

06307570 HANGING WOMAN CREEK BELOW HORSE CREEK, NEAR BIRNEY, MT

LOCATION.--Lat 45°08'02", long 106°29'00" (NAD 27), on section line 17-20, T. 8 S., R. 43 E., Bighorn County, Hydrologic Unit 10090101, at county road bridge, 0.6 mi downstream from Horse Creek, 0.8 mi upstream from Circle Bar Draw, and 13.2 mi southeast of Birney.

DRAINAGE AREA.--321 mi².

PERIOD OF RECORD.--Water years 1978-83, 1986-87, June 2005.

GAGE--None. Elevation at site is 3,400 ft (NGVD 29).

REMARKS.--Biology samples (aquatic macroinvertebrates and fish) were collected and a habitat assessment was made in conjunction with the water-quality sample. Biology and habitat results were unavailable in time for publication in this report, but will be published at a future date.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity white light det ang 90+/-30 correctd NTRU (63676)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, mg/L fltrd (00915)	Magnesium, water, mg/L fltrd (00925)	Potassium, water, mg/L fltrd (00935)	Sodium adsorption ratio (00931)	Sodium, water, mg/L fltrd (00930)	Sodium, percent (00932)
JUN 22...	0900	E.03	10	7.9	5,000	22.5	1,400	140	249	18.3	9	732	53

Date	Alkalinity, wat flt fxd end lab, mg/L as CaCO3 (29801)	Chloride, water, mg/L fltrd (00940)	Fluoride, water, mg/L fltrd (00950)	Silica, water, mg/L fltrd (00955)	Sulfate water, mg/L fltrd (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, fltrd, tons/d (70302)
JUN 22...	492	18.0	.8	4.39	2,450	E3,900	E5.31	E.32

E--Estimated.

451340106295501 HANGING WOMAN CREEK BELOW HAY GULCH, NEAR BIRNEY, MT

LOCATION.--Lat 45°13'40", long 106°29'55" (NAD 27), in NW¹/₄NW¹/₄SW¹/₄ sec. 17, T.7 S., R.43 E., Rosebud County, Hydrologic Unit 10090101 at road crossing, 0.5 mi below Hay Gulch, and 8 mi south of Birney.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--June 2005.

GAGE.--None. Elevation of site is 3,270 ft (NGVD 29).

REMARKS.--Biology samples (aquatic macroinvertebrates and fish) were collected and a habitat assessment was made in conjunction with the water-quality sample. Biology and habitat results were unavailable in time for publication in this report, but will be published at a future date.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfiltered, uS/cm 25 degC (00095)	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)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)
JUN 21...	1030	E.04	8.1	3,870	24.5	1,000	81.8	200	18.0	7	546	53

Date	Alkalinity, water fltrd fxd end lab, mg/L as CaCO ₃ (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/acre-ft (70303)	Residue water, fltrd, tons/d (70302)
JUN 21...	414	19.2	.8	2.10	1,800	E2,920	E3.97	E.32

E--Estimated.

06307600 HANGING WOMAN CREEK NEAR BIRNEY, MT

LOCATION.--Lat 45°17'44", long 106°30'12" (NAD 27), in NW¹/₄ SE¹/₄ sec.19, T.6 S., R.43 E.,Rosebud County, Hydrologic Unit 10090101, on right bank immediately downstream from bridge on Birney-Otter Road, 1.9 mi south of Birney, 0.7 mi downstream from Eadt Fork, and at river mile 3.8.

DRAINAGE AREA.--470 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1973 to September 1984, October 1985 to September 1995, October 2003 to current year.

REVISED RECORDS.--WDR MT-82-1: 1980(M).

GAGE.--Water-stage recorder. Elevation of gage is 3,180 ft (NGVD 29), from topographic map.

