

**11390000 Butte Creek near Chico, CA**

Sacramento River Basin

LOCATION.--Lat 39°43'34", long 121°42'28" referenced to North American Datum of 1927, in NW ¼ NW ¼ sec.36, T.22 N., R.2 E., Butte County, CA, Hydrologic Unit 18020105, on right bank, 1,000 ft downstream from covered bridge, 0.7 mi downstream from Little Butte Creek, and 7.5 mi east of Chico.

DRAINAGE AREA.--147 mi<sup>2</sup>.

**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--October 1930 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1445: 1953 (instantaneous maximum discharge). WSP 1931: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 320 ft above NGVD of 1929, from topographic map. Prior to Aug. 13, 1944, water-stage recorder at site 0.4 mi upstream at different datum. Aug. 13, 1944, to June 5, 1986, at datum 3.00 ft higher.

REMARKS.--Records poor. Flow slightly regulated by storage in Magalia Reservoir, usable capacity, 2,640 acre-ft, and since 1957 by Paradise Reservoir, usable capacity, 11,500 acre-ft. Diversions upstream from station for irrigation and domestic use of about 7,000 acre-ft annually. Butte Creek receives water above station from West Branch Feather River by way of Toadtown Canal (station 11389800). See schematic diagram of lower Sacramento River Basin available from the California Water Science Center.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,600 ft<sup>3</sup>/s, Jan. 1, 1997, gage height, 15.06 ft in gage well, 15.7 ft from floodmarks, on basis of slope-area measurement of peak flow, maximum gage height, 17.52 ft, Feb. 17, 1986, present datum; minimum discharge, 44 ft<sup>3</sup>/s, Aug. 23-29, 1931.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,700 ft<sup>3</sup>/s and (or) maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Feb 23	1745	6,210	5.98
Mar 2	1630	*6,570	*6.15

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**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**  
**DAILY MEAN VALUES**

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	72	226	101	130	163	1,330	418	282	271	148	108	106
2	73	310	102	155	161	4,740	420	613	268	144	114	106
3	85	208	100	183	159	3,420	413	666	263	142	109	106
4	166	249	101	153	159	1,800	386	595	274	139	108	105
5	120	170	102	141	166	1,180	376	1,350	246	138	109	103
6	93	147	102	132	222	925	371	862	263	137	112	101
7	90	138	100	125	207	784	367	654	242	133	117	104
8	85	131	102	129	193	692	378	528	235	129	123	105
9	84	139	105	128	208	595	402	462	240	128	115	105
10	83	129	94	124	193	494	410	420	230	126	114	104
11	83	122	93	122	232	452	399	395	225	122	120	101
12	83	119	99	127	237	430	382	366	221	122	122	101
13	83	119	99	150	260	411	357	339	211	121	118	103
14	83	121	105	150	251	406	336	344	208	122	116	129
15	84	118	122	147	400	411	315	403	204	137	116	114
16	82	116	102	145	748	498	295	386	200	145	118	108
17	83	115	88	145	1,050	548	288	377	197	142	115	103
18	83	115	92	142	503	499	293	373	192	141	113	103
19	83	114	118	136	283	474	304	368	186	135	115	100
20	84	115	114	133	220	470	319	353	184	116	113	98
21	84	116	128	131	220	463	336	338	183	109	110	90
22	84	115	195	164	1,930	476	351	329	180	111	108	71
23	81	115	147	177	5,650	415	366	322	172	117	108	67
24	82	114	164	267	3,620	389	347	314	172	125	110	66
25	84	114	409	330	1,520	395	326	313	168	123	108	67
26	84	114	170	239	1,280	405	305	313	164	125	113	67
27	83	113	143	213	931	417	293	298	161	122	107	67
28	85	109	134	190	646	439	285	282	156	121	105	67
29	85	102	136	176	---	457	270	280	151	116	106	68
30	85	98	141	168	---	440	261	279	148	110	106	71
31	133	---	136	167	---	421	---	277	---	109	106	---
<b>Total</b>	2,752	4,131	3,944	5,019	21,812	25,276	10,369	13,481	6,215	3,955	3,482	2,806
<b>Mean</b>	88.8	138	127	162	779	815	346	435	207	128	112	93.5
<b>Max</b>	166	310	409	330	5,650	4,740	420	1,350	274	148	123	129
<b>Min</b>	72	98	88	122	159	389	261	277	148	109	105	66
<b>Ac-ft</b>	5,460	8,190	7,820	9,960	43,260	50,130	20,570	26,740	12,330	7,840	6,910	5,570

