

Water-Data Report 2008

**06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD**

Belle Fourche Basin  
Lower Belle Fourche Subbasin

LOCATION.--Lat 44°22'11", long 102°33'56" referenced to North American Datum of 1927, in NE ¼ NE ¼ sec.29, T.5 N., R.13 E., Meade County, SD, Hydrologic Unit 10120202, on right bank 50 ft downstream from highway bridge, 4.3 mi northwest of Elm Springs, and 4.7 mi downstream from Hay Creek.

DRAINAGE AREA.--7,210 mi<sup>2</sup>, approximately.

**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--August 1928 to June 1932, March 1934 to current year. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WSP 786: Drainage area. WSP 926: 1929, 1931(M), 1935, 1937.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2,171.60 ft above NGVD of 1929. Prior to July 27, 1939, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by Keyhole Dam, usable capacity, 191,600 acre-ft, 304 mi upstream since Oct. 25, 1952. At a point 133 mi above station, water is diverted to Belle Fourche Reservoir (see station 06435000), through Inlet Canal near Belle Fourche (see station 06434505), with other smaller diversions from the main stem and tributaries for irrigation. Total diversion for irrigation of about 60,000 acres upstream from station. Maximum discharge prior to Sept. 30, 1953, 35,700 ft<sup>3</sup>/s, June 10, 1941, gage height, 14.30 ft; no flow for many days in 1936-37, 1939-40. Satellite data-collection platform at station. Water temperature and specific conductance measured with each discharge measurement.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 1927 reached a stage of 21.8 ft. Flood in spring of 1933 reached a stage of about 20 ft, from floodmarks.

## 06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD—Continued

**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**  
**DAILY MEAN VALUES**

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	144	35	e20	e10	e4.5	e12	34	65	1,980	897	285	416
2	133	35	e20	e12	e4.5	e18	32	136	1,690	873	292	406
3	125	31	e20	e16	e4.8	e30	31	259	3,310	658	320	467
4	121	30	e24	e19	e5.0	e33	31	479	4,090	441	370	481
5	115	31	e25	e18	e5.3	e35	32	1,790	13,800	829	351	498
6	114	34	e25	e17	e6.0	e34	40	4,040	40,800	804	423	510
7	111	34	e25	e16	e6.5	e31	41	3,140	33,600	802	438	510
8	116	35	e25	e16	e7.0	e30	43	3,890	22,700	793	458	515
9	125	35	e24	e16	e6.2	e29	39	7,280	13,000	698	417	495
10	144	34	e24	e16	e6.0	e29	47	4,290	7,130	592	361	477
11	153	31	e25	e16	e5.8	e31	55	4,690	4,980	450	397	480
12	158	30	e26	e15	e5.5	e39	57	3,000	7,150	351	418	490
13	158	32	e27	e15	e5.7	e43	56	1,720	6,680	351	601	515
14	161	34	e26	e15	e6.0	e50	55	1,120	4,680	295	439	513
15	156	e30	e25	e14	e6.3	e50	53	759	3,510	320	394	488
16	99	e32	e25	e13	e7.0	e48	50	547	2,760	326	382	532
17	71	31	e26	e12	e7.5	e46	46	459	2,340	353	375	489
18	59	37	e26	e9.0	e7.5	e42	42	419	1,880	397	362	453
19	51	36	e27	e7.0	e7.0	e40	70	405	1,560	477	362	446
20	50	38	e27	e6.0	e6.5	e37	71	376	1,510	529	341	434
21	54	38	e28	e7.0	e6.0	34	60	e360	1,380	503	340	428
22	48	e31	e21	e8.0	e6.0	31	53	e450	1,240	428	376	405
23	45	e21	e18	e9.0	e6.0	29	60	e9,000	1,250	395	362	398
24	42	e21	e20	e9.0	e6.3	28	81	11,200	1,220	401	374	426
25	40	e21	e23	e9.0	e7.0	27	110	10,700	1,120	424	373	430
26	41	e29	e22	e9.0	e8.0	27	77	6,010	1,110	414	369	410
27	39	e17	e21	e9.0	e8.0	30	69	5,200	976	403	363	399
28	38	e20	e16	e7.5	e9.0	32	68	5,380	873	381	364	421
29	38	e23	e13	e6.0	e10	32	61	3,890	893	358	379	395
30	37	e22	e12	e5.0	---	32	56	2,830	895	322	389	393
31	36	---	e14	e5.0	---	34	---	2,390	---	319	392	---
<b>Total</b>	2,822	908	700	361.5	186.9	1,043	1,620	96,274	190,107	15,584	11,867	13,720
<b>Mean</b>	91.0	30.3	22.6	11.7	6.44	33.6	54.0	3,106	6,337	503	383	457
<b>Max</b>	161	38	28	19	10	50	110	11,200	40,800	897	601	532
<b>Min</b>	36	17	12	5.0	4.5	12	31	65	873	295	285	393
<b>Ac-ft</b>	5,600	1,800	1,390	717	371	2,070	3,210	191,000	377,100	30,910	23,540	27,210

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2008, BY WATER YEAR (WY) \*

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Mean</b>	132	81.5	53.0	46.2	171	440	466	983	872	345	269	229
<b>Max</b>	1,361	1,081	479	440	2,283	2,457	2,671	6,264	6,337	1,791	634	768
<b>(WY)</b>	(1999)	(1999)	(1999)	(1999)	(1997)	(1978)	(1997)	(1995)	(2008)	(1993)	(1976)	(1986)
<b>Min</b>	13.9	14.8	2.45	0.02	0.45	24.5	13.4	13.6	76.1	34.0	0.77	2.65
<b>(WY)</b>	(1962)	(1960)	(1962)	(1991)	(1991)	(2005)	(1981)	(1961)	(1961)	(1960)	(1961)	(1961)