REMARKS.--Water-discharge records fair except those for estimated daily discharges and those above 1 ft³/s, which are poor. Diversion for irrigation of about 1,240 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.03	0.13	e0.05	e0.02	e0.10	0.08	0.26	0.24	0.20	0.19	0.00	0.00
2	0.03	0.11	e0.10	e0.02	e0.10	0.08	0.31	0.22	0.24	0.24	0.00	0.00
3	0.03	0.12	0.10	e0.03	e0.10	0.19	0.31	0.24	0.20	0.23	0.00	0.00
4	0.03	0.11	0.11	e0.02	e0.05	0.43	0.32	0.28	0.17	0.14	0.00	0.00
5	0.03	0.12	0.10	e0.03	e0.15	0.42	0.29	0.26	0.15	0.12	0.01	0.00
6	0.03	0.12	0.09	e0.03	e0.10	0.36	0.25	0.26	0.12	0.08	0.00	0.00
7	0.03	0.11	0.08	e0.03	e0.10	0.31	0.26	0.45	0.12	0.06	0.00	0.00
8	0.03	0.12	0.07	e0.03	e0.10	0.29	0.27	1.7	0.13	0.05	0.00	0.00
9	0.03	0.13	0.08	e0.03	e0.05	0.25	0.37	0.96	0.09	0.04	0.00	0.00
10	0.03	0.12	0.08	e0.03	e0.10	0.23	0.33	0.69	0.09	0.04	0.00	0.00
11	0.03	0.11	0.09	e0.05	e0.10	0.22	0.30	1.8	0.09	0.05	0.00	0.00
12	0.04	0.11	0.09	e0.07	e0.10	0.24	0.29	2.2	0.09	0.04	0.00	0.00
13	0.04	0.12	0.08	e0.10	e0.10	0.23	0.28	1.1	0.12	0.02	0.00	0.00
14	0.08	0.12	0.07	e0.10	e0.10	0.22	0.27	0.77	0.10	0.02	0.01	0.00
15	0.12	0.12	0.06	e0.05	e0.05	0.21	0.26	0.61	0.10	0.02	0.01	0.00
16	0.07	0.12	0.06	e0.02	e0.05	0.22	0.25	0.53	0.11	0.02	0.00	0.00
17	0.08	0.12	0.06	e0.05	e0.05	0.21	0.25	0.47	0.12	0.03	0.00	0.00
18	0.08	0.10	0.06	e0.10	e0.05	0.19	0.25	0.46	0.13	0.03	0.00	0.00
19	0.08	0.11	0.06	e0.15	e0.05	0.21	0.26	0.36	0.16	0.04	0.00	0.00
20	0.08	0.13	0.08	e0.15	e0.08	0.22	0.42	0.34	0.17	0.03	0.00	0.00
21	0.08	0.10	e0.10	e0.10	e0.09	0.30	0.74	0.29	0.15	0.03	0.00	0.00
22	0.09	0.11	e0.08	e0.10	0.11	0.35	0.65	0.26	0.12	0.01	0.00	0.00
23	0.09	0.11	e0.07	e0.10	0.10	0.35	0.40	0.24	0.11	0.00	0.00	0.00
24	0.12	0.12	e0.06	e0.05	0.08	0.28	0.32	0.24	0.10	0.00	0.00	0.00
25	0.12	0.14	e0.05	e0.15	0.06	0.27	0.27	0.27	0.10	0.01	0.00	0.00
26	0.11	0.13	e0.03	e0.10	0.07	0.29	0.25	0.25	0.16	0.08	0.00	0.00
27	0.12	0.11	e0.03	e0.10	0.08	0.30	0.25	0.25	0.23	0.08	0.00	0.00
28	0.10	e0.10	e0.02	e0.05	0.09	0.29	0.24	0.23	0.18	0.05	0.00	0.00
29	0.25	e0.05	e0.02	e0.05	---	0.30	0.24	0.19	0.20	0.04	0.00	0.00
30	0.16	e0.05	e0.02	e0.05	---	0.28	0.24	0.21	0.21	0.02	0.00	0.00
31	0.16	---	e0.02	e0.10	---	0.26	---	0.21	---	0.00	0.00	---
TOTAL	2.40	3.37	2.07	2.06	2.36	8.08	9.40	16.58	4.26	1.81	0.03	0.00
MEAN	0.08	0.11	0.07	0.07	0.08	0.26	0.31	0.53	0.14	0.06	0.00	0.00
MAX	0.25	0.14	0.11	0.15	0.15	0.43	0.74	2.2	0.24	0.24	0.01	0.00
MIN	0.03	0.05	0.02	0.02	0.05	0.08	0.24	0.19	0.09	0.00	0.00	0.00
AC-FT	4.8	6.7	4.1	4.1	4.7	16	19	33	8.4	3.6	0.06	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2005, BY WATER YEAR (WY)*

MEAN	0.63	0.81	0.87	2.36	9.36	8.94	2.69	6.06	3.36	2.61	0.97	0.41
MAX	3.02	3.05	3.11	21.1	71.3	93.2	17.4	98.5	12.9	18.7	7.18	2.33
(WY)	(1976)	(1976)	(1976)	(1974)	(1995)	(1975)	(1975)	(1978)	(1978)	(1992)	(1991)	(1975)
MIN	0.00	0.00	0.05	0.03	0.05	0.17	0.24	0.39	0.13	0.00	0.00	0.00
(WY)	(1989)	(1990)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(2004)	(1988)	(1983)	(1983)

06307600 HANGING WOMAN CREEK NEAR BIRNEY, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1974 - 2005*	
ANNUAL TOTAL	61.13		52.42			
ANNUAL MEAN	0.17		0.14		d3.23	
HIGHEST ANNUAL MEAN					13.6 1975	
LOWEST ANNUAL MEAN					0.14 2005	
HIGHEST DAILY MEAN	19	Aug 6	2.2	May 12	1,730	May 19, 1978
LOWEST DAILY MEAN	0.00	Jul 18	0.00	Jul 23	0.00	Aug 13, 1981
ANNUAL SEVEN-DAY MINIMUM	0.00	Jul 18	0.00	Aug 6	0.00	Aug 13, 1981
MAXIMUM PEAK FLOW			a4.3	May 11	2,060	May 19, 1978
MAXIMUM PEAK STAGE			b2.65	Jan 5	f11.56	May 19, 1978
INSTANTANEOUS LOW FLOW			c0.00	Jul 15	0.00	most years
ANNUAL RUNOFF (AC-FT)	121		104		2,340	
10 PERCENT EXCEEDS	0.25		0.29		3.9	
50 PERCENT EXCEEDS	0.08		0.10		0.72	
90 PERCENT EXCEEDS	0.00		0.00		0.03	

*--During period of operation (September 1973 to September 1984, October 1985 to September 1995, October 2003 to current year).

a--Gage height, 1.50 ft.