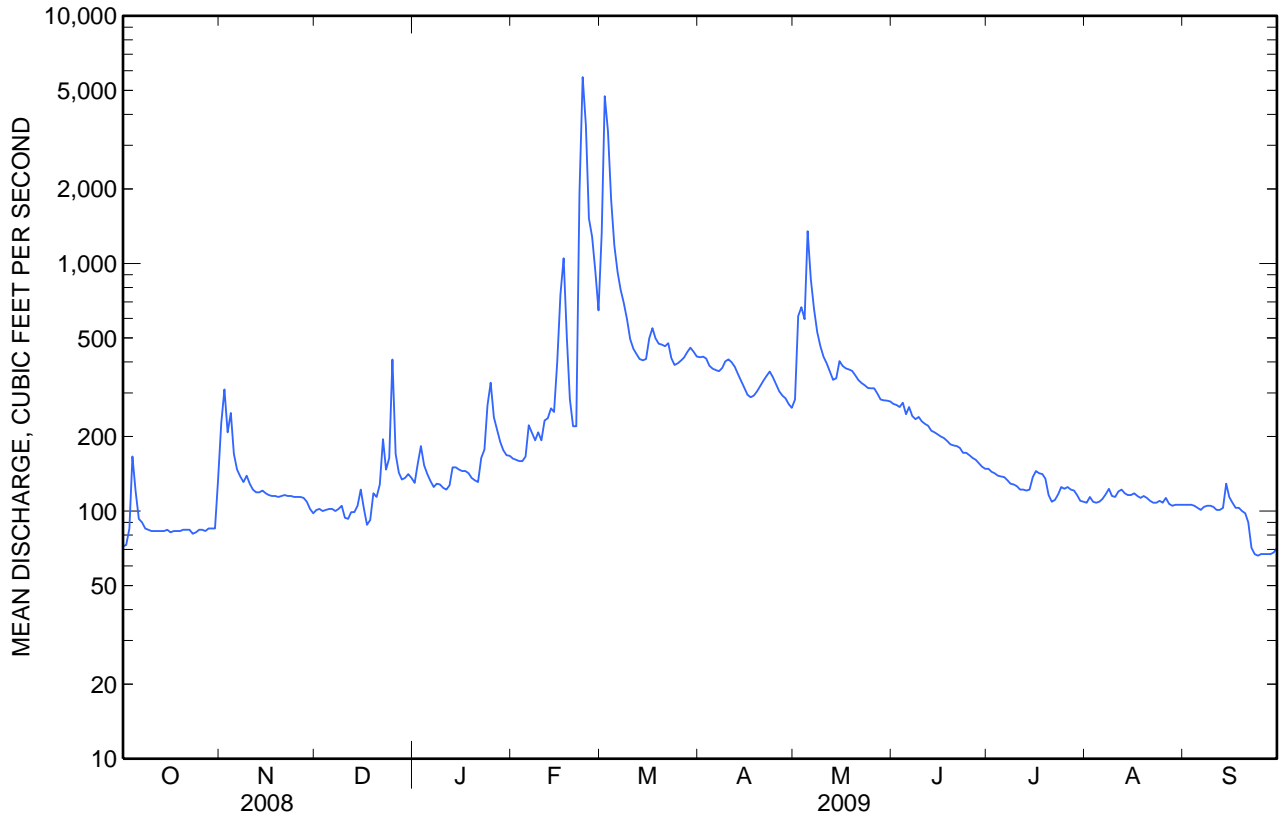
**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2009, BY WATER YEAR (WY)**