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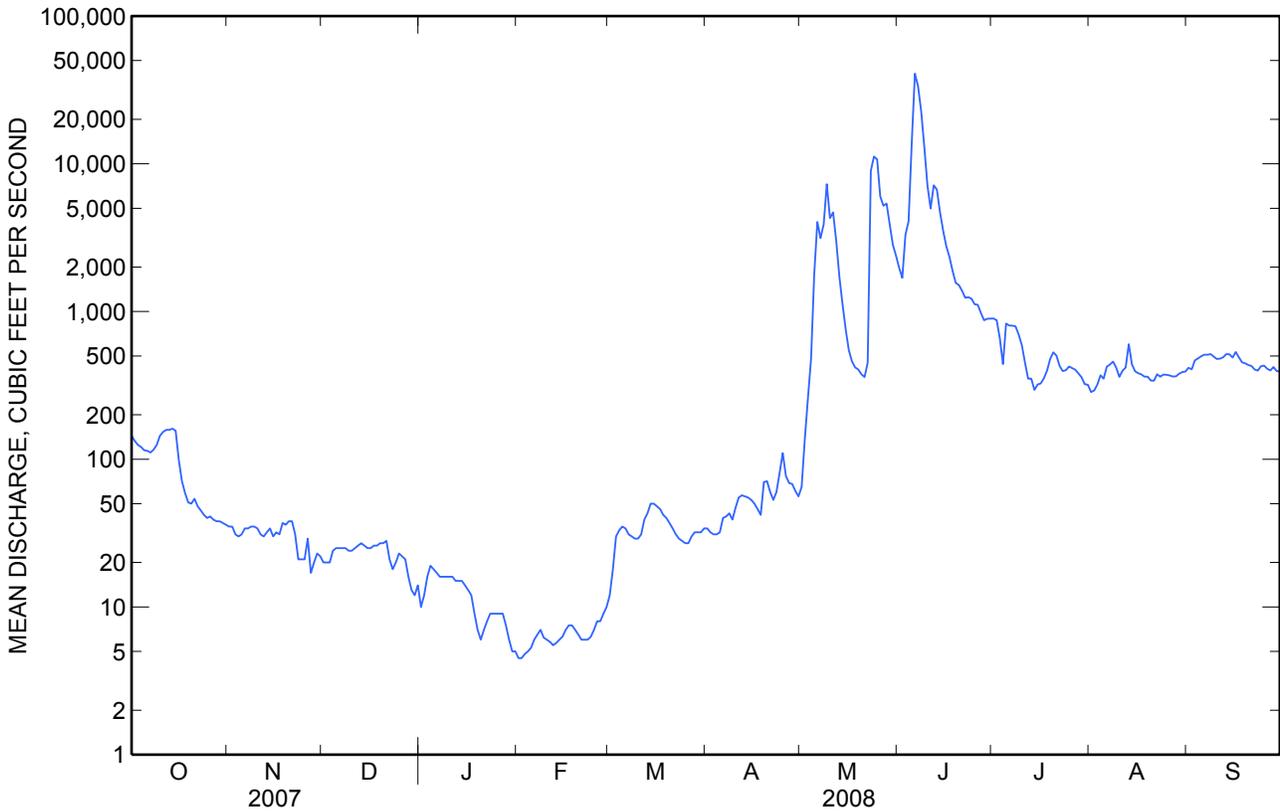
SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1954 - 2008*	
<b>Annual total</b>	44,592.5		335,193.4			
<b>Annual mean</b>	122		916		a341	
<b>Highest annual mean</b>					1,036	1996
<b>Lowest annual mean</b>					28.4	1961
<b>Highest daily mean</b>	2,500	Jun 16	40,800	Jun 6	40,800	Jun 6, 2008
<b>Lowest daily mean</b>	6.0	Feb 15	4.5	Feb 1	b0.00	Jun 5, 1961
<b>Annual seven-day minimum</b>	7.5	Feb 11	4.9	Jan 30	0.00	Aug 9, 1961
<b>Maximum peak flow</b>			47,500	Jun 6	47,500	Jun 6, 2008
<b>Maximum peak stage</b>			19.73	Jun 6	19.73	Jun 6, 2008
<b>Annual runoff (ac-ft)</b>	88,450		664,900		247,200	
<b>10 percent exceeds</b>	233		1,600		620	
<b>50 percent exceeds</b>	65		56		100	
<b>90 percent exceeds</b>	14		9.0		20	

\* Regulated period only (1954-2008). See REMARKS.

a Median of annual mean discharges, 248 ft<sup>3</sup>/s.

b No flow for many days in 1961-62, 1981, and 1991.



**06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD—Continued**

**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--Chemical analysis: Water years 1968 to 1994 (NASQAN). Sediment records: Periodic samples taken October 1968 to September 1994 (NASQAN).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1974 to November 1981, April 2007 to October 2008 (discontinued).

pH: April 2007 to October 2008 (discontinued).

WATER TEMPERATURE: October 1974 to September 1981, April 2007 to October 2008 (discontinued).

DISSOLVED OXYGEN: April 2007 to October 2008 (discontinued).

TURBIDITY: April 2007 to October 2008 (discontinued).

REMARKS.--Data published in the tables below are rated as follows: specific conductance excellent except for June 27 to July 11, 2008, which are good; pH excellent except for Sept. 6-15, 2008, which are good; temperature excellent; dissolved oxygen excellent except for September 22-27, 2008, which are good; and Sept. 28 to Oct. 4, 2008, which are fair: and Oct. 5-11, 2008, which are poor: turbidity excellent except for May 14-26, 2008, June 22 to July 4, 2008, August 24-27, 2008 and October 7-15, 2008, which are good, and May 27 to June 10, 2008, July 5-11, 2008 and Aug. 28-31, 2008 which are fair, and September 1-12, 2008 which are poor. Daily records are collected at 15-minute intervals using multi-parameter water-quality instrument from April to October. Satellite data-collection platform at station.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 5,000  $\mu\text{S}/\text{cm}$ , January 31, February 7-11, 1979; minimum, 407  $\mu\text{S}/\text{cm}$ , June 16, 2007.

pH: Maximum, 9.9 standard units, June 16, 2007; minimum, 7.7 standard units, June 3-5, 2008.

WATER TEMPERATURE: Maximum daily, 33.5°C, June 25, 1977; minimum, 0.0°C, on many days during winter.

DISSOLVED OXYGEN: Maximum, 13.2 mg/L, April 6-7, 2007; minimum, 5.3 mg/L, June 16, 2007.

TURBIDITY: Maximum, >1,800 FN units, on many days; minimum, 2.1 FN units, Oct. 14, 2008.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 2610  $\mu\text{S}/\text{cm}$ , April 22; minimum, 557  $\mu\text{S}/\text{cm}$ , May 23.

pH: Maximum, 8.6 standard units, May 21; minimum, 7.7 standard units, June 3-5.

WATER TEMPERATURE: Maximum, 29.8°C, July 30.

DISSOLVED OXYGEN: Maximum, 12.5 mg/L, May 2-3; minimum, 5.7 mg/L, July 2.

TURBIDITY: Maximum, >1,800 FN units, on many days; minimum, 3.0 FN units, August 30, 2008.

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS  
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
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	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS  
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	---	---	---	---	---	---	---	---	---	1,630	1,480	1,560
2	---	---	---	---	---	---	---	---	---	1,480	1,310	1,380
3	---	---	---	---	---	---	2,320	---	---	1,370	1,190	1,300
4	---	---	---	---	---	---	2,350	2,320	2,340	1,770	1,200	1,420
5	---	---	---	---	---	---	2,360	2,350	2,350	1,670	953	1,280
6	---	---	---	---	---	---	---	2,260	---	1,240	906	1,070
7	---	---	---	---	---	---	2,300	2,270	2,280	944	879	903
8	---	---	---	---	---	---	2,300	2,260	2,280	919	677	818
9	---	---	---	---	---	---	2,280	2,260	2,270	822	679	760
10	---	---	---	---	---	---	2,290	2,260	2,280	768	700	734
11	---	---	---	---	---	---	2,270	2,250	2,260	754	685	708
12	---	---	---	---	---	---	2,280	2,260	2,270	840	709	780
13	---	---	---	---	---	---	2,300	2,260	2,290	940	836	889
14	---	---	---	---	---	---	2,290	2,260	2,270	1,030	940	984
15	---	---	---	---	---	---	2,370	2,290	2,330	1,130	1,030	1,060
16	---	---	---	---	---	---	2,400	2,370	2,380	1,220	1,130	1,180
17	---	---	---	---	---	---	2,390	2,370	2,380	1,290	1,220	1,260
18	---	---	---	---	---	---	2,390	2,380	2,380	1,330	1,290	1,310
19	---	---	---	---	---	---	2,420	2,390	2,410	1,330	1,320	1,320
20	---	---	---	---	---	---	2,530	2,420	2,470	1,350	1,310	1,330
21	---	---	---	---	---	---	2,600	2,530	2,560	1,310	1,250	1,260
22	---	---	---	---	---	---	2,610	2,580	2,600	1,250	1,160	1,230
23	---	---	---	---	---	---	2,580	2,540	2,570	1,160	557	712
24	---	---	---	---	---	---	2,540	2,310	2,460	754	633	706
25	---	---	---	---	---	---	2,310	1,160	1,800	769	647	701
26	---	---	---	---	---	---	1,640	1,190	1,400	819	704	752
27	---	---	---	---	---	---	1,840	1,640	1,770	814	674	756
28	---	---	---	---	---	---	1,870	1,800	1,840	839	672	744
29	---	---	---	---	---	---	1,800	1,700	1,760	922	839	883
30	---	---	---	---	---	---	1,700	1,630	1,650	986	910	935
31	---	---	---	---	---	---	---	---	---	1,050	986	1,030
Month	---	---	---	---	---	---	---	---	---	1,770	557	1,020