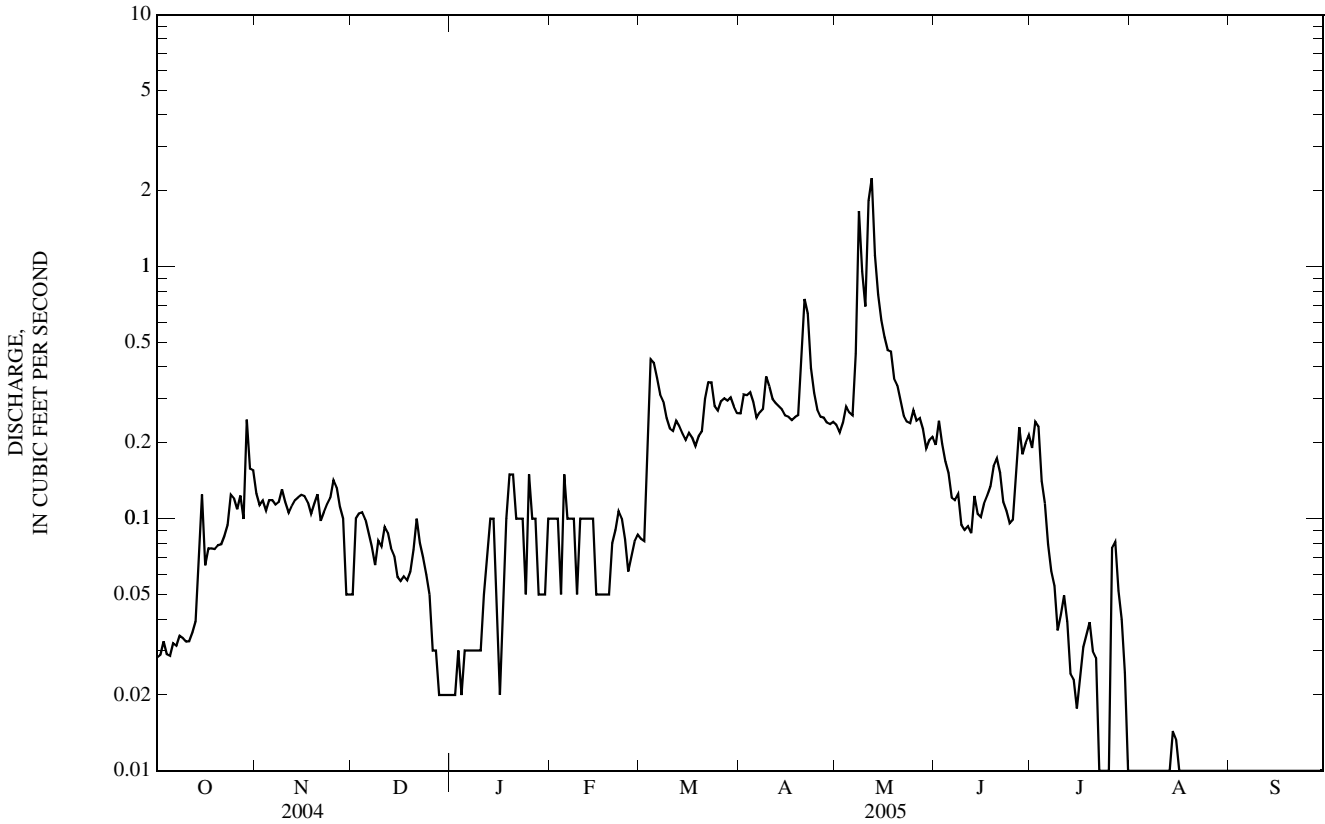
b--Backwater from ice.

c--Many days.

d--Median of yearly mean discharge, 2.17 ft³/s, 1,570 acre-ft year.

e--Estimated.

f--From rating curve extended to 360 ft³/s on basis of slope-area measurement of flow, site and datum then in use.



06307600 HANGING WOMAN CREEK NEAR BIRNEY, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975-95, July 2003 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1980 to July 1983, October 1985 to September 1987 (observer daily samples); May 2004 to current year (seasonal electronic records).

INSTRUMENTATION.--A specific conductance probe was installed May 19, 2004.

REMARKS.--Daily specific conductance records are rated good to excellent. Specific conductance data not available for July 20 to October 31 due to no flow.

