

Water-Data Report 2012

06169500 ROCK CREEK BELOW HORSE CREEK, NEAR INTERNATIONAL BOUNDARY

Milk Basin
Rock Subbasin

LOCATION.--Lat 48°58'10", long 106°50'23" referenced to North American Datum of 1983, in NE ¼ NW ¼ sec.15, T.37 N., R.37 E., Valley County, MT, Hydrologic Unit 10050015, on right bank 2 mi south of international boundary, 3 mi downstream from Horse Creek, 21 mi northwest of Opheim, MT, and at river mile 82.0.

DRAINAGE AREA.--328 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--March 1916 to October 1926, September 1956 to current year (seasonal records only prior to October 1978). Monthly discharge only for some periods are published in Water Supply Paper 1309. Published as "Rock Creek near Barnard, Mt." from 1916 to 1917. Prior to September 1956, records were collected at both Horse Creek (1914-56) and Rock Creek above Horse Creek (1914-56). Summations are equivalent to records at this site.

REVISED RECORDS.--WSP 1509: 1925, maximum discharge. WSP 1729: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,530 ft, referenced to the National Geodetic Vertical Datum of 1929. March 1916 to October 1926, nonrecording gages at several sites within 500 ft upstream at different elevation.

REMARKS.--Records are good except for estimated daily discharges, which are poor. Several small diversions for irrigation occur upstream from station. U.S. Geological Survey satellite telemeter is located at the station. Several unpublished observations of water temperature and specific conductance were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 15, 1952, reached a stage of 12.6 ft, from floodmarks, discharge, 5,110 ft³/s, by slope-area measurement of peak flow.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	2.9	5.3	e3.5	e2.5	e2.0	e1.3	16	23	65	6.6	1.0	0.44
2	2.8	5.1	e3.5	e2.5	e2.0	e1.5	17	24	49	6.0	1.00	0.52
3	2.8	4.4	e3.5	e2.5	e2.0	e1.4	17	21	38	5.3	0.99	0.52
4	2.8	5.0	e3.0	e2.5	e1.5	e1.6	18	21	29	4.7	1.1	0.47
5	2.9	4.6	e3.0	e2.5	e1.5	e1.4	17	22	23	4.3	1.1	0.51
6	3.1	5.3	e3.5	e2.5	e1.5	e1.6	16	38	18	4.0	1.1	0.52
7	3.6	5.0	e3.5	e2.5	e1.5	e1.8	16	106	15	3.9	1.1	0.67
8	3.7	4.6	e3.0	e2.5	e1.5	e2.0	15	111	13	3.6	1.0	0.82
9	3.9	4.5	e3.0	e2.5	e1.5	e2.4	15	66	27	3.2	1.0	0.67
10	4.1	4.0	e3.5	e2.5	e1.5	e8.0	15	51	73	3.1	0.96	0.63
11	4.3	4.4	e3.5	e2.5	e2.0	e22	15	40	40	2.8	0.99	0.61
12	5.6	4.7	e4.0	e2.0	e2.0	e45	13	31	32	2.6	0.95	0.60
13	6.1	4.9	e4.0	e2.0	e2.0	e95	13	25	29	2.4	0.92	0.58
14	7.1	5.2	e4.0	e2.0	e2.0	e130	13	21	23	2.5	0.86	0.58
15	6.2	5.3	e3.5	e2.0	e1.0	e170	13	18	20	2.7	0.88	0.59
16	5.2	4.8	e3.0	e2.0	e1.0	e120	12	15	17	2.7	0.89	0.62
17	4.8	4.5	e3.0	e1.5	e1.5	e90	12	13	16	2.5	0.92	0.67
18	4.8	4.4	e3.0	e1.5	e1.5	71	12	13	16	2.5	0.94	0.71
19	4.7	3.9	e3.0	e1.8	e2.0	62	13	12	21	2.3	0.95	0.72
20	4.6	e2.5	e3.0	e1.6	e2.0	48	13	12	100	2.1	0.96	0.75
21	4.6	e3.0	e3.0	e1.5	e2.0	37	14	12	122	2.1	0.92	0.76
22	4.6	e3.0	e3.0	e1.5	e1.0	28	14	20	76	2.1	0.88	0.78
23	4.6	e3.0	e3.5	e1.5	e1.5	23	14	41	46	1.9	0.85	0.77
24	4.6	e3.5	e3.5	e1.5	e1.3	18	14	75	31	1.8	0.77	0.85
25	4.6	e3.5	e3.0	e1.5	e1.5	17	13	58	24	1.7	0.65	0.84
26	4.8	e3.5	e3.0	e1.0	e1.5	17	12	50	18	1.6	0.64	0.93
27	4.9	e3.5	e3.0	e1.5	e1.3	16	12	198	14	1.5	0.65	0.97
28	5.0	e3.5	e3.0	e2.0	e1.3	14	14	617	11	1.4	0.63	1.0
29	4.9	e3.5	e3.0	e2.0	e1.2	14	14	259	9.0	1.1	0.53	1.1
30	5.2	e3.5	e3.0	e2.0	---	17	21	135	7.7	1.0	0.45	1.1
31	5.3	---	e3.0	e2.0	---	17	---	87	---	1.0	0.46	---
Total	139.1	125.9	101.0	61.9	46.1	1,094.0	433	2,235	1,022.7	87.0	27.04	21.30
Mean	4.49	4.20	3.26	2.00	1.59	35.3	14.4	72.1	34.1	2.81	0.87	0.71
Max	7.1	5.3	4.0	2.5	2.0	170	21	617	122	6.6	1.1	1.1
Min	2.8	2.5	3.0	1.0	1.0	1.3	12	12	7.7	1.0	0.45	0.44
Ac-ft	276	250	200	123	91	2,170	859	4,430	2,030	173	54	42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2012, BY WATER YEAR (WY)*

