--	--	--	--	--
NOV													
18...	1000	5.5	--	--	--	1,440	2.0	0.0	--	--	--	--	--
JAN													
12...	1135	3.5	--	--	--	1,560	-1.0	0.0	--	--	--	--	--
FEB													
26...	1115	4.2	--	--	--	1,280	1.0	0.5	--	--	--	--	--
MAR													
08...	1120	8.3	--	--	--	1,140	6.0	1.0	--	--	--	--	--
17...	1115	88	6.2	6.5	524	548	6.0	0.0	140	31.0	15.5	15.7	2
APR													
05...	1255	32	--	--	--	941	13.5	12.0	--	--	--	--	--
MAY													
26...	1120	13	--	--	--	1,340	18.5	16.5	--	--	--	--	--
JUL													
20...	1350	3.4	--	--	--	1,150	28.5	29.5	--	--	--	--	--
AUG													
19...	1245	0.28	--	--	--	1,200	23.0	18.5	--	--	--	--	--
25...	1310	0.25	8.5	8.4	1,340	1,290	28.0	21.0	370	76.8	42.0	12.6	4

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	41.9	36	64	52.7	0.09	11.8	101	298	72.9	2.0	220	<1	50
APR													
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	156	47	427	10.3	0.20	24.3	303	858	0.60	8.8	30	<1	240

06354580 BEAVER CREEK BELOW LINTON, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
06...	--	--	--	--	--
NOV					
18...	--	--	--	--	--
JAN					
12...	--	--	--	--	--
FEB					
26...	--	--	--	--	--
MAR					
08...	--	--	--	--	--
17...	80	<0.20	<1	<1	180
APR					
05...	--	--	--	--	--
MAY					
26...	--	--	--	--	--
JUL					
20...	--	--	--	--	--
AUG					
19...	--	--	--	--	--
25...	30	<0.20	3	<1	510

Remark codes used in this table:
< -- Less than

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.

MONTHEND-ELEVATION AND CONTENTS RECORDS

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. Elevations listed to NGVD of 1929. 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, 10,102,000 acre-ft, Sept. 4, 2004.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 12,153,000 acre-ft, Apr. 4; minimum contents, 10,102,000 acre-ft, Sept. 4.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	1,581.00	11,932,000	--
Oct. 31	1,578.23	11,377,000	-555,000
Nov. 30	1,576.70	11,033,000	-344,000
Dec. 31	1,576.85	11,049,000	+16,000
CAL YR 2003	--	--	-1,741,000
Jan. 31	1,577.59	11,204,000	+155,000
Feb. 29	1,579.15	11,504,000	+300,000
Mar. 31	1,582.06	12,110,000	+606,000
Apr. 30	1,581.61	12,056,000	-54,000
May 31	1,578.37	11,338,000	-718,000
June 30	1,576.81	11,045,000	-293,000
July 31	1,574.28	10,540,000	-505,000
Aug. 31	1,572.09	10,112,000	-428,000
Sept. 30	1,573.21	10,316,000	+204,000
WTR YR 2004	--	--	-1,616,000

NOTE.--Lake frozen over Jan. 28 to Mar. 19.

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 mi^2, approximately, of which about 650 mi^2 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 National Geodetic Vertical Datum of 1929.

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	3.1	1.9	e1.1	e0.00	e1.7	1,670	96	351	123	32	9.5
2	2.8	3.1	1.8	e0.98	e0.00	e1.6	1,480	93	422	114	34	8.7
3	2.7	2.9	1.6	e0.88	e0.00	e1.4	1,340	83	375	108	34	8.3
4	2.8	3.1	1.7	e0.78	e0.00	e1.3	1,200	75	328	102	35	12
5	2.8	3.5	1.9	e0.69	e0.00	e1.2	1,050	67	281	97	33	15
6	2.9	3.6	1.9	e0.64	e0.00	e1.1	893	62	245	95	31	13
7	2.9	3.6	1.7	e0.64	e0.00	e1.1	759	59	198	92	29	12
8	2.9	3.5	e1.6	e0.62	e0.00	e1.0	648	52	163	89	27	11
9	2.9	3.5	e1.5	e0.65	e0.00	e0.97	564	47	141	89	25	9.6
10	2.9	3.6	e1.4	e0.69	e0.00	e0.93	495	43	126	84	25	8.2
11	2.6	3.7	e1.4	e0.73	e0.00	e0.91	440	48	158	79	24	7.8
12	2.7	3.7	e1.3	e0.80	e0.00	e0.88	393	44	231	80	24	7.4
13	2.7	3.5	e1.3	e0.89	e0.00	e0.85	354	42	164	78	23	6.6
14	2.5	3.3	e1.3	e1.0	e0.00	e0.80	323	43	130	71	22	6.3
15	2.4	3.2	e1.3	e1.1	e0.00	e0.75	286	44	138	63	21	6.5
16	2.5	3.4	e1.3	e1.1	e0.00	e0.75	261	43	133	60	20	6.6
17	2.8	3.6	e1.3	e0.99	e0.10	e1.0	246	43	124	55	19	6.1
18	2.8	3.5	e1.3	e0.90	e0.20	e2.0	232	41	115	52	16	6.7
19	2.8	3.6	e1.3	e0.78	e0.30	e4.0	222	40	114	49	15	6.1
20	2.4	3.2	e1.3	e0.67	e0.40	e10	213	38	115	49	14	7.0
21	2.5	3.2	e1.4	e0.56	e0.50	e10	196	37	127	45	14	8.6
22	2.4	2.6	e1.4	e0.48	e0.70	e20	177	38	148	44	13	7.9
23	2.5	2.6	e1.4	e0.38	e1.0	e50	163	39	162	42	14	8.5
24	2.3	2.3	e1.5	e0.25	e1.7	e100	153	38	170	40	15	18
25	1.9	2.0	e1.5	e0.14	e2.5	e300	137	36	172	39	15	16
26	2.2	2.0	e1.5	e0.00	e3.0	e800	126	34	168	38	13	11
27	2.6	2.0	e1.4	e0.00	e2.5	e1,200	115	32	159	35	12	9.7
28	2.2	1.9	e1.4	e0.00	e2.0	e1,700	106	30	149	33	11	9.2
29	3.1	1.8	e1.3	e0.00	e1.8	e2,000	100	30	140	33	10	9.5
30	3.2	1.8	e1.2	e0.00	---	2,010	92	41	132	33	9.7	11
31	2.9	---	e1.1	e0.00	---	1,930	---	135	---	33	9.3	---
TOTAL	82.3	90.4	45.2	18.44	16.70	10,154.24	14,434	1,593	5,579	2,044	639.0	283.8
MEAN	2.65	3.01	1.46	0.59	0.58	328	481	51.4	186	65.9	20.6	9.46
MAX	3.2	3.7	1.9	1.1	3.0	2,010	1,670	135	422	123	35	18
MIN	1.9	1.8	1.1	0.00	0.00	0.75	92	30	114	33	9.3	6.1
AC-FT	163	179	90	37	33	20,140	28,630	3,160	11,070	4,050	1,270	563

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2004, BY WATER YEAR (WY)

MEAN	6.51	9.35	2.34	0.66	3.01	138	287	86.1	42.0	59.4	31.0	10.8
MAX	70.7	130	21.0	4.22	49.9	724	1,854	446	335	750	498	156
(WY)	(2001)	(2001)	(2001)	(1994)	(1981)	(1995)	(1997)	(1997)	(2000)	(2000)	(1993)	(2000)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.18	0.11	0.02	0.00	0.00
(WY)	(1977)	(1977)	(1977)	(1969)	(1969)	(1969)	(1977)	(1991)	(1973)	(1973)	(1988)	(1976)

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1968 - 2004	
ANNUAL TOTAL	13,272.24		34,980.08			
ANNUAL MEAN	36.4		95.6		56.7	
HIGHEST ANNUAL MEAN					200	1997
LOWEST ANNUAL MEAN					0.21	1977
HIGHEST DAILY MEAN	332	Jul 11	2,010	Mar 30	3,600	Apr 3, 1997
LOWEST DAILY MEAN	0.00	Feb 10	0.00	Jan 26	0.00	Jan 1, 1969
ANNUAL SEVEN-DAY MINIMUM	0.00	Feb 10	0.00	Jan 26	0.00	Jan 1, 1969
MAXIMUM PEAK FLOW			2,020	Mar 30	a4,000	Apr 3, 1997
MAXIMUM PEAK STAGE			10.22	Mar 30	b16.18	Mar 21, 1996
ANNUAL RUNOFF (AC-FT)	26,330		69,380		41,050	
10 PERCENT EXCEEDS	119		183		100	
50 PERCENT EXCEEDS	3.9		8.2		1.4	
90 PERCENT EXCEEDS	0.10		0.66		0.00	

a Gage height, 14.17 ft; backwater from ice
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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
07...	1400	2.9	--	--	--	1,280	-0.5	16.5	--	--	--	--	--
NOV													
14...	1015	3.4	--	--	--	1,510	-3.0	1.0	--	--	--	--	--
JAN													
15...	1400	1.1	--	--	--	2,110	-12.0	0.5	--	--	--	--	--
FEB													
25...	1430	2.7	--	--	--	2,160	-1.0	0.0	--	--	--	--	--
MAR													
25...	1905	455	8.5	--e	437	445	10.0	0.3	160	32.1	20.2	16.6	0.8
29...	1400	1,880	--	--	--	615	-1.0	2.4	--	--	--	--	--
APR													
20...	0850	215	--	--	--	856	8.0	8.0	--	--	--	--	--
MAY													
25...	1645	34	--	--	--	1,050	9.0	12.0	--	--	--	--	--
AUG													
18...	1200	15	7.6	8.4	1,190	1,170	14.0	18.0	370	61.1	52.4	11.1	2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
25...	23.6	22	116	6.2	0.11	11.2	88.6	259	330	3.3	140	<1	20
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
18...	102	37	357	13.6	0.21	11.5	291	747	30.9	8.5	30	<1	70

06468170 JAMES RIVER NEAR GRACE CITY, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
07...	--	--	--	--	--
NOV					
14...	--	--	--	--	--
JAN					
15...	--	--	--	--	--
FEB					
25...	--	--	--	--	--
MAR					
25...	150	<0.20	1	2	140
29...	--	--	--	--	--
APR					
20...	--	--	--	--	--
MAY					
25...	--	--	--	--	--
AUG					
18...	80	<0.20	1	1	360

Remark codes used in this table:
< -- Less than

Null value qualifier codes used in this table:
e -- Required equipment not functional/avail

06468250 JAMES RIVER ABOVE ARROWWOOD LAKE NEAR KENSAL, ND

LOCATION.--Lat 47°23'59", long 98°47'50", in SW¼SW¼SW¼ 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 National Geodetic Vertical Datum of 1929, from topographic map.

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	3.4	e2.2	e1.6	e0.00	e0.00	1,770	87	224	140	36	14
2	3.3	3.4	e2.2	e1.5	e0.00	e0.00	1,560	86	467	126	40	13
3	3.2	3.2	e2.2	e1.4	e0.00	e0.00	1,380	79	633	119	40	13
4	3.0	3.4	e2.3	e1.3	e0.00	e0.00	1,270	81	681	119	40	14
5	3.1	3.7	e2.4	e1.2	e0.00	e0.00	1,180	68	636	110	37	16
6	3.1	3.6	e2.3	e1.1	e0.00	e0.00	1,070	71	552	105	36	17
7	2.9	3.7	e2.2	e1.0	e0.00	e0.20	973	61	470	97	37	15
8	2.7	3.6	e2.1	e1.0	e0.00	e0.30	860	59	404	94	36	15
9	2.6	3.9	e1.9	e1.1	e0.00	e0.50	781	59	371	97	36	14
10	2.6	4.1	e1.8	e1.1	e0.00	e0.70	704	57	310	93	36	13
11	2.7	4.1	e1.7	e1.2	e0.00	e1.2	668	58	288	90	e35	8.3
12	2.6	4.1	e1.7	e1.8	e0.00	e1.1	636	55	278	87	e33	7.2
13	2.7	3.5	e1.7	e2.0	e0.00	e1.1	581	48	365	85	e30	7.6
14	2.6	4.1	e1.6	e2.5	e0.00	e1.0	516	49	353	83	e28	7.4
15	2.5	4.1	e1.6	e2.7	e0.00	e1.2	445	47	284	78	e27	7.1
16	2.4	4.3	e1.6	e2.9	e0.00	e1.8	391	48	260	74	e25	6.6
17	2.4	4.5	e1.6	e2.8	e0.00	e3.0	340	50	255	70	e24	6.3
18	2.6	4.8	e1.6	e2.8	e0.00	e3.2	301	46	244	65	e20	5.5
19	2.4	4.6	e1.6	e2.3	e0.00	e3.5	264	44	228	62	e15	5.2
20	2.4	4.8	e1.7	e1.6	e0.00	e3.8	234	47	207	59	e12	7.2
21	2.1	3.3	e1.8	e1.4	e0.00	e4.2	223	44	202	57	10	7.7
22	2.2	e3.3	e1.8	e1.0	e0.00	e5.0	193	47	193	56	11	7.9
23	2.0	e3.2	e1.9	e0.80	e0.00	e6.0	174	48	198	54	11	12
24	2.2	e3.0	e1.9	e0.60	e0.00	e16	153	43	206	51	19	18
25	2.4	e2.9	e1.9	e0.50	e0.00	e51	142	47	207	47	15	12
26	2.1	e2.7	e1.9	e0.50	e0.00	336	135	42	206	44	23	11
27	2.8	e2.5	e1.9	e0.40	e0.00	870	118	47	196	41	17	13
28	3.3	e2.4	e1.9	e0.20	e0.00	1,280	111	42	181	43	16	14
29	3.3	e2.3	e1.9	e0.00	e0.00	2,130	107	40	166	41	17	14
30	4.1	e2.2	e1.8	e0.00	---	2,240	90	51	153	40	16	15
31	3.9	---	e1.7	e0.00	---	1,930	---	106	---	38	16	---
TOTAL	85.6	106.7	58.4	40.30	0.00	8,890.80	17,370	1,757	9,418	2,365	794	337.0
MEAN	2.76	3.56	1.88	1.30	0.00	287	579	56.7	314	76.3	25.6	11.2
MAX	4.1	4.8	2.4	2.9	0.00	2,240	1,770	106	681	140	40	18
MIN	2.0	2.2	1.6	0.00	0.00	0.00	90	40	153	38	10	5.2
AC-FT	170	212	116	80	0.00	17,630	34,450	3,490	18,680	4,690	1,570	668

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2004, BY WATER YEAR (WY)

MEAN	12.2	19.7	6.70	2.12	2.83	216	438	128	69.9	104	74.9	24.0
MAX	77.3	157	47.5	10.6	19.4	781	2,188	625	314	814	688	175
(WY)	(2001)	(2001)	(1995)	(1995)	(1998)	(1995)	(1997)	(1997)	(2004)	(2000)	(1993)	(2000)
MIN	0.00	0.00	0.00	0.00	0.00	0.21	2.59	2.24	0.08	0.00	0.00	0.00
(WY)	(1989)	(1989)	(1989)	(1989)	(1989)	(1990)	(1991)	(1991)	(1991)	(1991)	(1988)	(1988)

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1986 - 2004	
ANNUAL TOTAL	14,982.91		41,222.80			
ANNUAL MEAN	41.0		113		91.6	
HIGHEST ANNUAL MEAN					245	1997
LOWEST ANNUAL MEAN					0.52	1991
HIGHEST DAILY MEAN	369	Jul 14	2,240	Mar 30	4,400	Apr 5, 1997
LOWEST DAILY MEAN	0.00	Feb 23	0.00	Jan 29	0.00	Oct 1, 1985
ANNUAL SEVEN-DAY MINIMUM	0.00	Feb 23	0.00	Jan 29	0.00	Oct 1, 1985
MAXIMUM PEAK FLOW			3,630	Mar 30	4,700	Apr 5, 1997
MAXIMUM PEAK STAGE			10.28	Mar 30	a,b13.00	Apr 5, 1997
ANNUAL RUNOFF (AC-FT)	29,720		81,770		66,360	
10 PERCENT EXCEEDS	112		285		207	
50 PERCENT EXCEEDS	5.1		7.5		5.2	
90 PERCENT EXCEEDS	1.4		0.00		0.00	

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.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
OCT													
07...	1130	3.1	723	9.5	94	8.0	8.5	970	1,010	31.0	12.5	340	49.4
NOV													
12...	1530	4.2	731	15.9	115	8.3	8.5	1,100	1,200	0.0	0.5	400	62.3
JAN													
15...	1130	3.1	724	10.1	74	7.4	8.1	1,850	2,210	-5.8	0.1	700	116c
MAR													
17...	1220	3.0	--	--	--	--	--	--	1,460	-1.0	0.0	--	--
25...	1625	51	--	--	--	--	--	--	685	2.5	1.0	--	--
29...	1645	2,480	732	12.4	94	7.9	7.8	459	510	3.0	2.2	180	33.4
APR													
20...	1210	237	712	10.5	98	8.3	7.8	744	820	9.0	9.0	310	56.9
MAY													
26...	1130	44	716	--	--	8.6	8.4	997	1,030	17.0	11.1	420	77.0
JUN													
22...	1530	186	725	8.4	95	8.4	8.3	958	973	19.8	18.7	370	63.2
JUL													
15...	1440	76	720	6.8	87	7.8	8.3	1,060	816	26.0	24.5	380	63.7
AUG													
20...	1130	12	752	7.4	75	7.6	8.5	1,060	1,150	11.5	15.5	420	71.9

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Residue on evap. at 180degC wat flt mg/L (70300)
OCT													
07...	53.5	14.0	3	109	40	333	21.1	0.2	3.26	202	652	5.54	671
NOV													
12...	58.7	13.4	3	125	40	314	30.2	0.2	11.6	231	720	9.35	832
JAN													
15...	100c	20.7c	4	214c	39	639@c	59.3	0.3	18.4c	369dc	1,280	9.34	1,130
MAR													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
29...	23.8	13.9	1	29.8	25	116@c	7.28	<0.2	11.6	117	316	2,290	341
APR													
20...	41.6	17.1	2	61.1	28	--o	12.3c	<0.2	15.2	187c	--	--	559
MAY													
26...	55.1	17.5	2	85.0	30	318@c	19.1	0.2	13.1	234	691	89.2	754
JUN													
22...	50.3	12.5	2	78.6	31	309@c	13.9	0.2	11.2	210	626	335	668
JUL													
15...	52.7	12.9	2	110	38	331@c	13.5	0.2	16.9	270	739	164	797
AUG													
20...	57.4	12.6	2	103	34	370@c	12.6	0.2	16.4	267	764	26.4	807

06468250 JAMES RIVER ABOVE ARROWWOOD LAKE NEAR KENSAL, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Residue total at 105 deg. C, sus-pended, mg/L (00530)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, fltrd, mg/L (00607)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, fltrd, mg/L (00602)	Arsenic water, fltrd, ug/L (01000)
OCT													
07...	43	1.4	--	<0.04	--	<0.06	<0.008	--	<0.02	E.04n	--	--	3.4
NOV													
12...	12	1.4	--	<0.04	--	<0.06	<0.008	--	0.04	0.08	--	--	3.2
JAN													
15...	62	2.0	--	0.28	--	0.08	E.005n	1.7	0.09	0.16	--	2.1	2.6
MAR													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
29...	64d	1.8	--	0.34	1.85	1.93	0.083	1.4	0.34	0.40	--	3.7	2.9
APR													
20...	17	1.3	1.8	<0.04	--	<0.06	E.005n	--	0.06	0.08	0.20	--	3.2
MAY													
26...	27	1.2	1.7	<0.04	--	<0.06	<0.008	--	0.07	0.09	0.20	--	3.3
JUN													
22...	33	1.7	1.6	<0.04	--	<0.06	<0.008	--	0.12	0.16	0.25	--	3.6
JUL													
15...	37	1.6	--	<0.04	--	<0.06	<0.008	--	0.26	0.29	--	--	5.8
AUG													
20...	45	1.5	--	<0.04	--	<0.06	<0.008	--	0.17	0.22	--	--	6.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Arsenic water unfltrd ug/L (01002)	Boron, water, fltrd, ug/L (01020)	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Selen-ium, water, fltrd, ug/L (01145)	Selen-ium, water, unfltrd ug/L (01147)	2,4-D methyl ester, water, fltrd, ug/L (50470)	2,4-D water, fltrd, ug/L (39732)	2,4-DB water, fltrd 0.7u GF ug/L (38746)	CIAT, water, fltrd, ug/L (04040)	CEAT, water, fltrd, ug/L (04038)	OIET, water, fltrd, ug/L (50355)
OCT													
07...	--	178	11	22.2	0.04	<0.4	--	--	--	--	--	--	--
NOV													
12...	--	178	11	68.0	0.02	E.4n	--	--	--	--	--	--	--
JAN													
15...	--	291c	27c	212c	0.02	0.8	--	--	--	--	--	--	--
MAR													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	44	114	100	0.03	0.6	--	--	--	--	--	--	--
APR													
20...	3	79	34	26.5	E.01n	E.4n	<3	--	--	--	--	--	--
MAY													
26...	--	146	11	72.6	0.02	E.4n	--	<0.009	0.05	<0.02mc	E.01mc	<0.04mc	E.015mc
JUN													
22...	3	105	27	29.9	0.02	0.5	<3	<0.009	0.14	<0.02mc	E.01mc	<0.01mc	E.034mc
JUL													
15...	4	173	11	17.9	E.01n	0.6	<3	--	--	--	--	--	--
AUG													
20...	--	191	8	12.8	E.01n	E.3n	--	--	--	--	--	--	--

06468250 JAMES RIVER ABOVE ARROWWOOD LAKE NEAR KENSAL, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	3-Hydroxy carbo-furan, wat flt 0.7u GF ug/L (49308)	3-Keto-carbo-furan, water, fltrd, ug/L (50295)	Aci-fluor-fen, water, fltrd 0.7u GF ug/L (49315)	Aldi-carb sulfone water, fltrd 0.7u GF ug/L (49313)	Aldi-carb sulf-oxide, wat flt 0.7u GF ug/L (49314)	Aldi-carb, water, fltrd 0.7u GF ug/L (49312)	Atra-zine, water, fltrd, ug/L (39632)	Bendio-carb, water, fltrd, ug/L (50299)	Benomyl water, fltrd, ug/L (50300)	Bensul-furon, water, fltrd, ug/L (61693)	Ben-tazon, water, fltrd 0.7u GF ug/L (38711)	Caf-feine, water, fltrd, ug/L (50305)	Car-baryl, water, fltrd 0.7u GF ug/L (49310)
OCT													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
26...	<0.006	<2mc	<0.007	<0.02mc	<0.008mc	<0.04mc	E.013	<0.03	<0.004	<0.02	E.05mc	<0.0096	<0.03
JUN													
22...	<0.006	<0.014mc	<0.007	<0.02mc	<0.008mc	<0.04mc	0.065	<0.03	<0.004	<0.02	E.04mc	0.0604	<0.03
JUL													
15...	--	--	--		--	--	--	--	--	--	--	--	--
AUG													
20...	--	--	--		--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Carbo-furan, water, fltrd 0.7u GF ug/L (49309)	Chlor-amben methyl ester, water, fltrd, ug/L (61188)	Chlori-muron, water, fltrd, ug/L (50306)	Chloro-di-amino-s-tri-azine, wat flt ug/L (04039)	Chloro-thalo-nil, water, fltrd 0.7u GF ug/L (49306)	Clopyr-alid, water, fltrd 0.7u GF ug/L (49305)	Cyclo-ate, water, fltrd, ug/L (04031)	Dacthal mono-acid, water, fltrd 0.7u GF ug/L (49304)	Dicamba water fltrd 0.7u GF ug/L (38442)	Di-chlor-prop, water, fltrd 0.7u GF ug/L (49302)	Dinoseb water, fltrd 0.7u GF ug/L (49301)	Diphen-amid, water, fltrd, ug/L (04033)	Diuron, water, fltrd 0.7u GF ug/L (49300)
OCT													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
26...	<0.006	<0.02mc	<0.010	<0.01mc	<0.04mc	<0.01	<0.01mc	<0.01	<0.01	<0.01	<0.01	<0.03	<0.01
JUN													
22...	<0.006	<0.02mc	<0.010	<0.04mc	<0.04mc	<0.01	E.39mc	<0.01	<0.01	<0.01	<0.01	<0.03	<0.01
JUL													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--

06468250 JAMES RIVER ABOVE ARROWWOOD LAKE NEAR KENSAL, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Fenuron water, fltrd 0.7u GF ug/L (49297)	Flumet-sulam, water, fltrd, ug/L (61694)	Fluo-meturon water fltrd 0.7u GF ug/L (38811)	Imaza-quin, water, fltrd, ug/L (50356)	Imaze-thapyr, water, fltrd, ug/L (50407)	Imida-cloprid water, fltrd, ug/L (61695)	Linuron water fltrd 0.7u GF ug/L (38478)	MCPA, water, fltrd 0.7u GF ug/L (38482)	MCPB, water, fltrd 0.7u GF ug/L (38487)	Meta-laxyl, water, fltrd, ug/L (50359)	Methio-carb, water, fltrd 0.7u GF ug/L (38501)	Meth-omyl, water, fltrd 0.7u GF ug/L (49296)	Metsul-furon, water, fltrd, ug/L (61697)
OCT													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
26...	<0.03	<0.01mc	<0.03	<0.02mc	<0.02mc	<0.007	<0.01	<0.02	<0.01mc	<0.02	<0.008mc	<0.004mc	<0.03mc
JUN													
22...	<0.03	<0.01mc	<0.03	<0.02mc	<0.02mc	<0.007	<0.01	E.20	<0.01mc	<0.02	<0.008mc	<0.004mc	<0.03mc
JUL													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	N-(4-Chloro-phenyl) -N-' methyl-urea, ug/L (61692)	Neburon water, fltrd 0.7u GF ug/L (49294)	Nico-sul-furon, water, fltrd, ug/L (50364)	Norflur azon, water, fltrd 0.7u GF ug/L (49293)	Ory-zalin, water, fltrd 0.7u GF ug/L (49292)	Oxamyl, water, fltrd 0.7u GF ug/L (38866)	Pic-loram, water, fltrd 0.7u GF ug/L (49291)	Propham water fltrd 0.7u GF ug/L (49236)	Propi-cona-zole, water, fltrd, ug/L (50471)	Pro-poxur, water, fltrd 0.7u GF ug/L (38538)	Siduron water, fltrd, ug/L (38548)	Sulfo-met-ruron, water, fltrd, ug/L (50337)	Tebu-thiuron water fltrd 0.7u GF ug/L (82670)
OCT													
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
26...	<0.02	<0.01	<0.01	<0.02mc	--r	<0.01	<0.02	<0.010	<0.02	<0.008	<0.02	<0.009	E.005
JUN													
22...	<0.02	<0.01	<0.01	<0.02mc	<0.02	<0.01	<0.02	<0.010	<0.02	<0.008	<0.02	<0.009	<0.006
JUL													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--

06468250 JAMES RIVER ABOVE ARROWWOOD LAKE NEAR KENSAL, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Terbacil, water, fltrd, ug/L (04032)	Triazine screen, wat unf ELISA, ug/L as atrazin (34757)	Tribenuron water, fltrd, ug/L (61159)	Triclopyr, water, fltrd 0.7u GF ug/L (49235)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)	2,4-D screen total ug/L (99906)
OCT								
07...	--	0.1	--	--	100	40	0.33	<0.700
NOV								
12...	--	<0.1	--	--	79	89	1.0	8.14
JAN								
15...	--	<0.1	--	--	99	17	0.14	<0.700
MAR								
17...	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--
29...	--	0.1	--	--	93	66	442	0.110
APR								
20...	--	--	--	--	76	29	19	--b
MAY								
26...	<0.010mc	<0.1	--u	<0.02	90	20	2.4	1.41
JUN								
22...	<0.010mc	0.3	--u	<0.02	80	35	18	2.35
JUL								
15...	--	--	--	--	97	22	4.5	--b
AUG								
20...	--	0.2	--	--	100	36	1.2	2.76