Low-level mercury sample taken on July 13; results reported in nanograms per liter. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,780 microsiemens per centimeter ($\mu\text{S}/\text{cm}$) at 25.0°C, July 3, 1986; minimum daily, 263 $\mu\text{S}/\text{cm}$ at 25.0°C, Feb. 27, 1986.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE (seasonal records): Maximum, 2,940 microsiemens per centimeter ($\mu\text{S}/\text{cm}$) at 25.0°C, Apr. 25; minimum, 1,480 $\mu\text{S}/\text{cm}$ at 25.0°C, Oct. 19, 2004.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd, std units (00400)	Specific conductance, wat unf 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)	Potassium, water, fltrd, mg/L (00935)	
Date		Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt fxd end lab, mg/L as CaCO ₃ (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/acre-ft (70303)	Residue water, fltrd, tons/d (70302)	Suspnd. sediment, sieve <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
OCT														
13...	1045		.04	690	9.0	82	8.1	1,660	13.0	7.0	610	91.1	92.0	12.4
DEC														
02...	0900		E.10	683	9.5	73	7.8	2,300	6.0	0.0	800	111	127	16.4
FEB														
08...	1330		E.10	681	6.0	46	7.8	2,080	-5.0	0.0	760	110	118	13.7
MAR														
08...	1325		.32	681	10.1	87	8.0	1,760	12.0	4.0	620	89.2	96.6	11.5
APR														
05...	1300		.32	684	9.1	95	8.1	2,130	18.0	12.0	710	96.3	112	13.7
19...	1150		.25	680	6.4	62	8.1	2,190	3.0	8.5	730	98.3	117	14.8
MAY														
02...	1520		.22	685	10.9	113	8.2	2,280	15.0	11.5	800	103	133	15.0
16...	1500		.54	666	7.8	103	8.1	2,300	29.5	22.0	700	87.3	118	16.4
JUN														
08...	0930		.25	675	3.5	37	7.7	2,320	11.5	12.5	720	79.2	126	14.2
21...	1230		.16	680	7.2	105	8.2	2,170	32.5	28.6	660	77.4	113	12.0
JUL														
13...	1400		.03	677	12.8	184	8.7	1,850	41.0	27.0	540	50.1	101	9.47

E--Estimated.

06307600 HANGING WOMAN CREEK NEAR BIRNEY, MT—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitro- gen, wat unfl- trd by anal- ysis, mg/L (62855)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, unfltrd mg/L (00665)	Alum- inum, water, fltrd, ug/L (01106)	Alum- inum, water, unfltrd recover- able, ug/L (01105)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Barium, water, fltrd, ug/L (01005)	Barium, water, unfltrd recover- able, ug/L (01007)
OCT 13...	1045	<.010	E.012	E.001	.31	<.006	.022	<2	69	1.0	<2	52	55
DEC 02...	0900	.045	.063	.005	.49	.014	.038	<2	97	1.1	<2	71	65
FEB 08...	1330	.029	E.008	E.001	.31	E.004	.027	<2	49	1.0	<2	47	56
APR 05...	1300	.028	E.015	.002	.48	E.004	.055	2	81	1.3	<2	47	49
MAY 16..	1500	.018	<.016	.002	.57	.009	.046	2	120	1.5	E1	45	43
JUL 13...	1400	--	--	--	--	--	--	--	--	--	--	--	--

Date	Beryll- ium, water, fltrd, ug/L (01010)	Beryll- ium, water, unfltrd recover- able, ug/L (01012)	Boron, water, fltrd, ug/L (01020)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)	Chrom- ium, water, unfltrd recover- able, ug/L (01034)	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)	Lithium water, fltrd, ug/L (01130)
OCT 13...	<.06	<.06	245	<.04	<.04	<2	2.9	3.8	63	760	<.08	.12	86.0
DEC 02...	<.06	<.06	294	<.04	<.04	<6	3.2	9.2	58	430	<.08	.12	119
FEB 08...	<.06	<.06	250	<.04	E.03	4	2.7	4.6	107	420	<.08	.10	101
APR 05...	<.06	<.06	257	<.04	E.02	6	3.7	11.8	26	500	.12	.17	100
MAY 16..	<.06	<.06	263	<.04	.20	E6	9.5	10.3	27	340	.09	.19	98.0
JUL 13...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Mangan- ese, water, fltrd, ug/L (01056)	Mangan- ese, water, unfltrd recover- able, ug/L (01055)	Mercury water, unfltrd recover- able, ng/L (50286)	Mercury water, unfltrd recover- able, ug/L (71900)	Nickel, water, fltrd, ug/L (01065)	Nickel, water, unfltrd recover- able, ug/L (01067)	Selen- ium, water, fltrd, ug/L (01145)	Selen- ium, water, unfltrd ug/L (01147)	Stront- ium, water, fltrd, ug/L (01080)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover- able, ug/L (01092)
OCT 13...	226	234	--	<.01	4.13	4.42	.7	1.0	1,240	1.8	3
DEC 02...	82.1	83	--	<.01	1.94	5.04	1.0	.9	1,480	3.1	4
FEB 08...	117	113	--	<.01	3.11	3.55	.7	1.0	1,430	3.3	2
APR 05...	104	117	--	--	4.31	4.62	1.2	.9	1,430	6.5	5
MAY 16..	56.0	57	--	--	3.58	5.11	.8	1.2	1,370	5.8	5
JUL 13...	--	--	1.06	--	--	--	--	--	--	--	--

E--Estimated.