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>Mean</b>	135	218	466	678	808	763	681	505	285	166	134	118
<b>Max</b>	775	1,269	2,061	2,847	2,925	2,601	2,231	1,314	773	356	223	183
<b>(WY)</b>	(1963)	(1974)	(1956)	(1997)	(1986)	(1995)	(2006)	(1995)	(1998)	(1998)	(1975)	(1998)
<b>Min</b>	65.8	77.8	89.5	91.0	114	123	114	134	79.4	54.4	46.1	51.9
<b>(WY)</b>	(1992)	(1992)	(1991)	(1991)	(1977)	(1977)	(1977)	(1977)	(1977)	(1977)	(1931)	(1992)

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SUMMARY STATISTICS

	Calendar Year 2008		Water Year 2009		Water Years 1931 - 2009	
<b>Annual total</b>	73,057		103,242			
<b>Annual mean</b>	200		283		411	
<b>Highest annual mean</b>					839	2006
<b>Lowest annual mean</b>					94.0	1977
<b>Highest daily mean</b>	1,280	Feb 24	5,650	Feb 23	26,600	Jan 1, 1997
<b>Lowest daily mean</b>	63	Sep 27	66	Sep 24	44	Aug 23, 1931
<b>Annual seven-day minimum</b>	65	Sep 24	67	Sep 23	44	Aug 23, 1931
<b>Maximum peak flow</b>			6,570	Mar 2	35,600	Jan 1, 1997
<b>Maximum peak stage</b>			6.15	Mar 2	17.52	Feb 17, 1986
<b>Annual runoff (ac-ft)</b>	144,900		204,800		297,900	
<b>10 percent exceeds</b>	322		454		852	
<b>50 percent exceeds</b>	144		144		209	
<b>90 percent exceeds</b>	84		89		102	



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**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--Water years 1953-79, 1999 to current year.

CHEMICAL DATA: Water years 1953-79.

SEDIMENT DATA: Water years 2001-02.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: November 1961 to January 1979, October 1998 to current year.

TURBIDITY: January 2001 to September 2004.

INSTRUMENTATION.--Temperature recorder since October 1998.

REMARKS.--Water temperature records rated excellent except for Feb. 20, and June 4 to Aug. 21, which are rated good. Unpublished sediment and turbidity sample data in U.S. Geological Survey Sediment Laboratory Environmental Data System (SLEDS) for January 2000 to October 2001.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum recorded, 27.5°C, July 13, 14, 2002; minimum recorded, 0.5°C, Dec. 8, 31, 1978, Jan. 1, 1979.

TURBIDITY: Maximum recorded, 440 NTU, Feb. 18, 2004; minimum recorded, 0.0 NTU, many days during most years.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 25.3°C, July 30 to Aug. 1; minimum recorded, 1.9°C, Dec. 18.