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
m -- Value is highly variable by this method
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
b -- Sample broken/spilled in shipment
o -- Insufficient amount of water
r -- Sample ruined in preparation
u -- Unable to determine-matrix interference

06468500 JAMES RIVER NEAR PINGREE, ND

LOCATION.--Lat 47°08'30", long 98°47'00", in SW¼SW¼ 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.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
OCT													
06...	1715	725	12.1	131	7.6	8.5	1,110	1,180	28.0	16.4	440	68.7	65.7
NOV													
12...	1615	732	18.3	132	7.3	8.0	1,200	1,290	-2.4	0.4	530	111	62.4
MAR													
29...	1845	728	13.2	103	8.2	7.9	624	670	0.9	3.2	240	41.3	32.7
APR													
20...	1540	712	14.6	134	9.4	8.4	586	626	9.0	8.5	230	45.3	29.4
MAY													
26...	0815	718	--	--	8.7	8.3	870	903	14.0	10.4	360	65.6	47.3
JUN													
22...	1330	725	8.3	92	8.5	8.4	930	945	20.0	17.8	350	62.9	46.6
JUL													
15...	1705	722	9.5	125	8.4	8.0	1,150	1,180	28.0	26.4	400	73.4	53.4
AUG													
20...	1500	752	9.5	105	8.7	8.8	1,050	1,120	20.0	19.2	390	62.0	56.9

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, fltrd, mg/L as N (00623)
OCT													
06...	16.9	2	116	35	347@c	17.7	<0.2	29.1	285	808	797	192	1.5
NOV													
12...	10.8	2	93.9	27	404	27.4	0.2	27.2	287	862	817	61	0.72
MAR													
29...	10.2	2	55.9	33	134@c	13.5	<0.2	9.79	182	430	443	46d	1.7
APR													
20...	15.2	1	43.9	27	--o	9.35	<0.2	4.91	152	--	439	44d	1.3
MAY													
26...	17.8	2	67.9	28	262@c	14.6	0.2	9.13	211	591	633	22	1.3
JUN													
22...	14.2	2	75.1	31	283@c	14.8	0.2	11.1	218	614	666	23	1.5
JUL													
15...	16.9	2	109	36	364@c	27.8	0.2	24.0	254	779	833	24	1.6
AUG													
20...	15.2	2	108	37	339@c	18.2	0.2	16.3	272	752	760	45	1.5

06468500 JAMES RIVER NEAR PINGREE, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitrogen, water, fltrd, mg/L (00607)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)
OCT													
06...	--	<0.04	--	0.07	<0.008	--	--	0.07	0.10	--	1.5	5.1	--
NOV													
12...	--	<0.04	--	E.04n	<0.008	--	--	0.03	0.06	--	--	2.0	--
MAR													
29...	--	0.66	0.43	0.45	0.021	1.0	--	0.24	0.29	--	2.1	2.5	--
APR													
20...	2.4	<0.04	--	<0.06	E.004n	--	--	<0.02	E.04n	0.27	--	3.3	3
MAY													
26...	1.8	<0.04	--	<0.06	<0.008	--	--	0.08	0.11	0.21	--	3.3	--
JUN													
22...	1.8	0.19	--	<0.06	0.012	1.3	1.6	0.19	0.22	0.30	--	4.4	4
JUL													
15...	--	<0.04	--	<0.06	<0.008	--	--	0.46	0.50	--	--	9.6	9
AUG													
20...	--	<0.04	--	<0.06	<0.008	--	--	0.14	0.18	--	--	6.7	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Boron, water, fltrd, ug/L (01020)	Iron, water, fltrd, ug/L (01046)	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Selenium, water, fltrd, ug/L (01145)	Selenium, water, unfltrd ug/L (01147)	2,4-D methyl ester, water, fltrd, ug/L (50470)	2,4-D water, fltrd, ug/L (39732)	2,4-DB water, fltrd 0.7u GF ug/L (38746)	CIAT, water, fltrd, ug/L (04040)	CEAT, water, fltrd, ug/L (04038)	OIET, water, fltrd, ug/L (50355)	3-Hydroxy carbofuran, wat flt 0.7u GF ug/L (49308)
OCT													
06...	162	<6	13.8	0.03	E.3n	--	--	--	--	--	--	--	--
NOV													
12...	147	12	162	0.02	0.7	--	--	--	--	--	--	--	--
MAR													
29...	88	52	197	0.05	0.6	--	--	--	--	--	--	--	--
APR													
20...	69	22	6.9	E.01n	0.6	<3	--	--	--	--	--	--	--
MAY													
26...	116	7	109	0.02	E.3n	--	<0.009	0.07	<0.02mc	E.01mc	<0.04mc	E.019mc	<0.006
JUN													
22...	121	22	287	0.03	E.4n	<3	<0.009	0.08	<0.02mc	E.01mc	<0.01mc	E.025mc	<0.006
JUL													
15...	193	E5n	655	<0.02	E.4n	<3	--	--	--	--	--	--	--
AUG													
20...	179	E4n	7.9	E.01n	0.5	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	3-Ketocarbofuran, water, fltrd, ug/L (50295)	Acifluorfen, water, fltrd 0.7u GF ug/L (49315)	Aldicarb sulfone water, fltrd 0.7u GF ug/L (49313)	Aldicarb sulfoxide, wat flt 0.7u GF ug/L (49314)	Aldicarb, water, fltrd 0.7u GF ug/L (49312)	Atrazine, water, fltrd, ug/L (39632)	Bendiocarb, water, fltrd, ug/L (50299)	Benomyl water, fltrd, ug/L (50300)	Bensulfuron, water, fltrd, ug/L (61693)	Bentazon, water, fltrd 0.7u GF ug/L (38711)	Caffeine, water, fltrd, ug/L (50305)	Carbaryl, water, fltrd 0.7u GF ug/L (49310)	Carbofuran, water, fltrd 0.7u GF ug/L (49309)
OCT													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
26...	<2mc	<0.007	<0.02mc	<0.008mc	<0.04mc	E.022	<0.03	<0.004	<0.02	E.07mc	<0.0096	<0.03	<0.006
JUN													
22...	<0.014mc	<0.007	<0.02mc	<0.008mc	<0.04mc	0.037	<0.03	<0.004	<0.02	E.03mc	<0.0096	<0.03	<0.006
JUL													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--

06468500 JAMES RIVER NEAR PINGREE, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chlor-amben methyl ester, water, fltrd, ug/L (61188)	Chlori-muron, water, fltrd, ug/L (50306)	Chloro-di-amino-s-tri-azine, wat flt ug/L (04039)	Chloro-thalo-nil, water, fltrd 0.7u GF ug/L (49306)	Clopyr-alid, water, fltrd 0.7u GF ug/L (49305)	Cyclo-ate, water, fltrd, ug/L (04031)	Dacthal mono-acid, water, fltrd 0.7u GF ug/L (49304)	Dicamba water fltrd 0.7u GF ug/L (38442)	Di-chlor-prop, water, fltrd 0.7u GF ug/L (49302)	Dinoseb water, fltrd 0.7u GF ug/L (49301)	Diphen-amid, water, fltrd, ug/L (04033)	Diuron, water, fltrd 0.7u GF ug/L (49300)	Fenuron water, fltrd 0.7u GF ug/L (49297)
OCT													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
26...	<0.02mc	<0.010	<0.01mc	<0.04mc	<0.01	<0.01mc	<0.01	<0.01	<0.01	<0.01	<0.03	<0.01	<0.03
JUN													
22...	<0.02mc	<0.010	<0.04mc	<0.04mc	<0.01	<0.01mc	<0.01	<0.01	<0.01	<0.01	<0.03	<0.01	<0.03
JUL													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Flumet-sulam, water, fltrd, ug/L (61694)	Fluo-meturon water fltrd 0.7u GF ug/L (38811)	Imaza-quin, water, fltrd, ug/L (50356)	Imaze-thapyr, water, fltrd, ug/L (50407)	Imida-cloprid water, fltrd, ug/L (61695)	Linuron water fltrd 0.7u GF ug/L (38478)	MCPA, water, fltrd 0.7u GF ug/L (38482)	MCPB, water, fltrd 0.7u GF ug/L (38487)	Meta-laxyl, water, fltrd, ug/L (50359)	Methio-carb, water, fltrd 0.7u GF ug/L (38501)	Meth-omyl, water, fltrd 0.7u GF ug/L (49296)	Metsul-furon, water, fltrd, ug/L (61697)	N-(4-Chloro-phenyl) -N-' methyl-urea, ug/L (61692)
OCT													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
26...	<0.01mc	<0.03	<0.02mc	<0.02mc	<0.007	<0.01	<0.02	<0.01mc	<0.02	<0.008mc	<0.004mc	<0.03mc	<0.02
JUN													
22...	<0.01mc	<0.03	<0.02mc	<0.02mc	<0.007	<0.01	E.11	<0.01mc	<0.02	<0.008mc	<0.004mc	<0.03mc	<0.02
JUL													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Neburon water, fltrd 0.7u GF ug/L (49294)	Nico-sul-furon, water, fltrd, ug/L (50364)	Norflur azon, water, fltrd 0.7u GF ug/L (49293)	Ory-zalin, water, fltrd 0.7u GF ug/L (49292)	Oxamyl, water, fltrd 0.7u GF ug/L (38866)	Pic-loram, water, fltrd 0.7u GF ug/L (49291)	Propham water fltrd 0.7u GF ug/L (49236)	Propi-cona-zole, water, fltrd, ug/L (50471)	Pro-poxur, water, fltrd 0.7u GF ug/L (38538)	Siduron water, fltrd, ug/L (38548)	Sulfo-met-ruron, water, fltrd, ug/L (50337)	Tebu-thiuron water fltrd 0.7u GF ug/L (82670)	Terba-cil, water, fltrd, ug/L (04032)
OCT													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
26...	<0.01	<0.01	<0.02mc	--r	<0.01	<0.02	<0.010	<0.02	<0.008	<0.02	<0.009	<0.006	<0.010mc
JUN													
22...	<0.01	<0.01	<0.02mc	<0.02	<0.01	<0.02	<0.010	<0.02	<0.008	<0.02	<0.009	<0.006	<0.010mc
JUL													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--

06468500 JAMES RIVER NEAR PINGREE, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Triazine screen, wat unf ELISA, ug/L as atrazin (34757)	Tribenuron water, fltrd, ug/L (61159)	Triclopyr, water, fltrd 0.7u GF ug/L (49235)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	2,4-D screen total ug/L (99906)
OCT						
06...	0.1	--	--	99	69	0.830
NOV						
12...	0.1	--	--	83	222	1.09
MAR						
29...	0.1	--	--	94	44	<0.700
APR						
20...	--	--	--	--	--	--
MAY						
26...	<0.1	--u	<0.02	97	20	1.09
JUN						
22...	0.1	--u	<0.02	96	22	1.68
JUL						
15...	0.1	--	--	65	17	2.15
AUG						
20...	0.2	--	--	97	286	1.61

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
m -- Value is highly variable by this method
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
o -- Insufficient amount of water
r -- Sample ruined in preparation
u -- Unable to determine-matrix interference

06469000 JAMESTOWN RESERVOIR NEAR JAMESTOWN, ND

LOCATION.--Lat 46°55'50", long 98°42'23", in SE ¼NW ¼ 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.

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.

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, 53,100 acre-ft, Apr. 18, elevation, 1,437.50 ft; minimum, 26,140 acre-ft, Sept. 30, elevation, 1,428.41 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	1,430.23	29,820	--
Oct. 31	1,429.29	27,870	-1,950
Nov. 30	1,429.26	27,800	-70
Dec. 31	1,429.30	27,890	+90
CAL YR 2003	--	--	+650
Jan. 31	1,429.32	27,930	+40
Feb. 29	1,429.27	27,830	-100
Mar. 31	1,430.67	30,790	+2,960
Apr. 30	1,436.41	46,680	+15,890
May 31	1,432.31	34,640	-12,040
June 30	1,430.95	31,400	-3,240
July 31	1,430.23	29,820	-1,580
Aug. 31	1,430.22	29,800	-20
Sept. 30	1,428.41	26,140	-3,660
WTR YR 2004	--	--	-3,680

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 mi^2, of which about 440 mi^2 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 National Geodetic Vertical Datum of 1929.

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

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.15	e0.07	e0.06	e0.05	e0.00	e0.00	577	22	144	22	7.4	e8.0
2	0.14	e0.07	e0.06	e0.05	e0.00	e0.00	516	20	157	21	6.3	e7.8
3	0.18	e0.07	e0.05	e0.05	e0.00	e0.00	448	19	186	20	6.1	e7.7
4	0.17	e0.06	e0.05	e0.05	e0.00	e0.00	362	16	253	19	5.8	e7.8
5	0.21	e0.05	e0.05	e0.05	e0.00	e0.00	280	15	273	17	3.8	e8.2
6	0.18	e0.05	e0.05	e0.05	e0.00	e0.00	204	12	232	18	3.8	e8.9
7	0.13	e0.05	e0.06	e0.05	e0.00	e0.01	155	8.4	188	16	3.4	e8.0
8	0.12	e0.05	e0.06	e0.05	e0.00	e0.01	118	9.3	153	16	2.8	7.2
9	0.10	e0.05	e0.05	e0.05	e0.00	e0.02	98	11	124	17	4.3	6.8
10	e0.10	e0.05	e0.04	e0.05	e0.00	e0.02	84	11	105	17	2.9	7.0
11	e0.10	e0.05	e0.04	e0.06	e0.00	e0.03	74	17	101	41	2.4	5.7
12	e0.09	e0.05	e0.05	e0.06	e0.00	e0.05	65	20	103	32	e2.2	e4.5
13	e0.09	e0.05	e0.05	e0.06	e0.00	e0.06	58	15	91	27	e2.0	e5.2
14	e0.09	e0.05	e0.05	e0.06	e0.00	e0.09	e52	15	80	22	e1.9	e4.1
15	e0.09	e0.05	e0.06	e0.06	e0.00	e0.20	48	13	78	19	e1.8	e3.8
16	e0.09	e0.05	e0.06	e0.06	e0.00	e0.40	47	15	72	15	e1.8	e3.6
17	e0.09	e0.05	e0.06	e0.05	e0.00	e0.65	46	12	65	13	e1.7	e3.6
18	e0.08	e0.06	e0.07	e0.05	e0.00	e1.3	44	10	58	13	e1.6	e3.0
19	e0.08	e0.06	e0.07	e0.04	e0.00	e2.5	43	11	54	12	1.2	e3.0
20	e0.08	e0.06	e0.07	e0.04	e0.00	e4.5	41	13	52	9.9	1.2	e3.8
21	e0.08	e0.05	e0.07	e0.04	e0.00	e8.0	38	13	48	15	0.83	e5.2
22	e0.08	e0.04	e0.07	e0.03	e0.00	e15	34	12	44	12	0.81	e7.4
23	e0.08	e0.04	e0.07	e0.03	e0.00	e28	34	14	43	15	0.88	e8.5
24	e0.08	e0.04	e0.07	e0.02	e0.00	e40	32	14	38	16	4.3	e26
25	e0.07	e0.04	e0.07	e0.02	e0.00	e51	33	21	36	12	6.5	e34
26	e0.07	e0.04	e0.07	e0.02	e0.00	e83	28	18	33	8.0	23	e43
27	e0.07	e0.05	e0.07	e0.02	e0.00	e120	26	16	32	7.7	24	e34
28	e0.08	e0.05	e0.07	e0.01	e0.00	e180	30	13	29	11	14	e30
29	e0.08	e0.05	e0.06	e0.01	e0.00	e280	25	15	27	10	e10	e32
30	e0.08	e0.06	e0.06	e0.01	---	e369	22	32	25	9.2	e9.2	e32
31	e0.08	---	e0.06	e0.01	---	e540	---	80	---	7.9	e8.5	---
TOTAL	3.21	1.56	1.85	1.26	0.00	1,723.84	3,662	532.7	2,924	510.7	166.42	369.8
MEAN	0.10	0.05	0.06	0.04	0.00	55.6	122	17.2	97.5	16.5	5.37	12.3
MAX	0.21	0.07	0.07	0.06	0.00	540	577	80	273	41	24	43
MIN	0.07	0.04	0.04	0.01	0.00	0.00	22	8.4	25	7.7	0.81	3.0
AC-FT	6.4	3.1	3.7	2.5	0.00	3,420	7,260	1,060	5,800	1,010	330	733

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2004, BY WATER YEAR (WY)

MEAN	8.87	9.06	4.13	1.07	5.49	134	182	59.0	35.3	48.7	23.1	14.5
MAX	133	86.9	29.1	9.72	45.9	572	1,300	414	252	389	190	153
(WY)	(1995)	(2001)	(1995)	(2000)	(1998)	(1995)	(1997)	(1999)	(2001)	(1993)	(1999)	(1994)
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.04	0.02	0.00	0.00	0.00
(WY)	(1974)	(1977)	(1977)	(1974)	(1974)	(1991)	(1991)	(1977)	(1977)	(1985)	(1976)	(1976)

06469400 PIPESTEM CREEK NEAR PINGREE, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1974 - 2004	
ANNUAL TOTAL	6,015.76		9,897.34			
ANNUAL MEAN	16.5		27.0		43.9	
HIGHEST ANNUAL MEAN					149	1997
LOWEST ANNUAL MEAN					0.03	1977
HIGHEST DAILY MEAN	168	Mar 26	577	Apr 1	2,760	Apr 19, 1997
LOWEST DAILY MEAN	0.00	Feb 24	0.00	Feb 1	0.00	Oct 1, 1973
ANNUAL SEVEN-DAY MINIMUM	0.00	Feb 24	0.00	Feb 1	0.00	Oct 1, 1973
MAXIMUM PEAK FLOW			a600	Apr 1	b3,400	Apr 19, 1997
MAXIMUM PEAK STAGE			c8.62	Mar 29	11.70	Mar 17, 1995
INSTANTANEOUS LOW FLOW			0.00	Feb 1		
ANNUAL RUNOFF (AC-FT)	11,930		19,630		31,790	
10 PERCENT EXCEEDS	57		60		89	
50 PERCENT EXCEEDS	0.24		2.5		2.2	
90 PERCENT EXCEEDS	0.04		0.01		0.00	

a Gage height, 8.50 ft
b Gage height, 11.37 ft
c Backwater from ice
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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
OCT													
06...	1645	0.17	--	--	--	1,480	28.0	17.0	--	--	--	--	--
NOV													
12...	1340	0.05	--	--	--	1,940	0.0	3.0	--	--	--	--	--
JAN													
14...	1100	0.06	--	--	--	2,410	-13.0	0.5	--	--	--	--	--
MAR													
17...	1100	0.65	--	--	--	2,570	-2.0	0.5	--	--	--	--	--
23...	1630	28	8.5	7.9	1,820	1,360	9.5	0.5	740	123	106	16.0	3
30...	1100	369	--	--	--	725	3.0	4.0	--	--	--	--	--
APR													
21...	0950	39	--	--	--	1,110	--	9.5	--	--	--	--	--
JUL													
14...	1030	22	--	--	--	1,360	27.0	22.5	--	--	--	--	--
AUG													
18...	1615	1.6	7.6	8.4	1,370	1,350	16.5	18.8	460	85.6	59.8	11.7	2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
OCT													
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	184	34	402	27.9	0.15	19.5	632	1,330	101	4.9	60	<1	130
30...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
14...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
18...	113	34	385	15.9	0.21	17.0	387	906	3.98	10.2	20	<1	90

06469400 PIPESTEM CREEK NEAR PINGREE, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
OCT					
06...	--	--	--	--	--
NOV					
12...	--	--	--	--	--
JAN					
14...	--	--	--	--	--
MAR					
17...	--	--	--	--	--
23...	430	<0.20	2	2	580
30...	--	--	--	--	--
APR					
21...	--	--	--	--	--
JUL					
14...	--	--	--	--	--
AUG					
18...	40	<0.20	2	<1	440

Remark codes used in this table:
< -- Less than

06469820 PIPESTEM RESERVOIR NEAR JAMESTOWN, ND

LOCATION.--Lat 46°57'44", long 98°45'11", in NW ¼ NW ¼ 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 National Geodetic Vertical Datum of 1929.

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 Bureau of Reclamation. 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, 29,100 acre-ft, June 19, elevation, 1,456.74 ft; minimum contents, 9,550 acre-ft, Oct. 25-26, elevation, 1,442.04 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	1,442.16	9,650	--
Oct. 31	1,442.06	9,560	-90
Nov. 30	1,442.18	9,670	+110
Dec. 31	1,442.22	9,710	+40
CAL YR 2003	--	--	-300
Jan. 31	1,442.22	9,710	0
Feb. 29	1,442.27	9,750	+40
Mar. 31	1,447.34	15,060	+5,310
Apr. 30	1,451.87	21,210	+6,150
May 31	1,452.63	22,360	+1,150
June 30	1,454.99	26,120	+3,760
July 31	1,450.39	19,070	-7,050
Aug. 31	1,443.20	10,590	-8,480
Sept. 30	1,443.24	10,630	+40
WTR YR 2004	--	--	+980

06470000 JAMES RIVER AT JAMESTOWN, ND

LOCATION.--Lat 46°53'23", long 98°40'54", 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 mi^2, approximately, of which about 1,650 mi^2 is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1928 to September 1933, March to May 1935, September 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 National Geodetic Vertical Datum of 1929. 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 estimated daily discharges, 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	93	3.8	2.2	e2.3	e1.5	4.9	35	458	390	490	319	109
2	93	3.5	2.1	e2.2	e1.5	4.1	33	455	133	501	325	140
3	93	3.1	2.2	e2.1	e1.6	3.6	32	457	117	474	287	141
4	93	3.2	2.5	e2.1	e1.7	3.2	32	457	148	450	225	136
5	93	3.0	2.5	e2.1	e1.8	3.1	101	463	264	456	222	159
6	92	3.0	2.5	e2.1	e1.9	3.2	269	458	274	452	235	150
7	82	2.9	2.5	e2.2	e2.0	3.8	353	459	340	449	225	138
8	48	2.7	2.4	e2.4	e2.1	6.8	357	459	490	460	220	151
9	47	2.5	e2.3	e2.5	e2.2	15	360	469	495	454	222	186
10	49	2.6	e2.3	2.5	e2.2	20	363	459	512	462	220	184
11	49	2.9	e2.3	2.5	e2.2	18	366	462	518	472	216	182
12	48	3.0	e2.4	2.5	e2.2	8.8	375	482	494	472	213	177
13	48	3.1	2.5	2.5	e2.2	8.2	398	446	492	461	210	178
14	48	3.0	2.5	2.6	e2.3	18	459	440	491	454	208	176
15	44	3.0	2.6	2.5	e2.5	7.6	464	442	498	462	208	176
16	38	3.1	2.8	2.6	e2.6	7.9	466	439	491	458	208	172
17	38	3.2	2.7	2.5	e2.7	9.1	469	438	492	458	207	170
18	38	3.1	2.5	2.5	e2.7	12	471	441	491	458	205	168
19	37	3.0	2.5	2.5	e2.9	14	468	e447	491	459	205	167
20	37	2.8	2.5	2.5	2.9	14	487	442	489	459	205	e180
21	36	2.7	2.5	e2.4	3.0	12	469	438	490	452	210	e190
22	36	2.6	2.5	e2.3	3.2	12	467	436	507	469	206	e200
23	30	2.5	2.4	2.3	3.3	14	464	433	462	463	204	e220
24	12	2.5	2.4	2.2	3.4	17	459	461	488	463	203	186
25	7.1	2.5	2.4	e2.1	3.5	21	459	464	495	462	209	190
26	5.5	2.3	e2.4	e2.0	3.9	25	463	458	496	460	202	191
27	5.5	2.3	e2.3	e1.9	e4.6	146	466	457	511	458	188	194
28	4.4	2.2	e2.3	e1.8	e5.7	103	466	456	498	397	129	172
29	3.9	2.4	e2.2	e1.7	e5.3	50	462	470	468	316	112	143
30	3.9	2.3	e2.2	e1.6	---	38	459	557	483	320	99	149
31	4.0	---	e2.3	e1.5	---	36	---	599	---	320	87	---
TOTAL	1,356.3	84.8	74.7	69.5	79.6	659.3	10,992	14,302	13,008	13,841	6,434	5,075
MEAN	43.8	2.83	2.41	2.24	2.74	21.3	366	461	434	446	208	169
MAX	93	3.8	2.8	2.6	5.7	146	487	599	518	501	325	220
MIN	3.9	2.2	2.1	1.5	1.5	3.1	32	433	117	316	87	109
AC-FT	2,690	168	148	138	158	1,310	21,800	28,370	25,800	27,450	12,760	10,070

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 2004, BY WATER YEAR (WY)

MEAN	68.4	36.0	11.4	5.61	11.5	82.5	274	238	181	125	98.8	80.9
MAX	946	568	144	47.9	111	731	2,434	2,559	1,266	1,024	761	908
(WY)	(1994)	(2001)	(2001)	(1995)	(1930)	(1966)	(1950)	(1950)	(1997)	(1995)	(1995)	(1993)
MIN	0.29	0.35	0.66	0.29	0.60	1.74	1.00	1.06	1.27	0.67	0.23	0.20
(WY)	(1990)	(1939)	(1939)	(1991)	(1939)	(1944)	(1939)	(1939)	(1931)	(1933)	(1933)	(1933)

06470000 JAMES RIVER AT JAMESTOWN, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1928 - 2004	
ANNUAL TOTAL	24,277.5		65,976.2			
ANNUAL MEAN	66.5		180		101	
HIGHEST ANNUAL MEAN					521	1997
LOWEST ANNUAL MEAN					2.38	1938
HIGHEST DAILY MEAN	275	May 23	599	May 31	6,170	May 13, 1950
LOWEST DAILY MEAN	1.1	Feb 6	1.5	Jan 31	0.00	Jun 28, 1933
ANNUAL SEVEN-DAY MINIMUM	1.2	Feb 3	1.6	Jan 29	0.00	Oct 26, 1989
MAXIMUM PEAK FLOW			637	May 31	a6,390	May 13, 1950
MAXIMUM PEAK STAGE			7.25	May 31	16.94	Apr 11, 1969
INSTANTANEOUS LOW FLOW					0.00	Jun 28, 1933
ANNUAL RUNOFF (AC-FT)	48,150		130,900		73,400	
10 PERCENT EXCEEDS	201		468		313	
50 PERCENT EXCEEDS	30		93		9.1	
90 PERCENT EXCEEDS	1.8		2.3		1.3	

a Gage height, 15.82 ft; 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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
NOV													
13...	1705	3.1	--	--	--	1,190	0.0	2.0	--	--	--	--	--
JAN													
13...	1710	2.3	--	--	--	1,920	-16.0	0.5	--	--	--	--	--
FEB													
23...	1700	3.3	--	--	--	1,380	-3.0	1.0	--	--	--	--	--
MAR													
16...	1630	8.1	--	--	--	1,040	-2.0	3.0	--	--	--	--	--
24...	1815	17	7.9	7.5	820	--e	11.7	3.0	340	78.9	33.7	10.3	1
APR													
09...	1445	368	--	--	--	1,140	6.0	7.0	--	--	--	--	--
28...	1000	453	--	--	--	900	20.0	10.0	--	--	--	--	--
JUL													
23...	1210	465	--	--	--	1,010	20.0	22.0	--	--	--	--	--
AUG													
24...	1330	200	7.6	8.4	1,090	1,050	27.0	20.5	380	71.0	48.4	14.3	2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
NOV													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
24...	53.7	25	176	29.2	0.15	14.2	216	529	25.2	2.5	70	<1	40
APR													
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
24...	77.3	30	278	16.6	0.17	3.44	279	675	366	8.5	30	<1	60

06470000 JAMES RIVER AT JAMESTOWN, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
NOV					
13...	--	--	--	--	--
JAN					
13...	--	--	--	--	--
FEB					
23...	--	--	--	--	--
MAR					
16...	--	--	--	--	--
24...	540	<0.20	2	3	330
APR					
09...	--	--	--	--	--
28...	--	--	--	--	--
JUL					
23...	--	--	--	--	--
AUG					
24...	350	<0.20	3	1	340

Remark codes used in this table:
< -- Less than

Null value qualifier codes used in this table:
e -- Required equipment not functional/avail

06470500 JAMES RIVER AT LAMOURE, ND

LOCATION.--Lat 46°21'20", long 98°18'15", in NE¼NE¼ 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 National Geodetic Vertical Datum of 1929. See WSP 1729 or 1917 for history of changes prior to Apr. 19, 1950.

