

12323240 BLACKTAIL CREEK AT BUTTE, MT

LOCATION.--Lat 45°54'38", long 112°31'38" (NAD 27), in SW¼NE¼SE¼ sec.24, T.3 N., R.8 W., Silver Bow County, Hydrologic Unit 17010201, on left bank, 70 feet upstream from George Street culvert in Butte, and 0.2 mi upstream from Silver Bow Creek.

DRAINAGE AREA.--95.4 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1988 to current year.

REVISED RECORDS.--WDR-MT-93-1: 1989-92 (M).

GAGE.--Water-stage recorder. Elevation of gage is 5,430 ft (NGVD 29).

REMARKS.--Records good except those for July through September and estimated daily discharges, which are fair. Slight regulation by Basin Creek Reservoir. Diversions for irrigation of about 1,400 acres upstream from station. U.S. Geological Survey satellite telemeter at station. Several observations of water temperature and specific conductance were made during the year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.7	e7.0	6.9	6.5	6.6	7.2	15	7.7	8.4	9.4	5.0	5.7
2	6.7	e7.0	6.9	6.4	6.6	6.8	11	7.4	7.8	8.1	5.1	7.0
3	6.7	e7.0	6.9	6.4	6.6	6.8	11	7.2	7.4	8.1	5.3	6.1
4	6.9	e7.0	6.7	e6.0	6.6	6.7	12	7.1	7.2	7.5	5.1	5.9
5	6.9	e7.0	6.7	e6.0	6.6	6.7	13	6.9	7.1	7.1	5.4	5.9
6	6.8	e7.0	6.9	e6.0	6.4	6.7	12	6.8	6.8	7.5	5.2	5.9
7	6.6	e7.2	6.9	e6.4	6.5	7.4	11	6.9	6.6	7.2	5.4	5.7
8	6.8	7.3	6.8	6.4	6.5	10	10	6.5	7.3	7.0	5.5	5.6
9	6.7	7.3	6.7	6.5	6.6	8.8	10	6.5	7.4	6.6	5.6	5.7
10	6.5	7.5	6.8	6.5	6.5	8.3	10	6.6	8.9	6.4	5.4	5.6
11	6.5	7.5	6.8	6.5	6.6	8.0	9.1	6.8	8.7	6.0	5.3	5.6
12	6.7	7.3	6.8	6.4	6.5	8.1	9.1	6.9	9.0	6.2	5.4	7.4
13	6.8	7.3	6.8	6.5	6.5	7.9	8.9	6.7	8.2	6.5	5.2	6.6
14	6.8	7.2	6.9	6.4	6.4	8.1	8.6	6.6	7.2	6.1	5.4	7.0
15	6.8	7.3	6.7	6.5	6.5	8.7	8.8	6.4	6.9	6.1	5.5	6.6
16	6.7	7.3	6.7	6.5	6.4	9.3	8.1	8.6	7.0	6.1	5.5	6.2
17	6.7	7.3	6.7	6.4	6.8	9.4	8.9	7.8	6.9	5.7	6.7	6.1
18	6.7	7.3	6.6	6.4	7.1	10	11	12	7.5	5.8	6.9	8.7
19	6.7	7.0	6.6	6.4	6.8	12	11	13	8.2	6.4	6.4	11
20	6.7	6.9	6.6	6.5	6.9	12	11	13	7.4	7.6	6.4	8.0
21	6.7	6.8	6.6	6.5	6.8	12	10	17	7.1	5.6	5.8	6.7
22	6.7	6.7	6.6	6.5	6.9	12	9.3	17	7.9	5.4	6.4	6.6
23	6.7	6.6	6.5	6.7	7.3	12	8.3	16	10	5.6	20	6.8
24	6.7	6.7	6.6	6.8	7.5	12	7.6	15	7.7	5.3	6.4	6.6
25	6.7	6.6	6.6	6.7	7.0	13	7.3	13	8.4	5.2	8.4	6.3
26	6.8	6.6	6.6	6.6	6.8	13	7.2	12	32	5.1	6.2	6.2
27	7.4	6.6	6.5	6.6	7.6	11	7.0	11	23	5.1	6.1	6.1
28	7.2	6.6	6.4	6.8	6.9	10	9.9	11	11	5.0	5.6	6.0
29	e7.0	6.8	6.5	6.8	6.9	10	7.8	11	9.1	4.9	5.6	6.2
30	e7.0	6.7	6.5	6.9	---	9.8	7.9	11	9.2	5.0	5.4	6.2
31	e7.0	---	6.4	6.7	---	9.2	---	9.8	---	4.9	5.5	---
TOTAL	210.3	210.4	207.2	201.2	195.7	292.9	291.8	301.2	277.3	194.5	193.1	196.0
MEAN	6.78	7.01	6.68	6.49	6.75	9.45	9.73	9.72	9.24	6.27	6.23	6.53
MAX	7.4	7.5	6.9	6.9	7.6	13	15	17	32	9.4	20	11
MIN	6.5	6.6	6.4	6.0	6.4	6.7	7.0	6.4	6.6	4.9	5.0	5.6
AC-FT	417	417	411	399	388	581	579	597	550	386	383	389

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2004, BY WATER YEAR (WY)

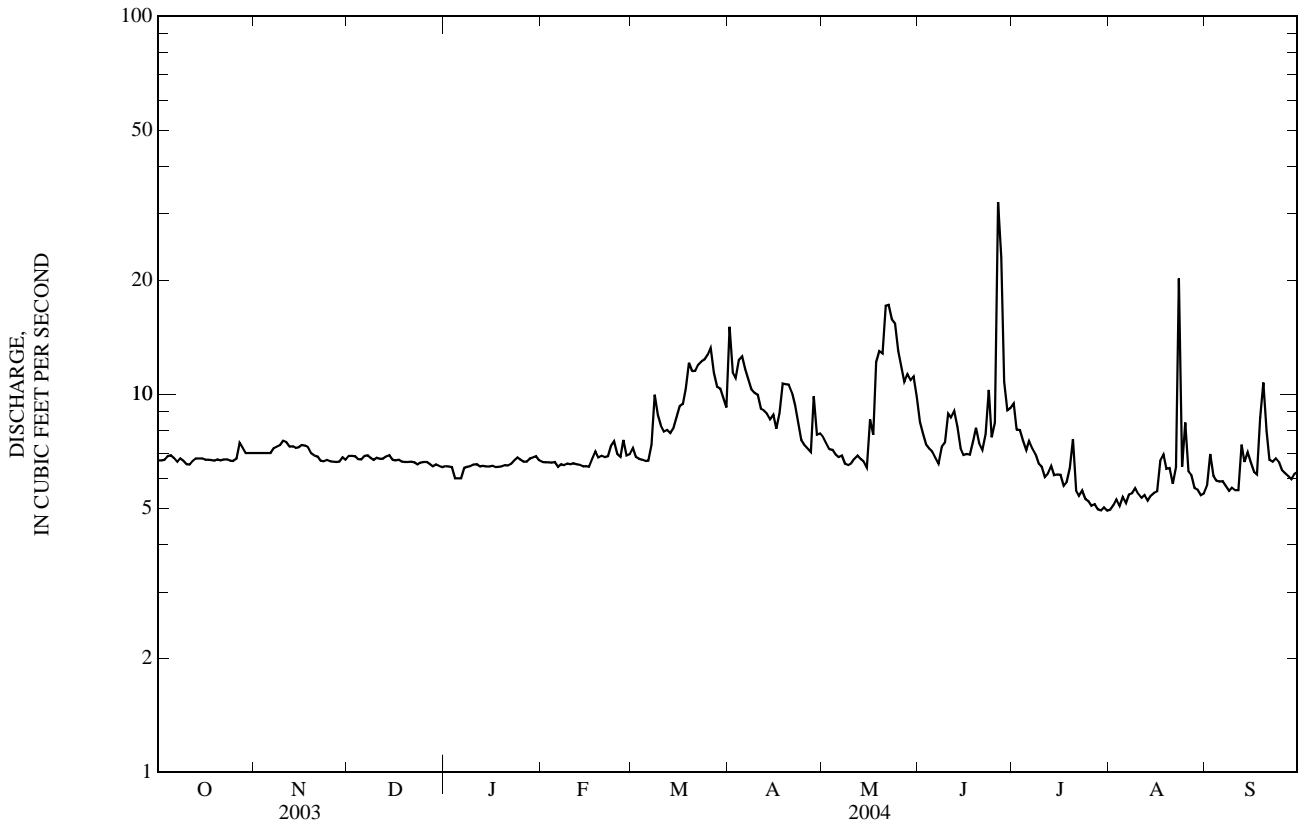
MEAN	9.83	9.75	8.94	8.78	10.6	14.4	16.3	18.9	19.3	11.5	9.51	8.84
MAX	15.0	13.9	12.6	12.6	25.5	29.9	28.6	41.9	61.5	26.0	17.7	13.6
(WY)	(1998)	(1999)	(1999)	(1999)	(1995)	(1997)	(1996)	(1995)	(1995)	(1997)	(1997)	(1995)
MIN	6.78	6.90	6.68	6.49	6.33	7.42	9.36	7.31	8.11	6.07	5.28	5.98
(WY)	(2004)	(2001)	(2004)	(2004)	(1993)	(1991)	(1992)	(1992)	(2000)	(2003)	(2000)	(1992)

PEND OREILLE RIVER BASIN

12323240 BLACKTAIL CREEK AT BUTTE, MT—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1989 - 2004	
ANNUAL TOTAL	3,559.9		2,771.6			
ANNUAL MEAN	9.75		7.57		12.2	
HIGHEST ANNUAL MEAN					19.9	
LOWEST ANNUAL MEAN					7.57	
HIGHEST DAILY MEAN	117	Mar 14	32	Jun 26	211	Feb 20, 1995
LOWEST DAILY MEAN	5.4	Jul 11	4.9	Jul 29	4.2	Aug 22, 2000
ANNUAL SEVEN-DAY MINIMUM	5.4	Jul 10	5.0	Jul 26	4.4	Aug 19, 2000
MAXIMUM PEAK FLOW			123	Jun 26	b303	Feb 19, 1995
MAXIMUM PEAK STAGE			3.24	Jun 26	5.28	Feb 19, 1995
INSTANTANEOUS LOW FLOW			a4.1	Jul 28	a4.1	Jul 28, 2004
ANNUAL RUNOFF (AC-FT)	7,060		5,500		8,860	
10 PERCENT EXCEEDS	16		11		20	
50 PERCENT EXCEEDS	7.2		6.8		9.7	
90 PERCENT EXCEEDS	6.3		5.7		6.7	

a--Gage height, 0.85 ft.  
 b--From indirect measurement.  
 e--Estimated.



12323250 SILVER BOW CREEK BELOW BLACKTAIL CREEK, AT BUTTE, MT

LOCATION.--Lat 45°59'47", long 112°33'45" (NAD 27), in SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec. 23, T.3 N., R.8 W., Silver Bow County, Hydrologic Unit 17010201, on right bank at Interstate 90 overpass in Butte, 0.8 mi upstream from Whiskey Gulch, 1.3 mi downstream from Blacktail Creek, and at river mile 20.2.

DRAINAGE AREA.--103 mi<sup>2</sup>.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR-MT-92-1: 1984-90 (M). WDR-MT-98-1: Drainage area. WDR-MT-2000-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 5,409.47 ft (NGVD 29). October 1983 to Sept. 14, 1997, water-stage recorder 150 ft upstream at elevation 1.40 ft higher. Sept. 15, 1997 to Dec. 3, 1997, no gage in operation due to channel reconstruction during EPA Superfund cleanup operations. Dec. 3, 1997 to Aug. 16, 1999, water-stage recorder 0.8 mi downstream at different elevation. Aug. 16, 1999 to May 10, 2000, water-stage recorder 2.1 mi downstream at different elevation.

REMARKS.--Water-discharge records good. Flow slightly regulated by Silver Bow County sewage treatment plant. U.S. Geological Survey satellite telemeter at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	16	16	15	15	16	24	15	16	17	13	15
2	14	16	16	15	15	16	19	16	16	16	13	16
3	14	16	16	16	15	16	18	15	16	16	13	15
4	14	16	16	16	15	16	19	15	15	15	13	15
5	14	16	16	15	15	15	20	15	15	15	13	14
6	14	16	16	15	15	16	19	15	15	15	13	15
7	14	16	16	15	15	17	19	15	14	15	13	15
8	15	16	16	15	15	21	18	15	16	15	14	15
9	15	15	16	15	15	19	18	15	16	14	14	14
10	14	16	16	15	15	18	18	15	18	13	13	14
11	15	16	16	15	15	18	17	15	17	13	13	14
12	15	16	16	15	15	18	17	15	17	14	13	18
13	15	16	16	15	15	17	17	15	16	13	13	17
14	15	16	16	15	15	18	16	15	15	14	13	17
15	15	16	16	15	15	18	17	14	15	14	13	16
16	15	16	16	15	15	19	16	18	15	14	14	16
17	15	16	16	15	16	19	18	17	14	13	16	16
18	15	16	16	15	16	20	19	22	14	14	17	19
19	15	16	15	15	15	21	19	22	15	15	16	24
20	15	16	15	15	15	21	19	22	14	17	15	19
21	15	16	15	15	15	21	18	28	14	14	15	17
22	15	16	15	15	15	21	17	29	14	14	16	16
23	15	16	16	15	16	20	16	25	16	14	37	16
24	15	16	15	15	17	21	16	24	14	13	16	16
25	15	16	15	15	16	20	16	22	14	14	21	16
26	15	16	15	15	15	21	15	20	37	13	16	16
27	16	15	15	15	16	19	15	19	37	13	16	16
28	15	15	15	15	15	18	20	20	20	13	15	16
29	16	16	16	15	15	18	16	19	17	13	14	16
30	15	16	16	15	---	17	16	19	17	13	14	16
31	15	---	16	15	---	17	---	18	---	13	14	---
TOTAL	460	477	487	467	442	572	532	569	509	439	469	485
MEAN	14.8	15.9	15.7	15.1	15.2	18.5	17.7	18.4	17.0	14.2	15.1	16.2
MAX	16	16	16	16	17	21	24	29	37	17	37	24
MIN	14	15	15	15	15	15	15	14	14	13	13	14
AC-FT	912	946	966	926	877	1,130	1,060	1,130	1,010	871	930	962

