06478515 MISSOURI RIVER NEAR GAYVILLE, SD

 $\label{location.--Lat 42°51'01", long 97°13'12", in SW} \\ {}^{l}_{/4} \ NW^{l}_{/4} \ sec. 27, T.93 \ N., R.54 \ W., Yankton County, Hydrologic Unit 10170101, 3.8 \ mi \ southwest of Gayville, 4.1 \ mi \ downstream from James River, and at mile 796.0. }$

PERIOD OF RECORD .-- October 1969 to current year.

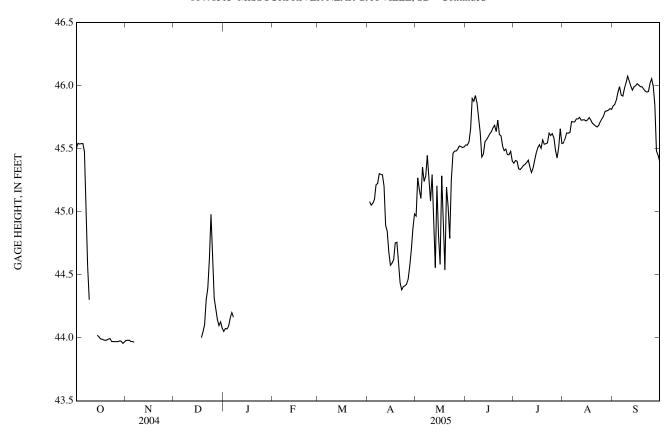
 $GAGE.--Water-stage\ recorder.\ Datum\ of\ gage\ is\ 1,100.00\ ft\ above\ NGVD\ of\ 1929\ (levels\ by\ U.S.\ Army\ Corps\ of\ Engineers).$

REMARKS.--Records good except for periods of missing record. Stage regulated by Gavins Point Dam 15.0 mi upstream. U.S. Army Corps of Engineers data-collection platform at station. Gage heights for period of October 1969 to September 1980 in files of U.S. Army Corps of Engineers.

GAGE HEIGHT, FEET WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005 DAILY MEAN VALUES

					D/111	D 1 1V1D/11 V	TLCLS					
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45.50	43.98		44.05				44.97	45.53	45.39	45.55	45.84
2	45.54	43.98		44.07			45.08	45.27	45.53	45.41	45.58	45.85
3	45.54	43.98		44.07			45.05	45.18	45.55	45.40	45.62	45.89
4	45.54	43.97		44.09			45.07	45.10	45.66	45.34	45.62	45.95
5	45.54	43.97		44.16			45.10	45.36	45.90	45.34	45.63	45.99
3	43.34	43.97		44.10			45.10	45.50	45.90	45.54	45.05	43.99
6	45.48	43.96		44.20			45.21	45.24	45.88	45.35	45.72	45.93
7	45.03			44.16			45.22	45.28	45.92	45.37	45.71	45.92
8	44.57						45.30	45.45	45.86	45.38	45.71	45.98
9	44.30						45.30	45.26	45.75	45.39	45.74	46.02
10							45.29	45.08	45.63	45.41	45.74	46.08
11							45.20	45.29	45.43	45.36	45.75	46.04
12							44.89	44.92	45.46	45.31	45.73	46.00
13							44.84	44.56	45.56	45.35	45.73	45.97
13	44.02						44.68	45.21	45.57	45.41	45.73	45.99
15	44.02						44.58	44.81	45.59	45.47	45.73	46.00
13	44.01						44.36	44.61	43.39	43.47	43.72	40.00
16	43.99						44.59	44.58	45.62	45.51	45.73	46.02
17	43.99						44.62	45.28	45.63	45.53	45.75	46.00
18	43.98		44.00				44.75	44.84	45.67	45.50	45.73	45.99
19	43.98		44.05				44.76	44.54	45.69	45.57	45.70	45.99
20	43.98		44.11				44.58	45.20	45.64	45.54	45.69	45.97
21	43.99		44.30				44.44	45.04	45.73	45.54	45.68	45.96
22	43.99		44.39				44.38	44.79	45.61	45.55	45.67	45.95
23	43.97		44.63				44.40	45.25	45.60	45.62	45.69	45.95
24	43.97		44.98				44.41	45.46	45.52	45.60	45.72	46.02
25	43.97		44.67				44.43	45.48	45.49	45.62	45.74	46.05
23	43.97		44.07				44.43	43.40	43.49	45.02	43.74	40.03
26	43.97		44.31				44.46	45.48	45.50	45.59	45.76	46.00
27	43.97		44.23				44.57	45.50	45.45	45.49	45.80	45.85
28	43.98		44.14				44.70	45.52	45.45	45.43	45.80	45.48
29	43.97		44.10				44.87	45.52	45.48	45.51	45.81	45.45
30	43.96		44.13				44.98	45.51	45.40	45.66	45.82	45.40
31	43.97		44.08					45.51		45.54	45.81	
MEAN								45.18	45.61	45.47	45.72	45.92
MAX								45.16	45.92	45.66	45.72	45.92
MIN								44.54	45.40	45.31	45.55	45.40

06478515 MISSOURI RIVER NEAR GAYVILLE, SD—Continued



06478540 LITTLE VERMILLION RIVER NEAR SALEM, SD (Hydrologic bench-mark station)

 $LOCATION.--Lat~43^{\circ}47'39'', long~97^{\circ}22'02'', in~SW^{1}/_{4}~sec. 19, T.104~N., R.54~W., McCook~County, Hydrologic~Unit~10170102, on~right~bank~near~downstream~end~of~culvert~on~county~road,~2.0~mi~upstream~from~small~left-bank~tributary,~and~5.2~mi~northeast~of~Salem.$

DRAINAGE AREA.--78.6 mi².

PERIOD OF RECORD.--October 1966 to current year.

REVISED RECORDS.--WDR SD-84-1, WDR SD-89-1: Drainage area.

GAGE.--Water-stage recorder, crest-stage gage, and concrete dam. Elevation of gage is 1,510 ft above NGVD of 1929, from topographic map.

REMARKS.--Records fair. Satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

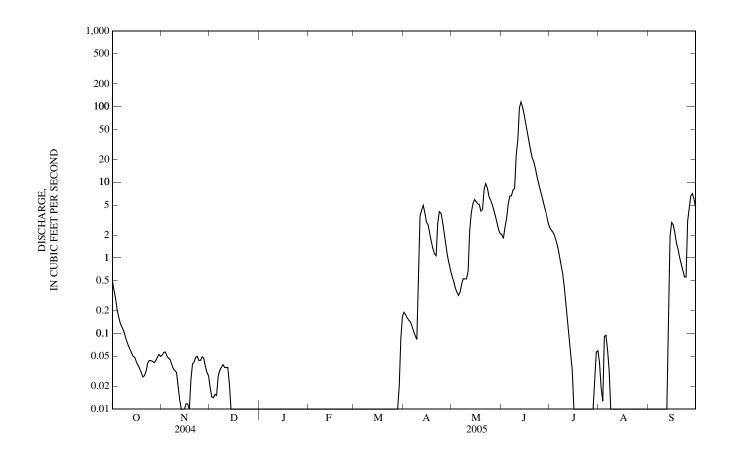
DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005 DAILY MEAN VALUES

					DAIL	LI MICAIN V	ALUES					
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.49	0.05	0.02	0.00	0.00	0.00	0.19	0.57	2.0	2.5	0.04	0.00
2	0.37	0.06	0.01	0.00	0.00	0.00	0.18	0.49	1.8	2.3	0.02	0.00
2 3	0.29	0.06	0.01	0.00	0.00	0.00	0.16	0.40	2.5	2.2	0.01	0.00
4	0.20	0.05	0.02	0.00	0.00	0.00	0.15	0.35	3.3	1.9	0.09	0.00
5	0.16	0.05	0.02	0.00	0.00	0.00	0.14	0.32	5.1	1.6	0.10	0.00
6	0.13	0.05	0.03	0.00	0.00	0.00	0.13	0.35	6.6	1.4	0.06	0.00
7	0.12	0.04	0.03	0.00	0.00	0.00	0.11	0.45	6.6	1.1	0.03	0.00
8	0.11	0.03	0.04	0.00	0.00	0.00	0.09	0.53	7.9	0.82	0.01	0.00
9	0.09	0.03	0.04	0.00	0.00	0.00	0.08	0.53	8.3	0.62	0.00	0.00
10	0.08	0.03	0.04	0.00	0.00	0.00	0.88	0.53	23	0.41	0.00	0.00
11	0.07	0.02	0.04	0.00	0.00	0.00	3.6	0.67	36	0.25	0.00	0.00
12	0.06	0.01	0.04	0.00	0.00	0.00	4.3	2.3	96	0.15	0.00	0.00
13	0.06	0.01	0.02	0.00	0.00	0.00	4.9	4.0	116	0.10	0.00	0.28
14	0.05	0.01	0.01	0.00	0.00	0.00	3.9	5.2	99	0.06	0.00	1.9
15	0.05	0.01	0.01	0.00	0.00	0.00	3.0	5.9	78	0.03	0.00	2.9
16	0.04	0.01	0.00	0.00	0.00	0.00	2.8	5.6	59	0.01	0.00	2.7
17	0.04	0.01	0.00	0.00	0.00	0.00	2.1	5.2	44	0.00	0.00	2.1
18	0.03	0.01	0.00	0.00	0.00	0.00	1.7	5.1	34	0.00	0.00	1.6
19	0.03	0.02	0.00	0.00	0.00	0.00	1.3	4.2	26	0.00	0.00	1.3
20	0.03	0.04	0.00	0.00	0.00	0.00	1.1	4.3	21	0.00	0.00	1.0
21	0.03	0.04	0.00	0.00	0.00	0.00	1.1	8.1	19	0.00	0.00	0.83
22	0.03	0.05	0.00	0.00	0.00	0.00	2.9	9.6	15	0.00	0.00	0.69
23	0.03	0.05	0.00	0.00	0.00	0.00	4.1	8.5	12	0.00	0.00	0.56
24	0.04	0.03	0.00	0.00	0.00	0.00	3.9	6.5	9.8	0.00	0.00	0.56
25	0.04	0.04	0.00	0.00	0.00	0.00	3.0	5.8	8.0	0.00	0.00	3.1
26	0.04	0.05	0.00	0.00	0.00	0.00	2.1	5.1	6.7	0.00	0.00	4.5
27	0.04	0.05	0.00	0.00	0.00	0.00	1.5	4.3	5.4	0.00	0.00	6.7
28	0.04	0.04	0.00	0.00	0.00	0.01	1.1	3.6	4.4	0.00	0.00	7.1
29	0.05	0.03	0.00	0.00		0.02	0.85	2.9	3.5	0.02	0.00	6.0
30	0.05	0.03	0.00	0.00		0.09	0.69	2.4	2.9	0.06	0.00	4.6
31	0.05		0.00	0.00		0.17		2.1		0.06	0.00	
TOTAL	2.95	1.02	0.38	0.00	0.00	0.29	52.05	105.89	762.8	15.59	0.36	48.42
MEAN	0.10	0.03	0.01	0.00	0.00	0.01	1.74	3.42	25.4	0.50	0.01	1.61
MAX	0.49	0.06	0.04	0.00	0.00	0.17	4.9	9.6	116	2.5	0.10	7.1
MIN	0.03	0.01	0.00	0.00	0.00	0.00	0.08	0.32	1.8	0.00	0.00	0.00
AC-FT	5.9	2.0	0.8	0.00	0.00	0.6	103	210	1,510	31	0.7	96
AC-IT	3.9	2.0	0.6	0.00	0.00	0.0	103	210	1,510	31	0.7	90
STATIST	TICS OF MO	ONTHLY M	IEAN DATA	A FOR WAT	TER YEARS	1967 - 2005,	BY WATE	R YEAR (W	YY)			
MEAN	2.01	1.40	0.38	0.05	2.16	19.2	21.3	9.88	15.8	13.6	2.78	2.47
MAX	40.0	17.1	4.08	0.91	40.7	158	173	95.7	186	430	50.3	63.0
(WY)	(1996)	(1996)	(1983)	(1983)	(1983)	(1997)	(1997)	(1995)	(1993)	(1993)	(1992)	(1986)
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)	(1967)	(1967)	(1967)	(1967)	(1968)	(1968)	(1967)	(1967)	(1968)	(1968)	(1967)	(1967)
(" 1)	(1701)	(1/07)	(1707)	(1707)	(1700)	(1700)	(1707)	(1/0/)	(1700)	(1700)	(1701)	(1/0/)

06478540 LITTLE VERMILLION RIVER NEAR SALEM, SD-Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR Y	/EAR	FOR 2005 WAT	TER YEAR	WATER YEARS 1967 - 200		
ANNUAL TOTAL ANNUAL MEAN HIGHEST ANNUAL MEAN	712.58 1.95		989.75 2.71		^a 7.59 73.4	1993	
LOWEST ANNUAL MEAN HIGHEST DAILY MEAN LOWEST DAILY MEAN	51 Jun 0.00 Jan	3	116 0.00	Jun 13 Dec 16	^b 0.00 2,500 ^c 0.00	1968 Jul 4, 1993 Oct 1, 1966	
ANNUAL SEVEN-DAY MINIMUM MAXIMUM PEAK FLOW MAXIMUM PEAK STAGE	0.00 Jan	1	0.00 120 7.23	Dec 16 Jun 13 Jun 13	0.00 e3,300 d11.95	Oct 1, 1966 Jul 4, 1993 Jul 4, 1993	
ANNUAL RUNOFF (AC-FT) 10 PERCENT EXCEEDS 50 PERCENT EXCEEDS 90 PERCENT EXCEEDS	1,410 4.4 0.05 0.00		1,960 5.1 0.03 0.00		5,500 9.2 0.00 0.00	, , , , , ,	

<sup>a Median of annual mean discharges, 2.7 ft³/s.
b Also 1975 and 1981 water years.
c No flow for many days in each year.
d From floodmark.
e Estimated.</sup>



06478600 EAST FORK VERMILLION RIVER NEAR PARKER, SD

LOCATION.--Lat 43°26'43", long 97°06'34", in NW¹/4 NW¹/4 NE¹/4 sec.33, T.100 N., R.53 W., Turner County, Hydrologic Unit 10170102, on left bank at downstream end of county highway bridge, 4.1 mi upstream from the confluence with West Fork Vermillion River, 14.5 mi west of Tea, and 3.5 mi north-northeast of Parker.

DRAINAGE AREA.--973 mi².

PERIOD OF RECORD .-- October 1995 to current year.

REVISED RECORDS.--WDR SD-97-1: 1996 (daily discharges, June 2-5, 21), 1996 (M).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,320 ft above NGVD of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

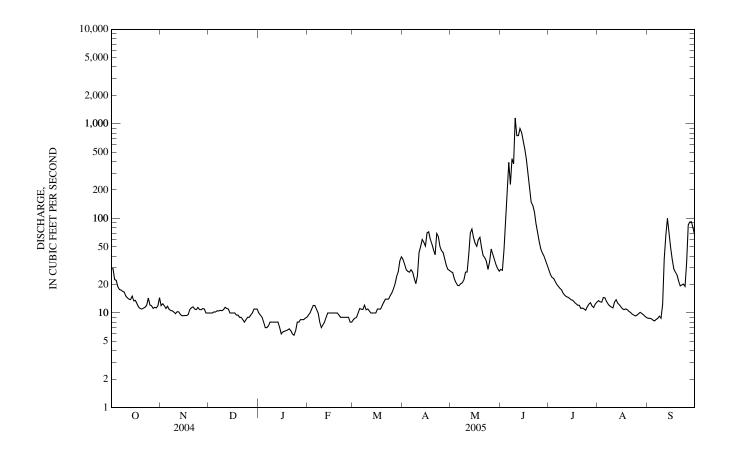
DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005 DAILY MEAN VALUES

	DAIL I MEAN VALUES											
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1 2 3 4 5	29 29 23 22 19	12 12 12 11 12	e10 e10 e10 10	e10 e9.5 e9.0 e8.0 e7.0	e9.5 e10 e11 e12 e12	e8.5 e8.8 e9.0 e10	37 33 29 28 27	27 27 23 21 20	29 28 47 111 226	29 25 24 23 21	13 13 13 15 14	8.8 8.8 8.7 8.4 8.2
6 7 8 9 10	18 17 17 17 17	11 11 11 10 9.8	11 10 11 11	e7.0 e7.3 e8.0 e8.0 e8.0	e11 e10 e8.0 e7.0 e7.5	11 11 12 11	29 27 23 20 25	19 20 21 22 27	392 228 429 377 1,160	20 19 18 18 16	13 12 12 12 11	8.5 8.8 9.3 8.8 12
11 12 13 14 15	14 14 14 15 13	10 10 9.7 9.3 9.4	11 11 e11 e10 e10	e8.0 e8.0 e8.0 e7.0 e6.0	e8.0 e9.0 e10 e10 e10	e10 e10 e10 e10 e10	43 51 60 56 51	27 41 70 77 63	752 751 896 812 656	15 15 15 14 14	13 14 13 12 12	38 66 100 70 49
16 17 18 19 20	14 13 12 11	9.4 9.4 9.7 11	e10 e10 e9.5 e9.5 e9.0	e6.3 e6.4 e6.5 e6.6 e6.8	e10 e10 e10 e10 e9.5	e11 e11 e11 e12 e13	70 72 61 54 47	55 51 59 63 49	541 421 302 209 148	14 13 13 12 12	11 11 11 11 10	37 29 27 25 22
21 22 23 24 25	11 11 12 14 12	12 11 11 11 11	e9.0 e8.5 e8.0 e8.5 e9.0	e6.5 e6.0 e5.8 e6.5 e8.0	e9.0 e9.0 e9.0 e9.0	e14 e14 14 15 16	41 69 64 51 46	40 39 35 29 35	138 117 88 71 57	11 11 11 11 12	9.7 9.5 9.3 9.5	19 20 20 19 34
26 27 28 29 30 31	12 11 11 11 12 15	11 11 e11 e10 e10	e9.0 e9.5 e10 e11 e11	e8.0 e8.5 e8.5 e8.5 e8.8 e9.0	e9.0 e8.0 e8.0 	18 20 24 27 36 39	44 37 32 29 28	48 42 37 32 30 28	48 43 40 36 32	12 13 12 11 12 13	9.8 10 9.9 9.6 9.2 9.0	85 92 92 79 67
TOTAL MEAN MAX MIN AC-FT	469 15.1 29 11 930	319.7 10.7 12 9.3 634	309.5 9.98 11 8.0 614	235.5 7.60 10 5.8 467	264.5 9.45 12 7.0 525	448.3 14.5 39 8.5 889	1,284 42.8 72 20 2,550	1,177 38.0 77 19 2,330	9,185 306 1,160 28 18,220	479 15.5 29 11 950	351.5 11.3 15 9.0 697	1,080.3 36.0 100 8.2 2,140
STATIST	ICS OF MO	ONTHLY M	EAN DATA	FOR WAT	ER YEARS	1996 - 2005	, BY WATE	R YEAR (W	YY)			
MEAN MAX (WY) MIN (WY)	76.3 332 (1996) 5.35 (2001)	79.2 280 (1996) 5.36 (2001)	44.9 151 (1996) 2.21 (2001)	27.0 128 (1996) 1.80 (2001)	45.7 215 (1996) 1.55 (2001)	158 732 (1997) 14.5 (2005)	330 1,070 (1997) 18.0 (2004)	214 832 (1997) 33.7 (2003)	186 467 (1996) 36.8 (2000)	87.2 180 (1996) 15.5 (2005)	60.2 156 (1996) 7.14 (2000)	51.8 101 (1999) 5.41 (2000)

06478600 EAST FORK VERMILLION RIVER NEAR PARKER, SD-Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR	FOR 2005 WATER YEAR	WATER YEARS 1996 - 2005	
ANNUAL TOTAL ANNUAL MEAN HIGHEST ANNUAL MEAN LOWEST ANNUAL MEAN HIGHEST DAILY MEAN LOWEST DAILY MEAN ANNUAL SEVEN-DAY MINIMUM MAXIMUM PEAK FLOW	11,729.6 32.0 1,210 May 30 2.3 Feb 4 2.3 Feb 4	15,603.3 42.7 1,160 Jun 10 5.8 Jan 23 6.4 Jan 17 2,250 Jun 10	**113	
MAXIMUM PEAK STAGE ANNUAL RUNOFF (AC-FT) 10 PERCENT EXCEEDS 50 PERCENT EXCEEDS 90 PERCENT EXCEEDS	23,270 52 13 6.0	10.51 Jun 10 30,950 63 12 8.5	**C12.75 Mar 22, 1997 82,060 268 45 7.5	

<sup>a Median of annual mean discharges, 70 ft³/s.
b Gage height, 12.73 ft.
c Backwater from ice.
e Estimated.</sup>



06478690 WEST FORK VERMILLION RIVER NEAR PARKER, SD

LOCATION.--Lat 43°24′55", long 97°12′18", in NE $^1\!\!/_4$ NE $^1\!\!/_4$ sec.10, T.99 N., R.54 W., Turner County, Hydrologic Unit 10170102, on right bank 10 ft downstream from bridge, 3.7 mi northwest of Parker, and 13.9 mi upstream from confluence with East Fork Vermillion River.

DRAINAGE AREA.--377 mi².

PERIOD OF RECORD .-- August 1961 to current year.

REVISED RECORDS.--WDR SD-89-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,340 ft above NGVD of 1929, from topographic map. Prior to Oct. 11, 1973, nonrecording gage and crest-stage gage at same site and datum.

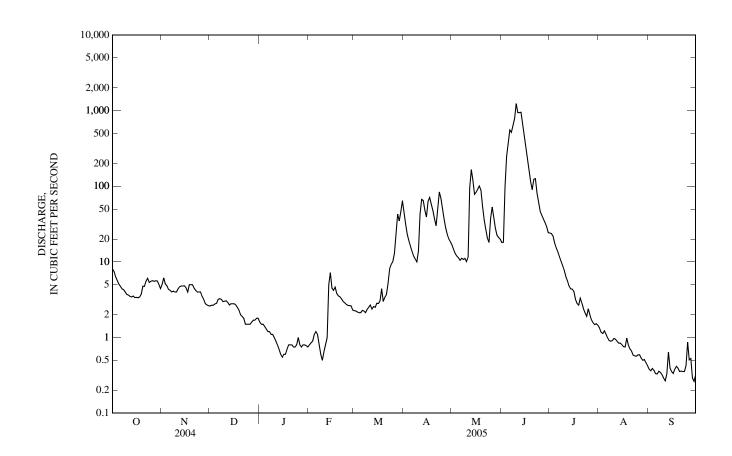
REMARKS.--Records good except those for Feb. 17-28 and Sept. 25-30, which are fair and those for estimated daily discharges, which are poor. Satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

	DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005 DAILY MEAN VALUES											
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.1	5.0	2.6	e1.6	e0.80	2.3	46	17	18	24	1.3	0.38
2	7.5	6.2	2.7	e1.5	e0.85	2.2	32	14	18	24	1.2	0.36
3	6.4	5.1	2.7	e1.5	e0.90	2.2	23	13	97	22	1.1	0.39
4	5.7	4.9	2.8	e1.4	e1.1	2.1	19	12	247	18	1.2	0.37
5	5.1	4.3	2.8	e1.3	e1.2	2.1	16	11	380	15	1.1	0.33
6	4.7	4.2	3.2	e1.2	e1.1	2.3	14	10	553	14	0.99	0.33
7	4.4	e4.0	3.3	e1.2	e0.80	2.2	12	11	517	12	0.91	0.36
8	4.3	e4.1	3.2	e1.1	e0.60	2.1	11	11	637	10	0.89	0.34
9	4.0	e4.0	3.0	e1.1	e0.50	2.4	10	11	785	8.9	0.91	0.32
10	3.7	e4.0	3.0	e1.0	e0.65	2.5	14	10	1,240	7.7	0.97	0.29
11	3.6	e4.4	3.1	e0.90	e0.80	2.7	43	12	945	6.4	0.95	0.27
12	3.5	e4.7	2.9	e0.80	e1.0	2.4	67	96	940	5.6	0.89	0.33
13	3.4	e4.8	2.7	e0.70	e5.0	2.6	65	166	954	4.8	0.84	0.64
14	3.5	e4.8	e2.8	e0.60	e7.2	2.5	49	120	672	4.4	0.84	0.40
15	3.4	4.8	e2.8	e0.55	e4.5	2.8	39	78	452	4.4	0.80	0.35
16	3.4	4.5	e2.8	e0.60	e4.2	2.8	63	83	319	4.1	0.76	0.34
17	3.4	4.0	e2.7	e0.60	4.6	3.1	71	91	222	3.2	0.75	0.38
18	3.4	e5.0	e2.5	e0.70	3.8	4.4	58	101	159	2.8	0.98	0.42
19	3.7	e5.0	e2.3	e0.80	3.6	e3.0	47	89	116	2.7	0.80	0.39
20	4.8	e5.0	e2.0	e0.80	3.5	e3.4	37	55	90	3.3	0.71	0.35
21 22 23 24 25	4.8 5.5 6.1 5.4 5.5	e4.5 e4.2 e4.0 e4.0 e4.0	e1.9 e1.8 e1.5 e1.5 e1.5	e0.80 e0.75 e0.75 e0.80 e1.0	3.2 3.0 2.9 2.7 2.7	e3.7 5.2 8.1 9.3	30 49 84 69 51	37 27 21 18 38	124 126 81 61 47	2.9 2.4 2.1 1.9 2.4	0.66 0.58 0.57 0.57 0.59	0.36 0.35 0.36 0.43 0.87
26 27 28 29 30 31	5.6 5.5 5.6 5.6 5.0 4.4	e3.5 e3.2 e2.8 e2.7 2.6	e1.5 e1.6 e1.7 e1.7 e1.8 e1.8	e0.80 e0.75 e0.80 e0.80 e0.78 e0.75	2.6 2.6 2.3 	13 24 43 35 46 64	37 28 23 20 18	53 38 28 22 21 20	41 37 33 29 24	2.0 1.7 1.6 1.5 1.5	0.59 0.54 0.50 0.51 0.47 0.42	0.51 0.53 0.29 0.26 0.32
TOTAL	149.0	128.3	74.2	28.73	68.70	313.4	1,145	1,334	9,964	218.8	24.89	11.62
MEAN	4.81	4.28	2.39	0.93	2.45	10.1	38.2	43.0	332	7.06	0.80	0.39
MAX	8.1	6.2	3.3	1.6	7.2	64	84	166	1,240	24	1.3	0.87
MIN	3.4	2.6	1.5	0.55	0.50	2.1	10	10	18	1.5	0.42	0.26
AC-FT	296	254	147	57	136	622	2,270	2,650	19,760	434	49	23
STATIST	TCS OF MO	ONTHLY M	EAN DATA	FOR WAT	ER YEARS	1962 - 2005	S, BY WATE	R YEAR (W	/Y)			
MEAN	6.54	9.32	2.86	1.08	16.2	121	134	61.7	89.1	46.5	9.58	11.0
MAX	106	156	33.4	9.05	267	795	1,112	550	1,345	1,081	144	324
(WY)	(1996)	(1999)	(1999)	(1983)	(1983)	(1997)	(2001)	(1995)	(1984)	(1993)	(1993)	(1986)
MIN	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.01	0.00	0.00	0.00
(WY)	(1975)	(1982)	(1965)	(1965)	(1975)	(1981)	(1990)	(1990)	(1981)	(1989)	(1989)	(1989)

06478690 WEST FORK VERMILLION RIVER NEAR PARKER, SD-Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR	FOR 2005 WATER YEAR	WATER YEARS 1962 - 2005
ANNUAL TOTAL ANNUAL MEAN HIGHEST ANNUAL MEAN	6,902.35 18.9	13,460.64 36.9	^a 42.4 249 1993
LOWEST ANNUAL MEAN HIGHEST DAILY MEAN	984 May 30	1.240 Jun 10	0.02 1981 4,410 Apr 23, 2001
LOWEST DAILY MEAN	0.32 Feb 26	0.26 Sep 29	^b 0.00 Oct 6, 1961
ANNUAL SEVEN-DAY MINIMUM	0.35 Feb 15	0.32 Sep 5	0.00 Nov 4, 1961
MAXIMUM PEAK FLOW		1,370 Jun 10	c6,370 Apr 23, 2001
MAXIMUM PEAK STAGE		8.92 Jun 10	d13.14 May 8, 1993
ANNUAL RUNOFF (AC-FT)	13,690	26,700	30,700
10 PERCENT EXCEEDS	36	62	62
50 PERCENT EXCEEDS	3.5	3.4	1.2
90 PERCENT EXCEEDS	0.48	0.57	0.00

<sup>a Median of annual mean discharges, 20 ft³/s.
b No flow for many days in most years.
c Gage height, 12.22 ft.
d Discharge, 6,300 ft³/s.
e Estimated.</sup>



06479010 VERMILLION RIVER NEAR VERMILLION, SD

LOCATION.--Lat 42°49'02", long 96°55'26", in SE\(^1_4\) SE\(^1_4\) NE\(^1_4\) sec.1, T.92 N., R.52 W., Clay County, Hydrologic Unit 10170102, on left bank 30 ft downstream from bridge, 2.7 mi north of Vermillion, 2.9 mi upstream from Clay Creek, and 10.8 mi upstream from mouth.

DRAINAGE AREA.--2,302 mi², of which 494 mi² usually is noncontributing (area was contributing during 1986-88, 1993-2002).

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

REVISED RECORDS .-- WDR SD-89-1: Drainage area.

7.99

(1990)

5.54

(1990)

MIN

(WY)

7.37

(1991)

6.71

(1991)

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,125 ft above NGVD of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are poor. U.S. Army Corps of Engineers satellite data-collection platform at station. Flow affected by East Vermillion Lake Reservoir, capacity, 550 acres, located about 54 mi upstream. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005 DAILY MEAN VALUES NOV DAY OCT DEC JAN FEB MAR APR MAY JUN JUL AUG SEP 1,070 e37 e45 e35 e46 e32 e44 e30 e43 1.530 e27 e42 3,350 e26 e42 3.040 e41 71 2.840 e27 2.890 79 e28 e41 e29 2.830 e43 72. e28 e47 2,660 e27 e51 2,490 2,290 e26 e56 e25 e59 2,170 e54 e23 e88 2,130 e47 e22 e131 2,100 e45 e23 e173 2,060 e46 e24 1,990 e166 e29 e47 e139 1,820 e45 e34 1,500 e42 1.210 e35 2.1 e40 1.400 e36 23 e38 e35 1,020 e36 e39 e35 e43 e35 e45 e35 e44 e42 e36 e37 e42 e38 e42 e45 ---e39 e42 e39 e43 2,176 1,770 2,304 7,198 49.503 5,615 TOTAL 1,525 1,020 2,210 11,446 2,078 1,551 70.2 49.2 78.9 1,650 59.0 32.9 67.0 MEAN 74.3 51.7 MAX 3,350 MIN AC-FT 4,320 3,510 3.020 2.020 4,380 4,570 14.280 22,700 98,190 11,140 4.120 3,080 STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2005, BY WATER YEAR (WY) MEAN 91.9 53.3 95.4 1,024 5,920 1,693 4,405 2,432 6,062 1,434 MAX (1997)(1987)(1999)(1996)(1996)(1994)(1995)(1984)(1993)(1993)(WY) (1984)(1986)

9.00

(1989)

15.3

(1991)

13.1

(1990)

21.8

(1991)

14.2

(1989)

15.4

(1989)

13.2

(1990)

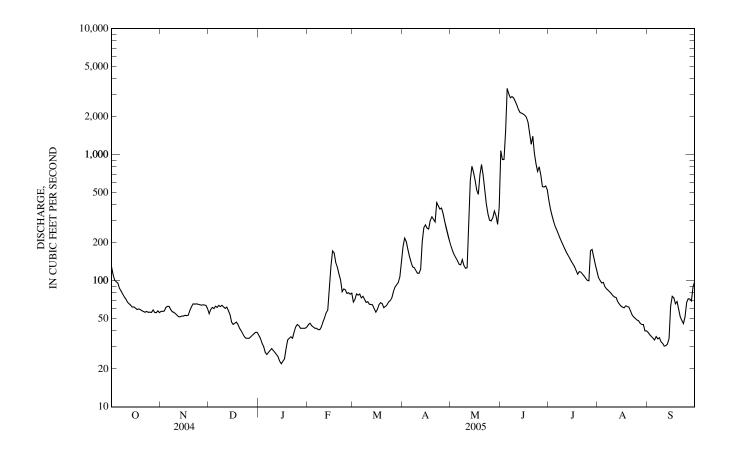
5.22

(1991)

06479010 VERMILLION RIVER NEAR VERMILLION, SD-Continued

SUMMARY STATISTICS	FOR 2004 CALE	ENDAR YEAR	FOR 2005 WAT	TER YEAR	WATER YEARS 1984 - 2005		
ANNUAL TOTAL ANNUAL MEAN HIGHEST ANNUAL MEAN	65,059 178		88,396 242		^a 374 1,416	1993	
LOWEST ANNUAL MEAN HIGHEST DAILY MEAN LOWEST DAILY MEAN	2,120 18	Jun 3 Jan 30	3,350 22	Jun 5 Jan 15	27.9 20,200 ^b 3.6	1991 Jun 23, 1984 Oct 10, 1991	
ANNUAL SEVEN-DAY MINIMUM MAXIMUM PEAK FLOW MAXIMUM PEAK STAGE	19	Jan 29	24 3,660 17.99	Jan 11 Jun 5 Jun 5	4.5 21,400 31.77	Oct 6, 1991 Jun 23, 1984 Jun 23, 1984	
ANNUAL RUNOFF (AC-FT) 10 PERCENT EXCEEDS 50 PERCENT EXCEEDS	129,000 427 75		175,300 538 68		270,700 841 100		
90 PERCENT EXCEEDS	29		36		15		

<sup>a Median of annual mean discharges, 270 ft³/s.
b Also Oct. 18, 1991.
e Estimated.</sup>



(WY)

(1989)

(1990)

(1989)

(1990)

(2001)

(1990)

(1988)

(2004)

06479215 BIG SIOUX RIVER NEAR FLORENCE, SD

 $LOCATION.--Lat\ 45^{\circ}10'51",\ long\ 97^{\circ}11'09",\ in\ NE^{1}_{4}\ NE^{1}_{4}\ NE^{1}_{4}\ sec.17,\ T.120\ N.,\ R.52\ W.,\ Grant\ County,\ Hydrologic\ Unit\ 10170202,\ on\ right\ bank\ near\ downstream\ side\ of\ county\ highway\ bridge,\ 11.0\ mi\ northeast\ of\ Florence,\ and\ 2.2\ mi\ upstream\ from\ Indian\ Creek.$

DRAINAGE AREA.--638 mi², of which 570 mi² usually is noncontributing.