REMARKS.--Records good except for estimated daily discharges, 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 2003 TO SEPTEMBER 2004
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	145	27	21	24	e10	27	557	529	1,160	573	391	181
2	144	28	21	24	e10	24	416	530	1,560	562	389	156
3	151	26	21	23	e10	22	330	529	1,690	607	383	152
4	147	25	23	21	e10	20	277	526	1,350	627	379	182
5	149	25	23	20	e11	20	254	525	949	648	364	213
6	149	25	24	18	e12	20	215	517	741	647	309	210
7	150	24	25	17	e13	20	221	516	740	645	300	200
8	152	25	25	17	e14	22	322	521	681	705	312	211
9	154	24	25	17	e15	33	458	525	638	726	311	202
10	131	24	24	17	e15	61	476	519	708	724	286	200
11	117	25	22	18	e15	69	475	529	784	720	285	222
12	86	28	21	18	e15	74	473	551	844	873	291	234
13	87	27	20	18	e16	68	470	572	863	932	291	239
14	81	27	21	18	e16	68	470	577	839	870	287	235
15	78	29	21	18	e16	66	486	536	832	830	280	236
16	76	29	22	18	16	68	529	550	814	784	278	231
17	72	31	22	19	16	65	538	549	791	737	270	233
18	73	31	22	19	17	64	557	544	749	687	268	223
19	63	31	22	18	17	74	539	536	722	663	256	213
20	65	32	23	18	17	100	559	536	698	637	255	232
21	54	26	23	18	17	107	573	531	681	622	250	229
22	57	24	24	17	18	131	579	533	663	596	264	237
23	51	24	25	17	18	146	570	524	653	576	257	255
24	57	22	25	16	18	187	548	526	646	570	272	268
25	58	21	25	e15	19	200	556	536	626	559	259	276
26	47	20	26	e14	19	189	541	550	600	542	264	290
27	51	20	27	e13	21	181	530	566	624	540	258	268
28	48	20	27	e12	24	389	551	548	624	542	261	256
29	28	20	26	e12	26	652	525	550	625	539	255	251
30	35	20	25	e11	---	1,010	533	612	607	503	226	258
31	33	---	24	e11	---	846	---	812	---	417	201	---
TOTAL	2,789	760	725	536	461	5,023	14,128	17,005	24,502	20,203	8,952	6,793
MEAN	90.0	25.3	23.4	17.3	15.9	162	471	549	817	652	289	226
MAX	154	32	27	24	26	1,010	579	812	1,690	932	391	290
MIN	28	20	20	11	10	20	215	516	600	417	201	152
AC-FT	5,530	1,510	1,440	1,060	914	9,960	28,020	33,730	48,600	40,070	17,760	13,470

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2004, BY WATER YEAR (WY)

MEAN	109	66.9	27.4	16.3	21.2	191	438	355	279	224	149	123
MAX	1,008	574	168	75.1	135	1,202	3,209	3,114	1,399	1,165	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)

06470500 JAMES RIVER AT LAMOURE, ND—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1950 - 2004	
ANNUAL TOTAL	40,479		101,877			
ANNUAL MEAN	111		278		163	
HIGHEST ANNUAL MEAN					786	1997
LOWEST ANNUAL MEAN					11.7	1990
HIGHEST DAILY MEAN	495	May 21	1,690	Jun 3	6,420	Apr 14, 1969
LOWEST DAILY MEAN	11	Jan 26	10	Feb 1	0.00	Jul 15, 1973
ANNUAL SEVEN-DAY MINIMUM	11	Mar 7	10	Jan 30	0.01	Jul 17, 1973
MAXIMUM PEAK FLOW			1,720	Jun 3	6,800	Apr 14, 1969
MAXIMUM PEAK STAGE			10.18	Jun 3	16.17	Apr 14, 1969
INSTANTANEOUS LOW FLOW					0.00	Jul 15, 1973
ANNUAL RUNOFF (AC-FT)	80,290		202,100		118,000	
10 PERCENT EXCEEDS	299		656		482	
50 PERCENT EXCEEDS	63		200		32	
90 PERCENT EXCEEDS	14		18		7.6	

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 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
NOV													
13...	1510	27	--	--	--	1,330	5.0	3.0	--	--	--	--	--
DEC													
16...	1450	22	--	--	--	1,440	-2.5	1.5	--	--	--	--	--
JAN													
13...	1425	18	--	--	--	1,700	-13.5	1.0	--	--	--	--	--
FEB													
24...	1610	18	--	--	--	1,350	0.5	0.5	--	--	--	--	--
MAR													
15...	1450	64	--	--	--	646	0.5	0.5	--	--	--	--	--
25...	1210	192	8.2	--e	598	504	13.0	2.5	210	49.2	20.7	19.0	1
JUL													
13...	1315	953	--	--	--	841	26.0	24.0	--	--	--	--	--
AUG													
25...	1300	256	7.5	8.3	1,140	1,090	26.5	20.6	390	75.8	48.3	15.7	2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)
NOV													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
15...	--	--	--	--	--	--	--	--	--	--	--	--	--
25...	43.0	29	145	24.0	0.15	11.0	116	361	192	2.3	40	<1	30
JUL													
13...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
25...	81.7	30	295	21.0	0.17	7.21	278	698	487	7.9	30	<1	70

06470500 JAMES RIVER AT LAMOURE, ND—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)	Mercury water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Selenium, water, fltrd, ug/L (01145)	Strontium, water, fltrd, ug/L (01080)
NOV					
13...	--	--	--	--	--
DEC					
16...	--	--	--	--	--
JAN					
13...	--	--	--	--	--
FEB					
24...	--	--	--	--	--
MAR					
15...	--	--	--	--	--
25...	430	<0.20	1	2	210
JUL					
13...	--	--	--	--	--
AUG					
25...	350	<0.20	3	2	370

Remark codes used in this table:
< -- Less than

Null value qualifier codes used in this table:
e -- Required equipment not functional/avail

06470800 BEAR CREEK NEAR OAKES, ND

LOCATION.--Lat 46°13'31", long 98°04'17", in NE$^1/_4$NE$^1/_4$ 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.

05055500 SHEYENNE RIVER AT SHEYENNE, ND

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
JUN													
30...	0900	8.2	1,410	380	58.6	57.7	12.4	5	214	54	508@c	16.5	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)
JUN													
30...	16.7	305d	987	1,040	2.1	0.16	0.10	0.11	0.016	2.0	0.18	0.31	2.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
JUN				
30...	E4.8d	E.5d	21	136

Remark codes used in this table:
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded

474645098482000 150-064-26DAC

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
MAY 04...	1155	8.3	992	470	86.0c	61.8c	4.39c	1	66.5c	23	328@c	12.1	0.4

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water unfltrd ug/L (01002)
MAY 04...	29.2	130	587	677	0.71	<0.04	<0.06	<0.008	0.04	0.05	0.2*d	<0.1*d	2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Barium, water, unfltrd recover-able, ug/L (01007)	Cadmium water, unfltrd ug/L (01027)	Chrom-ium, water, unfltrd recover-able, ug/L (01034)	Iron, water, fltrd, ug/L (01046)	Lead, water, unfltrd recover-able, ug/L (01051)	Mangan-ese, water, fltrd, ug/L (01056)	Selen-ium, water, unfltrd ug/L (01147)
MAY 04...	54	<0.04	<0.8	9c	<0.06	13.0c	E.4n

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
* -- Sample was warm when received
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

474740098351500 SHEYENNE RIVER NO. 3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)
JUN 30...	1100	8.2	1,240	380	64.0	53.1	11.2	4	164	48	450@c	15.3	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)
JUN 30...	22.6	266	869	913	1.9	0.04	0.21	0.23	0.011	1.9	0.19	0.31	2.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Manganese, water, fltrd, ug/L (01056)	2,4-D methyl ester, water, fltrd, ug/L (50470)	2,4-D water, fltrd, ug/L (39732)	2,4-DB water, fltrd 0.7u GF ug/L (38746)	2,6-Diethylaniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	CEAT, water, fltrd, ug/L (04038)	OIET, water, fltrd, ug/L (50355)	3-Hydroxy carbofuran, wat flt 0.7u GF ug/L (49308)	3-Ketocarbofuran, water, fltrd, ug/L (50295)
JUN 30...	E2.4d	<0.1d	16	197	<0.009	0.04	<0.02mc	<0.006	E.007	<0.01mc	<0.008mc	<0.006	<0.014mc

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Acetochlor, water, fltrd, ug/L (49260)	Acifluorfen, water, fltrd 0.7u GF ug/L (49315)	Alachlor, water, fltrd, ug/L (46342)	Aldicarb sulfone water, fltrd 0.7u GF ug/L (49313)	Aldicarb sulfoxide, wat flt 0.7u GF ug/L (49314)	Aldicarb, water, fltrd 0.7u GF ug/L (49312)	alpha-HCH, water, fltrd, ug/L (34253)	Atrazine, water, fltrd, ug/L (39632)	Azinphosmethyl, water, fltrd 0.7u GF ug/L (82686)	Bendiocarb, water, fltrd, ug/L (50299)	Benfluralin, water, fltrd 0.7u GF ug/L (82673)	Benomyl water, fltrd, ug/L (50300)	Bensulfuron, water, fltrd, ug/L (61693)
JUN 30...	<0.006	<0.007	<0.005	<0.02mc	<0.008mc	<0.04mc	<0.005	0.027	<0.050	<0.03	<0.010	<0.004	<0.02

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Bentazon, water, fltrd 0.7u GF ug/L (38711)	Butylate, water, fltrd, ug/L (04028)	Caffeine, water, fltrd, ug/L (50305)	Carbaryl, water, fltrd 0.7u GF ug/L (49310)	Carbaryl, water, fltrd 0.7u GF ug/L (82680)	Carbofuran, water, fltrd 0.7u GF ug/L (49309)	Carbofuran, water, fltrd 0.7u GF ug/L (82674)	Chloramben methyl ester, water, fltrd, ug/L (61188)	Chlorimuron, water, fltrd, ug/L (50306)	Chlorodiamino-s-triazine, wat flt ug/L (04039)	Chlorothalonil, water, fltrd 0.7u GF ug/L (49306)	Chlorpyrifos water, fltrd, ug/L (38933)	cis-Permethrin water fltrd 0.7u GF ug/L (82687)
JUN 30...	<0.01mc	<0.004	<0.0096	<0.03	<0.041	<0.006	<0.020	<0.02mc	<0.010	<0.04mc	<0.04mc	<0.005	<0.006

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Clopyralid, water, fltrd 0.7u GF ug/L (49305)	Cyanazine, water, fltrd, ug/L (04041)	Cycloate, water, fltrd, ug/L (04031)	Dacthal monoacid, water, fltrd 0.7u GF ug/L (49304)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazinon, water, fltrd, ug/L (39572)	Dicamba water fltrd 0.7u GF ug/L (38442)	Dichlorprop, water, fltrd 0.7u GF ug/L (49302)	Dieldrin, water, fltrd, ug/L (39381)	Dinoseb water, fltrd 0.7u GF ug/L (49301)	Diphenamid, water, fltrd, ug/L (04033)	Disulfoton, water, fltrd 0.7u GF ug/L (82677)	Diuron, water, fltrd 0.7u GF ug/L (49300)
JUN 30...	<0.01	<0.018	<0.01mc	<0.01	<0.003	<0.005	<0.01	<0.01	<0.009	<0.01	<0.03	<0.02	<0.01

474740098351500 SHEYENNE RIVER NO. 3--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethalflur-alin, water, fltrd 0.7u GF ug/L (82663)	Ethoprop, water, fltrd 0.7u GF ug/L (82672)	Fenuron water, fltrd 0.7u GF ug/L (49297)	Flumetsulam, water, fltrd, ug/L (61694)	Fluometuron water fltrd 0.7u GF ug/L (38811)	Fonofos water, fltrd, ug/L (04095)	Imazaquin, water, fltrd, ug/L (50356)	Imazethapyr, water, fltrd, ug/L (50407)	Imidacloprid water, fltrd, ug/L (61695)	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (38478)	Linuron water fltrd 0.7u GF ug/L (82666)
JUN													
30...	<0.004	<0.009	<0.005	<0.03	<0.01mc	<0.03	<0.003	<0.02mc	<0.02mc	<0.007	<0.004	<0.01	<0.035

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Malathion, water, fltrd, ug/L (39532)	MCPA, water, fltrd 0.7u GF ug/L (38482)	MCPB, water, fltrd 0.7u GF ug/L (38487)	Metalaxyl, water, fltrd, ug/L (50359)	Methiocarb, water, fltrd 0.7u GF ug/L (38501)	Methomyl, water, fltrd 0.7u GF ug/L (49296)	Methyl parathion, water, fltrd 0.7u GF ug/L (82667)	Metolachlor, water, fltrd, ug/L (39415)	Metribuzin, water, fltrd, ug/L (82630)	Metsulfuron, water, fltrd, ug/L (61697)	Molinate, water, fltrd 0.7u GF ug/L (82671)	N-(4-Chlorophenyl)-N-'methylurea, ug/L (61692)	Napropamide, water, fltrd 0.7u GF ug/L (82684)
JUN													
30...	<0.027	E.16	<0.01mc	<0.02	<0.008mc	<0.004mc	<0.015	<0.013	<0.006	<0.03mc	<0.003	<0.02	<0.007

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Neburon water, fltrd 0.7u GF ug/L (49294)	Nicosulfuron, water, fltrd, ug/L (50364)	Norflurazon, water, fltrd 0.7u GF ug/L (49293)	Oryzalin, water, fltrd 0.7u GF ug/L (49292)	Oxamyl, water, fltrd 0.7u GF ug/L (38866)	p,p-' DDE, water, fltrd, ug/L (34653)	Parathion, water, fltrd, ug/L (39542)	Pebulate, water, fltrd 0.7u GF ug/L (82669)	Pendimethalin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)	Picloram, water, fltrd 0.7u GF ug/L (49291)	Propyzamide, water, fltrd 0.7u GF ug/L (82676)	Propachlor, water, fltrd, ug/L (04024)
JUN													
30...	<0.01	<0.01	<0.02mc	<0.02	<0.01	<0.003	<0.010	<0.004	<0.022	<0.011	<0.02	<0.004	<0.025

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Propanil, water, fltrd 0.7u GF ug/L (82679)	Propargite, water, fltrd 0.7u GF ug/L (82685)	Propham water fltrd 0.7u GF ug/L (49236)	Propiconazole, water, fltrd, ug/L (50471)	Propoxur, water, fltrd 0.7u GF ug/L (38538)	Siduron water, fltrd, ug/L (38548)	Simazine, water, fltrd, ug/L (04035)	Sulfometruron, water, fltrd, ug/L (50337)	Tebuthiuron water fltrd 0.7u GF ug/L (82670)	Terbacil, water, fltrd 0.7u GF ug/L (82665)	Terbacil, water, fltrd, ug/L (04032)	Terbufos, water, fltrd 0.7u GF ug/L (82675)	Thiobencarb water fltrd 0.7u GF ug/L (82681)
JUN													
30...	<0.011	<0.02	<0.010	E.01	<0.008	<0.02	<0.005	<0.009	<0.02	<0.034	<0.010mc	<0.02	<0.010

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Triallate, water, fltrd 0.7u GF ug/L (82678)	Tribenuron water, fltrd, ug/L (61159)	Triclopyr, water, fltrd 0.7u GF ug/L (49235)	Triflur-alin, water, fltrd 0.7u GF ug/L (82661)
JUN				
30...	<0.002	--u	<0.02	<0.009

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
m -- Value is highly variable by this method

Null value qualifier codes used in this table:
u -- Unable to determine-matrix interference

474840098502700 WL506415B

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
SEP													
03...	1125	9.0	3,790	580	30.5d	123d	60.1d	14	749d	71	637@c	688d	<0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)
SEP													
03...	8.8	455d	2,500	2,570	3.7	0.04	<0.06	<0.008	3.6	<0.02	0.14	E151d	<0.1d

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
SEP		
03...	<19d	7.7d

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded

474844098363800 BATTLE LAKE

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
02...	1345	9.2	322	160	11.5	32.7	8.91	0.4	11.7	13	194	5.34	0.2
AUG													
16...	1045	8.7	349	180	19.2	31.9	8.73	0.4	10.8	11	199@c	4.71	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
OCT													
02...	11.1	5.1	203	210	2.9	<0.04	<0.06	<0.008	<0.02	0.14	51.6	<0.1	10
AUG													
16...	8.9	4.8	209	228	2.5	<0.04	<0.06	<0.008	<0.02	0.08	E52.4d	<0.1d	6

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Mangan-ese, water, fltrd, ug/L (01056)
OCT	
02...	13.8
AUG	
16...	18.4

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@-- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded

474849098482000 WL506414

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
14...	1350	8.6	4,750	690	38.6dc	143d	56.8d	15	917d	72	795	602dc	<0.2
SEP													
03...	0955	8.9	4,290	700	38.7d	146d	58.8d	15	891d	71	744@c	524d	<0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)
OCT													
14...	8.4	1,050d	3,300	3,390	4.7	0.58	0.09	0.17	0.081	4.1	0.04	0.24	4.9
SEP													
03...	6.4	946d	3,060	2,940	3.2	E.03n	--	<0.06	E.004n	--	<0.02	0.18	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT				
14...	29.8d	1.4d	E16ndc	E2.0ndc
SEP				
03...	--r	--r	E11nd	3.2d

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
r -- Sample ruined in preparation

474856098465200 Wetland 11

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
14...	1440	8.7	2,420	500	23.5d	106d	65.7d	8	427d	62	794	107d	0.2
SEP													
01...	0950	8.9	2,150	460	30.3d	93.2d	52.4d	7	354d	59	722@c	91.5d	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)
OCT													
14...	30.0	455d	1,690	1,730	4.3	0.82	0.14	0.25	0.109	3.5	0.02	0.26	4.6
SEP													
01...	31.0	419d	1,500	1,500	3.9	0.07	--	<0.06	<0.008	3.8	<0.02	0.19	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT				
14...	37.5d	<0.1d	31d	7.3d
SEP				
01...	93.5d	<0.1d	27d	9.4d

Remark codes used in this table:
< -- Less than

Value qualifier codes used in this table:
@-- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded

474916098493100 WL506410D

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
14...	1300	8.9	4,280	560	30.4dc	117d	58.4d	15	794d	73	707	798d	<0.2
16...	0900	8.9	4,220	610	32.6d	127d	65.7d	14	801d	72	701	769d	<0.2
SEP													
03...	1050	8.9	3,910	530	30.2d	111d	54.9d	13	704d	72	649@c	706d	<0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)
OCT													
14...	0.6	523d	2,750	2,790	2.8	<0.04	<0.06	<0.008	--	<0.02	0.13	20.4d	<0.1d
16...	4.6	506d	2,730	2,770	2.7	E.02n	<0.06	E.005n	--	<0.02	0.15	E30.0d	<0.1d
SEP													
03...	12.5	465d	2,470	2,490	4.1	0.09	<0.06	0.012	4.0	<0.02	0.24	141d	<0.1d

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT		
14...	E15ndc	E2.2ndc
16...	21d	4.1d
SEP		
03...	E15nd	5.8d

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

474940098543300 150-065-12ADA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
MAY													
04...	1030	7.9	619	330	88.3	26.3	9.36	0.4	15.9	9	282@c	7.48	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)
MAY													
04...	28.1	50.1	403	435	1.4	0.32	1.51	1.53	0.025	1.1	0.25	0.32	2.9

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water unfltrd ug/L (01002)	Barium, water, unfltrd recover-able, ug/L (01007)	Cadmium water, unfltrd ug/L (01027)	Chrom-ium, water, unfltrd recover-able, ug/L (01034)	Iron, water, fltrd, ug/L (01046)	Lead, water, unfltrd recover-able, ug/L (01051)	Mangan-ese, water, fltrd, ug/L (01056)	Selen-ium, water, unfltrd ug/L (01147)
MAY										
04...	1.9*d	0.3*d	7	67	E.02n	<0.8	42	0.22	220	0.4

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
* -- Sample was warm when received
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

474951098545800 150-065-12ABA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
MAY													
04...	1235	8.2	567	300	77.8c	24.9c	3.53c	0.5	20.8c	13	235@c	5.94c	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water unfltrd ug/L (01002)
MAY													
04...	22.9	41.3c	339	383	0.41	<0.04	E.05n	<0.008	0.02	<0.04	1.6*d	<0.2*d	2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Barium, water, unfltrd recover-able, ug/L (01007)	Cadmium water, unfltrd ug/L (01027)	Chrom-ium, water, unfltrd recover-able, ug/L (01034)	Iron, water, fltrd, ug/L (01046)	Lead, water, unfltrd recover-able, ug/L (01051)	Mangan-ese, water, fltrd, ug/L (01056)	Selen-ium, water, unfltrd ug/L (01147)
MAY							
04...	69	<0.04	<0.8	26c	E.04n	163c	E.3n

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
* -- Sample was warm when received
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

474953098470600 Wetland 14

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
03...	1445	8.9	3,910	380	27.9d	75.7d	78.9d	16	734d	77	630	382d	0.2
AUG													
16...	1340	8.8d	3,570d	400	37.6d	74.7d	75.7d	15	677d	75	602@c	355d	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)
OCT													
03...	5.1	964d	2,650	2,810	3.1	0.15	E.04n	0.014	2.9	<0.02	0.12	E13.9d	<0.1
AUG													
16...	0.7	895d	2,480	2,550	2.8	0.04	<0.06	<0.008	2.7	E.01n	0.09	E13.4d	E.2d

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT		
03...	20d	6.6d
AUG		
16...	26d	17.8d

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

474956098390500 Wetland 28

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
02...	1500	8.4	717	420	35.4c	80.3c	11.2c	0.5	21.6c	10	462	5.40c	0.3
AUG													
16...	1130	8.3	602	350	32.9	63.9	7.31	0.4	16.5	9	371@c	2.84	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)
OCT													
02...	26.5	1.8c	460	503	3.0d	0.07	0.07	0.08	0.016	2.9	<0.02	0.73	3.1
AUG													
16...	17.5	1.2	365	398	2.5	<0.04	--	<0.06	<0.008	--	<0.02	0.09	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT				
02...	7.7	0.3	16	2.7c
AUG				
16...	E19.4d	E1.3d	12	4.2

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded

474956099124200 150-067-10AAA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
APR													
26...	1000	7.9	659	300	71.4c	29.4c	6.43c	1	38.5c	21	257@c	9.77	<0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water unfltrd ug/L (01002)
APR													
26...	18.1	93.2	421	450	0.53	<0.04	<0.06	<0.008	0.02	0.05	0.9d	<0.1d	<2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Barium, water, unfltrd recover-able, ug/L (01007)	Cadmium water, unfltrd ug/L (01027)	Chrom-ium, water, unfltrd recover-able, ug/L (01034)	Iron, water, fltrd, ug/L (01046)	Lead, water, unfltrd recover-able, ug/L (01051)	Mangan-ese, water, fltrd, ug/L (01056)	Selen-ium, water, unfltrd ug/L (01147)
APR							
26...	59	<0.04	<0.8	17c	<0.06	10.6c	<0.4

Remark codes used in this table:
< -- Less than

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded

475001098450600 Wetland 27

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
03...	1400	8.3	1,100	430	37.6	81.7	26.2	2	101	32	667	12.9	0.2
AUG													
16...	1300	8.5	890	370	30.9	71.1	21.5	2	78.4	30	548@c	9.44	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)
OCT													
03...	41.5d	6.5	708	768	3.1	0.31	E.05n	0.019	2.8	0.05	0.12	E2.3d	<0.1
AUG													
16...	14.3	6.1	560	615	2.5	<0.04	<0.06	<0.008	--	<0.02	E.04n	E1.8d	E.1d

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT		
03...	10	33.8
AUG		
16...	E5n	5.0

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475001098560300 SHEYENNE RIVER NO. 2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
JUN													
30...	0945	8.2	1,380	390	61.7	56.6	12.1	4	197	52	484@c	16.8	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)
JUN													
30...	18.9	297d	953	1,010	2.1	0.09	0.18	0.20	0.020	2.0	0.20	0.33	2.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
JUN				
30...	1.8d	E.2d	16	101

Remark codes used in this table:
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded

475007098513900 WL506404C

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
14...	1120	8.3	752	380	32.7	72.7	8.60	1	46.5	21	456	6.24	0.4
SEP													
03...	1225	8.5	647	330	25.0	65.7	6.53	1	40.9	21	400@c	5.14	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)
OCT													
14...	17.8	6.9	466	493	2.5	0.12	0.14	0.16	0.018	2.3	<0.02	0.07	2.6
SEP													
03...	12.2	8.0	403	431	2.4	0.05	--	<0.06	<0.008	2.3	<0.02	0.09	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT				
14...	11.2d	0.7d	7	4.1
SEP				
03...	23.4d	1.3d	<6	10.8

Remark codes used in this table:
< -- Less than

Value qualifier codes used in this table:
@-- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded

475012098475200 HORSESHOE LAKE

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
06...	1335	9.1	4,800	190	19.8d	33.2d	84.9d	32	1,020d	88	844	373d	0.3
AUG													
16...	1435	8.9	4,490	200	25.0d	32.8d	83.3d	29	939d	87	799@c	340d	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)
OCT													
06...	22.7	1,270d	3,330	3,540	2.6	0.06	0.06	E.007n	2.6	E.01n	0.06	2.7	E2.1
AUG													
16...	13.3	1,160d	3,070	3,220	2.9	E.02n	<0.06	<0.008	--	0.03	0.13	--	E16.4d

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT			
06...	<0.1	76d	11.3d
AUG			
16...	E.3d	97d	21.2d

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475031098440500 Wetland 25

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
03...	1320	8.1	332	160	33.7	19.4	5.33	0.3	9.70	11	182	2.54	0.2
AUG													
16...	1215	8.0	316	160	34.7	18.9	4.58	0.3	8.75	10	175@c	1.57	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
OCT													
03...	19.6	2.1	202	225	2.8	E.03n	<0.06	<0.008	<0.02	0.21	6.4	<0.1	E6n
AUG													
16...	19.8	1.4	195	205	2.1	E.02n	<0.06	<0.008	<0.02	0.14	E14.7d	E1.0d	22

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Mangan-ese, water, fltrd, ug/L (01056)
OCT	
03...	4.2
AUG	
16...	87.2

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@-- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475034098505700 WL506404A

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
14...	1215	8.6	1,040	490	25.6	103	25.7	1	75.3	24	659	8.19	0.3
SEP													
03...	1300	9.3	816	430	13.6	96.8	20.4	1	67.6	24	574@c	6.12	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)
OCT													
14...	19.8	3.6	657	699	2.7	0.05	<0.06	<0.008	2.7	<0.02	0.07	5.9d	<0.4d
SEP													
03...	1.2	3.6	554	607	2.3	<0.04	<0.06	<0.008	--	<0.02	0.06	21.3d	1.6d

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT		
14...	E4n	3.8
SEP		
03...	<6	10.4

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475038098555500 150-065-02AAD

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
APR													
26...	1425	E7.4	589	320	81.3c	28.8c	2.05c	0.4	17.3c	10	251@c	6.56c	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water unfltrd ug/L (01002)
APR													
26...	24.1	29.4c	340	392	0.45	<0.04	<0.06	<0.008	<0.02	E.03n	0.9d	<0.1d	<2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Barium, water, unfltrd recover-able, ug/L (01007)	Cadmium water, unfltrd ug/L (01027)	Chrom-ium, water, unfltrd recover-able, ug/L (01034)	Iron, water, fltrd, ug/L (01046)	Lead, water, unfltrd recover-able, ug/L (01051)	Mangan-ese, water, fltrd, ug/L (01056)	Selen-ium, water, unfltrd ug/L (01147)
APR							
26...	55	<0.04	<0.8	21c	<0.06	23.8c	<0.4