06307600 HANGING WOMAN CREEK NEAR BIRNEY, MT—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
SEASON OCTOBER 2004 TO OCTOBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	2,340	2,140	2,240	2,560	2,140	2,360
2	---	---	---	---	---	---	2,270	2,110	2,190	2,610	2,350	2,460
3	---	---	---	---	---	---	2,200	2,010	2,110	2,580	2,260	2,370
4	---	---	---	---	---	---	2,220	2,060	2,160	2,370	2,250	2,310
5	---	---	---	---	---	---	2,210	2,080	2,130	2,380	2,220	2,320
6	---	---	---	---	---	---	2,240	2,060	2,160	2,380	2,200	2,300
7	---	---	---	---	---	---	2,350	2,180	2,250	2,340	1,890	2,190
8	---	---	---	---	---	---	2,260	2,160	2,220	2,760	1,790	2,160
9	---	---	---	---	---	---	2,240	2,120	2,160	2,880	2,580	2,710
10	---	---	---	---	---	---	2,300	2,100	2,180	2,640	2,290	2,470
11	---	---	---	---	---	---	2,530	2,300	2,410	2,440	1,900	2,150
12	---	---	---	---	---	---	2,580	2,360	2,490	2,160	1,750	2,010
13	---	---	---	---	---	---	2,560	2,280	2,430	2,290	2,040	2,140
14	1,600	1,520	1,580	---	---	---	2,490	2,320	2,410	2,290	2,040	2,120
15	1,540	1,510	1,520	---	---	---	2,470	2,240	2,360	2,410	2,120	2,210
16	1,550	1,510	1,530	---	---	---	2,370	2,120	2,270	2,450	2,200	2,290
17	1,550	1,520	1,530	---	---	---	2,360	2,140	2,270	2,390	2,290	2,330
18	1,560	1,540	1,550	---	---	---	2,290	2,160	2,220	2,540	2,240	2,300
19	1,590	1,480	1,550	---	---	---	2,380	2,180	2,250	2,500	2,300	2,360
20	1,580	1,540	1,560	---	---	---	2,330	2,000	2,160	2,690	2,320	2,430
21	1,570	1,530	1,550	---	---	---	2,680	2,060	2,230	2,580	2,340	2,400
22	1,570	1,530	1,560	---	---	---	2,810	2,500	2,660	2,630	2,380	2,440
23	1,590	1,540	1,570	2,260	1,970	2,130	2,870	2,570	2,680	2,510	2,380	2,450
24	1,580	1,520	1,560	2,340	2,230	2,280	2,930	2,450	2,650	2,450	2,340	2,380
25	1,590	1,520	1,570	2,430	2,230	2,360	2,940	2,450	2,620	2,500	2,320	2,380
26	1,570	1,520	1,560	2,470	2,220	2,350	2,750	2,290	2,530	2,580	2,360	2,470
27	1,590	1,530	1,560	2,340	2,140	2,240	2,820	2,210	2,420	2,670	2,340	2,520
28	1,580	1,520	1,560	2,220	2,080	2,170	2,650	2,310	2,410	2,670	2,390	2,520
29	1,570	1,520	1,540	2,210	2,010	2,120	2,740	2,180	2,360	2,570	2,420	2,490
30	1,560	1,500	1,540	2,260	2,010	2,190	2,650	2,230	2,360	2,560	2,400	2,460
31	1,560	1,540	1,550	2,280	2,090	2,200	---	---	---	2,440	2,360	2,390
MONTH	1,600	1,480	1,550	2,470	1,970	2,230	2,940	2,000	2,330	2,880	1,750	2,350
	JUNE			JULY			AUGUST			SEPTEMBER		
1	2,480	2,280	2,370	1,950	1,880	1,920	---	---	---	---	---	---
2	2,380	2,260	2,320	1,890	1,850	1,870	---	---	---	---	---	---
3	2,540	2,310	2,410	1,940	1,870	1,890	---	---	---	---	---	---
4	2,610	2,380	2,480	1,940	1,900	1,920	---	---	---	---	---	---
5	2,660	2,410	2,490	1,940	1,880	1,920	---	---	---	---	---	---
6	2,460	2,350	2,410	1,970	1,880	1,940	---	---	---	---	---	---
7	2,400	2,290	2,350	2,040	1,860	1,920	---	---	---	---	---	---
8	2,350	2,290	2,310	1,980	1,830	1,910	---	---	---	---	---	---
9	2,340	2,280	2,320	1,980	1,890	1,930	---	---	---	---	---	---
10	2,400	2,280	2,340	1,960	1,860	1,910	---	---	---	---	---	---
11	2,390	2,240	2,320	1,910	1,790	1,860	---	---	---	---	---	---
12	2,340	2,180	2,260	1,860	1,770	1,830	---	---	---	---	---	---
13	2,230	2,150	2,190	1,900	1,780	1,840	---	---	---	---	---	---
14	2,450	2,150	2,250	1,930	1,780	1,880	---	---	---	---	---	---
15	2,360	2,250	2,280	2,100	1,790	1,940	---	---	---	---	---	---
16	2,310	2,250	2,280	2,370	1,870	2,000	---	---	---	---	---	---
17	2,320	2,230	2,280	2,240	1,930	2,040	---	---	---	---	---	---
18	2,310	2,230	2,260	2,190	1,890	1,990	---	---	---	---	---	---
19	2,280	2,180	2,220	2,130	1,810	1,950	---	---	---	---	---	---
20	2,220	2,150	2,180	---	---	---	---	---	---	---	---	---
21	2,200	2,110	2,130	---	---	---	---	---	---	---	---	---
22	2,120	2,050	2,090	---	---	---	---	---	---	---	---	---
23	2,080	2,010	2,060	---	---	---	---	---	---	---	---	---
24	2,050	2,000	2,030	---	---	---	---	---	---	---	---	---
25	2,010	1,950	1,990	---	---	---	---	---	---	---	---	---
26	2,000	1,870	1,950	---	---	---	---	---	---	---	---	---
27	1,900	1,840	1,870	---	---	---	---	---	---	---	---	---
28	1,890	1,860	1,870	---	---	---	---	---	---	---	---	---
29	1,900	1,850	1,870	---	---	---	---	---	---	---	---	---
30	1,930	1,890	1,910	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	2,660	1,840	2,200	2,370	1,770	1,920	---	---	---	---	---	---