## 06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS  
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	1,100	1,040	1,070	1,720	1,710	1,720	1,910	1,880	1,900	1,710	1,670	1,690
2	1,180	1,100	1,150	1,730	1,690	1,710	1,920	1,900	1,910	1,680	1,650	1,660
3	1,170	765	1,060	1,780	1,730	1,750	1,920	1,910	1,910	1,650	1,640	1,650
4	925	809	869	1,890	1,780	1,840	1,910	1,740	1,810	1,650	1,640	1,650
5	927	565	684	1,940	1,890	1,920	1,870	1,840	1,860	1,640	1,600	1,610
6	672	---	---	1,910	1,750	1,860	1,840	1,800	1,810	1,620	1,590	1,610
7	696	660	680	1,750	1,650	1,670	1,820	1,790	1,800	1,600	1,580	1,590
8	728	674	695	1,740	1,670	1,690	1,800	1,740	1,770	1,590	1,560	1,570
9	847	728	780	1,750	1,730	1,740	1,740	1,740	1,740	1,580	1,560	1,570
10	---	847	---	1,770	1,750	1,760	1,740	1,680	1,720	1,580	1,550	1,570
11	---	---	---	1,820	1,760	1,780	1,730	1,680	1,700	1,570	1,530	1,550
12	---	---	---	1,880	1,820	1,850	1,790	1,580	1,700	1,580	1,560	1,570
13	1,200	986	1,070	1,930	1,880	1,910	1,800	1,740	1,760	1,580	1,560	1,570
14	1,190	1,100	1,140	2,030	1,930	1,980	1,750	1,560	1,690	1,580	1,560	1,570
15	1,240	1,180	1,200	2,020	1,980	2,000	1,660	1,560	1,630	1,580	1,560	1,570
16	1,320	1,230	1,280	2,050	1,980	2,020	1,700	1,660	1,680	1,590	1,560	1,580
17	1,400	1,320	1,350	2,080	1,940	2,030	1,730	1,700	1,720	1,590	1,570	1,580
18	1,470	1,400	1,440	2,080	1,950	2,000	1,760	1,730	1,750	1,580	1,560	1,570
19	1,590	1,470	1,550	1,950	1,770	1,850	1,760	1,750	1,760	1,570	1,550	1,560
20	1,600	1,560	1,580	1,940	1,900	1,920	1,770	1,740	1,760	1,580	1,570	1,570
21	1,640	1,600	1,620	1,940	1,880	1,900	1,800	1,770	1,790	1,580	1,570	1,580
22	1,660	1,620	1,640	1,880	1,860	1,870	1,810	1,790	1,800	1,580	1,570	1,580
23	1,660	1,640	1,650	1,890	1,870	1,880	1,820	1,800	1,810	1,580	1,570	1,570
24	1,680	1,640	1,670	1,920	1,880	1,900	1,800	1,760	1,790	1,580	1,560	1,570
25	1,680	1,650	1,660	1,890	1,870	1,880	1,760	1,750	1,760	1,590	1,570	1,580
26	1,690	1,660	1,670	1,870	1,840	1,850	1,750	1,710	1,720	1,590	1,560	1,570
27	1,720	1,690	1,710	1,840	1,810	1,830	1,730	1,700	1,720	1,570	1,560	1,570
28	1,720	1,700	1,720	1,840	1,810	1,830	1,740	1,720	1,730	1,580	1,570	1,570
29	1,730	1,700	1,720	1,840	1,820	1,820	1,720	1,700	1,710	1,570	1,560	1,560
30	1,750	1,720	1,730	1,860	1,810	1,830	1,700	1,690	1,690	1,560	1,550	1,560
31	---	---	---	1,880	1,850	1,870	1,710	1,700	1,710	---	---	---
Month	---	---	---	2,080	1,650	1,850	1,920	1,560	1,760	1,710	1,530	1,590

## 06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS  
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	1,560	1,550	1,560	---	---	---	---	---	---	---	---	---
2	1,550	1,540	1,550	---	---	---	---	---	---	---	---	---
3	1,550	1,530	1,540	---	---	---	---	---	---	---	---	---
4	1,540	1,530	1,540	---	---	---	---	---	---	---	---	---
5	1,550	1,540	1,540	---	---	---	---	---	---	---	---	---
6	1,560	1,540	1,550	---	---	---	---	---	---	---	---	---
7	1,560	1,540	1,550	---	---	---	---	---	---	---	---	---
8	1,550	1,540	1,540	---	---	---	---	---	---	---	---	---
9	1,550	1,530	1,540	---	---	---	---	---	---	---	---	---
10	1,530	1,510	1,520	---	---	---	---	---	---	---	---	---
11	1,510	1,480	1,500	---	---	---	---	---	---	---	---	---
12	1,480	1,420	1,440	---	---	---	---	---	---	---	---	---
13	1,430	1,410	1,420	---	---	---	---	---	---	---	---	---
14	1,460	1,420	1,440	---	---	---	---	---	---	---	---	---
15	1,490	1,460	1,470	---	---	---	---	---	---	---	---	---
16	1,500	1,450	1,480	---	---	---	---	---	---	---	---	---
17	1,570	1,500	1,540	---	---	---	---	---	---	---	---	---
18	1,580	1,560	1,570	---	---	---	---	---	---	---	---	---
19	1,580	1,540	1,570	---	---	---	---	---	---	---	---	---
20	1,540	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS  
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
	October		November		December		January		February		March	
1	8.3	8.2	8.3	8.2	---	---	---	---	---	---	---	---
2	8.3	8.3	8.2	8.2	---	---	---	---	---	---	---	---
3	8.3	8.2	---	---	---	---	---	---	---	---	---	---
4	8.3	8.2	---	---	---	---	---	---	---	---	---	---
5	8.3	8.2	---	---	---	---	---	---	---	---	---	---
6	8.3	8.2	---	---	---	---	---	---	---	---	---	---
7	8.3	8.2	---	---	---	---	---	---	---	---	---	---
8	8.3	8.2	---	---	---	---	---	---	---	---	---	---
9	8.3	8.2	---	---	---	---	---	---	---	---	---	---
10	8.3	8.2	---	---	---	---	---	---	---	---	---	---
11	8.3	8.3	---	---	---	---	---	---	---	---	---	---
12	8.3	8.3	---	---	---	---	---	---	---	---	---	---
13	8.3	8.3	---	---	---	---	---	---	---	---	---	---
14	8.3	8.2	---	---	---	---	---	---	---	---	---	---
15	8.3	8.3	---	---	---	---	---	---	---	---	---	---
16	8.3	8.3	---	---	---	---	---	---	---	---	---	---
17	8.3	8.3	---	---	---	---	---	---	---	---	---	---
18	8.4	8.3	---	---	---	---	---	---	---	---	---	---
19	8.4	8.3	---	---	---	---	---	---	---	---	---	---
20	8.4	8.3	---	---	---	---	---	---	---	---	---	---
21	8.4	8.3	---	---	---	---	---	---	---	---	---	---
22	8.4	8.2	---	---	---	---	---	---	---	---	---	---
23	8.3	8.2	---	---	---	---	---	---	---	---	---	---
24	8.2	8.2	---	---	---	---	---	---	---	---	---	---
25	8.2	8.2	---	---	---	---	---	---	---	---	---	---
26	8.3	8.2	---	---	---	---	---	---	---	---	---	---
27	8.3	8.2	---	---	---	---	---	---	---	---	---	---
28	8.2	8.2	---	---	---	---	---	---	---	---	---	---
29	8.2	8.2	---	---	---	---	---	---	---	---	---	---
30	8.3	8.2	---	---	---	---	---	---	---	---	---	---
31	8.3	8.2	---	---	---	---	---	---	---	---	---	---
Month	8.4	8.2	---	---	---	---	---	---	---	---	---	---