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475055098424500 Wetland 26

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
03...	1150	8.4	554	260	35.1	42.4	15.9	0.6	21.9	14	293	21.2	0.3
AUG													
24...	1255	8.1	536	270	39.7	42.0	14.3	0.5	20.0	13	285@c	20.5	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)
OCT													
03...	8.7	2.6	324	364	4.3	E.03n	<0.06	E.005n	--	<0.02	0.27	E61.4d	E7.3d
AUG													
24...	32.1	3.4	344	374	4.0	0.44	<0.06	0.011	3.5	0.06	0.35	70.1*d	8.5*d

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT		
03...	19	4.1
AUG		
24...	19	11.2

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
* -- Sample was warm when received
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475127098444200 Wetland 24

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
03...	1235	8.5	512	230	33.6	36.6	9.19	0.8	28.3	20	300	4.65	0.3
SEP													
21...	1010	8.1	479	240	33.8	37.1	8.51	0.8	28.0	20	269@c	2.91	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)
OCT													
03...	6.4	5.8	305	339	1.7	0.07	--	E.04n	0.009	1.6	<0.02	0.05	--
SEP													
21...	10.0	5.1	288	303	3.0	0.36	0.07	0.09	0.022	2.6	0.03	0.18	3.1

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT				
03...	E1.6	<0.1	E5n	4.8
SEP				
21...	E18.5d	E1.5d	7	2.2

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475147098374900 WETLAND B1

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
02...	1300	9.0	2,430	250	20.9dc	46.9d	61.2d	15	557d	79	1,100	38.8dc	0.2
JUL													
07...	1310	8.7	1,900	220	20.0	40.2	46.6	12	406	76	839@c	28.8d	<0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)
OCT													
02...	34.6	322dc	1,740	1,800	4.8	0.13	0.21	0.24	0.026	4.7	0.99d	1.25	5.0
JUL													
07...	22.6	245d	1,320	1,380	3.6	0.06	0.12	0.14	0.016	3.6	1.07d	1.17	3.8

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT				
02...	2.5	<0.1	313d	17.8dc
JUL				
07...	E6.7d	<0.1d	114	12.1

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded

475155098451400 WL516329C

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
15...	1135	8.9	2,880	190	14.2dc	36.5dc	71.1d	21	645d	84	1,080	150d	0.2
SEP													
20...	1420	8.8	2,520	170	14.5d	32.8d	63.0d	18	535d	82	947@c	125d	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)
OCT													
15...	36.6	331d	1,940	2,010	3.2	0.16	0.06	0.09	0.032	3.0	0.08	0.21	3.3
SEP													
20...	28.7	284d	1,650	1,710	2.9	<0.04	--	<0.06	<0.008	--	<0.02	0.15	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT				
15...	6.0	<0.1	377d	20.2dc
SEP				
20...	E30.8d	E1.3d	45d	4.1d

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded

475159098415900 SHIN BONE LAKE

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
03...	1100	9.2	2,010	180	10.5	37.1	63.2d	12	379	76	877	164d	0.2
AUG													
24...	1215	9.2	1,800	190	10.7	39.0	56.4	11	358	75	819@c	151d	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
OCT													
03...	30.0	32.1d	1,240	1,350	4.0	<0.04	<0.06	<0.008	<0.02	0.13	E39.9	<0.1	8
AUG													
24...	28.2	30.0d	1,160	1,230	3.6	<0.04	<0.06	<0.008	<0.02	0.16	84.3*d	E2.8*d	E6n

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Mangan-ese, water, fltrd, ug/L (01056)
OCT	
03...	1.4
AUG	
24...	2.3

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
* -- Sample was warm when received
@-- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475159098455900 Wetland 16

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
06...	1235	8.9	3,300	190	21.3d	34.0d	54.7d	19	619d	84	827	231d	0.3
SEP													
21...	1045	8.7	3,040	220	27.3d	35.6d	53.3d	20	658d	83	743@c	205d	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)
OCT													
06...	35.1	650d	2,140	2,340	3.3	E.02n	<0.06	0.008	--	E.01n	0.16	E19.1d	E1.0d
SEP													
21...	10.5	609d	2,040	2,120	3.1	0.08	<0.06	E.004n	3.0	<0.02	0.18	E6.4d	<0.1d

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT		
06...	155d	20.1d
SEP		
21...	48d	4.7d

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475219099194800 151-068-26BDA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
MAY													
03...	1345	8.0	941	430	94.8	46.2	8.85	1	59.2	23	278@c	13.5	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water unfltrd ug/L (01002)
MAY													
03...	10.9	229	629	690	1.2	<0.04	<0.06	<0.008	E.01n	0.26	0.5*d	E.1*d	Mn

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Barium, water, unfltrd recover-able, ug/L (01007)	Cadmium water, unfltrd ug/L (01027)	Chrom-ium, water, unfltrd recover-able, ug/L (01034)	Iron, water, fltrd, ug/L (01046)	Lead, water, unfltrd recover-able, ug/L (01051)	Mangan-ese, water, fltrd, ug/L (01056)	Selen-ium, water, unfltrd ug/L (01147)
MAY							
03...	43	<0.04	<0.8	43	<0.06	35.9	E.4n

Remark codes used in this table:
< -- Less than
E -- Estimated value
M -- Presence verified, not quantified

Value qualifier codes used in this table:
* -- Sample was warm when received
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475225098453600 WL516330

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
15...	1045	8.6	1,670	210	13.6c	42.8c	38.0	10	325c	73	640	72.7d	0.2
AUG													
24...	1340	9.2	1,370	200	11.0	41.4	31.0	8	254	70	539@c	58.2	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)
OCT													
15...	20.7	201d	1,100	1,150	2.5	0.13	<0.06	E.006n	2.4	0.03	0.11	1.3	<0.1
AUG													
24...	23.0	165	908	913	3.2	E.03*n	<0.06	<0.008	--	<0.02	0.18	32.3*d	1.8*d

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT		
15...	25	5.5
AUG		
24...	6	3.7

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
* -- Sample was warm when received
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475234098414300 Wetland 18

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
03...	1000	8.1	768	280	36.5	47.0	11.5	2	71.8	34	439	15.2	0.4
AUG													
24...	1120	8.1	726	280	39.7	45.0	9.28	2	62.0	31	400@c	11.2	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)
OCT													
03...	16.3	2.8	465	514	2.3	0.14	0.06	0.07	0.009	2.1	<0.02	0.06	2.3
AUG													
24...	16.9	2.8	427	454	2.4	0.05	--	<0.06	<0.008	2.3	<0.02	0.10	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT				
03...	E7.2d	E.3d	37	39.4
AUG				
24...	10.0*d	1.1*d	52	48.6

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
* -- Sample was warm when received
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded

475237098374300 Wetland 21

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
02...	1130	8.2	661	300	55.7	38.6	7.22	1	53.6	28	397	3.23	0.4
JUL													
07...	1230	8.1	739	270	48.1	37.3	9.81	2	85.6	39	414@c	5.79	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)
OCT													
02...	33.1	10.9	441	472	2.2	0.04	<0.06	<0.008	2.2	<0.02	0.06	0.4	<0.1
JUL													
07...	16.8	40.5	493	534	2.2	<0.04	<0.06	<0.008	--	0.04	0.11	E7.9d	E.5d

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT		
02...	21	20.3
JUL		
07...	28	90.9

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded

475256098580200 151-065-22CAB

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
APR													
26...	1325	7.9	551	280	74.0	23.2c	5.45c	0.5	20.1c	13	260@c	5.78	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water unfltrd ug/L (01002)
APR													
26...	25.9	32.1	343	373	0.39	<0.04	<0.06	<0.008	<0.02	E.02n	0.7d	<0.1d	3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Barium, water, unfltrd recover-able, ug/L (01007)	Cadmium water, unfltrd ug/L (01027)	Chrom-ium, water, unfltrd recover-able, ug/L (01034)	Iron, water, fltrd, ug/L (01046)	Lead, water, unfltrd recover-able, ug/L (01051)	Mangan-ese, water, fltrd, ug/L (01056)	Selen-ium, water, unfltrd ug/L (01147)
APR							
26...	61	<0.04	<0.8	24c	<0.06	122c	<0.4

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475258098454700 WETLAND B2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
06...	1140	9.0	739	240	16.5	48.8	18.0	2	86.2	41	419	13.0	0.3
AUG													
24...	1425	8.7	690	250	18.6	48.3	16.6	2	81.2	40	386@c	11.3	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)
OCT													
06...	33.5	23.3	491	518	1.8	<0.04	E.03n	<0.008	--	<0.02	0.07	E27.6	<0.1
AUG													
24...	28.2	26.7	463	472	2.3	0.08	<0.06	<0.008	2.2	E.01*n	0.10	35.3*d	E1.5*d

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT		
06...	E3n	1.1
AUG		
24...	21	42.1

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
* -- Sample was warm when received
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475303098401600 Wetland 20

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
02...	1545	8.1	728	370	59.7c	54.1c	5.74c	1	46.9c	21	458	3.78c	0.4
AUG													
24...	1045	8.0	761	350	57.7c	50.3c	5.23c	1	44.0c	21	412@c	2.10	0.4

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)
OCT													
02...	32.5	2.3c	480	512	1.9	0.07	<0.06	<0.008	1.9	<0.02	<0.04	0.6	<0.1
AUG													
24...	35.0	1.4	443	487	1.8	E.02*n	<0.06	<0.008	--	<0.02	E.02*n	1.4*d	<0.2*d

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT		
02...	18c	15.4c
AUG		
24...	30c	68.6c

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
* -- Sample was warm when received
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475325098341600 Wetland 22

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
02...	1030	8.3	660	350	37.4	61.2	12.7	0.5	21.6	12	343	5.33	0.3
JUL													
07...	1140	9.5	498	300	20.6	59.4	11.2	0.5	20.4	13	269@c	5.05	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)
OCT													
02...	6.8	53.5	405	448	3.0	0.08	<0.06	<0.008	3.0	<0.02	0.14	10.9*d	<0.1
JUL													
07...	1.0	61.6	341	369	2.0	<0.04	<0.06	<0.008	--	<0.02	0.07	E1.4d	<0.1d

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT		
02...	15	35.9
JUL		
07...	E5n	12.0

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
* -- Sample was warm when received
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475325098483800 WL516423A

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
15...	1310	7.5	695	420	105c	38.3c	5.13c	0.3	11.8c	6	340	1.05c	0.4
SEP													
20...	1330	7.8	626	410	102	37.4	4.76	0.2	10.6	5	377@c	0.68	0.4

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
OCT													
15...	38.0	1.0c	405	475	1.3	E.03n	<0.06	<0.008	<0.02	0.04	2.3	0.3	180c
SEP													
20...	32.7	0.6	415	433	1.1	<0.04	<0.06	<0.008	<0.02	E.03n	E2.3d	E.1d	46

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Mangan-ese, water, fltrd, ug/L (01056)
OCT	
15...	398c
SEP	
20...	80.8

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@-- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475340099230400 151-068-17DDA

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
MAY													
03...	1100	8.0	2,360	1,200	247dc	132dc	12.5dc	2	184dc	25	248@c	53.9dc	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water unfltrd ug/L (01002)
MAY													
03...	18.3	1,020dc	1,820	2,130	0.99	E.02n	<0.06	<0.008	0.05	0.07	0.4*d	<0.1*d	2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Barium, water, unfltrd recover-able, ug/L (01007)	Cadmium water, unfltrd ug/L (01027)	Chrom-ium, water, unfltrd recover-able, ug/L (01034)	Iron, water, fltrd, ug/L (01046)	Lead, water, unfltrd recover-able, ug/L (01051)	Mangan-ese, water, fltrd, ug/L (01056)	Selen-ium, water, unfltrd ug/L (01147)
MAY							
03...	64	E.04n	1.2	E15ndc	0.12	34.5dc	1.6

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
* -- Sample was warm when received
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475350098501300 WOOD LAKE

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
06...	1420	8.8	340	160	21.2	26.7	7.74	0.4	11.6	13	179	4.52	0.2
SEP													
20...	1255	8.4	361	190	30.0	28.4	8.35	0.4	12.2	12	184@c	3.90	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
OCT													
06...	17.3	17.1	214	231	0.95	<0.04	<0.06	<0.008	<0.02	E.03n	9.8	0.2	<6
SEP													
20...	15.5	14.8	223	234	1.3	<0.04	<0.06	<0.008	<0.02	E.04n	E16.9d	E.5d	<6

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Mangan-ese, water, fltrd, ug/L (01056)
OCT	
06...	0.8
SEP	
20...	1.5

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@-- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475401098474400 WL516413B

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
08...	1350	8.6	650	290	26.4	55.6	17.6	1	46.5	24	388	6.08	0.3
SEP													
21...	1215	8.3	634	300	34.4	53.1	14.8	1	43.1	23	370@c	4.99	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
OCT													
08...	26.0	5.9	417	432	1.8	<0.04	<0.06	<0.008	<0.02	0.06	7.6d	<0.1d	<6
SEP													
21...	27.6	6.5	406	410	2.5	<0.04	<0.06	<0.008	<0.02	0.11	E35.3d	E1.1d	<6

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Mangan-ese, water, fltrd, ug/L (01056)
OCT	
08...	2.4
SEP	
21...	1.5

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@-- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded

475406098442900 ELBOW LAKE

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
06...	1055	8.9	1,400	260	14.6	54.8	32.0	6	232	63	721	44.8	0.3
AUG													
24...	1510	8.8	1,290	270	17.3	54.2	31.4	6	218	61	676@c	40.2	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
OCT													
06...	17.2	60.4	889	936	2.5	<0.04	<0.06	<0.008	<0.02	0.05	E8.8d	<0.1	<6
AUG													
24...	14.8	52.2	834	862	2.7	<0.04	<0.06	<0.008	<0.02	0.08	42.1*d	E.9*d	<6

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Mangan-ese, water, fltrd, ug/L (01056)
OCT	
06...	1.0
AUG	
24...	3.0

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
* -- Sample was warm when received
@-- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded

475410098442400 FREE PEOPLES LAKE

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
06...	1015	9.1	7,140	360	14.0d	78.3d	104d	37	1,630d	88	1,100	549d	0.2
SEP													
21...	1135	8.9	6,860	360	19.2d	75.4d	100d	36	1,590d	88	1,050@c	516d	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)
OCT													
06...	6.7	2,200d	5,240	5,440	3.1+c	E.02n	<0.06	E.007n	--	<0.02	0.07+c	E7.3d	<0.1d
SEP													
21...	0.2	2,070d	5,000	4,940	3.3	0.05	E.06n	0.038	3.2	<0.02	0.12	E20.9d	<0.1d

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT		
06...	<32d	<4.0d
SEP		
21...	34d	10.8d

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
+ -- Improper preservation
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475420098391900 151-063-12DDD

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
APR													
24...	1100	7.8	547	240	39.8c	33.7c	9.42c	1	36.6c	24	283@c	7.47	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water unfltrd ug/L (01002)
APR													
24...	7.1	26.3	330	372	1.1	<0.04	<0.06	<0.008	<0.02	<0.04	2.7d	<0.1d	<2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Barium, water, unfltrd recover-able, ug/L (01007)	Cadmium water, unfltrd ug/L (01027)	Chrom-ium, water, unfltrd recover-able, ug/L (01034)	Iron, water, fltrd, ug/L (01046)	Lead, water, unfltrd recover-able, ug/L (01051)	Mangan-ese, water, fltrd, ug/L (01056)	Selen-ium, water, unfltrd ug/L (01147)
APR							
24...	41	<0.04	<0.8	40c	<0.06	11.1c	<0.4

Remark codes used in this table:
< -- Less than

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded

475423098481400 SQUARE LAKE

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
08...	1315	8.5	427	190	29.4	28.6	6.38	0.8	26.5	22	225	3.72	0.2
SEP													
21...	1235	8.2	429	210	37.1	29.0	5.81	0.8	26.3	21	227@c	3.21	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)
OCT													
08...	35.2	18.4	283	301	1.6	<0.04	<0.06	<0.008	--	<0.02	0.06	21.4d	<0.1d
SEP													
21...	31.6	16.0	285	282	1.6	0.06	<0.06	<0.008	1.5	<0.02	0.10	E8.7d	E.1d

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT		
08...	<6	1.2
SEP		
21...	<6	1.4

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded

475431099234100 151-068-08CAD

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
MAY 04...	1440	8.0	3,400	1,300	257	160	20.8	5	430d	41	291@c	63.0d	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water unfltrd ug/L (01002)
MAY 04...	16.5	1,670d	2,800	3,180	1.2	E.02n	<0.06	<0.008	0.07	0.09	0.4*d	<0.1*d	3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Barium, water, unfltrd recover-able, ug/L (01007)	Cadmium water, unfltrd ug/L (01027)	Chrom-ium, water, unfltrd recover-able, ug/L (01034)	Iron, water, fltrd, ug/L (01046)	Lead, water, unfltrd recover-able, ug/L (01051)	Mangan-ese, water, fltrd, ug/L (01056)	Selen-ium, water, unfltrd ug/L (01147)
MAY 04...	64d	0.11d	<0.8	14	<0.12d	63.7	1.4d

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
* -- Sample was warm when received
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475450099054800 PLAINVIEW LAKE

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
01...	1125	8.7	1,770	500	42.5	96.4	34.7	4	227	47	311	69.9d	<0.2
AUG													
31...	1350	8.6	1,640	500	52.3	90.6	31.8	4	193	44	335@c	58.6d	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Chl phy Phos-phorus, water, unfltrd mg/L (00665)	ph pl t flu u (70	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
OCT														
01...	40.9d	594d	1,290	1,340	4.1	<0.04	<0.06	<0.008	<0.02	0.19	62	62.6*d	<0.1*d	<6
AUG														
31...	42.7d	527d	1,200	1,240	3.4	<0.04	<0.06	<0.008	<0.02	0.17	E109d	E109d	<0.1d	E3n

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Mangan-ese, water, fltrd, ug/L (01056)
OCT	
01...	1.5
AUG	
31...	4.9

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
* -- Sample was warm when received
@-- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475501098491600 WL516411B

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
08...	1220	7.7	691	340	69.7c	41.0c	10.0c	0.7	30.7c	16	326	7.09c	0.4

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
OCT													
08...	29.6	15.2c	400	450	1.8	E.03n	<0.06	<0.008	<0.02	0.10	66.8d	<0.1d	67c

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Mangan-ese, water, fltrd, ug/L (01056)
OCT	
08...	143c

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475502098473300 GRAVES LAKE

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
06...	0920	8.9	1,070	350	15.6	74.8	30.2	3	132	43	592	20.3	0.2
SEP													
17...	1350	8.8	1,020	350	14.8	75.3	29.8	3	135	43	556@c	18.3	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
OCT													
06...	32.9	49.0	710	711	2.6	<0.04	<0.06	<0.008	<0.02	0.10	E36.0d	<0.1d	<6
SEP													
17...	31.6	45.8	684	681	2.0	<0.04	<0.06	<0.008	<0.02	0.08	E23.0d	E1.4d	9

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Mangan-ese, water, fltrd, ug/L (01056)
OCT	
06...	1.0
SEP	
17...	1.4

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@-- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded

475503098530200 WL516408

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
08...	1100	9.3	546	290	15.7	59.7	35.0	0.5	18.3	11	332	7.69	0.2
SEP													
20...	1205	8.4	575	310	26.6	58.5	31.5	0.4	16.6	9	330@c	6.54	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
OCT													
08...	24.2	3.2	363	399	3.6	<0.04	<0.06	<0.008	<0.02	0.12	56.3d	<0.1d	<6
SEP													
20...	20.0	4.3	363	403	3.6	<0.04	<0.06	<0.008	<0.02	0.16	E76.7d	<0.1d	<6

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Mangan-ese, water, fltrd, ug/L (01056)
OCT	
08...	1.4
SEP	
20...	2.0

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@-- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded

475505098513800 WL516409

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
08...	1135	8.1	488	230	30.7	37.8	28.4	0.3	11.3	8	260	6.01	0.2
SEP													
20...	1130	8.2	442	230	30.2	36.5	24.3	0.3	10.6	8	240@c	5.14	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)
OCT													
08...	34.5	1.9	308	347	4.9	0.70	0.05	0.08	0.023	4.2	E.01n	0.23	4.9
SEP													
20...	30.4	1.5	284	318	4.2	0.38	--	<0.06	0.017	3.8	<0.02	0.25	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT				
08...	35.1d	<0.1d	8	2.7
SEP				
20...	E56.1d	E3.7d	E4n	1.2

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475510098564000 151-065-11BAB

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
APR													
27...	1045	E7.6	437	240	67.7	17.2	4.76	0.5	17.0	13	--u	4.31	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water unfltrd ug/L (01002)	Barium, water, unfltrd recover-able, ug/L (01007)
APR													
27...	21.2	20.6	291	0.49	E.02n	<0.06	<0.008	<0.02	E.02n	2.3d	0.3d	E2nc	60c

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Cadmium water, unfltrd ug/L (01027)	Chrom-ium, water, unfltrd recover-able, ug/L (01034)	Iron, water, fltrd, ug/L (01046)	Lead, water, unfltrd recover-able, ug/L (01051)	Mangan-ese, water, fltrd, ug/L (01056)	Selen-ium, water, unfltrd ug/L (01147)
APR						
27...	<0.04c	<0.8c	42	<0.06c	83.2	<0.4c

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
u -- Unable to determine-matrix interference

475540098492200 151-064-02BCC

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
MAY													
05...	1110	8.0	593	280	55.8	34.9	12.3	0.7	28.3	17	300@c	8.39	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Arsenic water unfltrd ug/L (01002)
MAY													
05...	6.6	40.9	368	411	1.0	<0.04	<0.06	<0.008	E.02n	0.04	1.3*d	<0.2*d	5

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Barium, water, unfltrd recover-able, ug/L (01007)	Cadmium water, unfltrd ug/L (01027)	Chrom-ium, water, unfltrd recover-able, ug/L (01034)	Iron, water, fltrd, ug/L (01046)	Lead, water, unfltrd recover-able, ug/L (01051)	Mangan-ese, water, fltrd, ug/L (01056)	Selen-ium, water, unfltrd ug/L (01147)
MAY							
05...	65	<0.04	<0.8	49	<0.06	26.8	E.2n

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
* -- Sample was warm when received
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475600098454800 WL516306

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
07...	1435	8.4	8,300	2,000	127d	404d	92.8d	15	1,520d	61	452	573d	0.2
SEP													
17...	1435	8.6	7,880	1,900	146d	374d	87.2d	14	1,440d	61	455@c	507d	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)
OCT													
07...	8.3	4,030d	7,030	7,690	2.7	0.45	0.13	0.43	0.302	2.3	0.12	0.22	3.1
SEP													
17...	5.6	3,720d	6,550	6,680	2.9	<0.04	--	<0.06	0.008	--	0.08	0.27	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT				
07...	E6.8d	E.3	<32d	29.8d
SEP				
17...	E30.2d	<0.1d	<19d	222d

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded

475607098364600 EAST DEVILS LAKE NO. 7

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)
OCT													
17...	0945	8.6	5,540	1,200	81.9d	231d	134d	14	1,070d	64	436	441d	<0.2
MAR													
25...	1038	8.3	4,980	1,000	85.3d	193d	94.1d	12	842d	62	496@c	397d	0.2
SEP													
28...	1015	8.7	4,750	1,000	80.6d	203d	110d	12	911d	63	466@c	397d	<0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)
OCT													
17...	6.6	2,120d	4,350	4,430	3.1	0.24	0.10	0.13	0.027	2.9	0.17	0.26	3.3
MAR													
25...	13.0	1,890d	3,810	3,900	2.6	0.20	0.58	0.59	0.009	2.5	0.18	0.24	3.2
SEP													
28...	10.9	1,920d	3,910	3,960	2.7	0.06	--	E.06n	E.006n	2.6	0.23d	0.30	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Manganese, water, fltrd, ug/L (01056)	2,4-D methyl ester, water, fltrd, ug/L (50470)	2,4-D water, fltrd, ug/L (39732)	2,4-DB water, fltrd 0.7u GF ug/L (38746)	2,6-Diethylaniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	CEAT, water, fltrd, ug/L (04038)	OIET, water, fltrd, ug/L (50355)	3-Hydroxy carbofuran, wat flt 0.7u GF ug/L (49308)	3-Ketocarbofuran, water, fltrd, ug/L (50295)
OCT													
17...	0.8	<0.1	<19d	E2.3nd	--	--	--	--	--	--	--	--	--
MAR													
25...	<0.1*d	<0.1*d	28d	191d	--	--	--	--	--	--	--	--	--
SEP													
28...	E28.6d	<0.1d	21d	E2.2nd	<0.016	<0.07	<0.02mc	<0.006	E.008	<0.08mc	E.032mc	<0.008	<0.02mc

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Acetochlor, water, fltrd, ug/L (49260)	Acifluorfen, water, fltrd 0.7u GF ug/L (49315)	Alachlor, water, fltrd, ug/L (46342)	Aldicarb sulfone water, fltrd 0.7u GF ug/L (49313)	Aldicarb sulfoxide, wat flt 0.7u GF ug/L (49314)	Aldicarb, water, fltrd 0.7u GF ug/L (49312)	alpha-HCH, water, fltrd, ug/L (34253)	Atrazine, water, fltrd, ug/L (39632)	Azinphosmethyl, water, fltrd 0.7u GF ug/L (82686)	Bendiocarb, water, fltrd, ug/L (50299)	Benfluralin, water, fltrd 0.7u GF ug/L (82673)	Benomyl water, fltrd, ug/L (50300)	Bensulfuron, water, fltrd, ug/L (61693)
OCT													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
28...	<0.006	<0.028	<0.005	<0.02mnc	<0.022mc	<0.04mc	<0.005	0.026	<0.050	<0.02n	<0.010	<0.022	<0.02

475607098364600 EAST DEVILS LAKE NO. 7--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Bentazon, water, fltrd 0.7u GF ug/L (38711)	Butylate, water, fltrd, ug/L (04028)	Caffeine, water, fltrd, ug/L (50305)	Carbaryl, water, fltrd 0.7u GF ug/L (49310)	Carbaryl, water, fltrd 0.7u GF ug/L (82680)	Carbofuran, water, fltrd 0.7u GF ug/L (49309)	Carbofuran, water, fltrd 0.7u GF ug/L (82674)	Chloramben methyl ester, water, fltrd, ug/L (61188)	Chlorimuron, water, fltrd, ug/L (50306)	Chlorodiamino-s-triazine, wat flt ug/L (04039)	Chlorothalonil, water, fltrd 0.7u GF ug/L (49306)	Chlorpyrifos water, fltrd, ug/L (38933)	cis-Permethrin water fltrd 0.7u GF ug/L (82687)
OCT													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
28...	<0.05mc	<0.004	E.0730	<0.02n	<0.041	<0.016	<0.020	<0.02mc	<0.032	E.01mtc	<0.04mc	<0.005	<0.006

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Clopyralid, water, fltrd 0.7u GF ug/L (49305)	Cyanazine, water, fltrd, ug/L (04041)	Cycloate, water, fltrd, ug/L (04031)	Dacthal monoacid, water, fltrd 0.7u GF ug/L (49304)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazinon, water, fltrd, ug/L (39572)	Dicamba water fltrd 0.7u GF ug/L (38442)	Dichlorprop, water, fltrd 0.7u GF ug/L (49302)	Dieldrin, water, fltrd, ug/L (39381)	Dinoseb water, fltrd 0.7u GF ug/L (49301)	Diphenamid, water, fltrd, ug/L (04033)	Disulfoton, water, fltrd 0.7u GF ug/L (82677)	Diuron, water, fltrd 0.7u GF ug/L (49300)
OCT													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
28...	<0.02	<0.018	<0.01mc	<0.03	<0.003	<0.005	<0.04	<0.03	<0.009	<0.04	<0.01t	<0.02	<0.01n