YELLOWSTONE RIVER BASIN

06307600 HANGING WOMAN CREEK NEAR BIRNEY, MT—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS--CONTINUED
SEASON OCTOBER 2004 TO OCTOBER 2005

DAY	MAX	MIN	MEAN
OCTOBER 2005			
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	---	---	---

06307616 TONGUE RIVER AT BIRNEY DAY SCHOOL BRIDGE, NEAR BIRNEY, MT

LOCATION.--Lat 45°24'42", long 106°27'26" (NAD 27), in SE¹/₄SW¹/₄SW¹/₄ sec.8, T.5 S., R.43 E., Rosebud County, Hydrologic Unit 10090102, on left bank, 60 ft upstream from Bureau of Indian Affairs bridge, 0.2 mi east of Birney Day School, 5.5 mi downstream from Cook Creek, 6.5 mi northeast of Birney, and at river mile 144.3.

DRAINAGE AREA.--2,621 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1979 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,060 ft (NGVD 29).

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are fair. Flow regulated by Tongue River Reservoir (station number 06307000), and many small reservoirs in Wyoming (combined capacity, about 15,000 acre-ft). Numerous diversions for irrigation upstream from station. U.S. Geological Survey satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	97	e90	e70	e70	e75	75	89	1,320	1,110	449	335
2	94	95	e90	e70	e70	78	75	88	1,220	1,080	448	336
3	93	96	e90	e70	e70	78	74	88	1,200	964	451	334
4	92	96	e90	e70	e70	77	75	88	1,120	859	408	336
5	92	96	e90	e70	e70	77	76	87	1,040	832	397	332
6	93	96	e90	e70	e70	77	74	88	1,010	698	398	314
7	93	95	e90	e70	e70	76	74	131	936	566	408	313
8	95	96	e90	e70	e70	77	74	178	1,090	549	417	314
9	92	96	e90	e70	e70	77	89	108	1,280	547	415	289
10	93	96	e90	e70	e70	77	82	89	1,300	529	411	292
11	93	95	e90	e70	e70	76	75	131	1,230	513	417	293
12	94	96	e90	e70	e70	77	74	302	1,140	502	411	307
13	96	95	e90	e70	e70	78	74	1,230	1,180	505	425	292
14	93	96	e90	e70	e70	77	73	1,290	1,240	508	425	272
15	102	96	e90	e70	e70	77	72	1,310	1,350	501	422	243
16	98	96	e90	e70	e70	76	74	1,320	1,310	502	417	241
17	95	95	e90	e70	e70	76	74	1,050	1,370	487	382	235
18	96	95	e90	e70	e70	75	74	1,120	1,540	485	371	248
19	96	95	e90	e70	e70	75	77	1,180	1,850	476	378	236
20	94	94	e90	e70	e70	75	102	1,200	2,170	475	364	227
21	96	e90	e90	e70	e70	81	107	1,360	2,180	470	360	217
22	96	e90	e90	e70	e70	79	117	1,840	2,100	452	358	219
23	94	e90	e90	e70	e70	78	105	2,560	1,910	454	361	220
24	96	e90	e90	e70	e70	80	104	2,640	1,730	475	355	213
25	95	94	e90	e70	e70	78	106	2,620	1,620	458	354	195
26	95	95	e90	e70	e70	76	109	2,470	1,520	460	355	192
27	95	92	e90	e70	e70	76	112	2,120	1,390	445	349	194
28	96	e90	e90	e70	e70	76	108	1,800	1,290	461	341	201
29	102	e90	e90	e70	---	77	90	1,590	1,210	455	330	195
30	101	e90	e80	e70	---	76	89	1,420	1,110	451	339	196
31	97	---	e70	e70	---	75	---	1,380	---	456	337	---
TOTAL	2,954	2,823	2,760	2,170	1,960	2,383	2,584	32,967	41,956	17,725	12,053	7,831
MEAN	95.3	94.1	89.0	70.0	70.0	76.9	86.1	1,063	1,399	572	389	261
MAX	102	97	90	70	70	81	117	2,640	2,180	1,110	451	336
MIN	92	90	70	70	70	75	72	87	936	445	330	192
AC-FT	5,860	5,600	5,470	4,300	3,890	4,730	5,130	65,390	83,220	35,160	23,910	15,530