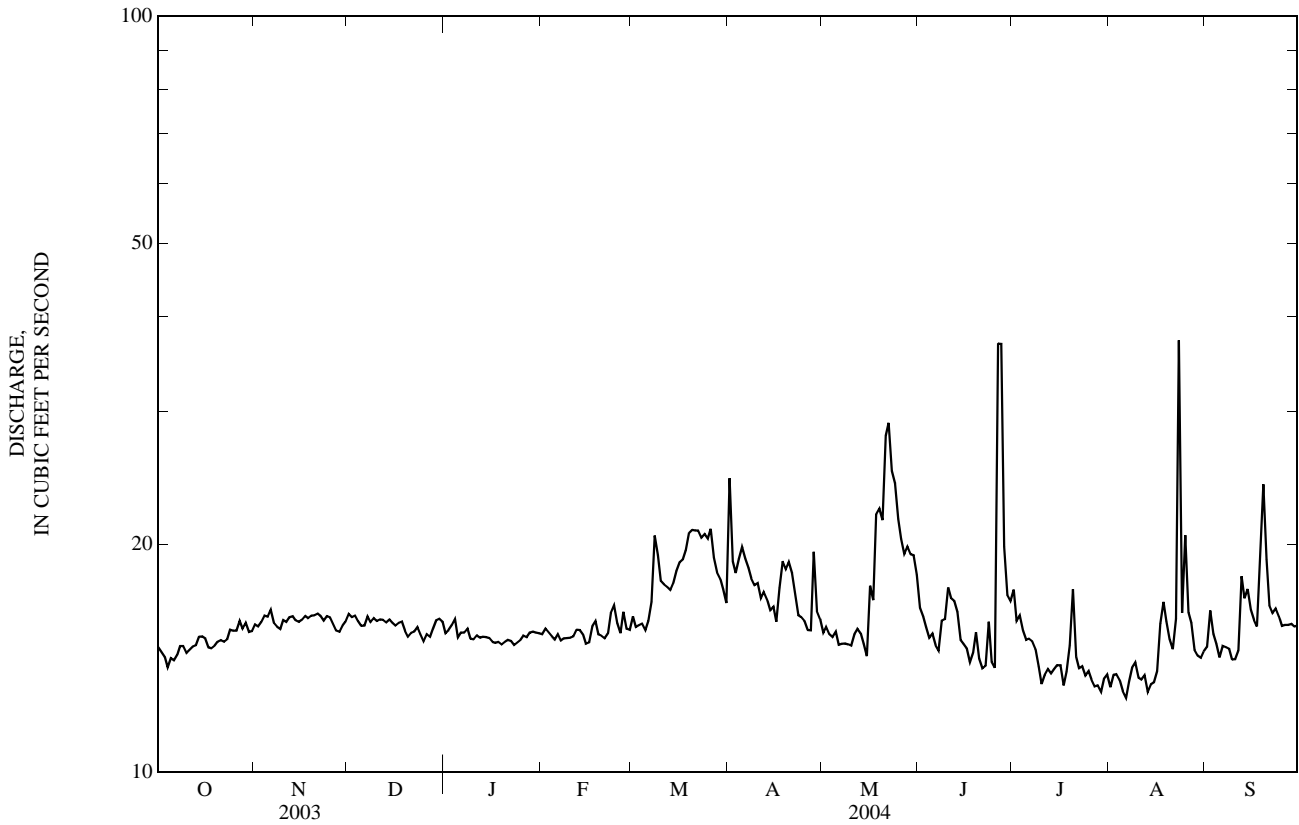
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2004, BY WATER YEAR (WY)

MEAN	19.8	19.5	18.3	17.9	19.8	24.7	27.5	29.6	28.7	21.3	20.0	18.8
MAX	26.7	25.7	24.0	25.6	38.0	40.7	42.2	53.5	75.2	37.0	28.7	25.9
(WY)	(1984)	(1984)	(1998)	(1984)	(1995)	(1997)	(1998)	(1995)	(1995)	(1995)	(1993)	(1995)
MIN	14.7	15.4	14.9	13.4	14.2	17.2	14.9	12.6	15.5	12.4	14.0	14.1
(WY)	(2003)	(2003)	(2003)	(1989)	(2001)	(1991)	(1992)	(1992)	(2000)	(2003)	(2001)	(2000)

12323250 SILVER BOW CREEK BELOW BLACKTAIL CREEK, AT BUTTE, MT—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1984 - 2004	
ANNUAL TOTAL	6,603		5,908			
ANNUAL MEAN	18.1		16.1		22.2	
HIGHEST ANNUAL MEAN					30.8	1995
LOWEST ANNUAL MEAN					16.1	2004
HIGHEST DAILY MEAN	136	Mar 14	37	Jun 26	258	Feb 20, 1995
LOWEST DAILY MEAN	11	Jul 11	13	Jul 10	8.0	May 8, 1992
ANNUAL SEVEN-DAY MINIMUM	11	Jul 9	13	Jul 26	11	May 2, 1992
MAXIMUM PEAK FLOW			122	Jun 26	b447	Jul 30, 1998
MAXIMUM PEAK STAGE			2.78	Jun 26	c8.11	Jul 30, 1998
INSTANTANEOUS LOW FLOW			a9.1	Jan 5	6.4	Aug 27, 1996
ANNUAL RUNOFF (AC-FT)	13,100		11,720		16,060	
10 PERCENT EXCEEDS	26		19		32	
50 PERCENT EXCEEDS	15		15		19	
90 PERCENT EXCEEDS	14		14		15	

a--Gage height, 1.42 ft.  
 b--From culvert computation.  
 c--Site and datum then in use.





## 12323600 SILVER BOW CREEK AT OPPORTUNITY, MT

LOCATION.--Lat 46°06'28", long 112°48'17" (NAD 27), in SE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.11, T.4 N., R.10 W., Deer Lodge County, Hydrologic Unit 17010201, on left bank 200 ft downstream from Stuart Street bridge, 0.5 mi east of Opportunity, and 1.0 mi upstream from Mill Creek.

DRAINAGE AREA.--363 mi<sup>2</sup>. Prior to water year 2001, drainage area published as 284 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1988 to current year. Prior to October 1991, seasonal records only.

REVISED RECORDS.--WDR MT-2001-01: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,912.37 ft (NGVD 29).

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. Numerous diversions upstream from station. U.S. Geological Survey satellite telemeter at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	e20	e25	e22	e28	28	46	34	35	25	13	18
2	16	e21	e24	e22	e28	29	48	34	31	25	13	20
3	17	e24	e24	e21	e28	28	41	35	31	22	14	21
4	18	e20	e24	e20	e28	28	45	35	30	24	14	19
5	19	e19	e24	e19	e28	28	46	34	29	20	15	19
6	19	e21	e23	e23	e28	28	46	35	28	19	13	18
7	19	e22	e23	e27	e28	29	43	32	27	21	13	19
8	19	e23	e22	e30	e28	32	40	28	30	21	13	19
9	19	e24	e22	e35	e28	38	41	26	31	20	14	19
10	19	e25	e22	e30	e28	36	38	26	33	22	13	18
11	19	e24	e22	e30	e28	33	38	33	35	22	13	18
12	20	e23	e22	e30	e28	34	38	32	31	21	12	19
13	21	e22	e22	e29	e28	34	38	32	30	18	12	28
14	24	e22	e22	e29	e28	33	38	30	28	19	12	24
15	25	e23	e22	e29	e28	35	38	28	26	19	14	23
16	25	e24	e22	e29	e28	36	36	30	24	19	12	22
17	24	e25	e22	e28	e28	37	35	37	23	17	14	22
18	23	e25	e22	e28	e28	41	41	38	23	17	16	23
19	23	e24	e22	e28	e28	45	39	49	25	19	16	34
20	24	e23	e22	e28	e28	42	40	46	26	23	15	31
21	24	e19	e22	e28	e28	42	38	60	23	18	13	24
22	24	e20	e22	e28	e28	43	36	60	22	14	14	22
23	23	e22	e22	e28	e28	44	33	68	24	14	41	22
24	23	e23	e22	e28	e28	46	33	58	22	14	26	21
25	23	e24	e22	e28	e28	45	33	50	21	14	23	20
26	24	e25	e22	e28	29	45	33	46	22	14	23	20
27	24	e25	e21	e28	29	44	33	44	67	13	22	20
28	25	e25	e21	e28	29	40	41	42	43	13	20	20
29	26	e26	e20	e28	28	39	38	42	28	13	19	19
30	21	e26	e20	e28	---	40	36	40	28	13	19	20
31	e21	---	e21	e28	---	40	---	38	---	13	18	---
TOTAL	667	689	688	845	815	1,142	1,169	1,222	876	566	509	642
MEAN	21.5	23.0	22.2	27.3	28.1	36.8	39.0	39.4	29.2	18.3	16.4	21.4
MAX	26	26	25	35	29	46	48	68	67	25	41	34
MIN	16	19	20	19	28	28	33	26	21	13	12	18
AC-FT	1,320	1,370	1,360	1,680	1,620	2,270	2,320	2,420	1,740	1,120	1,010	1,270

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2004, BY WATER YEAR (WY)

MEAN	36.4	36.0	33.3	36.1	50.1	54.4	63.8	92.8	93.2	44.5	29.2	31.3
MAX	55.8	49.5	49.2	68.6	184	86.6	120	261	281	107	69.5	59.8
(WY)	(1998)	(1996)	(1998)	(1997)	(1996)	(1997)	(1996)	(1997)	(1997)	(1995)	(1993)	(1993)
MIN	21.5	23.0	22.2	22.2	21.9	31.6	39.0	31.3	23.6	16.7	14.5	18.2
(WY)	(2004)	(2004)	(2004)	(2001)	(2001)	(2002)	(2004)	(1992)	(2000)	(2003)	(2000)	(2003)

## SUMMARY STATISTICS

## FOR 2003 CALENDAR YEAR

## FOR 2004 WATER YEAR

## WATER YEARS 1988 - 2004

ANNUAL TOTAL	14,126	9,830		
ANNUAL MEAN	38.7	26.9	51.3	
HIGHEST ANNUAL MEAN			99.0	1997
LOWEST ANNUAL MEAN			26.9	2004
HIGHEST DAILY MEAN	365	Mar 13	68	May 23
LOWEST DAILY MEAN	11	Aug 2	12	Aug 12
ANNUAL SEVEN-DAY MINIMUM	12	Jul 18	13	Aug 10
MAXIMUM PEAK FLOW			a139	Jun 27
MAXIMUM PEAK STAGE			b3.74	Nov 23
INSTANTANEOUS LOW FLOW			c9.1	Aug 20
ANNUAL RUNOFF (AC-FT)	28,020	19,500	37,190	
10 PERCENT EXCEEDS	80	40	93	
50 PERCENT EXCEEDS	24	25	39	
90 PERCENT EXCEEDS	16	17	21	

a--Gage height, 3.67 ft.

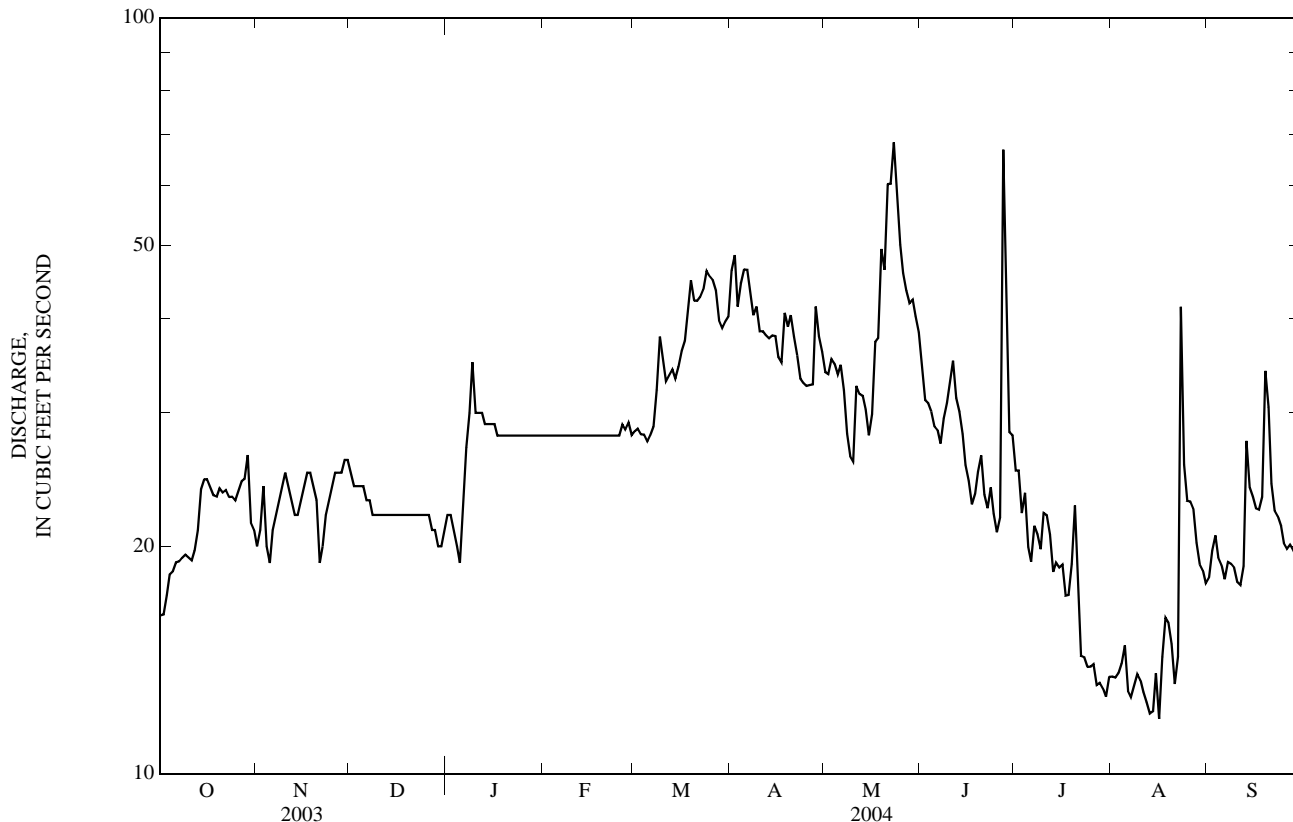
b--Backwater from ice.

c--Gage height, 2.05 ft.

d--Estimated daily discharge during a period of ice effect.

e--Estimated.

12323600 SILVER BOW CREEK AT OPPORTUNITY, MT—Continued



WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1993 to August 1995, December 1996 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: March 1993 to September 1995.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 563 mg/L, July 13, 1995; minimum daily mean, 3 mg/L, Sep. 16, 1993; Feb. 3-7, July 22, 1994.

SEDIMENT LOAD: Maximum daily, 495 tons, June 6, 1995; minimum daily, 0.19 ton, Feb. 4-7, 1994.

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)	
NOV	17...	1220	E25	8.4	566	5.0	0.5	210	60.1	13.9	9.9	17	.76	1.49
MAR	16...	1540	35	8.8	518	10.0	7.0	190	55.0	12.0	12.1	15	.85	1.18
APR	20...	1110	43	8.7	485	8.0	6.5	180	52.7	11.5	15.6	16	.57	1.04
MAY	17...	1140	38	8.4	483	13.0	9.5	180	54.0	11.6	10.8	17	.42	1.08
JUN	01...	1325	35	8.8	463	16.5	15.0	170	51.9	10.8	12.2	18	.28	.75
JUN	13...	1040	30	8.6	499	13.0	12.0	180	54.3	11.1	12.1	17	.27	.80
JUL	19...	1205	21	9.1	583	25.5	20.5	210	62.3	13.7	20.7	22	.47	1.12
AUG	20...	1100	16	8.7	633	21.5	17.0	240	71.6	15.0	16.0	24	1.57	3.04

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

Date	Copper, water, fltred, ug/L (01040)	Copper, water, unfltred recover- able, ug/L (01042)	Iron, water, fltred, ug/L (01046)	Iron, water, unfltred recover- able, ug/L (01045)	Lead, water, fltred, ug/L (01049)	Lead, water, unfltred recover- able, ug/L (01051)	Mangan- ese, water, fltred, ug/L (01056)	Mangan- ese, water, unfltred recover- able, ug/L (01055)	Zinc, water, fltred, ug/L (01090)	Zinc, water, unfltred recover- able, ug/L (01092)	Sus- pended sediment, percent <.063mm (70331)	Sus- pended sediment concentration mg/L (80154)	Sus- pended sediment dis- charge, tons/d (80155)
NOV 17...	25.1	130	7	900	.20	26.9	286	446	237	392	91	23	E1.6
MAR 16...	46.2	107	15	500	.33	13.1	423	446	129	228	83	10	.95
APR 20...	25.4	78.0	12	600	.22	14.5	451	548	123	256	85	18	2.1
MAY 17...	22.1	94.5	14	840	.30	19.4	428	644	115	283	90	21	2.2
JUN 01...	20.0	70.1	20	470	.24	12.5	266	342	50.9	169	89	12	1.1
JUN 13...	18.5	68.4	12	450	.29	12.2	264	342	81.8	203	88	13	1.1
JUL 19...	35.5	103	11	360	.31	9.81	239	288	49.7	201	70	8	.45
AUG 20...	67.2	216	7	460	.27	14.7	594	633	204	517	57	12	.52

E--Estimated.



