

Water-Data Report 2007

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

Pend Oreille Basin
Upper Clark Fork Subbasin

LOCATION.--Lat 45°59'47", long 112°33'45" referenced to North American Datum of 1927, in SW ¼ SE ¼ NW ¼ sec.23, T.3 N., R.8 W., Silver Bow County, MT, 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 mi².

SURFACE-WATER RECORDS

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

REVISED RECORDS.-- Water Data Report (WDR) MT-92-1: 1984-90, maximum discharge. WDR-MT-98-1: Drainage area. WDR-MT-2000-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 5,409.47 ft referenced to the National Geodetic Vertical Datum of 1929. 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.--Records are good. Flow is slightly regulated by Silver Bow County sewage treatment plant. U.S. Geological Survey satellite telemeter is located at the station.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	15	19	18	16	14	16	24	25	32	18	15	15
2	15	18	17	16	15	16	26	25	30	18	15	13
3	16	18	18	17	14	16	23	44	30	18	15	14
4	15	18	18	16	14	19	24	35	30	17	15	15
5	15	19	18	16	19	21	24	30	38	17	16	35
6	20	19	17	16	16	31	24	28	73	17	19	26
7	23	19	17	15	16	31	24	26	63	17	16	18
8	19	22	17	16	18	46	25	24	64	17	15	17
9	20	21	17	16	17	33	25	24	58	18	17	17
10	18	19	17	16	19	30	24	26	56	17	16	17
11	17	19	18	18	18	35	23	25	54	16	15	17
12	17	18	18	18	18	70	22	24	49	16	15	16
13	17	18	18	17	16	74	21	26	44	16	15	16
14	18	19	18	17	16	47	21	26	42	15	15	15
15	18	18	18	16	17	32	22	25	39	16	16	15
16	28	19	18	16	18	31	23	24	36	16	18	15
17	21	18	18	16	18	30	24	22	36	17	16	14
18	20	18	17	15	17	34	30	20	34	27	17	17
19	20	18	16	14	17	34	27	20	31	20	20	25
20	32	18	16	14	18	33	25	22	29	18	18	19
21	24	19	16	14	17	29	24	37	29	17	17	19
22	22	20	15	14	17	26	25	38	27	16	17	20
23	21	18	15	14	17	26	27	34	25	16	16	33
24	21	18	15	14	17	25	29	38	23	16	16	26
25	20	18	15	14	17	26	28	47	22	16	15	24
26	20	18	15	14	17	26	28	39	21	16	15	22
27	19	19	16	14	17	30	26	38	20	16	15	19
28	19	18	16	14	16	27	26	43	19	16	14	18
29	20	18	16	15	---	23	25	42	19	16	14	24
30	20	18	15	14	---	22	26	38	19	15	13	19
31	19	---	15	14	---	24	---	35	---	15	14	---
Total	609	559	518	476	470	963	745	950	1,092	526	490	580
Mean	19.6	18.6	16.7	15.4	16.8	31.1	24.8	30.6	36.4	17.0	15.8	19.3
Max	32	22	18	18	19	74	30	47	73	27	20	35
Min	15	18	15	14	14	16	21	20	19	15	13	13
Ac-ft	1,210	1,110	1,030	944	932	1,910	1,480	1,880	2,170	1,040	972	1,150

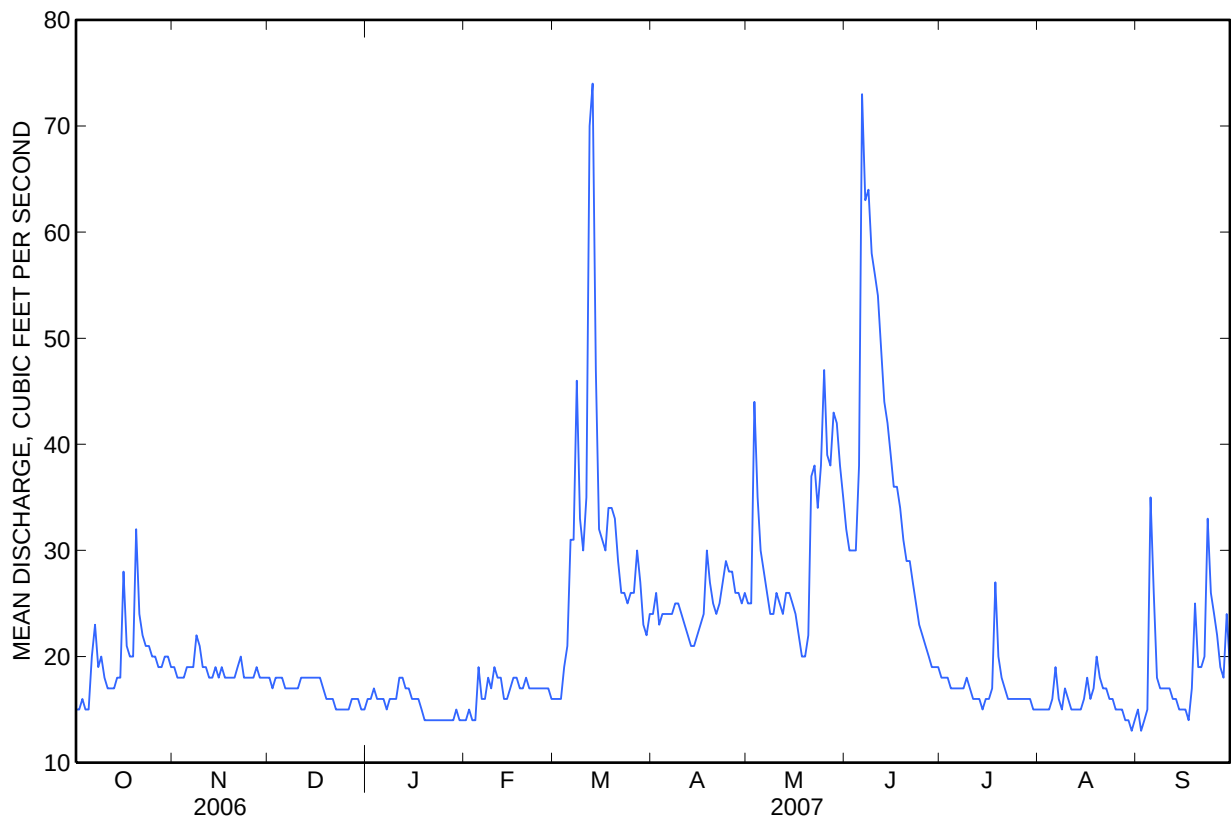
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2007, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	19.5	19.2	18.0	17.6	19.3	24.6	27.9	29.9	29.3	20.7	19.4	18.7
Max	26.7	25.7	24.0	25.6	38.0	40.7	46.9	53.5	75.2	37.0	28.7	25.9
(WY)	(1984)	(1984)	(1998)	(1984)	(1995)	(1997)	(2006)	(1995)	(1995)	(1995)	(1993)	(1995)
Min	14.7	15.0	14.4	13.4	14.2	15.2	14.9	12.6	15.5	12.4	14.0	14.1
(WY)	(2003)	(2005)	(2005)	(1989)	(2001)	(2005)	(1992)	(1992)	(2000)	(2003)	(2001)	(2000)