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**TEMPERATURE, WATER, DEGREES CELSIUS**  
**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	
<b>1</b>	19.0	15.8	12.3	11.8	9.3	7.6	5.5	4.7	7.6	4.5	9.3	8.3
<b>2</b>	19.1	16.8	12.5	11.2	9.6	8.2	5.6	5.0	7.6	4.7	8.9	7.8
<b>3</b>	17.7	15.9	11.2	10.8	8.9	7.8	5.2	3.8	7.9	4.9	8.1	7.7
<b>4</b>	16.2	14.9	11.2	9.6	7.8	6.2	4.6	2.8	7.8	5.3	8.2	7.6
<b>5</b>	16.7	13.8	9.6	8.4	7.5	5.7	4.8	4.2	7.2	6.3	8.5	7.0
<b>6</b>	16.6	13.4	10.7	8.6	7.2	5.5	5.9	4.3	8.2	6.8	8.8	7.1
<b>7</b>	16.9	13.5	10.9	8.6	7.2	6.4	6.1	4.7	9.0	6.2	8.6	6.5
<b>8</b>	16.4	13.4	10.8	9.3	7.2	5.7	6.1	4.7	7.4	5.8	9.0	6.8
<b>9</b>	15.0	12.6	11.1	9.6	6.3	4.6	5.6	3.5	7.7	5.4	8.4	6.5
<b>10</b>	13.4	10.9	10.2	8.5	6.4	4.5	5.7	3.5	5.7	3.8	7.8	5.3
<b>11</b>	12.4	9.6	10.0	8.7	6.6	4.8	5.9	3.5	5.4	4.9	8.4	5.5
<b>12</b>	11.8	8.8	10.6	9.0	6.7	5.0	7.0	4.4	6.0	4.1	9.2	6.1
<b>13</b>	12.2	8.7	11.6	9.0	7.0	5.6	7.1	4.7	6.2	4.9	9.6	6.6
<b>14</b>	12.6	9.5	11.6	9.5	5.7	4.6	7.1	4.7	6.2	5.2	9.2	7.0
<b>15</b>	12.9	9.8	11.7	9.5	5.9	4.8	7.0	4.6	6.6	5.5	8.4	7.8
<b>16</b>	13.7	10.4	11.4	9.4	5.1	3.6	7.3	5.1	7.6	6.6	9.4	8.1
<b>17</b>	13.8	11.1	11.5	9.5	3.9	2.4	6.8	4.4	7.7	7.2	10.0	8.3
<b>18</b>	13.9	11.2	11.3	9.4	3.8	1.9	6.8	4.3	9.1	7.6	10.3	7.9
<b>19</b>	14.3	11.6	10.8	9.0	5.8	3.8	6.9	4.4	9.2	6.9	11.1	8.3
<b>20</b>	13.9	11.3	10.4	8.8	4.7	3.1	6.9	4.3	10.0	6.9	11.4	8.7
<b>21</b>	13.7	11.0	9.6	7.8	4.8	4.2	6.7	5.1	9.4	7.0	9.9	8.7
<b>22</b>	13.5	10.5	9.2	7.6	5.0	4.0	7.2	6.5	9.3	8.0	9.7	7.0
<b>23</b>	13.5	10.6	9.1	7.2	5.2	3.5	7.6	6.2	9.3	8.2	8.3	5.3
<b>24</b>	13.3	10.6	8.9	7.0	6.1	4.5	8.5	7.6	9.2	8.3	9.6	6.0
<b>25</b>	13.3	10.6	9.2	8.0	6.5	5.3	8.2	6.9	9.2	8.2	10.1	7.3
<b>26</b>	13.5	10.8	9.2	8.3	5.3	3.8	7.1	5.1	9.5	8.5	11.3	8.0
<b>27</b>	13.0	10.7	9.9	8.5	5.2	4.1	5.8	3.8	9.2	7.6	11.7	8.2
<b>28</b>	13.2	10.7	9.3	8.1	5.9	4.9	6.0	3.5	9.3	7.7	12.2	8.8
<b>29</b>	12.8	10.3	9.6	7.6	6.4	4.9	6.8	4.1	---	---	11.3	8.5
<b>30</b>	11.9	10.7	9.6	7.8	6.1	4.3	7.1	4.3	---	---	9.9	6.8
<b>31</b>	12.7	11.7	---	---	5.7	3.8	7.4	4.6	---	---	10.5	7.1
<b>Month</b>	19.1	8.7	12.5	7.0	9.6	1.9	8.5	2.8	10.0	3.8	12.2	5.3