12323700 MILL CREEK AT OPPORTUNITY, MT

LOCATION.--Lat 46°06'57", long 112°49'08" (NAD 27), in SE¼SE/4NE¼ sec. 10, T.4N., R.10W., Deer Lodge County, Hydrologic Unit 17010201, on right bank at Opportunity, 0.9 mi upstream from Mill-Willow Bypass, and at river mile 0.9.

DRAINAGE AREA.--43.2 mi<sup>2</sup>.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 4,940 ft (NGVD 29).

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. No regulation. Minor diversions for irrigation upstream from station. U.S. Geological Survey satellite telemeter at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.99	e1.5	e2.2	e1.5	e1.9	1.6	2.7	1.4	14	27	1.7	1.6
2	0.98	e1.7	e2.1	e1.5	e1.8	1.5	2.3	1.6	13	26	1.6	2.1
3	0.97	e1.6	e2.0	e1.3	1.9	1.7	1.9	1.6	16	21	1.7	2.0
4	0.96	e1.5	e2.0	e1.0	e1.9	1.8	2.1	2.4	26	22	1.6	1.9
5	0.94	e1.5	e1.9	e0.80	1.9	1.7	2.2	4.4	41	18	1.5	1.8
6	0.95	e1.6	e2.0	e0.90	e1.9	1.8	1.6	6.6	60	14	1.4	1.8
7	1.3	e1.7	e1.9	e0.90	2.0	2.0	1.7	6.9	45	13	1.4	1.6
8	1.1	e1.8	e1.8	e1.0	2.1	2.7	1.7	8.5	38	12	1.3	1.5
9	1.1	e1.9	e1.7	1.1	2.1	3.3	2.2	8.9	34	10	1.1	1.3
10	1.3	e2.0	e1.7	1.1	e2.1	3.4	1.9	9.0	52	9.0	1.1	1.3
11	1.4	e1.9	e1.7	1.2	e2.0	2.7	1.8	9.3	49	6.8	1.0	1.2
12	1.7	e1.8	e1.7	1.2	e2.0	2.9	1.7	7.4	37	6.1	0.96	1.3
13	1.7	e1.7	e1.8	1.2	e1.9	3.1	1.7	5.1	33	5.0	0.97	1.8
14	1.9	e1.6	e1.8	1.2	e2.0	2.8	1.8	4.3	31	4.3	1.1	1.4
15	2.0	e1.7	e1.8	1.3	2.1	2.7	2.0	3.8	31	3.9	1.0	1.3
16	2.2	e1.9	e1.8	1.3	e2.0	2.8	1.8	3.8	27	4.0	1.0	1.1
17	1.9	e2.0	e1.8	1.4	2.1	2.7	1.7	4.4	24	4.0	1.3	0.93
18	1.4	e2.0	e1.9	1.4	2.3	3.2	1.8	3.7	23	3.4	2.0	1.0
19	1.3	e2.0	e2.0	1.5	2.3	4.2	1.8	4.3	25	3.4	2.2	1.5
20	1.2	e1.8	e1.9	1.5	e2.2	3.8	1.7	4.7	25	3.7	1.8	1.5
21	1.0	e1.6	e1.8	1.5	e2.2	3.6	1.5	8.6	25	3.2	1.4	1.5
22	0.91	e1.5	e1.8	1.5	e2.3	4.0	1.5	18	26	2.8	1.5	1.4
23	0.91	e1.6	e1.7	1.6	e2.5	4.6	1.4	22	29	2.6	2.3	1.3
24	0.93	e1.8	e1.8	1.6	2.8	5.9	1.4	19	32	2.5	2.4	1.4
25	1.0	e1.8	e1.8	1.6	2.7	5.5	1.9	17	34	2.7	2.6	e1.3
26	1.2	e1.8	e1.7	1.6	2.3	5.1	1.2	16	32	2.4	2.9	e1.3
27	1.3	e1.9	e1.6	1.7	2.0	4.4	1.3	16	41	1.9	3.1	e1.2
28	1.7	e1.9	e1.3	1.7	1.7	3.9	1.9	19	32	1.9	2.5	e1.2
29	3.0	e2.0	e1.4	1.7	1.7	3.4	1.6	21	27	1.8	2.1	e1.2
30	e2.0	e1.9	e1.3	1.8	---	3.0	1.5	18	32	2.5	1.9	e1.1
31	e1.4	---	e1.4	1.9	---	2.0	---	16	---	1.9	1.7	---
TOTAL	42.64	53.0	55.1	42.50	60.7	97.8	53.3	292.7	954	242.8	52.13	42.83
MEAN	1.38	1.77	1.78	1.37	2.09	3.15	1.78	9.44	31.8	7.83	1.68	1.43
MAX	3.0	2.0	2.2	1.9	2.8	5.9	2.7	22	60	27	3.1	2.1
MIN	0.91	1.5	1.3	0.80	1.7	1.5	1.2	1.4	13	1.8	0.96	0.93
AC-FT	85	105	109	84	120	194	106	581	1,890	482	103	85

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2004, BY WATER YEAR (WY)

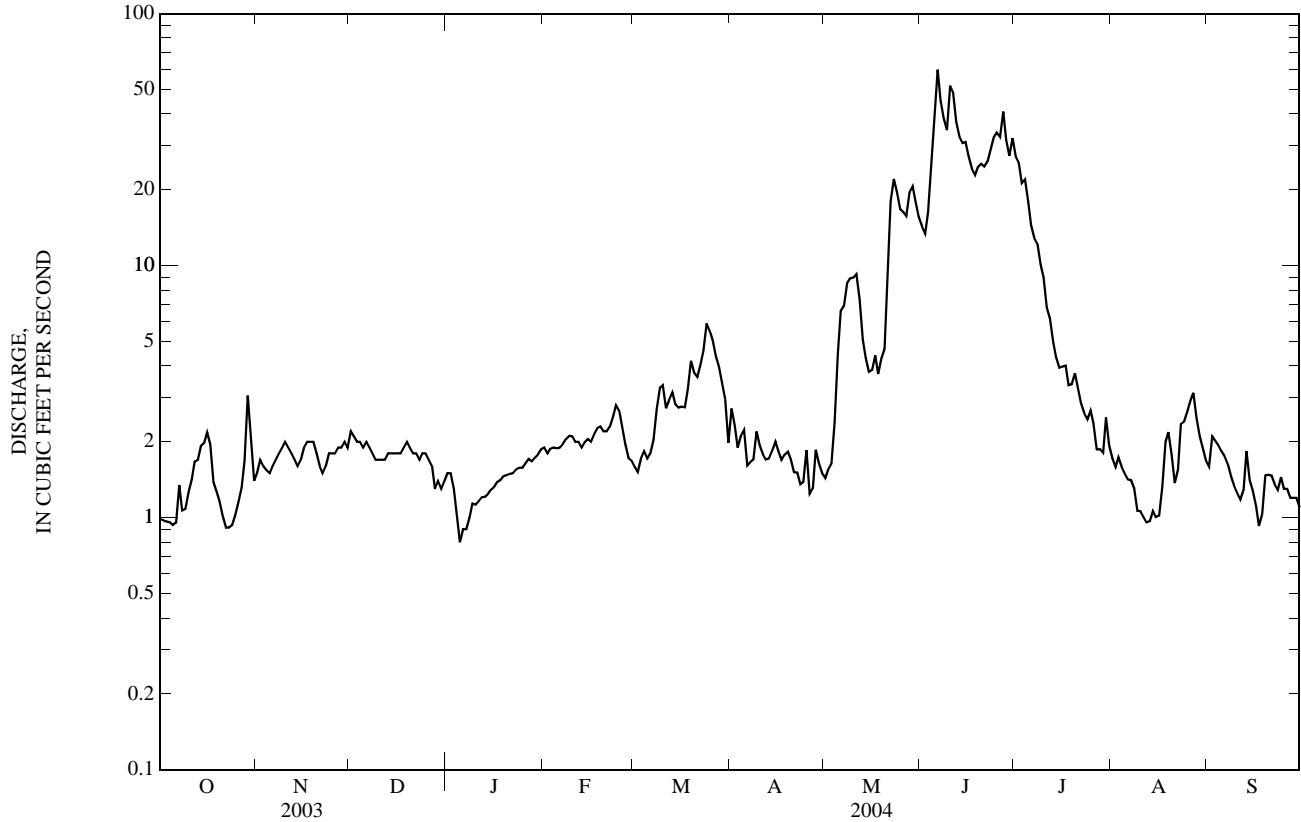
	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004
MEAN	1.38	1.77	1.78	1.37	2.09	3.15	8.97	31.6	58.7	9.01	1.98	1.40
MAX	1.38	1.77	1.78	1.37	2.09	3.15	16.2	53.7	85.7	10.2	2.27	1.43
(WY)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2003)	(2003)	(2003)	(2003)	(2003)	(2004)
MIN	1.38	1.77	1.78	1.37	2.09	3.15	1.78	9.44	31.8	7.83	1.68	1.38
(WY)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2003)

SUMMARY STATISTICS

	FOR 2004 WATER YEAR	WATER YEARS 2003 - 2004
ANNUAL TOTAL	1,989.50	
ANNUAL MEAN	5.44	5.44
HIGHEST ANNUAL MEAN		5.44
LOWEST ANNUAL MEAN		5.44
HIGHEST DAILY MEAN	60	260
LOWEST DAILY MEAN	0.80	0.80
ANNUAL SEVEN-DAY MINIMUM	0.97	0.96
MAXIMUM PEAK FLOW	69	284
MAXIMUM PEAK STAGE	2.10	3.34
INSTANTANEOUS LOW FLOW		a0.79
ANNUAL RUNOFF (AC-FT)	3,950	3,940
10 PERCENT EXCEEDS	18	18
50 PERCENT EXCEEDS	1.9	1.9
90 PERCENT EXCEEDS	1.2	1.2

a--Gage height, 0.89 ft.  
e--Estimated.

PEND OREILLE RIVER BASIN  
 12323700 MILL CREEK AT OPPORTUNITY, MT—Continued



WATER-QUALITY RECORDS

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

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)
NOV 17...	1055	3.6	8.1	219	4.5	1.0	97	26.8	7.31	18.5	20	.10	.13
MAR 16...	1435	2.9	8.2	221	10.0	4.5	100	27.9	7.68	16.2	16	.08	.08
APR 20...	0930	1.8	8.0	184	6.0	5.5	79	22.3	5.64	13.9	16	.08	.09
MAY 17...	1015	4.6	7.9	133	12.0	7.0	55	15.4	3.94	18.5	22	.07	.10
JUN 01...	1250	15	7.8	110	16.5	10.0	48	14.0	3.18	18.0	22	.06	.11
JUN 13...	0920	34	7.8	88	18.0	8.5	39	11.6	2.44	16.2	21	.07	.12
JUL 19...	1045	3.8	7.9	136	24.5	16.0	59	17.1	3.93	30.5	30	.07	.08
AUG 20...	0935	1.9	7.9	167	19.0	14.5	75	21.4	5.11	28.9	31	.07	.10

12323700 MILL CREEK AT OPPORTUNITY, MT—Continued

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

Date	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recover-able, ug/L (01042)	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recover-able, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover-able, ug/L (01051)	Mangan-ese, water, fltrd, ug/L (01056)	Mangan-ese, water, unfltrd recover-able, ug/L (01055)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)	Sus-pended sedi-ment, percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)	Sus-pended sedi-ment dis-charge, tons/d (80155)
NOV 17...	1.8	2.8	44	110	E.08	.26	7.3	8	7.7	8	82	2	.02
MAR 16...	2.0	3.0	17	70	E.05	.19	5.0	6	3.2	2	80	1	.01
APR 20...	2.3	3.5	36	80	E.04	.14	10.6	10	4.4	4	83	1	.00
MAY 17...	3.0	4.2	48	130	.13	.41	7.7	11	4.5	5	90	2	.02
JUN 01...	3.1	4.9	38	150	.13	.73	5.5	11	3.5	5	84	5	.20
JUN 13...	3.0	5.3	35	160	.14	.93	4.9	12	3.9	5	73	5	.46
JUL 19...	2.8	4.1	74	130	.19	.43	11.7	13	2.2	2	80	1	.01
AUG 20...	2.7	3.1	84	150	.15	.29	12.9	14	3.3	3	90	1	.01

E--Estimated.

## PEND OREILLE RIVER BASIN

12323720 WILLOW CREEK AT OPPORTUNITY, MT

LOCATION.--Lat 46°06'22", long 112°48'41" (NAD 27), in NW¼ NE¼ NW¼ sec. 14, T4N., R.10W., Deer Lodge County, Hydrologic Unit 17010201, 1,300 ft upstream from Stuart Street culverts, at Opportunity, 1.2 mi upstream from Mill-Willow Bypass, and at river mile 1.2.  
DRAINAGE AREA.--30.8 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 4,930 ft (NGVD 29).