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SUMMARY STATISTICS

	Calendar Year 2006		Water Year 2007		Water Years 1984 - 2007	
Annual total	8,305		7,978			
Annual mean	22.8		21.9		22.0	
Highest annual mean					30.8	
Lowest annual mean					16.1	
Highest daily mean	109	Apr 6	74	Mar 13	258	Feb 20, 1995
Lowest daily mean	13	Aug 4	13	Aug 30	8.0	May 8, 1992
Annual seven-day minimum	14	Jul 31	14	Aug 28	11	May 2, 1992
Maximum peak flow			124	Sep 5	^b 447	Jul 30, 1998
Maximum peak stage			2.64	Sep 5	^c 8.11	Jul 30, 1998
Instantaneous low flow			^a 10	Aug 27	6.4	Aug 27, 1996
Annual runoff (ac-ft)	16,470		15,820		15,940	
10 percent exceeds	39		33		32	
50 percent exceeds	18		18		19	
90 percent exceeds	14		15		15	

^a Gage height, 1.49 ft.^b From culvert computation.^c Site and datum then in use.

12323250 SILVER BOW CREEK BELOW BLACKTAIL CREEK, AT BUTTE, MT—Continued**WATER-QUALITY RECORDS**

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

REMARKS.--Several unpublished observations of specific conductance and water temperature were made during the year.

WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 2

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd std units (00400)	Specific conductance, wat unf μ S/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO ₃ (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, μ g/L (01000)	Arsenic water, unfltrd μ g/L (01002)	Cadmium water, fltrd, μ g/L (01025)	Cadmium water, unfltrd μ g/L (01027)
Nov													
13...	1045	19	7.4	513	4.5	4.5	180	50.3	12.2	3.6	4.5	.12	.22
Feb													
26...	1030	19	7.6	542	7.0	5.0	160	44.4	12.4	3.0	4.1	.16	.26
Mar													
26...	1110	28	7.7	433	5.5	5.5	140	38.7	9.42	3.7	4.9	.11	.14
May													
10...	0850	25	7.7	423	14.5	11.0	130	37.8	9.03	5.1	6.3	.12	.20
Jun													
05...	0925	33	7.6	373	17.5	14.0	120	35.4	8.19	6.8	8.3	.20	.21
19...	0825	33	7.7	366	12.5	10.5	120	34.6	8.37	6.6	8.2	.08	.14
Jul													
24...	0815	15	7.5	564	21.5	17.0	160	47.2	11.4	4.8	5.5	.15	.15
Aug													
27...	1505	15	7.7	575	24.5	17.5	170	49.5	11.8	4.8	5.4	.07	.12

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 2

Date	Copper, water, fltrd, µg/L (01040)	Copper, water, unfltrd recover- able, µg/L (01042)	Iron, water, fltrd, µg/L (01046)	Iron, water, unfltrd recover- able, µg/L (01045)	Lead, water, fltrd, µg/L (01049)	Lead, water, unfltrd recover- able, µg/L (01051)	Mangan- ese, water, fltrd, µg/L (01056)	Mangan- ese, water, unfltrd recover- able, µg/L (01055)	Zinc, water, fltrd, µg/L (01090)	Zinc, water, unfltrd recover- able, µg/L (01092)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
Nov													
13...	8.9	18.7	35	347	.15	1.99	145	160	46.3	58	83	7	.36
Feb													
26...	13.0	24.5	35	337	.27	2.30	122	139	60.7	75	83	9	.46
Mar													
26...	12.2	19.3	148	453	.26	1.52	109	118	36.0	47	89	6	.45
May													
10...	12.4	22.1	110	528	.33	3.47	108	139	41.8	59.3	94	10	.68
Jun													
05...	12.7	19.7	161	600	.35	2.53	86.3	114	36.0	45.5	88	8	.71
19...	11.3	16.7	169	543	.27	1.73	79.6	97.1	30.9	41.5	90	7	.62
Jul													
24...	9.5	13.3	29	120	.24	.66	58.9	70.9	50.4	51.6	87	2	.08
Aug													
27...	8.5	10.5	17	89	.18	.71	32.9	49.8	36.4	38.3	76	3	.12