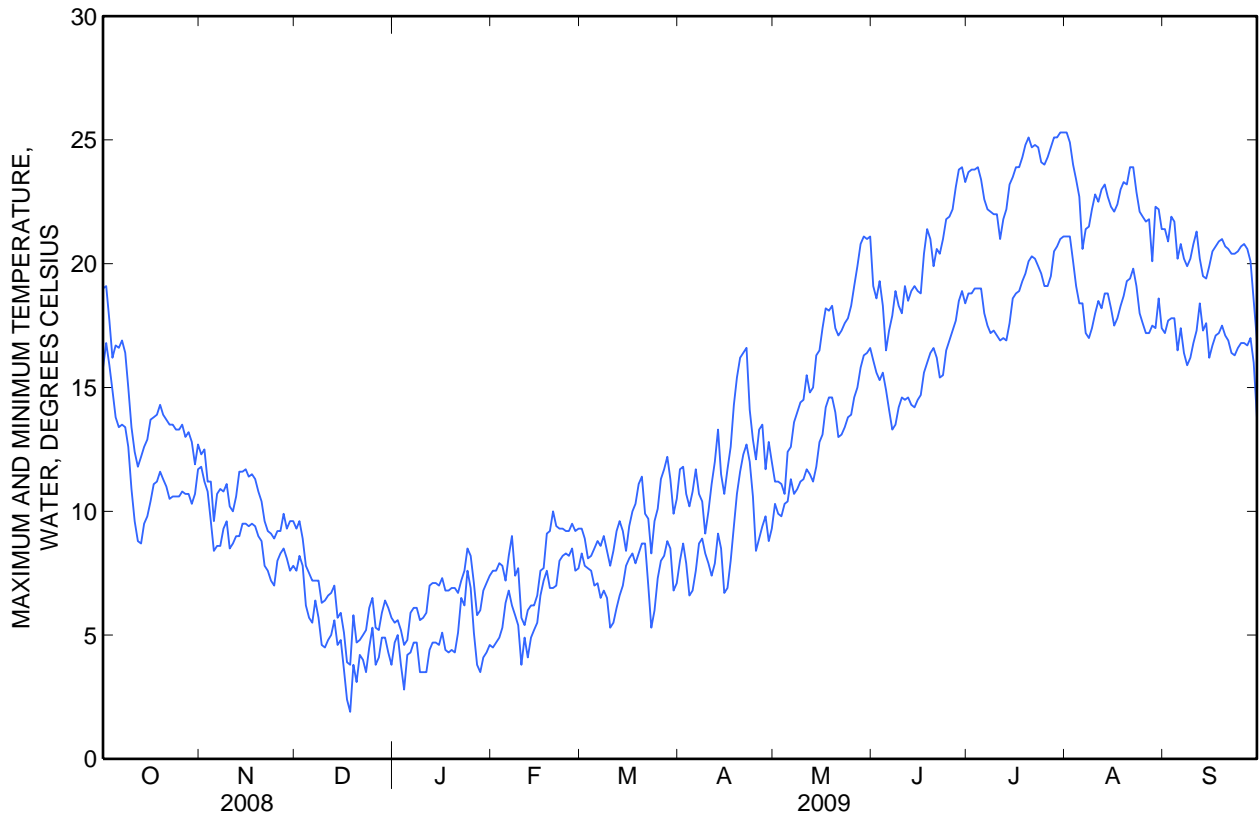
## 11390000 Butte Creek near Chico, CA—Continued

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

Day	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
	April		May		June		July		August		September	
1	11.7	8.0	11.2	10.3	19.1	16.1	23.7	18.8	25.3	21.1	21.4	17.2
2	11.8	8.7	11.2	9.9	18.6	15.6	23.8	18.8	24.9	21.1	20.9	17.7
3	10.7	7.9	11.1	9.8	19.3	15.3	23.8	19.0	24.0	20.1	21.9	17.8
4	10.2	6.6	10.7	10.3	18.3	15.6	23.9	19.0	23.4	19.1	21.7	17.8
5	10.8	6.8	12.4	10.4	16.5	14.9	23.4	19.0	22.7	18.4	20.2	16.5
6	11.7	7.6	12.6	11.3	17.3	14.1	22.6	18.0	20.6	18.4	20.8	17.4
7	10.7	8.7	13.6	10.7	17.9	13.3	22.2	17.5	21.4	17.2	20.2	16.4
8	10.4	8.9	14.0	10.9	18.9	13.5	22.1	17.2	21.5	17.0	19.9	15.9
9	9.1	8.3	14.4	11.2	18.3	14.2	22.0	17.3	22.2	17.4	20.2	16.2
10	10.0	7.9	14.5	11.3	18.0	14.6	22.0	17.1	22.8	18.0	20.8	16.8
11	11.1	7.4	15.5	11.7	19.1	14.5	21.0	16.9	22.5	18.5	21.3	17.3
12	12.0	7.9	14.8	11.5	18.5	14.6	21.8	17.0	23.0	18.2	20.2	18.4
13	13.3	9.1	15.0	11.2	18.9	14.3	22.2	16.9	23.2	18.8	19.5	17.3
14	11.5	8.5	16.3	11.8	19.1	14.2	23.2	17.6	22.7	18.8	19.4	17.6
15	10.7	6.7	16.5	12.8	18.9	14.5	23.5	18.6	22.3	18.2	19.9	16.2
16	11.7	6.9	17.4	13.1	18.8	14.7	23.9	18.8	22.1	17.5	20.5	16.7
17	12.6	8.0	18.2	14.2	20.4	15.6	23.9	18.9	22.4	17.8	20.7	17.1
18	14.3	9.4	18.1	14.6	21.4	16.0	24.3	19.3	23.0	18.3	20.9	17.2
19	15.4	10.7	18.3	14.6	21.0	16.4	24.8	19.6	23.3	18.7	21.0	17.5
20	16.2	11.6	17.4	14.0	19.9	16.6	25.1	20.1	23.2	19.3	20.7	17.1
21	16.4	12.3	17.1	13.0	20.6	16.2	24.7	20.3	23.9	19.4	20.6	16.9
22	16.6	12.7	17.3	13.1	20.4	15.4	24.8	20.2	23.9	19.8	20.4	16.4
23	14.1	12.0	17.6	13.4	21.0	15.5	24.7	19.9	22.9	19.1	20.4	16.3
24	12.9	10.6	17.8	13.8	21.8	16.5	24.1	19.6	22.1	18.0	20.5	16.6
25	12.1	8.4	18.3	13.9	21.9	16.9	24.0	19.1	21.9	17.6	20.7	16.8
26	13.3	8.9	19.1	14.6	22.2	17.3	24.3	19.1	21.7	17.2	20.8	16.8
27	13.5	9.4	19.9	15.0	23.1	17.7	24.7	19.5	21.8	17.2	20.6	16.7
28	11.7	9.8	20.8	15.8	23.8	18.5	25.1	20.5	20.1	17.5	20.1	17.0
29	12.8	8.8	21.1	16.3	23.9	18.9	25.1	20.7	22.3	17.4	18.5	16.0
30	12.0	9.3	21.0	16.4	23.3	18.4	25.3	21.0	22.2	18.6	16.9	13.8
31	---	---	21.1	16.6	---	---	25.3	21.1	21.4	17.4	---	---
Month	16.6	6.6	21.1	9.8	23.9	13.3	25.3	16.9	25.3	17.0	21.9	13.8