REMARKS.--Water-discharge records good except those from July to September, which are fair. No regulation. Minor diversions for irrigation upstream from station. U.S. Geological Survey satellite telemeter at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.4	5.1	5.8	4.6	4.2	4.9	6.8	5.9	19	15	7.1	5.9
2	6.8	5.1	6.0	4.6	4.1	4.8	6.5	5.6	18	15	7.7	6.3
3	6.3	5.2	6.1	4.6	4.1	4.8	6.3	5.7	16	14	8.3	6.4
4	6.2	5.1	5.4	4.6	4.1	4.8	6.7	6.3	17	14	8.5	6.4
5	6.3	5.1	5.2	4.5	4.1	4.8	6.4	6.6	18	14	8.2	6.4
6	6.4	5.0	5.9	4.1	4.1	4.7	6.3	6.9	21	11	7.6	6.8
7	6.6	4.9	5.6	4.1	4.1	4.9	6.5	6.9	21	9.1	7.1	6.8
8	6.4	4.9	5.6	4.0	4.1	5.9	6.4	6.8	25	8.3	7.3	7.0
9	6.1	5.0	5.3	4.0	4.1	6.4	7.2	8.5	27	7.8	7.2	7.2
10	6.2	5.5	5.1	4.0	4.2	6.3	6.4	6.5	26	7.0	7.2	7.4
11	6.1	5.6	5.1	4.1	4.2	6.1	5.9	8.2	26	7.2	7.4	7.4
12	6.0	5.7	5.2	4.1	4.2	6.4	5.8	9.3	21	7.3	7.0	7.6
13	6.0	5.5	5.3	4.1	4.2	6.5	5.9	9.0	19	7.5	7.0	8.0
14	6.1	5.3	5.3	4.1	4.1	6.2	6.2	8.1	17	7.2	7.0	8.0
15	6.2	5.3	5.2	4.1	4.1	6.4	6.4	8.2	16	7.4	6.6	8.3
16	6.0	5.6	5.0	4.1	4.1	6.6	5.8	11	16	7.8	6.5	8.2
17	6.0	5.7	5.0	4.0	4.2	6.5	5.6	15	14	7.3	7.3	7.9
18	6.1	5.9	4.9	4.1	4.6	7.4	5.8	15	13	7.7	7.2	7.8
19	6.2	6.3	4.7	4.1	4.5	7.6	5.7	17	15	7.9	7.0	8.2
20	6.3	5.8	5.0	4.1	4.5	6.7	5.6	13	17	7.8	6.3	8.9
21	6.3	5.4	5.1	4.1	4.5	6.7	5.0	19	14	7.5	5.9	8.0
22	6.3	5.1	5.1	4.1	4.4	6.8	4.9	25	13	7.4	5.6	8.0
23	6.2	5.1	4.9	4.1	4.4	7.0	5.0	25	12	7.4	6.2	7.7
24	6.0	5.1	4.9	4.1	4.5	7.4	5.0	21	12	7.3	5.4	7.7
25	5.9	5.0	5.0	4.1	4.7	7.3	5.0	19	14	7.2	5.4	7.4
26	6.0	5.0	5.0	4.1	4.7	7.2	5.3	19	16	7.4	5.3	7.3
27	6.1	5.1	4.9	4.1	4.7	6.6	5.5	19	20	6.5	5.6	7.4
28	6.3	5.1	4.8	4.1	4.8	6.3	6.4	23	19	6.3	5.6	7.6
29	6.2	5.7	4.9	4.2	4.8	6.0	6.2	25	16	6.2	5.9	7.4
30	5.7	5.6	4.7	4.4	---	5.1	6.2	21	15	6.5	6.0	7.4
31	5.3	---	4.6	4.2	---	5.2	---	21	---	7.0	6.0	---
TOTAL	192.0	159.8	160.6	129.6	125.4	190.3	178.7	416.5	533	267.0	208.4	222.8
MEAN	6.19	5.33	5.18	4.18	4.32	6.14	5.96	13.4	17.8	8.61	6.72	7.43
MAX	7.4	6.3	6.1	4.6	4.8	7.6	7.2	25	27	15	8.5	8.9
MIN	5.3	4.9	4.6	4.0	4.1	4.7	4.9	5.6	12	6.2	5.3	5.9
AC-FT	381	317	319	257	249	377	354	826	1,060	530	413	442

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2004, BY WATER YEAR (WY)

	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004
MEAN	6.19	5.33	5.18	4.18	4.32	6.14	10.2	21.8	17.9	7.65	6.52	7.09
MAX	6.19	5.33	5.18	4.18	4.32	6.14	14.5	30.2	18.1	8.61	6.72	7.43
(WY)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2003)	(2003)	(2003)	(2004)	(2004)	(2004)
MIN	6.19	5.33	5.18	4.18	4.32	6.14	5.96	13.4	17.8	6.68	6.32	6.75
(WY)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2003)	(2003)	(2003)

## SUMMARY STATISTICS

## FOR 2004 WATER YEAR

## WATER YEARS 2003 - 2004

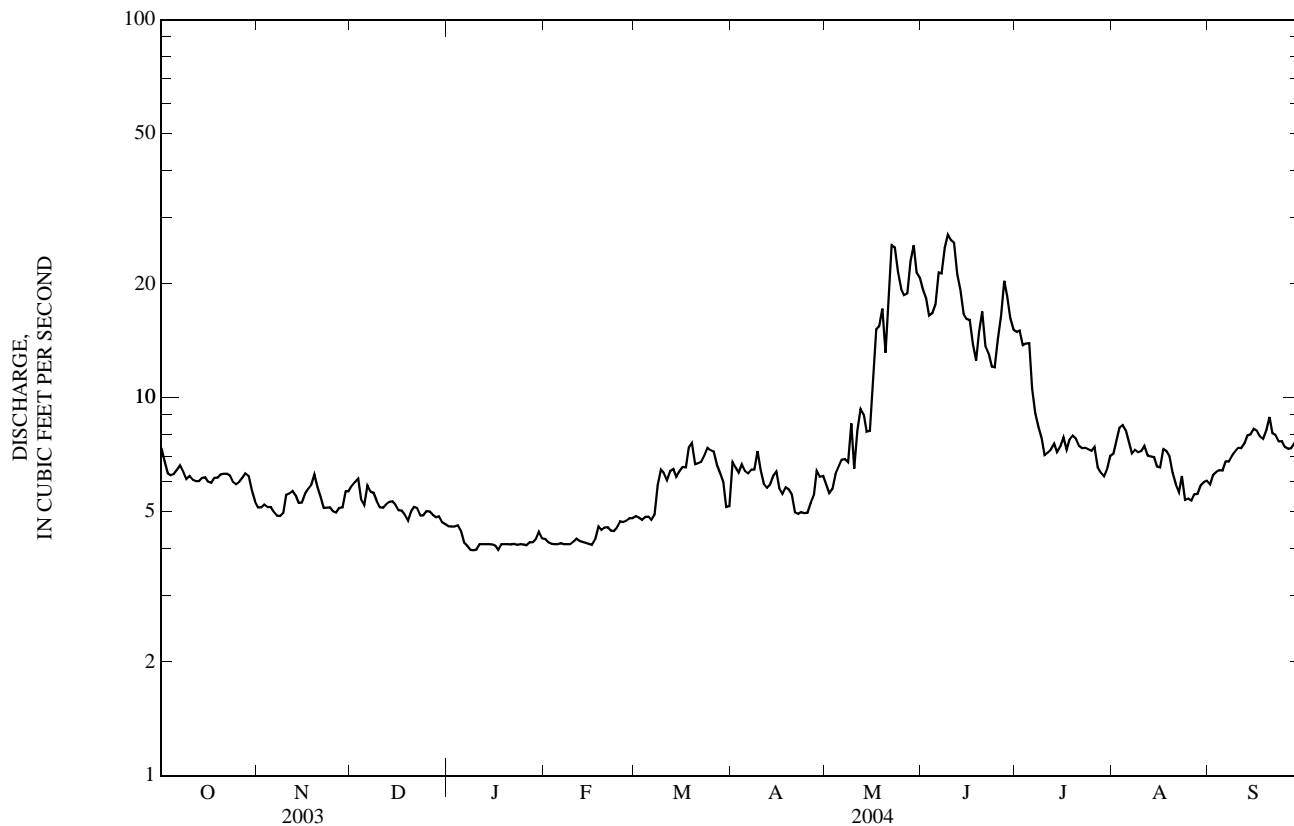
ANNUAL TOTAL	2,784.1	
ANNUAL MEAN	7.61	7.61
HIGHEST ANNUAL MEAN		7.61
LOWEST ANNUAL MEAN		7.61
HIGHEST DAILY MEAN	27	61
LOWEST DAILY MEAN	4.0	4.0
ANNUAL SEVEN-DAY MINIMUM	4.1	4.1
MAXIMUM PEAK FLOW	a29	65
MAXIMUM PEAK STAGE	b4.83	5.00
INSTANTANEOUS LOW FLOW	c3.1	c3.1
ANNUAL RUNOFF (AC-FT)	5,520	5,510
10 PERCENT EXCEEDS	15	15
50 PERCENT EXCEEDS	6.2	6.2
90 PERCENT EXCEEDS	4.2	4.2

a--Gage height, 4.55 ft.

b--Backwater from algae.

c--Gage height, 3.81 ft.

12323720 WILLOW CREEK AT OPPORTUNITY, MT—Continued



WATER-QUALITY RECORDS

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

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, ug/L (01000)	Arsenic water, unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)	
NOV	17...	1135	5.7	8.1	308	4.5	5.0	130	38.9	9.03	12.0	13	.08	.06
MAR	16...	1515	6.6	8.2	292	9.5	7.0	130	38.0	9.00	13.5	12	.09	.05
APR	20...	1015	5.7	8.1	280	6.5	5.0	120	36.1	7.59	13.3	16	E.03	.06
MAY	17...	1050	16	8.0	371	10.0	8.5	170	47.4	12.0	89.0	96	.09	.16
JUN	01...	1410	20	8.4	314	19.0	16.0	140	41.2	10.1	81.0	87	.05	.07
JUN	13...	0950	21	8.1	321	14.0	10.0	150	44.4	10.5	75.7	79	.05	.07
JUL	19...	1115	8.3	8.1	320	26.5	13.5	140	40.7	9.11	21.8	21	E.04	.04
AUG	20...	1010	6.3	7.9	308	19.0	12.0	140	40.6	9.04	15.6	16	E.03	E.03

E--Estimated.

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

Date	Copper, water, fltred, ug/L (01040)	Copper, water, unfltred recover- able, ug/L (01042)	Iron, water, fltred, ug/L (01046)	Iron, water, unfltred recover- able, ug/L (01045)	Lead, water, fltred, ug/L (01049)	Lead, water, unfltred recover- able, ug/L (01051)	Mangan- ese, water, fltred, ug/L (01056)	Mangan- ese, water, unfltred recover- able, ug/L (01055)	Zinc, water, fltred, ug/L (01090)	Zinc, water, unfltred recover- able, ug/L (01092)	Sus- pended sediment, percent <.063mm (70331)	Sus- pended sediment concentration mg/L (80154)	Sus- pended sediment dis- charge, tons/d (80155)
NOV 17...	2.0	5.7	16	140	.09	1.43	20.2	26	3.4	7	96	4	.06
MAR 16...	2.7	4.2	18	100	.13	.69	44.6	46	4.0	4	92	3	.05
APR 20...	2.6	5.0	29	130	E.07	1.02	45.5	43	3.8	7	78	4	.06
MAY 17...	11.5	18.9	65	330	.21	2.86	39.9	60	19.8	30	85	13	.56
JUN 01...	6.9	10.0	22	130	.12	1.14	16.7	23	5.8	10	92	5	.27
JUN 13...	5.8	7.8	35	100	.11	.68	16.6	20	5.0	7	87	3	.17
JUL 19...	2.9	3.6	7	30	<.08	.27	4.1	5	1.8	2	82	1	.02
AUG 20...	2.4	2.8	7	40	E.04	.29	15.9	15	2.3	3	80	1	.02

E--Estimated.

12323750 SILVER BOW CREEK AT WARM SPRINGS, MT

LOCATION.--Lat 46°10'50", long 112°46'46" (NAD 27), in SW 1/4 SE 1/4 SW 1/4 sec.18, T.5 N., R.9 W., Deer Lodge County, Hydrologic Unit 17010201, on left bank 1.0 mi upstream from confluence with Warm Springs Creek, 1.1 mi upstream from county highway bridge, and 0.5 mi east of Warm Springs.

DRAINAGE AREA.--473 mi<sup>2</sup>; area at site used prior to May 24, 1994, 483 mi<sup>2</sup>.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1972 to September 1979, April 1993 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,800.31 ft (NGVD 29). Prior to May 24, 1994, gage located at sites 0.8 mi downstream at different elevation.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are fair. Flow is regulated by dam on tailing ponds about 0.2 mi upstream from gage. Diversions for irrigation of about 4,650 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	27	40	e33	41	44	56	42	78	62	22	26
2	23	28	43	e34	39	44	60	41	74	57	21	28
3	22	29	44	e33	39	44	58	41	71	53	22	27
4	21	31	43	e32	40	44	57	42	75	53	21	28
5	21	31	43	e30	40	47	55	44	85	51	21	27
6	20	32	43	e31	40	47	58	47	102	45	21	26
7	21	32	45	e31	40	45	61	49	94	41	20	26
8	21	32	44	e32	40	49	62	50	85	40	20	25
9	21	34	43	32	40	53	64	51	83	38	20	25
10	21	34	43	33	41	51	62	48	93	35	20	24
11	23	36	44	33	41	47	58	51	96	33	20	24
12	22	37	42	33	40	45	54	52	80	32	21	23
13	21	38	43	34	39	45	50	49	73	31	21	25
14	22	39	45	35	39	44	47	47	68	30	21	25
15	24	40	43	36	39	44	46	47	65	30	21	25
16	26	41	42	37	39	45	43	49	63	29	22	24
17	25	41	41	37	40	44	42	61	59	29	24	25
18	24	40	39	38	42	44	43	62	57	28	25	27
19	24	41	40	39	43	40	45	71	59	29	27	30
20	24	41	41	39	44	36	47	63	64	31	27	36
21	24	39	40	38	43	37	46	67	60	29	26	36
22	24	36	43	38	43	38	45	84	59	28	24	33
23	23	39	40	39	43	35	45	90	60	27	30	31
24	23	38	41	40	43	35	41	88	61	26	28	30
25	23	37	39	40	45	35	41	85	64	25	28	31
26	23	37	39	40	44	35	40	84	64	25	29	31
27	25	38	37	40	44	35	40	84	72	23	29	31
28	27	39	e34	40	43	36	42	92	71	23	29	31
29	28	39	e33	41	44	39	44	98	65	23	27	32
30	25	39	e32	41	---	50	42	87	67	24	27	33
31	26	---	e31	39	---	44	---	83	---	23	27	---
TOTAL	721	1,085	1,260	1,118	1,198	1,321	1,494	1,949	2,167	1,053	741	845
MEAN	23.3	36.2	40.6	36.1	41.3	42.6	49.8	62.9	72.2	34.0	23.9	28.2
MAX	28	41	45	41	45	53	64	98	102	62	30	36
MIN	20	27	31	30	39	35	40	41	57	23	20	23
AC-FT	1,430	2,150	2,500	2,220	2,380	2,620	2,960	3,870	4,300	2,090	1,470	1,680

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 2004, BY WATER YEAR (WY)\*

MEAN	67.8	74.9	70.1	74.3	78.9	107	126	233	263	112	64.6	59.9
MAX	193	161	156	152	130	207	281	586	770	356	201	137
(WY)	(1976)	(1976)	(1976)	(1974)	(1996)	(1976)	(1976)	(1976)	(1975)	(1975)	(1975)	(1975)
MIN	23.3	31.7	30.9	36.1	36.9	42.6	49.8	62.9	57.2	28.8	16.8	20.1
(WY)	(2004)	(2001)	(2002)	(2004)	(2001)	(2004)	(2004)	(2004)	(2000)	(2000)	(2000)	(2000)