PERIOD OF RECORD .-- June 6, 1984, to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,780.57 ft above NGVD of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

				D	ISCHARGE.	CUBIC FE	ET PER SEC	COND				
					YEAR OCT		TO SEPTE		5			
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1 2 3 4 5	12 17 29 24 19	40 32 28 25 23	5.0 4.6 4.4 e4.2 e4.0	e0.57 e0.49 e0.43 e0.36 e0.26	0.03 0.03 e0.10 e0.18 e0.23	e0.04 e0.04 e0.04 e0.10 e5.0	9.3 7.8 6.1 5.4 5.2	7.1 6.6 5.9 5.6 5.3	13 12 12 12 16	e15 e15 e13 e12 e11	0.61 0.53 0.80 0.73 0.69	0.60 0.45 0.29 0.20 0.17
6 7 8 9 10	16 14 13 11 10	21 20 18 17 15	e3.8 e3.4 e3.5 e3.4 e3.3	e0.19 e0.16 e0.14 e0.13 e0.12	e0.16 e0.13 e0.08 e0.08 e0.11	e15 e18 e10 e8.0 e5.1	5.1 4.7 4.5 4.4 5.3	5.3 5.0 6.1 24 45	25 26 71 83 75	e10 e9.1 e9.6 e9.1 e8.5	0.52 0.39 0.26 0.26 0.27	0.18 0.17 0.17 0.16 0.14
11 12 13 14 15	9.0 8.1 7.2 6.4 5.7	13 11 10 9.5 8.9	e3.2 e2.8 e2.7 e2.6 e2.3	e0.11 e0.09 e0.08 e0.06 0.05	e0.20 e0.20 e0.20 e0.20 e0.20	e4.0 e3.0 e2.0 e1.3 e0.90	11 25 28 23 20	39 31 41 41 33	82 70 66 78 79	e7.4 e6.9 e6.9 e5.7	0.40 0.42 0.42 0.45 0.52	0.13 0.21 0.24 0.21 0.21
16 17 18 19 20	5.2 4.6 4.3 4.1 4.2	8.7 8.6 8.6 8.6 8.8	e2.1 e2.0 e1.9 e1.9 e1.8	0.04 0.04 0.06 0.05 0.05	e0.15 e0.15 e0.10 e0.10 e0.09	e0.80 e0.75 e0.75 e1.0 e1.3	18 17 17 17 17	27 24 21 19 17	74 73 64 55 49	e4.6 e3.5 e3.5 e3.5 e3.5	0.52 0.54 0.55 0.59 0.58	0.20 0.18 0.19 0.22 0.19
21 22 23 24 25	4.2 4.5 6.2 8.1 12	8.8 8.7 8.4 7.5 7.0	e1.7 e1.5 e1.2 e0.84 e0.67	0.05 0.05 0.05 0.05 0.05	e0.08 e0.07 e0.06 e0.06 e0.05	1.8 2.3 3.2 4.7 7.7	17 16 15 13 12	14 12 10 9.6 12	44 40 37 e33 e28	3.1 2.3 1.9 1.6 1.5	0.52 0.48 0.42 0.41 0.55	0.19 0.20 0.19 0.20 0.24
26 27 28 29 30 31	15 12 16 29 51 43	7.0 6.7 6.1 e5.7 e5.3	e0.59 e0.54 e0.51 e0.52 e0.54 e0.58	0.05 0.04 0.04 0.03 0.03 0.03	e0.05 e0.05 e0.05	7.3 8.9 10 14 15	9.8 8.9 8.1 7.4	23 28 22 19 16 14	e26 e23 e20 e18 e16	1.7 1.4 1.3 1.1 0.86 0.72	0.60 0.44 0.45 0.44 0.47 0.62	0.22 0.21 0.21 0.19 0.19
TOTAL MEAN MAX MIN AC-FT	424.8 13.7 51 4.1 843	405.9 13.5 40 5.3 805	72.09 2.33 5.0 0.51 143	3.95 0.13 0.57 0.03 7.8	3.19 0.11 0.23 0.03 6.3	163.02 5.26 18 0.04 323	369.0 12.3 28 4.4 732	588.5 19.0 45 5.0 1,170	1,320 44.0 83 12 2,620	180.98 5.84 15 0.72 359	15.45 0.50 0.80 0.26 31	6.55 0.22 0.60 0.13
		ONTHLY M	EAN DATA		ER YEARS			ER YEAR (W	/Y)			
MEAN MAX (WY) MIN	6.62 56.0 (1996) 0.01	4.75 25.5 (1996) 0.06	2.17 8.19 (1996) 0.03	0.80 3.05 (1996) 0.00	3.93 45.8 (1998) 0.00	36.0 111 (1986) 0.25	51.6 297 (1997) 0.75	22.1 70.5 (1995) 1.73	16.7 61.1 (1986) 0.28	20.2 169 (1993) 0.02	6.20 50.8 (1995) 0.06	4.04 20.6 (1986) 0.03

(1988)

(2003)

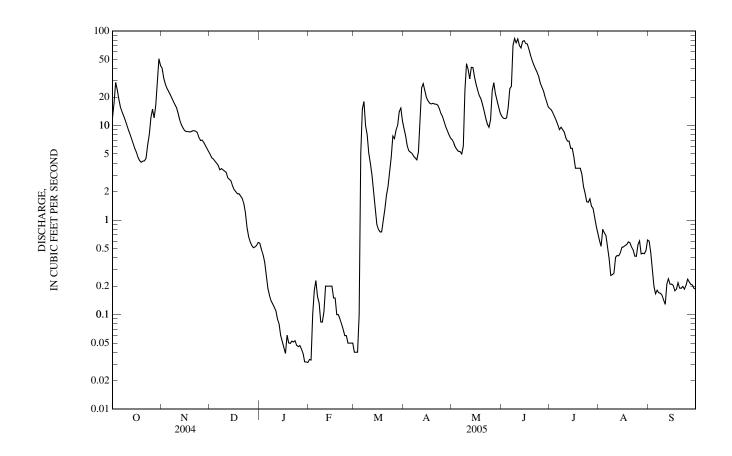
(1988)

(1988)

06479215 BIG SIOUX RIVER NEAR FLORENCE, SD-Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR	FOR 2005 WATER YEAR	WATER YEARS 1985 - 2005		
ANNUAL TOTAL ANNUAL MEAN HIGHEST ANNUAL MEAN	2,331.23 6.37	3,553.43 9.74	^a 14.6 39.6 1995		
LOWEST ANNUAL MEAN HIGHEST DAILY MEAN	52 Jul 10	83 Jun 9	0.62 1988 1,600 Apr 5, 1997		
LOWEST DAILY MEAN ANNUAL SEVEN-DAY MINIMUM MAYIMUM PEAK ELOW	0.00 Sep 2	0.03 Jan 29	^b 0.00 Aug 9, 1985		
	0.01 Aug 29	0.03 Jan 27	0.00 Dec 16, 1989		
MAXIMUM PEAK FLOW	4,620	104 Jun 8	^c 2,000 Apr 4, 1997		
MAXIMUM PEAK STAGE		7.48 Jun 8	^d 9.52 Apr 2, 1997		
ANNUAL RUNOFF (AC-FT)		7.050	10,590		
10 PERCENT EXCEEDS	23	25	32		
50 PERCENT EXCEEDS	0.90	4.2	1.6		
90 PERCENT EXCEEDS	0.04	0.10	0.07		

a Median of annual mean discharges, 9.7 ft³/s.
b No flow for some days in water years 1985, 1990-91, and 2004.
c Gage height, 9.32 ft.
d Backwater from ice.
e Estimated.



(WY)

(1989)

(1989)

(1977)

(1977)

(1977)

(1975)

(1990)

(1981)

(1976)

(1976)

(1976)

06479438 BIG SIOUX RIVER NEAR WATERTOWN, SD

LOCATION.--Lat $45^{\circ}00'22''$, long $97^{\circ}09'53''$, in NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE., R.52 WR., Codington County, Hydrologic Unit 10170202, on left bank at downstream side of county highway bridge, 4.9 mi downstream from Mahoney Creek, 6.5 mi upstream from inlet-outlet to Lake Kampeska, and 7.5 mi northwest of Watertown.

DRAINAGE AREA.--1,007 mi², of which 779 mi² usually is noncontributing (documented runoff occurred during 1994-2002 water years for 213 mi² of the usually noncontributing area).

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

REVISED RECORDS.--WDR SD-78-1: 1973-74(M), 1976-77(M). WDR SD-84-1: Drainage area. WDR SD-94-1 only: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,725.81 ft above NGVD of 1929.

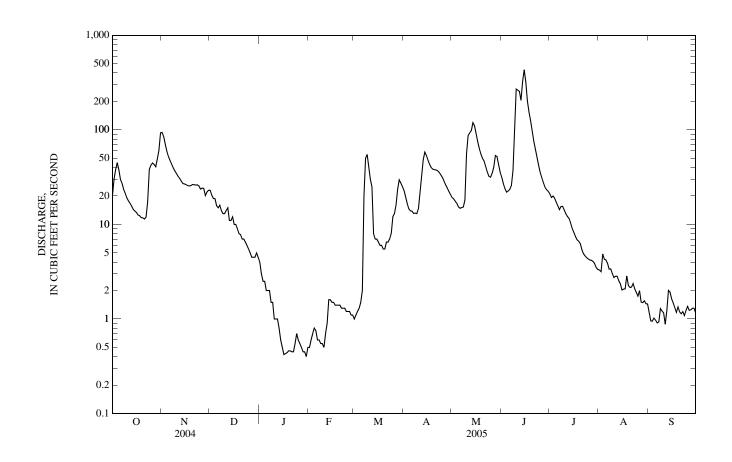
REMARKS.--Records good except those for estimated daily discharges, which are poor. Satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005 DAILY MEAN VALUES DAY OCT NOV JUN AUG SEP DEC JAN **FEB** MAR APR MAY JUL 20 e4.0 e0.50 e1.0 19 27 2 e30 85 20 e3.0 e0.60 e1.1 20 19 19 3.2 0.96 3 e2.5 24 4.9 0.95 e38 70 19 e0.70 e1.2 17 18 20 4 e2.5 22 e45 19 e0.80 e1.3 15 19 4.3 1.0 e2.0 5 52 e1.5 23 4.2 0.97 e38 16 e0.75 14 15 17 6 30 47 e15 e2.0e0.6014 15 23 3.9 0.91 e2.016 26 27 43 e20 0.93 e16 e2.0e0.6013 15 14 3.4 40 37 8 e1.5 e50 24 e0.55 15 15 3.4 1.3 e14 13 37 90 9 3.0 2.1 e13 e1.5 e0.55e55 13 18 16 1.2 1.2 34 e40 271 e0.50 2.7 10 19 e13 e1.0 15 56 14 11 18 32 e14 e1.0 e0.70 e30 22 87 263 13 2.8 0.88 17 31 e15 e1.0 e0.90 e25 34 93 256 12 2.8 1.2 12 13 16 29 e0.80 e8.0 48 98 205 12 2.5 2.0 e11 e1.6 14 14 27 e0.60 e7.0 58 119 325 10 2.4 1.9 e11 e1.6 15 14 27 e0.50 e1.5 e7.0 54 111 432 9.0 2.0 1.6 13 26 e10 e0.42 e1.5 e6.5 48 92 321 8.2 2.1 1.5 16 75 7.5 2.1 1.3 26 e0.43 e1.4 e6.0 43 202 17 13 e10 18 12 25 e9.0e0.44e1.4 e6.0 40 64 154 6.9 2.9 1.2 12 26 e0.4638 55 125 6.7 2.3 1.3 19 e8.0 e1.4 e5.5 12 26 50 98 6.3 2.2 1.2 20 e0.46e1.4 e5.5 38 e7.8 21 76 5.4 11 26 e7.0 e0.45e1.3 e6.5 38 47 2.2 1.1 22 23 12 26 e7.0 e0.45 e1.3 e6.5 37 41 62 4.9 2.4 1.2 17 26 e6.5 e0.55 e1.3 e7.0 35 36 52 4.6 2.1 1.1 24 38 26 e6.0 e0.70 e1.2 e8.0 33 32 42 4.5 1.9 1.2 25 42 24 e5.5 e0.60 e1.2 e12 31 32 36 4.3 1.7 1.4 26 24 e0.55 e1.2 29 35 31 4.2 2.0 1.2 45 e5.0 e13 4.2 1.2 27 43 24 e4.5 e0.50 e1.1 e16 26 41 28 1.5 28 20 25 1.3 41 e4.5 e0.45 24 24 54 4.1 1.5 e1.1 29 30 22 52 23 49 e22 e4.5 e0.45 3.8 1.6 1.3 22 30 e23 e5.0 e0.40 27 21 43 3.5 1.2 61 ---1.5 31 93 e0.50 25 3.3 1.4 e4.5 ---36 1,500 309.4 80.2 TOTAL. 885 1,077 29.25 36.90 335.8 33.71 454.6 876 3.353 1.09 1.04 29.2 9.98 2.59 1.23 MEAN 28.5 35 9 10.8 14.7 48.4 112 93 4.9 94 58 MAX 23 4.0 1.6 55 119 432 21 2.0 MIN 11 20 4.5 0.40 0.50 1.0 13 15 22 3.3 1.4 0.88 AC-FT 1,760 2,140 666 67 58 902 1,740 2,980 6,650 614 159 73 STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2005, BY WATER YEAR (WY) **MEAN** 16.9 6.92 2.94 9.38 95.8 160 63.0 52.2 44.0 18.9 11.5 14.6 221 155 55.7 26.5 120 321 1.415 290 184 467 190 MAX 125 (1997) (WY) (1996) (1998)(1986)(1995)(1993) (1996)(1996)(1996)(1995)(1995)(1995)MIN 0.030.100.010.000.000.26 2.950.57 0.030.050.04 0.03(1982)

06479438 BIG SIOUX RIVER NEAR WATERTOWN, SD-Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR	FOR 2005 WATER YEAR	WATER YEARS 1973 - 2005
ANNUAL TOTAL ANNUAL MEAN HIGHEST ANNUAL MEAN	4,596.49 12.6	8,970.86 24.6	^a 41.4 155 1997
LOWEST ANNUAL MEAN HIGHEST DAILY MEAN	94 Nov 1	432 Jun 15	155 1997 2.22 1981 6,400 Apr 5, 1997
LOWEST DAILY MEAN ANNUAL SEVEN-DAY MINIMUM	0.05 Jan 29 0.06 Jan 28	0.40 Jan 30 0.44 Jan 16	b0.00 Feb 1, 1974 0.00 Feb 1, 1974
MAXIMUM PEAK FLOW MAXIMUM PEAK STAGE	0.00 Jun 20	565 Jun 14 7.84 Jun 14	8,000 Apr 7, 2001 c12.33 Apr 7, 2001
ANNUAL RUNOFF (AC-FT) 10 PERCENT EXCEEDS	9,120 32	17,790 52	29,990 81
50 PERCENT EXCEEDS 90 PERCENT EXCEEDS	7.0 0.10	12 0.97	5.4 0.09

<sup>a Median of annual mean discharges, 24 ft³/s.
b No flow for many days in some years.
c Backwater from ice.
e Estimated.</sup>



06479449 LAKE KAMPESKA AT WATER TREATMENT PLANT, AT WATERTOWN, SD

 $LOCATION.--Lat\ 44^{\circ}55'04", \ long\ 97^{\circ}11'17", \ in\ NW^{1}\!\!/_{4}\ NW^{1}\!\!/_{4}\ NW^{1}\!\!/_{4}\ sec. 27,\ T.117\ N.,\ R.53\ W.,\ Codington\ County,\ Hydrologic\ Unit\ 10170202,\ along\ east/southeast\ side\ of\ Lake\ Kampeska\ at\ Water\ Treatment\ Plant\ northwest\ of\ Watertown\ about\ 3\ mi.$

DRAINAGE AREA.--28.8 mi². Does not include upstream drainage area of the Big Sioux River, which can contribute inflow to the lake.

PERIOD OF RECORD.--October 2001 to current year.

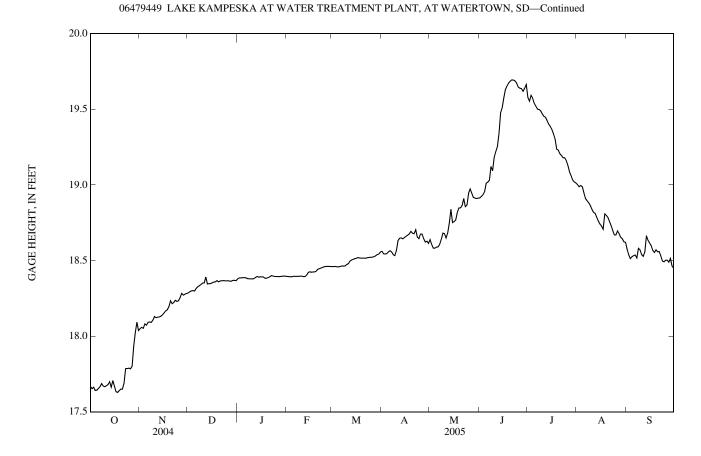
GAGE.--Water-stage recorder. Datum of gage is 1,697.93 ft above NGVD of 1929.

REMARKS .-- Published stage records good. Satellite data-collection platform at station. Stage affected by Big Sioux River.

GAGE HEIGHT, FEET WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005 DAILY MEAN VALUES

							. 12020					
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.67	18.05	18.29	18.38	18.39	18.46	18.56	18.64	18.91	19.58	19.00	18.57
2	17.65	18.06	18.29	18.39	18.39	18.46	18.54	18.61	18.92	19.55	18.99	18.54
3	17.66	18.05	18.30	18.39	18.39	18.46	18.54	18.58	18.94	19.59	19.00	18.51
4	17.64	18.08	18.30	18.39	18.39	18.46	18.55	18.58	18.95	19.57	18.99	18.53
5	17.64	18.07	18.30	18.39	18.40	18.46	18.56	18.59	19.01	19.54	18.95	18.53
6 7 8 9 10	17.66 17.67 17.69 17.67	18.09 18.09 18.09 18.11 18.13	18.32 18.33 18.33 18.34 18.35	18.39 18.38 18.38 18.38 18.38	18.40 18.40 18.40 18.40 18.40	18.46 18.46 18.46 18.46 18.47	18.57 18.56 18.54 18.53 18.57	18.59 18.61 18.64 18.68 18.68	19.02 19.03 19.12 19.09 19.18	19.52 19.50 19.50 19.49 19.47	18.91 18.89 18.88 18.86 18.84	18.54 18.52 18.58 18.57 18.54
11	17.67	18.12	18.35	18.38	18.39	18.48	18.63	18.65	19.22	19.45	18.82	18.53
12	17.68	18.13	18.39	18.39	18.39	18.50	18.65	18.68	19.25	19.45	18.81	18.56
13	17.70	18.13	18.35	18.39	18.41	18.50	18.65	18.75	19.34	19.43	18.79	18.66
14	17.66	18.13	18.35	18.39	18.42	18.51	18.64	18.84	19.48	19.40	18.76	18.63
15	17.71	18.14	18.35	18.39	18.43	18.51	18.65	18.75	19.51	19.39	18.74	18.62
16	17.67	18.15	18.35	18.39	18.42	18.52	18.66	18.76	19.57	19.37	18.73	18.60
17	17.63	18.17	18.36	18.39	18.42	18.52	18.67	18.77	19.63	19.34	18.71	18.57
18	17.63	18.17	18.36	18.38	18.42	18.52	18.68	18.82	19.65	19.30	18.81	18.55
19	17.64	18.20	18.37	18.38	18.43	18.52	18.69	18.85	19.67	19.24	18.80	18.57
20	17.65	18.23	18.36	18.39	18.44	18.52	18.68	18.85	19.69	19.23	18.79	18.56
21	17.65	18.21	18.36	18.39	18.45	18.52	18.68	18.86	19.69	19.21	18.76	18.56
22	17.69	18.22	18.37	18.40	18.45	18.52	18.70	18.91	19.69	19.20	18.73	18.53
23	17.79	18.24	18.37	18.40	18.45	18.52	18.66	18.86	19.69	19.18	18.70	18.50
24	17.79	18.23	18.37	18.39	18.46	18.52	18.64	18.87	19.67	19.18	18.67	18.49
25	17.79	18.23	18.37	18.39	18.46	18.52	18.68	18.95	19.65	19.16	18.67	18.50
26 27 28 29 30 31	17.78 17.80 17.93 18.02 18.09 18.04	18.25 18.28 18.27 18.28 18.28	18.37 18.36 18.36 18.37 18.37	18.39 18.39 18.40 18.40 18.40 18.40	18.46 18.46 18.46 	18.52 18.53 18.53 18.54 18.54 18.56	18.68 18.64 18.62 18.63 18.61	18.97 18.95 18.92 18.91 18.91 18.91	19.64 19.64 19.62 19.64 19.66	19.13 19.09 19.06 19.03 19.02 19.01	18.70 18.68 18.65 18.64 18.62 18.62	18.50 18.49 18.51 18.46 18.45
MEAN	17.73	18.16	18.35	18.39	18.42	18.50	18.62	18.77	19.39	19.33	18.79	18.54
MAX	18.09	18.28	18.39	18.40	18.46	18.56	18.70	18.97	19.69	19.59	19.00	18.66
MIN	17.63	18.05	18.29	18.38	18.39	18.46	18.53	18.58	18.91	19.01	18.62	18.45

BIG SIOUX RIVER BASIN 333



06479500 BIG SIOUX RIVER AT WATERTOWN, SD

LOCATION.--Lat 44°56'33", long 97°08'45", in SW¹/₄ SW¹/₄ NW¹/₄ sec.13, T.117 N., R.53 W., Codington County, Hydrologic Unit 10170202, on right bank near downstream end of highway bridge over 453 Avenue, 1.7 mi downstream from inlet-outlet to Lake Kampeska, 7.1 mi upstream from Willow Creek, and 3.5 mi northwest of Watertown.

DRAINAGE AREA.--1,129 mi², of which 779 mi² is usually noncontributing (documented runoff occurred during 1994-2002 water years for 213 mi² of the usually noncontributing area).

PERIOD OF RECORD.--October 1945 to September 1972 daily streamflow. October 1996 to September 1997 as crest-stage gage. October 1999 to current year.

REVISED RECORDS .-- WDR SD-00-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,710.44 ft above NGVD of 1929. Prior to Oct. 15, 1958, nonrecording gage at same site and datum.

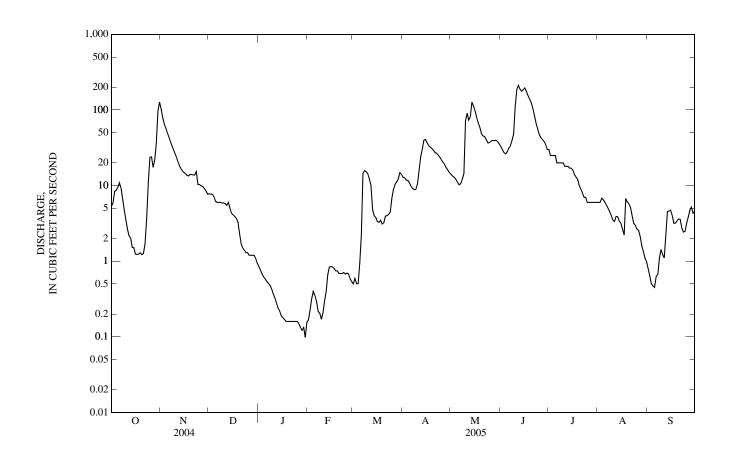
REMARKS.--Records good except those for estimated daily discharges, which are poor. Satellite data-collection platform at station. Water is stored naturally offstream in Lake Kampeska (capacity, 35,500 acre-ft) during periods when river is rising and then naturally released, in part, when river is falling. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005 DAILY MEAN VALUES OCT NOV DEC DAY JAN **FEB** MAR APR MAY JUN JUL AUG SEP e30 103 e0.86 e0.50 0.79 5.3 7.8 e0.17 13 14 e6.0 5.9 e0.59 30 2 79 7.7 e0.77 e0.23 13 13 e25 e6.0 0.64 3 27 e25 8.4 65 7.6 e0.68 e0.32 e0.50 12 13 e6.8 0.50 4 26 8.7 57 7.1 e0.62 e0.40 e0.50 12 12 e25 e6.5 0.47 5 9.5 50 6.2 e0.58 e0.35 e0.94 11 11 28 e25 e6.0 0.45 31 6 43 e6.0 e0.54e0.309.8 10 e20 e5.5 e2.2 0.63 11 33 37 e0.51 e0.22 e20 e5.0 7 93 e6.0 e14 92 11 0.67 8 6.8 33 e6.0 e0.48 e0.21 e16 8.8 12 39 e20 e4.5 1.1 9 29 14 4.8 e5.9 e0.43 e0.17 e15 8.9 48 e20 e4.0 1.4 26 111 10 3.6 e5.9 e0.37 e0.21 e14 10 72 e20 3.5 1.2 11 e5.8 e0.33 e0.30 e12 16 91 184 e18 3.4 1.1 12 2.2 20 e5.5 e0.28 e0.40 e10 24 73 213 e18 3.9 2.4 13 2.0 17 e6.0 e0.24 e0.66 e4.9 30 81 189 3.9 4.5 e18 e17 14 1.5 16 e5.0 e0.22 e0.84 e4.0 40 127 177 3.4 4.6 1.5 41 3.2 4.7 15 15 e4.3 e0.19 e0.85 e3.8 113 185 e17 1.2 15 e4.1 e0.18 e0.84 e3.3 37 97 196 e16 2.7 4.0 16 1.2 1.2 e0.80 e3.9 79 e0.17176 2.2 3.2 3.2 17 14 e3.3 34 e14 32 e3.7 67 6.8 18 13 e0.16e0.75e3.5 156 e13 3.4 1.3 e0.16e0.75 e3.1 31 59 140 19 14 e3.3 e12 6.1 20 1.2 14 e2.3 e0.16e0.69e3.2 29 48 126 e10 5.7 3.6 21 1.3 14 e3.9 27 45 106 5.1 3.6 e1.7 e0.16 e0.69 e9.0 22 27 1.7 14 e1.5 e0.16 e0.69 e4.0 44 85 e8.0 4.0 2.7 23 3.6 15 e1.4 e0.16 e0.71 25 40 67 e7.0 2.4 e4.2 3.2 24 11 10 e1.3 e0.16 e0.68 e4.4 24 37 57 e7.0 3.0 2.5 25 24 10 e1.3 e0.16 e0.70 e6.8 22 37 48 e6.0 2.7 3.2 26 24 9.9 e1.2 e0.15 e0.68 e8.9 20 39 43 e6.0 3.8 2.6 27 17 9.8 e1.2 e0.13 e0.58 19 39 41 2.1 4.7 e10 e6.0 28 22 9.1 e1.2 e0.12 e0.54 17 39 38 e6.0 5.2 e11 1.6 29 36 8.5 7.7 e1.2 e0.1340 e35 1.3 4.3 16 e6.012 30 15 e30 96 4.6 e0.1015 38 e6.0 e1.1 ---1.1 0.99 31 128 e0.95e0.1614 35 e6.01,450 TOTAL 453.9 790.0 9.52 209.53 122.79 79.55 124.15 14.73 633.7 2,698 456.0 MEAN 14.6 26.3 4.00 0.31 0.53 6.76 21.1 46.8 89.9 14.7 3.96 2.65 MAX 128 103 7.8 0.86 0.85 16 41 127 213 30 6.8 5.2 MIN 1.2 7.7 0.95 0.10 0.17 0.50 8.8 10 26 6.0 0.99 0.45 AC-FT 900 1,570 246 19 29 416 1,260 2,880 5,350 904 244 158 STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946-1972,2000 - 2005, BY WATER YEAR (WY) 142 79.7 59.7 32.4 332 16.9 MEAN 3.80 4.55 2.38 0.81 1.31 38.2 3.77 33.6 42.6 40.9 MAX (WY) 18.6 885 418 6.99 9.86 215 367 159 (1972)(1954) (1946)(2001) (1962) (1962)(1962) (1953)(1947)(1947)(1947)(1972)0.040.00 0.00 0.00 0.00 0.00 0.00 0.00 0.54 0.79 0.46 MIN 0.00(1960)(1956)(1946)(1946)(1965)(1959)(1959)(1959)(1959)(WY) (1960)(1959)(1959)

BIG SIOUX RIVER BASIN 335

06479500 BIG SIOUX RIVER AT WATERTOWN, SD-Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR	FOR 2005 WATER YEAR	WATER YEARS 1946-1972,2000-2003		
ANNUAL TOTAL ANNUAL MEAN	2,297.26 6.28	7,041.87 19.3	32.1		
HIGHEST ANNUAL MEAN LOWEST ANNUAL MEAN			116 2001 0.20 1959		
HIGHEST DAILY MEAN	128 Oct 31	213 Jun 12	2,270 Apr 7, 2001		
LOWEST DAILY MEAN ANNUAL SEVEN-DAY MINIMUM	0.00 Aug 19 0.00 Aug 16	0.10 Jan 30 0.14 Jan 24	^a 0.00 Dec 9, 1945 0.00 Dec 9, 1945		
MAXIMUM PEAK FLOW MAXIMUM PEAK STAGE	_	218 Jun 12 7.01 Jun 12	^b 5,800 Apr 6, 1997 ^c 12.49 Apr 6, 1997		
ANNUAL RUNOFF (AC-FT)	4,560	13,970	23,280		
10 PERCENT EXCEEDS 50 PERCENT EXCEEDS	16 1.5	44 6.0	82 1.9		
90 PERCENT EXCEEDS	0.02	0.46	0.00		



<sup>a No flow at times in most years.
b Includes 1997 partial-record year.
c Backwater from ice.
e Estimated.</sup>

06479515 WILLOW CREEK NEAR WATERTOWN, SD

LOCATION.--Lat 44°55'08", long 97°02'43", in NE ½ NE½ NE½ sec.27, T.117 N., R.52 W., Codington County, Hydrologic Unit 10170202, on right downstream bank at bridge, about 6.7 river miles upstream from mouth, and about 4.0 mi northeast of Watertown.

DRAINAGE AREA.--109 mi².

PERIOD OF RECORD.--September 1971 to September 1986 daily streamflow. October 1996 to September 1997 crest-stage partial record. October 1999 to current year (seasonal mean daily gage heights and yearly instantaneous peak discharge).

REVISED RECORDS.--WDR SD-00-1: 1972(M,P); 1977-80, 1983(M); 1984(M,P, June 15 daily discharge); 1985(M); 1986(M, P, Mar. 27-31 daily discharge).

GAGE.--Water-stage recorder. Datum of gage is 1,731.29 ft above NGVD of 1929, from GPS survey. Prior to October 1999, 2 mi downstream at datum 1,721.24 ft above NGVD of 1929.

REMARKS.--Published record good. Satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

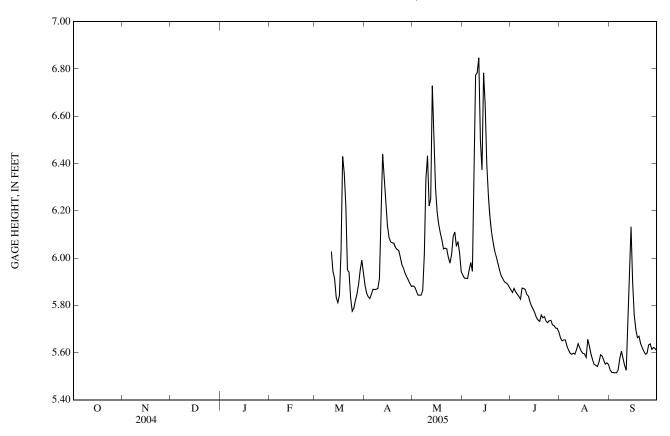
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,650 ft³/s, Apr. 5, 1997, gage height, 10.93 ft, from floodmark, at different site and datum; maximum gage height, 12.51 ft, Apr. 7, 2001, backwater from ice.

EXTREMES FOR CURRENT YEAR .-- Maximum discharge for water year 2005, 188 ft³/s, Oct. 29, gage height, 7.48 ft.

GAGE HEIGHT, FEET WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							5.88	5.88	5.93	5.87	5.66	5.53
2							5.85	5.88	5.91	5.85	5.65	5.52
3							5.84	5.86	5.91	5.87	5.65	5.52
4							5.83	5.84	5.91	5.86	5.65	5.51
5							5.85	5.84	5.95	5.85	5.63	5.51
6							5.87	5.84	5.98	5.84	5.61	5.53
7							5.87	5.86	5.94	5.83	5.60	5.58
8							5.87	6.01	6.38	5.87	5.59	5.61
9							5.87	6.34	6.77	5.87	5.60	5.58
10							5.91	6.43	6.78	5.87	5.59	5.55
11						6.03	6.11	6.22	6.85	5.85	5.61	5.52
12						5.94	6.44	6.25	6.50	5.84	5.64	5.75
13						5.91	6.33	6.73	6.37	5.81	5.62	5.93
14						5.83	6.24	6.46	6.78	5.80	5.61	6.13
15						5.81	6.14	6.30	6.65	5.78	5.60	5.90
16						5.84	6.09	6.20	6.40	5.77	5.59	5.76
17						6.03	6.07	6.14	6.26	5.75	5.58	5.70
18						6.43	6.06	6.11	6.17	5.74	5.66	5.66
19						6.36	6.06	6.08	6.11	5.73	5.63	5.67
20						6.22	6.04	6.04	6.06	5.76	5.59	5.64
21						5.95	6.04	6.04	6.03	5.75	5.57	5.62
22						5.94	6.03	6.04	6.00	5.75	5.55	5.60
23						5.83	6.00	6.00	5.98	5.73	5.55	5.59
24						5.78	5.97	5.98	5.95	5.73	5.54	5.60
25						5.79	5.96	6.01	5.93	5.73	5.56	5.63
26						5.82	5.94	6.09	5.91	5.74	5.59	5.64
27						5.85	5.92	6.11	5.90	5.72	5.59	5.61
28						5.89	5.91	6.05	5.89	5.71	5.57	5.62
29						5.95	5.89	6.07	5.89	5.70	5.55	5.62
30						5.99	5.88	6.02	5.88	5.70	5.56	5.61
31						5.94		5.94		5.69	5.55	
MEAN							5.99	6.09	6.17	5.79	5.60	5.64
MAX							6.44	6.73	6.85	5.87	5.66	6.13
MIN							5.83	5.84	5.88	5.69	5.54	5.51

06479515 WILLOW CREEK NEAR WATERTOWN, SD-Continued



06479520 BIG SIOUX RIVER BELOW WATERTOWN, SD

LOCATION.--Lat 44°50'52", long 97°02'57", in NE¹/₄ NE¹/₄ sec.22, T.116 N., R.52 W., Codington County, Hydrologic Unit 10170202, on left bank near the downstream end of bridge on township gravel road, 3.0 river miles downstream from mouth of Willow Creek, 3.3 river miles upstream from the Codington-Hamlin County line, and 4.1 mi southeast of Watertown.

DRAINAGE AREA.--1,902 mi², of which 1,391 mi² usually is noncontributing (documented runoff occurred during 1994-2002 water years for 213 mi² of the usually noncontributing area).

PERIOD OF RECORD .-- October 1994 to current year.

(2001)

(WY)

(2004)

(2004)

(2004)

(2001)

(2001)

(2004)

(2004)

(2000)

(2002)

(2003)

(2000)

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,694.29 ft above NGVD of 1929.

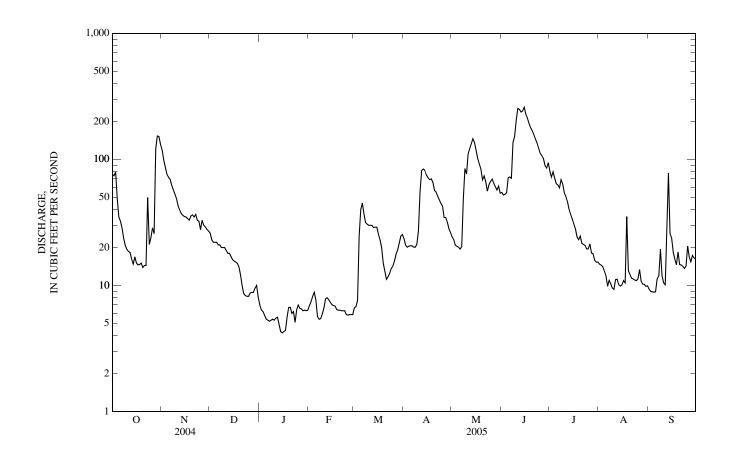
REMARKS.--Records good except those for estimated daily discharges, which are poor. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005 DAILY MEAN VALUES DAY OCT NOV DEC **FEB** MAR APR MAY JUN JUL AUG SEP JAN 23 21 76 119 e26 e7.0 e6.9 e6.6 24 55 81 15 93 2 74 99 e23 e6.4 e7.4 e6.8 23 52 15 9.0 79 87 20 21 e22 e6.2 e8.2 e7.6 53 80 14 8.9 8.9 4 49 76 e22 e5.8 e8.8 e25 21 20 54 71 13 5 35 72 e22 e5.4 e7.7 e40 21 20 72 64 e12 8.9 6 70 e21 e5.3 21 19 73 e9.9 32 e5.7 e45 63 11 29 e21 e5.2 e5.4 e37 20 20 71 59 e11 12 62 8 57 e5.3 e5.5 20 24 e20 e32 48 136 69 e10 19 e5.9 21 21 53 e20 e5.4 e31 85 152 64 e9.5 12 27 10 19 49 e20 e5.3 e30 77 203 54 9.3 10 e6.6 19 110 51 10 43 e19 e5.5 e7.8 e30 55 254 11 11 40 250 12 18 e18 e5.6 e8.0 e30 82 121 46 11 34 13 16 37 e18 e4.9 e7.7 e29 84 133 238 40 10 78 36 242 9.9 14 15 e17 e4.3 e7.3 e29 82 146 37 26 259 10 24 15 17 35 e16 e4.2 e7.0 e29 75 136 34 e6.9 16 15 35 e16 e4.3 e25 72 117 229 31 11 18 17 15 34 e15 e4.4 e6.9 e23 69 102 213 28 10 16 18 15 33 e15 e20 70 92 194 24 35 15 e5.6 e6.4 19 15 36 e14 e6.7 e6.4 e15 66 84 178 13 18 36 57 25 20 14 e12 e6.7 e6.4 13 69 169 12 15 21 14 35 e9.9 e6.0 e6.3 11 55 74 158 22 11 15 21 37 e8.6 51 146 22 e6.2 e6.3 67 14 14 12 11 23 21 33 12 48 50 e8.3 e5.1 e6.3 56 136 11 14 24 32 e5.9 45 19 14 63 14 2.1 e8.2 e6.4 123 11 25 24 28 e8.2 e7.0 e5.8 14 43 67 112 19 11 20 26 29 33 35 70 21 13 17 e8.7 e6.6 e5.9 16 107 27 26 30 e8.8 e6.5 e5.9 18 35 65 102 18 11 15 28 121 29 e8.8 e6.3 e5.9 19 32 89 17 61 18 10 29 e6.4 153 28 e9.5 22 28 57 85 16 10 17 30 152 e27 e10 e6.3 ---25 26 61 94 15 9.8 16 25 54 15 9.9 31 e8.1 e6.4 TOTAL 1,333 1,421 474.1 178.7 187.2 692.0 1,325 2,162 4,299 1,221 370.3 522.0 5.76 MEAN 43.0 47.4 15.3 6.69 22.3 44.2 69.7 143 39.4 11.9 17.4 MAX 153 119 7.0 45 84 259 81 78 26 8.8 146 35 20 9.3 8.9 MIN 14 8.1 4.2 6.6 27 5.4 19 52 2,640 2.820 940 354 371 1.370 8.530 2,420 1.040 AC-FT 2.630 4.290 734 STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 2005, BY WATER YEAR (WY) 42.4 MEAN 60.8 67.7 24.0 120 295 165 78.8 48.1 36.3 MAX 366 356 183 88.7 210 385 2,309 814 469 321 234 237 (1996)(1996)(1996)(1996)(1998)(1996)(1997)(1997)(1995)(1995)(1995)(1995)(WY) 2.512.12 20.9 MIN 5.07 6.49 4.766.06 11.6 14.9 11.06.47

06479520 BIG SIOUX RIVER BELOW WATERTOWN, SD-Continued

SUMMARY STATISTICS	FOR 2004 CALE	NDAR YEAR	FOR 2005 WAT	TER YEAR	WATER YEARS 1995 - 2005		
ANNUAL TOTAL	7,696.6		14,185.3		^a 125		
ANNUAL MEAN HIGHEST ANNUAL MEAN	21.0		38.9		311	1997	
LOWEST ANNUAL MEAN HIGHEST DAILY MEAN	153	Oct 29	259	Jun 15	12.2 4,350	2000 Apr 11, 1997	
LOWEST DAILY MEAN ANNUAL SEVEN-DAY MINIMUM	1.6 1.7	Jan 29 Jan 25	4.2 4.7	Jan 15 Jan 11	1.0	Feb 10, 2001 Feb 10, 2001	
MAXIMUM PEAK FLOW	1.7	Jan 23	277	Jun 15	1.6 ^b 6,700	Apr 11, 1997	
MAXIMUM PEAK STAGE ANNUAL RUNOFF (AC-FT)	15,270		7.14 28,140	Jun 15	c13.13 90,750	Apr 2, 1997	
10 PERCENT EXCEEDS	44		88 21		338		
50 PERCENT EXCEEDS 90 PERCENT EXCEEDS	14 2.4		6.4		28 5.5		

- a Median of annual mean discharges, 93 ft³/s.
 b Gage height, 12.99 ft.
 c Backwater from ice.
 e Estimated.