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethalfluralin, water, fltrd 0.7u GF ug/L (82663)	Ethoprop, water, fltrd 0.7u GF ug/L (82672)	Fenuron water, fltrd 0.7u GF ug/L (49297)	Flumetsulam, water, fltrd, ug/L (61694)	Fluometuron water fltrd 0.7u GF ug/L (38811)	Fonofos water, fltrd, ug/L (04095)	Imazaquin, water, fltrd, ug/L (50356)	Imazethapyr, water, fltrd, ug/L (50407)	Imidacloprid water, fltrd, ug/L (61695)	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (38478)	Linuron water fltrd 0.7u GF ug/L (82666)
OCT													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
28...	<0.004	<0.009	<0.005	<0.02n	<0.04mc	<0.02n	<0.003	<0.04mc	<0.04mc	<0.020	<0.004	<0.01n	<0.035

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Malathion, water, fltrd, ug/L (39532)	MCPA, water, fltrd 0.7u GF ug/L (38482)	MCPB, water, fltrd 0.7u GF ug/L (38487)	Metalaxyl, water, fltrd, ug/L (50359)	Methiocarb, water, fltrd 0.7u GF ug/L (38501)	Methomyl, water, fltrd 0.7u GF ug/L (49296)	Methyl parathion, water, fltrd 0.7u GF ug/L (82667)	Metolachlor, water, fltrd, ug/L (39415)	Metribuzin, water, fltrd, ug/L (82630)	Metsulfuron, water, fltrd, ug/L (61697)	Molinate, water, fltrd 0.7u GF ug/L (82671)	N-(4-Chlorophenyl)-N-'methylurea, ug/L (61692)	Napropamide, water, fltrd 0.7u GF ug/L (82684)
OCT													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
28...	<0.027	<0.03	<0.01mnc	<0.01n	<0.010mc	<0.020mc	<0.015	<0.013	<0.006	<0.03mc	<0.003	<0.04	<0.007

475607098364600 EAST DEVILS LAKE NO. 7--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Neburon water, fltrd 0.7u GF ug/L (49294)	Nico-sul-furon, water, fltrd, ug/L (50364)	Norflur azon, water, fltrd 0.7u GF ug/L (49293)	Ory-zalin, water, fltrd 0.7u GF ug/L (49292)	Oxamyl, water, fltrd 0.7u GF ug/L (38866)	p,p-' DDE, water, fltrd, ug/L (34653)	Para-thion, water, fltrd, ug/L (39542)	Peb-ulate, water, fltrd 0.7u GF ug/L (82669)	Pendi-meth-alin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)	Pic-loram, water, fltrd 0.7u GF ug/L (49291)	Propy-zamide, water, fltrd 0.7u GF ug/L (82676)	Propa-chlor, water, fltrd, ug/L (04024)
OCT													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
28...	<0.01	<0.04	<0.02mc	<0.01n	<0.03	<0.003	<0.010	<0.004	<0.022	<0.011	<0.03	<0.004	<0.025

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Pro-panil, water, fltrd 0.7u GF ug/L (82679)	Propar-gite, water, fltrd 0.7u GF ug/L (82685)	Propham water fltrd 0.7u GF ug/L (49236)	Propi-cona-zole, water, fltrd, ug/L (50471)	Pro-poxur, water, fltrd 0.7u GF ug/L (38538)	Siduron water, fltrd, ug/L (38548)	Sima-zine, water, fltrd, ug/L (04035)	Sulfo-met-ruron, water, fltrd, ug/L (50337)	Tebu-thiuron water fltrd 0.7u GF ug/L (82670)	Terba-cil, water, fltrd 0.7u GF ug/L (82665)	Terba-cil, water, fltrd, ug/L (04032)	Terbu-fos, water, fltrd 0.7u GF ug/L (82675)	Thio-bencarb water fltrd 0.7u GF ug/L (82681)
OCT													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
28...	<0.011	<0.02	<0.030	<0.01t	<0.008	<0.02	<0.005	<0.038	<0.02	<0.034	<0.016mc	<0.02	<0.010

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Tri-allate, water, fltrd 0.7u GF ug/L (82678)	Tri-benuron water, fltrd, ug/L (61159)	Tri-clopyr, water, fltrd 0.7u GF ug/L (49235)	Tri-flur-alin, water, fltrd 0.7u GF ug/L (82661)
OCT				
17...	--	--	--	--
MAR				
25...	--	--	--	--
SEP				
28...	<0.002	--u	<0.03	<0.009

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
* -- Sample was warm when received
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
m -- Value is highly variable by this method
n -- Below the LRL and above the LT-MDL
t -- Below the long-term MDL

Null value qualifier codes used in this table:
u -- Unable to determine-matrix interference

475635098523600 WL526432

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
07...	1245	9.0	2,050	260	19.0	52.8	80.2d	9	352	68	744	82.4d	0.2
SEP													
20...	1055	8.7	1,950	270	21.1	53.1	75.7d	10	364	68	704@c	74.7d	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)
OCT													
07...	22.8	289d	1,350	1,440	4.2	0.25	E.06n	0.031	4.0	<0.02	0.14	E24.6d	<0.1d
SEP													
20...	20.1	267d	1,300	1,360	3.7	E.03n	<0.06	<0.008	--	<0.02	0.21	E31.6d	<0.1d

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT		
07...	15	6.7
SEP		
20...	10	4.8

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475645098473000 SPRING LAKE

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
07...	1340	8.6	2,650	620	57.9d	116d	52.7d	6	366d	54	498	155d	0.2
SEP													
17...	1320	8.6	2,530	670	68.6	120	53.4d	6	383	53	494@c	143d	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
OCT													
07...	23.6	806d	1,880	1,980	2.3	E.02n	<0.06	E.004n	0.05	0.16	E5.3d	<0.1d	<19d
SEP													
17...	26.3	732d	1,820	1,900	2.0	<0.04	<0.06	<0.008	0.14	0.23	E10.5d	<0.1d	E6n

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Mangan-ese, water, fltrd, ug/L (01056)
OCT	
07...	11.9d
SEP	
17...	3.1

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@-- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475655099063500 WL526633

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
07...	1135	8.5	1,540	530	70.7	85.9	18.3	3	155	38	304	47.3	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
OCT													
07...	28.2	510d	1,100	1,180	2.5	E.02n	<0.06	<0.008	<0.02	0.09	E12.1d	E.4d	E5n

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Mangan-ese, water, fltrd, ug/L (01056)
OCT	
07...	3.2

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475719098480900 BLACK TIGER BAY NO. 6

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
17...	1100	8.7	3,180	750	82.4d	132d	74.6d	8	533d	58	423	219d	0.2
MAR													
25...	1130	8.6	2,710	620	66.5d	109d	55.7d	8	434d	58	374@c	204d	<0.2
SEP													
28...	1110	8.7	2,890	680	77.1d	117d	63.9d	8	455d	57	409@c	207d	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)
OCT													
17...	7.6	1,070d	2,370	2,410	2.0	E.02n	<0.06	<0.008	--	0.17	0.27	--	7.7d
MAR													
25...	8.3	980d	2,080	2,110	2.0	0.09	0.19	E.004n	1.9	0.19	0.29	2.2	0.6*d
SEP													
28...	2.8	1,010d	2,180	2,260	1.9	<0.04	<0.06	<0.008	--	0.23d	0.30	--	E6.2d

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)	2,4-D methyl ester, water, fltrd, ug/L (50470)	2,4-D water, fltrd, ug/L (39732)	2,4-DB water, fltrd 0.7u GF ug/L (38746)	2,6-Di-ethyl-aniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	CEAT, water, fltrd, ug/L (04038)	OIET, water, fltrd, ug/L (50355)	3-Hydroxy carbo-furan, wat flt 0.7u GF ug/L (49308)	3-Keto-carbo-furan, water, fltrd, ug/L (50295)	Aceto-chlor, water, fltrd, ug/L (49260)
OCT													
17...	<0.1d	<19d	E2.3nd	--	--	--	--	--	--	--	--	--	--
MAR													
25...	E.2*d	E11nd	5.0d	--	--	--	--	--	--	--	--	--	--
SEP													
28...	<0.1d	<19d	2.5d	<0.016	<0.04	<0.02mc	<0.006	E.009	<0.08mc	E.028mc	<0.008	<0.02mc	<0.006

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Aci-fluor-fen, water, fltrd 0.7u GF ug/L (49315)	Ala-chlor, water, fltrd, ug/L (46342)	Aldi-carb sulfone water, fltrd 0.7u GF ug/L (49313)	Aldi-carb sulf-oxide, wat flt 0.7u GF ug/L (49314)	Aldi-carb, water, fltrd 0.7u GF ug/L (49312)	alpha-HCH, water, fltrd, ug/L (34253)	Atra-zine, water, fltrd, ug/L (39632)	Azin-phos-methyl, water, fltrd 0.7u GF ug/L (82686)	Bendio-carb, water, fltrd, ug/L (50299)	Ben-flur-alin, water, fltrd 0.7u GF ug/L (82673)	Benomyl water, fltrd, ug/L (50300)	Bensul-furon, water, fltrd, ug/L (61693)	Ben-tazon, water, fltrd 0.7u GF ug/L (38711)
OCT													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
28...	<0.028	<0.005	<0.02mnc	<0.022mc	<0.04mc	<0.005	0.028	<0.050	<0.02n	<0.010	<0.022	<0.02	<0.01mc

475719098480900 BLACK TIGER BAY NO. 6--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Butylate, water, fltrd, ug/L (04028)	Caffeine, water, fltrd, ug/L (50305)	Carbaryl, water, fltrd 0.7u GF ug/L (49310)	Carbaryl, water, fltrd 0.7u GF ug/L (82680)	Carbofuran, water, fltrd 0.7u GF ug/L (49309)	Carbofuran, water, fltrd 0.7u GF ug/L (82674)	Chloramben methyl ester, water, fltrd, ug/L (61188)	Chlorimuron, water, fltrd, ug/L (50306)	Chlorodiamino-s-triazine, wat flt ug/L (04039)	Chlorothalonil, water, fltrd 0.7u GF ug/L (49306)	Chlorpyrifos water, fltrd, ug/L (38933)	cis-Permethrin water fltrd 0.7u GF ug/L (82687)	Clopyralid, water, fltrd 0.7u GF ug/L (49305)
OCT													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
28...	<0.004	0.0975	<0.02n	<0.041	<0.016	<0.020	<0.02mc	<0.032	E.01mtc	<0.04mc	<0.005	<0.006	<0.02

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Cyanazine, water, fltrd, ug/L (04041)	Cyclo-ate, water, fltrd, ug/L (04031)	Dacthal mono-acid, water, fltrd 0.7u GF ug/L (49304)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazinon, water, fltrd, ug/L (39572)	Dicamba water fltrd 0.7u GF ug/L (38442)	Dichlorprop, water, fltrd 0.7u GF ug/L (49302)	Dieldrin, water, fltrd, ug/L (39381)	Dinoseb water, fltrd 0.7u GF ug/L (49301)	Diphenamid, water, fltrd, ug/L (04033)	Disulfoton, water, fltrd 0.7u GF ug/L (82677)	Diuron, water, fltrd 0.7u GF ug/L (49300)	EPTC, water, fltrd 0.7u GF ug/L (82668)
OCT													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
28...	<0.018	<0.01mc	<0.03	<0.003	<0.005	<0.04	<0.03	<0.009	<0.04	<0.01t	<0.02	<0.01n	<0.004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Ethalfluralin, water, fltrd 0.7u GF ug/L (82663)	Ethoprop, water, fltrd 0.7u GF ug/L (82672)	Fenuron water, fltrd 0.7u GF ug/L (49297)	Flumetsulam, water, fltrd, ug/L (61694)	Fluometuron water fltrd 0.7u GF ug/L (38811)	Fonofos water, fltrd, ug/L (04095)	Imazaquin, water, fltrd, ug/L (50356)	Imazethapyr, water, fltrd, ug/L (50407)	Imidacloprid water, fltrd, ug/L (61695)	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (38478)	Linuron water fltrd 0.7u GF ug/L (82666)	Malathion, water, fltrd, ug/L (39532)
OCT													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
28...	<0.009	<0.005	<0.02n	<0.04mc	<0.02n	<0.003	<0.04mc	<0.04mc	<0.020	<0.004	<0.01n	<0.035	<0.027

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	MCPA, water, fltrd 0.7u GF ug/L (38482)	MCPB, water, fltrd 0.7u GF ug/L (38487)	Metalaxyl, water, fltrd, ug/L (50359)	Methiocarb, water, fltrd 0.7u GF ug/L (38501)	Methomyl, water, fltrd 0.7u GF ug/L (49296)	Methyl parathion, water, fltrd 0.7u GF ug/L (82667)	Metolachlor, water, fltrd, ug/L (39415)	Metribuzin, water, fltrd, ug/L (82630)	Metsulfuron, water, fltrd, ug/L (61697)	Molinate, water, fltrd 0.7u GF ug/L (82671)	N-(4-Chlorophenyl)-N-'methylurea, ug/L (61692)	Napropamide, water, fltrd 0.7u GF ug/L (82684)	Neburon water, fltrd 0.7u GF ug/L (49294)
OCT													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
28...	<0.03	<0.01mnc	<0.01n	<0.010mc	<0.020mc	<0.015	<0.013	<0.006	<0.03mc	<0.003	<0.04	<0.007	<0.01

475719098480900 BLACK TIGER BAY NO. 6--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Nicosulfuron, water, fltrd, ug/L (50364)	Norflurazon, water, fltrd 0.7u GF ug/L (49293)	Oryzalin, water, fltrd 0.7u GF ug/L (49292)	Oxamyl, water, fltrd 0.7u GF ug/L (38866)	p,p-' DDE, water, fltrd, ug/L (34653)	Parathion, water, fltrd, ug/L (39542)	Pebulate, water, fltrd 0.7u GF ug/L (82669)	Pendimethalin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)	Picloram, water, fltrd 0.7u GF ug/L (49291)	Propyzamide, water, fltrd 0.7u GF ug/L (82676)	Propachlor, water, fltrd, ug/L (04024)	Propanil, water, fltrd 0.7u GF ug/L (82679)
OCT													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
28...	<0.04	<0.02mc	<0.01n	<0.03	<0.003	<0.010	<0.004	<0.022	<0.011	<0.03	<0.004	<0.025	<0.011

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Propargite, water, fltrd 0.7u GF ug/L (82685)	Propham water fltrd 0.7u GF ug/L (49236)	Propiconazole, water, fltrd, ug/L (50471)	Propoxur, water, fltrd 0.7u GF ug/L (38538)	Siduron water, fltrd, ug/L (38548)	Simazine, water, fltrd, ug/L (04035)	Sulfometruron, water, fltrd, ug/L (50337)	Tebuthiuron water fltrd 0.7u GF ug/L (82670)	Terbacil, water, fltrd 0.7u GF ug/L (82665)	Terbacil, water, fltrd, ug/L (04032)	Terbufos, water, fltrd 0.7u GF ug/L (82675)	Thiobencarb water fltrd 0.7u GF ug/L (82681)	Triallate, water, fltrd 0.7u GF ug/L (82678)
OCT													
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
28...	<0.02	<0.030	<0.01t	<0.008	<0.02	<0.005	<0.038	<0.02	<0.034	<0.016mc	<0.02	<0.010	<0.002

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Tribenuron water, fltrd, ug/L (61159)	Triclopyr, water, fltrd 0.7u GF ug/L (49235)	Trifluralin, water, fltrd 0.7u GF ug/L (82661)
OCT			
17...	--	--	--
MAR			
25...	--	--	--
SEP			
28...	--u	<0.03	<0.009

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
* -- Sample was warm when received
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
m -- Value is highly variable by this method
n -- Below the LRL and above the LT-MDL
t -- Below the long-term MDL

Null value qualifier codes used in this table:
u -- Unable to determine-matrix interference

475751098513400 WL526421

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
01...	1400	9.0	3,280	950	18.0d	219d	64.7d	7	497d	51	694	92.5d	0.3
SEP													
17...	1125	8.5	3,210	1,000	43.1	216d	62.1d	6	443d	47	633@c	80.0d	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)
OCT													
01...	18.8	1,280d	2,600	2,710	3.2	<0.04	--	<0.06	<0.008	--	<0.02	0.06	--
SEP													
17...	24.0	1,180d	2,440	2,540	4.7	2.05d	0.09	0.27	0.185	2.7	<0.02	0.09	5.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT				
01...	14.0*d	<0.1	<19d	3.4d
SEP				
17...	E18.9d	E.7d	<6	1.4

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
* -- Sample was warm when received
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded

475756099092800 WL526724

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
01...	0930	8.4	1,890	770	105	123	31.2	3	169	31	269	39.4d	0.2
AUG													
31...	1150	8.4	1,650	650	90.0	104	27.2	2	139	31	244@c	32.2d	<0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
OCT													
01...	43.7d	799d	1,470	1,580	3.4	<0.04	<0.06	<0.008	<0.02	0.15	15.9*d	<0.1	E3n
AUG													
31...	37.7	670d	1,250	1,330	2.8	<0.04	<0.06	<0.008	<0.02	0.14	74.6d	<0.1d	<6

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Mangan-ese, water, fltrd, ug/L (01056)
OCT	
01...	5.5
AUG	
31...	1.7

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
* -- Sample was warm when received
@-- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475800099053700 TWIN LAKES

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
01...	1300	8.6	1,580	560	57.7c	101c	29.1c	3	174c	39	359	53.5c	0.2
AUG													
31...	1430	8.6	1,470	500	49.8	90.5	26.2	3	159	39	362@c	48.6	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
OCT													
01...	42.5d	463dc	1,140	1,210	4.2	<0.04	<0.06	<0.008	<0.02	0.31	77.5*d	<0.1*d	E4nc
AUG													
31...	34.8	432d	1,060	1,100	3.0	E.03n	<0.06	<0.008	<0.02	0.19	E84.6d	<0.1d	<6

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Mangan-ese, water, fltrd, ug/L (01056)
OCT	
01...	2.3c
AUG	
31...	11.3

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
* -- Sample was warm when received
@-- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475817098480800 WL526423

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
SEP													
17...	1230	8.4	7,130	1,600	141d	293d	108d	14	1,290d	62	443@c	462d	<0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)
SEP													
17...	16.3	3,160d	5,740	5,760	3.4	0.58	0.03	0.06	0.029	2.8	0.17	0.27	3.5

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
SEP				
17...	E3.8d	E.1d	<19d	586d

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded

475824098502500 WL526422

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
01...	1500	8.8	7,930	1,900	80.4d	421d	133d	14	1,450d	60	520	583d	<0.2
SEP													
03...	1405	8.7	6,740	1,700	94.5d	362d	120d	13	1,260d	59	505@c	471d	<0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)
OCT													
01...	1.5	3,760d	6,750	7,230	3.5	<0.04	--	<0.06	<0.008	--	<0.02	0.14	--
SEP													
03...	18.3	3,040d	5,660	5,850	3.6	0.56	0.02	0.08	0.060	3.0	0.16	0.29	3.6

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT				
01...	12.4*d	<0.1*d	<32d	7.1d
SEP				
03...	27.9d	0.9d	<19d	4.6d

Remark codes used in this table:
< -- Less than

Value qualifier codes used in this table:
* -- Sample was warm when received
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded

475824099102200 WL526619

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
07...	1050	8.7	7,460	2,300	175d	451d	104d	11	1,220d	52	429	379d	<0.2
AUG													
31...	1235	8.7	7,020	2,200	167d	432d	92.6d	10	1,110d	51	400@c	341d	<0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)
OCT													
07...	6.7	4,110d	6,710	7,410	3.0	E.03n	<0.06	E.004n	--	0.03	0.17	E13.5d	<0.1d
AUG													
31...	1.0	3,650d	6,040	6,460	2.7	0.04	<0.06	<0.008	2.6	0.16	0.25	4.4d	<0.1d

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT		
07...	<32d	E2.4nd
AUG		
31...	E105nd	E15.1nd

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

475928099004400 WL526517

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
AUG 31...	1525	8.3	1,470	560	66.7	94.5	16.4	2	135	34	273@c	41.1	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
AUG 31...	22.5	520d	1,060	1,140	2.6	<0.04	<0.06	<0.008	<0.02	0.15	56.8d	<0.1d	<6

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Mangan-ese, water, fltrd, ug/L (01056)
AUG 31...	2.6

Remark codes used in this table:
< -- Less than

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded

475946099084500 WL526608

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
07...	0945	8.6	2,830	790	100d	130d	33.6d	6	388d	50	401	133d	0.2
AUG													
31...	1100	8.7	2,500	700	83.4d	120d	29.8d	6	354d	51	359@c	115d	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
OCT													
07...	35.9	1,100d	2,160	2,290	2.7	E.02n	<0.06	<0.008	0.15	0.29	E11.5	E.6	E11nd
AUG													
31...	24.5	962d	1,900	2,000	2.7	E.02n	<0.06	<0.008	0.13	0.26	1.1d	E.2d	<19d

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Mangan-ese, water, fltrd, ug/L (01056)
OCT	
07...	2.5d
AUG	
31...	14.4d

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@-- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

480028099074500 WEST BAY

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
16...	1130	8.7	2,230	550	75.4d	87.4d	47.1d	5	296d	51	235	133d	0.2
MAR													
26...	1000	8.4	1,650	430	59.7	68.2	32.6	5	226	51	289@c	99.0d	<0.2
SEP													
01...	1347	8.7	1,970	530	75.7	81.8	42.2	5	269	50	355@c	119d	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)
OCT													
16...	3.8	666d	1,450	1,630	1.6	E.03n	E.03n	0.008	--	0.27	0.34	--	13.7d
MAR													
26...	3.6	517d	1,180	1,220	1.5	0.12	0.20	<0.008	1.4	0.15	0.22	1.7	E.2*d
SEP													
01...	10.8	605d	1,420	1,470	1.6	<0.04	<0.06	<0.008	--	0.25	0.32	--	31.9d

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)	2,4-D methyl ester, water, fltrd, ug/L (50470)	2,4-D water, fltrd, ug/L (39732)	2,4-DB water, fltrd 0.7u GF ug/L (38746)	2,6-Di-ethyl-aniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	CEAT, water, fltrd, ug/L (04038)	OIET, water, fltrd, ug/L (50355)	3-Hydroxy carbo-furan, wat flt 0.7u GF ug/L (49308)	3-Keto-carbo-furan, water, fltrd, ug/L (50295)	Aceto-chlor, water, fltrd, ug/L (49260)
OCT													
16...	<0.1d	<19d	<2.4d	--	--	--	--	--	--	--	--	--	--
MAR													
26...	E.1*d	7	148	--	--	--	--	--	--	--	--	--	--
SEP													
01...	<0.1d	9	7.7	<0.009	<0.10	<0.02mc	<0.006	E.009	<0.01mc	E.021mc	<0.006	<0.014mc	<0.006

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Aci-fluor-fen, water, fltrd 0.7u GF ug/L (49315)	Ala-chlor, water, fltrd, ug/L (46342)	Aldi-carb sulfone water, fltrd 0.7u GF ug/L (49313)	Aldi-carb sulf-oxide, wat flt 0.7u GF ug/L (49314)	Aldi-carb, water, fltrd 0.7u GF ug/L (49312)	alpha-HCH, water, fltrd, ug/L (34253)	Atra-zine, water, fltrd, ug/L (39632)	Azin-phos-methyl, water, fltrd 0.7u GF ug/L (82686)	Bendio-carb, water, fltrd, ug/L (50299)	Ben-flur-alin, water, fltrd 0.7u GF ug/L (82673)	Benomyl water, fltrd, ug/L (50300)	Bensul-furon, water, fltrd, ug/L (61693)	Ben-tazon, water, fltrd 0.7u GF ug/L (38711)
OCT													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	<0.007	<0.005	<0.02mc	<0.008mc	<0.04mc	<0.005	0.032	<0.050	<0.03	<0.010	<0.004	<0.02	E.02mc

480028099074500 WEST BAY--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Butylate, water, fltrd, ug/L (04028)	Caffeine, water, fltrd, ug/L (50305)	Carbaryl, water, fltrd 0.7u GF ug/L (49310)	Carbaryl, water, fltrd 0.7u GF ug/L (82680)	Carbofuran, water, fltrd 0.7u GF ug/L (49309)	Carbofuran, water, fltrd 0.7u GF ug/L (82674)	Chloramben methyl ester, water, fltrd, ug/L (61188)	Chlorimuron, water, fltrd, ug/L (50306)	Chlorodiamino-s-triazine, wat flt ug/L (04039)	Chlorothalonil, water, fltrd 0.7u GF ug/L (49306)	Chlorpyrifos water, fltrd, ug/L (38933)	cis-Permethrin water fltrd 0.7u GF ug/L (82687)	Clopyralid, water, fltrd 0.7u GF ug/L (49305)
OCT													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	<0.004	E.0646	<0.03	<0.041	<0.006	<0.020	<0.02mc	<0.010	<0.04mnc	<0.04mc	<0.005	<0.006	<0.07

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Cyanazine, water, fltrd, ug/L (04041)	Cycloate, water, fltrd, ug/L (04031)	Dacthal monoacid, water, fltrd 0.7u GF ug/L (49304)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazinon, water, fltrd, ug/L (39572)	Dicamba water fltrd 0.7u GF ug/L (38442)	Dichlorprop, water, fltrd 0.7u GF ug/L (49302)	Dieldrin, water, fltrd, ug/L (39381)	Dinoseb water, fltrd 0.7u GF ug/L (49301)	Diphenamid, water, fltrd, ug/L (04033)	Disulfoton, water, fltrd 0.7u GF ug/L (82677)	Diuron, water, fltrd 0.7u GF ug/L (49300)	EPTC, water, fltrd 0.7u GF ug/L (82668)
OCT													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	<0.018	<0.01mc	<0.01	<0.003	<0.005	<0.01	<0.01	<0.009	<0.01	<0.03	<0.02	<0.01	<0.004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Ethalfluralin, water, fltrd 0.7u GF ug/L (82663)	Ethoprop, water, fltrd 0.7u GF ug/L (82672)	Fenuron water, fltrd 0.7u GF ug/L (49297)	Flumetsulam, water, fltrd, ug/L (61694)	Fluometuron water fltrd 0.7u GF ug/L (38811)	Fonofos water, fltrd, ug/L (04095)	Imazaquin, water, fltrd, ug/L (50356)	Imazethapyr, water, fltrd, ug/L (50407)	Imidacloprid water, fltrd, ug/L (61695)	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (38478)	Linuron water fltrd 0.7u GF ug/L (82666)	Malathion, water, fltrd, ug/L (39532)
OCT													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	<0.009	<0.005	<0.03	<0.01mc	<0.03	<0.003	<0.02mc	<0.02mc	<0.007	<0.004	<0.01	<0.035	<0.027

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	MCPA, water, fltrd 0.7u GF ug/L (38482)	MCPB, water, fltrd 0.7u GF ug/L (38487)	Metalaxyl, water, fltrd, ug/L (50359)	Methiocarb, water, fltrd 0.7u GF ug/L (38501)	Methomyl, water, fltrd 0.7u GF ug/L (49296)	Methyl parathion, water, fltrd 0.7u GF ug/L (82667)	Metolachlor, water, fltrd, ug/L (39415)	Metribuzin, water, fltrd, ug/L (82630)	Metsulfuron, water, fltrd, ug/L (61697)	Molinate, water, fltrd 0.7u GF ug/L (82671)	N-(4-Chlorophenyl)-N-'methylurea, ug/L (61692)	Napropamide, water, fltrd 0.7u GF ug/L (82684)	Neburon water, fltrd 0.7u GF ug/L (49294)
OCT													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	<0.10	<0.01mc	<0.02	<0.008mc	<0.004mc	<0.015	<0.013	<0.006	<0.03mc	<0.003	<0.02	<0.007	<0.01

480028099074500 WEST BAY--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Nicosulfuron, water, fltrd, ug/L (50364)	Norflurazon, water, fltrd 0.7u GF ug/L (49293)	Oryzalin, water, fltrd 0.7u GF ug/L (49292)	Oxamyl, water, fltrd 0.7u GF ug/L (38866)	p,p-' DDE, water, fltrd, ug/L (34653)	Parathion, water, fltrd, ug/L (39542)	Pebulate, water, fltrd 0.7u GF ug/L (82669)	Pendimethalin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)	Picloram, water, fltrd 0.7u GF ug/L (49291)	Propyzamide, water, fltrd 0.7u GF ug/L (82676)	Propachlor, water, fltrd, ug/L (04024)	Propanil, water, fltrd 0.7u GF ug/L (82679)
OCT													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	<0.01	<0.02mc	<0.02	<0.01	<0.003	<0.010	<0.004	<0.022	<0.011	<0.02	<0.004	<0.025	<0.011