PEND OREILLE RIVER BASIN

12323750 SILVER BOW CREEK AT WARM SPRINGS, MT—Continued

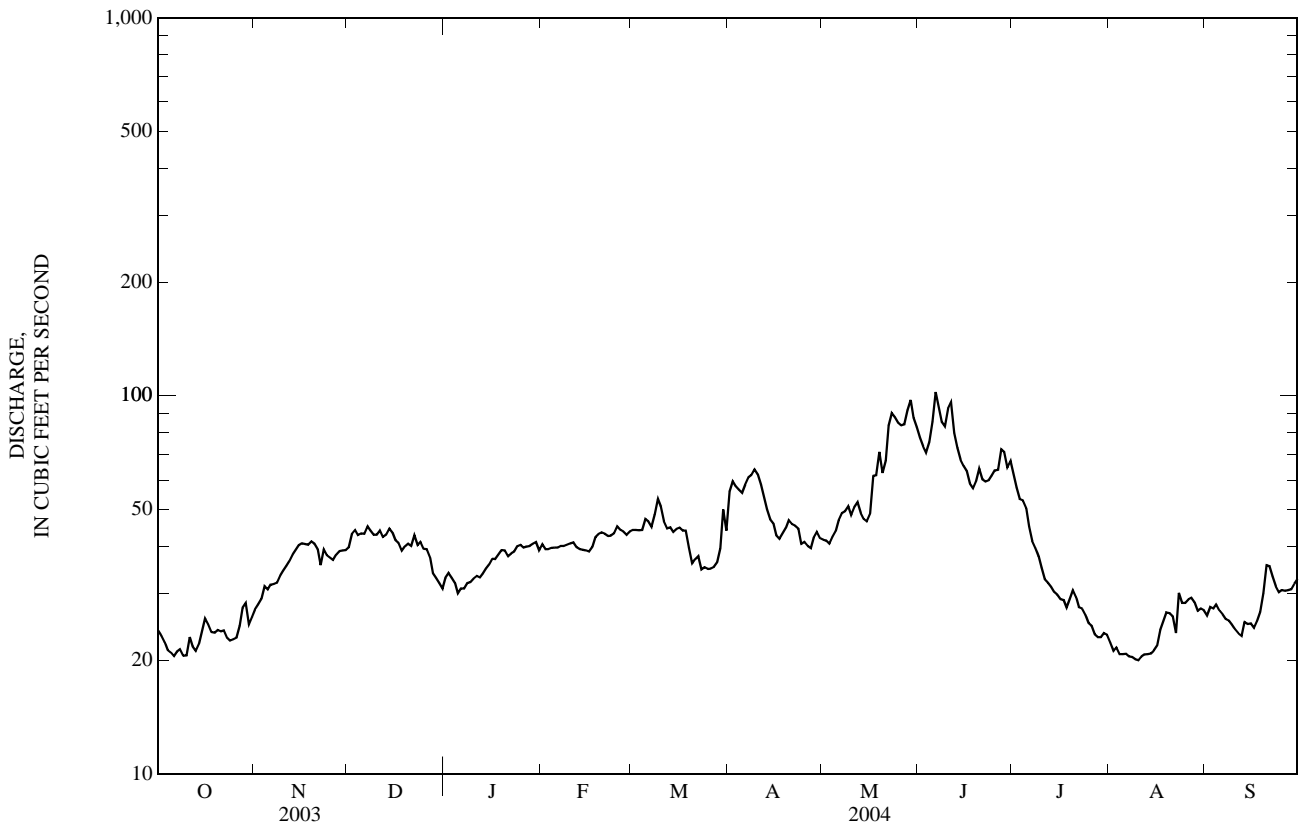
SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1972 - 2004*	
ANNUAL TOTAL	26,192		14,952		110	
ANNUAL MEAN	71.8		40.9		228	
HIGHEST ANNUAL MEAN					40.9 1975	
LOWEST ANNUAL MEAN					2004	
HIGHEST DAILY MEAN	422	Jun 1	102	Jun 6	1,220	Jun 20, 1975
LOWEST DAILY MEAN	19	Aug 2	20	Oct 6	15	Sep 12, 1973
ANNUAL SEVEN-DAY MINIMUM	21	Jul 28	20	Aug 5	16	Aug 4, 2000
MAXIMUM PEAK FLOW			114	Jun 6	a1,320	Jun 20, 1975
MAXIMUM PEAK STAGE			2.37	Jun 6	b8.64	Jan 16, 1974
ANNUAL RUNOFF (AC-FT)	51,950		29,660		79,680	
10 PERCENT EXCEEDS	144		63		218	
50 PERCENT EXCEEDS	47		39		76	
90 PERCENT EXCEEDS	23		23		32	

\*--During periods of operation (March 1972 to September 1979, April 1993 to current year).

a--Gage height, 7.47 ft, site and datum then in use.

b--Backwater from ice, site and datum then in use.

e--Estimated.





12323750 SILVER BOW CREEK AT WARM SPRINGS, MT—Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: April 1993 to September 1995.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATION: Maximum daily mean, 429 mg/L, Mar. 15, 1994; minimum daily mean, 1 mg/L, several days in October 1995.

SEDIMENT LOAD: Maximum daily, 302 tons, June 6, 1995; minimum daily, 0.12 ton, several days in August 1995.

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)
NOV 17...	1325	42	9.1	626	5.0	4.0	270	75.2	18.8	26.5	27	E.04	.07
MAR 16...	1700	44	8.8	586	9.5	5.0	250	72.8	16.8	12.5	13	.11	.14
APR 20...	1200	50	8.8	600	13.5	9.5	250	73.8	17.1	12.2	16	E.04	.10
MAY 17...	1245	62	9.1	493	13.0	10.5	220	64.5	15.2	24.1	30	E.03	.13
JUN 01...	1145	77	9.0	454	17.5	12.5	190	55.5	13.6	34.5	43	E.04	.13
JUN 13...	1125	76	8.7	354	16.0	12.5	150	43.9	10.5	34.1	44	E.03	.10
JUL 19...	1330	30	9.2	540	28.5	22.5	240	70.4	16.2	32.4	35	E.03	.08
AUG 20...	1205	27	9.1	568	25.0	18.5	260	75.3	17.1	32.3	35	E.03	.07

Date	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recover-able, ug/L (01042)	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recover-able, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover-able, ug/L (01051)	Manganese, water, fltrd, ug/L (01056)	Manganese, water, unfltrd recover-able, ug/L (01055)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)	Suspended sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
NOV 17...	3.7	6.6	E6	110	E.04	.49	65.7	95	3.5	7	64	3	.34
MAR 16...	5.2	6.9	7	180	<.08	.96	164	178	5.9	9	90	2	.24
APR 20...	3.3	5.9	11	200	E.05	.88	247	304	3.5	9	90	4	.54
MAY 17...	4.9	10.4	35	370	.11	1.73	88.9	265	2.2	15	90	8	1.3
JUN 01...	4.9	8.3	24	260	E.07	1.10	125	214	2.0	11	84	6	1.2
JUN 13...	4.1	7.9	34	220	.12	1.17	104	173	2.9	10	86	6	1.2
JUL 19...	3.5	5.7	8	150	<.08	.62	39.6	102	.9	5	79	4	.32
AUG 20...	3.4	5.5	11	170	E.04	.71	58.5	104	2.2	6	78	3	.22

E--Estimated.

## 12323760 WARM SPRINGS CREEK NEAR ANACONDA, MT

LOCATION.--Lat 46°08'01", long 112°54'48" (NAD 27), in SW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$  sec. 1, T.4N., R.11W., Deer Lodge County, Hydrologic Unit 17010201, on left bank 0.3 mi downstream from Arbiter Bridge on private road, 1.0 mi upstream from Dutchman Creek, 1.2 mi northeast of Anaconda, and at river mile 9.5.

DRAINAGE AREA.--157 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Elevation of gage is 5,150 ft (NGVD 29).

REMARKS.--Records good except those for estimated daily discharges, which are fair. Some regulation by Storm King Lake. Minor diversions upstream from station for irrigation and municipal use. U. S. Geological Survey satellite telemeter at station. Several observations of water temperature and specific conductance were made during the year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	e34	52	23	41	42	51	72	87	95	65	78
2	62	35	57	24	37	42	50	77	87	89	66	80
3	62	37	66	e20	40	42	49	90	90	88	74	75
4	61	36	66	e15	42	43	50	102	111	91	73	74
5	62	e35	57	e15	42	42	51	121	129	84	69	72
6	61	e30	46	e15	40	41	53	122	174	89	67	72
7	61	e30	43	e18	43	43	54	106	147	91	62	72
8	61	34	39	e20	42	62	56	105	139	85	62	69
9	60	32	38	22	41	54	59	101	108	81	62	67
10	60	22	40	31	41	53	55	94	172	83	68	65
11	61	24	39	32	40	49	55	92	179	82	65	65
12	62	24	37	33	38	50	54	84	128	77	62	78
13	58	24	36	35	40	49	57	79	112	78	65	86
14	55	e23	36	36	40	48	61	75	106	76	65	81
15	58	e23	35	38	41	47	62	72	101	71	64	79
16	57	e25	33	39	40	46	60	74	96	69	65	79
17	43	28	36	40	42	47	61	76	91	74	70	76
18	45	35	30	41	43	48	62	74	86	78	90	75
19	49	40	31	42	42	52	60	77	89	82	80	86
20	49	e34	34	48	41	49	59	76	86	88	76	87
21	52	e32	35	50	39	49	56	80	81	83	73	84
22	59	e30	32	47	36	46	56	93	81	79	76	81
23	41	e35	27	48	40	50	56	99	86	75	97	83
24	40	e40	32	44	45	54	56	92	92	64	91	87
25	40	54	e30	43	44	53	55	86	98	63	101	84
26	42	55	e26	42	43	51	54	85	96	65	109	83
27	45	54	e25	42	42	48	58	88	117	72	104	80
28	39	48	e22	42	42	48	71	95	109	77	96	79
29	49	54	e23	43	43	46	68	98	105	74	91	77
30	e36	54	e20	43	---	49	69	93	109	66	84	75
31	e34	---	e23	41	---	50	---	89	---	66	80	---
TOTAL	1,625	1,061	1,146	1,072	1,190	1,493	1,718	2,767	3,292	2,435	2,372	2,329
MEAN	52.4	35.4	37.0	34.6	41.0	48.2	57.3	89.3	110	78.5	76.5	77.6
MAX	62	55	66	50	45	62	71	122	179	95	109	87
MIN	34	22	20	15	36	41	49	72	81	63	62	65
AC-FT	3,220	2,100	2,270	2,130	2,360	2,960	3,410	5,490	6,530	4,830	4,700	4,620

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

MEAN	76.3	62.1	51.1	49.6	48.7	50.5	55.7	112	183	106	83.8	78.7
MAX	113	99.5	78.6	71.0	68.0	67.3	66.5	159	266	196	99.0	95.1
(WY)	(1998)	(1998)	(1998)	(1998)	(1998)	(1998)	(1998)	(1998)	(2003)	(1998)	(1999)	(1999)
MIN	52.4	35.4	37.0	34.6	40.5	40.8	46.2	70.0	93.0	65.2	63.2	68.4
(WY)	(2004)	(2004)	(2004)	(2004)	(2001)	(2002)	(2001)	(2002)	(2000)	(2000)	(2000)	(2000)

## SUMMARY STATISTICS

## FOR 2003 CALENDAR YEAR

## FOR 2004 WATER YEAR

## WATER YEARS 1998 - 2004

ANNUAL TOTAL	30,444	22,500										
ANNUAL MEAN	83.4	61.5								79.9		
HIGHEST ANNUAL MEAN										112		1998
LOWEST ANNUAL MEAN										61.5		2004
HIGHEST DAILY MEAN	598	May 31	179	Jun 11	598	May 31, 2003						
LOWEST DAILY MEAN	20	Dec 30	15	Jan 4	15	Jan 4, 2004						
ANNUAL SEVEN-DAY MINIMUM	24	Nov 10	18	Jan 3	18	Jan 3, 2004						
MAXIMUM PEAK FLOW			202	Jun 10	b675	May 31, 2003						
MAXIMUM PEAK STAGE			3.13	Jun 10	c4.89	Dec 26, 1998						
INSTANTANEOUS LOW FLOW			a10	Jan 6	a10	Jan 6, 2004						
ANNUAL RUNOFF (AC-FT)	60,390	44,630								57,880		
10 PERCENT EXCEEDS	175	93								122		
50 PERCENT EXCEEDS	59	58								65		
90 PERCENT EXCEEDS	35	33								42		

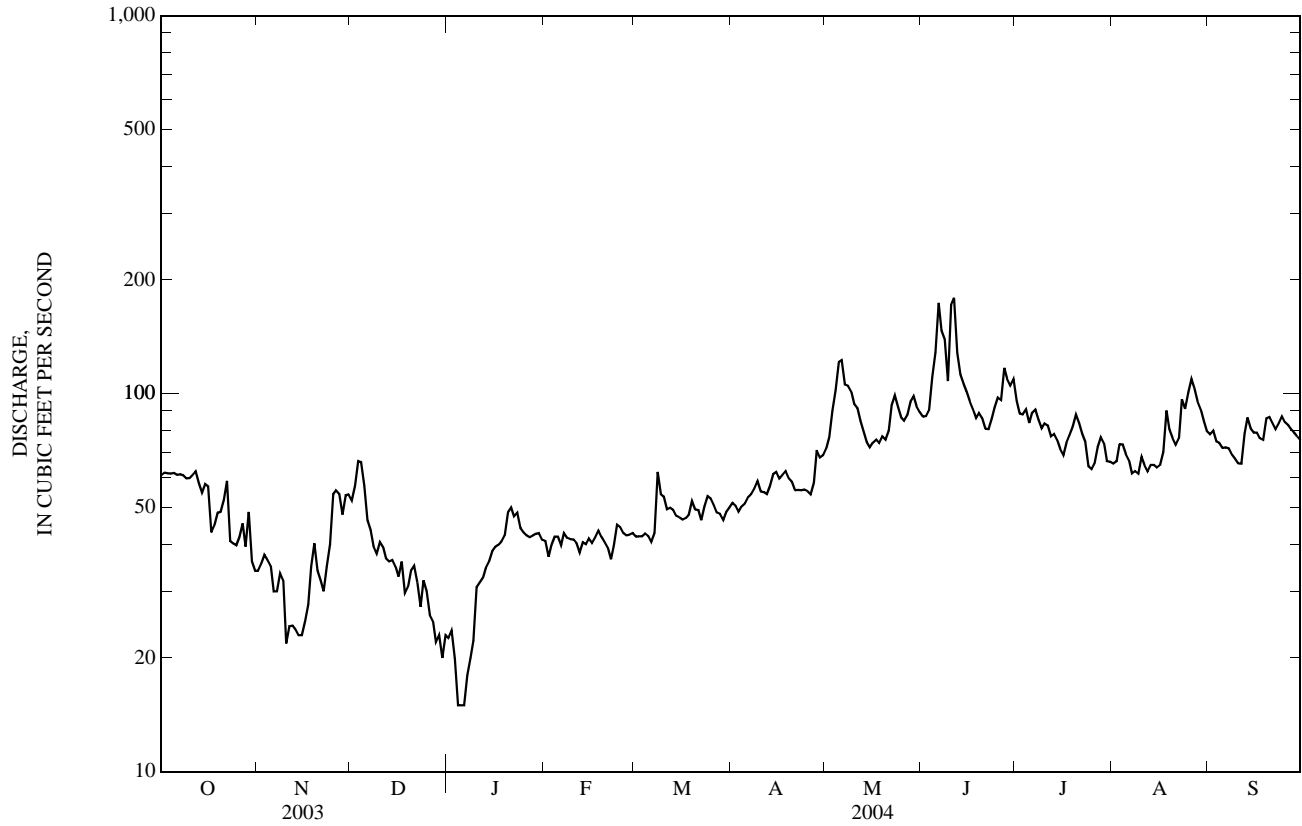
a--Gage height, 1.79 ft, result of freezeup, but may have been lower during period of ice effect.

b--Gage height, 4.17 ft.

c--Backwater from ice.

e--Estimated.