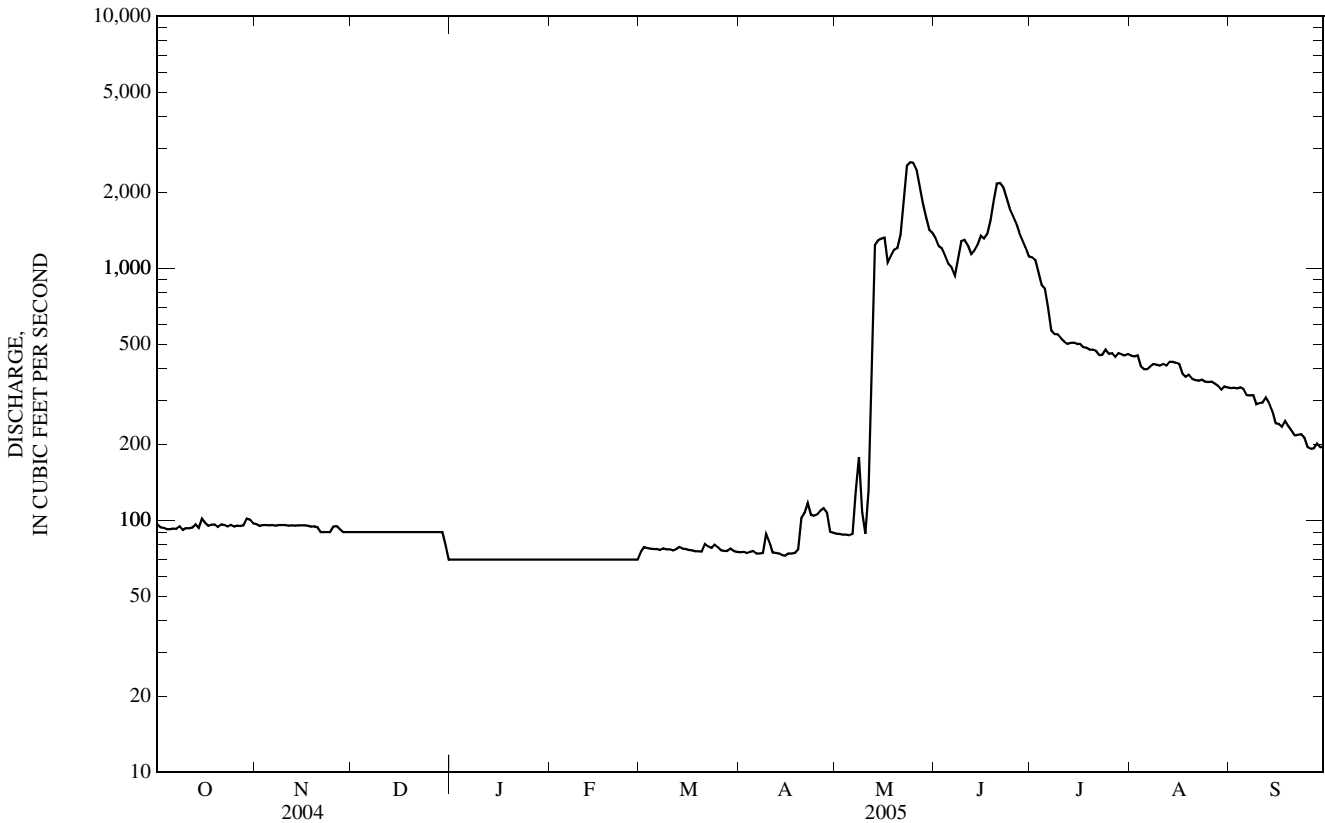
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2005, BY WATER YEAR (WY)

MEAN	229	205	169	169	185	219	259	650	1,100	544	389	305
MAX	381	347	260	287	350	434	583	1,769	2,921	1,269	676	694
(WY)	(1996)	(1987)	(1987)	(1983)	(1983)	(1996)	(1996)	(1984)	(1984)	(1995)	(1997)	(1998)
MIN	84.7	65.6	63.5	70.0	70.0	76.9	65.9	144	215	234	159	105
(WY)	(1989)	(1989)	(1989)	(2005)	(2005)	(2005)	(1992)	(2002)	(2004)	(2001)	(2002)	(2004)

06307616 TONGUE RIVER AT BIRNEY DAY SCHOOL BRIDGE, NEAR BIRNEY, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1980 - 2005	
ANNUAL TOTAL	54,729		130,166			
ANNUAL MEAN	150		357		369	
HIGHEST ANNUAL MEAN					644	1984
LOWEST ANNUAL MEAN					133	2002
HIGHEST DAILY MEAN	290	Jul 23	2,640	May 24	3,740	Jun 14, 1984
LOWEST DAILY MEAN	70	Dec 31	70	Dec 31	28	Apr 6, 1987
ANNUAL SEVEN-DAY MINIMUM	86	Jan 1	70	Dec 31	28	Apr 5, 1987
MAXIMUM PEAK FLOW			a2,690	May 23	c4,520	Jun 14, 1984
MAXIMUM PEAK STAGE			b6.40	Jan 15	b6.92	Feb 8, 1996
ANNUAL RUNOFF (AC-FT)	108,600		258,200		267,200	
10 PERCENT EXCEEDS	248		1,200		663	
50 PERCENT EXCEEDS	110		95		240	
90 PERCENT EXCEEDS	90		70		100	

a--Gage height, 5.19 ft.
 b--Backwater from ice.
 c--Gage height, 6.43 ft, from rating curve extended above 2,700 ft³/s.
 e--Estimated.



06307616 TONGUE RIVER AT BIRNEY DAY SCHOOL BRIDGE, NEAR BIRNEY, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1980 to 1993, October 2003 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 2004 to current year (seasonal records).

INSTRUMENTATION.--Specific conductance probe installed May 1, 2004.