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Propargite, water, fltrd 0.7u GF ug/L (82685)	Propham water fltrd 0.7u GF ug/L (49236)	Propiconazole, water, fltrd, ug/L (50471)	Propoxur, water, fltrd 0.7u GF ug/L (38538)	Siduron water, fltrd, ug/L (38548)	Simazine, water, fltrd, ug/L (04035)	Sulfometruron, water, fltrd, ug/L (50337)	Tebuthiuron water fltrd 0.7u GF ug/L (82670)	Terbacil, water, fltrd 0.7u GF ug/L (82665)	Terbacil, water, fltrd, ug/L (04032)	Terbufos, water, fltrd 0.7u GF ug/L (82675)	Thiobencarb water fltrd 0.7u GF ug/L (82681)	Triallate, water, fltrd 0.7u GF ug/L (82678)
OCT													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	<0.02	<0.010	<0.02	<0.008	<0.02	<0.005	<0.009	<0.02	<0.034	<0.010mc	<0.02	<0.010	<0.002

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Tribenuron water, fltrd, ug/L (61159)	Triclopyr, water, fltrd 0.7u GF ug/L (49235)	Trifluralin, water, fltrd 0.7u GF ug/L (82661)
OCT			
16...	--	--	--
MAR			
26...	--	--	--
SEP			
01...	--u	<0.02	<0.009

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
* -- Sample was warm when received
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
m -- Value is highly variable by this method
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
u -- Unable to determine-matrix interference

480106098595500 WEST BAY-FORT TOTTEN

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)
OCT													
18...	1400	8.6	2,110	580	83.0dc	91.2d	46.0d	5	298d	50	371	127d	0.2
MAR													
25...	1400	7.9	162	38	5.22	5.94	2.39	1	17.8	49	20@c	7.05dc	<0.2
SEP													
01...	1245	8.7	2,070	530	75.8	83.4	44.1	5	284	51	353@c	126d	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)
OCT													
18...	4.1	636d	1,510	1,550	1.8	<0.04	<0.06	<0.008	--	0.17	0.27	--	4.3
MAR													
25...	<0.2	38.5dc	91	98	0.59	0.39	0.43	<0.008	0.21	E.01n	0.04	1.0	E.1*d
SEP													
01...	5.5	630d	1,460	1,510	1.6	<0.04	E.03n	0.009	--	0.27	0.34	--	12.7d

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Manganese, water, fltrd, ug/L (01056)	2,4-D methyl ester, water, fltrd, ug/L (50470)	2,4-D water, fltrd, ug/L (39732)	2,4-DB water, fltrd 0.7u GF ug/L (38746)	2,6-Diethylaniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	CEAT, water, fltrd, ug/L (04038)	OIET, water, fltrd, ug/L (50355)	3-Hydroxy carbofuran, wat flt 0.7u GF ug/L (49308)	3-Ketocarbofuran, water, fltrd, ug/L (50295)	Acetochlor, water, fltrd, ug/L (49260)
OCT													
18...	<0.1	30d	5.9dc	--	--	--	--	--	--	--	--	--	--
MAR													
25...	<0.1*d	11	14.8	--	--	--	--	--	--	--	--	--	--
SEP													
01...	E.1d	<6	2.6	<0.009	<0.11	<0.02mc	<0.006	E.009	<0.01mc	E.021mc	<0.006	<0.014mc	<0.006

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Acifluorfen, water, fltrd 0.7u GF ug/L (49315)	Alachlor, water, fltrd, ug/L (46342)	Aldicarb sulfone water, fltrd 0.7u GF ug/L (49313)	Aldicarb sulfoxide, wat flt 0.7u GF ug/L (49314)	Aldicarb, water, fltrd 0.7u GF ug/L (49312)	alpha-HCH, water, fltrd, ug/L (34253)	Atrazine, water, fltrd, ug/L (39632)	Azinphosmethyl, water, fltrd 0.7u GF ug/L (82686)	Bendiocarb, water, fltrd, ug/L (50299)	Benfluralin, water, fltrd 0.7u GF ug/L (82673)	Benomyl water, fltrd, ug/L (50300)	Bensulfuron, water, fltrd, ug/L (61693)	Bentazon, water, fltrd 0.7u GF ug/L (38711)
OCT													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	<0.007	<0.005	<0.02mc	<0.008mc	<0.04mc	<0.005	0.034	<0.050	<0.03	<0.010	<0.004	<0.02	E.02mc

480106098595500 WEST BAY-FORT TOTTEN--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Butylate, water, fltrd, ug/L (04028)	Caffeine, water, fltrd, ug/L (50305)	Carbaryl, water, fltrd 0.7u GF ug/L (49310)	Carbaryl, water, fltrd 0.7u GF ug/L (82680)	Carbofuran, water, fltrd 0.7u GF ug/L (49309)	Carbofuran, water, fltrd 0.7u GF ug/L (82674)	Chloramben methyl ester, water, fltrd, ug/L (61188)	Chlorimuron, water, fltrd, ug/L (50306)	Chlorodiamino-s-triazine, wat flt ug/L (04039)	Chlorothalonil, water, fltrd 0.7u GF ug/L (49306)	Chlorpyrifos water, fltrd, ug/L (38933)	cis-Permethrin water fltrd 0.7u GF ug/L (82687)	Clopyralid, water, fltrd 0.7u GF ug/L (49305)
OCT													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	<0.004	0.0864	<0.03	<0.041	<0.006	<0.020	<0.02mc	<0.010	<0.04mnc	<0.04mc	<0.005	<0.006	<0.04

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Cyanazine, water, fltrd, ug/L (04041)	Cyclo-ate, water, fltrd, ug/L (04031)	Dacthal mono-acid, water, fltrd 0.7u GF ug/L (49304)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazinon, water, fltrd, ug/L (39572)	Dicamba water fltrd 0.7u GF ug/L (38442)	Dichlorprop, water, fltrd 0.7u GF ug/L (49302)	Dieldrin, water, fltrd, ug/L (39381)	Dinoseb water, fltrd 0.7u GF ug/L (49301)	Diphenamid, water, fltrd, ug/L (04033)	Disulfoton, water, fltrd 0.7u GF ug/L (82677)	Diuron, water, fltrd 0.7u GF ug/L (49300)	EPTC, water, fltrd 0.7u GF ug/L (82668)
OCT													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	<0.018	<0.01mc	<0.01	<0.003	<0.005	<0.01	<0.01	<0.009	<0.01	<0.03	<0.02	<0.01	<0.004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Ethalfluralin, water, fltrd 0.7u GF ug/L (82663)	Ethoprop, water, fltrd 0.7u GF ug/L (82672)	Fenuron water, fltrd 0.7u GF ug/L (49297)	Flumetsulam, water, fltrd, ug/L (61694)	Fluometuron water fltrd 0.7u GF ug/L (38811)	Fonofos water, fltrd, ug/L (04095)	Imazaquin, water, fltrd, ug/L (50356)	Imazethapyr, water, fltrd, ug/L (50407)	Imidacloprid water, fltrd, ug/L (61695)	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (38478)	Linuron water fltrd 0.7u GF ug/L (82666)	Malathion, water, fltrd, ug/L (39532)
OCT													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	<0.009	<0.005	<0.03	<0.01mc	<0.03	<0.003	<0.02mc	<0.02mc	<0.007	<0.004	<0.01	<0.035	<0.027

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	MCPA, water, fltrd 0.7u GF ug/L (38482)	MCPB, water, fltrd 0.7u GF ug/L (38487)	Metalaxyl, water, fltrd, ug/L (50359)	Methiocarb, water, fltrd 0.7u GF ug/L (38501)	Methomyl, water, fltrd 0.7u GF ug/L (49296)	Methyl parathion, water, fltrd 0.7u GF ug/L (82667)	Metolachlor, water, fltrd, ug/L (39415)	Metribuzin, water, fltrd, ug/L (82630)	Metsulfuron, water, fltrd, ug/L (61697)	Molinate, water, fltrd 0.7u GF ug/L (82671)	N-(4-Chlorophenyl)-N-'methylurea, ug/L (61692)	Napropamide, water, fltrd 0.7u GF ug/L (82684)	Neburon water, fltrd 0.7u GF ug/L (49294)
OCT													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	<0.10	<0.01mc	<0.02	<0.008mc	<0.004mc	<0.015	<0.013	<0.006	<0.03mc	<0.003	<0.02	<0.007	<0.01

480106098595500 WEST BAY-FORT TOTTEN--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Nicosulfuron, water, fltrd, ug/L (50364)	Norflurazon, water, fltrd 0.7u GF ug/L (49293)	Oryzalin, water, fltrd 0.7u GF ug/L (49292)	Oxamyl, water, fltrd 0.7u GF ug/L (38866)	p,p-' DDE, water, fltrd, ug/L (34653)	Parathion, water, fltrd, ug/L (39542)	Pebulate, water, fltrd 0.7u GF ug/L (82669)	Pendimethalin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)	Picloram, water, fltrd 0.7u GF ug/L (49291)	Propyzamide, water, fltrd 0.7u GF ug/L (82676)	Propachlor, water, fltrd, ug/L (04024)	Propanil, water, fltrd 0.7u GF ug/L (82679)
OCT													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	<0.01	<0.02mc	<0.02	<0.01	<0.003	<0.010	<0.004	<0.022	<0.011	<0.02	<0.004	<0.025	<0.011

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Propargite, water, fltrd 0.7u GF ug/L (82685)	Propham water fltrd 0.7u GF ug/L (49236)	Propiconazole, water, fltrd, ug/L (50471)	Propoxur, water, fltrd 0.7u GF ug/L (38538)	Siduron water, fltrd, ug/L (38548)	Simazine, water, fltrd, ug/L (04035)	Sulfometruron, water, fltrd, ug/L (50337)	Tebuthiuron water fltrd 0.7u GF ug/L (82670)	Terbacil, water, fltrd 0.7u GF ug/L (82665)	Terbacil, water, fltrd, ug/L (04032)	Terbufos, water, fltrd 0.7u GF ug/L (82675)	Thiobencarb water fltrd 0.7u GF ug/L (82681)	Triallate, water, fltrd 0.7u GF ug/L (82678)
OCT													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
25...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	<0.02	<0.010	<0.02	<0.008	<0.02	<0.005	<0.009	<0.02	<0.034	<0.010mc	<0.02	<0.010	<0.002

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Tribenuron water, fltrd, ug/L (61159)	Triclopyr, water, fltrd 0.7u GF ug/L (49235)	Trifluralin, water, fltrd 0.7u GF ug/L (82661)
OCT			
18...	--	--	--
MAR			
25...	--	--	--
SEP			
01...	--u	<0.02	<0.009

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
* -- Sample was warm when received
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
m -- Value is highly variable by this method
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
u -- Unable to determine-matrix interference

480112098545200 WEST BAY-CASINO

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)
OCT													
18...	1800	8.6	2,130	620	88.3dc	97.1dc	49.7dc	6	317dc	50	371	126d	0.2
MAR													
24...	1125	8.7	2,340	590	80.0d	93.6d	44.9d	6	321d	52	373@c	148d	0.2
JUL													
21...	1326	8.7	2,110	550	78.2	85.8	45.8	5	284	50	353@c	123d	0.2
SEP													
01...	1540	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)
OCT													
18...	3.3	633d	1,540	1,550	1.6	<0.04	<0.06	<0.008	--	0.17	0.26	--	E5.8d
MAR													
24...	0.5	744d	1,660	1,700	2.5	0.05	0.12	E.004n	2.4	0.20	0.25	2.6	E.1*d
JUL													
21...	3.0	624d	1,460	1,500	1.7	<0.04	<0.06	<0.008	--	0.21	0.28	--	E4.4d
SEP													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Manganese, water, fltrd, ug/L (01056)	2,4-D methyl ester, water, fltrd, ug/L (50470)	2,4-D water, fltrd, ug/L (39732)	2,4-DB water, fltrd 0.7u GF ug/L (38746)	2,6-Diethylaniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	CEAT, water, fltrd ug/L (04038)	OIET, water, fltrd, ug/L (50355)	3-Hydroxy carbofuran, wat flt 0.7u GF ug/L (49308)	3-Ketocarbofuran, water, fltrd, ug/L (50295)	Acetochlor, water, fltrd, ug/L (49260)
OCT													
18...	<0.1d	<19dc	E2.3ndc	--	--	--	--	--	--	--	--	--	--
MAR													
24...	<0.1*d	<19d	3.9d	--	--	--	--	--	--	--	--	--	--
JUL													
21...	E.1d	<6	6.8	--	--	--	--	--	--	--	--	--	--
SEP													
01...	--	--	--	<0.009	0.11	<0.02mc	<0.006	E.010	<0.01mc	E.022mc	<0.006	<0.014mc	<0.006

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Acifluorfen, water, fltrd 0.7u GF ug/L (49315)	Alachlor, water, fltrd, ug/L (46342)	Aldicarb sulfone water, fltrd 0.7u GF ug/L (49313)	Aldicarb sulfoxide, wat flt 0.7u GF ug/L (49314)	Aldicarb, water, fltrd 0.7u GF ug/L (49312)	alpha-HCH, water, fltrd, ug/L (34253)	Atrazine, water, fltrd, ug/L (39632)	Azinphosmethyl, water, fltrd 0.7u GF ug/L (82686)	Bendiocarb, water, fltrd, ug/L (50299)	Benfluralin, water, fltrd 0.7u GF ug/L (82673)	Benomyl water, fltrd, ug/L (50300)	Bensulfuron, water, fltrd, ug/L (61693)	Bentazon, water, fltrd 0.7u GF ug/L (38711)
OCT													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	<0.007	<0.005	<0.02mc	<0.008mc	<0.04mc	<0.005	0.035	<0.050	<0.03	<0.010	<0.004	<0.02	E.02mc

480112098545200 WEST BAY-CASINO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Butylate, water, fltrd, ug/L (04028)	Caffeine, water, fltrd, ug/L (50305)	Carbaryl, water, fltrd 0.7u GF ug/L (49310)	Carbaryl, water, fltrd 0.7u GF ug/L (82680)	Carbofuran, water, fltrd 0.7u GF ug/L (49309)	Carbofuran, water, fltrd 0.7u GF ug/L (82674)	Chloramben methyl ester, water, fltrd, ug/L (61188)	Chlorimuron, water, fltrd, ug/L (50306)	Chlorodiamino-s-triazine, wat flt ug/L (04039)	Chlorothalonil, water, fltrd 0.7u GF ug/L (49306)	Chlorpyrifos water, fltrd, ug/L (38933)	cis-Permethrin water fltrd 0.7u GF ug/L (82687)	Clopyralid, water, fltrd 0.7u GF ug/L (49305)
OCT													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	<0.004	0.0634	<0.03	<0.041	<0.006	<0.020	<0.02mc	<0.010	<0.04mnc	<0.04mc	<0.005	<0.006	<0.07

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Cyanazine, water, fltrd, ug/L (04041)	Cycloate, water, fltrd, ug/L (04031)	Dacthal monoacid, water, fltrd 0.7u GF ug/L (49304)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazinon, water, fltrd, ug/L (39572)	Dicamba water fltrd 0.7u GF ug/L (38442)	Dichlorprop, water, fltrd 0.7u GF ug/L (49302)	Dieldrin, water, fltrd, ug/L (39381)	Dinoseb water, fltrd 0.7u GF ug/L (49301)	Diphenamid, water, fltrd, ug/L (04033)	Disulfoton, water, fltrd 0.7u GF ug/L (82677)	Diuron, water, fltrd 0.7u GF ug/L (49300)	EPTC, water, fltrd 0.7u GF ug/L (82668)
OCT													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	<0.018	<0.01mc	<0.01	<0.003	<0.005	<0.01	<0.01	<0.009	<0.01	<0.03	<0.02	<0.01	<0.004

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Ethalfluralin, water, fltrd 0.7u GF ug/L (82663)	Ethoprop, water, fltrd 0.7u GF ug/L (82672)	Fenuron water, fltrd 0.7u GF ug/L (49297)	Flumetsulam, water, fltrd, ug/L (61694)	Fluometuron water fltrd 0.7u GF ug/L (38811)	Fonofos water, fltrd, ug/L (04095)	Imazaquin, water, fltrd, ug/L (50356)	Imazethapyr, water, fltrd, ug/L (50407)	Imidacloprid water, fltrd, ug/L (61695)	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (38478)	Linuron water fltrd 0.7u GF ug/L (82666)	Malathion, water, fltrd, ug/L (39532)
OCT													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	<0.009	<0.005	<0.03	<0.01mc	<0.03	<0.003	<0.02mc	<0.02mc	<0.007	<0.004	<0.01	<0.035	<0.027

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	MCPA, water, fltrd 0.7u GF ug/L (38482)	MCPB, water, fltrd 0.7u GF ug/L (38487)	Metalaxyl, water, fltrd, ug/L (50359)	Methiocarb, water, fltrd 0.7u GF ug/L (38501)	Methomyl, water, fltrd 0.7u GF ug/L (49296)	Methyl parathion, water, fltrd 0.7u GF ug/L (82667)	Metolachlor, water, fltrd, ug/L (39415)	Metribuzin, water, fltrd, ug/L (82630)	Metsulfuron, water, fltrd, ug/L (61697)	Molinate, water, fltrd 0.7u GF ug/L (82671)	N-(4-Chlorophenyl)-N-'methylurea, ug/L (61692)	Napropamide, water, fltrd 0.7u GF ug/L (82684)	Neburon water, fltrd 0.7u GF ug/L (49294)
OCT													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	<0.11	<0.01mc	<0.02	<0.008mc	<0.004mc	<0.015	<0.013	<0.006	<0.03mc	<0.003	<0.02	<0.007	<0.01

480112098545200 WEST BAY-CASINO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Nicosulfuron, water, fltrd, ug/L (50364)	Norflurazon, water, fltrd 0.7u GF ug/L (49293)	Oryzalin, water, fltrd 0.7u GF ug/L (49292)	Oxamyl, water, fltrd 0.7u GF ug/L (38866)	p,p-' DDE, water, fltrd, ug/L (34653)	Parathion, water, fltrd, ug/L (39542)	Pebulate, water, fltrd 0.7u GF ug/L (82669)	Pendimethalin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)	Picloram, water, fltrd 0.7u GF ug/L (49291)	Propyzamide, water, fltrd 0.7u GF ug/L (82676)	Propachlor, water, fltrd, ug/L (04024)	Propanil, water, fltrd 0.7u GF ug/L (82679)
OCT													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	<0.01	<0.02mc	<0.02	<0.01	<0.003	<0.010	<0.004	<0.022	<0.011	<0.02	<0.004	<0.025	<0.011

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Propargite, water, fltrd 0.7u GF ug/L (82685)	Propham water fltrd 0.7u GF ug/L (49236)	Propiconazole, water, fltrd, ug/L (50471)	Propoxur, water, fltrd 0.7u GF ug/L (38538)	Siduron water, fltrd, ug/L (38548)	Simazine, water, fltrd, ug/L (04035)	Sulfometruron, water, fltrd, ug/L (50337)	Tebuthiuron water fltrd 0.7u GF ug/L (82670)	Terbacil, water, fltrd 0.7u GF ug/L (82665)	Terbacil, water, fltrd, ug/L (04032)	Terbufos, water, fltrd 0.7u GF ug/L (82675)	Thiobencarb water fltrd 0.7u GF ug/L (82681)	Triallate, water, fltrd 0.7u GF ug/L (82678)
OCT													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
24...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
01...	<0.02	<0.010	<0.02	<0.008	<0.02	<0.005	<0.009	<0.02	<0.034	<0.010mc	<0.02	<0.010	<0.002

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Tribenuron water, fltrd, ug/L (61159)	Triclopyr, water, fltrd 0.7u GF ug/L (49235)	Trifluralin, water, fltrd 0.7u GF ug/L (82661)
OCT			
18...	--	--	--
MAR			
24...	--	--	--
JUL			
21...	--	--	--
SEP			
01...	--u	<0.02	<0.009

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
* -- Sample was warm when received
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
m -- Value is highly variable by this method
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
u -- Unable to determine-matrix interference

480135099134600 ROUND LAKE

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
01...	1030	8.7	2,000	690	83.9c	116c	32.9c	4	225c	40	287	66.4dc	<0.2
AUG													
31...	0950	8.2	1,760	610	79.9	100	30.5	3	180	38	291@c	47.6d	<0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
OCT													
01...	32.5	787dc	1,520	1,530	2.5	<0.04	<0.06	<0.008	E.06nd	0.19	27.7*d	0.7*d	E5nc
AUG													
31...	27.5	665d	1,310	1,390	4.1	E.03n	<0.06	<0.008	0.20	0.42	E83.9d	<0.1d	8

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Mangan-ese, water, fltrd, ug/L (01056)
OCT	
01...	2.2c
AUG	
31...	8.3

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
* -- Sample was warm when received
@-- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

480153098500700 EAST BAY No. 5

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)
OCT													
18...	1600	8.7	3,110	810	91.1d	142d	77.3d	8	542d	56	415	214d	0.2
MAR													
24...	1030	8.7	2,730	660	82.0d	110d	52.8d	7	394d	54	404@c	181d	0.2
JUL													
21...	1512	8.6	3,060	710	80.7d	123d	65.8d	8	468d	56	399@c	200d	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)
OCT													
18...	8.4	1,030d	2,360	2,360	2.4	0.07	<0.06	<0.008	2.4	0.21	0.28	--	E5.6d
MAR													
24...	3.8	906d	1,970	2,030	1.8	0.08	0.08	<0.008	1.7	0.22	0.26	1.9	0.4*d
JUL													
21...	9.9	977d	2,160	2,210	1.8	E.03n	<0.06	<0.008	--	0.25	0.29	--	E5.0d

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT			
18...	<0.1d	<19dc	E1.5ndc
MAR			
24...	<0.1*d	<19d	2.9d
JUL			
21...	E.2d	<19dc	E1.7ndc

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
* -- Sample was warm when received
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

480349099111300 MINNEWAUKEN FLATS

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)
OCT													
16...	1245	8.6	2,210	590	83.9d	92.2d	51.9d	6	327d	52	374	135d	0.2
MAR													
23...	1040	8.6	2,380	610	84.8d	96.7d	44.7d	6	318d	51	372@c	148d	0.2
SEP													
28...	1230	8.6	1,920	530	77.1	82.4	41.9	5	264	50	356@c	115d	0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)
OCT													
16...	4.4	668d	1,590	1,620	1.8	0.04	0.05	0.06	0.010	1.8	0.26	0.34	1.9
MAR													
23...	4.4	752d	1,670	1,740	1.7	E.02n	--	0.10	<0.008	--	0.19	0.23	1.8
SEP													
28...	10.9	598d	1,400	1,450	1.6	<0.04	--	<0.06	<0.008	--	0.23d	0.30	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Manganese, water, fltrd, ug/L (01056)	2,4-D methyl ester, water, fltrd, ug/L (50470)	2,4-D water, fltrd, ug/L (39732)	2,4-DB water, fltrd 0.7u GF ug/L (38746)	2,6-Diethylaniline water fltrd 0.7u GF ug/L (82660)	CIAT, water, fltrd, ug/L (04040)	CEAT, water, fltrd, ug/L (04038)	OIET, water, fltrd, ug/L (50355)	3-Hydroxy carbofuran, wat flt 0.7u GF ug/L (49308)	3-Ketocarbofuran, water, fltrd, ug/L (50295)
OCT													
16...	E9.8d	<0.1d	<19d	E1.6nd	--	--	--	--	--	--	--	--	--
MAR													
23...	<0.4*d	E.2*d	22d	41.7d	--	--	--	--	--	--	--	--	--
SEP													
28...	E9.6d	E.3d	E6n	2.2	<0.016	<0.04	<0.02mc	<0.006	E.007	<0.08mc	E.023mc	<0.008	<0.02mc

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Acetochlor, water, fltrd, ug/L (49260)	Acifluorfen, water, fltrd 0.7u GF ug/L (49315)	Alachlor, water, fltrd, ug/L (46342)	Aldicarb sulfone water, fltrd 0.7u GF ug/L (49313)	Aldicarb sulfoxide, wat flt 0.7u GF ug/L (49314)	Aldicarb, water, fltrd 0.7u GF ug/L (49312)	alpha-HCH, water, fltrd, ug/L (34253)	Atrazine, water, fltrd, ug/L (39632)	Azinphosmethyl, water, fltrd 0.7u GF ug/L (82686)	Bendiocarb, water, fltrd, ug/L (50299)	Benfluralin, water, fltrd 0.7u GF ug/L (82673)	Benomyl water, fltrd, ug/L (50300)	Bensulfuron, water, fltrd, ug/L (61693)
OCT													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
28...	<0.006	<0.028	<0.005	<0.02mnc	<0.022mc	<0.04mc	<0.005	0.024	<0.050	<0.02n	<0.010	<0.022	<0.02

480349099111300 MINNEWAUKEN FLATS--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Bentazon, water, fltrd 0.7u GF ug/L (38711)	Butylate, water, fltrd, ug/L (04028)	Caffeine, water, fltrd, ug/L (50305)	Carbaryl, water, fltrd 0.7u GF ug/L (49310)	Carbaryl, water, fltrd 0.7u GF ug/L (82680)	Carbofuran, water, fltrd 0.7u GF ug/L (49309)	Carbofuran, water, fltrd 0.7u GF ug/L (82674)	Chloramben methyl ester, water, fltrd, ug/L (61188)	Chlorimuron, water, fltrd, ug/L (50306)	Chloro-di-amino-s-triazine, wat flt ug/L (04039)	Chlorothalonil, water, fltrd 0.7u GF ug/L (49306)	Chlorpyrifos water, fltrd, ug/L (38933)	cis-Permethrin water fltrd 0.7u GF ug/L (82687)
OCT													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
28...	E.02mc	<0.004	0.2383	<0.02n	<0.041	<0.016	<0.020	<0.02mc	<0.032	E.01mtc	<0.04mc	<0.005	<0.006

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Clopyralid, water, fltrd 0.7u GF ug/L (49305)	Cyanazine, water, fltrd, ug/L (04041)	Cycloate, water, fltrd, ug/L (04031)	Dacthal mono-acid, water, fltrd 0.7u GF ug/L (49304)	DCPA, water fltrd 0.7u GF ug/L (82682)	Diazinon, water, fltrd, ug/L (39572)	Dicamba water fltrd 0.7u GF ug/L (38442)	Dichlorprop, water, fltrd 0.7u GF ug/L (49302)	Dieldrin, water, fltrd, ug/L (39381)	Dinoseb water, fltrd 0.7u GF ug/L (49301)	Diphenamid, water, fltrd, ug/L (04033)	Disulfoton, water, fltrd 0.7u GF ug/L (82677)	Diuron, water, fltrd 0.7u GF ug/L (49300)
OCT													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
28...	<0.02	<0.018	<0.01mc	<0.03	<0.003	<0.005	<0.04	<0.03	<0.009	<0.04	<0.01t	<0.02	<0.01n

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	EPTC, water, fltrd 0.7u GF ug/L (82668)	Ethalfluralin, water, fltrd 0.7u GF ug/L (82663)	Ethoprop, water, fltrd 0.7u GF ug/L (82672)	Fenuron water, fltrd 0.7u GF ug/L (49297)	Flumetsulam, water, fltrd, ug/L (61694)	Fluometuron water fltrd 0.7u GF ug/L (38811)	Fonofos water, fltrd, ug/L (04095)	Imazaquin, water, fltrd, ug/L (50356)	Imazethapyr, water, fltrd, ug/L (50407)	Imidacloprid water, fltrd, ug/L (61695)	Lindane water, fltrd, ug/L (39341)	Linuron water fltrd 0.7u GF ug/L (38478)	Linuron water fltrd 0.7u GF ug/L (82666)
OCT													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
28...	<0.004	<0.009	<0.005	<0.02n	<0.04mc	<0.02n	<0.003	<0.04mc	<0.04mc	<0.020	<0.004	<0.01n	<0.035