06479525 BIG SIOUX RIVER NEAR CASTLEWOOD, SD

LOCATION.--Lat 44°43′54", long 97°02′39", in SW $^{1}_{4}$ SW $^{1}_{4}$ sec.26, T.115 N., R.52 W., Hamlin County, Hydrologic Unit 10170202, on right bank at upstream side of bridge on State Highway 22, 3.2 mi east of intersection of U.S. Highway 81 and State Highway 22, and 1.0 mi northwest of Castlewood.

DRAINAGE AREA.--1,997 mi², of which 1,427 mi² usually is noncontributing (documented runoff occurred during 1994-2002 water years for 213 mi² of the usually noncontributing area).

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

(1977)

(WY)

(1977)

(1977)

(1977)

(1977)

REVISED RECORDS.--WDR SD-84-1: Drainage area. WDR SD-94-1 only: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,667.52 ft above NGVD of 1929 (South Dakota Department of Transportation bench mark).

REMARKS.--Records good except those for estimated daily discharges, which are poor. Satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005 DAILY MEAN VALUES DAY OCT NOV JUN AUG SEP DEC JAN **FEB** MAR APR MAY JUL 48 162 e7.8 e7.0 e6.5 78 136 e30 e7.1 e7.5 e6.5 36 36 57 68 17 7.7 3 e28 e8.0 89 114 e6.7 e7.0 35 34 66 18 7.6 4 35 33 54 63 101 e28 e6.2 e9.0 e10 69 16 5 e27 35 32 56 48 e5.9 e8.0 e18 60 15 7.9 6 42 87 e2.7 e6.0e40 35 32 81 12 8.7 e5.8 56 39 32 80 e26 e5.7 e5.4 e35 34 67 54 13 11 e25 54 8 e5.5 55 119 35 e5.7 e30 34 74 12. 20 91 9 69 67 10 25 30 e24 e5.7 e5.5 e29 35 185 27 37 59 9.9 12 10 64 e24 e5.7 e6.5 e28 86 249 61 11 26 60 e23 e5.8 e7.5 e27 126 316 54 10 10 25 23 56 e22 e5.9 e8.0 e27 330 53 22 12 74 141 14 13 53 e21 e5.2 e7.5 e26 100 176 315 52 12 130 14 21 51 e20 e4.6 e7.8 e26 92 190 301 54 11 80 15 22 50 e19 e4.5 e7.0 e25 90 188 330 46 10 70 21 49 e19 e4.5 e7.0 e23 82 168 305 43 11 16 39 20 47 e18 e21 76 146 282 41 17 e4.7 e7.0 11 18 19 46 e17 e6.0e6.5 e19 74 126 252 40 39 30 46 e17 e6.9 75 226 38 29 30 19 20 e6.5 e17 118 49 208 25 20 19 e15 e6.9 e6.5 e15 68 100 36 16 21 20 47 e12 e6.2 e6.5 e14 64 92 192 36 14 20 22 23 20 48 e9.9 e6.3 e6.5 e14 63 89 172 31 12 18 34 46 e9.3 e5.0 e6.5 e16 58 79 148 32 11 16 24 40 44 e9.0 e6.1 e6.0 e20 55 74 130 32 11 16 25 28 e41 e9.1 e6.6 e6.0 e23 55 79 111 29 11 19 26 41 e25 49 93 100 34 15 28 34 e9.1 e6.5 e6.0 27 35 e38 e9.4 e6.4 e6.0 e28 46 79 93 30 14 19 28 47 80 e36 e9.7 e6.4 e33 75 86 25 10 19 e6.0 29 22 193 e34 e10 e6.5 37 42 69 79 9.6 20 30 207 e33 40 40 73 20 9.5 18 e11 e6.5 ---68 31 e9.2 40 20 8.8 176 e6.5 ---65 1,582 2,810 TOTAL 1,894 569.7 5,032 1,401 799.0 186.3 189.2 726.0 430.8 1,666 51.0 45.2 MEAN 63.1 18.4 6.01 6.76 23.4 55.5 90.6 168 13.9 26.6 40 MAX 207 162 32 7.8 9.0 100 190 330 80 39 130 MIN 19 33 9.0 4.5 5.4 6.5 34 32 54 20 8.8 7.6 3,140 AC-FT 3,760 1,130 370 375 1,440 3,300 5.570 9,980 2,780 854 1,580 STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2005, BY WATER YEAR (WY) **MEAN** 43.7 43.8 27.4 15.3 133 354 192 135 87.1 61.2 42.4 31.0 424 414 210 96.9 204 562 2,544 834 508 217 MAX 419 375 (1996) (1997) (1995) (1993) (1995) (WY) (1996)(1996)(1998)(1994)(1995)(1993) (1996)MIN 1.06 0.710.04 0.000.000.047.60 3.28 3.11 3.17 2.33 2.94

(2001)

(1990)

(1977)

(1988)

(1988)

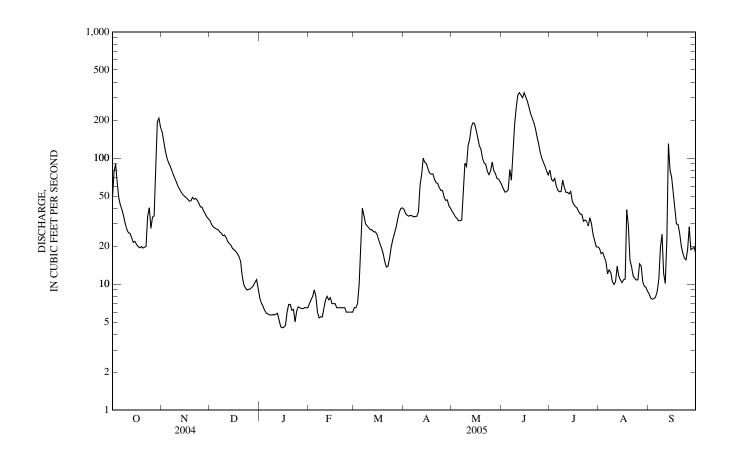
(1983)

(1990)

06479525 BIG SIOUX RIVER NEAR CASTLEWOOD, SD—Continued

SUMMARY STATISTICS	FOR 2004 CALE	NDAR YEAR	FOR 2005 WAT	TER YEAR	WATER YEARS 1977 - 2005		
ANNUAL TOTAL ANNUAL MEAN HIGHEST ANNUAL MEAN	10,476.8 28.6		17,286.0 47.4		^a 97.2 333	1997	
LOWEST ANNUAL MEAN HIGHEST DAILY MEAN LOWEST DAILY MEAN	207 2.2	Oct 30 Jan 24	330 4.5	Jun 12 Jan 15	4,090 b0.00	1990 Apr 11, 1997 Dec 30, 1976	
ANNUAL SEVEN-DAY MINIMUM MAXIMUM PEAK FLOW MAXIMUM PEAK STAGE	2.2	Jan 24	5.0 346 7.20	Jan 11 Jun 11 Jun 11	0.00 c4,300 d13.19	Dec 30, 1976 Apr 11, 1997 Apr 7, 1997	
ANNUAL RUNOFF (AC-FT) 10 PERCENT EXCEEDS 50 PERCENT EXCEEDS	20,780 73 17		34,290 100 29		70,400 243 22	•	
90 PERCENT EXCEEDS	3.1		6.5		2.1		

<sup>a Median of annual mean discharges, 53 ft³/s.
b No flow for many days in some years.
c Gage height, 12.87 ft, backwater from ice.
d Backwater from ice.
e Estimated.</sup>



06479770 BIG SIOUX RIVER NEAR BRUCE, SD

LOCATION.--Lat $44^{\circ}28'04''$, long $96^{\circ}53'14''$, in SE^{1}_{4} NE^{1}_{4} sec.36, T.112 N., R.51 W., Brookings County, Hydrologic Unit 10170202, on right bank at downstream end of county highway bridge, 7.4 mi downstream from confluence with Peg Munky Run, 4.9 mi east-northeast of Oakwood Lakes State Park, and 1.8 mi north of Bruce.

DRAINAGE AREA .-- To be determined.

PERIOD OF RECORD .-- October 2000 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,620 ft above NGVD of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

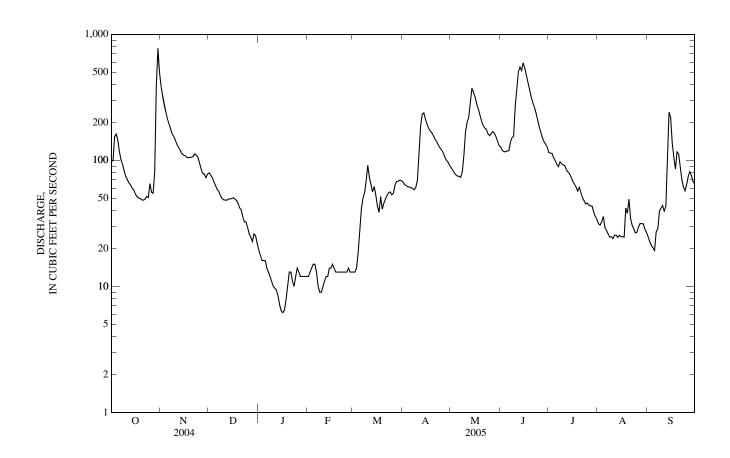
DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005 DAILY MEAN VALUES													
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	99	384	e80	e19	e12	e13	67	88	127	115	32	25	
2	99	325	e76	e18	e13	e13	64	84	120	114	31	23	
3	155	279	e73	e16	e14	e14	63	80	117	114	33	21	
4	162	240	e67	e16	e15	e19	62	77	117	104	36	20	
5	144	213	e63	e16	e15	e27	61	75	119	99	29	19	
6	117	194	e59	e14	e13	e41	61	75	119	93	28	27	
7	101	177	e57	e13	e10	e50	60	73	138	89	26	29	
8	93	162	e53	e12	e9.0	e55	59	81	151	97	25	40	
9	82	154	e50	e11	e9.0	e69	61	111	156	94	25	42	
10	74	144	e49	e10	e10	e91	70	169	268	92	24	44	
11	70	133	e48	e9.7	e11	e74	109	200	361	91	25	40	
12	66	126	e48	e9.3	e12	e64	189	218	504	84	26	43	
13	64	120	e49	e8.4	e12	e56	232	283	552	81	24	95	
14	e60	113	e50	e7.1	e14	e62	238	374	517	78	25	241	
15	58	110	e50	e6.4	e14	e53	213	347	594	73	25	219	
16	54	109	e50	e6.2	e15	e43	194	319	538	68	25	137	
17	52	106	e50	e6.5	e14	e39	180	280	469	64	25	106	
18	50	105	e48	e7.9	e13	e52	172	255	410	62	42	85	
19	50	106	e46	e10	e13	e41	165	229	361	57	38	117	
20	49	106	e42	e13	e13	e46	157	206	319	61	49	113	
21	48	107	e41	e13	e13	e49	147	190	289	56	35	88	
22	49	113	e36	e11	e13	e53	141	180	264	51	31	70	
23	52	110	e33	e10	e13	55	133	177	238	48	29	62	
24	51	106	e33	e12	e13	56	126	163	210	45	27	58	
25	65	e95	e29	e14	e13	53	121	157	185	46	27	65	
26 27 28 29 30 31	56 55 82 389 774 500	e86 e79 e78 e73 e78	e26 e25 e23 e26 e25 e22	e13 e12 e12 e12 e12 e12	e14 e13 e13	55 64 68 68 70 69	115 107 101 97 92	163 169 165 154 142 131	168 152 140 134 127	44 44 43 39 36 34	30 32 31 31 28 27	75 81 76 68 65	
TOTAL	3,820	4,331	1,427	362.5	356.0	1,582	3,657	5,415	7,964	2,216	921	2,194	
MEAN	123	144	46.0	11.7	12.7	51.0	122	175	265	71.5	29.7	73.1	
MAX	774	384	80	19	15	91	238	374	594	115	49	241	
MIN	48	73	22	6.2	9.0	13	59	73	117	34	24	19	
AC-FT	7,580	8,590	2,830	719	706	3,140	7,250	10,740	15,800	4,400	1,830	4,350	
STATIST	TICS OF MO	ONTHLY M	EAN DATA	FOR WAT	ER YEARS	2001 - 2005,	BY WATE	R YEAR (W	Y)				
MEAN	67.4	63.3	40.7	17.6	25.6	85.1	494	386	329	188	114	87.6	
MAX	160	144	128	59.4	107	151	1,986	1,477	1,112	694	451	256	
(WY)	(2002)	(2005)	(2002)	(2002)	(2002)	(2002)	(2001)	(2001)	(2001)	(2001)	(2001)	(2001)	
MIN	10.3	11.1	3.76	0.39	0.18	4.56	27.5	9.13	32.2	31.3	14.0	9.06	
(WY)	(2004)	(2004)	(2001)	(2001)	(2001)	(2001)	(2004)	(2004)	(2003)	(2003)	(2004)	(2003)	

BIG SIOUX RIVER BASIN 343

06479770 BIG SIOUX RIVER NEAR BRUCE, SD—Continued

SUMMARY STATISTICS	FOR 2004 CALE	NDAR YEAR	FOR 2005 WAT	TER YEAR	WATER YEARS 2001 - 200		
ANNUAL TOTAL ANNUAL MEAN	23,655.1 64.6		34,245.5 93.8		158		
HIGHEST ANNUAL MEAN LOWEST ANNUAL MEAN					502 37.5	2001 2003	
HIGHEST DAILY MEAN LOWEST DAILY MEAN	774 3.2	Oct 30 Feb 3	774 6.2	Oct 30 Jan 16	3,540 0.10	Apr 9, 2001 Feb 10, 2001	
ANNUAL SEVEN-DAY MINIMUM MAXIMUM PEAK FLOW	3.5	Feb 1	7.4 867	Jan 12 Oct 30	0.14 3,810	Feb 8, 2001 Apr 9, 2001	
MAXIMUM PEAK STAGE ANNUAL RUNOFF (AC-FT)	46,920		6.40 67,930	Oct 30	10.60 114,600	Apr 9, 2001	
10 PERCENT EXCEEDS 50 PERCENT EXCEEDS	164 36		208 62		322 39		

e Estimated.



(WY)

(1977)

06480000 BIG SIOUX RIVER NEAR BROOKINGS, SD

LOCATION.--Lat 44°10'48", long 96°44'55", in NW \(^1_4\) NW \(^1_4\) sec.8, T.108 N., R.49 W., Moody County, Hydrologic Unit 10170203, on right bank 3 ft downstream from highway bridge, 2.2 mi downstream from Medary Creek, and 9.5 mi southeast of Brookings.

DRAINAGE AREA.--3,898 mi², of which 1,479 mi² usually is noncontributing (documented runoff occurred during 1994-2002 water years for 213 mi² of the usually noncontributing area).

PERIOD OF RECORD.--August 1953 to current year.

REVISED RECORDS.--WDR SD-84-1: Drainage area. WDR SD-94-1 only: Drainage area.

(1977)

(1977)

(1977)

(1956)

(1975)

(1959)

(1959)

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,551.91 ft above NGVD of 1929. Prior to May 30, 1959, nonrecording gage at present site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005 DAILY MEAN VALUES DAY OCT NOV **FEB** JUN DEC JAN MAR APR MAY JUL AUG SEP 125 541 e120 e37 e23 e30 150 278 40 e130 194 462 e32 e25 e32 126 141 209 256 67 38 3 388 e125 e28 e28 e35 243 183 119 135 207 64 36 4 e27 e32 233 35 183 330 e120 e42 118 131 65 5 292 e25 239 207 65 35 204 e120 e28 e49 112 130 6 202 263 e24 e22 62 73 108 121 192 64 46 e115 246 241 e23 e107 e20 259 184 106 136 181 61 58 228 90 8 e2.1 281 115 e22 151 57 161 e98 113 185 218 e90 9 109 300 146 e20 e26 121 146 213 53 160 212 357 192 46 10 139 e85 e20 e30 131 117 158 180 11 130 191 e80 e20 e35 135 208 206 479 169 45 190 e20 122 179 e35 121 326 276 650 160 46 183 12 e82 13 114 172 e90 e19 e34 110 421 334 780 156 46 192 14 108 166 e95 e18 e32 501 381 885 184 43 212 112 15 109 163 e91 e17 e29 102 503 457 952 206 41 274 104 162 e89 e26 97 460 482 984 184 42 331 16 e16 101 154 e87 e35 87 428 471 995 153 43 281 17 e18 18 99 149 e85 e20 e40 103 406 445 928 124 72 212 100 e150 e23 401 98 244 19 e80 e38 88 368 814 113 e25 74 307 20 e150 e75 88 338 372 692 115 96 e36 21 96 102 e150 e70 e25 e35 317 360 671 105 67 337 22 23 98 e148 e62 e21 e33 94 290 328 617 97 64 320 98 e147 e58 e23 e30 95 267 296 568 91 55 276 24 98 e143 e52 e25 e30 100 252 284 546 88 51 246 25 95 e140 e50 e25 e30 95 233 280 517 89 49 259 26 97 98 55 297 e132 e48 e23 e35 214 273 484 100 27 99 e126 e46 e23 e32 101 199 266 452 90 57 313 28 e21 50 100 e121 e43 e32 186 265 396 89 307 115 29 e21 128 48 e117 e41 172 268 369 84 295 117 30 224 327 82 48 278 192 e113 e50 e21 ---128 160 31 e39 e21 219 76 44 445 ---127 6,097 4,435 6,148 2,523 2,873 8,287 TOTAL 702 7,414 4,735 1.751 853 15,642 22.6 37 MEAN 143 205 81.4 30.5 92.7 247 267 52.1 153 56.5 203 995 503 541 135 MAX 445 130 40 482 278 98 337 MIN 95 113 39 16 20 30 106 121 207 76 41 35 5,700 AC-FT 8,800 12,190 5,000 1,390 1,690 14,710 16,440 31,030 9,390 3,470 12,090 STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2005, BY WATER YEAR (WY) **MEAN** 141 119 71.6 37.9 69.2 476 924 549 579 333 195 155 1.007 563 284 2.037 5,717 2,804 3.432 3.269 1.693 MAX 1.424 606 1.553 (1997)(WY) (1996) (1996)(1996)(1998)(1985) (1986) (1984)(1993) (1993)(1986)(1996)MIN 0.040.090.09 0.000.00 1.45 27.3 21.4 13.5 0.940.020.01

(1976)

(1976)

(1976)

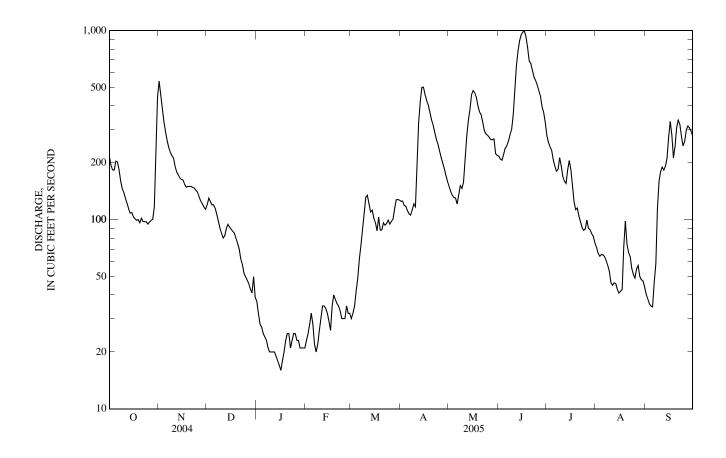
(1976)

BIG SIOUX RIVER BASIN 345

06480000 BIG SIOUX RIVER NEAR BROOKINGS, SD—Continued

SUMMARY STATISTICS	FOR 2004 CALE	ENDAR YEAR	FOR 2005 WAT	TER YEAR	WATER YEARS 1954 - 2005		
ANNUAL TOTAL ANNUAL MEAN HIGHEST ANNUAL MEAN	41,060 112		61,460 168		^a 304 1,174	1993	
LOWEST ANNUAL MEAN HIGHEST DAILY MEAN LOWEST DAILY MEAN	541 10	Nov 1 Jan 28	995 16	Jun 17 Jan 16	15.5 31,200 b0.00	1959 Apr 9, 1969 Jan 18, 1956	
ANNUAL SEVEN-DAY MINIMUM MAXIMUM PEAK FLOW	10	Jan 26	18 1,020	Jan 11 Jun 17	0.00 33,900	Jan 18, 1956 Apr 9, 1969	
MAXIMUM PEAK STAGE ANNUAL RUNOFF (AC-FT) 10 PERCENT EXCEEDS 50 PERCENT EXCEEDS	81,440 233 95		6.15 121,900 368 115	Jun 17	14.77 220,600 788 69	Apr 9, 1969	
90 PERCENT EXCEEDS	16		28		5.0		

<sup>a Median of annual mean discharges, 170 ft³/s.
b No flow at times in 1956, 1976, 1977, and 1982.
e Estimated.</sup>



06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, SD

LOCATION.--Lat $43^{\circ}47^{\circ}25^{\circ}$, long $96^{\circ}44^{\circ}42^{\circ}$, in $NW^{1}_{/4}$ $NW^{1}_{/4}$ sec. 29, T.104 N., R.49 W., Minnehaha County, Hydrologic Unit 10170203, on left bank at downstream side of highway bridge, 0.2 mi downstream from confluence of divided channels, and 3.0 mi southwest of Dell Rapids.

DRAINAGE AREA.--4,483 mi², of which 1,479 mi² usually is noncontributing (documented runoff occurred during 1994-2002 water years for 213 mi² of the usually noncontributing area).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1948 to current year.

REVISED RECORDS.--WDR SD-84-1: Drainage area. WDR SD-94-1 only: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,455.99 ft above NGVD of 1929. Prior to Nov. 11, 1949, nonrecording gage and Nov. 11, 1949, to Sept. 30, 1951, water-stage recorder, at present site at datum 0.04 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are poor. U.S. Army Corps of Engineers satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

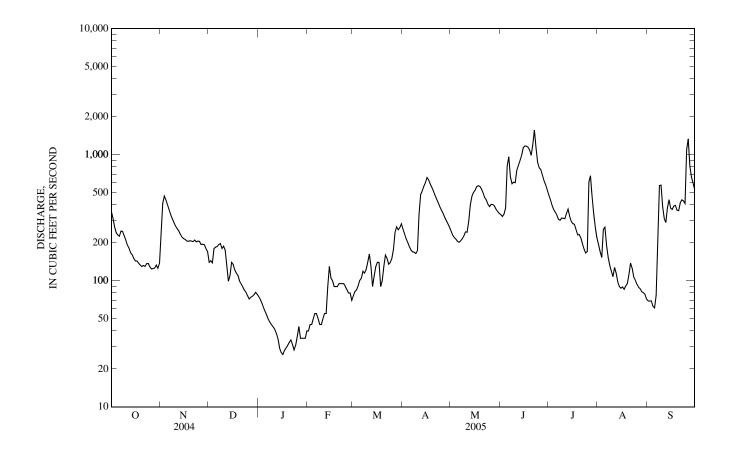
DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005 DAILY MEAN VALUES													
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	353	229	e140	e75	e40	e76	256	248	335	478	195	69	
2	312	412	e144	e71	e45	e82	234	230	324	439	171	69	
3	267	471	e139	e66	e45	e85	215	220	338	397	153	69	
4	240	438	e180	e61	e50	e91	201	214	378	368	255	63	
5	230	401	e185	e57	e55	e101	186	205	815	350	266	61	
6	226	367	187	e53	e55	e105	175	202	963	332	191	77	
7	248	335	194	e49	e50	e119	170	208	669	307	154	178	
8	246	310	197	e47	e45	e115	169	215	588	302	133	569	
9	228	291	180	e45	e45	123	165	227	606	315	119	573	
10	210	272	188	e43	e50	141	173	244	600	313	108	389	
11	192	260	e175	e41	e55	163	338	243	752	311	128	313	
12	182	249	e135	e38	e55	e130	482	297	819	341	115	290	
13	167	234	e99	e34	e90	e90	516	400	895	370	98	380	
14	161	223	e110	e29	e130	e110	561	467	986	325	90	439	
15	150	217	e140	e27	e105	e130	599	502	1,130	296	87	376	
16	144	213	e135	e26	e100	e140	659	522	1,170	284	89	368	
17	144	207	e122	e28	e90	e140	632	559	1,170	280	86	391	
18	138	205	e115	e29	e90	e90	586	567	1,150	255	91	396	
19	133	208	e110	e31	e90	e100	550	561	1,090	232	95	363	
20	130	207	e99	e32	e95	e130	514	534	988	232	112	360	
21	132	205	e94	e34	e95	e160	476	498	1,210	218	138	415	
22	130	210	e89	e31	e95	151	444	457	1,570	197	126	439	
23	137	204	e84	e28	e95	135	415	438	1,140	179	107	431	
24	137	207	e81	e31	e90	139	386	405	874	166	101	410	
25	129	205	e76	e36	e85	150	363	388	789	170	94	1,100	
26 27 28 29 30 31	124 125 126 133 126 138	194 195 193 e180 e170	e72 e74 e75 e77 e81 e78	e43 e35 e35 e35 e35 e40	e80 e80 e70 	177 242 267 253 264 283	342 319 301 284 267	404 403 393 370 356 342	764 691 622 578 527	606 681 465 342 266 220	89 87 82 81 78 72	1,330 816 666 596 532	
TOTAL	5,538	7,712	3,855	1,265	2,070	4,482	10,978	11,319	24,531	10,037	3,791	12,528	
MEAN	179	257	124	40.8	73.9	145	366	365	818	324	122	418	
MAX	353	471	197	75	130	283	659	567	1,570	681	266	1,330	
MIN	124	170	72	26	40	76	165	202	324	166	72	61	
AC-FT	10,980	15,300	7,650	2,510	4,110	8,890	21,770	22,450	48,660	19,910	7,520	24,850	
STATIST	TICS OF MO	ONTHLY M	EAN DATA	FOR WAT	ER YEARS	1949 - 2005	, BY WATE	R YEAR (W	YY)				
MEAN	177	158	101	49.7	93.9	668	1,415	723	737	468	261	207	
MAX	1,736	1,365	665	294	586	2,813	8,439	3,699	5,392	5,362	1,914	2,541	
(WY)	(1996)	(1996)	(1996)	(1996)	(1998)	(1985)	(1997)	(1986)	(1984)	(1993)	(1993)	(1986)	
MIN	1.60	3.43	2.30	0.71	1.30	10.6	45.3	42.6	19.4	2.77	0.17	0.00	
(WY)	(1977)	(1977)	(1977)	(1977)	(1977)	(1975)	(1959)	(1981)	(1976)	(1976)	(1976)	(1976)	

BIG SIOUX RIVER BASIN 347

06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, SD—Continued

SUMMARY STATISTICS	FOR 2004 CALI	ENDAR YEAR	FOR 2005 WAT	ΓER YEAR	WATER YEARS 1949 - 200		
ANNUAL TOTAL ANNUAL MEAN	71,549 195		98,106 269		^a 422		
HIGHEST ANNUAL MEAN LOWEST ANNUAL MEAN					1,654 23.1	1993 1959	
HIGHEST DAILY MEAN LOWEST DAILY MEAN	1,620 16	May 31 Feb 2	1,570 26	Jun 22 Jan 16	35,000 b0.00	Apr 10, 1969 Aug 25, 1976	
ANNUAL SEVEN-DAY MINIMUM	16	Jan 31	29	Jan 14	0.00	Aug 25, 1976	
MAXIMUM PEAK FLOW MAXIMUM PEAK STAGE			1,800 8.11	Sep 25 Sep 25	41,300 16.47	Apr 9, 1969 Apr 9, 1969	
ANNUAL RUNOFF (AC-FT) 10 PERCENT EXCEEDS	141,900 422		194,600 575	•	305,500 1,020	•	
50 PERCENT EXCEEDS	142		194		105		

a Median of annual mean discharges, 260 ft³/s. b Also Aug. 26 to Oct. 17, 1976. e Estimated.



BIG SIOUX RIVER BASIN

06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, SD-Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: Water years 1960-62, October 1967 to September 1984. Sediment records: periodic samples taken 1966-69, 1977-82, 2004 to current year.

PERIOD OF DAILY RECORD .--

WATER TEMPERATURE: October 1967 to September 1971, October 1974 to September 1975, October 1979 to September 1984, March 2004 to current

year(seasonal).
SPECIFIC CONDUCTANCE: October 1967 to September 1970, October 1973 to September 1984, and March 2004 to current year(seasonal). pH: March 2004 to current year(seasonal).

DISSOLVED OXYGEN: March 2004 to current year(seasonal).
TURBIDITY: March 2004 to current year(seasonal).
SUSPENDED SEDIMENT DISCHARGE: October 1967 to September 1976.

REMARKS.-Data published in the tables below are rated as follows: temperature, good; specific conductance, good; pH, good; dissolved oxygen, poor; and turbidity, good except those for Oct. 1-5, 2004 and Apr. 13-May 24, 2005, which are poor. Daily records are collected at 15-minute intervals using multi-parameter water-quality instrument from March to November. Satellite data-collection platform at station. Interruptions in daily records due to probes fouling and/or instrument malfunctions.

EXTREMES FOR PERIOD OF DAILY RECORD.-WATER TEMPERATURE: Maximum daily, 33.5°C, July 7, 12, 16, 20, 1974; minimum daily, 0.0°C for many days.
SPECIFIC CONDUCTANCE: Maximum daily, 2,100 μS/cm, Jan. 27, 1977; minimum daily, 140 μS/cm, Apr. 9, 1969.
pH: Maximum daily, 9.4 standard units, Mar. 26, 2004; minimum daily, 7.6 standard units, May 30, 31, 2004 and Sept. 8,9, 2005.
DISSOLVED OXYGEN: Maximum daily, 22.3 mg/L, Aug. 28, 2004; minimum daily, 2.2 mg/L, Aug. 3, 2004.
TURBIDITY: Maximum daily, 910 FN units, June 4, 2005; minimum daily, 5.1 NT units, Nov. 28, 2004.

TEMPERATURE, WATER, DEGREES CELSIUS WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBE	₹	N	OVEMBE	ER	D	ECEMBE	ER	;	JANUAR'	Y
1 2	16.8 13.5	13.5 11.4	15.6 12.2									
3 4	13.9 13.3	11.3 11.5	12.4 12.4									
5	13.3	11.1	12.0									
6	14.3	12.2	13.3	7.3	5.4	6.4						
7	14.9	13.7	14.3									
8 9	16.0 15.3	14.2 13.7	14.9 14.4	6.9 7.6	6.0 5.7	6.5 6.5						
10	14.8	13.7	13.8	8.6	6.6	7.9						
11	14.5	13.1	13.8	6.6	3.4	4.9						
12	14.0	12.4	13.1	3.4	2.2	2.9						
13	12.5	10.8	12.1	3.2	1.9	2.4						
14	10.8		10.3	2.8	1.9	2.2						
15	9.0		8.3	4.3	2.1	3.2						
16	7.9	5.6	6.6	5.8	3.7	4.8						
17	9.0	6.0	7.1	5.6	4.8	5.1						
18	9.3	7.0	8.0	5.9	5.1	5.5						
19 20	11.1 10.7	7.9 9.5	9.3 10.1	5.8 5.4	5.4 3.6	5.6 4.7						
20	10.7	7.3	10.1	3.4	5.0	4.7						
21	10.6	9.8	10.1	3.6	2.7	3.2						
22	13.0	10.3	11.4	4.1	2.7	3.2						
23	13.3	11.3	12.2	3.1	1.6	2.7						
24	12.5	10.3	11.1	2.0	0.6	1.4						
25	11.8	9.3	10.3	1.4	0.5	0.9						
26				2.9	1.0	2.0						
27				2.9	1.4	2.4						
28				1.4	0.3	0.9						
29				0.8	0.0	0.2						
30 31												
31												
MONTH	16.8	5.6	11.6	8.6	0.0	3.7						