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS  
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
	April		May		June		July		August		September	
1	---	---	8.4	8.2	8.1	8.1	8.0	7.9	8.1	8.0	8.2	8.1
2	---	---	8.2	8.1	8.2	8.1	8.0	7.9	8.1	8.0	8.3	8.2
3	8.3	8.1	8.2	8.0	8.2	7.8	8.1	8.0	8.1	8.0	8.3	8.2
4	8.3	8.2	8.1	7.9	8.0	7.8	8.1	8.0	8.1	7.9	8.3	8.2
5	8.3	8.3	8.0	7.9	8.1	7.7	8.1	7.9	8.2	8.1	8.3	8.2
6	8.4	8.3	8.1	8.0	7.9	7.8	8.1	8.0	8.2	8.1	8.2	8.2
7	8.4	8.3	8.1	8.0	7.9	7.8	8.2	8.0	8.2	8.0	8.3	8.2
8	8.4	8.3	8.1	8.0	7.9	7.8	8.2	8.0	8.2	8.1	8.2	8.2
9	8.4	8.3	8.1	8.0	7.9	7.8	8.1	8.0	8.2	8.1	8.3	8.2
10	8.4	8.3	8.1	8.0	---	---	8.1	8.0	8.2	8.1	8.2	8.2
11	8.4	8.4	8.0	8.0	---	---	8.2	8.0	8.2	8.1	8.3	8.2
12	8.4	8.3	8.0	8.0	---	---	8.2	8.1	8.3	8.1	8.2	8.2
13	8.3	8.2	8.0	8.0	8.0	7.9	8.2	8.1	8.2	8.0	8.3	8.2
14	8.3	8.2	8.1	8.0	8.0	8.0	8.1	8.1	8.3	8.0	8.3	8.2
15	8.3	8.2	8.1	8.1	8.1	8.0	8.1	8.1	8.4	8.2	8.2	8.2
16	8.3	8.2	8.2	8.1	8.1	8.1	8.1	8.1	8.3	8.1	8.2	8.2
17	8.3	8.2	8.2	8.2	8.1	8.1	8.1	8.1	8.2	8.1	8.2	8.2
18	8.3	8.2	8.3	8.2	8.1	8.1	8.2	8.1	8.2	8.1	8.2	8.2
19	8.3	8.2	8.4	8.3	8.2	8.1	8.2	8.0	8.2	8.1	8.2	8.2
20	8.3	8.2	8.5	8.3	8.2	8.1	8.2	8.1	8.2	8.1	8.2	8.1
21	8.3	8.3	8.6	8.4	8.2	8.1	8.1	8.0	8.2	8.1	8.2	8.2
22	8.3	8.2	8.5	8.3	8.1	8.0	8.1	8.0	8.2	8.1	8.2	8.2
23	8.3	8.2	8.3	7.9	8.1	8.0	8.1	8.0	8.2	8.1	8.3	8.2
24	8.3	8.2	8.1	8.0	8.1	8.0	8.1	8.0	8.2	8.1	8.3	8.2
25	8.3	8.0	8.0	7.9	8.0	8.0	8.1	8.0	8.2	8.1	8.2	8.1
26	8.3	8.0	8.0	7.9	8.0	7.9	8.1	8.0	8.2	8.1	8.2	8.1
27	8.5	8.3	8.0	8.0	7.9	7.8	8.1	8.0	8.2	8.1	8.2	8.1
28	8.5	8.3	8.0	8.0	8.0	7.8	8.1	8.0	8.2	8.1	8.2	8.1
29	8.4	8.2	8.0	8.0	8.0	7.9	8.1	8.0	8.2	8.1	8.2	8.1
30	8.4	8.1	8.0	8.0	8.0	7.9	8.1	8.0	8.2	8.1	8.2	8.1
31	---	---	8.1	8.0	---	---	8.1	8.0	8.2	8.1	---	---
Month	---	---	8.6	7.9	---	---	8.2	7.9	8.4	7.9	8.3	8.1

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS  
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
	October		November		December		January		February		March	
1	8.2	8.1	---	---	---	---	---	---	---	---	---	---
2	8.2	8.1	---	---	---	---	---	---	---	---	---	---
3	8.2	8.1	---	---	---	---	---	---	---	---	---	---
4	8.2	8.1	---	---	---	---	---	---	---	---	---	---
5	8.2	8.1	---	---	---	---	---	---	---	---	---	---
6	8.2	8.1	---	---	---	---	---	---	---	---	---	---
7	8.2	8.1	---	---	---	---	---	---	---	---	---	---
8	8.2	8.1	---	---	---	---	---	---	---	---	---	---
9	8.2	8.1	---	---	---	---	---	---	---	---	---	---
10	8.2	8.1	---	---	---	---	---	---	---	---	---	---
11	8.2	8.2	---	---	---	---	---	---	---	---	---	---
12	8.2	8.2	---	---	---	---	---	---	---	---	---	---
13	8.2	8.2	---	---	---	---	---	---	---	---	---	---
14	8.2	8.2	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD—Continued

TEMPERATURE, WATER, DEGREES CELSIUS  
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	17.5	12.8	15.2	8.7	3.4	6.0	---	---	---	---	---	---
2	16.0	12.7	14.3	---	3.9	---	---	---	---	---	---	---
3	15.9	11.3	13.7	---	---	---	---	---	---	---	---	---
4	16.6	12.6	14.6	---	---	---	---	---	---	---	---	---
5	15.5	12.8	14.0	---	---	---	---	---	---	---	---	---
6	17.0	13.8	15.3	---	---	---	---	---	---	---	---	---
7	14.0	11.8	12.9	---	---	---	---	---	---	---	---	---
8	14.5	10.2	12.5	---	---	---	---	---	---	---	---	---
9	15.6	11.1	13.4	---	---	---	---	---	---	---	---	---
10	14.2	11.2	12.7	---	---	---	---	---	---	---	---	---
11	13.7	9.4	11.6	---	---	---	---	---	---	---	---	---
12	13.1	10.2	11.9	---	---	---	---	---	---	---	---	---
13	12.4	11.3	11.8	---	---	---	---	---	---	---	---	---
14	11.5	10.6	11.1	---	---	---	---	---	---	---	---	---
15	11.0	9.8	10.3	---	---	---	---	---	---	---	---	---
16	11.2	9.1	10.0	---	---	---	---	---	---	---	---	---
17	11.1	9.4	10.2	---	---	---	---	---	---	---	---	---
18	10.4	7.5	9.3	---	---	---	---	---	---	---	---	---
19	11.2	5.6	8.3	---	---	---	---	---	---	---	---	---
20	11.1	8.6	9.7	---	---	---	---	---	---	---	---	---
21	10.1	7.5	8.9	---	---	---	---	---	---	---	---	---
22	8.8	5.2	7.0	---	---	---	---	---	---	---	---	---
23	12.5	6.5	9.4	---	---	---	---	---	---	---	---	---
24	13.8	8.3	11.0	---	---	---	---	---	---	---	---	---
25	14.6	9.2	11.7	---	---	---	---	---	---	---	---	---
26	11.9	7.1	9.0	---	---	---	---	---	---	---	---	---
27	9.1	4.3	6.7	---	---	---	---	---	---	---	---	---
28	10.0	4.3	7.0	---	---	---	---	---	---	---	---	---
29	10.4	5.1	7.7	---	---	---	---	---	---	---	---	---
30	9.5	6.1	7.7	---	---	---	---	---	---	---	---	---
31	8.8	4.2	6.4	---	---	---	---	---	---	---	---	---
Month	17.5	4.2	10.8	---	---	---	---	---	---	---	---	---