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Malathion, water, fltrd, ug/L (39532)	MCPA, water, fltrd 0.7u GF ug/L (38482)	MCPB, water, fltrd 0.7u GF ug/L (38487)	Metalaxyl, water, fltrd, ug/L (50359)	Methiocarb, water, fltrd 0.7u GF ug/L (38501)	Methomyl, water, fltrd 0.7u GF ug/L (49296)	Methyl parathion, water, fltrd 0.7u GF ug/L (82667)	Metolachlor, water, fltrd, ug/L (39415)	Metribuzin, water, fltrd, ug/L (82630)	Metsulfuron, water, fltrd, ug/L (61697)	Molinate, water, fltrd 0.7u GF ug/L (82671)	N-(4-Chlorophenyl)-N-'methylurea, ug/L (61692)	Napropamide, water, fltrd 0.7u GF ug/L (82684)
OCT													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
28...	<0.027	<0.03	<0.01mnc	<0.01n	<0.010mc	<0.020mc	<0.015	<0.013	<0.006	<0.03mc	<0.003	<0.04	<0.007

480349099111300 MINNEWAUKEN FLATS--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Neburon water, fltrd 0.7u GF ug/L (49294)	Nico-sul-furon, water, fltrd, ug/L (50364)	Norflur azon, water, fltrd 0.7u GF ug/L (49293)	Ory-zalin, water, fltrd 0.7u GF ug/L (49292)	Oxamyl, water, fltrd 0.7u GF ug/L (38866)	p,p-' DDE, water, fltrd, ug/L (34653)	Para-thion, water, fltrd, ug/L (39542)	Peb-ulate, water, fltrd 0.7u GF ug/L (82669)	Pendi-meth-alin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)	Pic-loram, water, fltrd 0.7u GF ug/L (49291)	Propy-zamide, water, fltrd 0.7u GF ug/L (82676)	Propa-chlor, water, fltrd, ug/L (04024)
OCT													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
28...	<0.01	<0.04	<0.02mc	<0.01n	<0.03	<0.003	<0.010	<0.004	<0.022	<0.011	<0.03	<0.004	<0.025

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Pro-panil, water, fltrd 0.7u GF ug/L (82679)	Propar-gite, water, fltrd 0.7u GF ug/L (82685)	Propham water fltrd 0.7u GF ug/L (49236)	Propi-cona-zole, water, fltrd, ug/L (50471)	Pro-poxur, water, fltrd 0.7u GF ug/L (38538)	Siduron water, fltrd, ug/L (38548)	Sima-zine, water, fltrd, ug/L (04035)	Sulfo-met-ruron, water, fltrd, ug/L (50337)	Tebu-thiuron water fltrd 0.7u GF ug/L (82670)	Terba-cil, water, fltrd 0.7u GF ug/L (82665)	Terba-cil, water, fltrd, ug/L (04032)	Terbu-fos, water, fltrd 0.7u GF ug/L (82675)	Thio-bencarb water fltrd 0.7u GF ug/L (82681)
OCT													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
28...	<0.011	<0.02	<0.030	<0.01t	<0.008	<0.02	<0.005	<0.038	<0.02	<0.034	<0.016mc	<0.02	<0.010

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Tri-allate, water, fltrd 0.7u GF ug/L (82678)	Tri-benuron water, fltrd, ug/L (61159)	Tri-clopyr, water, fltrd 0.7u GF ug/L (49235)	Tri-flur-alin, water, fltrd 0.7u GF ug/L (82661)
OCT				
16...	--	--	--	--
MAR				
23...	--	--	--	--
SEP				
28...	<0.002	--u	<0.03	<0.009

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
* -- Sample was warm when received
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
m -- Value is highly variable by this method
n -- Below the LRL and above the LT-MDL
t -- Below the long-term MDL

Null value qualifier codes used in this table:
u -- Unable to determine-matrix interference

473633101161400 LAKE SAKAKAWEA NEAR LAKE AUDUBON

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Depth to bottom of samplng intrval meters (82048)	Depth to top of samplng intrval meters (82047)	Turbid-ity, wat unf lab, Hach 2100AN NTU (99872)	pH, water, unfltrd lab, std units (00403)	Specif. conduc-tance, wat unf lab, uS/cm 25 degC (90095)	Hard-ness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)
OCT													
07...	1110	0.30	0.00	5.2	8.2	592	210	50.5	20.3	4.17	2	55.1	36
07...	1115	12.6	12.3	10	8.0	756	240	56.3	24.9	4.89	2	80.5	41
07...	1120	3.0	1.5	--	--	--	--	--	--	--	--	--	--
NOV													
06...	1140	1.0	1.0	4.6	8.3	767	230	47.9	26.9	5.28	2	81.0	43
06...	1145	2.4	1.2	--	--	--	--	--	--	--	--	--	--
06...	1150	13.5	13.5	4.3	8.2	769	230	48.3	27.4	5.38	2	82.0	43
FEB													
13...	1205	1.5	1.0	<1.0	8.3	598	220	54.7	20.9	4.48	2	58.9	36
13...	1210	8.0	7.5	1.0	8.2	612	230	55.1	21.5	4.53	2	60.6	36
APR													
16...	1320	1.0	1.0	<2.0	8.2	509	200	47.1	19.1	3.98	2	51.3	36
16...	1325	3.6	1.8	--	--	--	--	--	--	--	--	--	--
16...	1330	8.5	8.0	3.2	8.1	528	200	47.7	19.2	4.02	2	52.4	36
MAY													
17...	1135	1.0	1.0	4.5	8.2	623	220	53.2	21.3	4.21	2	53.9	34
17...	1140	2.0	1.0	--	--	--	--	--	--	--	--	--	--
17...	1145	12.0	11.5	6.7	8.0	697	230	56.7	22.3	4.34	2	66.3	38
JUN													
29...	1240	1.5	1.0	5.0	8.4	605	210	51.4	20.4	4.09	2	57.4	36
29...	1245	2.4	1.2	--	--	--	--	--	--	--	--	--	--
29...	1250	11.0	10.5	16	8.2	626	210	52.2	20.3	4.06	2	59.1	37
JUL													
19...	1215	1.0	1.0	3.1	8.4	591	210	51.6	20.0	4.09	2	53.1	35
19...	1220	3.6	1.8	--	--	--	--	--	--	--	--	--	--
19...	1225	13.0	12.5	24	7.9	703	230	58.0	21.5	4.42	2	70.6	39
AUG													
12...	1140	1.0	1.0	6.8	8.2	620	220	52.3	21.5	3.97	2	53.0	34
12...	1145	1.4	0.70	--	--	--	--	--	--	--	--	--	--
12...	1150	10.0	9.5	24	E8.1	629	220	54.0	21.6	4.05	2	54.9	34
31...	1110	1.0	1.0	5.5	8.3	617	220	51.4	21.4	4.10	2	55.1	35
31...	1115	1.5	0.76	--	--	--	--	--	--	--	--	--	--
31...	1120	11.5	11.0	21	8.1	695	240	56.5	22.8	4.29	2	68.5	38
SEP													
09...	1200	1.0	1.0	5.6	8.3	644	220	52.1	21.2	3.96	2	54.2	35
09...	1205	2.2	1.1	--	--	--	--	--	--	--	--	--	--
09...	1210	11.5	11.0	19	8.1	787	240	57.4	22.9	4.18	2	77.3	41

473633101161400 LAKE SAKAKAWEA NEAR LAKE AUDUBON--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)
OCT													
07...	158	9.42	0.6	6.7	148	390	385	0.46	<0.04	0.07	<0.008	--	E.01n
07...	191	10.4	0.6	7.5	204	504	513	0.46	<0.04	0.07	E.004n	--	<0.02
07...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV													
06...	184	11.2	0.6	6.5	202	493	515	0.35	<0.04	0.07	<0.008	--	<0.02
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
06...	189	11.2	0.6	6.4	204	499	517	0.37	<0.04	0.07	<0.008	--	<0.02
FEB													
13...	164	9.71	0.6	7.4	153	409	415	0.27	<0.04	0.13	<0.008	--	<0.02
13...	167	9.83	0.7	7.3	159	420	420	0.32	<0.04	0.13	<0.008	--	<0.02
APR													
16...	148@c	8.70	0.6	6.5	136	363	373	0.20	<0.04	0.10	<0.008	--	<0.02
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
16...	149@c	8.78	0.6	6.4	136	365	375	0.25	<0.04	0.10	<0.008	--	<0.02
MAY													
17...	164@c	9.46	0.6	6.3	151	398	408	0.27	<0.04	0.06	<0.008	--	<0.02
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	178@c	9.84	0.6	6.6	176	450	457	0.33	E.03n	0.08	<0.008	--	<0.02
JUN													
29...	162@c	9.77	0.6	6.0	148	394	401	0.26	<0.04	<0.06	<0.008	--	<0.02
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
29...	169@c	9.64	0.7	6.7	152	405	418	0.33	E.03n	E.06n	<0.008	--	<0.02
JUL													
19...	163@c	9.23	0.7	5.5	148	389	406	0.20	<0.04	<0.06	<0.008	--	<0.02
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
19...	189@c	9.62	0.7	7.8	183	470	490	0.48	0.12	0.06	<0.008	0.36	<0.02
AUG													
12...	166@c	9.79	0.7	6.0	154	401	429	0.24	<0.04	E.04n	<0.008	--	<0.02
12...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	169@c	9.61	0.6	5.9	156	408	427	0.33	<0.04	E.05n	<0.008	--	<0.02
31...	167@c	9.39	0.7	5.9	157	405	426	0.27	<0.04	<0.06	<0.008	--	<0.02
31...	--	--	--	--	--	--	--	--	--	--	--	--	--
31...	183@c	9.70	0.7	6.6	184	463	474	0.32	<0.04	E.04n	<0.008	--	<0.02
SEP													
09...	170@c	9.37	0.7	5.9	160	410	447	0.22	<0.04	<0.06	<0.008	--	<0.02
09...	--	--	--	--	--	--	--	--	--	--	--	--	--
09...	201@c	9.91	0.7	7.3	206	506	542	0.32	0.04	E.04n	<0.008	0.27	<0.02

473633101161400 LAKE SAKAKAWEA NEAR LAKE AUDUBON--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)	Organic carbon, water, unfltrd mg/L (00680)	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
OCT							
07...	E.03n	0.53	6.9	--	--	<6	1.3
07...	E.03n	0.53	5.5	--	--	E4n	65.5
07...	--	--	--	11.9d	3.2d	--	--
NOV							
06...	E.02n	0.42	4.6	--	--	E4n	10.2
06...	--	--	--	1.9d	<1.0d	--	--
06...	E.02n	0.44	5.7	--	--	E4n	10.4
FEB							
13...	<0.04	0.40	3.1	--	--	E6n	2.6
13...	E.02n	0.45	3.6	--	--	<6	5.0
APR							
16...	<0.04	0.30	3.7	--	--	<6	3.8
16...	--	--	--	--r	--r	--	--
16...	<0.04	0.35	3.8	--	--	<6	4.8
MAY							
17...	<0.04	0.34	3.5	--	--	<6	5.5
17...	--	--	--	2.0d	<0.1d	--	--
17...	E.02n	0.42	4.8	--	--	<6	20.0
JUN							
29...	<0.04	--	3.9	--	--	<6	1.6
29...	--	--	--	2.4d	<0.1d	--	--
29...	E.02n	--	4.7	--	--	E3n	4.9
JUL							
19...	<0.04	--	3.2	--	--	<6	1.3
19...	--	--	--	2.5d	E.1d	--	--
19...	E.03n	0.54	4.6	--	--	E5n	142
AUG							
12...	E.02n	--	5.5	--	--	E3n	4.2
12...	--	--	--	2.8d	<0.1d	--	--
12...	0.04	--	5.0	--	--	E4n	15.6
31...	E.02n	--	4.9	--	--	<6	1.4
31...	--	--	--	2.2d	<0.1d	--	--
31...	E.03n	--	4.9	--	--	<6	44.8
SEP							
09...	<0.04	--	4.4	--	--	<6	4.0
09...	--	--	--	8.2d	1.1d	--	--
09...	<0.04	--	4.9	--	--	<6	77.1

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
@ -- Holding time exceeded
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
n -- Below the LRL and above the LT-MDL

Null value qualifier codes used in this table:
r -- Sample ruined in preparation

473633101161400 LAKE SAKAKAWEA NEAR LAKE AUDUBON--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Depth of lake, maximum meters (85310)	Ice thick-ness, meters (82131)	Sam-pling depth, meters (00098)	Trans-parency Secchi disc, inches (00077)	Wind direc-tion, clkwise from north, degrees (00036)	Wind speed, mph (00035)	Tur-bidity, water, unfltrd field, NTU (61028)	Baro-metric pres-sure, mm Hg (00025)	Dis-solved oxygen, mg/L (00300)	Dis-solved oxygen, percent of sat-uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)
OCT													
07...	1055	14	--	0.00	58.0	45	<5.0	0.3	717	11.0	117	8.2	639
07...	1056	--	--	1.0	--	--	--	0.0	--	10.9	--	8.2	639
07...	1057	--	--	2.5	--	--	--	0.0	--	11.0	--	8.2	640
07...	1058	--	--	4.1	--	--	--	0.0	--	11.1	--	8.2	641
07...	1059	--	--	5.5	--	--	--	0.0	--	11.2	--	8.3	642
07...	1100	--	--	7.0	--	--	--	1.0	--	10.7	--	8.3	653
07...	1101	--	--	8.5	--	--	--	0.7	--	10.3	--	8.2	667
07...	1102	--	--	10.0	--	--	--	9.5	--	9.8	--	8.1	688
07...	1103	--	--	11.5	--	--	--	7.3	--	9.1	--	8.0	756
07...	1104	--	--	13.5	--	--	--	14	--	7.7	--	7.8	831
07...	1105	--	--	14.2	--	--	--	13	--	7.6	--	7.8	833
NOV													
06...	1130	14	--	0.00	48.0	240	16	8.0	728	13.0	98	7.8	815
06...	1131	--	--	1.0	--	--	--	8.2	--	12.8	--	7.9	812
06...	1132	--	--	2.5	--	--	--	7.1	--	12.7	--	8.0	811
06...	1133	--	--	4.6	--	--	--	6.7	--	12.6	--	8.0	810
06...	1134	--	--	6.4	--	--	--	6.6	--	12.6	--	8.0	812
06...	1135	--	--	8.1	--	--	--	5.9	--	12.5	--	8.1	811
06...	1136	--	--	10.0	--	--	--	5.9	--	12.5	--	8.1	812
06...	1137	--	--	11.8	--	--	--	5.7	--	12.5	--	8.1	814
06...	1138	--	--	14.1	--	--	--	6.1	--	12.5	--	8.1	818
FEB													
13...	1155	8.3	0.60	0.00	84.0	300	7.0	0.0	721	13.4	98	6.8	659
13...	1156	--	--	1.0	--	--	--	0.0	--	13.3	--	6.9	664
13...	1157	--	--	2.1	--	--	--	0.0	--	13.3	--	6.9	670
13...	1158	--	--	4.0	--	--	--	0.0	--	13.4	--	7.0	670
13...	1159	--	--	5.7	--	--	--	0.0	--	13.3	--	7.0	677
13...	1200	--	--	6.8	--	--	--	0.0	--	13.3	--	7.0	684
13...	1201	--	--	8.3	--	--	--	0.0	--	13.3	--	7.1	686
APR													
16...	1310	8.9	--	0.00	72.0	315	13	18	725	13.1	107	8.2	646
16...	1311	--	--	1.0	--	--	--	16	--	12.9	--	8.1	646
16...	1312	--	--	2.0	--	--	--	17	--	12.8	--	8.1	646
16...	1313	--	--	4.2	--	--	--	16	--	12.8	--	8.1	643
16...	1314	--	--	5.9	--	--	--	15	--	12.7	--	8.1	638
16...	1315	--	--	7.2	--	--	--	16	--	12.7	--	8.1	642
16...	1316	--	--	8.6	--	--	--	16	--	12.6	--	8.2	640
16...	1317	--	--	8.9	--	--	--	--	--	12.6	--	8.2	640
MAY													
17...	1125	13	--	0.00	40.0	205	<5.0	15	714	11.1	106	7.5	652
17...	1126	--	--	0.50	--	--	--	22	--	11.0	--	7.7	653
17...	1127	--	--	1.0	--	--	--	20	--	10.9	--	7.7	650
17...	1128	--	--	2.3	--	--	--	20	--	10.9	--	7.8	650
17...	1129	--	--	4.0	--	--	--	18	--	10.7	--	7.8	643
17...	1130	--	--	5.9	--	--	--	18	--	10.5	--	7.8	648
17...	1131	--	--	7.7	--	--	--	16	--	10.3	--	7.7	656
17...	1132	--	--	9.3	--	--	--	17	--	10.2	--	7.7	663
17...	1133	--	--	11.2	--	--	--	19	--	9.8	--	7.7	691
17...	1134	--	--	12.7	--	--	--	25	--	9.8	--	7.4	800
JUN													
29...	1225	12	--	0.00	48.0	--	0.0	15	713	10.0	117	8.4	639
29...	1226	--	--	0.50	--	--	--	22	--	9.9	--	8.4	643
29...	1227	--	--	1.0	--	--	--	18	--	9.7	--	8.4	641
29...	1228	--	--	2.6	--	--	--	19	--	9.6	--	8.4	644
29...	1229	--	--	4.0	--	--	--	18	--	9.5	--	8.4	648
29...	1230	--	--	5.5	--	--	--	24	--	9.2	--	8.3	655
29...	1231	--	--	6.7	--	--	--	28	--	8.5	--	8.2	655
29...	1232	--	--	7.9	--	--	--	27	--	8.2	--	8.2	657
29...	1233	--	--	9.0	--	--	--	32	--	7.7	--	8.1	670
29...	1234	--	--	10.4	--	--	--	34	--	7.5	--	8.1	665
29...	1235	--	--	11.5	--	--	--	40	--	7.4	--	8.0	670
JUL													
19...	1200	14	--	0.00	72.0	0.0	0.0	6.5	725	9.1	112	8.5	643
19...	1201	--	--	0.50	--	--	--	8.2	--	9.1	--	8.5	647
19...	1202	--	--	1.0	--	--	--	8.5	--	9.0	--	8.5	646
19...	1203	--	--	3.0	--	--	--	12	--	8.8	--	8.4	650
19...	1204	--	--	5.0	--	--	--	24	--	7.9	--	8.3	654
19...	1205	--	--	7.0	--	--	--	29	--	7.4	--	8.2	660
19...	1206	--	--	9.0	--	--	--	36	--	6.5	--	8.1	682
19...	1207	--	--	11.0	--	--	--	50	--	4.5	--	7.7	756
19...	1208	--	--	13.0	--	--	--	--	--	1.5	--	7.5	794
19...	1209	--	--	13.7	--	--	--	--	--	1.2	--	7.5	800

473633101161400 LAKE SAKAKAWEA NEAR LAKE AUDUBON--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
OCT		
07...	16.5	15.2
07...	--	15.1
07...	--	15.0
07...	--	14.9
07...	--	14.9
07...	--	14.3
07...	--	13.8
07...	--	13.4
07...	--	12.7
07...	--	12.6
07...	--	12.6
NOV		
06...	13.0	1.8
06...	--	1.8
06...	--	1.7
06...	--	1.8
06...	--	1.8
06...	--	1.8
06...	--	1.8
06...	--	1.8
06...	--	1.9
FEB		
13...	-1.0	0.4
13...	--	0.3
13...	--	0.3
13...	--	0.5
13...	--	0.6
13...	--	0.6
13...	--	0.7
APR		
16...	5.0	4.6
16...	--	4.6
16...	--	4.6
16...	--	4.6
16...	--	4.5
16...	--	4.5
16...	--	4.5
16...	--	4.5
MAY		
17...	14.5	10.4
17...	--	10.4
17...	--	9.8
17...	--	9.4
17...	--	8.7
17...	--	8.4
17...	--	8.2
17...	--	8.2
17...	--	8.2
17...	--	8.2
JUN		
29...	26.0	19.6
29...	--	18.8
29...	--	18.3
29...	--	17.8
29...	--	17.3
29...	--	16.6
29...	--	15.6
29...	--	15.2
29...	--	14.8
29...	--	14.6
29...	--	14.6
JUL		
19...	26.5	22.9
19...	--	22.2
19...	--	22.0
19...	--	21.0
19...	--	18.8
19...	--	17.7
19...	--	17.4
19...	--	15.8
19...	--	14.7
19...	--	14.5

473633101161400 LAKE SAKAKAWEA NEAR LAKE AUDUBON--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Depth of lake, maximum meters (85310)	Sampling depth, meters (00098)	Transparency Secchi disc, inches (00077)	Wind direction, clkwise from north, degrees (00036)	Wind speed, mph (00035)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)
AUG													
12...	1130	11	0.00	28.0	120	<5.0	13	733	8.8	97	8.2	663	21.5
12...	1131	--	0.50	--	--	--	13	--	8.8	--	8.3	663	--
12...	1132	--	1.0	--	--	--	14	--	8.8	--	8.3	663	--
12...	1133	--	2.4	--	--	--	14	--	8.7	--	8.3	662	--
12...	1134	--	3.8	--	--	--	14	--	8.5	--	8.3	665	--
12...	1135	--	5.7	--	--	--	15	--	8.4	--	8.3	666	--
12...	1136	--	7.1	--	--	--	16	--	8.4	--	8.3	667	--
12...	1137	--	8.6	--	--	--	18	--	8.3	--	8.3	668	--
12...	1138	--	10.0	--	--	--	23	--	8.3	--	8.3	668	--
12...	1139	--	10.7	--	--	--	--	--	8.1	--	8.3	670	--
31...	1055	12	0.00	30.0	30	<5.0	17	728	9.2	102	8.1	675	18.5
31...	1056	--	0.50	--	--	--	15	--	9.1	--	8.2	675	--
31...	1057	--	1.0	--	--	--	16	--	9.1	--	8.2	674	--
31...	1058	--	2.4	--	--	--	14	--	9.0	--	8.3	674	--
31...	1059	--	3.8	--	--	--	14	--	8.7	--	8.3	673	--
31...	1100	--	5.1	--	--	--	14	--	8.6	--	8.3	674	--
31...	1101	--	6.7	--	--	--	17	--	8.4	--	8.3	680	--
31...	1102	--	8.1	--	--	--	18	--	8.3	--	8.3	689	--
31...	1103	--	9.8	--	--	--	24	--	8.1	--	8.2	712	--
31...	1104	--	11.2	--	--	--	29	--	7.6	--	8.1	738	--
31...	1105	--	12.3	--	--	--	--	--	7.0	--	7.9	813	--
SEP													
09...	1146	12	0.00	42.0	90	6.0	8.6	725	9.5	105	8.3	686	17.7
09...	1147	--	0.50	--	--	--	9.3	--	9.3	--	8.3	688	--
09...	1148	--	1.0	--	--	--	8.8	--	9.3	--	8.3	688	--
09...	1149	--	2.7	--	--	--	10	--	9.2	--	8.3	693	--
09...	1150	--	4.4	--	--	--	9.8	--	8.9	--	8.3	685	--
09...	1151	--	5.8	--	--	--	10	--	8.6	--	8.3	685	--
09...	1152	--	7.0	--	--	--	11	--	8.4	--	8.3	688	--
09...	1153	--	8.5	--	--	--	12	--	8.2	--	8.2	703	--
09...	1154	--	10.1	--	--	--	16	--	7.8	--	8.0	765	--
09...	1155	--	11.6	--	--	--	19	--	7.3	--	7.9	802	--
09...	1156	--	12.1	--	--	--	--	--	7.3	--	7.8	840	--

473633101161400 LAKE SAKAKAWEA NEAR LAKE AUDUBON--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Temperature, water, deg C (00010)
AUG	
12...	17.7
12...	17.3
12...	17.0
12...	17.0
12...	16.9
12...	16.9
12...	16.8
12...	16.8
12...	16.8
12...	16.8
31...	17.9
31...	17.9
31...	17.8
31...	17.8
31...	17.6
31...	17.4
31...	17.3
31...	17.3
31...	17.2
31...	17.2
31...	17.1
SEP	
09...	17.4
09...	17.4
09...	17.4
09...	17.2
09...	17.0
09...	16.6
09...	16.4
09...	16.3
09...	16.4
09...	16.4
09...	16.3

Remark codes used in this table:
< -- Less than

05046502 OTTER TAIL RIVER AT 11TH STREET IN BRECKENRIDGE, MN

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
MAY													
11...	1325	59	722	11.7	118	8.5	8.5	449	435	22.1	13.2	220	41.4

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)
MAY													
11...	27.9	3.30	0.2	7.90	7	209	10.6	25.7	243	0.40	0.49	<0.010	<0.010

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Manganese, water, fltrd, ug/L (01056)
MAY												
11...	0.016	0.020	0.209	<0.004	0.070	0.41	0.51	E50k	13.4	<0.5	20	10

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range

05051300 BOIS DE SIOUX RIVER NEAR DORAN, MN

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Discharge, cfs (00060)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)
MAY													
11...	1115	7.2	30	722	11.8	117	8.2	8.2	1,770	1,760	18.5	12.2	920

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)
MAY													
11...	170	120	14.1	0.9	65.9	13	240	28.9	857	1,400	27.2	1.4	1.6

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
MAY													
11...	<0.010	<0.010	0.021	0.020	0.056	0.046	0.093	1.4	1.6	E39k	<6.0	<2.0	40

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)
MAY	
11...	280

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range

05053800 RED RIVER OF THE NORTH ABOVE FARGO, ND

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)
MAY													
12...	0930	521	140	725	11.5	119	8.4	8.2	609	593	6.6	14.4	260

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)
MAY													
12...	49.7	32.6	4.50	0.7	24.1	16	222	23.2	75.0	344	481	0.45	0.56

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Organic nitrogen, water, fltrd, mg/L (00607)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)
MAY													
12...	0.069	0.036	<0.020	<0.020	0.38	0.53	<0.010	0.053	0.166	0.47	0.58	E20k	21.4

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Manganese, water, fltrd, ug/L (01056)
MAY			
12...	0.6	10	10

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range

05062000 BUFFALO RIVER NEAR DILWORTH, MN

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Discharge, cfs (00060)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)
MAY													
12...	1300	127	860	728	10.9	104	8.2	8.3	756	740	7.0	11.2	330

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)
MAY													
12...	68.5	37.7	5.30	0.7	28.1	15	257	33.3	112	442	151	0.64	0.58

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Organic nitrogen, water, fltrd, mg/L (00607)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)
MAY													
12...	0.186	0.119	0.458	0.440	0.46	0.46	0.014	0.082	0.289	1.1	1.0	200	<30.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Manganese, water, fltrd, ug/L (01056)
MAY			
12...	<10.0	<10	40

Remark codes used in this table:
< -- Less than

05064000 WILD RICE RIVER AT HENDRUM, MN

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Discharge, cfs (00060)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)
MAY													
12...	1600	569	440	731	10.4	95	8.3	8.1	448	430	10.5	9.5	230

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)
MAY													
12...	53.2	24.6	3.70	0.2	8.20	7	189	5.1	51.5	265	405	0.69	0.43

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Organic nitrogen, water, fltrd, mg/L (00607)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)
MAY													
12...	0.170	0.182	0.638	0.620	0.52	0.25	0.141	0.140	0.460	1.3	1.1	250	<42.9

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Manganese, water, fltrd, ug/L (01056)
MAY			
12...	<14.3	<10	<10

Remark codes used in this table:
< -- Less than

05067500 MARSH RIVER NEAR SHELLY, MN

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Discharge, cfs (00060)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)
MAY													
13...	0850	576	340	742	11.8	98	8.0	7.8	459	444	1.0	6.2	200

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)
MAY													
13...	43.7	22.8	4.90	0.3	11.4	10	138	7.8	84.5	266	413	1.0	0.72