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06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, SD—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUAR	Y		MARCH			APRIL			MAY	
1 2 3 4 5		 	 	 	 	 	10.7 10.3 12.2 13.9 16.1	7.8 8.2 8.3 10.2 12.5	9.0 9.1 9.9 11.9 14.1	8.8 10.0 12.3 14.1 16.8	6.9 6.0 8.3 10.3 12.4	7.9 7.8 9.6 12.0 14.4
6 7 8 9	 	 	 	 	 	 	16.4 16.8 16.0 16.7	13.4 12.5 12.9 12.5	14.4 14.2 14.1 14.2	19.6 20.6 20.2 18.5	15.1 17.7 17.8 16.7	17.1 18.8 18.8 17.9
10 11 12 13 14 15	 	 	 	 	 	 	15.1 14.0 13.3 13.3 14.0 13.6	14.0 13.3 10.8 10.2 11.7 12.1	14.7 13.7 11.8 11.6 12.9 12.7	16.7 15.1 12.3 11.1 10.7 12.5	15.1 12.3 10.2 9.9 9.5 8.5	16.1 13.8 11.0 10.4 10 10.3
16 17 18 19 20	 	 	 	 	 	 	13.4 15.8 17.7 19.5 19.1	11.8 12.7 15.2 16.7 17.2	12.5 14.0 16.5 18.1 18.0	15.5 16.9 18.6 20.3 22.7	11.6 14.7 16.0 16.8 19.2	13.1 15.7 17.3 18.5 20.7
21 22 23 24 25	 	 	 	 	 	 	17.2 15.4 11.8 12.9 12.8	15.4 11.5 9.4 9.9 11.2	16.0 13.3 10.8 11.5 12.1	22.2 21.2 22.5 22.8 22.2	19.5 19.1 18.9 20.4 18.2	21.0 20.3 20.8 21.8 20.2
26 27 28 29 30 31	 	 	 	 10.8 9.6	 8.2 6.9	9.9 8.2	11.9 11.2 11.5 11.6 10.4	10.1 8.7 8.7 9.6 8.8	11.0 10.1 10.1 10.5 9.7	18.3 18.0 18.0 17.6 17.8 18.7	16.5 16.4 15.7 16.4 15.2 17.4	17.6 17.3 17.0 16.9 16.5 17.9
MONTH				10.8	6.9	9.0	19.5	7.8	12.8	22.8	6.0	15.8
		** ** ***			JULY			ATTOTICE		C.	EPTEMBE	7D
		JUNE			JULI			AUGUST		S.	EPTEMBE	SK
1 2 3 4 5	18.5 19.3 20.2 20.3 20.0	17.1 17.9 18.8 19.2 18.7	17.8 18.6 19.4 19.7 19.2	24.8 25.7 26.1 25.9 26.3	21.6 22.9 24.0 23.7 23.3	23.3 24.4 25.2 25.0 24.8	29.7 31.5 30.9 26.6 26.4	25.4 27.0 26.6 24.3 23.1	27.1 28.8 28.6 25.7 24.6	25.7 26.0 27.0 27.7 27.3	19.2 18.7 20.2 21.7 22.4	22.2 22.1 23.3 24.4 24.5
2 3 4	19.3 20.2 20.3	17.1 17.9 18.8 19.2	18.6 19.4 19.7	25.7 26.1 25.9	21.6 22.9 24.0 23.7	24.4 25.2 25.0	31.5 30.9 26.6	25.4 27.0 26.6 24.3	27.1 28.8 28.6 25.7	25.7 26.0 27.0 27.7	19.2 18.7 20.2 21.7	22.2 22.1 23.3 24.4
2 3 4 5 6 7 8 9	19.3 20.2 20.3 20.0 22.2 24.4 24.4 23.5	17.1 17.9 18.8 19.2 18.7 18.2 21.4 22.2 21.5	18.6 19.4 19.7 19.2 20.0 22.8 23.3 22.3	25.7 26.1 25.9 26.3 26.9 26.9 26.3 28.2	21.6 22.9 24.0 23.7 23.3 24.0 24.9 23.9 24.6	24.4 25.2 25.0 24.8 25.5 25.9 25.3 26.2	31.5 30.9 26.6 26.4 26.9 29.0 30.8 29.8	25.4 27.0 26.6 24.3 23.1 23.4 23.5 24.9 26.0	27.1 28.8 28.6 25.7 24.6 24.8 25.8 27.4 27.6	25.7 26.0 27.0 27.7 27.3 25.8 23.9 22.1 23.2	19.2 18.7 20.2 21.7 22.4 21.2 19.7 18.9 20.9	22.2 22.1 23.3 24.4 24.5 23.3 21.6 20.2 22.0
2 3 4 5 6 7 8 9 10 11 12 13 14	19.3 20.2 20.3 20.0 22.2 24.4 24.4 23.5 21.5 21.3 21.6 22.0 21.5	17.1 17.9 18.8 19.2 18.7 18.2 21.4 22.2 21.5 19.9 20.2 19.3 20.8 20.4	18.6 19.4 19.7 19.2 20.0 22.8 23.3 22.3 20.7 20.7 20.7 20.4 21.3 21.0	25.7 26.1 25.9 26.3 26.9 26.9 26.3 28.2 28.7 28.2 30.1 29.2 30.4	21.6 22.9 24.0 23.7 23.3 24.0 24.9 23.9 24.6 26.3 26.0 25.6 26.2 26.9	24.4 25.2 25.0 24.8 25.5 25.9 25.3 26.2 27.4 27.1 27.1 27.7 28.2	31.5 30.9 26.6 26.4 26.9 29.0 30.8 29.8 29.1 27.9 26.8 24.1 25.6	25.4 27.0 26.6 24.3 23.1 23.4 23.5 24.9 26.0 24.3 23.1 23.2 20.9 18.6	27.1 28.8 28.6 25.7 24.6 24.8 25.8 27.4 27.6 26.4 25.2 24.9 22.4 21.7	25.7 26.0 27.0 27.7 27.3 25.8 23.9 22.1 23.2 23.9 24.1 24.1 23.1 20.3	19.2 18.7 20.2 21.7 22.4 21.2 19.7 18.9 20.9 21.8 22.1 22.8 20.1 18.5	22.2 22.1 23.3 24.4 24.5 23.3 21.6 20.2 22.0 22.9 23.1 23.4 21.8 19.6
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	19.3 20.2 20.3 20.0 22.2 24.4 23.5 21.5 21.3 21.6 22.0 21.5 21.9	17.1 17.9 18.8 19.2 18.7 18.2 21.4 22.2 21.5 19.9 20.2 19.3 20.8 20.4 20.4	18.6 19.4 19.7 19.2 20.0 22.8 23.3 20.7 20.7 20.4 21.3 21.0 21.0	25.7 26.1 25.9 26.3 26.9 26.3 28.2 28.7 28.2 30.1 29.2 30.4 30.2 29.9 28.7 27.0 27.6	21.6 22.9 24.0 23.7 23.3 24.0 24.9 24.6 26.3 26.0 25.6 26.2 26.9 27.4 27.8 26.5 24.7 24.2	24.4 25.2 25.0 24.8 25.5 25.9 25.3 26.2 27.4 27.1 27.7 28.2 28.8 28.8 27.8 25.7	31.5 30.9 26.6 26.4 26.9 29.0 30.8 29.8 29.1 27.9 26.8 24.1 25.6 24.4 27.5 24.2 28.4 27.8	25.4 27.0 26.6 24.3 23.1 23.4 23.5 24.9 26.0 24.3 23.1 23.2 20.9 18.6 19.4 20.1 21.5 21.4 22.2	27.1 28.8 28.6 25.7 24.6 24.8 25.8 27.4 27.6 26.4 25.2 24.9 22.4 21.7 21.6 23.3 23.0 24.4 24.7	25.7 26.0 27.0 27.7 27.3 25.8 23.9 22.1 23.2 23.9 24.1 24.1 23.1 20.3 20.4 20.8 20.2 21.2	19.2 18.7 20.2 21.7 22.4 21.2 19.7 18.9 20.9 21.8 22.1 22.8 20.1 18.5 18.4 18.7 18.0 17.3 19.3	22.2 22.1 23.3 24.4 24.5 23.3 21.6 20.2 22.0 22.9 23.1 23.4 21.8 19.6 19.5 19.9 18.8 18.7 20.2
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	19.3 20.2 20.3 20.0 22.2 24.4 24.4 23.5 21.5 21.6 22.0 21.5 21.9 	17.1 17.9 18.8 19.2 18.7 18.2 21.4 22.2 21.5 19.9 20.2 19.3 20.8 20.4 20.4 20.4 21.5 22.5 23.5 24.7 24.4 24.3 26.0 25.7 24.4 23.9 24.0 25.6 25.7 23.3	18.6 19.4 19.7 19.2 20.0 22.8 23.3 20.7 20.7 20.4 21.3 21.0 21.0 21.0 23.6 24.6 25.7 25.4 26.9 26.6 24.8 24.6 25.5 26.9 26.5 24.0	25.7 26.1 25.9 26.3 26.9 26.3 28.2 28.7 28.2 30.1 29.2 30.4 30.2 29.9 28.7 27.0 27.6 28.8 30.3 31.2 31.9 29.9 27.3 23.5 22.2 24.2 24.2 25.2 24.9	21.6 22.9 24.0 23.7 23.3 24.0 24.9 23.9 24.6 26.3 26.0 25.6 26.2 26.9 27.4 27.8 26.5 24.7 24.8 26.8 27.1 28.4 27.3 23.5 20.7 22.9 23.6	24.4 25.2 25.0 24.8 25.5 25.9 25.3 26.2 27.4 27.1 27.1 27.7 28.2 28.8 25.8 25.8 25.8 25.7 26.5 28.2 29.6 28.5 25.9 21.4 20.9 22.4 23.9 24.3	31.5 30.9 26.6 26.4 26.9 29.0 30.8 29.8 29.1 27.9 26.8 24.1 25.6 24.4 27.5 24.2 28.4 27.8 28.4 27.8 28.4 27.6 26.7 25.1 22.9 22.7 26.3 27.3 27.6 27.6 27.6	25.4 27.0 26.6 24.3 23.1 23.4 23.5 24.9 26.0 24.3 23.1 23.2 20.9 18.6 19.4 20.1 21.5 21.4 22.2 22.1 22.4 21.5 20.3 19.8 20.4 19.9 19.9 19.7 20.3 19.9	27.1 28.8 28.6 25.7 24.6 24.8 25.8 27.4 27.6 26.4 25.2 24.9 22.4 21.7 21.6 23.3 23.0 24.4 24.7 25.0 24.6 23.6 22.4 21.3 21.5 22.8 22.8 22.8 22.8 23.7 24.1	25.7 26.0 27.0 27.7 27.3 25.8 23.9 22.1 23.2 23.9 24.1 24.1 23.1 20.3 20.4 20.8 20.2 21.2 21.2 21.2 21.7 19.4 19.2 19.0 16.7 17.7 17.3 15.1 15.6	19.2 18.7 20.2 21.7 22.4 21.2 19.7 18.9 20.9 21.8 22.1 22.8 20.1 18.5 18.4 18.7 18.0 17.3 19.0 19.7 19.4 17.4 17.8 15.9 15.9 15.9 16.0 15.1 13.2 13.1	22.2 22.1 23.3 24.4 24.5 23.3 21.6 20.2 22.0 22.9 23.1 23.4 21.8 19.6 19.5 19.9 18.8 18.7 20.2 20.2 21.0 20.2 21.0
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29	19.3 20.2 20.3 20.0 22.2 24.4 24.4 23.5 21.5 21.3 21.6 22.0 21.5 21.9 24.7 25.8 26.7 25.8 26.6 27.9 27.5 25.7 25.5 27.2 28.2 27.6	17.1 17.9 18.8 19.2 18.7 18.2 21.4 22.2 21.5 19.9 20.2 19.3 20.8 20.4 20.4 22.5 23.5 24.7 24.4 24.3 26.0 25.7 24.4 23.9 24.0 25.6 25.7	18.6 19.4 19.7 19.2 20.0 22.8 23.3 20.7 20.7 20.4 21.3 21.0 21.0 21.0 23.6 24.6 25.7 25.1 25.4 26.9 26.6 24.8 24.6 25.5 26.9 26.5	25.7 26.1 25.9 26.3 26.9 26.3 28.2 28.7 28.2 30.1 29.2 30.4 30.2 29.9 28.7 27.0 27.6 28.8 30.3 31.2 31.9 29.9 27.3 23.5 22.2 24.2 25.2	21.6 22.9 24.0 23.7 23.3 24.0 24.9 24.6 26.3 26.0 25.6 26.2 26.9 27.4 27.8 26.5 24.7 24.2 24.8 26.8 27.1 28.4 27.3 23.5 20.3 19.7 20.7 22.9	24.4 25.2 25.0 24.8 25.5 25.9 25.3 26.2 27.4 27.1 27.7 28.2 28.8 25.8 25.8 25.7 26.5 29.0 29.6 28.5 25.9 21.4 20.9 22.4 23.9	31.5 30.9 26.6 26.4 26.9 29.0 30.8 29.8 29.1 27.9 26.8 24.1 25.6 24.4 27.5 24.2 28.4 27.8 28.4 27.6 26.7 25.1 22.9 22.7 26.3 27.3 27.6	25.4 27.0 26.6 24.3 23.1 23.4 23.5 24.9 26.0 24.3 23.1 23.2 20.9 18.6 19.4 20.1 21.5 21.4 22.2 22.1 22.4 21.5 20.3 19.8 20.4 19.9 19.9 19.7 20.3	27.1 28.8 28.6 25.7 24.6 24.8 25.8 27.4 27.6 26.4 25.2 24.9 22.4 21.7 21.6 23.3 23.0 24.4 24.7 25.0 24.6 23.6 22.4 21.3 21.5 22.8 23.2 23.7	25.7 26.0 27.0 27.7 27.3 25.8 23.9 22.1 23.2 23.9 24.1 23.1 20.3 20.4 20.8 20.2 20.2 21.2 21.2 22.0 21.7 19.4 19.2 19.0	19.2 18.7 20.2 21.7 22.4 21.2 19.7 18.9 20.9 21.8 20.1 18.5 18.4 18.7 18.0 17.3 19.0 19.7 19.4 17.4 17.8 15.9 15.2 16.0 15.1 13.2	22.2 22.1 23.3 24.4 24.5 23.3 21.6 20.2 22.0 22.9 23.1 23.4 21.8 19.6 19.5 19.9 18.8 18.7 20.2 20.2 21.0 20.2 21.0

06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, SD—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBE			ECEMBE			JANUARY	
1 2 3 4 5	891 950 990 993 1,000	796 851 950 981 967	851 899 968 987 987	1,000 	844 	954 	 	 	 	 	 	
6 7 8 9 10	991 1,010 1,000 1,000 1,010	962 991 989 989 961	975 998 996 997 979	834 849 885 911 919	804 834 845 885 906	817 844 865 896 911	 	 	 	 	 	
11 12 13 14 15	990 994 990 977 975	964 985 960 954 961	977 989 976 967 969	940 966 981 981 976	919 940 965 974 970	930 953 970 978 973	 	 	 	 	 	
16 17 18 19 20	980 955 948 953 955	952 938 927 912 932	967 948 938 933 940	989 997 1,010 1,010 1,000	969 983 993 989 987	978 989 1,000 995 992	 	 	 	 	 	
21 22 23 24 25	1,010 1,020 1,010 1,010 999	955 993 991 975 981	982 1,020 1,000 995 990	1,020 1,020 1,020 1,020 1,040	1,000 1,000 1,000 1,010 1,020	1,010 1,010 1,010 1,020 1,030	 	 	 	 	 	
26 27 28 29 30 31	992 1,000 	979 987 	985 994 	1,050 1,060 1,090 1,090	1,030 1,050 1,060 1,040	1,040 1,050 1,070 1,080	 	 	 	 	 	
MONTH	1,020	 796	971	1,090	804	975						
111011111		FEBRUARY		1,000	MARCH	,,,		APRIL			MAY	
1 2 3 4 5	 	 		 	 	 	778 781 784 759 761	754 766 752 726 728	769 771 770 744 746	971 963 950 909 923	957 944 843 835 883	965 956 915 867 905
6 7 8 9 10	 	 	 	 	 	 	753 778 784 819 820	721 740 757 781 768	737 761 770 799 801	904 890 884 923 933	875 854 857 883 913	889 871 872 903 921
11 12 13 14 15	 	 	 	 	 	 	837 1,010 1,020 1,020 1,030	750 837 971 984 990	778 946 997 998 1,010	940 940 983 1,000 1,010	910 918 934 966 965	921 930 962 983 985
16 17 18 19 20	 	 	 	 	 	 	1,050 1,080 1,080 1,070 1,040	992 1,050 1,050 1,030 1,020	1,010 1,070 1,070 1,050 1,030	1,030 1,040 1,050 1,050 1,040	1,010 1,030 1,030 1,040 1,020	1,020 1,040 1,040 1,040 1,030
21 22 23 24 25	 	 	 	 	 	 	1,040 1,040 1,060 1,040 1,030	1,030 1,030 1,040 1,030 1,020	1,040 1,040 1,040 1,040 1,020	1,040 1,010 1,010 1,040 1,050	1,010 991 994 1,010 986	1,020 1,000 999 1,020 1,020
26 27 28 29 30 31	 	 		 738 754	 704 718	 721 738	1,020 1,020 1,010 996 970	1,010 1,010 995 966 959	1,010 1,010 1,010 980 967	1,000 1,010 988 969 950 945	975 977 967 935 934 928	985 989 977 946 940 937
MONTH				754	704	730	1,080	721	926	1,050	835	963

BIG SIOUX RIVER BASIN 351

06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, SD-Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS—CONTINUED WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1 2 3 4 5	933 927 923 950 957	913 910 903 914 801	923 919 911 928 909	1,080 1,070 1,060 1,030 1,020	1,050 1,060 1,030 994 987	1,070 1,060 1,050 1,020 1,010	874 878 877 852 799	832 849 843 600 600	857 861 858 757 706	809 839 855 854 823	772 804 829 803 774	790 815 844 835 799
6 7 8 9 10	993 999 1,020 1,030 1,040	824 878 838 997 1,020	910 938 975 1,020 1,030	1,030 1,030 991 981 982	1,020 986 955 954 960	1,030 1,010 974 970 971	843 858 863 860 854	799 778 776 794 735	820 826 821 826 811	811 798 619 778 892	706 522 445 559 778	766 713 487 649 831
11 12 13 14 15	1,070 1,020 1,040 1,060 1,070	998 977 973 1,030 1,040	1,020 1,000 1,020 1,050 1,060	969 976 918 877 895	954 918 789 787 875	962 956 874 839 886	811 837 815 913 856	711 730 746 803 769	761 799 781 872 818	908 909 840 868 855	890 838 771 770 840	899 872 816 826 848
16 17 18 19 20	1,040 1,050 1,060	1,020 1,030 1,050	1,040 1,040 1,060	888 879 880 865 867	865 866 841 824 786	877 871 863 853 823	859 828 796 765 771	749 771 728 723 723	807 803 753 747 749	915 923 912 861 873	853 912 844 809 812	882 917 877 831 842
21 22 23 24 25	1,050 877 974 1,040 1,070	864 830 868 954 1,030	972 854 930 1,010 1,060	867 878 873 839 843	820 840 818 812 777	836 857 839 825 827	772 748 734 780 764	721 703 702 734 741	743 726 720 762 756	877 856 867 866 843	782 788 839 843 513	839 829 856 853 685
26 27 28 29 30 31	1,070 1,050 1,080 1,090 1,090	1,000 1,020 1,050 1,050 1,060	1,050 1,030 1,060 1,070 1,080	829 676 678 731 805 868	416 605 650 678 731 804	604 644 663 709 766 840	760 768 769 772 787 774	686 698 699 720 698 738	727 740 743 749 746 762	822 933 1,080	526 822 908 1,030	678 879 959 1,050
MONTH YEAR	1,090 1,090	801 416	995 910	1,080	416	883	913	600	781	1,080	445	820

06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, SD—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN										
	OCTO	OBER	NOVE	MBER	DECE	MBER	JANU	ARY	FEBR	JARY	MAI	RCH
1 2	8.4 8.5	8.2 8.3										
3 4	8.6	8.4										
5	8.7 8.7	8.5 8.6										
6	8.7	8.5	8.2	8.2								
7 8	8.6 8.7	8.5 8.5	8.3 8.3	8.2 8.3								
9	8.6	8.5	8.4	8.3								
10	8.6	8.5	8.4	8.3								
11 12	8.6 8.6	8.5 8.4	8.4 8.5	8.4 8.4								
13 14	8.5 8.5	8.3 8.4	8.5 8.5	8.4 8.5								
15	8.5	8.4	8.5	8.5								
16	8.6	8.4	8.5	8.5								
17 18	8.5 8.6	8.4 8.4	8.5 8.5	8.4 8.4								
19	8.5	8.4	8.5	8.4								
20	8.5	8.3	8.5	8.4								
21 22	8.6 8.7	8.4 8.5	8.6 8.6	8.5 8.5								
23 24	8.7 8.7	8.5	8.6	8.5 8.5								
25	8.7	8.5 8.6	8.6 8.6	8.5								
26	8.7	8.5	8.6	8.5								
27 28	8.7	8.5	8.6 8.6	8.5 8.5								
29			8.6	8.5								
30 31											8.7 8.8	8.6 8.6
MONTH	8.7	8.2	8.6	8.2							8.8	8.6
	API	RIL	MA	ΛY	JUNE		JUI	LY	AUG	UST	SEPTEMBER	
1	8.9	8.8	8.8	8.4	8.1	7.9	8.7	8.5	8.7	8.2	8.9	7.8
2 3	9.1 9.1	8.8 8.9	8.8 8.8	8.5 8.1	8.2 8.3	7.9 7.9	8.7 8.6	8.5 8.3	8.7 8.7	8.2 8.0	8.9 8.9	7.8 7.9
4	9.0	8.7	8.9	8.4	8.6	8.1	8.6	8.3	8.5	8.0	8.9	7.8
5	9.0	8.5	8.8	8.5	8.5	7.9	8.5	8.2	8.9	8.0	8.8	7.7
6 7	9.0 8.8	8.4 8.4	8.9 8.9	8.4 8.4	8.4 8.6	8.1 8.2	8.6 8.5	8.2 8.2	9.0 9.0	8.6 8.2	8.8 8.6	7.7 7.7
8	8.7	8.3	8.8	8.5	8.6	8.4	8.5	8.2	9.0	8.0	7.7	7.6
9 10	8.4 8.3	8.2 8.1	8.6 8.6	8.4 8.3	8.4 8.4	8.3 8.3	8.7 8.6	8.2 8.2	8.9 9.0	7.9 8.0	7.8 8.0	7.6 7.8
11	8.2	8.0	8.6	8.0	8.3	8.2	8.6	8.2	8.8	8.0	8.6	8.0
12 13	8.0 8.6	7.9 7.9	8.7 8.8	8.5 8.6	8.3 8.3	8.2 8.2	8.8 8.6	8.3 8.2	8.8 8.6	8.0 8.1	8.5 8.3	8.2 8.0
14	8.6	8.3	8.8	8.6	8.3	8.2	8.7	8.3	8.9	8.0	8.2	7.9 8.0
15	8.6	8.4	8.8	8.6	8.2	8.1	8.6	8.3	8.8	8.2	8.3	
16 17	8.7 8.7	8.5 8.5	8.8 8.8	8.6 8.6			8.6 8.5	8.2 8.2	8.9 9.1	7.9 8.1	8.4 8.4	8.1 8.2
18 19	8.8 8.7	8.5 8.4	8.9 8.9	8.6 8.7	8.1 8.1	8.0 8.1	8.8 8.8	8.2 8.4	9.2 9.2	7.9 8.0	8.4 8.3	8.2 8.0
20	8.6	8.3	8.9	8.6	8.1	8.1	8.8	8.3	9.2	8.0	8.4	8.1
21	8.5	8.3	8.8	8.3	8.1	8.0	8.7	8.2	9.1	8.0	8.3	8.1
22 23	8.6 8.9	8.4 8.6	8.8 8.6	8.5 8.3	8.0 8.2	7.9 8.0	8.8 8.8	8.1 8.1	9.1 9.1	8.1 8.2	8.3 8.4	8.1 8.1
23 24 25	8.8	8.6	8.5	7.9	8.2	8.1	8.6	8.1	9.0	8.1	8.4	8.2
	8.6	8.3	8.4	8.3	8.3	8.2	8.4	7.9	8.7	7.8	8.3	7.7
26 27	8.6 8.7	8.3 8.3	8.6 8.7	8.4 8.5	8.3 8.4	8.2 8.3	8.0 8.4	7.7 7.8	9.0 9.0	7.9 8.0	8.0 8.2	7.8 8.0
28 29	8.7 8.7	8.4 8.4	8.7 8.6	8.4 8.2	8.5 8.6	8.3 8.4	8.8 9.0	8.0 8.5	9.0 9.1	8.0 7.8	8.3 8.5	8.1 8.2
30	8.5	8.3	8.5	8.0	8.6	8.5	8.9	8.4	9.0	7.9	8.6	8.3
31			8.0	7.8			8.6	8.1	9.0	7.9		
MONTH	9.1	7.9	8.9	7.8	8.6	7.9	9.0	7.7	9.2	7.8	8.9	7.6
YEAR	9.2	7.6										

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06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, SD—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

				WAIEKII	CAR OCTO	JDEK 2004 I	OSEPTEM	DEK 2003				
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER		N	OVEMBE	R	Ε	ECEMBE	R		JANUARY	7
1				13.3	12.4	12.8						
2				13.2	11.6	12.4						
3 4												
5												
6	14.9	10.6	12.5	12.9	12.3	12.7						
7	12.4	10.0	11.2	12.5	12.1	12.7						
8				12.7	12.2	12.4						
9 10												
11 12												
13												
14 15												
16 17				11.8	11.2	11.5						
18				11.7	11.2	11.5						
19				11.5	10.8	11.2						
20				12.1	10.9	11.5						
21	13.6	10.7	11.8	13.1	12.0	12.5						
22 23	14.5 14.0	10.4 10.0	11.6 11.5	13.1 13.2	12.5 12.4	12.8 12.8						
24	15.1	10.7	12.3	13.9	13.0	13.4						
25	15.4	11.3	12.9	14.1	13.4	13.7						
26	15.2	11.6	12.9	14.0	12.8	13.5						
27	15.0	11.4	12.6	13.5	12.7	13.1						
28 29				14.4 14.9	13.1 13.7	13.7 14.3						
30												
31												
MONTH	15.4	10.0	12.1	14.9	10.8	12.7						
MONTH		10.0 FEBRUARY			10.8 MARCH	12.7		APRIL			 MAY	
MONTH 1						12.7		APRIL			MAY	
1 2] 	FEBRUARY 	 		MARCH		14.6 15.1	APRIL 12.1 11.6	13.1 13.1	15.8 17.8	MAY 10.2 11.9	13.1 14.7
1 2 3	 	FEBRUARY 	 	 	MARCH 	 	14.6 15.1 16.1	APRIL 12.1 11.6 11.6	13.1 13.1 13.6	15.8 17.8	MAY 10.2 11.9	13.1 14.7
1 2] 	FEBRUARY 	 		MARCH		14.6 15.1	APRIL 12.1 11.6	13.1 13.1	15.8 17.8	MAY 10.2 11.9	13.1 14.7
1 2 3 4 5	 	FEBRUARY 	 	 	MARCH	 	14.6 15.1 16.1 15.7 16.0	APRIL 12.1 11.6 11.6 11.4 10.9	13.1 13.1 13.6 13.5 12.9	15.8 17.8 	MAY 10.2 11.9 	13.1 14.7
1 2 3 4	 	FEBRUARY 	 	 	MARCH 	 	14.6 15.1 16.1 15.7	APRIL 12.1 11.6 11.6 11.4	13.1 13.1 13.6 13.5	15.8 17.8 	MAY 10.2 11.9 	13.1 14.7
1 2 3 4 5 6 7 8	 	FEBRUARY		 	MARCH	 	14.6 15.1 16.1 15.7 16.0 12.7	APRIL 12.1 11.6 11.6 11.4 10.9 9.9	13.1 13.1 13.6 13.5 12.9	15.8 17.8 	MAY 10.2 11.9	13.1 14.7
1 2 3 4 5 6 7 8	 	FEBRUARY	 	 	MARCH	 	14.6 15.1 16.1 15.7 16.0	APRIL 12.1 11.6 11.6 11.4 10.9 9.9	13.1 13.1 13.6 13.5 12.9	15.8 17.8 	MAY 10.2 11.9	13.1 14.7
1 2 3 4 5 6 7 8 9		FEBRUARY		 	MARCH		14.6 15.1 16.1 15.7 16.0 12.7	APRIL 12.1 11.6 11.6 11.4 10.9 9.9	13.1 13.1 13.6 13.5 12.9 11.8	15.8 17.8 	MAY 10.2 11.9	13.1 14.7
1 2 3 4 5 6 7 8 9 10		FEBRUARY		 	MARCH		14.6 15.1 16.1 15.7 16.0 12.7	APRIL 12.1 11.6 11.6 11.4 10.9 9.9	13.1 13.1 13.6 13.5 12.9 11.8	15.8 17.8 	MAY 10.2 11.9	13.1 14.7
1 2 3 4 5 6 7 8 9 10		FEBRUARY		 	MARCH		14.6 15.1 16.1 15.7 16.0 12.7 	APRIL 12.1 11.6 11.6 11.4 10.9 9.9	13.1 13.1 13.6 13.5 12.9 11.8	15.8 17.8 	MAY 10.2 11.9	13.1 14.7
1 2 3 4 5 6 7 8 9 10 11 12 13 14		FEBRUARY		 	MARCH		14.6 15.1 16.1 15.7 16.0 12.7 15.1	APRIL 12.1 11.6 11.6 11.4 10.9 9.9 10.5	13.1 13.1 13.6 13.5 12.9 11.8 12.6	15.8 17.8 	MAY 10.2 11.9	13.1 14.7
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15		FEBRUARY			MARCH		14.6 15.1 16.1 15.7 16.0 12.7 15.1 12.7	APRIL 12.1 11.6 11.6 11.4 10.9 9.9 10.5 10.4	13.1 13.6 13.5 12.9 11.8 12.6 11.5	15.8 17.8 	MAY 10.2 11.9	13.1 14.7
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15		FEBRUARY			MARCH		14.6 15.1 16.1 15.7 16.0 12.7 15.1 12.7	APRIL 12.1 11.6 11.6 11.4 10.9 9.9 10.5 10.4 9.9	13.1 13.1 13.6 13.5 12.9 11.8 12.6 11.5	15.8 17.8 	MAY 10.2 11.9	13.1 14.7
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15		FEBRUARY		 	MARCH		14.6 15.1 16.1 15.7 16.0 12.7 15.1 12.7	APRIL 12.1 11.6 11.6 11.4 10.9 9.9 10.5 10.4	13.1 13.6 13.5 12.9 11.8 12.6 11.5	15.8 17.8 	MAY 10.2 11.9	13.1 14.7
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15		FEBRUARY			MARCH		14.6 15.1 16.1 15.7 16.0 12.7 15.1 12.7 14.7 16.0 16.7 18.4	APRIL 12.1 11.6 11.6 11.6 11.4 10.9 9.9 10.5 10.4 9.9 10.7 10.8 10.7	13.1 13.6 13.5 12.9 11.8 12.6 11.5 12.0 13.9 14.4	15.8	MAY 10.2 11.9	13.1 14.7
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20		FEBRUARY			MARCH		14.6 15.1 16.1 15.7 16.0 12.7 15.1 12.7 14.7 16.0 16.7 18.4 15.2	APRIL 12.1 11.6 11.6 11.4 10.9 9.9 10.5 10.4 9.9 10.7 10.8 10.7 10.5	13.1 13.1 13.6 13.5 12.9 11.8 12.6 11.5 12.0 13.2 13.9 14.4 12.5	15.8 17.8 	MAY 10.2 11.9	13.1 14.7
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21		FEBRUARY			MARCH		14.6 15.1 16.1 15.7 16.0 12.7 15.1 12.7 14.7 16.0 16.7 18.4 15.2	APRIL 12.1 11.6 11.6 11.4 10.9 9.9 10.5 10.4 9.9 10.7 10.8 10.7 10.5 9.6	13.1 13.6 13.5 12.9 11.8 12.6 11.5 12.0 13.2 13.9 14.4 12.5	15.8 17.8 	MAY 10.2 11.9	13.1 14.7
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20		FEBRUARY			MARCH		14.6 15.1 16.1 15.7 16.0 12.7 15.1 12.7 14.7 16.0 16.7 18.4 15.2	APRIL 12.1 11.6 11.6 11.4 10.9 9.9 10.5 10.4 9.9 10.7 10.8 10.7 10.5	13.1 13.1 13.6 13.5 12.9 11.8 12.6 11.5 12.0 13.2 13.9 14.4 12.5	15.8	MAY 10.2 11.9	13.1 14.7
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24		FEBRUARY			MARCH		14.6 15.1 16.1 15.7 16.0 12.7 15.1 12.7 14.7 16.0 16.7 18.4 15.2 12.7 14.3 16.9 17.7	APRIL 12.1 11.6 11.6 11.4 10.9 9.9 10.5 10.4 9.9 10.7 10.8 10.7 10.5 9.6 9.5 12.0 12.8	13.1 13.1 13.6 13.5 12.9 11.8 12.6 11.5 12.0 13.2 13.9 14.4 12.5 11.3 11.8 14.2 15.1	15.8	MAY 10.2 11.9	13.1 14.7
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23		FEBRUARY			MARCH		14.6 15.1 16.1 15.7 16.0 12.7 15.1 12.7 14.7 16.0 16.7 18.4 15.2 12.7 14.3 16.9	APRIL 12.1 11.6 11.6 11.4 10.9 9.9 10.5 10.4 9.9 10.7 10.8 10.7 10.5 9.6 9.5 12.0	13.1 13.1 13.6 13.5 12.9 11.8 12.6 11.5 12.0 13.2 13.9 14.4 12.5 11.8 14.2	15.8 17.8 	MAY 10.2 11.9	13.1 14.7
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26		FEBRUARY			MARCH		14.6 15.1 16.1 15.7 16.0 12.7 15.1 12.7 14.7 16.0 16.7 18.4 15.2 12.7 14.3 16.9 17.7 16.3	APRIL 12.1 11.6 11.6 11.4 10.9 9.9 10.5 10.4 9.9 10.7 10.8 10.7 10.5 9.6 9.5 12.0 12.8 12.7 10.6	13.1 13.1 13.6 13.5 12.9 11.8 12.6 11.5 12.0 13.2 13.9 14.4 12.5 11.3 11.8 14.2 15.1 14.4	15.8 17.8 -	MAY 10.2 11.9	13.1 14.7
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27		FEBRUARY			MARCH		14.6 15.1 16.1 15.7 16.0 12.7 15.1 12.7 14.7 16.0 16.7 18.4 15.2 12.7 14.3 16.9 17.7 16.3	APRIL 12.1 11.6 11.6 11.4 10.9 9.9 10.5 10.4 9.9 10.7 10.8 10.7 10.5 9.6 9.5 12.0 12.8 12.7 10.6 11.1	13.1 13.1 13.6 13.5 12.9 11.8 12.6 11.5 12.0 13.2 13.9 14.4 12.5 11.3 11.8 14.2 15.1 14.4	15.8 17.8 9.6 12.6	MAY 10.2 11.9	13.1 14.7
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29		FEBRUARY			MARCH		14.6 15.1 16.1 15.7 16.0 12.7 15.1 12.7 14.7 16.0 16.7 18.4 15.2 12.7 14.3 16.9 17.7 16.3 15.6 17.0 18.2 15.4	APRIL 12.1 11.6 11.6 11.6 11.4 10.9 9.9 10.5 10.4 9.9 10.7 10.8 10.7 10.5 9.6 9.5 12.0 12.8 12.7 10.6 11.1 12.6 9.7	13.1 13.1 13.6 13.5 12.9 11.8 12.6 11.5 12.0 13.2 13.9 14.4 12.5 11.3 11.8 14.2 15.1 14.4	15.8 17.8 17.8 17.8 17.8 17.8 17.8 17.8 17	MAY 10.2 11.9	13.1 14.7
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30		FEBRUARY			MARCH		14.6 15.1 16.1 15.7 16.0 12.7 15.1 12.7 14.7 16.0 16.7 18.4 15.2 12.7 14.3 16.9 17.7 16.3 15.6 17.0 18.2 15.4 14.7	APRIL 12.1 11.6 11.6 11.4 10.9 9.9 10.5 10.4 9.9 10.7 10.8 10.7 10.5 12.0 12.8 12.7 10.6 11.1 12.6 9.7 9.5	13.1 13.1 13.6 13.5 12.9 11.8 12.6 11.5 12.0 13.2 13.9 14.4 12.5 11.3 11.8 14.2 15.1 14.4 13.0 13.9 15.1 16.1 17	15.8 17.8 17.8 17.8 17.8 17.8 17.8 17.8 17	MAY 10.2 11.9	13.1 14.7
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29		FEBRUARY			MARCH		14.6 15.1 16.1 15.7 16.0 12.7 15.1 12.7 14.7 16.0 16.7 18.4 15.2 12.7 14.3 16.9 17.7 16.3 15.6 17.0 18.2 15.4	APRIL 12.1 11.6 11.6 11.6 11.4 10.9 9.9 10.5 10.4 9.9 10.7 10.8 10.7 10.5 9.6 9.5 12.0 12.8 12.7 10.6 11.1 12.6 9.7	13.1 13.6 13.5 12.9 11.8 12.6 11.5 12.0 13.2 13.9 14.4 12.5 11.3 11.8 14.2 15.1 14.4 13.0 13.9 15.0 12.6	15.8 17.8 17.8 17.8 17.8 17.8 17.8 17.8 17	MAY 10.2 11.9	13.1 14.7

06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, SD—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER—CONTINUED WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST		SI	EPTEMBE	ER
1 2 3 4 5	7.9 9.0 10.4 12.6 11.0	2.6 2.4 2.0 5.1 6.2	4.9 5.5 5.9 8.7 8.4	16.2 16.6 16.4 16.5 15.0	8.9 9.0 8.1 8.3 7.8	12.1 12.5 12.2 12.4 11.4	14.0 15.7 15.4 11.7 17.2	7.5 7.3 7.1 6.3 7.2	10.6 11.0 10.3 8.3 11.4	13.2 15.0 14.2 13.4 11.0	3.9 3.8 3.8 3.2 3.2	8.3 8.8 8.8 8.1 7.1
6 7 8 9 10	10.2 11.9 11.8 10.4 9.9	6.3 6.8 6.8 6.9	7.9 9.0 9.3 8.6 8.3	14.1 12.3 11.4 12.6 11.5	7.6 7.1 5.9 6.0 5.8	10.9 9.7 8.3 9.4 8.8	19.4 18.7 15.5 14.2 18.1	9.5 8.1 5.3 2.7 2.9	13.6 12.8 10.2 9.0 9.5	15.3 11.7 6.3 6.0 7.6	3.6 4.1 4.6 4.9 5.8	9.1 7.2 5.5 5.4 6.5
11 12 13 14 15	8.7 9.8 8.9 8.3 7.8	6.8 7.3 7.2 7.1 6.8	7.7 8.4 8.1 7.7 7.4	9.8 11.7 12.5 14.0 13.8	5.4 4.5 5.3 6.9 6.3	7.7 7.5 8.8 10.0 9.8	 	 	 	12.3 9.6 10.1 8.2 8.5	6.0 6.1 6.5 6.5 6.0	8.5 8.0 8.0 7.4 7.1
16 17 18 19 20	7.2 7.3 7.3	6.2 6.2 6.2	6.7 6.7 6.7	12.9 11.4 14.6 13.6 16.3	5.4 5.1 4.3 4.1 5.4	8.8 8.0 8.9 9.1 10.3	 	 	 	9.5 8.5 9.3 8.7 9.5	6.2 6.4 6.5 6.2 6.1	7.7 7.3 7.8 7.4 7.7
21 22 23 24 25	7.0 7.2 8.8 8.9 9.2	6.0 5.8 6.0 6.4 7.0	6.6 6.3 7.3 7.6 8.0	15.5 14.6 13.7 11.1 10.2	6.6 6.2 5.3 4.0 3.5	11.1 10.2 9.1 7.0 6.3	 	 	 	9.4 9.3 9.9 9.4 7.9	6.5 6.2 6.8 7.0 5.2	7.7 7.6 8.2 8.1 6.4
26 27 28 29 30 31	10.1 12.4 12.9 12.9 13.0	7.3 7.6 7.4 7.8 8.0	8.6 9.7 10.1 10.1 10.4	8.2 12.5 16.3 16.7 12.2 12.3	4.9 6.6 8.2 8.3 6.3 4.3	6.4 9.3 11.8 12.2 8.9 8.2	13.9	 4.0	 9.5	7.5 8.9 	5.4 7.0 	6.4 7.9
MONTH YEAR	13.0 19.4	2.0 2.0	7.9 10.1	16.7	3.5	9.6	19.4	2.7	10.6	15.3	3.2	7.6

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TURBIDITY, WATER, MONOCHROME NEAR INFRA-RED LED LIGHT, 780-900 NM, DETECTION ANGLE 90 +/ -2.5 DEGREES, FNU WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, SD-Continued

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			OVEMBEI			ECEMBE			JANUARY	
1				39	26	30						
2 3				44 	32	37						
4												
5												
6 7	48 44	22 27	31 34	28 32	20 23	23 27						
8	46	23	30	27	18	22						
9 10	37 45	23 23	30 29	23 34	17 23	20 27						
11	56	25	34	28	12	17						
12	41 42	24 22	29 29	36	11	13						
13 14	45	17	25	13 14	9.8 8.8	11 10						
15	56	20	28	11	8.4	9.5						
16 17	41 38	16 16	27 22	13 10	7.6	9.1						
18				12	7.0 7.5	8.6 9.0						
19 20	57 64	28 30	43 47	67 13	8.8 8.6	12 11						
				19								
21 22	38	31 30	33	8.5	6.4 6.2	7.9 7.3						
23 24	60 38	32 28	36 33	15 37	6.0 5.6	7.1 6.8						
25	32	26	29	7.2	5.9	6.4						
26	32	27	29	7.9	5.8	6.6						
27 28	39	28	31	27 11	5.8 5.1	7.1 6.4						
29				12	5.2	6.3						
30 31												
MONTH	64	16	31	67	5.1	14						
111011111		FEBRUARY			MARCH	1.		APRIL			MAY	
1							55	14	21			
2							51	16	25			
3 4							46 41	16 23	23 28	 45	36	41
5							61	26	36	57	38	43
6							58	37	45	70	36	43
7 8										85 90	37 39	43 46
9										75	43	58
10												
11 12										30	17	22
13										44	17	21
14 15							36 42	22 24	30 32	40 46	20 19	23 23
16							63	28	36	37		
17							54	35	43	 24	12	 14
18 19							110 120	50 59	70 93	28	9.2 11	15
20							120	54	75			
21							200	98	140			
22 23							300 86	83 35	200 53			
24 25							52 56	26 29	36 39	31	 17	21
							69	28				
26 27							82	28 26	39 39	28 45	21 22	24 28
28 29				24	 11	14				40 67	27 30	33 37
30				37	16	23				53	32	42
31				38	12	19				99	45	58
MONTH				38	11	19	300	14	55	99	9.2	33

06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, SD-Continued

TURBIDITY, WATER, MONOCHROME NEAR INFRA-RED LED LIGHT, 780-900 NM, DETECTION ANGLE 90 +/ -2.5 DEGREES, FNU—CONTINUED

							-					
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST		S	ЕРТЕМВІ	ER
1 2 3 4 5	240 280 540 910	69 220 260 500	130 250 350 720	86 91 69 72 100	47 47 46 46 52	57 61 60 59 72	270 64 260 80 79	37 34 33 35 44	78 42 43 62 60	31 39 41 33 54	20 24 21 18 18	23 29 29 23 23
6 7 8 9 10	 56 64	 41 42	 50 47	160 170 220	66 82 81	110 110 110 	81 96 91	43 42 35	54 53 56	54 190 440 	21 27 110 	27 57 230
11 12 13 14 15	74 74 88 80 94	49 56 56 63 65	62 64 67 73 79	 82 48	33 30 28	 44 40 39	98 	33	70 	 75	 32	 38
16 17 18 19 20	 90 94 88	 77 74 72	83 82 78	72 55 100 	30 32 41 	39 42 60 	51 52 64 63	29 35 34 37	36 41 40 46	49 71 85 52 54	31 32 37 35 35	39 45 46 40 40
21 22 23 24 25	140 140 130 130 140	75 100 100 84 74	110 110 110 99 95	58 83 78	33 39 40	41 46 50	67 75 60 76	42 41 41 49	55 51 50 61	64 51 52 82 180	34 35 35 38 40	43 43 40 43 110
26 27 28 29 30 31	83 68 82 80 83	58 52 47 48 47	71 61 58 57 57	160 170 620 590 200 220	60 27 95 180 100 130	110 98 490 290 190	64 61 44 54 33	31 31 26 21 20	44 40 36 31 24	160 80 78 62 86	68 50 49 41 36	100 63 55 48 43
MONTH	910	41	120	620	27	100	270	20	49	440	18	53
YEAR	910	5.1	58									

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Specif. conduc- tance, wat unf uS/cm 25 degC (00095)	pH, water, unfltrd field, std units (00400)	Temperature, air, deg C (00020)	Temper- ature, water, deg C (00010)	Turbidity, IR LED light, det ang 90 deg, FNU (63680)	Baro- metric pres- sure, mm Hg (00025)	Dis- solved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	Suspended sediment concentration mg/L (80154)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)
NOV												
16	1345	213	984	8.5	13.0	5.8	7.8	730	11.6	97	8	98
MAY												
24	1500	402	1,030	8.5	21.4	22.1	18	727	10.6	128	50	97
JUN												
08	1600	618	1,020	8.4	25.0	23.2	51	722	9.6	120	115	94
16	1400	1,250	1,040	8.0	25.5	22.2	81	730			627	99

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06481480 SKUNK CREEK NEAR CHESTER, SD

 $LOCATION.--Lat~43°50'53", long~96°50'10", in~NE^{1}_{4}~NW^{1}_{4}~NE^{1}_{4}~sec.4, T.104~N., R.50~W., Minnehaha~County, Hydrologic~Unit~10170203, on~right~bank~near~downstream~of~county~highway~bridge, 5.6~mi~southeast~of~Chester.$

DRAINAGE AREA.--53.2 mi².