12323760 WARM SPRINGS CREEK NEAR ANACONDA, MT—Continued



## PEND OREILLE RIVER BASIN

## 12323770 WARM SPRINGS CREEK AT WARM SPRINGS, MT

LOCATION.--Lat 46°10'50", long 112°47'04" (NAD 27), in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec.18, T.5 N., R.9 W., Deer Lodge County, Hydrologic Unit 17010201, on right bank at I-90 frontage road bridge 0.2 mi southeast of Warm Springs post office, and at river mile 0.9.

DRAINAGE AREA.--163 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1983 to current year. October 1983 to June 26, 2002 at site 200 ft upstream.

GAGE.--Water-stage recorder. Elevation of gage is 4,810 ft (NGVD 29).

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. Numerous diversions upstream from station. U.S. Geological Survey satellite telemeter at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	e20	42	e10	e25	33	36	50	31	60	15	21
2	23	e20	43	e10	e25	33	36	50	28	48	13	22
3	18	e20	42	e9.0	e30	33	35	47	29	32	14	23
4	20	e20	39	e8.0	28	34	36	57	37	37	15	25
5	24	e15	36	e8.0	28	33	36	67	60	32	16	23
6	23	e15	33	e8.0	27	33	38	79	92	31	16	23
7	20	e15	31	e9.0	30	33	40	64	88	33	12	23
8	25	e20	29	e10	29	49	41	57	89	32	13	21
9	30	e20	29	e15	30	47	44	56	67	30	12	20
10	33	e20	29	e15	30	45	41	51	97	31	13	19
11	36	19	28	e16	29	41	40	52	112	30	16	17
12	37	19	29	e20	e25	41	39	46	85	29	13	22
13	37	16	30	e20	e25	41	41	43	69	26	14	32
14	32	e15	29	e20	e20	39	43	27	66	25	16	28
15	27	e14	27	e25	e25	38	42	24	62	23	17	27
16	33	15	e25	e25	29	37	39	25	58	21	14	28
17	24	17	e25	e30	31	38	40	27	52	21	16	27
18	24	20	e25	e30	32	38	43	27	50	25	24	26
19	27	25	e25	e32	31	38	42	27	52	28	24	33
20	29	27	e25	e34	30	34	41	23	52	45	20	35
21	28	e25	e25	35	29	34	39	27	46	43	19	33
22	35	e25	25	35	27	32	39	35	43	42	19	42
23	24	e20	e25	34	29	33	39	40	47	37	30	43
24	23	e30	e25	30	34	36	38	36	51	22	30	46
25	22	e45	22	29	35	35	38	33	57	20	32	44
26	21	e40	20	e28	33	34	37	29	58	17	42	42
27	26	e40	20	e27	32	33	39	28	73	16	37	41
28	21	e40	e15	28	32	32	51	33	69	20	31	40
29	25	e45	e13	29	33	31	51	36	67	20	29	38
30	23	45	e11	29	---	31	50	35	68	16	25	36
31	e20	---	e9.0	27	---	32	---	33	---	16	22	---
TOTAL	815	727	831.0	685.0	843	1,121	1,214	1,264	1,855	908	629	900
MEAN	26.3	24.2	26.8	22.1	29.1	36.2	40.5	40.8	61.8	29.3	20.3	30.0
MAX	37	45	43	35	35	49	51	79	112	60	42	46
MIN	18	14	9.0	8.0	20	31	35	23	28	16	12	17
AC-FT	1,620	1,440	1,650	1,360	1,670	2,220	2,410	2,510	3,680	1,800	1,250	1,790

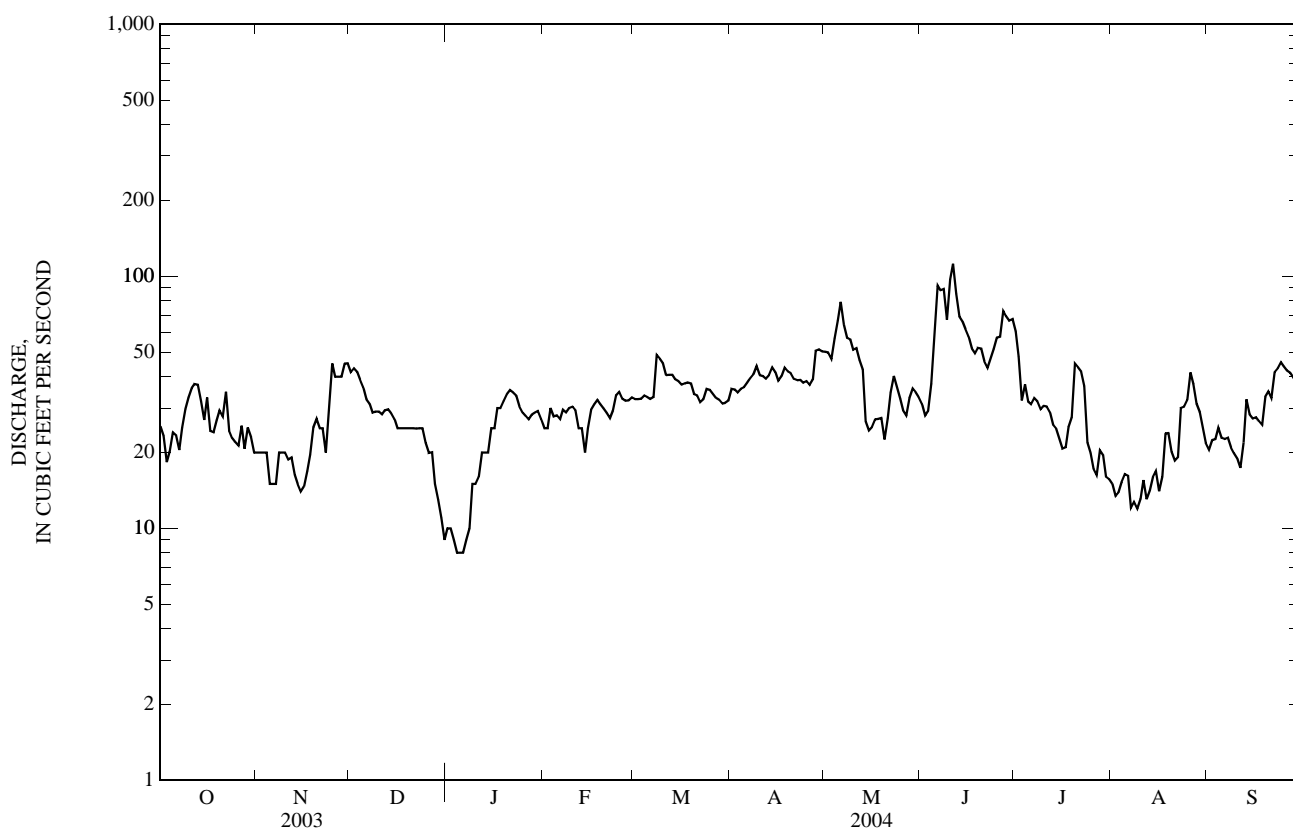
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2004, BY WATER YEAR (WY)

	43.5	43.4	33.6	35.8	35.8	35.6	42.1	81.3	134	53.1	25.2	32.0
MEAN	43.5	43.4	33.6	35.8	35.8	35.6	42.1	81.3	134	53.1	25.2	32.0
MAX	95.2	84.5	77.8	82.1	63.0	53.5	62.8	196	362	170	125	81.6
(WY)	(1998)	(1998)	(1985)	(1985)	(1986)	(1998)	(1986)	(1997)	(1997)	(1997)	(1997)	(1997)
MIN	10.6	13.1	5.89	4.21	4.54	18.9	13.3	19.3	7.05	0.42	0.46	2.61
(WY)	(1988)	(1993)	(1993)	(1993)	(1993)	(1991)	(1991)	(1992)	(1992)	(1985)	(1988)	(1988)

12323770 WARM SPRINGS CREEK AT WARM SPRINGS, MT—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1984 - 2004	
ANNUAL TOTAL	18,507.0		11,792.0			
ANNUAL MEAN	50.7		32.2		49.6	
HIGHEST ANNUAL MEAN					108	1997
LOWEST ANNUAL MEAN					16.6	1992
HIGHEST DAILY MEAN	377	Jun 1	112	Jun 11	475	Jun 6, 1997
LOWEST DAILY MEAN	9.0	Dec 31	8.0	Jan 4	0.00	Aug 4, 1988
ANNUAL SEVEN-DAY MINIMUM	16	Dec 25	8.9	Dec 31	0.05	Aug 3, 1988
MAXIMUM PEAK FLOW			a121	Jun 11	c494	Jun 5, 1997
MAXIMUM PEAK STAGE			b5.10	Jan 15	b5.70	Feb 2, 1986
INSTANTANEOUS LOW FLOW					0.00	Aug 4, 1988
ANNUAL RUNOFF (AC-FT)	36,710		23,390		35,920	
10 PERCENT EXCEEDS	108		50		95	
50 PERCENT EXCEEDS	35		30		37	
90 PERCENT EXCEEDS	20		16		7.6	

a--Gage height, 3.52 ft.  
 b--Backwater from ice.  
 c--Gage height, 4.55 ft, site and datum then in use.  
 e--Estimated.



## 12323770 WARM SPRINGS CREEK AT WARM SPRINGS, MT—Continued

## WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: July 2000 to current year.

INSTRUMENTATION.--Temperature recorder installed July 6, 2000.

REMARKS.--Daily water temperature record rated good.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 23.5°C, July 21, 29, 2000, July 14, 2002; minimum 0.0°C, many days during winter period.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 23.0°C, July 17; minimum 0.0°C, many days October through March.

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO <sub>3</sub> (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)
NOV 17...	1305	17	8.6	431	6.5	2.0	220	66.1	12.6	5.4	6	E.03	.04
APR 20...	1220	42	8.6	340	13.5	7.0	170	51.5	10.3	3.9	5	<.04	E.03
MAY 17...	1220	27	8.5	339	13.0	8.0	180	53.7	10.1	5.3	7	E.03	E.03
JUN 01...	1125	32	8.4	312	17.5	10.0	150	47.2	8.02	5.3	6	E.03	E.04
JUL 19...	1255	26	8.5	311	28.5	18.0	150	45.8	7.61	8.8	9	E.03	E.04
AUG 20...	1140	22	8.4	362	25.0	14.5	180	58.2	8.98	7.6	8	E.04	.06

Date	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recover-able, ug/L (01042)	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recover-able, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover-able, ug/L (01051)	Manganese, water, fltrd, ug/L (01056)	Manganese, water, unfltrd recover-able, ug/L (01055)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)	Suspended sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
NOV 17...	2.3	7.8	E5	100	<.08	.36	229	235	1.5	3	71	10	.46
APR 20...	2.6	5.6	10	60	<.08	.29	84.0	94	1.1	2	62	2	.23
MAY 17...	3.0	6.1	14	70	<.08	.28	71.2	95	1.2	E2	78	2	.15
JUN 01...	3.2	8.1	11	90	<.08	.43	42.2	83	1.1	2	72	4	.35
JUL 19...	3.3	7.5	10	80	<.08	.41	23.3	67	.9	E2	67	2	.14
AUG 20...	3.7	7.7	7	80	<.08	.43	83.9	147	1.7	3	81	2	.12

E--Estimated.

12323770 WARM SPRINGS CREEK AT WARM SPRINGS, MT—Continued

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	13.0	7.0	9.5	0.5	0.0	0.0	4.0	2.5	3.0	0.5	0.0	0.0
2	12.5	7.5	10.0	0.5	0.0	0.0	5.0	3.0	3.5	0.5	0.0	0.0
3	12.5	6.0	9.0	0.5	0.0	0.5	4.5	2.5	3.5	0.5	0.0	0.0
4	12.0	6.5	9.0	0.0	0.0	0.0	2.5	0.0	1.0	0.0	0.0	0.0
5	13.5	7.0	10.0	2.5	0.0	0.0	2.5	0.5	1.0	0.5	0.0	0.0
6	11.5	8.0	10.0	0.5	0.0	0.0	4.0	2.5	3.5	0.5	0.0	0.0
7	13.0	8.5	10.5	1.0	0.0	0.0	3.5	1.0	3.0	0.5	0.0	0.0
8	13.0	9.0	10.5	1.5	0.0	0.0	2.0	0.0	1.0	0.0	0.0	0.0
9	10.5	8.5	9.5	0.5	0.0	0.0	1.0	0.0	0.5	0.0	0.0	0.0
10	8.5	6.5	7.5	1.5	0.0	0.5	1.5	0.0	0.5	0.5	0.0	0.0
11	7.5	4.0	5.5	3.0	1.5	2.0	1.5	0.5	1.0	0.0	0.0	0.0
12	9.5	5.0	7.0	3.5	1.5	2.0	2.0	0.0	1.0	0.0	0.0	0.0
13	7.5	5.5	6.5	2.0	0.0	1.0	2.5	1.0	1.5	0.5	0.0	0.0
14	6.5	4.0	5.5	3.5	0.0	0.5	2.5	1.0	2.0	2.0	0.0	0.5
15	7.5	5.0	6.0	3.0	0.0	1.0	1.5	0.0	0.5	0.5	0.0	0.0
16	8.0	4.0	6.0	4.0	1.0	2.0	0.0	0.0	0.0	0.5	0.0	0.5
17	12.0	7.0	9.0	3.0	1.5	2.0	1.5	0.0	0.5	0.5	0.0	0.0
18	11.5	7.5	9.5	5.5	1.0	2.0	0.5	0.0	0.0	0.5	0.0	0.5
19	11.5	7.5	9.0	6.0	3.0	4.0	0.0	0.0	0.0	5.5	0.5	2.5
20	11.0	6.5	8.5	4.0	0.5	2.0	1.0	0.0	0.0	2.5	0.0	1.0
21	12.5	8.0	10.0	0.5	0.0	0.5	2.5	1.0	1.5	1.5	0.0	0.5
22	11.0	7.5	9.0	2.0	0.0	0.0	1.0	0.0	0.5	1.5	0.0	1.0
23	10.0	6.0	8.5	1.0	0.0	0.0	0.0	0.0	0.0	2.5	1.0	2.0
24	6.5	4.0	5.0	0.0	0.0	0.0	1.5	0.0	0.5	3.0	2.0	2.5
25	6.0	2.0	4.0	0.0	0.0	0.0	2.5	1.5	1.5	2.0	0.5	1.0
26	8.0	3.0	5.0	0.0	0.0	0.0	1.5	0.5	1.0	1.0	0.0	0.5
27	8.0	6.5	7.5	1.5	0.0	0.0	0.5	0.0	0.0	1.5	0.0	0.5
28	9.5	6.5	8.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	1.0	1.5
29	9.0	2.0	6.0	3.0	0.0	1.5	0.0	0.0	0.0	3.0	1.5	2.0
30	2.0	0.0	1.0	3.5	2.0	2.5	0.5	0.0	0.5	3.0	0.5	2.5
31	0.0	0.0	0.0	---	---	---	1.0	0.0	0.5	1.0	0.0	0.5
MONTH	13.5	0.0	7.5	6.0	0.0	1.0	5.0	0.0	1.0	5.5	0.0	0.5
	FEBRUARY			MARCH			APRIL			MAY		
1	0.0	0.0	0.0	6.5	2.5	4.0	8.0	4.5	6.0	14.0	6.5	10.5
2	0.0	0.0	0.0	3.5	1.5	2.5	5.0	3.0	4.0	13.0	8.0	11.0
3	1.5	0.0	0.5	2.5	0.0	1.0	10.5	3.5	6.5	15.0	8.5	11.5
4	2.0	0.0	1.0	4.0	1.0	2.5	11.0	6.5	8.5	14.0	8.5	11.5
5	3.0	1.0	2.0	3.5	1.5	2.5	12.0	6.0	8.5	13.0	9.0	11.5
6	1.5	0.0	0.5	4.5	0.0	1.5	11.0	7.5	9.0	12.0	8.0	10.5
7	2.0	0.0	1.0	5.0	0.5	2.5	12.0	6.0	9.0	14.5	8.5	11.0
8	2.0	1.0	1.5	8.5	3.5	5.0	10.5	7.0	8.5	13.5	8.5	11.0
9	2.5	0.5	1.5	7.5	3.0	5.0	9.5	5.5	7.5	13.5	7.0	10.5
10	2.0	0.5	1.0	8.0	3.5	5.5	10.0	3.5	7.0	10.5	7.0	8.0
11	2.5	0.0	1.0	7.5	2.5	4.5	11.5	4.5	8.0	8.5	5.5	6.5
12	0.0	0.0	0.0	7.5	3.0	5.0	13.0	5.5	9.0	8.5	3.0	5.5
13	0.0	0.0	0.0	7.0	3.5	5.0	12.0	7.0	9.5	9.0	4.5	6.5
14	0.0	0.0	0.0	6.0	2.5	4.0	11.0	7.5	9.0	10.0	4.5	7.5
15	2.0	0.0	0.5	7.0	2.5	5.0	10.0	5.5	8.0	12.5	5.5	9.0
16	2.5	0.0	1.0	5.5	4.0	5.0	10.5	4.0	7.5	10.0	8.0	8.5
17	3.0	1.5	2.0	8.0	4.0	5.0	9.0	6.0	7.5	13.0	7.0	9.5
18	4.5	2.5	3.5	10.0	5.0	7.0	10.0	5.5	7.5	10.5	8.5	9.0
19	4.0	2.5	3.0	9.0	5.0	6.5	9.5	5.0	7.0	13.0	7.0	9.5
20	4.5	1.5	3.0	8.0	2.0	5.0	10.0	5.0	7.5	16.0	8.0	11.5
21	3.5	0.5	2.0	10.0	3.5	6.5	10.5	4.0	7.0	12.5	9.5	11.0
22	3.5	0.0	1.5	10.0	4.5	7.0	12.0	4.5	8.0	12.0	8.5	10.0
23	4.0	0.5	2.0	10.5	5.5	8.0	12.5	5.5	9.0	9.5	6.5	8.0
24	5.0	1.0	3.0	9.5	6.0	7.5	11.5	7.0	9.0	10.5	6.0	8.0
25	5.0	2.0	3.5	10.5	5.0	7.5	13.0	5.5	9.0	13.0	5.5	9.0
26	4.5	2.5	3.5	7.5	4.0	6.0	14.5	7.0	10.5	13.0	8.5	10.5
27	6.0	2.0	3.5	6.5	2.0	4.0	14.0	8.5	11.5	14.0	9.5	11.5
28	3.5	2.0	2.5	9.5	3.5	6.0	11.5	5.5	8.0	12.0	9.5	10.5
29	5.0	2.0	3.5	10.5	3.0	6.5	10.5	2.5	6.5	10.0	7.5	8.5
30	---	---	---	11.5	5.0	8.0	12.5	5.0	8.5	11.5	6.5	8.5
31	---	---	---	10.5	6.0	8.0	---	---	---	13.5	7.5	10.0
MONTH	6.0	0.0	1.5	11.5	0.0	5.0	14.5	2.5	8.0	16.0	3.0	9.5