	Max	Min
Year	25.3	1.9

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## 11390000 Butte Creek near Chico, CA—Continued

**CROSS SECTION ANALYSES**  
**WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009**

Date	Time	Temperature, water, deg C (00010)	DepthTo bottom at sample location, feet (81903)	Sam- pling depth, feet (00003)	Stream width, feet (00004)	Loca- tion in X-sect. looking dwnstrm ft from l bank (00009)
<b>Mar</b>						
09...	1254	7.3	1.74	.87	134	6.50
09...	1255	7.3	2.14	1.71	134	19.5
09...	1256	7.3	2.14	.43	134	19.5
09...	1257	7.3	1.00	.50	134	32.5
09...	1258	7.3	1.24	.62	134	45.5
09...	1259	7.3	1.48	.74	134	58.5
09...	1300	7.3	2.08	1.66	134	71.5
09...	1301	7.3	2.08	.42	134	71.5
09...	1302	7.3	2.12	1.70	134	84.5
09...	1303	7.3	2.12	.42	134	84.5
09...	1304	7.3	2.32	1.86	134	97.5
09...	1305	7.3	2.32	.46	134	97.5
09...	1306	7.3	1.80	.90	134	110
09...	1307	7.4	1.74	.87	134	124
<b>Aug</b>						
10...	1014	19.0	.42	.21	76.0	3.50
10...	1015	18.9	.80	.40	76.0	10.5
10...	1016	18.8	1.10	.55	76.0	17.5
10...	1017	18.7	1.40	.70	76.0	24.5
10...	1018	18.7	1.84	.92	76.0	31.5
10...	1019	18.7	1.82	.91	76.0	38.5
10...	1020	18.7	2.08	1.66	76.0	45.5
10...	1021	18.7	2.08	.42	76.0	45.5
10...	1022	18.7	2.10	1.68	76.0	52.5
10...	1023	18.7	2.10	.42	76.0	52.5
10...	1024	18.7	2.38	1.90	76.0	59.5
10...	1025	18.7	2.38	.48	76.0	59.5
10...	1026	18.8	1.12	.56	76.0	66.5

Note: Instantaneous discharges at the mean time of cross-sectional measurements: Mar. 9, 610 ft<sup>3</sup>/s; Aug. 10, 114 ft<sup>3</sup>/s.