PERIOD OF RECORD.--August 1984 to September 1987, October 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,557.23 ft above NGVD of 1929.

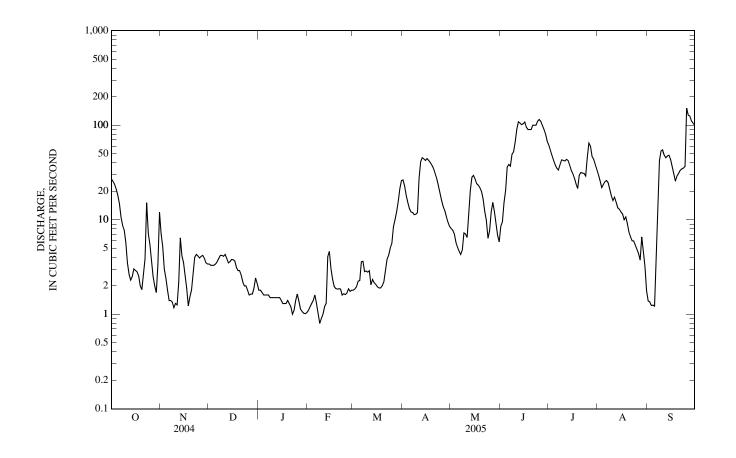
REMARKS.--Records fair except those for estimated daily discharges, which are poor. Satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005 DAILY MEAN VALUES

					2	3 I 1/ILDI II /	.12020					
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	7.1	3.4	e1.8	e1.1	e1.8	26	8.1	8.5	61	30	1.4
2	25	5.2	3.3	e1.8	e1.2	1.9	23	7.8	9.5	54	26	1.4
3	24	3.0	3.3	e1.7	e1.3	2.0	18	7.1	15	48	22	1.2
4	21	2.4	3.3	e1.6	e1.4	2.2	15	5.8	20	42	24	1.3
5	18	1.8	3.4	e1.6	e1.6	2.3	13	5.1	36	38	25	1.2
6	15	1.4	3.6	e1.6	e1.3	3.6	12	4.7	39	35	26	2.7
7	11	1.4	3.9	e1.6	e1.0	3.6	12	4.3	37	34	25	8.3
8	8.7	1.3	4.2	e1.5	e0.80	2.8	11	4.8	49	38	21	42
9	7.8	1.2	4.2	e1.5	e0.90	2.9	11	7.3	53	43	18	53
10	5.7	1.3	4.1	e1.5	e1.0	2.8	12	7.1	66	42	16	55
11	3.5	1.3	4.3	e1.5	e1.2	2.9	27	6.5	91	42	17	48
12	2.7	2.2	3.9	e1.5	1.3	2.0	41	11	109	44	15	45
13	2.3	6.4	e3.5	e1.5	4.1	2.3	45	20	105	42	13	47
14	2.5	4.1	e3.6	e1.5	4.6	2.2	44	28	101	38	13	48
15	3.0	3.5	e3.8	e1.4	3.1	2.1	42	29	103	33	12	43
16 17 18 19 20	2.9 2.8 2.6 2.0 1.8	2.5 1.9 1.2 1.5 1.8	3.8 3.7 3.1 e2.9 e2.9	e1.3 e1.3 e1.4 e1.3	2.4 2.0 1.9 1.8 1.9	2.0 e1.9 e1.9 e2.0 e2.2	44 42 40 38 35	27 24 23 22 20	108 e95 e90 e90	31 28 24 21 30	12 10 11 9.1 7.4	36 30 26 29 31
21	2.7	2.8	e2.6	e1.2	1.9	e2.9	31	17	e100	32	6.6	33
22	3.9	4.0	e2.2	e1.0	1.6	e3.8	27	12	e100	31	6.0	34
23	15	4.3	e2.0	e1.1	1.6	e4.2	23	9.9	e100	31	6.0	35
24	7.2	4.1	e2.0	e1.4	1.6	e5.0	19	6.4	e110	29	5.4	37
25	5.5	3.9	e1.8	1.6	1.7	5.6	16	7.7	e115	46	4.9	152
26 27 28 29 30 31	3.8 2.5 2.0 1.7 3.4 12	4.1 4.2 3.9 e3.5 e3.4	e1.6 1.6 1.6 1.9 2.4 2.1	1.4 1.1 1.1 1.0 1.0	1.9 1.7 e1.8 	8.4 10 12 16 21 26	14 13 11 9.5 8.6	12 15 12 9.1 6.8 5.8	e110 e100 e90 80 67	65 60 47 44 38 34	4.4 3.7 6.6 4.6 3.2 1.8	128 125 111 105 100
TOTAL	249.0	90.7	94.0	43.1	49.70	162.3	723.1	386.3	2,287.0	1,225	405.7	1,410.5
MEAN	8.03	3.02	3.03	1.39	1.77	5.24	24.1	12.5	76.2	39.5	13.1	47.0
MAX	27	7.1	4.3	1.8	4.6	26	45	29	115	65	30	152
MIN	1.7	1.2	1.6	1.0	0.80	1.8	8.6	4.3	8.5	21	1.8	1.2
AC-FT	494	180	186	85	99	322	1,430	766	4,540	2,430	805	2,800
STATIST	TCS OF MO	ONTHLY M	EAN DATA	FOR WAT	ER YEARS	1985-1987,2	2002 - 2005, 1	BY WATEI	R YEAR (W	Y)		
MEAN	35.7	13.9	8.14	4.29	5.36	74.2	102	62.0	47.9	42.6	9.38	45.3
MAX	210	71.2	37.5	22.2	22.9	270	284	304	191	154	38.5	256
(WY)	(1987)	(1987)	(1987)	(1987)	(1987)	(1985)	(1986)	(1986)	(1986)	(1986)	(1986)	(1986)
MIN	0.43	0.40	0.37	0.21	0.06	4.31	2.40	3.36	1.09	0.49	0.48	0.42
(WY)	(2004)	(2004)	(2004)	(2004)	(2004)	(2003)	(2004)	(2004)	(2002)	(2002)	(2003)	(2003)

06481480 SKUNK CREEK NEAR CHESTER, SD-Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR	YEAR FOR 2005 WATE	ER YEAR	WATER YEARS 198	5-1987,2002 - 2005
ANNUAL TOTAL ANNUAL MEAN HIGHEST ANNUAL MEAN	2,862.86 7.82	7,126.40 19.5		37.7 110	1986
LOWEST ANNUAL MEAN HIGHEST DAILY MEAN	83 Jul 1	152	Sep 25	5.57 813	2003 Sep 22, 1986
LOWEST DAILY MEAN ANNUAL SEVEN-DAY MINIMUM	0.01 Feb 2 0.02 Feb 2	0.80	Feb 8 Jan 27	0.01 0.02	Feb 25, 2004 Feb 22, 2004
MAXIMUM PEAK FLOW MAXIMUM PEAK STAGE		^a 183 ^b 5.46	Sep 25 Jun 25	1,060 6.95	Sep 21, 1986 Sep 21, 1986
ANNUAL RUNOFF (AC-FT) 10 PERCENT EXCEEDS	5,680 25	14,140 48		27,280 106	
50 PERCENT EXCEEDS 90 PERCENT EXCEEDS	2.7 0.14	6.0 1.4		3.5 0.44	



a Gage height, 4.07 ft.b Backwater from vegetation.e Estimated.

06481500 SKUNK CREEK AT SIOUX FALLS, SD

LOCATION.--Lat $43^{\circ}32^{\circ}01^{\circ}$, long $96^{\circ}47^{\circ}26^{\circ}$, in $NW^{1}_{4}NW^{1}_{4}SW^{1}_{4}$ sec. 24, T.101 N., R.50 W., Minnehaha County, Hydrologic Unit 10170203, on left bank 5 ft downstream from bridge on Marion Road, 1.3 mi upstream from mouth, 1.8 mi downstream from small right-bank tributary, and 4.0 mi southwest of

DRAINAGE AREA.--622 mi², of which 8.51 mi² is probably noncontributing.

PERIOD OF RECORD.--May 1948 to current year. October 2001 to September 2003, daily gage height. May 1948 to September 1971 published as "near Sioux

REVISED RECORDS.--WDR SD-84-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,400.10 ft above NGVD of 1929 (U.S. Army Corps of Engineers bench mark). Prior to Oct. 24, 1949, nonrecording gage, and Oct. 24, 1949, to Apr. 28, 1972, water-stage recorder, both at site 1.9 mi upstream at datum 15.19 ft higher. Apr. 28, 1972, to Sept. 30, 2002, near downstream end of bridge, at same site, at datum 5.00 ft higher (gage moved from right to left bank May 18, 1987).

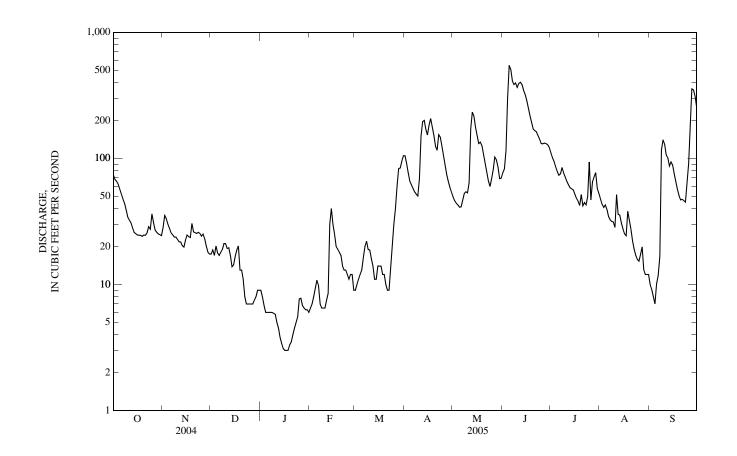
REMARKS.--Records good except those for estimated daily discharges, which are poor. U.S. Army Corps of Engineers satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005 DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1 2 3 4 5	74 68 66 62 57	28 35 33 30 28	17 19 17 20 18	e9.0 e8.0 e6.8 e6.0 e6.0	e6.5 e7.0 e8.0 9.2	e9.0 e10 e11 e12 e13	105 91 77 66 62	49 46 44 43 41	77 82 115 301 547	111 101 95 86 79	48 43 41 43 39	10 9.1 8.0 7.0 10
6 7 8 9 10	52 47 44 39 34	26 25 24 24 23	e17 e18 e19 21 21	e6.0 e6.0 e6.0 e5.9 e5.8	9.8 e7.0 e6.5 e6.5 e6.5	16 20 22 19 19	58 54 52 50 69	41 47 53 54 53	508 412 386 397 365	73 75 85 77 71	35 33 32 31 28	12 17 117 140 130
11 12 13 14 15	32 31 28 26 25	22 22 20 20 23	19 20 e17 14 14	e5.0 e4.5 e3.8 e3.4 e3.1	e7.5 e8.5 e30 e40 e30	16 e14 e11 e11 e14	151 196 200 170 153	64 172 233 217 176	393 401 386 348 321	66 62 58 57 56	52 36 36 31 28	106 101 87 94 88
16 17 18 19 20	25 25 25 24 25	25 24 24 30 26	17 19 20 13 e13	e3.0 e3.0 e3.3 e3.5	e25 e20 e19 e18 e17	e14 e14 e12 e12 e10	183 207 178 152 125	151 131 135 126 109	287 250 218 193 171	52 48 46 42 52	25 24 38 32 27	75 66 57 51 47
21 22 23 24 25	25 26 29 27 36	26 25 26 25 24	e11 e8.0 e7.0 e7.0 e7.0	e4.0 e4.5 e5.0 5.5 7.7	e14 e13 e13 e12 e11	e9.0 e9.0 e14 e20 e30	116 154 147 125 104	92 79 67 60 69	166 163 152 142 131	42 45 43 50 94	22 19 17 16 15	47 46 45 64 91
26 27 28 29 30 31	31 27 26 25 25 24	25 e23 e20 e18 17	e7.0 e7.0 e7.5 e8.0 e9.0	7.8 e6.8 e6.5 e6.3 e6.3 e6.0	e12 e12 e9.0 	e40 60 83 84 95 105	87 74 66 59 54	81 103 97 85 69 70	130 132 131 128 122	47 65 71 77 58 53	17 20 13 12 12	191 356 350 313 254
TOTAL MEAN MAX MIN AC-FT	1,110 35.8 74 24 2,200	741 24.7 35 17 1,470	440.5 14.2 21 7.0 874	167.5 5.40 9.0 3.0 332	389.0 13.9 40 6.5 772	828.0 26.7 105 9.0 1,640	3,385 113 207 50 6,710	2,857 92.2 233 41 5,670	7,555 252 547 77 14,990	2,037 65.7 111 42 4,040	877 28.3 52 12 1,740	2,989.1 99.6 356 7.0 5,930
STATIST	TICS OF MO	NTHLY MI	EAN DATA	FOR WAT	ER YEARS	1949-2001,2	2004 - 2005,	BY WATER	R YEAR (W	Y)		
MEAN MAX (WY) MIN (WY)	31.8 405 (1987) 0.14 (1959)	32.4 358 (1999) 0.29 (1965)	17.0 177 (1999) 0.10 (1965)	8.07 76.0 (1999) 0.05 (1977)	34.2 321 (1983) 0.04 (1977)	196 869 (1983) 1.20 (1968)	282 1,530 (1984) 1.35 (1959)	155 967 (1995) 0.82 (1981)	154 1,903 (1984) 0.50 (1977)	116 2,915 (1993) 0.16 (1977)	45.0 655 (1993) 0.11 (1976)	39.7 798 (1986) 0.07 (1958)

06481500 SKUNK CREEK AT SIOUX FALLS, SD-Continued

SUMMARY STATISTICS	FOR 2004 CALEN	DAR YEAR	FOR 2005 WAT	ER YEAR	WATER YEARS 19	49-2001,2004-2005
ANNUAL TOTAL ANNUAL MEAN HIGHEST ANNUAL MEAN	26,399.1 72.1		23,376.1 64.0		^a 92.7 625	1993
LOWEST ANNUAL MEAN HIGHEST DAILY MEAN	3,430	May 30	547	Jun 5	1.55 11,500	1981 Jun 17, 1957
LOWEST DAILY MEAN ANNUAL SEVEN-DAY MINIMUM MAXIMUM PEAK FLOW	1.1 1.3	Feb 3 Jan 28	3.0 3.2 564	Jan 16 Jan 14 Jun 5	°0.00 0.00 °29,400	Jan 26, 1951 Jan 26, 1951 Jun 17, 1957
MAXIMUM PEAK STAGE ANNUAL RUNOFF (AC-FT)	52,360		5.80 46,370	Jun 5	17.78 67,160	Jun 17, 1957
10 PERCENT EXCEEDS 50 PERCENT EXCEEDS 90 PERCENT EXCEEDS	146 27 2.4		152 31 7.0		201 10 0.60	

- a Median of annual mean discharges, 56 ft³/s.
 b No flow at times in some years.
 c Site and datum then in use, from rating curve extended above 8,100 ft³/s on basis of slope-area measurement of peak flow.
 e Estimated.



06482000 BIG SIOUX RIVER AT SIOUX FALLS, SD

 $LOCATION.-- \ Lat\ 43^\circ 30'05'', long\ 96^\circ 44'55'', in\ SE^{1}{}_{\!\!4}\ SW^{1}{}_{\!\!4}\ sec. 32, T.\ 101\ N., R.50\ W., Minnehaha\ County, Hydrologic\ Unit\ 10170203, on\ right\ bank\ near\ upstream\ end\ of\ bridge\ on\ Western\ Avenue,\ 0.1\ mi\ downstream\ from\ previous\ gage,\ and\ 2.2\ mi\ downstream\ from\ mouth\ of\ Skunk\ Creek.$

DRAINAGE AREA.-- 5,197mi², of which 1,487 mi² usually is noncontributing(documented runoff occurred d uring 1994-2002 water years for 213 mi² of the usually noncontributing area).

PERIOD OF RECORD.--August 1943 to September 1960, October 1, 2004 to September 30, 2005.

GAGE.-- Water-stage recorder. Elevation of gage is 1,400 ft above NGVD of 1929, from topographic map.

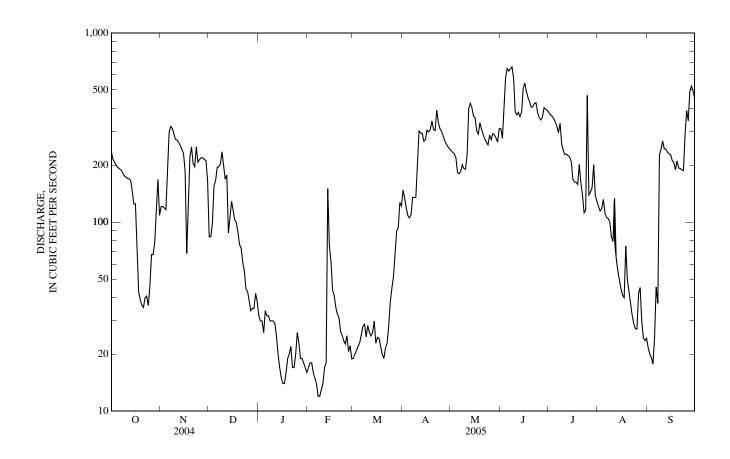
REMARKS.-- Records good except those for estimated daily discharges, which are poor. Satellite data- collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005 DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	235	121	84	e32	e17	e19	148	239	312	380	122	22
2	214	121	84	e30	e18	e20	134	233	277	369	114	20
3	207	119	99	e30	e18	e21	119	230	380	363	118	19
4	199	116	155	e26	e16	22	108	219	583	353	132	18
5	195	171	165	e34	e15	23	105	182	647	340	112	25
6	192	298	195	e32	e14	25	109	180	629	321	106	45
7	189	321	196	e32	e12	28	135	185	646	297	104	37
8	183	313	202	e30	e12	29	135	201	662	333	100	227
9	175	292	235	e30	e13	25	135	192	578	259	84	244
10	173	275	199	e30	e14	28	203	191	383	240	79	268
11	170	272	169	e29	e17	26	303	226	369	227	134	244
12	169	264	177	e25	e18	25	296	398	381	229	65	243
13	166	254	e88	e20	e150	26	294	425	361	225	56	235
14	146	242	e105	e17	e75	30	268	403	382	221	49	230
15	125	231	e129	e15	62	23	273	362	509	209	45	227
16	125	186	e114	e14	44	25	306	356	543	168	41	212
17	79	68	e102	e14	e41	24	300	303	490	163	40	207
18	43	131	e99	e16	36	22	307	292	456	163	75	189
19	39	221	e88	e19	33	e20	342	335	434	158	50	211
20	36	250	e76	e20	31	e19	309	311	405	202	42	193
21	35	204	e73	e22	26	22	305	292	407	161	37	192
22	40	196	e61	e17	25	23	390	275	423	139	32	189
23	41	249	e55	e17	24	28	338	265	428	112	29	187
24	36	207	e44	e20	23	38	312	256	380	116	27	288
25	46	214	e43	e26	25	45	303	289	357	468	27	389
26 27 28 29 30 31	67 67 78 117 168 108	219 219 214 212 166	e38 e34 e35 e35 e42 e38	e23 e19 e19 e18 e17 e16	21 22 19 	51 67 89 93 127 122	286 270 259 250 244	273 293 289 279 265 311	347 358 403 395 390	139 144 152 201 138 129	42 45 30 24 24 24	344 492 524 494 451
TOTAL	3,863	6,366	3,259	709	841	1,185	7,286	8,550	13,315	7,119	2,009	6,666
MEAN	125	212	105	22.9	30.0	38.2	243	276	444	230	64.8	222
MAX	235	321	235	34	150	127	390	425	662	468	134	524
MIN	35	68	34	14	12	19	105	180	277	112	24	18
AC-FT	7,660	12,630	6,460	1,410	1,670	2,350	14,450	16,960	26,410	14,120	3,980	13,220
STATIST	TICS OF MO	ONTHLY M	EAN DATA	FOR WAT	ER YEARS	1944-1960,	2005, BY W	ATER YEA	R (WY)			
MEAN	101	90.3	56.0	26.1	131	670	1,200	569	666	377	211	141
MAX	383	333	159	83.1	637	2,126	6,140	1,412	2,718	858	678	581
(WY)	(1947)	(1947)	(1947)	(1947)	(1944)	(1948)	(1952)	(1952)	(1957)	(1948)	(1953)	(1951)
MIN	2.15	5.65	3.45	2.45	2.04	27.4	45.0	55.7	37.0	4.25	6.89	1.64
(WY)	(1956)	(1956)	(1956)	(1959)	(1959)	(1956)	(1959)	(1956)	(1959)	(1959)	(1958)	(1955)

06482000 BIG SIOUX RIVER AT SIOUX FALLS, SD—Continued

SUMMARY STATISTICS	FOR 2005 WATER YEAR	WATER YEARS 1944-1960, 2005
ANNUAL TOTAL ANNUAL MEAN	61,168 168	353
HIGHEST ANNUAL MEAN LOWEST ANNUAL MEAN HIGHEST DAILY MEAN	662 Jun 8	925 1952 33.8 1959 13,800 Jun 17, 1957
HIGHEST DAILT MEAN LOWEST DAILY MEAN ANNUAL SEVEN-DAY MINIMUM	12 Feb 7 14 Feb 4	13,800 Jun 17, 1957 0.50 Jan 22, 1959 0.89 Sep 13, 1955
MAXIMUM PEAK FLOW MAXIMUM PEAK STAGE	1,200 Jun 4 5.29 Jun 4	a16,200 Jun 17, 1957 16.01 Jun 17, 1957
ANNUAL RUNOFF (AC-FT) 10 PERCENT EXCEEDS	121,300 365	255,700 848
50 PERCENT EXCEEDS 90 PERCENT EXCEEDS	138 21	96 7.0

a Maximum combined discharge, bypass and main channel. e Estimated.



(WY)

(1989)

(1977)

(1990)

(1982)

(1989)

06482020 BIG SIOUX RIVER AT NORTH CLIFF AVENUE, AT SIOUX FALLS, SD

LOCATION.--Lat 43°34'01", long 96°42'39", in SW \(^1_4\) NW \(^1_4\) sec.10, T.101 N., R.49 W., Minnehaha County, Hydrologic Unit 10170203, on right bank 20 ft downstream from bridge on North Cliff Avenue and 4.1 mi upstream from Slip Up Creek.

DRAINAGE AREA.--5,216 mi², of which 1,487 mi² usually is noncontributing (documented runoff occurred during 1994-2002 water years for 213 mi² of the usually noncontributing area).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1962 to September 1971 (gage heights and discharge measurements only in files of U.S. Army Corps of Engineers). October 1971 to current year.

REVISED RECORDS.--WDR SD-84-1: Drainage area. WDR SD-94-1 only: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,294.18 ft above NGVD of 1929 (levels by U.S. Army Corps of Engineers). Prior to Dec. 15, 1971, nonrecording gage 20 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow is regulated by a flood-control diversion channel, which starts 16.1 river miles upstream from gage, just north of Foss Air Field, and rejoins the river 0.4 mi upstream from gage since July 1961. U.S. Army Corps of Engineers satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 10, 1969, reached a stage of 27.45 ft, discharge, 40,700 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005 DAILY MEAN VALUES DAY OCT NOV DEC **FEB** MAR APR MAY JUN JUL AUG SEP JAN e77 1.140 e72 1.300 1.550 e60 1,320 e55 e50 e52 e49 1.170 e50 e48 1.140 e48 e50 1.080 e52 1,100 e48 e58 1,250 e48 e39 e300 1,290 e35 e170 1,240 e32 e130 1,360 e32 1,430 1.010 e32 1,410 2.64 e125 e32 1.370 1.320 e120 e110 1.230 e105 1,220 e100 e37 1,570 1,460 e90 e85 1,160 e78 e78 1.570 1.330 e78 e78 1.130 e79 ---e88 ---2.54 5,396 TOTAL 6,975 8,536 4,278 1,490 2,532 16,540 14,986 33,552 11,705 4,636 14,755 MEAN 48.1 90.4 1,118 MAX 1,010 1,570 1,570 MIN AC-FT 13,830 16,930 8,490 2,960 5,020 10,700 32,810 29,720 66,550 23,220 9,200 29,270 STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 2005, BY WATER YEAR (WY) MEAN 1.042 1.923 1.200 1.157 1 528 3,479 9 974 2 528 1.869 4.516 8.612 3.468 MAX 6.880 (1996)(1999)(1996)(1997)(1993)(1996)(1985)(1993)(WY) (1983)(1986)(1984)(1986)MIN 15.9 17.4 15.0 6.26 10.2 31.7 40.8 54.4 31.6 20.3 16.7

(1975)

(1990)

(1977)

(1976)

(1976)

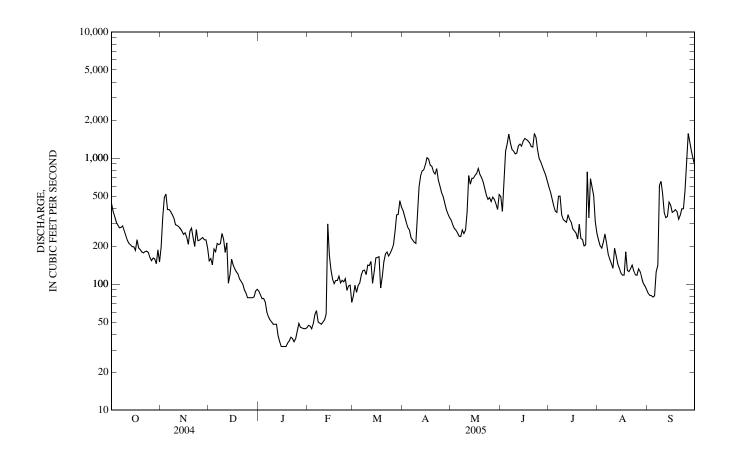
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(1976)

06482020 BIG SIOUX RIVER AT NORTH CLIFF AVENUE, AT SIOUX FALLS, SD—Continued

SUMMARY STATISTICS	FOR 2004 CALI	ENDAR YEAR	FOR 2005 WAT	TER YEAR	WATER YEARS	1972 - 2005
ANNUAL TOTAL ANNUAL MEAN	105,852 289		125,381 344		^a 669	
HIGHEST ANNUAL MEAN LOWEST ANNUAL MEAN	209		311		2,312 50.4	1993 1981
HIGHEST DAILY MEAN	5,470	May 30	1,570	Jun 22	20,700	Jun 22, 1984
LOWEST DAILY MEAN ANNUAL SEVEN-DAY MINIMUM	19 20	Jan 30 Jan 27	32 33	Jan 15 Jan 14	0.81	Feb 13, 1982 Feb 8, 1982
MAXIMUM PEAK FLOW MAXIMUM PEAK STAGE			1,700 9.48	Jun 6 Jun 6	21,600 25.40	Jun 22, 1984 Jun 22, 1984
ANNUAL RUNOFF (AC-FT) 10 PERCENT EXCEEDS	210,000 532		248,700 824		484,700 1,740	
50 PERCENT EXCEEDS 90 PERCENT EXCEEDS	188 23		225 59		203 25	

a Median of annual mean discharges, 460 ${\rm ft}^3/{\rm s}$. e Estimated.



06482020 BIG SIOUX RIVER AT NORTH CLIFF AVENUE, AT SIOUX FALLS, SD-Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical analyses: October 1972 to September 1981. Sediment records: Periodic samples taken October 2001 to current year.

PERIOD OF DAILY RECORD .--

WATER TEMPERATURE: October 2001 to November 2004, and March to September 2005(seasonal).

SPECIFIC CONDUCTANCE: October 2001 to November 2004, and March to September 2005(seasonal).

pH: October 2001 to November 2004, and March to September 2005(seasonal). DISSOLVED OXYGEN: October 2001 to November 2004, and March to September 2005(seasonal). TURBIDITY: October 2001 to November 2004, and March to September 2005(seasonal).

REMARKS.--Data published in the tables below are rated as follows: temperature, good; specific conductance, good; pH, good; dissolved oxygen, poor; and turbidity, good except those for Oct. 1-6, 2004, which are poor. Daily records are collected at 15-minute intervals using multi-parameter water-quality instrument from March to November. Satellite data-collection platform at station. Interruptions in daily records due to probes fouling and/or instrument

EXTREMES FOR PERIOD OF DAILY RECORD .--

WATER TEMPERATUARE: Maximum daily, 32.7°C, Aug. 16, 17, 2003; minimum daily, 0.0°C, many days. SPECIFIC CONDUCTANCE: Maximum daily, 5,260 μS/cm, Feb. 24, 2002; minimum daily, 94 μS/cm, Aug. 21, 2002. pH: Maximum daily, 9.2 standard units, Apr. 5, 11, 2003, and Mar. 26, 2004; minimum daily, 7.4 standard units, Sept. 5, 2003 and Aug. 12, 2005. DISSOLVED OXYGEN: Maximum daily, 20.7 mg/L, May 6, 2005; minimum daily, 0.1 mg/L, Apr. 13, 2003. TURBIDITY: Maximum daily, 1,060 FN units, Aug. 21, 2002; minimum daily, 1.8 FN units, Feb. 26, 2002.

TEMPERATURE, WATER, DEGREES CELSIUS WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		ОСТОВЕН	₹	NOVEMBER			D	ECEMBE	ER	J	JANUAR'	Y
1 2	16.8 13.1	13.1 11.5	15.5 12.4	8.1 8.7	7.6 7.3	7.9 8.0						
3	14.4	12.0	13.1	8.0	6.7	7.3						
4	13.6	11.6	12.6	7.5	6.2	6.7						
5	13.0	11.0	12.2	6.7	5.2	6.1						
6	14.0			8.2	6.2	7.2						
7	14.8	14.0	14.4	8.1	7.0	7.5						
8	15.8	14.6	14.9	7.3	6.1	6.7						
9	15.0	13.7	14.4	8.6	6.1	7.2						
10	14.4	13.4	14.0	9.2	6.9	8.5						
11	14.2	13.6	13.9	6.9	4.1	4.9						
12	13.6	12.5	13.0	4.2	2.9	3.7						
13	12.8	10.9	12.1	3.8	2.3	3.1						
14	10.9	9.5	10.0	3.4	2.3	2.9						
15	9.5	7.1	8.6	5.1	3.3	4.1						
16	7.6	5.8	6.7	6.7	5.1	5.9						
17	8.6	6.5	7.5	7.3	5.4	5.8						
18	9.4	7.5	8.4	6.5	5.3	6.0						
19	10.2	7.9	9.0	6.5	6.2	6.4						
20	10.5	9.3	9.9	6.2	4.2	5.1						
21	10.3	9.5	9.9	4.2	3.1	3.5						
22	13.3	10.2	11.7	4.8	3.3	3.9						
23	13.2	12.0	12.5	4.3	2.2	3.3						
24	12.3	10.5	11.4	2.4	1.3	1.8						
25	11.6	9.5	10.6	2.3	1.1	1.7						
26	10.9	9.3	10.1	4.1	2.3	3.2						
27	11.4	9.8	10.6	4.1	1.8	3.3						
28	12.9	11.2	12.0	1.8	0.6	1.0						
29	14.5	12.8	13.5	1.4	0.5	0.9						
30	12.9	8.7	10.7	1.1	0.0	0.4						
31	9.0	7.4	8.2									
MONTH	16.8	5.8	11.5	9.2	0.0	4.8						