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Organic nitrogen, water, fltrd, mg/L (00607)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)
MAY													
13...	0.406	0.370	1.34	1.32	0.63	0.35	0.282	0.275	0.578	2.4	2.0	2,000	<30.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Manganese, water, fltrd, ug/L (01056)
MAY			
13...	<10.0	30	30

Remark codes used in this table:
< -- Less than

05069000 SANDHILL RIVER AT CLIMAX, MN

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Discharge, cfs (00060)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)
MAY													
11...	1545	47	43	729	14.8	139	8.5	8.4	657	647	4.0	10.5	350

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)
MAY													
11...	82.1	36.4	3.90	0.3	12.9	7	284	11.0	71.5	390	49.3	0.39	<0.08

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
MAY													
11...	<0.010	<0.010	0.039	0.040	<0.010	0.014	0.011	0.43	0.05	88	<10.0	<3.3	20

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)
MAY	
11...	10

Remark codes used in this table:
< -- Less than

05070000 RED RIVER OF THE NORTH NEAR THOMPSON, ND

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Discharge, cfs (00060)	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
DEC													
18...	1700	--	314	--	--	--	--	--	--	--	572	0.0	0.0
FEB													
19...	1120	--	354	--	--	--	--	--	--	--	1,000	0.5	0.0
APR													
01...	1640	--	22,400	--	--	--	--	--	--	--	430	13.5	3.0
08...	1130	--	7,740	--	--	--	--	--	--	--	828	4.0	8.0
MAY													
04...	1340	--	2,020	--	--	--	--	--	--	--	792	12.0	12.0
12...	1145	2,190	--	170	729	9.7	92	8.4	8.3	808	795	6.0	11.0
19...	1625	--	3,310	--	--	--	--	--	--	--	718	18.5	14.5
JUN													
03...	1215	--	10,600	--	--	--	--	--	--	--	664	21.5	16.0
JUL													
26...	1250	--	2,370	--	--	--	--	--	--	--	968	26.5	24.5
SEP													
10...	1255	--	6,030	--	--	--	--	--	--	--	393	24.5	18.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)
DEC													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	350	76.7	39.3	8.20	1	45.6	21	234	22.5	177	513	3,030	0.54
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--

05070000 RED RIVER OF THE NORTH NEAR THOMPSON, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Organic nitro-gen, water, fltrd, mg/L (00607)	Organic nitro-gen, water, unfltrd mg/L (00605)	Ortho-phos-phate, water, fltrd, mg/L as P (00671)	Phos-phorus, water, fltrd, mg/L (00666)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, fltrd, mg/L (00602)	Total nitro-gen, water, unfltrd mg/L (00600)	Fecal coli-form, M-FC 0.7u MF col/ 100 mL (31625)
DEC													
18...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB													
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
01...	--	--	--	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
04...	--	--	--	--	--	--	--	--	--	--	--	--	--
12...	0.43	0.046	<0.010	0.656	0.640	0.50	0.38	0.113	0.114	0.374	1.2	1.1	56
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUN													
03...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
26...	--	--	--	--	--	--	--	--	--	--	--	--	--
SEP													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chloro-phyll a phyto-plank-ton, fluoro, ug/L (70953)	Chloro-phyll b phyto-plank-ton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Mangan-ese, water, fltrd, ug/L (01056)
DEC				
18...	--	--	--	--
FEB				
19...	--	--	--	--
APR				
01...	--	--	--	--
08...	--	--	--	--
MAY				
04...	--	--	--	--
12...	<60.0	<20.0	<10	<10
19...	--	--	--	--
JUN				
03...	--	--	--	--
JUL				
26...	--	--	--	--
SEP				
10...	--	--	--	--

Remark codes used in this table:
< -- Less than

05080000 RED LAKE RIVER AT FISCHER, MN

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Discharge, cfs (00060)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)
MAY													
11...	1410	466	29	729	13.8	134	8.3	8.3	524	517	2.5	12.0	240

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)
MAY													
11...	59.5	22.9	3.90	0.2	8.10	7	208	10.9	64.8	295	370	0.63	0.62

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
MAY													
11...	<0.010	<0.010	0.026	0.020	0.031	<0.004	0.037	0.66	0.64	21	<7.5	<2.5	10

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)
MAY	
11...	10

Remark codes used in this table:
< -- Less than

05095000 TWO RIVERS AT HALLOCK, MN

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)
MAY													
10...	1420	135	120	745	11.4	114	8.2	8.1	505	498	E7.0	14.5	230

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)
MAY													
10...	56.3	22.6	5.40	0.2	7.60	6	192	16.9	52.6	279	101	0.77	0.54

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
MAY													
10...	<0.010	<0.010	0.016	0.020	0.019	0.005	0.137	0.79	0.56	E18k	<15.0	<5.0	60

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)
MAY	
10...	10

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range

465602096472700 RED RIVER OF THE NORTH ON CASS COUNTY ROAD 20 BELOW FARGO, ND

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
MAY													
12...	1200	731	260	11.2	8.3	7.8	639	622	8.4	12.1	260	49.2	33.5

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)
MAY													
12...	5.50	0.8	29.1	19	192	28.1	104	372	729	0.61	0.47	0.097	0.095

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Organic nitrogen, water, fltrd, mg/L (00607)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
MAY													
12...	0.994	0.980	0.51	0.38	0.014	0.192	0.329	1.6	1.4	510	<12.0	<4.0	10

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)
MAY	
12...	<10

Remark codes used in this table:
< -- Less than

470000096535300 SHEYENNE RIVER AT BROOKTREE PARK

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
MAY													
12...	1500	440	730	12.4	120	8.1	8.0	859	843	8.7	11.7	300	68.1

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)
MAY													
12...	32.6	8.80	1	57.2	28	189	25.7	233	544	0.64	0.45	0.070	0.079

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Organic nitrogen, water, fltrd, mg/L (00607)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
MAY													
12...	0.527	0.530	0.57	0.37	0.025	0.130	0.353	1.2	0.98	280	<30.0	<10.0	10

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)
MAY	
12...	20

Remark codes used in this table:
< -- Less than

480239097115000 TURTLE RIVER ABOVE MANVEL, ND

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)
MAY													
11...	1255	55	72	730	13.0	120	8.4	8.3	1,890	1,900	1.5	9.5	590

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)
MAY													
11...	138	60.3	10.5	3	194	41	243	250	405	1,210	179	0.53	0.56

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
MAY													
11...	<0.010	<0.010	0.039	0.050	0.031	<0.004	0.128	0.57	0.60	110	42.7	8.3	20

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)
MAY	
11...	280

Remark codes used in this table:
< -- Less than

482118097090500 FOREST RIVER NEAR CONFLUENCE WITH RED RIVER OF THE NORTH

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)
MAY													
11...	0825	87	340	736	11.6	107	8.3	8.2	1,830	1,840	0.5	10.0	450

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)
MAY													
11...	101	47.5	12.4	4	208	49	201	270	353	1,120	263	0.67	0.46

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Organic nitrogen, water, fltrd, mg/L (00607)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)
MAY													
11...	0.024	0.020	0.211	0.210	0.64	0.44	0.116	0.008	0.447	0.88	0.67	E20k	139

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Manganese, water, fltrd, ug/L (01056)
MAY			
11...	7.4	20	40

Remark codes used in this table:
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range

482451097062500 SNAKE RIVER NEAR BIG WOODS, MN

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)
MAY													
10...	1645	31	160	744	12.2	132	8.6	8.5	799	794	10.0	17.5	390

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)
MAY													
10...	85.5	44.0	5.30	0.4	19.3	9	292	31.5	119	482	39.8	0.76	0.55

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
MAY													
10...	<0.010	<0.010	0.020	0.070	0.014	0.027	0.148	0.78	0.62	25k	49.8	4.2	20

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)
MAY	
10...	100

Remark codes used in this table:
< -- Less than

Value qualifier codes used in this table:
k -- Counts outside acceptable range

482736097112800 PARK RIVER NEAR OAKWOOD, ND

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)
MAY													
11...	1115	71	190	732	15.0	131	8.5	8.3	2,490	2,510	1.5	7.5	500

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)
MAY													
11...	109	54.6	12.8	7	348	60	208	479	346	1,480	284	0.54	0.46

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)
MAY													
11...	<0.010	<0.010	0.533	0.530	0.017	0.004	0.177	1.1	0.99	350	46.7	2.0	290

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Manganese, water, fltrd, ug/L (01056)
MAY	
11...	140

Remark codes used in this table:
< -- Less than

485636097173800 PEMBINA RIVER ABOVE PEMBINA, ND

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, water, unfltrd field, NTU (61028)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	pH, water, unfltrd lab, std units (00403)	Specif. conductance, wat unf lab, uS/cm 25 degC (90095)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)
MAY													
10...	1300	864	230	745	10.9	105	8.0	7.9	624	619	5.5	12.5	230

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	ANC, wat unf fixed end pt, lab, mg/L as CaCO3 (90410)	Chloride, water, fltrd, mg/L (00940)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/d (70302)	Ammonia + org-N, water, fltrd, mg/L as N (00623)	Ammonia + org-N, water, unfltrd mg/L as N (00625)
MAY													
10...	58.2	20.5	9.70	0.9	32.7	23	160	11.7	150	382	888	0.60	0.56

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Ammonia water, fltrd, mg/L as N (00608)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Organic nitrogen, water, fltrd, mg/L (00607)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, fltrd, mg/L (00602)	Total nitrogen, water, unfltrd mg/L (00600)	Fecal coliform, M-FC 0.7u MF col/ 100 mL (31625)	Chlorophyll a phytoplankton, fluoro, ug/L (70953)
MAY													
10...	0.213	0.066	0.370	0.360	0.38	0.49	0.034	0.155	0.435	0.97	0.92	E19k	<3.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Chlorophyll b phytoplankton, fluoro, ug/L (70954)	Iron, water, fltrd, ug/L (01046)	Manganese, water, fltrd, ug/L (01056)
MAY			
10...	<1.0	20	<10

Remark codes used in this table:
< -- Less than
E -- Estimated value

Value qualifier codes used in this table:
k -- Counts outside acceptable range

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$^1/_4$NW$^1/_4$SW$^1/_4$ 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 2003 TO SEPTEMBER 2004

Period of collection	Precip-itation total, in/wk (00046)	Collector efficiency, atm dep wet, percent (82284)	Specific conductance wat unf µS/cm 25 decC (00095)	Specific conductance wat unf lab µS/cm 25 decC (90095)	pH, water, unfiltrd field, std units (00400)	pH, water, unfiltrd lab, std units (00403)	Calcium, water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)
09/30 to 10/07	.00	--	--	--	--	--	--	--
10/07 to 10/14	.10	110	10	9	5.5	5.9	.364	.053
10/14 to 10/21	--	--	--	--	--	--	--	--
10/21 to 10/28	--	--	4	4	6.2	6.2	.188	.055
10/28 to 11/04	.10	60	--	2	--	5.8	.064	.009
11/04 to 11/11	.10	40	--	2	--	5.8	.045	.008
11/11 to 11/18	.15	47	--	3	--	5.8	.080	.018
11/18 to 11/25	.25	28	--	3	--	5.9	.142	.026
11/25 to 12/02	.02	100	--	6	--	5.1	--	--
12/02 to 12/09	.13	77	--	6	--	5.1	.062	.008
12/09 to 12/16	.10	80	--	5	--	5.2	.031	.004
12/16 to 12/23	b.00	--	--	--	--	--	--	--
12/23 to 12/30	.45	36	15	17	6.2	6.4	.340	.024
12/30 to 01/06	.65	17	--	4	--	5.3	.053	.009
01/06 to 01/13	.06	17	--	a9	--	a4.9	a.117	a.013
01/13 to 01/20	.05	20	--	a7	--	a5.6	a.321	a.053
01/20 to 01/27	.55	25	3	4	5.3	5.3	.038	.006
01/27 to 02/03	.13	85	--	4	--	5.1	.021	<.003
02/03 to 02/10	b--	--	--	--	--	--	--	--
02/10 to 02/17	b--	--	--	--	--	--	--	--
02/17 to 02/24	.10	80	--	11	--	4.7	.072	.009
02/24 to 03/02	.55	11	--	15	--	4.7	.138	.023
03/02 to 03/09	.17	24	--	17	--	4.5	.113	.016
03/09 to 03/16	b.05	<.20	--	8	--	6.3	--	--
03/16 to 03/23	.17	29	6	6	5.5	5.7	.093	.020
03/23 to 03/30	2.77	96	4	5	5.5	5.9	.051	.007
03/30 to 04/06	b.00	--	--	--	--	--	--	--
04/06 to 04/13	1.15	101	6	6	5.4	5.9	.211	.046
04/13 to 04/20	.45	107	8	8	5.7	6.4	.214	.032
04/20 to 04/27	.07	129	--	15	--	6.7	.385	.076
04/27 to 05/04	--	--	--	17	--	7.1	--	--
05/04 to 05/11	.60	120	18	19	6.3	6.6	.832	.129
05/11 to 05/18	2.37	86	10	8	6.1	6.2	.201	.022
05/18 to 05/25	.80	112	7	7	5.7	6.2	.161	.030
05/25 to 06/01	1.40	106	6	6	5.5	5.8	.086	.011
06/01 to 06/08	.48	102	20	21	6.7	6.8	.428	.072
06/08 to 06/15	.10	60	--	15	--	6.5	.305	.072
06/15 to 06/22	.20	120	6	6	5.7	5.3	.185	.042
06/22 to 06/29	.18	111	--	9	--	6.8	.700	.193
06/29 to 07/06	1.04	100	9	8	5.9	6.2	.098	.024
07/06 to 07/13	.80	99	4	4	5.5	5.6	.079	.012
07/13 to 07/20	.10	130	--	14	--	6.6	.699	.138
07/20 to 07/27	.35	106	4	4	5.3	5.5	.069	.018
07/27 to 08/03	.83	104	--	6	--	5.8	.191	.043
08/03 to 08/10	.80	95	9	9	6.0	6.5	.327	.050
08/10 to 08/17	.03	133	--	8	--	6.1	.299	.080
08/17 to 08/24	.73	129	7	7	6.0	6.4	.262	.056
08/24 to 08/31	1.60	104	3	5	5.6	5.7	.060	.011
08/31 to 09/07	.54	100	11	11	6.6	6.6	.396	.053
09/07 to 09/14	.22	95	--	12	--	6.5	.314	.039
09/14 to 09/20	.80	100	5	5	5.6	6.0	.094	.013
09/20 to 09/28	.60	98	5	7	6.1	6.4	.198	.036

RED RIVER OF THE NORTH BASIN

484714097442301 ICELANDIC STATE PARK, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Period of collection	Sodium, water, fltrd, mg/L (00930)	Potasium, water, fltrd, mg/L (00935)	Sulfate, water, fltrd, mg/L (00945)	Chloride, water, fltrd, mg/L (00940)	Nitrate, water, fltrd, mg/L as N (00618)	Ammo nia, water, fltrd, mg/L as N (00608)	Phos-phorus, water, fltrd, mg/L (00666)
09/30 to 10/07	--	--	--	--	--	--	--
10/07/to 10/14	.123	.029	1.1	.08	.341	.390	<.003
10/14 to 10/21	--	--	--	--	--	--	--
10/21 to 10/28	.006	.025	.35	.02	.059	<.020	<.003
10/28 to 11/04	.018	.008	.05	.04	.054	.090	<.003
11/04 to 11/11	.011	.003	.07	.02	.028	.050	<.003
11/11 to 11/18	.008	.009	.09	.02	.097	.070	<.003
11/18 to 11/25	.011	.019	.07	.03	.093	.070	<.003
11/25 to 12/02	--	--	--	--	--	--	--
12/02 to 12/09	.013	.012	.20	.02	.152	.120	<.003
12/09 to 12/16	.006	<.003	.14	<.01	.137	.190	<.003
12/16 to 12/23	--	--	--	--	--	--	--
12/23 to 12/30	.062	.065	1.7	.07	.603	1.16	<.003
12/30 to 01/06	.008	.013	.10	.02	.145	.070	<.003
01/06 to 01/13	a.038	a.096	a.17	a.15	a.310	a.120	a<.003
01/13 to 01/20	a.064	a.011	a.44	a.15	a.326	a.210	a<.003
01/20 to 01/27	.004	.025	.07	.03	.091	.050	<.003
01/27 to 02/03	.005	.004	.15	.02	.061	.020	<.003
02/03 to 02/10	--	--	--	--	--	--	--
02/10 to 02/17	--	--	--	--	--	--	--
02/17 to 02/24	.030	.018	.54	.04	.232	.140	<.003
02/24 to 03/02	.039	.015	1.5	.05	.353	.390	<.003
03/02 to 03/09	.028	<.003	.31	.07	.594	.130	<.003
03/09 to 03/16	--	--	--	--	--	--	--
03/16 to 03/23	.012	.006	.68	.02	.163	.360	<.003
03/23 to 03/30	.036	.008	.43	.05	.111	.300	<.003
03/30 to 04/06	--	--	--	--	--	--	--
04/06 to 04/13	.020	.028	.68	.03	.151	.300	<.003
04/13 to 04/20	.036	.020	.76	.05	.194	.500	<.003
04/20 to 04/27	.049	.038	1.3	.05	.494	1.19	<.003
04/27 to 05/04	--	--	--	--	--	--	--
05/04 to 05/11	.095	.048	1.5	.09	.669	1.28	<.003
05/11 to 05/18	.039	.018	.95	.05	.244	.610	<.003
05/18 to 05/25	.018	.012	.58	.03	.290	.520	<.003
05/25 to 06/01	.007	.010	.53	.02	.141	.280	<.003
06/01 to 06/08	.031	.071	1.6	.08	.672	1.74	<.003
06/08 to 06/15	.046	.978	1.3	.11	.290	.640	.436
06/15 to 06/22	.011	.028	.77	.03	.112	.130	<.003
06/22 to 06/29	.012	.024	.59	.04	.111	.340	<.003
06/29 to 07/06	.004	.007	.73	.02	.260	.660	<.003
07/06 to 07/13	.011	.012	.27	.03	.138	.190	<.003
07/13 to 07/20	.016	.073	1.0	.07	.352	.930	<.003
07/20 to 07/27	.005	.020	.24	.03	.072	.090	<.003
07/27 to 08/03	.006	.015	.83	.02	.188	.330	<.003
08/03 to 08/10	.018	.021	.84	.06	.354	.570	<.003
08/10 to 08/17	.021	.041	.97	.06	.169	.430	<.003
08/17 to 08/24	.020	.034	.72	.04	.221	.430	<.003
08/24 to 08/31	.004	.004	.30	.03	.116	.160	<.003
08/31 to 09/07	.030	.054	1.1	.07	.395	.730	<.003
09/07 to 09/14	.035	.037	1.4	.07	.415	.850	<.003
09/14 to 09/20	.009	.024	.53	.02	.091	.290	<.003
09/20 to 09/28	.031	.055	.54	.05	.146	.370	.021

1 The use of brand names in this report is for identification purposes only and does not imply endorsemet by the U.S. Geological Survey.

a To provide for an adequate sample, low-volume samples were diluted to a final volume of 50 milliliters.

b Trace of water collected in field sampler.

< Less than.

JAMES RIVER BASIN

470732099140204 WOODWORTH, ND
(National Trends Network precipitation-quality station)

LOCATION.--Lat 47°14'32", long 99°14'02", in SE$^1/_4$SW$^1/_4$SW$^1/_4$ 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 2003 TO SEPTEMBER 2004

Period of collection	Precip-itation total, in/wk (00046)	Collector efficiency, atm dep wet, percent (82284)	Specific conductance wat unf µS/cm 25 decC (00095)	Specific conductance wat unf lab µS/cm 25 decC (90095)	pH, water, unfiltrd field, std units (00400)	pH, water, unfiltrd lab, std units (00403)	Calcium, water, fltrd, mg/L (00915)	Magnes-ium, water, fltrd, mg/L (00925)
09/30 to 10/07	.00	--	--	--	--	--	--	--
10/07 to 10/14	.08	75	7	6	5.7	5.8	.157	.022
10/14 to 10/21	.00	--	--	--	--	--	--	--
10/21 to 10/28	--	--	7	5	6.0	6.0	.158	.035
10/28 to 11/04	--	--	6	4	6.5	5.8	.059	.005
11/04 to 11/11	.00	--	--	--	--	--	--	--
11/11 to 11/18	.05	20	--	a9	--	a5.3	a.207	a.030
11/18 to 11/25	b.00	--	--	--	--	--	--	--
11/25 to 12/02	.00	--	--	--	--	--	--	--
12/02 to 12/09	.09	22	--	a6	--	a5.4	a.111	a<.003
12/09 to 12/16	b.02	<.01	--	--	--	--	--	--
12/16 to 12/23	.00	--	--	--	--	--	--	--
12/23 to 12/30	.15	13	--	c12	--	c6.3	c.169	c.025
12/30 to 01/06	.10	20	--	c4	--	c5.7	c.153	c.018
01/06 to 01/13	.00	--	--	--	--	--	--	--
01/13 to 01/20	.00	--	--	--	--	--	--	--
01/20 to 01/27	.12	.00	--	--	--	--	--	--
01/27 to 02/03	.02	100	--	c6	--	c5.0	c.090	c.011
02/03 to 02/10	b.07	<.14	--	--	--	--	--	--
02/10 to 02/18	.00	--	--	--	--	--	--	--
02/18 to 02/24	.30	220	8	8	5.8	5.0	.177	.021
02/24 to 03/02	b.06	<.01	--	--	--	--	--	--
03/02 to 03/09	.10	--	--	--	--	--	--	--
03/09 to 03/16	.05	80	--	36	--	7.1	3.17	1.11
03/16 to 03/23	b.02	<.01	--	24	--	5.1	--	--
03/23 to 03/30	2.43	96	8	7	6.1	6.3	.108	.012
03/30 to 04/06	.00	--	--	--	--	--	--	--
04/06 to 04/13	b.05	<.20	--	--	--	--	--	--
04/13 to 04/20	.36	92	18	15	6.1	6.7	.459	.055
04/20 to 04/27	.04	75	--	11	--	6.4	.295	.050
04/27 to 05/04	.03	33	--	c27	--	c6.9	c.644	c.120
05/04 to 05/11	.75	88	26	24	6.1	6.6	.917	.114
05/11 to 05/18	.70	94	14	10	6.2	6.5	.434	.042
05/18 to 05/25	1.33	89	9	7	6.2	6.1	.158	.030
05/25 to 06/01	3.11	101	6	4	5.5	5.7	.065	.008
06/01 to 06/08	.05	40	--	13	--	4.9	--	--
06/08 to 06/15	.90	103	10	7	6.2	6.4	.237	.038
06/15 to 06/22	.13	115	7	5	6.0	6.4	.124	.020
06/22 to 06/29	.52	69	8	6	6.2	6.3	.274	.076
06/29 to 07/06	1.72	89	12	12	5.8	6.7	.188	.089
07/06 to 07/13	1.36	62	16	15	6.3	6.7	.398	.080
07/13 to 07/20	b.15	<.07	--	--	--	--	--	--
07/20 to 07/27	b.35	<.03	--	--	--	--	--	--
07/27 to 08/03	.27	93	19	15	6.2	7.2	.662	.144
08/03 to 08/10	.45	89	10	8	6.1	6.5	.284	.040
08/10 to 08/17	.23	39	26	22	5.7	6.3	.749	.150
08/17 to 08/24	1.55	97	10	7	5.7	6.8	.202	.030
08/24 to 08/31	1.94	101	8	7	6.2	6.6	.206	.048
08/31 to 09/07	.84	99	8	5	5.9	6.3	.152	.022
09/07 to 09/14	.10	60	22	19	5.6	6.9	.850	.105
09/14 to 09/21	.56	104	8	6	8.8	6.3	.145	.018
09/21 to 09/28	1.05	99	3	3	5.8	5.5	.014	<.003

470732099140204 WOODWORTH, ND--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Period of collection	Sodium, water, fltrd, mg/L (00930)	Potasium, water, fltrd, mg/L (00935)	Sulfate, water, fltrd, mg/L (00945)	Choride, water, fltrd, mg/L (00940)	Nitrate, water, fltrd, mg/L as N (00618)	Ammonia, water, fltrd, mg/L as N (00608)	Phos-phorus, water, fltrd, mg/L (00666)
09/30 to 10/07	--	--	--	--	--	--	--
10/07 to 10/14	.058	.022	.48	.06	.207	.240	<.003
10/14 to 10/21	--	--	--	--	--	--	--
10/21 to 10/28	.041	.029	.70	.03	.123	.230	<.003
10/28 to 11/04	.010	.016	.39	.03	.073	.220	<.003
11/04 to 11/11	--	--	--	--	--	--	--
11/11 to 11/18	a.030	a<.003	a.97	a.09	a.335	a.370	a<.003
11/18 to 11/25	--	--	--	--	--	--	--
11/25 to 12/02	--	--	--	--	--	--	--
12/02 to 12/09	a.018	a.053	a.37	a.10	a.251	a.210	a<.003
12/09 to 12/16	--	--	--	--	--	--	--
12/16 to 12/23	--	--	--	--	--	--	--
12/23 to 12/30	c.114	c.048	c1.3	c.19	c.375	c.920	c<.003
12/30 to 01/06	c.015	c.013	c.25	c<.01	c.158	c.120	c<.003
01/06 to 01/13	--	--	--	--	--	--	--
01/13 to 01/20	--	--	--	--	--	--	--
01/20 to 01/27	--	--	--	--	--	--	--
01/27 to 02/03	c.033	c.019	c.46	c.05	c.118	c.050	c<.003
02/03 to 02/10	--	--	--	--	--	--	--
02/10 to 02/18	--	--	--	--	--	--	--
02/18 to 02/24	.148	.012	1.0	.06	.162	.090	<.003
02/24 to 03/02	--	--	--	--	--	--	--
03/02 to 03/09	--	--	--	--	--	--	--
03/09 to 03/16	.604	.670	6.8	.28	.385	.230	<.003
03/16 to 03/23	--	--	--	--	--	--	--
03/23 to 03/30	.058	.011	.63	.07	.155	.540	<.003
03/30 to 04/06	--	--	--	--	--	--	--
04/06 to 04/13	--	--	--	--	--	--	--
04/13 to 04/20	.086	.054	1.5	.08	.417	1.06	<.003
04/20 to 04/27	.068	.054	1.5	.04	.198	.850	<.003
04/27 to 05/04	c.124	c.080	c4.9	c.15	c.578	c1.81	c<.003
05/04 to 05/11	.149	.064	1.9	.15	.786	1.75	<.003
05/11 to 05/18	.094	.025	.86	.11	.253	.640	<.003
05/18 to 05/25	.017	.009	.50	.03	.308	.470	<.003
05/25 to 06/01	.008	.006	.36	.03	.121	.200	<.003
06/01 to 06/08	--	--	--	--	--	--	--
06/08 to 06/15	.031	.041	.56	.05	.238	.440	<.003
06/15 to 06/22	.012	.014	.29	.03	.120	.350	<.003
06/22 to 06/29	.008	.017	.53	.03	.132	.220	<.003
06/29 to 07/06	.019	.160	1.0	.07	.306	.750	.103
07/06 to 07/13	.054	.104	1.2	.15	.432	1.13	.009
07/13 to 07/20	--	--	--	--	--	--	--
07/20 to 07/27	--	--	--	--	--	--	--
07/27 to 08/03	.020	.067	1.1	.07	.395	.980	<.003
08/03 to 08/10	.029	.032	.69	.08	.323	.530	<.003
08/10 to 08/17	.035	.122	3.6	.12	.787	1.38	<.003
08/17 to 08/24	.033	.023	.61	.03	.195	.480	<.003
08/24 to 08/31	.011	.023	.48	.03	.173	.380	<.003
08/31 to 09/07	.008	.020	.50	.03	.154	.290	<.003
09/07 to 09/14	.082	.082	1.9	.12	.849	1.26	<.003
09/14 to 09/21	.016	.046	.63	.03	.135	.390	<.003
09/21 to 09/28	.004	<.003	.16	.01	.049	.060	<.003

1 The use of brand names in this report is for identification purposes only and does not imply endorsemet 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.

c To provide for an adequate sample, low-volume samples were diluted to a final volume of 50 milliliters.

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