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD—Continued

TEMPERATURE, WATER, DEGREES CELSIUS  
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	---	---	---	---	---	---	---	---	---	12.4	3.8	7.0
2	---	---	---	---	---	---	---	---	---	3.8	0.0	1.9
3	---	---	---	---	---	---	14.5	---	---	9.4	0.3	4.7
4	---	---	---	---	---	---	13.8	6.8	10.5	12.5	6.1	9.0
5	---	---	---	---	---	---	13.8	7.8	10.4	13.0	7.7	9.8
6	---	---	---	---	---	---	10.7	3.5	7.2	13.1	8.2	11.1
7	---	---	---	---	---	---	9.8	2.9	6.2	15.5	12.8	14.1
8	---	---	---	---	---	---	9.0	4.7	6.6	14.5	11.1	12.5
9	---	---	---	---	---	---	7.6	5.5	6.7	11.1	10.2	10.6
10	---	---	---	---	---	---	6.1	4.7	5.6	10.5	8.9	9.7
11	---	---	---	---	---	---	9.7	3.8	6.3	11.5	7.8	9.5
12	---	---	---	---	---	---	10.1	4.6	7.2	12.1	10.6	11.4
13	---	---	---	---	---	---	14.3	4.8	9.2	13.5	10.4	11.8
14	---	---	---	---	---	---	18.1	8.5	13.0	13.7	10.9	12.4
15	---	---	---	---	---	---	18.5	11.8	14.6	14.8	11.6	13.3
16	---	---	---	---	---	---	12.8	8.7	10.2	18.4	12.9	15.6
17	---	---	---	---	---	---	15.3	6.2	10.6	19.7	15.4	17.5
18	---	---	---	---	---	---	18.3	8.0	12.8	21.6	15.9	18.7
19	---	---	---	---	---	---	16.9	10.1	13.6	21.1	18.3	19.5
20	---	---	---	---	---	---	17.7	9.6	13.8	22.5	16.5	19.4
21	---	---	---	---	---	---	12.8	5.0	9.0	20.4	15.5	17.5
22	---	---	---	---	---	---	16.5	7.2	11.6	15.5	11.3	13.2
23	---	---	---	---	---	---	14.5	10.4	12.6	11.3	9.9	10.3
24	---	---	---	---	---	---	12.7	7.5	9.8	13.7	10.6	12.0
25	---	---	---	---	---	---	8.8	5.9	7.1	16.0	12.9	14.3
26	---	---	---	---	---	---	9.9	5.4	7.4	15.5	13.9	14.8
27	---	---	---	---	---	---	12.2	4.4	8.2	13.9	11.3	12.5
28	---	---	---	---	---	---	13.4	6.9	10.3	11.9	10.2	11.1
29	---	---	---	---	---	---	18.5	9.3	13.7	13.9	11.7	12.7
30	---	---	---	---	---	---	16.9	12.4	15.0	18.4	13.7	15.8
31	---	---	---	---	---	---	---	---	---	19.2	16.3	17.8
Month	---	---	---	---	---	---	---	---	---	22.5	0.0	12.6

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD—Continued

TEMPERATURE, WATER, DEGREES CELSIUS  
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	June			July			August			September		
1	21.4	17.2	19.2	26.9	23.1	25.1	29.3	24.4	26.8	23.0	19.2	21.4
2	22.8	19.0	20.7	25.9	23.0	24.2	29.2	25.4	27.2	19.2	16.3	17.7
3	21.9	16.7	19.4	23.4	20.9	22.1	29.6	25.5	27.5	17.8	15.2	16.6
4	19.6	16.7	18.4	26.8	20.4	23.4	27.7	22.0	24.0	19.1	15.6	17.4
5	18.6	14.9	16.6	26.8	23.9	25.3	27.9	22.3	24.7	18.8	15.9	17.5
6	15.6	13.5	14.6	27.8	23.6	25.7	28.2	22.7	25.5	19.1	16.2	17.6
7	16.4	14.9	15.5	27.4	23.7	25.6	28.8	24.7	26.7	17.1	15.4	15.9
8	17.0	15.5	16.2	26.3	23.0	24.7	27.7	23.9	25.9	18.1	14.1	16.0
9	17.4	15.4	16.2	27.2	22.8	25.0	28.4	24.5	26.4	19.4	14.7	17.1
10	---	15.7	---	28.7	24.0	26.4	28.1	24.7	26.2	20.6	17.6	18.9
11	---	---	---	26.4	21.4	23.6	25.8	23.5	24.7	19.3	17.0	17.8
12	---	---	---	22.9	19.2	21.1	27.5	22.4	24.9	17.8	15.8	16.9
13	16.7	13.9	15.3	25.5	19.0	22.2	27.7	23.5	25.6	19.6	16.3	17.8
14	18.5	15.3	16.8	27.3	21.3	24.3	25.9	21.4	23.2	18.0	13.9	16.0
15	20.2	17.4	18.7	28.5	23.1	25.6	24.1	19.7	21.9	18.7	14.5	16.7
16	19.7	18.0	18.8	28.0	23.9	25.8	25.4	20.9	23.1	20.2	15.6	17.9
17	22.1	17.8	19.9	28.3	23.7	25.9	26.0	21.5	23.7	20.8	16.8	18.8
18	23.8	20.3	21.9	27.9	23.6	25.8	27.2	22.2	24.7	20.7	17.9	19.4
19	24.6	20.8	22.7	28.1	22.6	25.3	26.9	22.9	24.8	21.4	17.5	19.4
20	25.3	21.3	23.3	27.7	24.6	26.2	26.0	21.4	23.7	20.6	17.2	19.0
21	25.5	21.1	23.3	28.6	24.2	26.4	27.3	21.8	24.3	20.1	17.7	18.7
22	24.9	22.0	23.5	27.2	24.7	25.9	24.4	19.3	21.2	18.6	16.9	17.9
23	25.2	20.9	23.1	28.5	24.5	26.5	22.9	18.2	20.5	18.4	15.7	17.0
24	27.2	22.9	25.0	28.3	25.0	26.5	24.6	19.5	22.0	17.2	14.0	15.8
25	27.1	24.0	25.5	28.2	23.7	25.9	26.9	22.0	24.4	18.7	14.5	16.6
26	27.7	23.2	25.4	28.9	24.1	26.5	25.8	22.9	24.2	18.9	15.9	17.3
27	26.5	23.8	25.2	29.7	24.6	27.1	22.9	20.1	21.1	17.9	15.3	16.7
28	23.8	20.7	21.6	28.8	26.4	27.7	22.2	18.2	20.2	17.8	15.3	16.5
29	24.5	19.4	21.9	28.9	24.4	26.6	23.9	18.7	21.2	17.2	13.6	15.5
30	26.2	20.9	23.5	29.8	24.4	27.0	25.1	20.8	22.8	17.1	13.5	15.4
31	---	---	---	29.5	25.8	27.6	24.5	21.4	22.9	---	---	---
Month	---	---	---	29.8	19.0	25.4	29.6	18.2	24.1	23.0	13.5	17.4