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TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	I	FEBRUAR	Y		MARCH			APRIL			MAY	
1 2							10.3 10.3	8.7 8.7	9.5 9.4	9.7 9.4	7.5 6.2	8.3 8.0
3							12.4	8.8	10.4	11.9	8.2 10.2	10.1
4 5							14.3 16.4	10.5 12.7	12.4 14.4	13.9 16.2	10.2	12.2 14.4
6							15.7	13.4	14.4	18.2	15.7	17.0
7 8							16.2 15.1	12.2 12.8	14.0 14.2	19.6 19.6	17.7 17.8	18.6 18.8
9							15.9	12.8	14.4	19.3	16.8	18.0
10							15.9	12.3	14.2	16.8	15.9	16.2
11 12							14.2 13.4	13.4 11.4	13.8 12.0	16.0 13.3	13.3 10.6	14.4 11.3
13							14.2	11.0	12.4	12.4	10.8	11.5
14 15							14.5 14.4	11.3 12.4	13.1 13.1	11.8 13.5	10.0 9.7	10.7 11.4
16							14.7	12.2	13.3	14.9	11.9	13.1
17							16.7	12.8	14.7	17.3	14.5	15.8
18 19							18.0 19.9	14.8 16.7	16.4 18.3	18.9 21.0	16.4 16.9	17.7 18.8
20							19.8	17.2	17.9	22.4	19.1	20.8
21 22							17.2	15.0	16.1 13.1	22.1 21.3	19.0	20.8 20.5
23							15.0 12.5	11.6 10.0	11.4	22.4	19.4 19.5	20.5
24 25							13.2 13.1	10.8 11.6	12.1 12.4	22.2 21.4	20.6 18.1	21.5 19.9
26							11.6	10.2	10.8	18.9	16.9	18.0
27							11.3	8.9	10.2	18.0	16.9	17.6
28 29							12.1 12.2	8.9 9.6	10.5 11.0	18.4 18.0	16.0 16.5	17.3 17.4
30				11.1	8.0	9.9	11.4	9.1	10.1	18.5	15.7	17.1
31				9.8	7.4	8.6				18.8	17.7	18.2
MONTH				11.1	7.4	9.2	19.9	8.7	13.0	22.4	6.2	16.0
		JUNE			JULY			AUGUST			EPTEMBE	
1 2	18.6 19.4	16.9	17.7 18.7	25.0 25.7	22.3	23.6 24.5	29.2 29.8	25.3	27.2	24.5	20.2	22.4
2 3	19.4 20.0	16.9 17.8 18.5	18.7 19.2	25.7 25.9	22.3 23.2 24.0	24.5 25.1	29.8 29.5	25.3 26.4 27.0	27.2 28.4 28.1	24.5 24.9 25.8	20.2 20.5 21.1	22.4 22.5 23.3
2	19.4	16.9 17.8	18.7	25.7	22.3 23.2	24.5	29.8	25.3 26.4	27.2 28.4	24.5 24.9	20.2 20.5	22.4 22.5
2 3 4	19.4 20.0 20.8	16.9 17.8 18.5 18.8	18.7 19.2 19.8	25.7 25.9 25.7	22.3 23.2 24.0 23.7	24.5 25.1 24.8	29.8 29.5 27.1	25.3 26.4 27.0 24.6	27.2 28.4 28.1 25.8	24.5 24.9 25.8 26.7	20.2 20.5 21.1 22.3	22.4 22.5 23.3 24.2 24.3
2 3 4 5	19.4 20.0 20.8 21.0 22.6 24.4	16.9 17.8 18.5 18.8 19.7 18.7 20.8	18.7 19.2 19.8 20.3 20.5 22.4	25.7 25.9 25.7 26.0 26.3 25.9	22.3 23.2 24.0 23.7 23.1 23.7 23.7	24.5 25.1 24.8 24.6 25.2 25.0	29.8 29.5 27.1 26.9 26.4 27.1	25.3 26.4 27.0 24.6 24.3 23.7 23.1	27.2 28.4 28.1 25.8 25.6 25.0 25.1	24.5 24.9 25.8 26.7 26.5 25.3 23.6	20.2 20.5 21.1 22.3 22.8 21.8 21.5	22.4 22.5 23.3 24.2 24.3 23.3 22.5
2 3 4 5 6 7 8 9	19.4 20.0 20.8 21.0 22.6 24.4 24.3 24.0	16.9 17.8 18.5 18.8 19.7 18.7 20.8 21.7 21.8	18.7 19.2 19.8 20.3 20.5 22.4 23.1 22.7	25.7 25.9 25.7 26.0 26.3 25.9 25.1 27.8	22.3 23.2 24.0 23.7 23.1 23.7 23.7 23.0 23.9	24.5 25.1 24.8 24.6 25.2 25.0 24.3 25.8	29.8 29.5 27.1 26.9 26.4 27.1 28.3 28.8	25.3 26.4 27.0 24.6 24.3 23.7 23.1 25.4 26.2	27.2 28.4 28.1 25.8 25.6 25.0 25.1 26.7 27.4	24.5 24.9 25.8 26.7 26.5 25.3 23.6 23.9 23.6	20.2 20.5 21.1 22.3 22.8 21.8 21.5 19.5 21.2	22.4 22.5 23.3 24.2 24.3 23.3 22.5 22.3 22.5
2 3 4 5 6 7 8 9	19.4 20.0 20.8 21.0 22.6 24.4 24.3 24.0 22.9	16.9 17.8 18.5 18.8 19.7 18.7 20.8 21.7 21.8 20.7	18.7 19.2 19.8 20.3 20.5 22.4 23.1 22.7 21.8	25.7 25.9 25.7 26.0 26.3 25.9 25.1 27.8 27.7	22.3 23.2 24.0 23.7 23.1 23.7 23.7 23.0 23.9 25.4	24.5 25.1 24.8 24.6 25.2 25.0 24.3 25.8 26.7	29.8 29.5 27.1 26.9 26.4 27.1 28.3 28.8 27.6	25.3 26.4 27.0 24.6 24.3 23.7 23.1 25.4 26.2 24.9	27.2 28.4 28.1 25.8 25.6 25.0 25.1 26.7 27.4 26.1	24.5 24.9 25.8 26.7 26.5 25.3 23.6 23.9 23.6 23.5	20.2 20.5 21.1 22.3 22.8 21.8 21.5 19.5 21.2 21.3	22.4 22.5 23.3 24.2 24.3 23.3 22.5 22.3 22.5 22.6
2 3 4 5 6 7 8 9 10	19.4 20.0 20.8 21.0 22.6 24.4 24.3 24.0 22.9	16.9 17.8 18.5 18.8 19.7 18.7 20.8 21.7 21.8 20.7	18.7 19.2 19.8 20.3 20.5 22.4 23.1 22.7 21.8	25.7 25.9 25.7 26.0 26.3 25.9 25.1 27.8 27.7	22.3 23.2 24.0 23.7 23.1 23.7 23.7 23.0 23.9 25.4	24.5 25.1 24.8 24.6 25.2 25.0 24.3 25.8 26.7 26.3	29.8 29.5 27.1 26.9 26.4 27.1 28.3 28.8 27.6	25.3 26.4 27.0 24.6 24.3 23.7 23.1 25.4 26.2 24.9	27.2 28.4 28.1 25.8 25.6 25.0 25.1 26.7 27.4 26.1	24.5 24.9 25.8 26.7 26.5 25.3 23.6 23.9 23.6 23.5 24.0	20.2 20.5 21.1 22.3 22.8 21.8 21.5 19.5 21.2 21.3	22.4 22.5 23.3 24.2 24.3 23.3 22.5 22.3 22.5 22.6
2 3 4 5 6 7 8 9 10 11 12 13	19.4 20.0 20.8 21.0 22.6 24.4 24.3 24.0 22.9 22.6 22.6 22.8	16.9 17.8 18.5 18.8 19.7 18.7 20.8 21.7 21.8 20.7 20.6 19.9 20.6	18.7 19.2 19.8 20.3 20.5 22.4 23.1 22.7 21.8 21.6 21.3 21.7	25.7 25.9 25.7 26.0 26.3 25.9 25.1 27.8 27.7 27.5 28.6 29.5	22.3 23.2 24.0 23.7 23.1 23.7 23.7 23.0 23.9 25.4 24.9 26.0 26.6	24.5 25.1 24.8 24.6 25.2 25.0 24.3 25.8 26.7 26.3 27.4 28.2	29.8 29.5 27.1 26.9 26.4 27.1 28.3 28.8 27.6 25.5 25.9 24.8	25.3 26.4 27.0 24.6 24.3 23.7 23.1 25.4 26.2 24.9 23.7 24.0 21.2	27.2 28.4 28.1 25.8 25.6 25.0 25.1 26.7 27.4 26.1 24.7 24.9 22.8	24.5 24.9 25.8 26.7 26.5 25.3 23.6 23.9 23.6 23.5 24.0 24.2 23.6	20.2 20.5 21.1 22.3 22.8 21.8 21.5 19.5 21.2 21.3 22.1 23.2 21.1	22.4 22.5 23.3 24.2 24.3 23.3 22.5 22.3 22.5 22.6 23.1 23.7 22.3
2 3 4 5 6 7 8 9 10 11 12 13 14	19.4 20.0 20.8 21.0 22.6 24.4 24.3 24.0 22.9 22.6 22.6 22.8 22.1	16.9 17.8 18.5 18.8 19.7 18.7 20.8 21.7 21.8 20.7 20.6 19.9 20.6 20.1	18.7 19.2 19.8 20.3 20.5 22.4 23.1 22.7 21.8 21.6 21.3 21.7 21.1	25.7 25.9 25.7 26.0 26.3 25.9 25.1 27.8 27.7 27.5 28.6 29.5 29.8	22.3 23.2 24.0 23.7 23.1 23.7 23.7 23.0 23.9 25.4 24.9 26.0 26.6 27.5	24.5 25.1 24.8 24.6 25.2 25.0 24.3 25.8 26.7 26.3 27.4 28.2 28.6	29.8 29.5 27.1 26.9 26.4 27.1 28.3 28.8 27.6 25.5 25.9 24.8 24.1	25.3 26.4 27.0 24.6 24.3 23.7 23.1 25.4 26.2 24.9 23.7 24.0 21.2 19.6	27.2 28.4 28.1 25.8 25.6 25.0 25.1 26.7 27.4 26.1 24.7 24.9 22.8 21.5	24.5 24.9 25.8 26.7 26.5 25.3 23.6 23.9 23.6 23.5 24.0 24.2 23.6 21.4	20.2 20.5 21.1 22.3 22.8 21.8 21.5 19.5 21.2 21.3 22.1 23.2	22.4 22.5 23.3 24.2 24.3 23.3 22.5 22.3 22.5 22.6 23.1 23.7
2 3 4 5 6 7 8 9 10 11 12 13 14 15	19.4 20.0 20.8 21.0 22.6 24.4 24.3 24.0 22.9 22.6 22.6 22.8 22.1 23.2	16.9 17.8 18.5 18.8 19.7 18.7 20.8 21.7 21.8 20.7 20.6 19.9 20.6 20.1 20.2	18.7 19.2 19.8 20.3 20.5 22.4 23.1 22.7 21.8 21.6 21.3 21.7 21.1 21.6	25.7 25.9 25.7 26.0 26.3 25.9 25.1 27.8 27.7 27.5 28.6 29.5 29.8 29.8	22.3 23.2 24.0 23.7 23.1 23.7 23.7 23.9 25.4 24.9 26.0 26.6 27.5 27.2	24.5 25.1 24.8 24.6 25.2 25.0 24.3 25.8 26.7 26.3 27.4 28.2 28.6 28.3	29.8 29.5 27.1 26.9 26.4 27.1 28.3 28.8 27.6 25.5 25.9 24.8 24.1 23.6	25.3 26.4 27.0 24.6 24.3 23.7 23.1 25.4 26.2 24.9 23.7 24.0 21.2 19.6 20.4	27.2 28.4 28.1 25.8 25.6 25.0 25.1 26.7 27.4 26.1 24.7 24.9 22.8 21.5 22.0	24.5 24.9 25.8 26.7 26.5 25.3 23.6 23.9 23.6 23.5 24.0 24.2 23.6 21.4 21.0	20.2 20.5 21.1 22.3 22.8 21.8 21.5 19.5 21.2 21.3 22.1 23.2 21.1 19.9	22.4 22.5 23.3 24.2 24.3 23.3 22.5 22.3 22.5 22.6 23.1 23.7 22.3 20.8
2 3 4 5 6 7 8 9 10 11 12 13 14 15	19.4 20.0 20.8 21.0 22.6 24.4 24.3 24.0 22.9 22.6 22.6 22.8 22.1 23.2 24.1 24.9	16.9 17.8 18.5 18.8 19.7 18.7 20.8 21.7 21.8 20.7 20.6 19.9 20.6 20.1 20.2	18.7 19.2 19.8 20.3 20.5 22.4 23.1 22.7 21.8 21.6 21.3 21.7 21.1 21.6	25.7 25.9 25.7 26.0 26.3 25.9 25.1 27.8 27.7 27.5 28.6 29.5 29.8 29.8	22.3 23.2 24.0 23.7 23.1 23.7 23.7 23.0 23.9 25.4 24.9 26.0 26.6 27.5 27.2	24.5 25.1 24.8 24.6 25.2 25.0 24.3 25.8 26.7 26.3 27.4 28.2 28.6 28.3 28.2 27.1	29.8 29.5 27.1 26.9 26.4 27.1 28.3 28.8 27.6 25.5 25.9 24.8 24.1 23.6	25.3 26.4 27.0 24.6 24.3 23.7 23.1 25.4 26.2 24.9 23.7 24.0 21.2 19.6 20.4	27.2 28.4 28.1 25.8 25.6 25.0 25.1 26.7 27.4 26.1 24.7 24.9 22.8 21.5 22.0	24.5 24.9 25.8 26.7 26.5 25.3 23.6 23.9 23.6 23.5 24.0 24.2 23.6 21.4 21.0	20.2 20.5 21.1 22.3 22.8 21.8 21.5 19.5 21.2 21.3 22.1 23.2 21.1 19.9	22.4 22.5 23.3 24.2 24.3 23.3 22.5 22.3 22.5 22.6 23.1 23.7 22.3 20.8
2 3 4 5 6 7 8 9 10 11 12 13 14 15	19.4 20.0 20.8 21.0 22.6 24.4 24.3 24.0 22.9 22.6 22.8 22.1 23.2 24.1 24.9 25.4 26.3	16.9 17.8 18.5 18.8 19.7 18.7 20.8 21.7 21.8 20.7 20.6 19.9 20.6 20.1 20.2	18.7 19.2 19.8 20.3 20.5 22.4 23.1 22.7 21.8 21.6 21.3 21.7 21.1 21.6 22.4 23.7 24.5	25.7 25.9 25.7 26.0 26.3 25.9 25.1 27.8 27.7 27.5 28.6 29.5 29.8 29.8	22.3 23.2 24.0 23.7 23.1 23.7 23.7 23.9 25.4 24.9 26.0 26.6 27.5 27.2 27.1 26.2 24.5 23.8	24.5 25.1 24.8 24.6 25.2 25.0 24.3 25.8 26.7 26.3 27.4 28.2 28.6 28.3 28.2 27.1 25.6 25.4	29.8 29.5 27.1 26.9 26.4 27.1 28.3 28.8 27.6 25.5 25.9 24.8 24.1 23.6 25.8 24.2 26.1 26.5	25.3 26.4 27.0 24.6 24.3 23.7 23.1 25.4 26.2 24.9 23.7 24.0 21.2 19.6 20.4 22.0	27.2 28.4 28.1 25.8 25.6 25.0 25.1 26.7 27.4 26.1 24.7 24.9 22.8 21.5 22.0 23.7	24.5 24.9 25.8 26.7 26.5 25.3 23.6 23.9 23.6 23.5 24.0 24.2 23.6 21.4 21.0	20.2 20.5 21.1 22.3 22.8 21.8 21.5 19.5 21.2 21.3 22.1 23.2 21.1 19.9 19.1 17.5 17.8 19.7	22.4 22.5 23.3 24.2 24.3 23.3 22.5 22.3 22.5 22.6 23.1 23.7 22.3 20.8
2 3 4 5 6 7 8 9 10 11 12 13 14 15	19.4 20.0 20.8 21.0 22.6 24.4 24.3 24.0 22.9 22.6 22.6 22.8 22.1 23.2 24.1 24.9 25.4	16.9 17.8 18.5 18.8 19.7 18.7 20.8 21.7 21.8 20.7 20.6 19.9 20.6 20.1 20.2 20.8 21.7 22.2	18.7 19.2 19.8 20.3 20.5 22.4 23.1 22.7 21.8 21.6 21.3 21.7 21.6 22.4 23.2 23.7	25.7 25.9 25.7 26.0 26.3 25.9 25.1 27.8 27.7 27.5 28.6 29.5 29.8 29.8 29.8 29.5 28.3 26.5	22.3 23.2 24.0 23.7 23.1 23.7 23.0 23.9 25.4 24.9 26.0 26.6 27.5 27.2 27.1 26.2 24.5	24.5 25.1 24.8 24.6 25.2 25.0 24.3 25.8 26.7 26.3 27.4 28.2 28.6 28.3 27.1 25.6	29.8 29.5 27.1 26.9 26.4 27.1 28.3 28.8 27.6 25.5 25.9 24.8 24.1 23.6 25.8 24.2 26.1	25.3 26.4 27.0 24.6 24.3 23.7 23.1 25.4 26.2 24.9 23.7 24.0 21.2 19.6 20.4 22.0	27.2 28.4 28.1 25.8 25.6 25.0 25.1 26.7 27.4 26.1 24.7 24.9 22.8 21.5 22.0 23.7	24.5 24.9 25.8 26.7 26.5 25.3 23.6 23.9 23.6 23.5 24.0 24.2 23.6 21.4 21.0 20.9 19.9 20.6	20.2 20.5 21.1 22.3 22.8 21.8 21.5 19.5 21.2 21.3 22.1 23.2 21.1 19.9 	22.4 22.5 23.3 24.2 24.3 23.3 22.5 22.3 22.5 22.3 22.6 23.1 23.7 22.3 20.8
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	19.4 20.0 20.8 21.0 22.6 24.4 24.3 24.0 22.9 22.6 22.8 22.1 23.2 24.1 24.9 25.4 26.3 27.6	16.9 17.8 18.5 18.8 19.7 18.7 20.8 21.7 21.8 20.7 20.6 19.9 20.6 20.1 20.2 20.8 21.7 22.2 23.0 24.3	18.7 19.2 19.8 20.3 20.5 22.4 23.1 22.7 21.8 21.6 21.3 21.7 21.6 22.4 23.2 23.7 24.5 25.9	25.7 25.9 25.7 26.0 26.3 25.9 25.1 27.8 27.7 27.5 28.6 29.5 29.8 29.8 29.5 28.3 26.5 26.8 28.6	22.3 23.2 24.0 23.7 23.1 23.7 23.7 23.9 25.4 24.9 26.0 26.6 27.5 27.2 27.1 26.2 24.5 23.8 23.8	24.5 25.1 24.8 24.6 25.2 25.0 24.3 25.8 26.7 26.3 27.4 28.2 28.6 28.3 28.2 27.1 25.6 25.4 26.2	29.8 29.5 27.1 26.9 26.4 27.1 28.3 28.8 27.6 25.5 25.9 24.8 24.1 23.6 25.8 24.2 26.1 26.5 27.4	25.3 26.4 27.0 24.6 24.3 23.7 23.1 25.4 26.2 24.9 23.7 24.0 21.2 19.6 20.4 22.0 	27.2 28.4 28.1 25.8 25.6 25.0 25.1 26.7 27.4 26.1 24.7 24.9 22.8 21.5 22.0 23.7 23.8 24.8 25.3	24.5 24.9 25.8 26.7 26.5 25.3 23.6 23.9 23.6 23.5 24.0 24.2 23.6 21.4 21.0 20.9 19.9 20.6 21.2 21.8	20.2 20.5 21.1 22.3 22.8 21.8 21.5 19.5 21.2 21.3 22.1 23.2 21.1 19.9 19.1 17.5 17.8 19.7 19.6 20.9	22.4 22.5 23.3 24.2 24.3 23.3 22.5 22.5 22.6 23.1 23.7 22.3 20.8 19.9 18.6 19.1 20.4 20.6 21.6
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 22 23	19.4 20.0 20.8 21.0 22.6 24.4 24.3 24.0 22.9 22.6 22.6 22.8 22.1 23.2 24.1 24.9 25.4 26.3 27.6 27.1 27.5 28.1	16.9 17.8 18.5 18.8 19.7 18.7 20.8 21.7 21.8 20.7 20.6 20.1 20.2 20.8 21.7 22.2 23.0 24.3 24.7	18.7 19.2 19.8 20.3 20.5 22.4 23.1 22.7 21.8 21.6 21.3 21.7 21.1 21.6 22.4 23.2 23.7 24.5 25.9 26.0 26.4 26.6	25.7 25.9 25.7 26.0 26.3 25.9 25.1 27.8 27.7 27.5 28.6 29.5 29.8 29.8 29.5 28.3 26.5 26.8 28.6	22.3 23.2 24.0 23.7 23.1 23.7 23.7 23.0 23.9 25.4 24.9 26.0 26.6 27.5 27.2 27.1 26.2 24.5 23.8 23.8 26.3 27.3 27.7	24.5 25.1 24.8 24.6 25.2 25.0 24.3 25.8 26.7 26.3 27.4 28.2 28.6 28.3 28.2 27.1 25.6 25.4 26.2 27.9 28.5 28.9	29.8 29.5 27.1 26.9 26.4 27.1 28.3 28.8 27.6 25.5 25.9 24.8 24.1 23.6 25.8 24.2 26.1 26.5 27.4	25.3 26.4 27.0 24.6 24.3 23.7 23.1 25.4 26.2 24.9 23.7 24.0 21.2 19.6 20.4 22.0 21.8 23.6 23.4 22.0 21.2	27.2 28.4 28.1 25.8 25.6 25.0 25.1 26.7 27.4 26.1 24.7 24.9 22.8 21.5 22.0 23.7 23.8 24.8 25.3 25.0 25.1 24.7	24.5 24.9 25.8 26.7 26.5 25.3 23.6 23.9 23.6 23.5 24.0 24.2 23.6 21.4 21.0 20.9 19.9 20.6 21.2 21.8 22.5 21.9	20.2 20.5 21.1 22.3 22.8 21.8 21.5 19.5 21.2 21.3 22.1 23.2 21.1 19.9 19.1 17.5 17.8 19.7 19.6 20.9 19.8 18.1	22.4 22.5 23.3 24.2 24.3 23.3 22.5 22.3 22.5 22.6 23.1 23.7 22.3 20.8 19.9 18.6 19.1 20.4 20.6 21.6 20.5 19.0
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24	19.4 20.0 20.8 21.0 22.6 24.4 24.3 24.0 22.9 22.6 22.6 22.8 22.1 23.2 24.1 24.9 25.4 26.3 27.6 27.1 27.5 28.1 27.5	16.9 17.8 18.5 18.8 19.7 18.7 20.8 21.7 20.6 19.9 20.6 20.1 20.2 20.8 21.7 22.2 23.0 24.3 24.7	18.7 19.2 19.8 20.3 20.5 22.4 23.1 22.7 21.8 21.6 21.3 21.7 21.1 21.6 22.4 23.2 23.7 24.5 25.9 26.0 26.4 26.6 26.5	25.7 25.9 25.7 26.0 26.3 25.9 25.1 27.8 27.7 27.5 28.6 29.5 29.8 29.8 29.5 28.3 26.5 26.8 29.4 29.8 29.8	22.3 23.2 24.0 23.7 23.1 23.7 23.7 23.0 23.9 25.4 24.9 26.6 27.5 27.2 27.1 26.2 24.5 23.8 23.8 23.8 26.3 27.7 27.4	24.5 25.1 24.8 24.6 25.2 25.0 24.3 25.8 26.7 26.3 27.4 28.2 28.6 28.3 28.2 27.1 25.6 25.4 26.2 27.9 28.5 28.9 28.2	29.8 29.5 27.1 26.9 26.4 27.1 28.3 28.8 27.6 25.5 25.9 24.8 24.1 23.6 25.8 24.2 26.1 26.5 27.4 27.2 25.5 23.8 24.2	25.3 26.4 27.0 24.6 24.3 23.7 23.1 25.4 26.2 24.9 23.7 24.0 21.2 19.6 20.4 22.0 23.4 23.4 23.6 23.4 23.6 23.4	27.2 28.4 28.1 25.8 25.6 25.0 25.1 26.7 27.4 26.1 24.7 24.9 22.8 21.5 22.0 23.7 23.8 24.8 25.3 25.0 23.1 24.7 24.9 22.8 21.5 22.0	24.5 24.9 25.8 26.7 26.5 25.3 23.6 23.9 23.6 23.5 24.0 24.2 23.6 21.4 21.0 20.9 19.9 20.6 21.2 21.8 22.5 21.9 19.9 19.9	20.2 20.5 21.1 22.3 22.8 21.8 21.5 19.5 21.2 21.3 22.1 23.2 21.1 19.9 19.1 17.5 17.8 19.7 19.6 20.9 19.8 18.1 18.4	22.4 22.5 23.3 24.2 24.3 23.3 22.5 22.3 22.5 22.6 23.1 23.7 22.3 20.8 19.9 18.6 19.1 20.4 20.6 21.6 20.5 19.0
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	19.4 20.0 20.8 21.0 22.6 24.4 24.3 24.0 22.9 22.6 22.8 22.1 23.2 24.1 24.9 25.4 26.3 27.6 27.1 27.5 28.1 27.5 26.1	16.9 17.8 18.5 18.8 19.7 18.7 20.8 21.7 21.8 20.7 20.6 20.1 20.2 20.8 21.7 22.3 24.3 24.7 25.3 26.0 24.4	18.7 19.2 19.8 20.3 20.5 22.4 23.1 22.7 21.8 21.6 21.3 21.7 21.1 21.6 22.4 23.2 23.7 24.5 25.9 26.0 26.4 26.6 26.5 25.0	25.7 25.9 25.7 26.0 26.3 25.9 25.1 27.8 27.7 27.5 28.6 29.5 29.8 29.8 29.5 28.3 26.5 26.8 28.6 29.4 29.8 30.2 28.9 27.4	22.3 23.2 24.0 23.7 23.1 23.7 23.7 23.0 23.9 25.4 24.9 26.0 26.6 27.5 27.2 27.1 26.2 24.5 23.8 23.8 27.3 27.7 27.4 23.7	24.5 25.1 24.8 24.6 25.2 25.0 24.3 25.8 26.7 26.3 27.4 28.2 28.6 28.3 28.2 27.1 25.6 25.4 26.2 27.9 28.5 28.9 28.2 24.6	29.8 29.5 27.1 26.9 26.4 27.1 28.3 28.8 27.6 25.5 25.9 24.8 24.1 23.6 25.8 24.2 26.1 26.5 27.4 27.2 25.5 23.8 22.8 22.1	25.3 26.4 27.0 24.6 24.3 23.7 23.1 25.4 26.2 24.9 23.7 24.0 21.2 19.6 20.4 22.0 21.8 23.6 23.4 22.0 21.2 20.9 21.2	27.2 28.4 28.1 25.8 25.6 25.0 25.1 26.7 27.4 26.1 24.7 24.9 22.8 21.5 22.0 23.7 23.8 24.8 25.3 25.0 23.8 24.7 24.9 25.0 25.1 26.1	24.5 24.9 25.8 26.7 26.5 25.3 23.6 23.9 23.6 23.5 24.0 24.2 23.6 21.4 21.0 20.9 19.9 20.6 21.2 21.8 22.5 21.9 19.9 19.9 19.9 19.9	20.2 20.5 21.1 22.3 22.8 21.8 21.5 19.5 21.2 21.3 22.1 23.2 21.1 19.9 19.1 17.5 17.8 19.7 19.6 20.9 19.8 18.1 18.4 18.0	22.4 22.5 23.3 24.2 24.3 23.3 22.5 22.5 22.6 23.1 23.7 22.3 20.8 19.9 18.6 19.1 20.4 20.6 21.6 20.5 19.0 19.2 18.7
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27	19.4 20.0 20.8 21.0 22.6 24.4 24.3 24.0 22.9 22.6 22.8 22.1 23.2 24.1 24.9 25.4 26.3 27.6 27.1 27.5 28.1 27.5 26.1	16.9 17.8 18.5 18.8 19.7 18.7 20.8 21.7 21.8 20.7 20.6 19.9 20.6 20.1 20.2 20.8 21.7 22.2 23.0 24.3 24.7 25.3 26.0 24.4 23.9 23.6	18.7 19.2 19.8 20.3 20.5 22.4 23.1 22.7 21.8 21.6 21.3 21.7 21.6 22.4 23.2 23.7 24.5 25.9 26.0 26.4 26.5 25.0 24.9 25.5	25.7 25.9 25.7 26.0 26.3 25.9 25.1 27.8 27.7 27.5 28.6 29.5 29.8 29.8 29.8 29.5 26.8 28.6 29.4 29.8 30.2 28.9 27.4	22.3 23.2 24.0 23.7 23.1 23.7 23.7 23.0 23.9 25.4 24.9 26.6 27.5 27.2 27.1 26.2 24.5 23.8 23.8 23.8 26.3 27.3 27.7 27.4 23.7	24.5 25.1 24.8 24.6 25.2 25.0 24.3 25.8 26.7 26.3 27.4 28.2 28.6 28.3 28.2 27.1 25.6 25.4 26.2 27.9 28.5 28.9 28.2 24.6 22.2 22.0	29.8 29.5 27.1 26.9 26.4 27.1 28.3 28.8 27.6 25.5 25.9 24.8 24.1 23.6 25.8 24.2 26.1 26.5 27.4 27.2 25.5 23.8 22.1 24.0 24.5	25.3 26.4 27.0 24.6 24.3 23.7 23.1 25.4 26.2 24.9 23.7 24.0 21.2 19.6 20.4 22.0 21.8 23.6 23.4 22.0 21.2 20.9 21.2 21.0 21.5	27.2 28.4 28.1 25.8 25.6 25.0 25.1 26.7 27.4 26.1 24.7 24.9 22.8 21.5 22.0 23.7 23.8 24.8 25.3 25.0 23.8 24.8 25.3 25.0 25.1 26.7 27.4 26.1 26.7 27.4 26.1 26.7 27.4 26.1 26.7 27.4 2	24.5 24.9 25.8 26.7 26.5 25.3 23.6 23.9 23.6 23.5 24.0 24.2 23.6 21.4 21.0 20.9 19.9 20.6 21.2 21.8 22.5 21.9 19.9 19.9 19.8 18.0 18.1	20.2 20.5 21.1 22.3 22.8 21.8 21.5 19.5 21.2 21.3 22.1 23.2 21.1 19.9 19.1 17.5 17.8 19.7 19.6 20.9 19.8 18.1 18.4 18.0	22.4 22.5 23.3 24.2 24.3 23.3 22.5 22.3 22.5 22.6 23.1 23.7 22.3 20.8 19.9 18.6 19.1 20.4 20.6 21.6 20.5 19.0 19.2 18.7
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29	19.4 20.0 20.8 21.0 22.6 24.4 24.3 24.0 22.9 22.6 22.6 22.8 22.1 23.2 24.1 24.9 25.4 26.3 27.6 27.1 27.5 28.1 27.5 26.1	16.9 17.8 18.5 18.8 19.7 18.7 20.8 21.7 21.8 20.7 20.6 19.9 20.6 20.1 20.2 20.8 21.7 22.2 23.0 24.3 24.7 25.3 26.0 24.4 23.9	18.7 19.2 19.8 20.3 20.5 22.4 23.1 22.7 21.8 21.6 21.3 21.7 21.1 21.6 22.4 23.2 23.7 24.5 25.9 26.0 26.4 26.6 26.5 25.0 24.9	25.7 25.9 25.7 26.0 26.3 25.9 25.1 27.8 27.7 27.5 28.6 29.5 29.8 29.8 29.5 26.5 26.8 28.6 29.4 29.8 30.2 28.9 27.4	22.3 23.2 24.0 23.7 23.1 23.7 23.0 23.9 25.4 24.9 26.6 27.5 27.2 27.1 26.2 24.5 23.8 23.8 26.3 27.7 27.4 23.7	24.5 25.1 24.8 24.6 25.2 25.0 24.3 25.8 26.7 26.3 27.4 28.2 28.6 28.3 28.2 27.1 25.6 25.4 26.2 27.9 28.5 28.9 28.2 24.6	29.8 29.5 27.1 26.9 26.4 27.1 28.3 28.8 27.6 25.5 25.9 24.8 24.1 23.6 25.8 24.2 26.1 26.5 27.4 27.2 25.5 23.8 22.8 22.1	25.3 26.4 27.0 24.6 24.3 23.7 23.1 25.4 26.2 24.9 23.7 24.0 21.2 19.6 20.4 22.0 21.8 23.6 23.4 22.0 21.2 20.9 21.2 20.9 21.2 21.0 21.5 21.3	27.2 28.4 28.1 25.8 25.6 25.0 25.1 26.7 27.4 26.1 24.7 24.9 22.8 21.5 22.0 23.7 23.8 24.8 25.3 25.0 23.7 23.8 24.8 25.3	24.5 24.9 25.8 26.7 26.5 25.3 23.6 23.9 23.6 23.5 24.0 24.2 23.6 21.4 21.0 20.9 19.9 20.6 21.2 21.8 22.5 21.9 19.9 19.9 19.8 18.0	20.2 20.5 21.1 22.3 22.8 21.8 21.5 19.5 21.2 21.3 22.1 23.2 21.1 19.9 19.1 17.5 17.8 19.7 19.6 20.9 19.8 18.1 18.4 18.0 16.1 15.5 15.6	22.4 22.5 23.3 24.2 24.3 23.3 22.5 22.3 22.5 22.6 23.1 23.7 22.3 20.8 19.9 18.6 19.1 20.4 20.6 21.6 20.5 19.0 19.2 18.7
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	19.4 20.0 20.8 21.0 22.6 24.4 24.3 24.0 22.9 22.6 22.8 22.1 23.2 24.1 24.9 25.4 26.3 27.6 27.5 28.1 27.5 26.1 27.6 27.6 27.6 27.6 27.6 27.6 27.6 27.6	16.9 17.8 18.5 18.8 19.7 18.7 20.8 21.7 21.8 20.7 20.6 19.9 20.6 20.1 20.2 20.8 21.7 22.3 24.3 24.7 25.3 26.0 24.4 23.9 23.6 25.4 25.5 23.4	18.7 19.2 19.8 20.3 20.5 22.4 23.1 22.7 21.8 21.6 21.3 21.7 21.1 21.6 22.4 23.7 24.5 25.9 26.0 26.4 26.5 25.0 24.9 25.5 27.0 26.6 24.1	25.7 25.9 25.7 26.0 26.3 25.9 25.1 27.8 27.7 27.5 28.6 29.5 29.8 29.8 29.5 26.5 26.8 28.6 29.4 29.9 27.4 23.7 23.4 24.7 24.7 24.6	22.3 23.2 24.0 23.7 23.1 23.7 23.7 23.0 23.9 25.4 24.9 26.0 26.6 27.5 27.2 27.1 26.2 24.5 23.8 23.8 26.3 27.7 27.4 23.7 21.3 20.2 20.4 22.4 23.0	24.5 25.1 24.8 24.6 25.2 25.0 24.3 25.8 26.7 26.3 27.4 28.2 28.6 28.3 28.2 27.1 25.6 25.4 26.2 27.9 28.5 28.9 28.2 24.6 22.2 22.0 22.5 23.4 23.8	29.8 29.5 27.1 26.9 26.4 27.1 28.3 28.8 27.6 25.5 25.9 24.1 23.6 25.8 24.2 26.1 26.5 27.4 27.2 25.5 23.8 22.8 22.1 24.0 24.5 26.4 26.4 26.4 26.4	25.3 26.4 27.0 24.6 24.3 23.7 23.1 25.4 26.2 24.9 23.7 24.0 21.2 19.6 20.4 22.0 21.8 23.6 23.4 22.0 21.2 20.9 21.3 22.1 22.5 22.1 22.5	27.2 28.4 28.1 25.8 25.6 25.0 25.1 26.7 27.4 26.1 24.7 24.9 22.8 21.5 22.0 23.7 23.8 24.8 25.3 25.0 23.8 22.6 21.7 21.6 22.5 22.9 23.4 23.9 24.3	24.5 24.9 25.8 26.7 26.5 25.3 23.6 23.9 23.6 23.5 24.0 24.2 23.6 21.4 21.0 20.9 19.9 20.6 21.2 21.8 22.5 21.9 19.9 19.9 19.8 18.0 18.1 17.9 15.6 16.2	20.2 20.5 21.1 22.3 22.8 21.8 21.5 19.5 21.2 21.3 22.1 23.2 21.1 19.9 19.1 17.5 17.8 19.7 19.6 20.9 19.8 18.1 18.4 18.0 16.1 15.5 15.5 15.5 17.5 1	22.4 22.5 23.3 24.2 24.3 23.3 22.5 22.6 23.1 23.7 22.3 20.8 19.9 18.6 19.1 20.4 20.6 21.6 20.5 19.0 19.2 18.7 17.0 16.8 16.4 14.6 14.7
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	19.4 20.0 20.8 21.0 22.6 24.4 24.3 24.0 22.9 22.6 22.8 22.1 23.2 24.1 24.9 25.4 26.3 27.6 27.1 27.5 28.1 27.5 27.5 27.5 27.5 27.5 27.5 27.5 27.6 27.6 27.6 27.6 27.6 27.6 27.6 27.6	16.9 17.8 18.5 18.8 19.7 18.7 20.8 21.7 21.8 20.7 20.6 19.9 20.6 20.1 20.2 20.8 21.7 22.2 23.0 24.3 24.7 25.3 26.0 24.4 23.9 23.6 25.4 25.5 23.4	18.7 19.2 19.8 20.3 20.5 22.4 23.1 22.7 21.8 21.6 21.3 21.7 21.6 22.4 23.2 23.7 24.5 25.9 26.0 26.4 26.6 26.5 25.0 24.9 25.5 27.0 26.6 24.1	25.7 25.9 25.7 26.0 26.3 25.9 25.1 27.8 27.7 27.5 28.6 29.5 29.8 29.8 29.5 28.3 26.5 26.8 28.6 29.4 29.8 30.2 28.9 27.4 23.7 24.7 24.7 24.7 24.7 24.6 27.3	22.3 23.2 24.0 23.7 23.1 23.7 23.7 23.9 25.4 24.9 26.0 26.6 27.5 27.2 27.1 26.2 24.5 23.8 23.8 23.8 27.3 27.7 27.4 23.7 21.3 20.2 20.4 22.4 23.0 23.7	24.5 25.1 24.8 24.6 25.2 25.0 24.3 25.8 26.7 26.3 27.4 28.2 28.6 28.3 28.2 27.1 25.6 25.4 26.2 27.9 28.5 28.9 28.2 24.6 22.2 24.3 25.8 26.7	29.8 29.5 27.1 26.9 26.4 27.1 28.3 28.8 27.6 25.5 25.9 24.8 24.1 23.6 25.8 24.2 26.1 26.5 27.4 27.2 25.5 23.8 22.8 22.1 24.0 24.5 26.1 26.4 26.3 24.5	25.3 26.4 27.0 24.6 24.3 23.7 23.1 25.4 26.2 24.9 23.7 24.0 21.2 19.6 20.4 22.0 21.8 23.6 23.4 22.0 21.2 20.9 21.2 20.9 21.2 21.9 21.2 21.9 21.2 22.9 22.1 22.5 22.1 22.5 22.1 22.5 22.1 22.5 22.1 22.5 22.1 22.5 22.1 22.5 22.1 22.5 22.1 22.5 22.1	27.2 28.4 28.1 25.8 25.6 25.0 25.1 26.7 27.4 26.1 24.7 24.9 22.8 21.5 22.0 23.7 23.8 24.8 25.3 25.0 23.8 22.6 21.7 21.6 22.5 22.9 23.4 23.9 24.3 23.4	24.5 24.9 25.8 26.7 26.5 25.3 23.6 23.9 23.6 23.5 24.0 24.2 23.6 21.4 21.0 20.9 19.9 20.6 21.2 21.8 22.5 21.9 19.9 19.9 19.9 19.9 19.9 19.9 19.6 18.1 17.9 15.6 16.2	20.2 20.5 21.1 22.3 22.8 21.8 21.5 19.5 21.2 21.3 22.1 23.2 21.1 19.9 19.1 17.5 17.8 19.7 19.6 20.9 19.8 18.1 18.4 18.0 16.1 15.5 13.5 13.5 13.5 13.5 13.5	22.4 22.5 23.3 24.2 24.3 23.3 22.5 22.3 22.5 22.6 23.1 23.7 22.3 20.8 19.9 18.6 19.1 20.4 20.6 21.6 20.5 19.0 19.2 18.7
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	19.4 20.0 20.8 21.0 22.6 24.4 24.3 24.0 22.9 22.6 22.8 22.1 23.2 24.1 24.9 25.4 26.3 27.6 27.5 28.1 27.5 26.1 27.6 27.6 27.6 27.6 27.6 27.6 27.6 27.6	16.9 17.8 18.5 18.8 19.7 18.7 20.8 21.7 21.8 20.7 20.6 19.9 20.6 20.1 20.2 20.8 21.7 22.3 24.3 24.7 25.3 26.0 24.4 23.9 23.6 25.4 25.5 23.4	18.7 19.2 19.8 20.3 20.5 22.4 23.1 22.7 21.8 21.6 21.3 21.7 21.1 21.6 22.4 23.7 24.5 25.9 26.0 26.4 26.5 25.0 24.9 25.5 27.0 26.6 24.1	25.7 25.9 25.7 26.0 26.3 25.9 25.1 27.8 27.7 27.5 28.6 29.5 29.8 29.8 29.5 26.5 26.8 28.6 29.4 29.9 27.4 23.7 23.4 24.7 24.7 24.6	22.3 23.2 24.0 23.7 23.1 23.7 23.7 23.0 23.9 25.4 24.9 26.0 26.6 27.5 27.2 27.1 26.2 24.5 23.8 23.8 26.3 27.7 27.4 23.7 21.3 20.2 20.4 22.4 23.0	24.5 25.1 24.8 24.6 25.2 25.0 24.3 25.8 26.7 26.3 27.4 28.2 28.6 28.3 28.2 27.1 25.6 25.4 26.2 27.9 28.5 28.9 28.2 24.6 22.2 22.0 22.5 23.4 23.8	29.8 29.5 27.1 26.9 26.4 27.1 28.3 28.8 27.6 25.5 25.9 24.1 23.6 25.8 24.2 26.1 26.5 27.4 27.2 25.5 23.8 22.8 22.1 24.0 24.5 26.4 26.4 26.4 26.4	25.3 26.4 27.0 24.6 24.3 23.7 23.1 25.4 26.2 24.9 23.7 24.0 21.2 19.6 20.4 22.0 21.8 23.6 23.4 22.0 21.2 20.9 21.3 22.1 22.5 22.1 22.5	27.2 28.4 28.1 25.8 25.6 25.0 25.1 26.7 27.4 26.1 24.7 24.9 22.8 21.5 22.0 23.7 23.8 24.8 25.3 25.0 23.8 22.6 21.7 21.6 22.5 22.9 23.4 23.9 24.3	24.5 24.9 25.8 26.7 26.5 25.3 23.6 23.9 23.6 23.5 24.0 24.2 23.6 21.4 21.0 20.9 19.9 20.6 21.2 21.8 22.5 21.9 19.9 19.9 19.8 18.0 18.1 17.9 15.6 16.2	20.2 20.5 21.1 22.3 22.8 21.8 21.5 19.5 21.2 21.3 22.1 23.2 21.1 19.9 19.1 17.5 17.8 19.7 19.6 20.9 19.8 18.1 18.4 18.0 16.1 15.5 15.5 15.5 17.5 1	22.4 22.5 23.3 24.2 24.3 23.3 22.5 22.6 23.1 23.7 22.3 20.8 19.9 18.6 19.1 20.4 20.6 21.6 20.5 19.0 19.2 18.7 17.0 16.8 16.4 14.6 14.7