## 12323770 WARM SPRINGS CREEK AT WARM SPRINGS, MT—Continued

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	16.0	8.5	12.0	17.5	12.5	15.0	19.0	14.5	16.5	18.0	13.0	15.0
2	17.0	9.5	13.0	17.5	11.5	14.5	17.0	14.5	16.0	16.0	12.0	13.5
3	16.5	10.5	13.5	16.5	12.5	14.5	19.5	14.0	16.5	13.5	8.5	11.0
4	17.5	11.5	14.5	18.0	11.0	14.5	21.0	14.0	17.0	14.0	9.5	11.5
5	17.0	12.0	14.5	19.0	12.0	15.0	19.0	14.5	17.0	14.5	10.0	12.0
6	14.5	11.0	12.5	18.0	12.0	15.0	19.0	13.5	16.0	14.5	9.0	11.5
7	14.5	8.0	11.0	17.0	12.5	14.5	19.0	13.5	16.0	14.0	10.0	12.0
8	11.0	8.0	8.5	17.0	9.5	13.0	19.0	12.0	15.5	14.5	9.5	12.0
9	14.5	7.5	10.0	18.5	10.5	14.0	19.5	12.5	16.0	14.0	10.5	12.0
10	12.0	9.0	10.0	19.0	13.0	16.0	20.0	13.0	16.5	15.0	10.5	12.5
11	12.0	7.5	9.0	17.0	12.5	15.0	19.5	13.0	16.0	15.0	10.5	13.0
12	14.0	7.0	10.5	20.0	11.0	15.5	19.5	12.5	16.0	14.0	11.0	12.0
13	16.0	9.5	12.0	20.5	13.0	17.0	20.0	12.5	16.0	11.5	9.5	10.5
14	15.0	9.0	12.0	22.0	14.5	18.0	20.5	13.0	16.5	11.5	9.5	10.5
15	12.0	8.5	10.0	20.5	15.5	18.0	20.0	13.5	17.0	11.0	8.5	9.5
16	15.0	6.5	10.5	22.0	14.5	18.0	19.0	15.0	16.5	12.5	9.0	10.5
17	14.5	8.5	11.5	23.0	16.0	19.0	19.0	15.0	16.5	10.5	8.5	9.5
18	13.5	8.5	11.0	19.0	16.5	18.0	17.5	15.0	16.0	10.0	8.5	9.0
19	12.5	9.0	10.5	21.5	15.5	18.0	19.0	13.5	16.0	9.0	7.0	8.0
20	15.5	8.0	11.5	20.0	15.0	17.5	18.5	14.0	16.0	9.5	6.5	7.5
21	17.0	9.5	13.0	20.0	13.5	16.5	18.0	13.5	15.5	7.5	6.0	7.0
22	17.5	10.5	14.0	19.5	13.0	16.0	16.0	13.5	15.0	9.0	6.5	7.5
23	18.5	11.5	15.5	20.0	13.0	16.5	14.5	12.0	13.0	10.5	8.5	9.5
24	18.5	12.5	15.5	20.5	13.5	17.0	13.0	10.0	11.5	12.0	8.0	10.0
25	17.5	12.5	14.5	19.0	14.0	16.5	13.0	11.0	12.0	13.0	8.0	10.5
26	17.0	12.0	14.5	21.0	13.5	17.0	13.0	10.0	11.5	13.0	9.0	10.5
27	14.0	12.0	13.0	20.0	13.5	16.5	13.5	10.5	11.5	12.5	8.5	10.5
28	16.5	10.0	13.5	20.5	13.5	16.5	14.5	10.0	12.0	13.0	8.5	10.5
29	16.5	12.0	14.0	20.0	13.5	16.5	16.0	10.5	13.0	12.0	8.0	10.0
30	18.0	12.0	15.0	20.0	13.5	17.0	17.0	11.0	14.0	11.0	8.0	9.5
31	---	---	---	20.5	13.5	17.0	17.5	11.5	14.5	---	---	---
MONTH	18.5	6.5	12.5	23.0	9.5	16.0	21.0	10.0	15.0	18.0	6.0	10.5



12323800 CLARK FORK NEAR GALEN, MT

LOCATION.--Lat 46°12'30", long 112°45'59" (NAD 27), in NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec.7, T.5 N., R.9 W., Deer Lodge County, Hydrologic Unit 17010201, on right bank at upstream side of bridge on county road, 2.6 mi downstream from Silver Bow Creek and Warm Springs Creek, 2 mi south of Galen, and at river mile 482.7.

DRAINAGE AREA.--651 mi<sup>2</sup>, area at site used prior to Oct. 1, 1994, 793 mi<sup>2</sup>.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1988 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,749.24 ft (NGVD 29).

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are fair. Some regulation by settling ponds on Silver Bow Creek near Warm Springs. Numerous diversions upstream from station. U.S. Geological Survey satellite telemeter at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	e45	81	e42	e68	79	95	91	114	116	35	38
2	49	e50	86	e45	e68	79	102	91	107	101	31	41
3	43	e52	87	e43	e68	79	100	86	104	83	30	42
4	42	e50	83	e40	69	80	100	96	113	85	31	46
5	46	e45	79	e38	69	83	100	105	140	80	32	45
6	46	e45	76	e38	68	82	102	120	183	72	32	43
7	43	e45	76	e40	70	80	108	112	177	69	26	45
8	49	e45	73	e43	69	94	110	104	169	67	28	42
9	52	54	72	e46	71	103	115	105	151	64	27	41
10	55	59	70	e50	72	98	111	99	179	61	27	39
11	60	58	73	51	72	89	106	102	202	58	31	38
12	63	58	73	53	67	87	101	99	163	56	27	43
13	62	56	73	e56	e65	86	96	94	141	53	29	59
14	58	57	73	e58	e60	84	96	77	132	49	31	56
15	54	56	72	e62	e68	86	93	70	126	46	31	55
16	63	57	69	e65	69	85	85	72	123	43	30	53
17	54	59	69	e68	70	87	83	88	113	41	33	53
18	51	60	e68	e68	75	88	86	89	103	45	43	54
19	54	68	e65	69	75	80	86	100	107	48	46	64
20	56	68	e60	72	74	72	90	87	113	65	40	73
21	54	e60	68	e70	73	70	88	94	106	65	38	73
22	61	e60	e65	e75	71	71	86	118	100	62	33	77
23	52	e65	e65	e70	73	67	87	130	103	59	52	76
24	48	65	62	e70	77	71	81	126	107	45	53	77
25	48	82	60	e68	82	70	82	120	113	41	52	76
26	47	77	59	e68	79	70	80	117	114	38	62	73
27	53	80	56	e68	78	70	82	114	133	34	59	72
28	52	80	e52	71	77	71	93	125	133	38	52	72
29	57	85	e50	72	79	73	97	137	122	39	48	70
30	e50	84	e45	73	---	85	94	128	125	36	44	70
31	e45	---	e40	70	---	80	---	120	---	35	39	---
TOTAL	1,617	1,825	2,100	1,822	2,076	2,499	2,835	3,216	3,916	1,794	1,172	1,706
MEAN	52.2	60.8	67.7	58.8	71.6	80.6	94.5	104	131	57.9	37.8	56.9
MAX	63	85	87	75	82	103	115	137	202	116	62	77
MIN	42	45	40	38	60	67	80	70	100	34	26	38
AC-FT	3,210	3,620	4,170	3,610	4,120	4,960	5,620	6,380	7,770	3,560	2,320	3,380

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2004, BY WATER YEAR (WY)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
MEAN	88.3	93.8	82.4	84.5	92.5	115	135	246	344	134	69.3	69.9	
MAX	170	159	132	169	174	167	257	668	974	381	233	184	
(WY)	(1998)	(1998)	(1998)	(1997)	(1996)	(1997)	(1996)	(1997)	(1997)	(1997)	(1997)	(1993)	
MIN	40.6	50.7	40.7	42.5	43.5	77.2	80.5	68.6	51.1	21.4	10.2	20.3	
(WY)	(1989)	(1993)	(1993)	(1993)	(1993)	(1991)	(1991)	(1992)	(1992)	(1988)	(1988)	(1988)	

SUMMARY STATISTICS

FOR 2003 CALENDAR YEAR

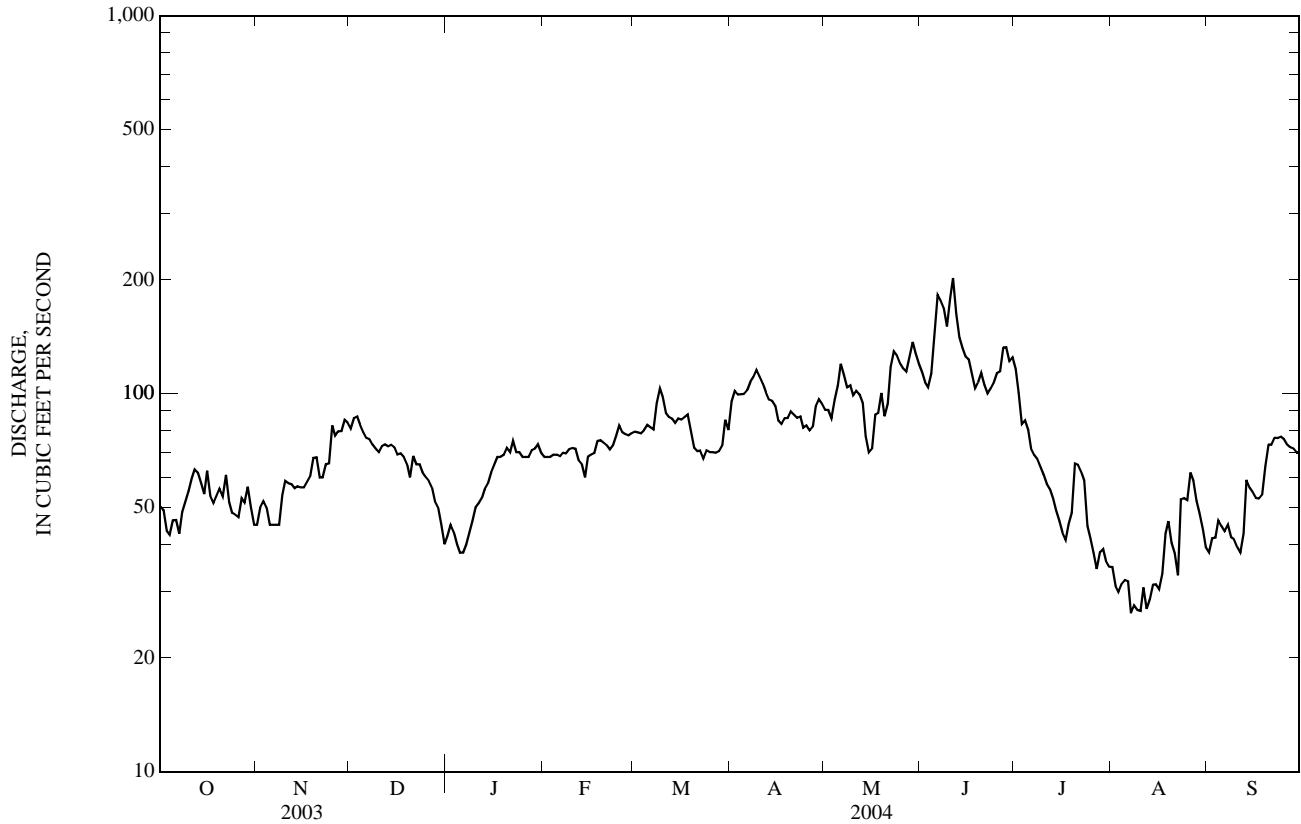
FOR 2004 WATER YEAR

WATER YEARS 1988 - 2004

ANNUAL TOTAL	45,120	26,578	
ANNUAL MEAN	124	72.6	131
HIGHEST ANNUAL MEAN			288
LOWEST ANNUAL MEAN			59.6
HIGHEST DAILY MEAN	881	202	1,210
LOWEST DAILY MEAN	29	26	9.7
ANNUAL SEVEN-DAY MINIMUM	36	28	9.8
MAXIMUM PEAK FLOW		213	1,240
MAXIMUM PEAK STAGE		2.56	5.07
INSTANTANEOUS LOW FLOW		a25	b9.0
ANNUAL RUNOFF (AC-FT)	89,500	52,720	94,650
10 PERCENT EXCEEDS	251	111	270
50 PERCENT EXCEEDS	82	70	89
90 PERCENT EXCEEDS	48	41	43

a--Gage height, 1.61 ft.  
b--Gage height, 1.39 ft.  
e--Estimated.