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD—Continued

TEMPERATURE, WATER, DEGREES CELSIUS  
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	17.7	14.0	15.9	---	---	---	---	---	---	---	---	---
2	18.1	14.4	16.2	---	---	---	---	---	---	---	---	---
3	17.6	14.3	16.0	---	---	---	---	---	---	---	---	---
4	18.6	15.0	16.8	---	---	---	---	---	---	---	---	---
5	18.0	16.6	17.2	---	---	---	---	---	---	---	---	---
6	17.0	14.6	15.8	---	---	---	---	---	---	---	---	---
7	15.9	12.2	14.1	---	---	---	---	---	---	---	---	---
8	14.4	12.2	13.3	---	---	---	---	---	---	---	---	---
9	12.2	9.7	11.1	---	---	---	---	---	---	---	---	---
10	9.7	7.9	8.7	---	---	---	---	---	---	---	---	---
11	7.9	7.3	7.5	---	---	---	---	---	---	---	---	---
12	8.3	6.5	7.3	---	---	---	---	---	---	---	---	---
13	8.2	5.3	6.8	---	---	---	---	---	---	---	---	---
14	9.3	5.7	7.5	---	---	---	---	---	---	---	---	---
15	8.7	7.0	8.0	---	---	---	---	---	---	---	---	---
16	9.8	7.1	8.5	---	---	---	---	---	---	---	---	---
17	11.3	8.1	9.7	---	---	---	---	---	---	---	---	---
18	11.9	8.9	10.4	---	---	---	---	---	---	---	---	---
19	12.8	9.9	11.3	---	---	---	---	---	---	---	---	---
20	---	11.1	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER  
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	9.8	8.5	9.1	11.6	10.6	11.0	---	---	---	---	---	---
2	9.9	8.5	9.3	---	10.6	---	---	---	---	---	---	---
3	10.2	8.9	9.5	---	---	---	---	---	---	---	---	---
4	10.2	8.9	9.4	---	---	---	---	---	---	---	---	---
5	10.1	8.9	9.4	---	---	---	---	---	---	---	---	---
6	9.7	8.7	9.1	---	---	---	---	---	---	---	---	---
7	10.5	9.0	9.7	---	---	---	---	---	---	---	---	---
8	10.4	9.2	9.7	---	---	---	---	---	---	---	---	---
9	10.4	9.1	9.7	---	---	---	---	---	---	---	---	---
10	10.3	9.1	9.7	---	---	---	---	---	---	---	---	---
11	10.9	9.5	10.1	---	---	---	---	---	---	---	---	---
12	10.9	9.8	10.3	---	---	---	---	---	---	---	---	---
13	10.6	9.8	10.1	---	---	---	---	---	---	---	---	---
14	10.8	10.0	10.3	---	---	---	---	---	---	---	---	---
15	11.0	10.1	10.5	---	---	---	---	---	---	---	---	---
16	11.2	10.2	10.6	---	---	---	---	---	---	---	---	---
17	11.1	10.1	10.4	---	---	---	---	---	---	---	---	---
18	10.9	9.9	10.4	---	---	---	---	---	---	---	---	---
19	11.7	10.3	11.0	---	---	---	---	---	---	---	---	---
20	10.9	10.0	10.3	---	---	---	---	---	---	---	---	---
21	11.2	10.0	10.6	---	---	---	---	---	---	---	---	---
22	11.8	10.6	11.2	---	---	---	---	---	---	---	---	---
23	11.2	9.8	10.6	---	---	---	---	---	---	---	---	---
24	11.0	9.6	10.2	---	---	---	---	---	---	---	---	---
25	10.6	9.4	9.8	---	---	---	---	---	---	---	---	---
26	11.2	9.4	10.3	---	---	---	---	---	---	---	---	---
27	11.9	10.6	11.2	---	---	---	---	---	---	---	---	---
28	11.8	10.6	11.2	---	---	---	---	---	---	---	---	---
29	11.5	10.4	10.9	---	---	---	---	---	---	---	---	---
30	11.1	10.3	10.5	---	---	---	---	---	---	---	---	---
31	11.5	10.4	10.9	---	---	---	---	---	---	---	---	---
Month	11.9	8.5	10.2	---	---	---	---	---	---	---	---	---

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER  
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	---	---	---	---	---	---	---	---	---	11.3	9.0	10.4
2	---	---	---	---	---	---	---	---	---	12.5	11.3	11.9
3	---	---	---	---	---	---	11.4	---	---	12.5	10.3	11.7
4	---	---	---	---	---	---	10.8	9.6	10.2	10.6	9.2	10.1
5	---	---	---	---	---	---	11.0	9.4	10.2	9.9	8.5	9.5
6	---	---	---	---	---	---	11.8	---	---	9.2	8.1	8.7
7	---	---	---	---	---	---	11.9	10.8	11.3	8.7	8.4	8.6
8	---	---	---	---	---	---	12.0	10.8	11.3	8.9	8.5	8.8
9	---	---	---	---	---	---	11.5	10.6	11.0	9.0	8.2	8.6
10	---	---	---	---	---	---	12.0	10.8	11.4	9.9	8.6	9.4
11	---	---	---	---	---	---	12.1	10.6	11.4	10.1	9.4	9.9
12	---	---	---	---	---	---	11.7	10.6	11.1	9.4	9.3	9.3
13	---	---	---	---	---	---	11.8	10.1	11.1	9.6	9.1	9.4
14	---	---	---	---	---	---	10.7	8.7	9.9	9.5	9.1	9.3
15	---	---	---	---	---	---	9.8	8.5	9.0	9.4	8.9	9.2
16	---	---	---	---	---	---	11.1	8.8	10.2	9.2	8.4	8.9
17	---	---	---	---	---	---	11.5	9.8	10.6	8.8	8.2	8.5
18	---	---	---	---	---	---	10.9	9.0	10.0	8.7	7.9	8.4
19	---	---	---	---	---	---	10.0	8.7	9.3	8.7	7.9	8.3
20	---	---	---	---	---	---	9.9	8.5	9.2	9.7	8.1	8.8
21	---	---	---	---	---	---	11.5	9.4	10.8	9.6	7.9	8.8
22	---	---	---	---	---	---	11.2	9.3	10.4	9.7	8.7	9.3
23	---	---	---	---	---	---	10.4	8.9	9.5	9.6	9.4	9.5
24	---	---	---	---	---	---	10.8	8.8	9.8	9.5	8.2	8.9
25	---	---	---	---	---	---	11.3	10.2	10.6	8.6	7.6	8.3
26	---	---	---	---	---	---	11.1	10.0	10.5	8.7	7.7	8.3
27	---	---	---	---	---	---	11.8	9.9	10.8	9.5	8.7	9.1
28	---	---	---	---	---	---	12.0	9.6	10.7	9.8	9.5	9.7
29	---	---	---	---	---	---	11.3	8.5	9.9	9.6	8.9	9.3
30	---	---	---	---	---	---	10.2	8.0	9.1	8.9	8.2	8.6
31	---	---	---	---	---	---	---	---	---	8.5	8.1	8.3
Month	---	---	---	---	---	---	---	---	---	12.5	7.6	9.2