06482020 BIG SIOUX RIVER AT NORTH CLIFF AVENUE, AT SIOUX FALLS, SD-Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER		I	NOVEMBE	R	Ι	DECEMBE	R		JANUARY	7
1	847	803	832	1,030	949	984						
2 3	888 930	845 888	870 908	959 980	941 937	948 965						
4	972	927	950	937	666	781						
5	1,010	970	992	768	657	690						
6	1,040	1,010	1,020	795	723	755						
7	1,030	1,000	1,020	835	795	821						
8 9	1,010 1,020	989 984	1,000 1,000	857 874	835 857	843 868						
10	1,020	999	1,000	904	874	888						
11	1,020	998	1,010	922	904	914						
12	1,040	1,010	1,010	938	922	931						
13	1,030	1,000	1,020	952	938	946						
14 15	1,020 1,020	992 983	1,010 996	967 981	951 967	960 975						
16 17	1,020 1,020	1,000 931	1,010 975	990 987	946 936	982 958						
18	949	931	943	1,010	930 979	938 995						
19	951	921	937	1,010	875	944						
20	932	915	924	989	907	957						
21	936	922	929	1,010	987	999						
22	959	936	948	1,020	984	1,010						
23 24	960 973	939 939	950 958	1,010 1,020	991 1,010	998 1,020						
25	990	966	977	1,020	1,000	1,020						
26	1,000	977	990	1,020	989	1,000						
20 27	1,000	964	990	1,020	986	1,000						
28	998	964	987	1,020	1,010	1,020						
29 30	1,090	985	1,020	1,030	1,010	1,030						
31	1,100 1,060	1,010 996	1,040 1,020	1,060	1,010	1,040						
MONTH	1,100	803	976	1,060	657	941						
111011111	1,100			1,000								
]	FEBRUARY	7		MARCH						MAY	
1		FEBRUARY			MARCH		710	APRIL		1.000	MAY	
1 2	 	FEBRUARY 	 		MARCH		719 738	APRIL 682	698	1,090 1.070	1,050	1,070
2 3							738 744	APRIL 682 707 706	698 721 728	1,070 1,060	1,050 1,040 1,040	1,070 1,050 1,050
2 3 4	 	 	 	 	 	 	738 744 731	APRIL 682 707 706 670	698 721 728 701	1,070 1,060 1,060	1,050 1,040 1,040 1,010	1,070 1,050 1,050 1,040
2 3 4 5					 	 	738 744 731 714	APRIL 682 707 706 670 666	698 721 728 701 691	1,070 1,060 1,060 1,150	1,050 1,040 1,040 1,010 985	1,070 1,050 1,050 1,040 1,010
2 3 4 5	 	 		 	 	 	738 744 731 714 765	APRIL 682 707 706 670 666 687	698 721 728 701 691 716	1,070 1,060 1,060 1,150	1,050 1,040 1,040 1,010 985 976	1,070 1,050 1,050 1,040 1,010
2 3 4 5 6 7	 	 		 	 	 	738 744 731 714 765 787	APRIL 682 707 706 670 666 687 756	698 721 728 701 691 716 770	1,070 1,060 1,060 1,150 998 1,010	1,050 1,040 1,040 1,010 985 976 959	1,070 1,050 1,050 1,040 1,010 990 976
2 3 4 5 6 7 8 9	 	 		 	 	 	738 744 731 714 765	APRIL 682 707 706 670 666 687 756 760 802	698 721 728 701 691 716 770 789 815	1,070 1,060 1,060 1,150 998 1,010 979 965	1,050 1,040 1,040 1,010 985 976 959 923 951	1,070 1,050 1,050 1,040 1,010 990 976 942 959
2 3 4 5 6 7 8	 	 		 	 		738 744 731 714 765 787 813	APRIL 682 707 706 670 666 687 756 760	698 721 728 701 691 716 770 789	1,070 1,060 1,060 1,150 998 1,010 979	1,050 1,040 1,040 1,010 985 976 959 923	1,070 1,050 1,050 1,040 1,010 990 976 942
2 3 4 5 6 7 8 9	 	 		 			738 744 731 714 765 787 813 825	APRIL 682 707 706 670 666 687 756 760 802	698 721 728 701 691 716 770 789 815	1,070 1,060 1,060 1,150 998 1,010 979 965	1,050 1,040 1,040 1,010 985 976 959 923 951	1,070 1,050 1,050 1,040 1,010 990 976 942 959
2 3 4 5 6 7 8 9 10	 						738 744 731 714 765 787 813 825 848 787 798	APRIL 682 707 706 670 666 687 756 760 802 634 584 727	698 721 728 701 691 716 770 789 815 770 680 763	1,070 1,060 1,060 1,150 998 1,010 979 965 960 947 882	1,050 1,040 1,040 1,010 985 976 959 923 951 939 831 669	1,070 1,050 1,050 1,040 1,010 990 976 942 959 947 899 735
2 3 4 5 6 7 8 9 10	 						738 744 731 714 765 787 813 825 848 787 798 909	APRIL 682 707 706 670 666 687 756 760 802 634 584 727 756	698 721 728 701 691 716 770 789 815 770 680 763 852	1,070 1,060 1,060 1,150 998 1,010 979 965 960 947 882 962	1,050 1,040 1,040 1,010 985 976 959 923 951 939 831 669 757	1,070 1,050 1,050 1,040 1,010 990 976 942 959 947 899 735 890
2 3 4 5 6 7 8 9 10	 						738 744 731 714 765 787 813 825 848 787 798	APRIL 682 707 706 670 666 687 756 760 802 634 584 727	698 721 728 701 691 716 770 789 815 770 680 763	1,070 1,060 1,060 1,150 998 1,010 979 965 960 947 882	1,050 1,040 1,040 1,010 985 976 959 923 951 939 831 669	1,070 1,050 1,050 1,040 1,010 990 976 942 959 947 899 735
2 3 4 5 6 7 8 9 10 11 12 13 14 15	 						738 744 731 714 765 787 813 825 848 787 798 909 942 945	APRIL 682 707 706 670 666 687 756 760 802 634 584 727 756 909 885	698 721 728 701 691 716 770 789 815 770 680 763 852 932 931	1,070 1,060 1,060 1,150 998 1,010 979 965 960 947 882 962 997 1,010	1,050 1,040 1,040 1,010 985 976 959 923 951 939 831 669 757 962 989	1,070 1,050 1,050 1,040 1,010 990 976 942 959 947 899 735 890 982 1,000
2 3 4 5 6 7 8 9 10 11 12 13 14 15	 						738 744 731 714 765 787 813 825 848 787 798 909 942	APRIL 682 707 706 670 666 687 756 760 802 634 584 727 756 909	698 721 728 701 691 716 770 789 815 770 680 763 852 932	1,070 1,060 1,060 1,150 998 1,010 979 965 960 947 882 962 997	1,050 1,040 1,040 1,010 985 976 959 923 951 939 831 669 757	1,070 1,050 1,050 1,040 1,010 990 976 942 959 947 899 735 890 982
2 3 4 5 6 7 8 9 10 11 12 13 14 15							738 744 731 714 765 787 813 825 848 787 798 909 942 945 945 944 978 1,020	APRIL 682 707 706 670 666 687 756 760 802 634 584 727 756 909 885	698 721 728 701 691 716 770 789 815 770 680 763 852 932 931 937 958 1,010	1,070 1,060 1,060 1,150 998 1,010 979 965 960 947 882 992 1,010 989 1,040 1,020	1,050 1,040 1,040 1,010 985 976 959 923 951 939 831 669 757 962 989 952 964 979	1,070 1,050 1,050 1,040 1,010 990 976 942 959 947 899 735 890 982 1,000
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18							738 744 731 714 765 787 813 825 848 787 798 909 942 945 944 978 1,020 1,030	APRIL 682 707 706 670 666 687 756 760 802 634 584 727 756 909 885 920 939 978 1,010	698 721 728 701 691 716 770 789 815 770 680 763 852 931 937 958 1,010 1,020	1,070 1,060 1,060 1,150 998 1,010 979 965 960 947 882 962 997 1,010 989 1,040 1,020 1,060	1,050 1,040 1,040 1,010 985 976 959 923 951 939 831 669 757 962 989 952 964 979	1,070 1,050 1,050 1,040 1,010 990 976 942 959 947 899 735 890 982 1,000 970 996 1,000 1,040
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20							738 744 731 714 765 787 813 825 848 787 798 909 942 945 945 944 978 1,020 1,030	APRIL 682 707 706 670 666 687 756 760 802 634 584 727 756 909 885 920 939 978 1,010 1,020	698 721 728 701 691 716 770 789 815 770 680 763 852 932 931 937 958 1,010 1,020 1,030	1,070 1,060 1,060 1,150 998 1,010 979 965 960 947 882 962 997 1,010 989 1,040 1,020 1,060 1,050	1,050 1,040 1,040 1,010 985 976 959 923 951 939 831 669 757 962 989 952 964 979 1,010	1,070 1,050 1,050 1,040 1,010 990 976 942 959 947 899 735 890 982 1,000 970 996 1,000 1,040 1,030
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21							738 744 731 714 765 787 813 825 848 787 798 909 942 945 945 944 978 1,020 1,030 1,040	APRIL 682 707 706 670 666 687 756 760 802 634 584 727 756 909 885 920 939 978 1,010 1,020	698 721 728 701 691 716 770 789 815 770 680 763 852 932 931 937 958 1,010 1,020 1,030 1,040	1,070 1,060 1,060 1,150 998 1,010 979 965 960 947 882 962 997 1,010 989 1,040 1,020 1,060 1,050	1,050 1,040 1,040 1,010 985 976 959 923 951 939 831 669 757 962 989 952 964 979 1,010 1,020	1,070 1,050 1,050 1,040 1,010 990 976 942 959 947 899 735 890 982 1,000 970 996 1,000 1,040 1,030
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23							738 744 731 714 765 787 813 825 848 787 798 909 942 945 945 944 978 1,020 1,030	APRIL 682 707 706 670 666 687 756 760 802 634 584 727 756 909 885 920 939 978 1,010 1,020	698 721 728 701 691 716 770 789 815 770 680 763 852 932 931 937 958 1,010 1,020 1,030	1,070 1,060 1,060 1,150 998 1,010 979 965 960 947 882 962 997 1,010 989 1,040 1,020 1,060 1,050	1,050 1,040 1,040 1,010 985 976 959 923 951 939 831 669 757 962 989 952 964 979 1,010	1,070 1,050 1,050 1,040 1,010 990 976 942 959 947 899 735 890 982 1,000 970 996 1,000 1,040 1,030
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24							738 744 731 714 765 787 813 825 848 787 798 909 942 945 945 944 978 1,020 1,030 1,040 1,060 1,100 1,110	APRIL 682 707 706 670 666 687 756 760 802 634 584 727 756 909 885 920 939 978 1,010 1,020 965 907 1,060 1,090	698 721 728 701 691 716 770 789 815 770 680 763 852 932 931 937 958 1,010 1,020 1,030 1,040 1,000 1,070 1,100	1,070 1,060 1,060 1,150 998 1,010 979 965 960 947 882 962 997 1,010 989 1,040 1,020 1,060 1,030 1,020 1,020 1,020 1,030	1,050 1,040 1,040 1,010 985 976 959 923 951 939 831 669 757 962 989 952 964 979 1,010 1,020	1,070 1,050 1,050 1,040 1,010 990 976 942 959 947 899 735 890 982 1,000 970 996 1,000 1,040 1,030
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23							738 744 731 714 765 787 813 825 848 787 798 909 942 945 944 978 1,020 1,030 1,040 1,060 1,060 1,100	APRIL 682 707 706 670 666 687 756 760 802 634 584 727 756 909 885 920 939 978 1,010 1,020 965 907 1,060	698 721 728 701 691 716 770 789 815 770 680 763 852 932 931 937 958 1,010 1,020 1,030 1,040 1,000 1,070	1,070 1,060 1,060 1,150 998 1,010 979 965 960 947 882 962 997 1,010 989 1,040 1,020 1,060 1,050	1,050 1,040 1,040 1,010 985 976 959 923 951 939 831 669 757 962 989 952 964 979 1,010 1,020	1,070 1,050 1,050 1,040 1,010 990 976 942 959 947 899 735 890 982 1,000 970 996 1,000 1,040 1,030
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26							738 744 731 714 765 787 813 825 848 787 798 909 942 945 944 978 1,020 1,030 1,040 1,060 1,100 1,110 1,110	APRIL 682 707 706 670 666 687 756 760 802 634 584 727 756 909 885 920 939 978 1,010 1,020 965 907 1,060 1,090 1,090 1,100	698 721 728 701 691 716 770 789 815 770 680 763 852 932 931 937 958 1,010 1,020 1,030 1,040 1,000 1,110 1,110 1,110	1,070 1,060 1,060 1,060 1,150 998 1,010 979 965 960 947 882 962 997 1,010 989 1,040 1,020 1,060 1,050 1,030 1,020 1,030 1,030 1,030 1,030	1,050 1,040 1,040 1,010 985 976 959 923 951 939 831 669 757 962 989 952 964 979 1,010 1,020 984 1,000 1,000 1,010	1,070 1,050 1,050 1,040 1,010 990 976 942 959 947 899 735 890 982 1,000 970 996 1,000 1,040 1,030 1,010 1,010 1,010 1,010 1,020 1,040
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27							738 744 731 714 765 787 813 825 848 787 798 909 942 945 944 978 1,020 1,030 1,040 1,106 1,100 1,110 1,140	APRIL 682 707 706 670 666 687 756 760 802 634 584 727 756 909 885 920 939 978 1,010 1,020 965 907 1,060 1,090 1,090	698 721 728 701 691 716 770 789 815 770 680 763 852 932 931 937 958 1,010 1,020 1,030 1,040 1,000 1,070 1,110 1,110 1,110 1,110	1,070 1,060 1,060 1,060 1,150 998 1,010 979 965 960 947 882 962 997 1,010 989 1,040 1,020 1,060 1,050 1,030 1,020 1,030 1,030 1,030 1,030 1,060 1,060	1,050 1,040 1,040 1,040 1,010 985 976 959 923 951 939 831 669 757 962 989 952 964 979 1,010 1,020 984 1,000 1,000 1,000 1,000 1,000 1,010 1,010	1,070 1,050 1,040 1,010 990 976 942 959 947 899 735 890 982 1,000 970 996 1,000 1,040 1,030 1,010 1,010 1,010 1,010 1,020 1,040 1,030
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26							738 744 731 714 765 787 813 825 848 787 798 909 942 945 944 978 1,020 1,030 1,040 1,060 1,100 1,110 1,110	APRIL 682 707 706 670 666 687 756 760 802 634 584 727 756 909 885 920 939 978 1,010 1,020 965 907 1,060 1,090 1,090 1,100	698 721 728 701 691 716 770 789 815 770 680 763 852 932 931 937 958 1,010 1,020 1,030 1,040 1,000 1,110 1,110 1,110	1,070 1,060 1,060 1,060 1,150 998 1,010 979 965 960 947 882 962 997 1,010 989 1,040 1,020 1,060 1,050 1,030 1,020 1,030 1,030 1,030 1,030	1,050 1,040 1,040 1,010 985 976 959 923 951 939 831 669 757 962 989 952 964 979 1,010 1,020 984 1,000 1,000 1,010	1,070 1,050 1,050 1,040 1,010 990 976 942 959 947 899 735 890 982 1,000 970 996 1,000 1,040 1,030 1,010 1,010 1,010 1,010 1,020 1,040
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30							738 744 731 714 765 787 813 825 848 787 798 909 942 945 944 978 1,020 1,030 1,040 1,060 1,100 1,110 1,140 1,120 1,120 1,120 1,100 1,100 1,100 1,100	APRIL 682 707 706 670 666 687 756 760 802 634 584 727 756 909 885 920 939 978 1,010 1,020 965 907 1,060 1,090 1,090 1,090 1,090 1,080 1,080 1,080 1,080	698 721 728 701 691 716 770 789 815 770 680 763 852 932 931 937 958 1,010 1,020 1,030 1,040 1,000 1,110 1,110 1,110 1,100 1,090 1,090 1,090	1,070 1,060 1,060 1,060 1,150 998 1,010 979 965 960 947 882 962 997 1,010 989 1,040 1,020 1,060 1,050 1,030 1,030 1,030 1,060 1,060 1,060 1,060 1,060 1,030 1,040	1,050 1,040 1,040 1,010 985 976 959 923 951 939 831 669 757 962 989 952 964 979 1,010 1,020 984 1,000 1,000 1,010 1,010 1,010 1,020 999 1,000	1,070 1,050 1,050 1,040 1,010 990 976 942 959 947 899 735 890 982 1,000 970 996 1,000 1,040 1,030 1,010 1,010 1,010 1,010 1,020 1,040 1,030 1,040 1,030 1,040 1,030
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29							738 744 731 714 765 787 813 825 848 787 798 909 942 945 944 978 1,020 1,030 1,040 1,100 1,110 1,110 1,120 1,120 1,100 1,100	APRIL 682 707 706 670 666 687 756 760 802 634 584 727 756 909 885 920 939 978 1,010 1,020 965 907 1,060 1,090 1,090 1,090 1,090 1,080 1,080	698 721 728 701 691 716 770 789 815 770 680 763 852 931 937 958 1,010 1,020 1,030 1,040 1,000 1,110 1,110 1,110 1,100 1,090 1,090	1,070 1,060 1,060 1,060 1,150 998 1,010 979 965 960 947 882 962 997 1,010 989 1,040 1,020 1,050 1,030 1,020 1,030 1,030 1,030 1,060 1,060 1,060 1,060 1,060 1,060 1,060	1,050 1,040 1,040 1,010 985 976 959 923 951 939 831 669 757 962 989 952 964 979 1,010 1,020 984 1,000 1,000 1,010 1,010 1,020 999	1,070 1,050 1,050 1,040 1,010 990 976 942 959 947 899 735 890 982 1,000 970 996 1,000 1,040 1,030 1,010 1,010 1,020 1,040 1,030 1,040 1,030 1,040 1,030 1,040

06482020 BIG SIOUX RIVER AT NORTH CLIFF AVENUE, AT SIOUX FALLS, SD-Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS—CONTINUED WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST		S	ЕРТЕМВЕ	ER
1 2 3 4 5	999 1,030 1,030 921 933	645 994 777 611 863	882 1,010 891 807 902	1,100 1,090 1,080 1,090 1,060	1,070 1,060 981 992 1,020	1,080 1,080 1,010 1,050 1,040	806 876 1,040 864 830	768 794 847 766 801	781 842 888 806 815	1,200 1,270 1,210 1,190 1,380	1,010 1,110 1,050 1,080 1,090	1,130 1,200 1,140 1,140 1,180
6 7 8 9 10	926 977 1,020 1,040 1,010	732 840 889 982 968	833 902 953 1,010 993	1,050 999 974 989 998	983 728 703 792 960	1,030 884 833 925 981	826 827 933 953 1,030	771 772 813 870 953	798 796 865 902 988	1,260 906 895 720 637	841 792 572 517 577	954 851 739 580 602
11 12 13 14 15	1,010 1,020 983 998 1,020	990 969 953 960 995	1,000 990 964 975 1,010	980 985 1,020 1,040 1,020	921 948 962 990 904	959 965 993 1,020 961	1,040 901 999 1,030 1,070	815 826 901 941 984	901 851 952 1,000 1,020	757 794 773 754 843	636 754 718 730	707 771 760 741
16 17 18 19 20	1,030 1,020 1,030 1,020 1,020	1,010 1,000 1,000 1,010 990	1,020 1,020 1,020 1,010 1,010	963 982 989 989 993	912 946 961 981 817	935 968 977 987 883	1,130 1,090 1,050 915 961	954 682 846 849	1,040 808 880 916	865 872 902 942 891	835 841 863 879 856	851 857 887 900 869
21 22 23 24 25	1,030 999 880 969 1,030	974 865 838 877 966	1,010 933 852 930 999	948 956 953 984 799	851 872 875 783 378	915 924 924 951 522	925 863 905 922 900	821 799 817 860 852	872 825 856 893 878	862 849 807 814 648	818 796 767 537 542	834 833 786 760 602
26 27 28 29 30 31	1,080 1,080 1,070 1,080 1,100	1,020 1,040 1,030 1,050 1,060	1,050 1,060 1,050 1,060 1,080	866 835 655 670 723 769	760 495 597 580 663 721	838 650 632 649 688 739	1,090 948 933 999 1,090 1,120	843 826 825 876 939 937	911 870 875 942 1,000 1,020	648 642 760 787 827	440 476 642 758 780	512 559 692 775 808
MONTH	1,100	611	974	1,100	378	903	1,130	682	893	1,380	440	828
YEAR	1,380	378	926									

06482020 BIG SIOUX RIVER AT NORTH CLIFF AVENUE, AT SIOUX FALLS, SD—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTO	OBER	NOVE	MBER	DECE	MBER	JANU	ARY	FEBR	UARY	MA	RCH
1 2	8.3 8.5	8.2 8.2	8.2 8.3	8.1 8.1								
3	8.5	8.3	8.3	8.2								
4 5	8.6 8.6	8.3 8.4	8.2 8.0	8.0 8.0								
6			8.0	7.9								
7	8.4	8.3	8.1	8.0								
8 9	8.7 8.6	8.3 8.3	8.1 8.1	8.0 8.1								
10	8.6	8.3	8.1	8.0								
11 12	8.5 8.6	8.3 8.3	8.1 8.1	8.0 8.1								
13	8.6	8.4	8.1	8.1								
14 15	8.6 8.6	8.4 8.4	8.2 8.2	8.1 8.1								
16	8.6	8.5	8.2	8.1								
17 18	8.7	8.4	8.3	7.9 8.2								
19	8.7 8.6	8.6 8.5	8.3 8.3	8.2								
20	8.5	8.3	8.4	8.2								
21 22	8.4 8.4	8.3	8.4 8.3	8.3 8.3								
23	8.4	8.2	8.4	8.3								
24 25	8.4 8.4	8.2 8.1	8.4 8.4	8.3 8.3								
26	8.3	8.1	8.4	8.3								
27	8.3	8.1	8.4	8.3								
28 29	8.2 8.3	8.1 8.0	8.4 8.4	8.3 8.3								
30 31	8.2	8.0	8.4	8.3							8.6	8.4
	8.3 8.7	8.1 8.0	8.4	7.9							8.7 8.7	8.4 8.4
MONTH	o. / API		MA		 JUI		 JUI	 V	AUG		SEPTE	
1	8.8	8.6	8.6	8.5	8.4	8.2	8.5	8.3	8.7	8.2	8.4	7.9
2	9.0	8.7	8.6	8.5	8.4	8.3	8.4	8.2	8.5	8.1	8.4	7.9
3 4	8.9 8.9	8.6 8.5	8.6 8.6	8.5 8.4	8.4 8.5	8.2 8.2	8.4 8.4	8.2 8.2	8.5 8.4	7.9 7.8	8.5 8.5	7.9 7.9
5	9.0	8.4	8.6	8.4	8.5	8.2	8.4	8.2	8.5	8.0	8.5	7.9
6	8.9	8.3	8.7	8.4	8.2	8.1	8.4	8.2	8.6	8.0	8.5	8.0
7 8	8.8 8.7	8.5 8.4	8.6 8.5	8.4 8.3	8.2 8.4	8.0 8.1	8.4 8.3	8.2 8.2	8.6 8.2	8.2 7.8	8.4 8.5	7.9 8.0
9 10	8.7 8.6	8.4 8.3	8.4 8.5	8.3 8.2	8.4 8.4	8.2 8.2	8.5 8.5	8.2 8.3	8.1 8.0	7.7 7.6	8.1 8.0	7.8 7.8
11	8.5	8.1	8.5	8.3	8.3	8.2	8.4	8.3	7.7	7.5	8.2	8.0
12	8.4	8.3	8.5	8.3	8.3	8.1	8.4	8.3	8.0	7.4	8.1	8.0
13 14	8.5 8.8	8.3 8.4	8.8 8.9	8.4 8.6	8.2 8.2	8.1 8.1	8.5 8.6	8.3 8.2	7.8 8.3	7.6 7.6	8.4 8.6	8.1 8.2
15	8.8	8.6	9.1	8.7	8.2	8.1	8.6	8.2	8.1	7.7	8.5	8.2 8.2
16 17	8.8 8.8	8.5 8.6	8.9 8.6	8.5 8.2	8.1 8.1	8.0 8.0	8.6 8.5	8.2 8.3	8.2 8.4	7.8	8.6 8.5	8.3 8.3
18	8.8	8.6	8.5	8.2	8.1	8.0	8.7	8.2	8.6	7.9	8.6	8.3
19 20	8.8 8.6	8.5 8.4	8.4 8.4	8.2 8.2	8.1 8.1	8.0 8.1	8.6 8.4	8.4 8.2	8.6 8.6	8.1 8.0	8.6 8.7	8.4 8.4
21	8.7	8.5	8.4	8.2	8.1	8.1	8.5	8.2	8.7	8.0	8.6	8.5
22 23	8.8	8.6	8.5	8.2	8.1	8.0	8.4	8.2	8.6	8.0	8.6	8.4
24	8.9 8.9	8.7 8.7	8.5 8.3	8.1 8.1	8.2 8.2	8.0 8.1	8.4 8.3	8.1 8.0	8.6 8.3	8.1 8.0	8.6 8.6	8.4 8.4
25	8.7	8.6	8.4	8.1	8.2	8.1	8.1	7.7	8.2	8.0	8.4	8.3
26 27	8.8 8.8	8.6 8.6	8.5 8.6	8.3 8.3	8.3 8.4	8.1 8.2	8.3 8.3	8.0 7.9	8.5 8.6	8.0 8.0	8.3 8.2	7.9 7.9
28	8.7	8.6	8.6	8.3	8.5	8.2	8.7	8.0	8.7	8.1	8.3	8.2
29 30	8.6 8.6	8.6 8.5	8.5 8.5	8.2 8.3	8.5 8.5	8.3 8.3	8.7 8.9	8.3 8.6	8.6 8.6	8.1 8.0	8.5 8.6	8.3 8.4
31			8.4	8.3 8.2			8.8	8.6	8.5	7.9		
MONTH	9.0	8.1	9.1	8.1	8.5	8.0	8.9	7.7	8.7	7.4	8.7	7.8
YEAR	9.1	7.4										

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DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

06482020 BIG SIOUX RIVER AT NORTH CLIFF AVENUE, AT SIOUX FALLS, SD-Continued

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER		N	OVEMBE	R	D	ECEMBE	R		JANUARY	•
1 2	10.3 11.4	8.5 9.9	9.3 10.6	13.1 13.5	12.3 12.4	12.7 12.9						
3	11.3	9.8	10.4	13.6	12.5	13.0						
4 5	11.9 12.3	9.8 9.9	10.7 10.7	13.7 13.9	12.7 13.2	13.3 13.5						
6	11.6	9.3	10.0	13.8	13.0	13.3						
7 8	11.2 12.5	9.9 10.0	10.2 10.6	14.1 14.4	13.0 13.6	13.6 14.0						
9	13.4	10.4	11.5	14.5	13.0	13.8						
10	13.9	10.7	11.8	13.8	12.9	13.1						
11 12	13.9 14.7	10.9 11.0	11.9 12.4	15.7 16.2	13.8 15.1	15.0 15.6						
13				16.6	15.2	15.9						
14 15				16.6 16.0	15.6 14.3	16.0 15.3						
16				15.0	13.7	14.3						
17 18				14.4 12.3	11.7 11.6	12.8						
19				12.2	11.5	11.8 11.8						
20				13.5	12.2	12.8						
21 22				14.4 14.0	12.9 12.7	13.5 13.2						
23	11.7	10.1	10.8	14.6	12.8	13.7						
24 25	12.3 12.6	10.5 10.9	11.2 11.6	15.3 15.4	13.8 13.8	14.4 14.4						
26	12.8	11.0	11.6	15.1	13.1	13.8						
27	12.9	11.0	11.7	15.1	13.1	13.9						
28 29	12.0 12.3	10.3 9.6	11.0 10.7	16.4 16.7	14.2 14.9	15.2 15.5						
30 31	13.1 14.6	9.6 11.5	11.4 12.8	16.9	14.8	15.6						
MONTH	14.7	8.5	11.1	16.9	11.5	13.9						
		FEBRUAR			MARCH	10.7		APRIL			MAY	
1							12.1	10.8	11.4	13.5	11.5	12.6
2 3							12.5	10.9	11.6	14.2	11.7	13.0
,										12 (
4							12.8 12.3	10.7 10.0	11.6 11.0	13.6 13.2	10.3 10.0	12.1 11.2
							12.8					
4 5 6							12.8 12.3 11.8	10.0 9.4 9.3	11.0 10.3 10.2	13.2 18.7 20.7	10.0 9.9 10.1	11.2 12.9 12.6
4 5 6 7 8						 	12.8 12.3 11.8 11.5 11.6 11.2	10.0 9.4 9.3 9.3 9.2	11.0 10.3 10.2 10.3 10.0	13.2 18.7 20.7 14.2 13.3	10.0 9.9 10.1 10.0 9.7	11.2 12.9 12.6 11.5 11.4
4 5 6 7 8 9	 	 		 	 		12.8 12.3 11.8 11.5 11.6 11.2 11.0	10.0 9.4 9.3 9.3 9.2 8.9	11.0 10.3 10.2 10.3 10.0 9.9	13.2 18.7 20.7 14.2 13.3 12.0	10.0 9.9 10.1 10.0 9.7 9.4	11.2 12.9 12.6 11.5 11.4 10.5
4 5 6 7 8 9	 	 	 	 	 	 	12.8 12.3 11.8 11.5 11.6 11.2 11.0 10.2	10.0 9.4 9.3 9.3 9.2 8.9 8.6	11.0 10.3 10.2 10.3 10.0 9.9 9.7	13.2 18.7 20.7 14.2 13.3 12.0 12.7	10.0 9.9 10.1 10.0 9.7 9.4 10.0	11.2 12.9 12.6 11.5 11.4 10.5 11.0
4 5 6 7 8 9 10 11 12	 	 		 	 	 	12.8 12.3 11.8 11.5 11.6 11.2 11.0 10.2	10.0 9.4 9.3 9.3 9.2 8.9 8.6 9.9	11.0 10.3 10.2 10.3 10.0 9.9 9.7 10.1 10.4	13.2 18.7 20.7 14.2 13.3 12.0 12.7 12.8 14.2	10.0 9.9 10.1 10.0 9.7 9.4 10.0 10.1 11.7	11.2 12.9 12.6 11.5 11.4 10.5 11.0 11.4 13.3
4 5 6 7 8 9 10	 	 	 	 	 		12.8 12.3 11.8 11.5 11.6 11.2 11.0 10.2	10.0 9.4 9.3 9.3 9.2 8.9 8.6	11.0 10.3 10.2 10.3 10.0 9.9 9.7	13.2 18.7 20.7 14.2 13.3 12.0 12.7	10.0 9.9 10.1 10.0 9.7 9.4 10.0	11.2 12.9 12.6 11.5 11.4 10.5 11.0
4 5 6 7 8 9 10 11 12 13	 	 		 	 		12.8 12.3 11.8 11.5 11.6 11.2 11.0 10.2 10.4 10.9 11.2	9.3 9.3 9.2 8.9 8.6 9.9 9.9	11.0 10.3 10.2 10.3 10.0 9.9 9.7 10.1 10.4 10.7	13.2 18.7 20.7 14.2 13.3 12.0 12.7 12.8 14.2	10.0 9.9 10.1 10.0 9.7 9.4 10.0 10.1 11.7	11.2 12.9 12.6 11.5 11.4 10.5 11.0 11.4 13.3
4 5 6 7 8 9 10 11 12 13 14 15		 		 			12.8 12.3 11.8 11.5 11.6 11.2 11.0 10.2 10.4 10.9 11.2 11.4 11.0	10.0 9.4 9.3 9.3 9.2 8.9 8.6 9.9 9.9 9.9 9.9 9.6	11.0 10.3 10.2 10.3 10.0 9.9 9.7 10.1 10.4 10.7 10.6 10.5	13.2 18.7 20.7 14.2 13.3 12.0 12.7 12.8 14.2	10.0 9.9 10.1 10.0 9.7 9.4 10.0 10.1 11.7 	11.2 12.9 12.6 11.5 11.4 10.5 11.0 11.4 13.3
4 5 6 7 8 9 10 11 12 13 14 15		 		 			12.8 12.3 11.8 11.5 11.6 11.2 11.0 10.2 10.4 10.9 11.2 11.4 11.0	10.0 9.4 9.3 9.3 9.2 8.9 8.6 9.9 9.9 9.9 9.6 10.2 8.5 8.0	11.0 10.3 10.2 10.3 10.0 9.9 9.7 10.1 10.4 10.7 10.6 10.5	13.2 18.7 20.7 14.2 13.3 12.0 12.7 12.8 14.2 	10.0 9.9 10.1 10.0 9.7 9.4 10.0 10.1 11.7 9.7	11.2 12.9 12.6 11.5 11.4 10.5 11.0 11.4 13.3 10.4
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19		 		 			12.8 12.3 11.8 11.5 11.6 11.2 11.0 10.2 10.4 10.9 11.2 11.4 11.0 11.1 10.9 10.1 9.7	10.0 9.4 9.3 9.3 9.2 8.9 8.6 9.9 9.9 9.9 9.6 10.2 8.5 8.0 7.7	11.0 10.3 10.2 10.3 10.0 9.9 9.7 10.1 10.4 10.7 10.6 10.5 10.7 10.0 9.1 8.5	13.2 18.7 20.7 14.2 13.3 12.0 12.7 12.8 14.2 11.3 11.8	10.0 9.9 10.1 10.0 9.7 9.4 10.0 10.1 11.7 9.7 10.0	11.2 12.9 12.6 11.5 11.4 10.5 11.0 11.4 13.3 10.4 11.0
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20		 					12.8 12.3 11.8 11.5 11.6 11.2 11.0 10.2 10.4 10.9 11.2 11.4 11.0 11.1 10.9 10.1 9.7 9.3	10.0 9.4 9.3 9.3 9.2 8.9 8.6 9.9 9.9 9.9 9.6 10.2 8.5 8.0 7.7 7.5	11.0 10.3 10.2 10.3 10.0 9.9 9.7 10.1 10.4 10.7 10.6 10.5 10.7 10.0 9.1 8.5 8.4	13.2 18.7 20.7 14.2 13.3 12.0 12.7 12.8 14.2 11.3 11.8 13.0	10.0 9.9 10.1 10.0 9.7 9.4 10.0 10.1 11.7 9.7 10.0 10.4	11.2 12.9 12.6 11.5 11.4 10.5 11.0 11.4 13.3 10.4 11.0 11.4
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22							12.8 12.3 11.8 11.5 11.6 11.2 11.0 10.2 10.4 10.9 11.2 11.4 11.0 11.1 10.9 10.1 9.7 9.3 9.5 11.0	10.0 9.4 9.3 9.3 9.2 8.9 8.6 9.9 9.9 9.9 9.6 10.2 8.5 8.0 7.7 7.5 7.9 8.7	11.0 10.3 10.2 10.3 10.0 9.9 9.7 10.1 10.4 10.7 10.6 10.5 10.7 10.0 9.1 8.5 8.4	13.2 18.7 20.7 14.2 13.3 12.0 12.7 12.8 14.2 11.3 11.8 13.0 12.6 12.8	10.0 9.9 10.1 10.0 9.7 9.4 10.0 10.1 11.7 9.7 10.0 10.4 10.3 10.4	11.2 12.9 12.6 11.5 11.4 10.5 11.0 11.4 13.3 10.4 11.0 11.4 11.2 11.6
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24							12.8 12.3 11.8 11.5 11.6 11.2 11.0 10.2 10.4 10.9 11.2 11.4 11.0 11.1 10.9 10.1 9.7 9.3 9.5 11.0 11.9 11.9	10.0 9.4 9.3 9.3 9.2 8.9 8.6 9.9 9.9 9.9 9.6 10.2 8.5 8.0 7.7 7.5 7.9 8.7 9.9 8.9	11.0 10.3 10.2 10.3 10.0 9.9 9.7 10.1 10.4 10.7 10.6 10.5 10.7 10.0 9.1 8.5 8.4 8.7 10.2 10.9	13.2 18.7 20.7 14.2 13.3 12.0 12.7 12.8 14.2 11.3 11.8 13.0 12.6 12.8 12.8	10.0 9.9 10.1 10.0 9.7 9.4 10.0 10.1 11.7 9.7 10.0 10.4 10.3 10.4 10.6	11.2 12.9 12.6 11.5 11.4 10.5 11.0 11.4 13.3 10.4 11.0 11.4 11.2
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23							12.8 12.3 11.8 11.5 11.6 11.2 11.0 10.2 10.4 10.9 11.2 11.4 11.0 11.1 10.9 9.7 9.3 9.5 11.0 11.9	10.0 9.4 9.3 9.3 9.2 8.9 8.6 9.9 9.9 9.9 9.6 10.2 8.5 8.0 7.7 7.5 7.9 8.7 9.9	11.0 10.3 10.2 10.3 10.0 9.9 9.7 10.1 10.4 10.7 10.6 10.5 10.7 10.0 9.1 8.5 8.4 8.7 10.2 10.9	13.2 18.7 20.7 14.2 13.3 12.0 12.7 12.8 14.2 11.3 11.8 13.0 12.6 12.8 12.8	10.0 9.9 10.1 10.0 9.7 9.4 10.0 10.1 11.7 9.7 10.0 10.4 10.3 10.4 10.6	11.2 12.9 12.6 11.5 11.4 10.5 11.0 11.4 13.3 10.4 11.0 11.4 11.2 11.6 11.7
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26							12.8 12.3 11.8 11.5 11.6 11.2 11.0 10.2 10.4 10.9 11.2 11.4 11.0 11.1 10.9 10.1 9.7 9.3 9.5 11.0 11.9 11.8 11.2 11.9	10.0 9.4 9.3 9.3 9.2 8.9 8.6 9.9 9.9 9.9 9.6 10.2 8.5 8.0 7.7 7.5 7.9 8.7 9.9 9.4 10.4	11.0 10.3 10.2 10.3 10.0 9.9 9.7 10.1 10.4 10.7 10.6 10.5 10.7 10.0 9.1 8.5 8.4 8.7 10.2 10.9 10.6 10.4	13.2 18.7 20.7 14.2 13.3 12.0 12.7 12.8 14.2 11.3 11.8 13.0 12.6 12.8 12.8 9.8	10.0 9.9 10.1 10.0 9.7 9.4 10.0 10.1 11.7 9.7 10.0 10.4 10.3 10.4 10.6 8.4	11.2 12.9 12.6 11.5 11.4 10.5 11.0 11.4 13.3 10.4 11.0 11.4 11.2 11.6 11.7 8.9
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28							12.8 12.3 11.8 11.5 11.6 11.2 11.0 10.2 10.4 10.9 11.2 11.4 11.0 9.7 9.3 9.5 11.0 11.9 11.1 11.1 10.9 11.1 10.1 9.7 9.3	10.0 9.4 9.3 9.3 9.2 8.9 8.6 9.9 9.9 9.9 9.6 10.2 8.5 8.0 7.7 7.5 7.9 8.7 9.9 9.9 9.9 10.1	11.0 10.3 10.2 10.3 10.0 9.9 9.7 10.1 10.4 10.7 10.6 10.5 10.7 10.0 9.1 8.5 8.4 8.7 10.2 10.9 10.6 10.4	13.2 18.7 20.7 14.2 13.3 12.0 12.7 12.8 14.2 11.3 11.8 13.0 12.6 12.8 12.8 12.8 13.0 13.0 14.0 15.0 16.0 17.0 17.0 18.0 1	10.0 9.9 10.1 10.0 9.7 9.4 10.0 10.1 11.7 9.7 10.0 10.4 10.3 10.4 10.6 8.4 8.4 8.9	11.2 12.9 12.6 11.5 11.4 10.5 11.0 11.4 13.3 10.4 11.0 11.4 11.2 11.6 11.7 8.9 9.4 9.7
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27							12.8 12.3 11.8 11.5 11.6 11.2 11.0 10.2 10.4 10.9 11.2 11.4 11.0 11.1 10.9 10.1 9.7 9.3 9.5 11.0 11.9 11.8 11.2 11.9 12.6	10.0 9.4 9.3 9.3 9.2 8.9 8.6 9.9 9.9 9.9 9.6 10.2 8.5 8.0 7.7 7.5 7.9 8.7 9.9 9.4 10.4 10.2	11.0 10.3 10.2 10.3 10.0 9.9 9.7 10.1 10.4 10.7 10.6 10.5 10.7 10.0 9.1 8.5 8.4 8.7 10.2 10.9 10.6 10.4	13.2 18.7 20.7 14.2 13.3 12.0 12.7 12.8 14.2 11.3 11.8 13.0 12.6 12.8 12.8 9.8 10.3	10.0 9.9 10.1 10.0 9.7 9.4 10.0 10.1 11.7 9.7 10.0 10.4 10.3 10.4 10.6 8.4 8.4	11.2 12.9 12.6 11.5 11.4 10.5 11.0 11.4 13.3 10.4 11.0 11.4 11.2 11.6 11.7 8.9 9.4
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29							12.8 12.3 11.8 11.5 11.6 11.2 11.0 10.2 10.4 10.9 11.2 11.4 11.0 11.1 10.9 10.1 9.7 9.3 9.5 11.0 11.9 11.8 11.2 11.9 12.6 12.6 12.3	10.0 9.4 9.3 9.3 9.2 8.9 8.6 9.9 9.9 9.9 9.6 10.2 8.5 8.0 7.7 7.5 7.9 8.7 9.9 9.4 10.4 10.2 10.1 10.2	11.0 10.3 10.2 10.3 10.0 9.9 9.7 10.1 10.4 10.7 10.6 10.5 10.7 10.0 9.1 8.5 8.4 8.7 10.2 10.9 10.6 10.4 11.2 11.8 11.6 11.3	13.2 18.7 20.7 14.2 13.3 12.0 12.7 12.8 14.2 11.3 11.8 13.0 12.6 12.8 12.8 9.8 10.3 11.3 11.4	10.0 9.9 10.1 10.0 9.7 9.4 10.0 10.1 11.7 9.7 10.0 10.4 10.3 10.4 10.6 8.4 8.4 8.9 8.7	11.2 12.9 12.6 11.5 11.4 10.5 11.0 11.4 13.3 10.4 11.0 11.4 11.2 11.6 11.7 8.9 9.4 9.7 9.8
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30							12.8 12.3 11.8 11.5 11.6 11.2 11.0 10.2 10.4 10.9 11.2 11.4 11.0 11.1 10.9 10.1 9.7 9.3 9.5 11.0 11.9 11.8 11.2 11.9 12.6 12.6 12.3 12.8	10.0 9.4 9.3 9.3 9.2 8.9 8.6 9.9 9.9 9.9 9.6 10.2 8.5 8.0 7.7 7.5 7.9 8.7 9.9 9.4 10.4 10.2 10.1 10.2 10.9	11.0 10.3 10.2 10.3 10.0 9.9 9.7 10.1 10.4 10.7 10.6 10.5 10.7 10.0 9.1 8.5 8.4 8.7 10.2 10.9 10.6 10.4 11.2 11.8 11.6 11.3 11.9	13.2 18.7 20.7 14.2 13.3 12.0 12.7 12.8 14.2 11.3 11.8 13.0 12.6 12.8 12.8 9.8 10.3 11.3 11.3	10.0 9.9 10.1 10.0 9.7 9.4 10.0 10.1 11.7 9.7 10.0 10.4 10.3 10.4 10.6 8.4 8.4 8.9 8.7 9.0	11.2 12.9 12.6 11.5 11.4 10.5 11.0 11.4 13.3 10.4 11.0 11.4 11.2 11.6 11.7 8.9 9.4 9.7 9.8 10.0