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	1.81	1.60	0.85	0.41	4.53	72.2	83.5	17.9	15.9	8.46	1.27	1.26
Max	9.33	4.20	3.26	3.02	96.1	369	495	89.0	162	63.6	13.4	14.7
(WY)	(1987)	(2012)	(2012)	(2011)	(1981)	(1976)	(2011)	(1982)	(2011)	(1969)	(1975)	(2010)
Min	0.00	0.10	0.03	0.00	0.00	0.00	3.97	1.46	0.17	0.00	0.00	0.00
(WY)	(1989)	(1989)	(1996)	(1984)	(1980)	(1965)	(1992)	(1992)	(1988)	(1988)	(1959)	(1958)

*Seasonal records only prior to October 1978.

06169500 ROCK CREEK BELOW HORSE CREEK, NEAR INTERNATIONAL BOUNDARY—Continued**SUMMARY STATISTICS**

	Calendar Year 2011	Water Year 2012	Water Years 1956 – 2012*	
Annual total	23,061.3	5,394.04		
Annual mean	63.2	14.7	^a 14.6	
Highest annual mean			62.9	2011
Lowest annual mean			1.88	1998
Highest daily mean	1,760	Apr 14	3,460	Apr 7, 1969
Lowest daily mean	2.0	Mar 10	^b 0.00	Mar 1, 1957
Annual seven-day minimum	2.2	Mar 7	0.00	Mar 1, 1957
Maximum peak flow			^c 4,420	Apr 7, 1969
Maximum peak stage			^d 13.40	Mar 29, 1978
Instantaneous low flow			0.00	Mar 1, 1957
Annual runoff (ac-ft)	45,740	10,700	10,580	
10 percent exceeds	107	31	15	
50 percent exceeds	3.7	3.5	1.1	
90 percent exceeds	2.7	0.88	0.00	

*Seasonal records only prior to October 1978.

^aMedian of yearly discharge, 10.5 ft³/s, 7,610 acre-ft/yr (October 1978 to current year).

^bNo flow at times most years.

^cGage height, 12.03 ft.

^dBackwater from ice.