## 06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER  
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	<b>June</b>			<b>July</b>			<b>August</b>			<b>September</b>		
<b>1</b>	8.3	7.8	8.1	8.0	6.4	7.2	8.2	6.9	7.5	8.9	7.2	8.0
<b>2</b>	8.0	7.5	7.8	8.0	5.7	7.0	8.1	6.8	7.4	9.7	8.2	9.0
<b>3</b>	8.0	7.0	7.7	8.4	7.0	7.7	8.1	6.7	7.3	9.9	8.8	9.3
<b>4</b>	7.8	7.5	7.7	8.4	7.2	7.9	7.6	6.8	7.3	9.8	8.7	9.2
<b>5</b>	8.0	6.8	7.7	8.5	6.9	7.6	8.7	7.4	7.9	10.0	8.6	9.2
<b>6</b>	8.4	7.8	8.0	8.8	7.0	7.8	8.9	7.2	7.8	9.8	8.6	9.1
<b>7</b>	8.0	7.7	7.9	8.4	7.0	7.7	8.6	7.0	7.7	10.2	8.8	9.5
<b>8</b>	7.8	7.3	7.6	9.1	7.1	7.9	8.6	7.0	7.7	10.2	9.2	9.7
<b>9</b>	8.0	7.5	7.9	8.4	7.1	7.7	8.4	6.9	7.6	10.0	8.8	9.4
<b>10</b>	---	7.9	---	7.8	6.8	7.3	8.2	6.9	7.4	9.5	8.4	8.9
<b>11</b>	---	---	---	8.2	6.7	7.6	8.3	7.0	7.6	9.8	8.4	9.0
<b>12</b>	---	---	---	8.7	7.9	8.3	10.0	7.2	8.4	10.1	8.8	9.4
<b>13</b>	8.9	8.3	8.7	8.7	7.6	8.3	9.2	7.0	7.9	9.6	8.7	9.1
<b>14</b>	8.8	8.4	8.7	8.3	7.3	7.9	8.9	7.0	8.0	10.2	9.0	9.6
<b>15</b>	8.5	8.1	8.4	8.2	7.2	7.6	10.3	7.8	9.0	9.9	8.9	9.4
<b>16</b>	8.3	8.1	8.2	8.2	7.1	7.6	9.4	7.6	8.5	9.8	8.6	9.2
<b>17</b>	8.4	7.9	8.2	8.1	7.2	7.6	8.8	7.3	8.0	9.8	8.4	9.0
<b>18</b>	8.0	7.6	7.8	8.4	7.1	7.7	8.5	7.0	7.7	9.5	8.3	8.8
<b>19</b>	7.9	7.5	7.7	8.1	7.2	7.6	8.3	6.9	7.5	9.8	8.3	9.0
<b>20</b>	7.9	7.5	7.7	8.5	7.1	7.7	8.5	7.1	7.7	9.7	8.3	9.0
<b>21</b>	8.1	7.6	7.9	8.4	7.2	7.7	8.5	7.1	7.7	9.5	8.4	8.9
<b>22</b>	8.3	7.5	7.9	8.2	7.0	7.6	8.8	7.1	8.1	9.8	8.5	9.0
<b>23</b>	8.6	7.6	8.0	8.0	7.0	7.5	9.2	7.9	8.5	9.9	8.7	9.3
<b>24</b>	8.5	7.3	7.9	8.0	6.9	7.4	9.1	7.6	8.3	10.1	9.0	9.5
<b>25</b>	8.2	7.1	7.6	8.3	7.1	7.6	8.8	7.2	7.9	9.8	8.8	9.3
<b>26</b>	8.5	6.9	7.6	8.0	6.9	7.4	8.6	7.0	7.8	9.4	8.5	8.9
<b>27</b>	8.3	6.5	7.4	8.0	6.9	7.4	9.1	7.5	8.3	9.4	8.5	8.8
<b>28</b>	8.5	6.8	7.8	7.8	6.8	7.2	9.3	7.9	8.6	9.0	8.3	8.7
<b>29</b>	9.1	7.3	8.1	8.1	6.9	7.5	9.3	7.8	8.5	9.2	8.4	8.8
<b>30</b>	8.9	6.9	7.8	8.1	6.9	7.4	8.9	7.5	8.1	8.9	8.3	8.6
<b>31</b>	---	---	---	8.1	6.7	7.4	8.9	7.3	8.0	---	---	---
<b>Month</b>	---	---	---	9.1	5.7	7.6	10.3	6.7	7.9	10.2	7.2	9.1

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER  
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	8.6	8.0	8.3	---	---	---	---	---	---	---	---	---
2	8.2	7.7	8.0	---	---	---	---	---	---	---	---	---
3	8.0	7.5	7.7	---	---	---	---	---	---	---	---	---
4	7.5	6.9	7.3	---	---	---	---	---	---	---	---	---
5	7.0	6.5	6.8	---	---	---	---	---	---	---	---	---
6	7.2	6.7	6.9	---	---	---	---	---	---	---	---	---
7	7.6	7.0	7.4	---	---	---	---	---	---	---	---	---
8	7.8	7.3	7.5	---	---	---	---	---	---	---	---	---
9	8.3	7.6	7.9	---	---	---	---	---	---	---	---	---
10	8.9	8.3	8.5	---	---	---	---	---	---	---	---	---
11	9.2	8.9	9.0	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	11.1	10.0	10.8	---	---	---	---	---	---	---	---	---
16	11.1	10.3	10.9	---	---	---	---	---	---	---	---	---
17	10.9	10.6	10.7	---	---	---	---	---	---	---	---	---
18	10.8	10.3	10.5	---	---	---	---	---	---	---	---	---
19	10.5	10.1	10.2	---	---	---	---	---	---	---	---	---
20	---	9.8	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS  
 WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

[>, greater than]

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	38	30	33	7.1	4.7	6.0	---	---	---	---	---	---
2	45	30	35	---	---	---	---	---	---	---	---	---
3	35	22	28	---	---	---	---	---	---	---	---	---
4	37	22	27	---	---	---	---	---	---	---	---	---
5	36	18	24	---	---	---	---	---	---	---	---	---
6	37	21	26	---	---	---	---	---	---	---	---	---
7	30	14	20	---	---	---	---	---	---	---	---	---
8	22	14	17	---	---	---	---	---	---	---	---	---
9	29	19	22	---	---	---	---	---	---	---	---	---
10	44	22	26	---	---	---	---	---	---	---	---	---
11	31	19	22	---	---	---	---	---	---	---	---	---
12	27	22	24	---	---	---	---	---	---	---	---	---
13	30	23	26	---	---	---	---	---	---	---	---	---
14	26	20	23	---	---	---	---	---	---	---	---	---
15	24	16	20	---	---	---	---	---	---	---	---	---
16	16	10	13	---	---	---	---	---	---	---	---	---
17	15	10	12	---	---	---	---	---	---	---	---	---
18	45	13	24	---	---	---	---	---	---	---	---	---
19	17	8.7	11	---	---	---	---	---	---	---	---	---
20	14	11	12	---	---	---	---	---	---	---	---	---
21	18	11	14	---	---	---	---	---	---	---	---	---
22	12	6.5	8.5	---	---	---	---	---	---	---	---	---
23	15	6.5	9.8	---	---	---	---	---	---	---	---	---
24	13	9.6	11	---	---	---	---	---	---	---	---	---
25	14	9.4	12	---	---	---	---	---	---	---	---	---
26	13	6.1	9.4	---	---	---	---	---	---	---	---	---
27	6.7	4.4	5.4	---	---	---	---	---	---	---	---	---
28	6.0	4.1	5.1	---	---	---	---	---	---	---	---	---
29	7.1	4.7	5.8	---	---	---	---	---	---	---	---	---
30	23	6.4	11	---	---	---	---	---	---	---	---	---
31	14	6.1	8.7	---	---	---	---	---	---	---	---	---
Month	45	4.1	18	---	---	---	---	---	---	---	---	---

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS  
 WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008  
 [>, greater than]