06482020 BIG SIOUX RIVER AT NORTH CLIFF AVENUE, AT SIOUX FALLS, SD-Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER—CONTINUED WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST		Sl	EPTEMBE	ER
1 2 3 4 5	11.4 11.3 9.8 9.2 8.8	9.6 9.3 8.6 8.1 7.9	10.3 10.2 9.3 8.7 8.5	9.5 9.4 9.0 9.8 10.2	7.2 7.6 7.5 7.8 7.7	8.3 8.5 8.3 8.7 9.0	10.3 10.4 10.8 10.5 9.2	7.0 6.4 6.1 6.6 7.2	8.4 7.9 7.7 8.1 8.0	11.2 12.2 12.0 11.8 11.6	5.8 5.6 5.6 5.4 5.1	8.3 8.6 8.4 8.1 7.7
6 7 8 9 10	8.9 8.8 9.3 9.2	7.1 7.6 8.1 8.2	8.1 8.3 8.6 8.7	10.6 9.5 9.3 9.8 9.8	8.1 8.0 7.9 7.1 7.0	9.2 8.5 8.5 8.4 8.3	9.1 10.4 9.4 8.3 9.6	6.9 6.0 4.3 4.7 4.3	7.9 8.0 6.7 6.4 6.7	9.9 8.8 8.3 8.2 8.2	5.2 5.4 6.6 7.3 7.6	7.3 7.0 7.7 7.8 7.9
11 12 13 14 15	9.0 9.1 8.9 9.1 9.2	8.2 8.2 8.1 8.5 8.1	8.5 8.6 8.6 8.8 8.8	9.8 9.4 7.9 8.5 8.0	7.2 6.8 6.6 6.4 5.5	8.3 8.0 7.2 7.3 6.8	9.6 10.5 10.2 13.0 12.9	4.7 6.8 7.1 8.4 7.6	7.0 8.4 8.7 10.5 10.2	8.3 8.3 8.9 9.5	7.7 7.6 7.7 8.3 8.1	7.9 7.9 8.3 8.8
16 17 18 19 20	9.1 8.8 8.6 8.3 8.2	8.2 7.9 7.6 7.4 7.6	8.7 8.3 8.2 8.0 8.0	6.7 4.3 5.7 4.6 5.3	3.0 2.7 1.4 1.0 1.1	5.3 3.4 3.3 2.7 3.0	16.9 9.9 8.7 9.4 8.8	6.8 6.3 6.0 5.8 5.7	10.7 7.6 7.3 7.1 7.0	9.2 9.2 9.3 10.0 9.5	8.1 8.1 7.8 7.9 7.8	8.5 8.5 8.6 8.5 8.5
21 22 23 24 25	8.1 8.0 8.1 8.3	6.9 7.5 7.6 7.8	7.8 7.8 7.9 8.1	8.7 8.5 8.3 7.4	0.6 5.6 5.5 6.5	4.7 6.8 6.6 7.1	8.2 8.0 8.7 8.4 7.9	5.7 6.0 5.9 6.3 6.1	6.8 6.8 7.1 7.1 6.7	9.0 9.2 9.2 8.6 8.8	7.5 7.5 7.9 7.7 7.5	8.0 8.3 8.5 8.1 8.3
26 27 28 29 30 31	8.5 8.7 8.7 8.7 9.1	7.8 7.4 7.2 7.4 7.1	8.1 8.2 7.9 8.0 8.1	8.6 8.4 9.6 9.5 9.8 10.3	6.5 7.0 7.8 7.8 7.9 7.5	7.5 7.8 8.6 8.7 8.7 8.6	9.3 	5.9 	7.3 	9.4 9.4 9.3 9.9 10.0	8.8 8.7 8.6 8.8 8.9	9.1 9.1 9.5 9.5
MONTH YEAR	11.4 20.7	6.9 0.6	8.5 9.8	10.6	0.6	7.2	16.9	4.3	7.8	12.2	5.1	8.3

TURBIDITY, WATER, MONOCHROME NEAR INFRA-RED LED LIGHT, 780-900 NM, DETECTION ANGLE 90 +/ -2.5 DEGREES, FNU WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

06482020 BIG SIOUX RIVER AT NORTH CLIFF AVENUE, AT SIOUX FALLS, SD—Continued

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER		N	OVEMBE	R	D	ECEMBE	R		JANUARY	
1 2	37 27	26 20	29 23	23 71	17 22	20 28						
3	29	21	25	39	24	26						
4	32	24	28	30	24	26						
5	56	24	28	36	22	25						
6 7	40	35	38	38 37	26 32	31 34						
8	38	33	35	35	29	30						
9	40	33	36	40	28	30						
10	42	35	38	54	29	35						
11	41	36	38	33	18	23						
12 13	36 34	29 27	33 31	24 24	17 15	18 17						
14	27	20	23	17	14	15						
15	22	17	20	20	15	16						
16	18	14	16	34	14	17						
17 18	26 26	16 22	19 24	16 15	10 10	13 13						
19	29	23	26	30	14	21						
20	31	26	29	27	12	18						
21	30	27	29	13	9.5	11						
22	29	25	26	11	8.2	9.3						
23 24	33 32	26 27	29 30	14 10	8.8 7.4	11 8.2						
25	31	26	27	9.0	7.1	7.7						
26	30	22	25	13	7.4	8.5						
27	30	23	26	11	7.1	9.0						
28 29	30 30	25 26	27 28	7.7 7.8	6.4 6.5	6.9 7.1						
30	46	21	32	9.7	6.3	7.3						
31	21	15	17									
MONTH	56	14	28	71	6.3	18						
		FEBRUARY	7		MARCH			APRIL			MAY	
1							24	17	20			
2 3							25 35	18 19	21 26			
4							50	26	31	18	14	15
5							55	31	38	26	13	15
6							57	30	40	20	14	16
7 8							64 37	26 26	34 30	23 24	14 16	16 19
9							41	22	27	62	19	28
10							130	25	54	73	27	39
11							130	22	54	75	44	57
12 13							28 31	22 22	24 24	110 87	51 48	82 67
14							35	21	27		56	
15							59	28	34			
16							43	33	35			
17 18							48	36	42 42	30	14	21
19							51 50	32 30	37	28	13	18
20							37	26	31	84	15	22
21							33	20	24	34	19	23
22							39	22	27	40	17	23
23 24							40 44	18 22	21 30			
25							45	28	35			
26							180	31	57	37	17	25
27										36	16	25
28 29										27 28	18 17	22 20
30				50	20	29				45	20	26
31				25	16	20				120	18	41
MONTH				50	16	24	180	17	33	120	13	30

06482020 BIG SIOUX RIVER AT NORTH CLIFF AVENUE, AT SIOUX FALLS, SD-Continued

TURBIDITY, WATER, MONOCHROME NEAR INFRA-RED LED LIGHT, 780-900 NM, DETECTION ANGLE 90 +/ -2.5 DEGREES, FNU—CONTINUED

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST		S	ЕРТЕМВЕ	ER
1 2 3 4 5	98 71 80 420 130	21 17 18 18 35	41 27 37 88 56	90 83 78 63 50	39 42 41 41 38	47 49 51 47 44	 68 66 68	41 41 39	49 53 52	26 32 34 37 36	16 16 18 17 17	20 21 24 24 23
6 7 8 9 10	250 160 75 76 68	84 48 47 45 55	140 71 56 56 61	49 110 110 52 34	33 27 25 23 19	41 46 48 29 24	80 140 	38 53 	54 82 	48 49 130 67 60	22 19 30 47 45	32 30 54 58 52
11 12 13 14 15	86 110 140 170 250	57 73 80 86 83	67 83 100 110 110	34 52 64 38 40	19 16 15 27 28	22 21 26 30 33	 	 	 	52 46 52 55 47	41 34 37 36 39	44 40 45 44 43
16 17 18 19 20	250 170 120 190 100	87 82 83 83 69	110 99 96 98 81	 	 	 	40 100 35 40	23 27 23 23	30 43 29 31	45 46 43 51 46	36 35 32 32 34	39 40 39 41 38
21 22 23 24 25	100 180 310 94 73	69 84 92 67 54	77 130 120 79 62	43 94 290	27 29 46	35 38 110	46 48 49 40 39	27 30 29 28 25	34 36 35 33 31	44 41 48 130 100	30 30 33 33 43	35 36 38 46 62
26 27 28 29 30 31	56 54 57 50 170	49 35 32 33 35	52 43 39 42 57	77 	42 	52 	42 41 38 43 37	29 27 21 20 23	34 33 29 29 30	250 150 91 72	100 81 49 42	200 110 60 51
MONTH YEAR	420 420	17 6.3	76 39	290	15	42	140	20	39	250	16	48

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

							Turb-				Sus-	Suspnd.
			Specif.	pН,			idity,			Dis-	pended	sedi-
		Instan-	conduc-	water,			IR LED	Baro-		solved	sedi-	ment,
		taneous	tance,	unfltrd	Temper-	Temper-	light,	metric	Dis-	oxygen,	ment	sieve
		dis-	wat unf	field,	ature,	ature,	det ang	pres-	solved	percent	concen-	diametr
		charge,	uS/cm	std	air,	water,	90 deg,	sure,	oxygen,	of sat-	tration	percent
Date	Time	cfs	25 degC	units	deg C	deg C	FNU	mm Hg	mg/L	uration	mg/L	<.063mm
		(00061)	(00095)	(00400)	$(00\tilde{0}20)$	(00010)	(63680)	(00025)	(00300)	(00301)	(80154)	(70331)
NOV												
17	1300	245	963	8.3	13.0	5.8	12	735	12.0	100	17	98
JUN												
07	1655	1,200	920	8.0	30.0	23.3	59	724	8.6	106	122	97
22	1330	1,640	932	8.0	32.0	25.6	140	735	8.1	103	261	98

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06482610 SPLIT ROCK CREEK AT CORSON, SD

LOCATION.--Lat $43^{\circ}36'59''$, long $96^{\circ}33'54''$, in $NE^{1}_{4}NW^{1}_{4}$ sec. 26, T.102 N., R.48 W., Minnehaha County, Hydrologic Unit 10170203, on left bank 6 ft downstream from highway bridge, 0.3 mi east of Corson, and 3.4 mi upstream from mouth.

DRAINAGE AREA.--464 mi².

PERIOD OF RECORD.--October 1965 to September 1997 and October 2001 to current year. February 1951 to September 1965 gage heights and discharge measurements only in files of U.S. Army Corps of Engineers. October 1989 to September 1997 operated as crest-stage partial-record gage.

REVISED RECORDS.--WDR SD-84-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,304.22 ft above NGVD of 1929 (levels by U.S. Army Corps of Engineers). February 1951 to Aug. 15, 1964, nonrecording gage at datum 0.15 ft higher. Aug. 15, 1964, to Sept. 3, 1970, nonrecording gage at present site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

EXTREMES OUTSIDE PERIOD OF RECORD .-- Flood of June 17, 1957, reached a stage of 15.41 ft, discharge, 19,300 ft3/s.

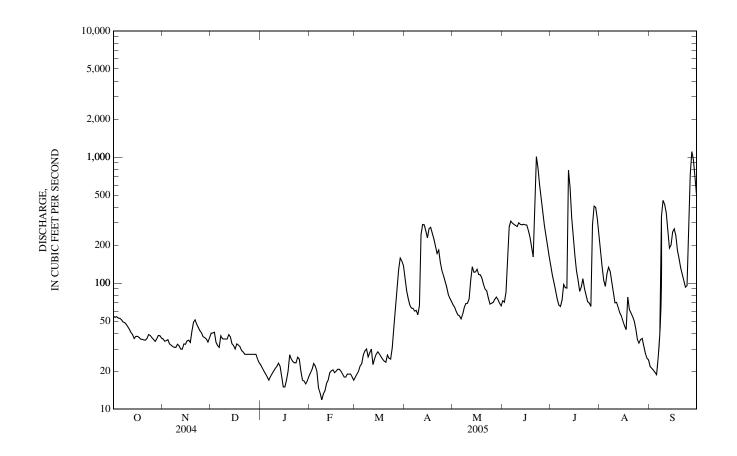
DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005 DAILY MEAN VALUES

					Ditti	ZI WILZIN V	7 ILCLO					
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	36	40	e22	e19	e18	108	67	72	136	183	22
2	54	35	40	e21	e21	e19	87	64	71	114	136	21
3	54	35	41	e20	e23	e20	75	59	85	100	105	20
4	53	36	34	e19	e22	22	67	56	150	86	94	20
5	53	33	e32	e18	e20	23	63	55	280	74	119	19
6	51	32	31	e17	e15	27	63	52	310	67	134	26
7	49	31	38	e18	e13	29	60	57	299	65	124	40
8	49	31	36	e19	e12	30	61	64	292	74	102	337
9	47	31	e36	e20	e13	26	56	69	287	98	84	454
10	45	33	e36	e21	e14	28	66	69	281	92	70	422
11	43	32	e36	e22	e16	30	243	75	301	91	70	362
12	41	30	e39	e23	e17	e23	292	106	292	786	64	257
13	39	30	e37	e22	e19	e25	290	135	290	573	58	189
14	36	33	e33	e18	e20	e27	259	122	293	332	55	200
15	38	33	e32	e15	e21	e28	229	123	290	235	50	255
16	38	35	e30	e15	e19	e27	270	129	289	166	46	269
17	37	35	e33	e17	e20	e26	277	117	261	125	43	238
18	36	34	e32	e20	e21	e25	249	117	231	105	78	182
19	36	41	e31	e27	e21	e24	224	110	194	86	62	157
20	35	49	e29	e25	e20	24	196	98	161	93	58	133
21	35	51	e28	e24	e19	27	172	90	347	108	54	117
22	36	47	e27	e23	e18	25	183	87	1,010	91	50	104
23	39	44	e27	e23	e18	25	147	76	818	80	44	93
24	38	42	e27	e26	e19	31	126	68	601	71	36	96
25	37	40	e27	e25	e19	44	115	69	469	70	33	203
26 27 28 29 30 31	36 34 36 38 38 37	38 e37 e36 e34 e37	e27 e27 e27 e27 e25 e23	e20 e17 e17 e16 e17 e18	e19 e18 e17 	60 84 128 158 150 138	103 93 81 76 72	70 74 77 74 69 66	367 287 233 193 161	65 289 408 399 326 246	36 36 32 28 25 25	724 1,100 946 685 488
TOTAL	1,293	1,091	988	625	513	1,371	4,403	2,564	9,215	5,651	2,134	8,179
MEAN	41.7	36.4	31.9	20.2	18.3	44.2	147	82.7	307	182	68.8	273
MAX	55	51	41	27	23	158	292	135	1,010	786	183	1,100
MIN	34	30	23	15	12	18	56	52	71	65	25	19
AC-FT	2,560	2,160	1,960	1,240	1,020	2,720	8,730	5,090	18,280	11,210	4,230	16,220
		ONTHLY M										
MEAN	45.6	49.6	26.8	17.8	43.5	249	286	122	164	68.6	41.4	76.4
MAX	231	372	86.8	75.3	299	859	2,019	526	1,595	403	364	1,212
(WY)	(1987)	(1983)	(2002)	(1973)	(1983)	(1983)	(1969)	(1984)	(1984)	(1983)	(1979)	(1986)
MIN	2.72	3.07	2.28	0.42	0.20	11.1	17.2	7.86	3.57	2.43	0.82	1.82
(WY)	(1968)	(1968)	(1977)	(1977)	(1977)	(1975)	(1968)	(1981)	(1976)	(1976)	(1976)	(1976)

06482610 SPLIT ROCK CREEK AT CORSON, SD-Continued

SUMMARY STATISTICS	FOR 2004 CAL	ENDAR YEAR	FOR 2005 WAT	ΓER YEAR	WATER YEARS 19	966-1989, 2002-2005
ANNUAL TOTAL ANNUAL MEAN HIGHEST ANNUAL MEAN	39,315 107		38,027 104		^a 99.1 348	1984
LOWEST ANNUAL MEAN HIGHEST DAILY MEAN	2,060	May 30	1,100	Sep 27	11.3 16,400	1968 Apr 8, 1969
LOWEST DAILY MEAN ANNUAL SEVEN-DAY MINIMUM MAXIMUM PEAK FLOW	16 17	Jan 29 Jan 27	12 14 1.180	Feb 8 Feb 6 Jun 22	°18.900	Jul 20, 1966 Jan 28, 1977 May 8, 1993
MAXIMUM PEAK PLOW MAXIMUM PEAK STAGE ANNUAL RUNOFF (AC-FT)	77,980		5.81 75,430	Jun 22	d 17.58 71,800	May 8, 1993
10 PERCENT EXCEEDS 50 PERCENT EXCEEDS 90 PERCENT EXCEEDS	205 48 23		280 47 20		187 25 4.5	

- a Median of annual mean discharges, 69 ft³/s.
 b No flow at times in some years.
 c Includes water years 1990-97 during crest-stage gage partial-record year.
 d From floodmark.
 e Estimated.



06483500 ROCK RIVER NEAR ROCK VALLEY, IA

LOCATION.--Lat 43°12'52", long 96°17'39", in SW \(^1_4\) sec.16, T.97 N., R.46 W., Sioux County, Hydrologic Unit 10170204, on left bank 15 ft upstream from bridge on County Highway K30, 0.3 mi north of Rock Valley, and 19.4 mi (revised) upstream from mouth.

DRAINAGE AREA.--1,592 mi².

PERIOD OF RECORD.--June 1948 to current year.

REVISED RECORDS.--WSP 1439: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,222.54 ft above NGVD of 1929. Prior to Aug. 13, 1952, nonrecording gage with supplementary water-stage recorder operating above 6.2 ft gage height. June 4, 1949 to Aug. 12, 1952 and Aug. 13, 1952 to May 4, 1976, water-stage recorder, at site 3.2 mi downstream at datum 10.73 ft lower.

REMARKS.--Records are considered good, except for those estimated daily discharges, which are poor. U.S. Army Corps of Engineers rain gage and data collection platform with satellite telemetry at station. Precipitation records are available online at the U.S. Army Corps of Engineers website: www2.mvr.usace.army.mil/WaterControl/datamining2.cfm.

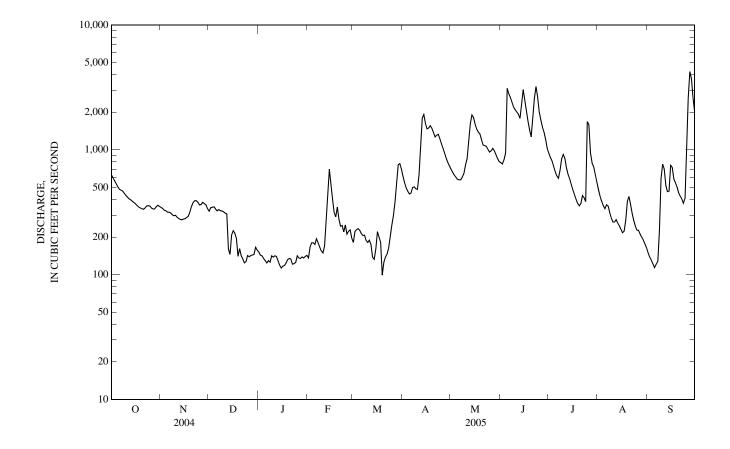
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1897 reached a stage of 17.0 ft, former site and datum, discharge not determined, from information by State Highway Commission.

DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005 DAILY MEAN VALUES DAY OCT NOV DEC JAN FEB MAR APR MAY JUN ш. AUG SEP 698 789 938 630 346 322 e152 e136 e181 610 480 149 2 596 338 344 e143 e166 e221 544 660 771 867 425 138 3 346 e141 229 495 565 328 e180 62.7 832 386 131 814 234 4 534 325 350 e134 e180 465 603 946 739 357 122 5 226 337 506 317 336 e129 443 3.110 114 e174 580 668 6 483 316 324 e124 e194 213 451 575 2,820 618 363 121 475 312 332 e129 e180 206 499 575 2,630 591 354 128 8 468 302 325 e126 e166 207 505 605 2,410 688 313 226 Q 449 296 324 e141 e155 188 487 646 2,200 285 588 847 10 433 299 318 e149 181 482 755 2,090 918 264 769 e138 11 419 288 311 e141 e170 189 851 2.010 855 264 703 405 282 306 1,140 1,930 276 519 e140 e260 175 1.160 716 12 398 277 e161 e129 e403 138 1,790 1,790 259 462 13 1.620 636 388 275 e119 133 1,920 246 14 e145 e700 1,900 2,360 586 466 15 379 279 e207 e542 161 1.630 1.820 3.030 529 231 752 e113 370 e224 e117 e401 221 1,470 1,610 2 500 478 281 216 724 16 201 2,040 223 17 358 287 e215 e118 e315 1.500 1,470 438 583 274 18 349 294 e196 e124 e290 182 1.560 1.390 1,690 401 547 19 343 317 e141 e132 e348 99 1.490 1.340 1,440 372 386 503 20 337 352 e162 e135 e278 125 1.380 1,210 1.270 356 423 454 21 334 378 e142 e133 e244 138 1,270 1.090 1,800 371 366 425 22 341 391 e134 e121 e248 146 1,310 1,080 2,590 430 309 403 23 3,220 271 373 354 391 e124 e122 e220 163 1,330 1.060 414 e250 24 357 380 e127 e125 202 1,230 1,010 2,660 384 244 407 25 354 362 e142 e141 e211 249 1,120 958 2,020 1,680 227 911 26 341 365 e139 e222 297 1.030 983 1.740 1.590 226 2.620 e136 1.530 380 e228 385 934 1.030 947 4,240 3,720 2.7 336 e142 e135 211 28 1,380 336 370 542 854 786 199 e144 e139 e196 982 29 760 790 914 1.200 189 350 363 e145 e136 ---731 2.61030 360 338 e166 e140 ___ 776 741 851 1,020 635 176 2,000 31 352 e157 e143 ---701 804 548 164 TOTAL 12,700 9,829 6,951 4,096 7,206 8,069 30,103 31,457 57,818 21,571 8,944 25,908 328 224 257 1,015 1,927 289 864 MEAN 410 132 260 1,003 696 3,220 771 MAX 630 391 350 152 700 776 1,920 1,900 1,680 480 4,240 MIN 334 275 124 113 136 99 443 575 356 164 19,500 59,710 62,390 AC-FT 25,190 13,790 8,120 14,290 16,000 114,700 42,790 17,740 51,390 STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2005, BY WATER YEAR (WY) MEAN 82.2 1.299 982 231 256 148 216 987 720 609 269 249 1,232 MAX 2,039 676 434 1,059 4,646 6,507 3,728 6,495 9.088 2.251 2,135 (WY) (1993)(1980)(1983)(1996)(1966)(1997)(1969)(1993)(1993)(1993)(1993)(1986)MIN 2.39 9.70 3.22 0.04 0.30 35.1 35.9 44.4 46.3 21.9 6.79 3.26 (WY) (1959)(1959)(1959)(1977)(1959)(1959)(1959)(1968)(1964)(1976)(1976)(1955)

06483500 ROCK RIVER NEAR ROCK VALLEY, IA—Continued

SUMMARY STATISTICS	FOR 2004 CALE	ENDAR YEAR	FOR 2005 WA	ΓER YEAR	WATER YEARS	1949 - 2005
ANNUAL TOTAL	210,314		224,652			
ANNUAL MEAN	575		615		504	
HIGHEST ANNUAL MEAN					2,656	1993
LOWEST ANNUAL MEAN					31.0	1968
HIGHEST DAILY MEAN	6,820	Mar 2	4,240	Sep 27	35,400	Apr 7, 1969
LOWEST DAILY MEAN	28	Feb 15	99	Mar 19	a _{0.00}	Feb 20, 1959
ANNUAL SEVEN-DAY MINIMUM	38	Feb 14	122	Jan 13	0.00	Feb 27, 1959
MAXIMUM PEAK FLOW			4,460	Sep 27	40,400	Apr 7, 1969
MAXIMUM PEAK STAGE			9.68	Sep 27	b17.32	Apr 7, 1969
INSTANTANEOUS LOW FLOW			72	Mar 19		• .
ANNUAL RUNOFF (AC-FT)	417,200		445,600		365,100	
10 PERCENT EXCEEDS	1,400		1,510		1,140	
50 PERCENT EXCEEDS	356		363		140	
90 PERCENT EXCEEDS	53		139		17	

a Many days during winter periods in 1959 and 1977.b At location and datum then in use.e Estimated.



06485500 BIG SIOUX RIVER AT AKRON, IA

 $LOCATION.--Lat~42°50'14", long~96°33'41", in~SW^{1}_{4}~SE^{1}_{4}~SW^{1}_{4}~sec. 30, T.93~N., R.48~W., Plymouth~County,~Hydrologic~Unit~10170203, on~left~bank~15~ft~downstream~from~Iowa~Highway~403~bridge,~0.5~mi~northwest~of~Akron,~and~2.9~mi~upstream~from~Union~Creek.$

DRAINAGE AREA.--8,424 mi², of which 1,487 mi² usually is noncontributing (documented runoff occurred during 1994-2002 water years for 213 mi² of the usually noncontributing area).

PERIOD OF RECORD .-- October 1928 to current year.

REVISED RECORDS.--WSP 1309: 1929(M), 1931-33(M), 1936(M), 1938(M), 1940(M). WSP 1389: Drainage area. WDR SD-94-1 only: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,118.90 ft above NGVD of 1929. Prior to Dec. 3, 1934, nonrecording gage at bridge 0.5 mi downstream at same datum. From Dec. 3, 1934, to Oct. 31, 1985, water-stage recorder at site 0.6 mi downstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. U.S. Army Corps of Engineers satellite data-collection platform at station. Water temperature and specific conductance measured during the year are compiled in the Miscellaneous Temperature Measurements and Field Determinations section.

DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,590	788	843	e440	e330	688	1.570	1,650	1,830	2,700	1,650	465
2	1,560	809	814	e425	e340	617	1,470	1,590	1,920	2,500	1,450	442
2 3	1,500	788	807	e410	e345	642	1,350	1,520	2,100	2,310	1,260	426
4	1,430	822	765	e395	e350	724	1,230	1,460	2,140	2,150	1,120	407
5	1,330	943	756	e385	e355	684	1,140	1,410	4,670	2,000	1,010	394
6	1,250	1,030	754	e380	e350	665	1,090	1,370	7,410	1,830	963	395
7	1,200	1,000	755	e375	e335	658	1,050	1,350	6,990	1,750	952	395
8	1,160	929	763	e370	e325	653	1,060	1,350	6,510	1,710	978	402
9	1,110	919	770	e370	e320	657	1,050	1,370	6,010	2,000	894	463
10	1,090	904	770	e365	e315	661	1,060	1,420	5,250	2,090	828	1,250
11	1,060	884	768	e360	e326	641	1,160	1,540	4,740	2,020	789	1,930
12	1,020	846	783	e360	e382	641	1,440	1,900	4,430	1,910	763	1,840
13	986	821	715	e355	e493	635	2,360	2,660	4,270	1,740	784	1,630
14	959	813	e650	e350	e1,080	602	3,070	3,250	4,580	2,060	804	1,430
15	939	802	e600	e345	e2,000	575	3,210	3,310	4,950	2,050	722	1,280
			2000		C2,000					2,030		1,200
16	912	798	e600	e340	e2,000	593	2,990	3,200	4,940	1,780	672	1,530
17	897	790	e650	e335	e1,950	652	2,920	3,040	4,630	1,590	638	1,640
18	872	790	e690	e330	e1,900	685	3,120	2,960	4,300	1,420	647	1,540
19	857	841	e690	e325	e1,800	670	3,230	2,900	3,980	1,260	670	1,530
20	865	841	e670	e325	e1,800	615	3,070	3,020	3,730	1,170	781	1,380
	005	0.7.6	650		• • • • •		2.050	2.710	2.610		0.62	
21	835	876	e670	e320	e2,000	550	2,870	2,710	3,610	1,120	863	1,260
22 23 24	830	950	e640	e320	e1,900	588	2,730	2,470	3,820	1,100	761	1,130
23	833	945	e620	e315	e1,800	624	2,730	2,330	4,480	1,120	678	1,060
24	833	903	e600	e315	944	655	2,800	2,210	5,400	1,040	639	1,070
25	829	900	e580	e310	758	691	2,550	2,110	5,250	1,060	614	1,150
26	822	898	e560	e310	730	727	2,340	2,030	4,210	2,280	611	1,690
27	805	887	e540	e310	742	782	2,150	2,060	3,740	2,840	583	3,220
28	783	890	e520	e310	708	881	2.010	2,040	3.550	1,860	567	5.070
29	781	878	e500	e315		1,070	1,870	2,000	3.250	1,990	555	5.090
30	791	835	e475	e320		1,440	1,740	1,920	2,950	2,070	525	4,240
31	783		e460	e325		1,600		1,820		1,910	497	
TOTAL.	21.512	26 120	20.770	10.010	26.670	22.566	62.420	65.050	120 (10	56 420	25.260	45.740
TOTAL	31,512	26,120	20,778	10,810	26,678	22,566	62,430	65,970	129,640	56,430	25,268	45,749
MEAN	1,017	871	670	349	953	728	2,081	2,128	4,321	1,820	815	1,525
MAX	1,590	1,030	843	440	2,000	1,600	3,230	3,310	7,410	2,840	1,650	5,090 394
MIN	781	788	460	310	315	550	1,050	1,350	1,830	1,040	497	394
AC-FT	62,500	51,810	41,210	21,440	52,920	44,760	123,800	130,900	257,100	111,900	50,120	90,740
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2005, BY WATER YEAR (WY)												
MEAN	536	531	368	220	512	2,328	3,329	1,878	2,234	1,502	767	684
MAX	4,039	3,022	1,987	920	2,399	8,866	20,690	9,499	15,820	21,740	6,200	7,313
(WY)	(1987)	(1980)	(1999)	(1996)	(1966)	(1983)	(1969)	(1993)	(1984)	(1993)	(1993)	(1986)
MIN	32.9	47.9	(1999) 32.1	6.68	12.1	124	139	(1993) 73.3	100	50.7	45.2	36.4
(WY)	(1959)	(1959)	(1977)	(1977)	(1936)	(1931)	(1931)	(1934)	(1933)	(1931)	(1976)	(1976)
(1)	(1)0)	(1)0)	(-///	(1711)	(1)30)	(1/31)	(1/01)	(1)31)	(1)55)	(1/01)	(17/0)	(17/0)

06485500 BIG SIOUX RIVER AT AKRON, IA—Continued

SUMMARY STATISTICS	FOR 2004 CALE	ENDAR YEAR	FOR 2005 WAT	ΓER YEAR	WATER YEARS 1929 - 2005		
ANNUAL TOTAL ANNUAL MEAN	496,822 1,357		523,951 1,435		1,241		
HIGHEST ANNUAL MEAN LOWEST ANNUAL MEAN	1,337		1,133		6,271 120	1993 1931	
HIGHEST DAILY MEAN	10,200	Jun 2	7,410	Jun 6	77,500	Apr 9, 1969	
LOWEST DAILY MEAN ANNUAL SEVEN-DAY MINIMUM	150 153	Feb 17 Feb 14	310 312	Jan 25 Jan 23	4.0 4.4	Jan 17, 1977 Jan 15, 1977	
MAXIMUM PEAK FLOW MAXIMUM PEAK STAGE			7,640 16.20	Jun 6 Jun 6	80,800 23.38	Apr 9, 1969 Apr 26, 2001	
ANNUAL RUNOFF (AC-FT) 10 PERCENT EXCEEDS	985,400 2,970		1,039,000 3,070		899,100 2,920	•	
50 PERCENT EXCEEDS 90 PERCENT EXCEEDS	881 194		944 378		420 74		

<sup>a Median of annual mean discharges, 900 ft³/s.
b Gage height, 22.99 ft.
c Discharge, 40,400 ft³/s.
e Estimated.</sup>