PEND OREILLE RIVER BASIN  
12323800 CLARK FORK NEAR GALEN, MT—Continued



WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1971-74, 1988 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1991 to September 1998, October 2000 to September 2002.

REMARKS.--Sampling conducted since 1988 as part of EPA Superfund program.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 25.5°C, June 23, 1991; minimum, 0.0°C, on many days during winter period.

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)
NOV													
17...	1420	59	8.9	575	7.0	4.0	260	74.2	17.1	19.6	20	.04	.06
MAR													
17...	0835	87	8.3	514	12.5	3.5	230	67.9	14.0	7.9	8	.07	.12
APR													
20...	1320	93	8.7	486	5.0	8.0	220	64.5	14.0	12.9	11	E.04	.07
MAY													
17...	1405	89	8.9	451	17.5	10.5	210	62.1	13.8	17.5	21	E.03	.09
JUN													
01...	1035	116	8.7	428	12.5	10.5	190	54.2	12.4	23.9	31	.04	.09
13...	1310	143	8.6	307	14.5	12.5	140	41.0	8.03	21.2	26	E.03	.08
JUL													
19...	1440	49	8.7	442	27.5	20.5	210	61.2	12.8	19.4	20	E.03	.07
AUG													
20...	1310	39	8.7	495	26.0	18.5	240	70.9	14.4	20.2	21	E.03	.07

E--Estimated.

12323800 CLARK FORK NEAR GALEN, MT—Continued

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

Date	Copper, water, fltred, ug/L (01040)	Copper, water, unfltred recover- able, ug/L (01042)	Iron, water, fltred, ug/L (01046)	Iron, water, unfltred recover- able, ug/L (01045)	Lead, water, fltred, ug/L (01049)	Lead, water, unfltred recover- able, ug/L (01051)	Mangan- ese, water, fltred, ug/L (01056)	Mangan- ese, water, unfltred recover- able, ug/L (01055)	Zinc, water, fltred, ug/L (01090)	Zinc, water, unfltred recover- able, ug/L (01092)	Sus- pended sediment, percent <.063mm (70331)	Sus- pended sediment concentration mg/L (80154)	Sus- pended sediment dis- charge, tons/d (80155)
NOV 17...	3.9	8.2	E6	110	<.08	.61	82.2	107	3.0	8	75	2	.32
MAR 17...	4.0	11.9	7	290	<.08	2.19	181	228	6.7	13	77	9	2.1
APR 20...	3.5	7.0	8	130	<.08	.66	131	149	3.5	8	78	4	1.0
MAY 17...	4.7	9.3	23	220	E.07	1.01	67.1	151	1.8	8	86	6	1.4
JUN 01...	4.8	10.2	20	230	E.06	1.04	90.0	172	2.4	10	82	6	1.9
JUN 13...	4.2	10.4	21	200	E.07	1.06	51.9	123	1.7	9	81	7	2.7
JUL 19...	4.3	7.7	7	100	<.08	.55	48.1	85	.9	4	82	3	.40
AUG 20...	4.9	7.9	E5	110	<.08	.62	54.2	90	1.9	5	83	3	.32

E--Estimated.

## 12323850 LOST CREEK NEAR GALEN, MT

LOCATION.--Lat 46°13'07", long 112°46'23" (NAD 27), in NW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$  sec. 6, T.5N., R.9W., Deer Lodge County, Hydrologic Unit 17010201, on left bank 40 ft upstream from frontage road bridge, 1.2 mi south of Galen, and at river mile 1.8.

DRAINAGE AREA.--60.5 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Elevation of gage is 4,750 ft (NGVD 29).

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are fair. No regulation. Numerous diversions for irrigation upstream from station. U.S. Geological Survey satellite telemeter at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	e40	49	e45	e41	46	41	16	1.7	1.4	1.5	6.0
2	22	42	51	e44	e40	46	43	7.3	1.6	1.5	1.6	7.2
3	21	43	50	e40	40	46	41	2.0	1.6	1.6	1.7	7.5
4	22	e38	48	e38	41	45	39	1.9	1.5	1.7	1.7	7.2
5	21	e35	47	e35	41	45	38	1.8	1.5	1.6	1.6	7.5
6	22	e36	49	e35	41	45	38	1.7	1.6	1.5	1.6	14
7	22	e40	48	e40	41	46	37	1.8	1.6	1.6	1.6	14
8	22	e45	46	e42	41	49	33	1.6	1.6	1.5	1.6	17
9	24	49	45	e44	41	54	35	1.6	1.6	1.5	1.7	18
10	30	51	45	e42	40	54	33	1.7	1.7	1.5	1.6	18
11	29	53	46	e42	41	50	32	1.9	1.7	1.6	1.5	17
12	30	51	45	42	e40	49	31	1.8	1.6	1.5	1.5	20
13	30	50	45	42	e40	48	30	1.8	1.5	1.5	1.5	25
14	30	49	46	42	e40	48	25	1.7	1.4	1.5	1.6	24
15	31	49	44	42	40	47	21	1.6	1.5	1.5	1.4	23
16	30	49	e44	42	40	47	20	1.9	1.5	1.5	1.5	22
17	30	49	e44	42	41	48	20	2.0	1.4	1.5	1.7	22
18	29	49	e44	e42	46	51	21	2.0	1.5	1.6	1.9	22
19	29	52	e44	41	46	47	21	2.2	1.7	1.7	1.9	24
20	30	50	44	41	44	46	21	2.1	1.6	1.7	1.8	25
21	30	49	44	41	43	46	20	2.3	1.5	1.6	1.7	24
22	30	e48	e43	41	43	45	19	2.7	1.4	1.6	1.8	22
23	30	e45	e43	41	43	46	19	2.8	1.4	1.5	2.8	21
24	30	47	43	42	44	46	18	2.3	1.4	1.5	2.4	21
25	30	e47	44	42	47	46	19	2.0	1.4	1.6	4.0	21
26	31	47	44	41	47	46	17	1.9	1.4	1.6	7.6	22
27	31	47	44	41	46	46	17	1.8	1.5	1.6	8.0	22
28	31	48	e42	41	46	45	19	2.0	1.5	1.6	7.3	22
29	40	49	e40	42	46	42	19	2.1	1.5	1.5	7.0	22
30	e40	49	e38	43	---	36	17	1.9	1.4	1.5	6.9	22
31	e38	---	e40	41	---	35	---	1.8	---	1.5	6.3	---
TOTAL	887	1,396	1,389	1,279	1,230	1,436	804	80.0	45.8	48.1	88.3	559.4
MEAN	28.6	46.5	44.8	41.3	42.4	46.3	26.8	2.58	1.53	1.55	2.85	18.6
MAX	40	53	51	45	47	54	43	16	1.7	1.7	8.0	25
MIN	21	35	38	35	40	35	17	1.6	1.4	1.4	1.4	6.0
AC-FT	1,760	2,770	2,760	2,540	2,440	2,850	1,590	159	91	95	175	1,110

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2004, BY WATER YEAR (WY)

MEAN	28.6	46.5	44.8	41.3	42.4	46.3	30.4	10.6	3.77	2.79	2.80	14.9
MAX	28.6	46.5	44.8	41.3	42.4	46.3	34.0	18.6	6.01	4.03	2.85	18.6
(WY)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2003)	(2003)	(2003)	(2003)	(2004)	(2004)
MIN	28.6	46.5	44.8	41.3	42.4	46.3	26.8	2.58	1.53	1.55	2.75	11.1
(WY)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2003)	(2003)

12323850 LOST CREEK NEAR GALEN, MT—Continued

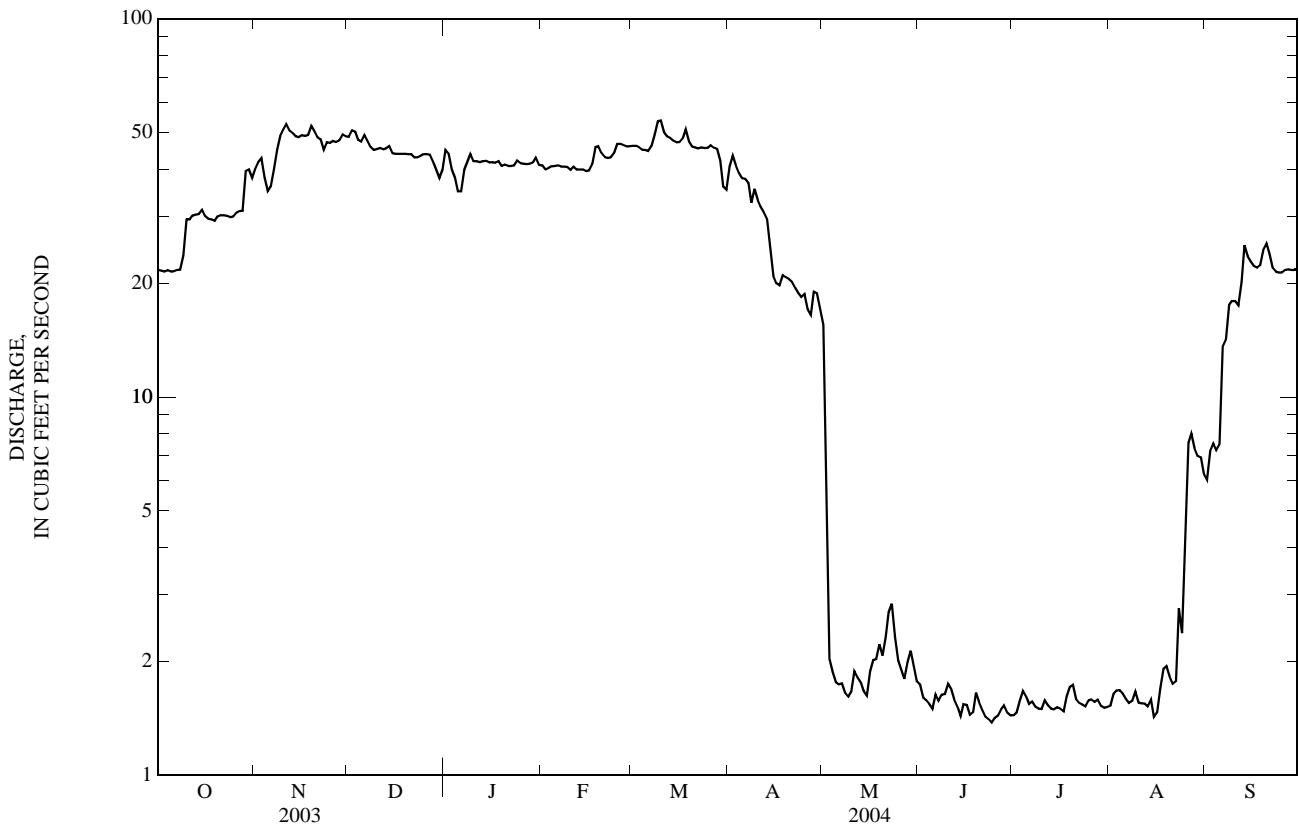
SUMMARY STATISTICS

FOR 2004 WATER YEAR

WATER YEARS 2003 - 2004

ANNUAL TOTAL	9,242.6			
ANNUAL MEAN	25.3		25.3	
HIGHEST ANNUAL MEAN			25.3	2004
LOWEST ANNUAL MEAN			25.3	2004
HIGHEST DAILY MEAN	54	Mar 9	60	Apr 1, 2003
LOWEST DAILY MEAN	1.4	Jun 14	1.4	Jul 30, 2003
ANNUAL SEVEN-DAY MINIMUM	1.4	Jun 21	1.4	Jun 21, 2004
MAXIMUM PEAK FLOW	a56	Mar 17	d61	Apr 2, 2003
MAXIMUM PEAK STAGE	b5.34	Jan 5	b5.34	Jan 5, 2004
INSTANTANEOUS LOW FLOW	c1.2	Jun 23	c1.2	Jul 22, 2003
ANNUAL RUNOFF (AC-FT)	18,330		18,290	
10 PERCENT EXCEEDS	47		47	
50 PERCENT EXCEEDS	30		30	
90 PERCENT EXCEEDS	1.5		1.5	

a--Gage height, 2.04 ft.  
 b--Backwater from ice.  
 c--Gage height, 1.16 ft.  
 d--Gage height, 2.08 ft.  
 e--Estimated.



## WATER-QUALITY RECORDS

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

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)
NOV 17...	1450	49	8.6	585	7.0	4.5	300	86.0	19.6	8.3	8	<.04	.05
MAR 17...	0900	47	8.4	633	11.0	4.5	320	91.5	21.1	15.5	16	E.03	.08
APR 20...	1355	20	8.5	607	5.0	8.5	300	87.1	19.7	9.9	12	E.03	.06
MAY 17...	1335	2.0	8.5	707	17.0	14.0	300	78.9	24.7	11.7	12	E.03	E.03
JUN 01...	1005	1.8	8.4	682	15.0	11.5	280	73.5	23.5	8.8	9	E.03	E.03
JUN 13...	1245	1.5	8.5	623	18.0	15.5	250	64.3	22.3	7.7	8	E.02	E.02
JUL 19...	1420	1.7	8.4	576	30.0	24.5	220	54.8	20.4	8.2	8	E.02	.04
AUG 20...	1250	1.8	8.4	608	26.5	19.5	260	67.3	21.3	6.6	6	<.04	E.03

E--Estimated.

Date	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recover-able, ug/L (01042)	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recover-able, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover-able, ug/L (01051)	Manganese, water, fltrd, ug/L (01056)	Manganese, water, unfltrd recover-able, ug/L (01055)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)	Suspended sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
NOV 17...	1.5	6.7	8	170	<.08	.59	7.5	13	1.7	5	32	22	2.9
MAR 17...	2.5	12.1	9	280	E.04	1.18	17.1	25	2.4	5	83	13	1.6
APR 20...	2.6	7.8	E5	160	<.08	.69	14.8	19	2.4	5	51	34	1.8
MAY 17...	3.3	4.4	11	70	<.08	.13	10.2	12	1.1	E1	61	17	.09
JUN 01...	2.9	4.1	13	50	<.08	.10	10.9	12	1.2	E1	48	24	.12
JUN 13...	2.8	3.9	E6	40	<.08	.08	4.1	6	.8	<2	19	14	.06
JUL 19...	2.6	4.0	<6	40	<.08	.12	2.7	5	E.4	E1	60	4	.02
AUG 20...	--	4.3	11	20	.19	E.04	1.9	2	.9	E1	86	27	.13

E--Estimated.