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	February			March			April			May		
1	---	---	---	---	---	---	---	---	---	170	18	53
2	---	---	---	---	---	---	---	---	---	550	110	290
3	---	---	---	---	---	---	---	---	---	1,000	210	440
4	---	---	---	---	---	---	16	6.7	11	1,660	420	670
5	---	---	---	---	---	---	17	8.1	13	>1,790	1,660	>1,740
6	---	---	---	---	---	---	---	5.2	---	>1,800	>1,730	>1,770
7	---	---	---	---	---	---	15	4.7	7.4	>1,800	>1,790	>1,800
8	---	---	---	---	---	---	8.7	4.2	5.7	>1,800	>1,770	>1,790
9	---	---	---	---	---	---	7.9	5.3	6.3	>1,770	>1,760	>1,760
10	---	---	---	---	---	---	6.5	4.4	5.3	>1,760	>1,740	>1,750
11	---	---	---	---	---	---	14	4.8	7.5	>1,780	>1,720	>1,750
12	---	---	---	---	---	---	14	6.1	9.5	>1,770	1,310	1,570
13	---	---	---	---	---	---	13	4.9	7.6	1,340	690	970
14	---	---	---	---	---	---	18	9.0	13	690	540	610
15	---	---	---	---	---	---	19	14	16	540	340	440
16	---	---	---	---	---	---	19	5.6	10	340	260	290
17	---	---	---	---	---	---	9.7	4.1	5.9	270	210	240
18	---	---	---	---	---	---	19	6.4	9.4	220	170	190
19	---	---	---	---	---	---	20	13	16	180	130	150
20	---	---	---	---	---	---	21	15	17	130	87	110
21	---	---	---	---	---	---	15	5.9	8.9	100	58	83
22	---	---	---	---	---	---	15	5.9	9.0	510	40	67
23	---	---	---	---	---	---	20	12	16	>1,780	510	>1,690
24	---	---	---	---	---	---	19	11	15	>1,800	>1,780	>1,800
25	---	---	---	---	---	---	330	9.4	120	>1,800	>1,800	>1,800
26	---	---	---	---	---	---	200	74	130	>1,800	>1,790	>1,800
27	---	---	---	---	---	---	75	36	52	>1,800	>1,770	>1,800
28	---	---	---	---	---	---	38	19	26	>1,800	1,630	>1,780
29	---	---	---	---	---	---	30	17	22	>1,720	1,080	>1,320
30	---	---	---	---	---	---	25	18	22	1,260	900	1,060
31	---	---	---	---	---	---	---	---	---	930	720	820
Month	---	---	---	---	---	---	---	---	---	1,800	18	1,050

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD—Continued

**TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS  
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

[>, greater than]

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	<b>June</b>			<b>July</b>			<b>August</b>			<b>September</b>		
<b>1</b>	940	620	750	52	39	44	12	8.2	9.6	7.9	4.2	5.6
<b>2</b>	620	490	540	43	33	38	11	8.5	9.4	9.6	4.4	5.9
<b>3</b>	>1,800	470	>980	47	38	42	14	9.3	11	13	8.3	9.9
<b>4</b>	>1,800	>1,800	>1,800	70	27	37	580	11	160	13	7.4	9.7
<b>5</b>	>1,800	>1,800	>1,800	88	47	64	53	14	26	11	7.3	8.7
<b>6</b>	>1,800	>1,800	>1,800	54	35	44	150	26	63	12	7.9	9.6
<b>7</b>	>1,800	>1,800	>1,800	57	30	42	32	14	21	11	7.4	8.9
<b>8</b>	>1,800	>1,800	>1,800	40	31	35	27	15	20	10	7.8	8.9
<b>9</b>	>1,800	>1,800	>1,800	38	25	32	19	11	14	11	7.6	8.9
<b>10</b>	>1,800	---	---	43	25	31	16	9.3	12	10	6.6	8.3
<b>11</b>	---	---	---	45	27	38	18	8.3	12	13	8.0	10
<b>12</b>	---	---	---	40	28	32	54	8.4	15	11	8.0	9.5
<b>13</b>	>1,800	1,360	>1,800	35	24	29	80	14	38	---	---	---
<b>14</b>	1,370	980	1,160	26	22	24	52	12	27	---	---	---
<b>15</b>	980	800	900	52	23	29	38	9.9	20	---	---	---
<b>16</b>	800	670	730	29	22	26	11	6.7	8.4	15	9.4	12
<b>17</b>	680	540	620	120	25	58	8.1	6.1	6.9	12	7.6	10
<b>18</b>	550	460	500	65	28	34	9.2	5.9	7.1	12	7.2	9.4
<b>19</b>	460	380	430	710	54	180	---	---	---	11	6.9	8.7
<b>20</b>	380	260	320	67	48	55	---	---	---	10	5.9	7.7
<b>21</b>	260	220	240	52	33	42	9.3	4.7	5.8	8.8	5.8	7.2
<b>22</b>	220	190	200	41	24	29	9.9	5.4	7.0	8.9	5.0	6.7
<b>23</b>	190	160	180	29	22	25	7.9	5.2	6.0	8.2	5.2	6.3
<b>24</b>	160	150	150	28	22	25	7.5	4.8	5.7	7.9	5.7	6.8
<b>25</b>	150	130	140	27	21	24	6.7	3.8	5.0	8.8	5.5	7.0
<b>26</b>	140	110	120	31	20	24	5.7	3.7	4.7	8.5	5.2	6.6
<b>27</b>	110	77	94	24	18	21	6.2	3.6	4.6	7.4	4.8	6.0
<b>28</b>	100	73	86	24	15	18	6.1	3.2	4.2	7.2	4.8	6.0
<b>29</b>	89	62	79	18	13	16	5.9	3.4	4.3	7.3	4.2	5.6
<b>30</b>	66	48	55	15	10	13	6.1	3.0	4.1	7.0	4.5	5.5
<b>31</b>	---	---	---	17	10	13	5.6	3.4	4.4	---	---	---
<b>Month</b>	---	---	---	710	10	38	---	---	---	---	---	---

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD—Continued

TURBIDITY, WATER, UNFILT, NEAR IR LED LIGHT, 780-900 NM, DETECT ANG. 90 DEG, FORMAZIN NEPHELOMETRIC UNITS  
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	October			November			December			January		
1	7.3	4.4	5.9	---	---	---	---	---	---	---	---	---
2	7.3	4.1	5.6	---	---	---	---	---	---	---	---	---
3	6.5	4.0	5.1	---	---	---	---	---	---	---	---	---
4	6.9	4.4	5.4	---	---	---	---	---	---	---	---	---
5	7.0	3.8	5.2	---	---	---	---	---	---	---	---	---
6	6.9	3.7	4.8	---	---	---	---	---	---	---	---	---
7	5.6	3.1	4.3	---	---	---	---	---	---	---	---	---
8	5.7	4.0	4.8	---	---	---	---	---	---	---	---	---
9	5.8	3.2	4.4	---	---	---	---	---	---	---	---	---
10	4.7	2.5	3.5	---	---	---	---	---	---	---	---	---
11	4.0	2.6	3.1	---	---	---	---	---	---	---	---	---
12	15	3.5	8.1	---	---	---	---	---	---	---	---	---
13	10	5.3	7.1	---	---	---	---	---	---	---	---	---
14	7.6	2.1	4.8	---	---	---	---	---	---	---	---	---
15	5.9	3.1	4.5	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
Month	---	---	---	---	---	---	---	---	---	---	---	---

06438000 BELLE FOURCHE RIVER NEAR ELM SPRINGS, SD—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008**

<b>Date</b>	<b>Time</b>	<b>Instantaneous discharge, ft<sup>3</sup>/s (00061)</b>	<b>Specific conductance, <math>\mu</math>S/cm 25 degC (00095)</b>	<b>Temperature, air, deg C (00020)</b>	<b>Temperature, water, deg C (00010)</b>
<b>Oct</b>					
11...	1055	154	1,440	13.0	10.5
<b>Nov</b>					
02...	1030	35	2,150	7.0	4.1
<b>Dec</b>					
28...	0915	14	3,600	-10.5	.0
<b>Feb</b>					
01...	1035	4.7	3,970	-3.0	.0
<b>Apr</b>					
03...	1145	32	2,310	9.0	6.5
30...	1025	57	1,660	17.5	14.5
<b>May</b>					
05...	1150	1,480	--	21.0	--
08...	1240	3,750	--	8.0	--
16...	1230	536	--	25.5	--
23...	1344	9,200	--	10.5	--
24...	1555	12,700	--	21.5	--
<b>Jun</b>					
10...	1220	7,100	1,740	22.0	16.7
<b>Jul</b>					
11...	1040	460	1,770	28.0	22.9
<b>Aug</b>					
14...	1020	444	--	--	--