REMARKS.--Daily specific conductance records are rated good to excellent. Several unpublished observations of specific conductance and water temperature were made during the year. Low-level mercury analysis on July 13; result is reported in nanograms per liter.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 693 microsiemens per centimeter at 25.0°C ($\mu\text{S}/\text{cm}$), Sept. 30, 2004; minimum, 548 $\mu\text{S}/\text{cm}$ at 25.0°C, Aug. 6, 2004.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE (seasonal records): Maximum, 801 microsiemens per centimeter at 25.0°C ($\mu\text{S}/\text{cm}$), Mar. 18; minimum, 289 $\mu\text{S}/\text{cm}$ at 25.0°C, June 27.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/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)
OCT											
13...	0945	96	694	8.7	83	8.4	692	8.5	9.0	280	47.1
NOV											
04...	0930	96	*	*	*	8.4	720	--	4.0	300	54.2
DEC											
08...	1005	E90	669	13.2	103	8.3	807	0.0	0.0	320	59.3
FEB											
08...	1215	E70	684	13.0	99	8.3	805	0.0	0.0	370	69.6
MAR											
08...	1200	79	685	12.3	116	8.4	790	11.0	8.0	350	64.8
21...	1100	83	681	10.7	101	8.3	770	9.5	7.5	330	59.1
APR											
05...	1200	75	685	9.4	99	8.4	773	14.0	12.5	320	55.6
19...	1045	75	683	8.0	83	8.4	760	8.5	12.0	310	54.1
MAY											
02...	1400	87	686	11.2	108	8.4	748	14.5	9.0	360	66.6
16...	1300	1,320	670	9.4	106	8.4	730	31.0	15.0	300	56.2
JUN											
08...	1130	1,080	675	8.9	97	8.2	404	15.5	13.5	160	33.0
21...	1530	2,180	680	7.1	89	8.0	319	33.0	20.5	140	32.0
JUL											
13...	1000	509	680	7.3	102	--	325	39.0	23.0	140	33.3
26...	1330	457	690	7.8	95	8.2	390	21.0	20.0	130	30.4
AUG											
09...	1050	437	684	7.5	95	8.1	360	22.0	21.5	150	34.8
24...	1210	366	681	8.7	108	8.4	437	22.5	20.0	190	41.5
SEP											
07...	1300	319	688	9.3	111	8.5	470	28.0	19.0	200	44.9
19...	1500	236	682	10.3	120	8.5	484	27.0	17.0	220	49.7

*--Equipment problems.

E--Estimated.

06307616 TONGUE RIVER AT BIRNEY DAY SCHOOL BRIDGE, NEAR BIRNEY, MT—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005--CONTINUED

Date	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, wat flt fxd end lab, mg/L as CaCO3 (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)
OCT 13...	40.3	4.25	1	48.9	27	202	4.14	.4	1.40	168
NOV 04...	40.5	4.09	1	49.1	26	220	4.26	.4	3.46	170
DEC 08...	42.7	4.17	1	51.5	25	256	4.46	.4	5.37	184
FEB 08...	47.0	3.89	1	52.9	24	282	4.84	.4	5.62	178
MAR 08...	46.0	3.92	1	53.0	24	265	4.83	.4	2.50	173
21...	43.4	3.82	1	49.1	24	247	4.59	.4	2.41	170
APR 05...	43.1	4.06	1	52.0	26	245	4.83	.4	1.64	172
19...	42.4	4.13	1	51.4	26	227	4.95	.4	1.22	171
MAY 02...	46.3	2.88	.7	28.6	15	237	7.59	.3	3.96	143
16...	38.2	3.38	1	41.9	23	223	4.83	.3	2.64	154
JUN 08...	19.1	2.79	.6	16.1	18	128	2.25	.2	6.56	69.5
21...	15.5	2.14	.4	12.3	15	113	1.74	.1	6.83	49.4
JUL 13...	15.0	1.73	.5	12.7	16	117	1.40	.2	4.93	48.6
26...	13.4	1.73	.4	11.3	16	117	1.25	.2	6.26	46.0
AUG 09...	15.1	2.03	.5	13.3	16	129	1.52	.2	5.46	53.7
24...	20.8	2.33	.6	19.8	18	155	1.95	.2	3.10	73.5
SEP 07...	22.3	2.54	.6	21.2	18	160	2.23	.2	2.02	81.7
19...	24.1	2.71	.6	22.0	17	170	2.36	.2	3.50	89.6

Date	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, fltrd, tons/d (70302)	Suspnd. sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
OCT 13...	437	.59	113	85	7	1.8
NOV 04...	458	.62	119	89	9	2.3
DEC 08...	506	.69	E123	92	22	E5.3
FEB 08...	532	.72	E101	86	25	E4.7
MAR 08...	508	.69	108	91	14	3.0
21...	481	.65	108	81	10	2.2
APR 05...				86	22	4.5
19...	465	.63	94.2	82	19	3.8
MAY 02...	441	.60	104	73	13	3.1
16...	435	.59	1,550	81	113	403
JUN 08...	226	.31	659	76	50	146
21...	188	.26	1,100	76	71	418
JUL 13...	188	.26	258	89	17	23
26...	181	.25	223	90	38	47
AUG 09...	203	.28	240	91	41	48
24...	257	.35	254	90	20	20
SEP 07...	273	.37	235	90	12	10
19...	296	.40	189	90	9	5.7

E--Estimated.

06307616 TONGUE RIVER AT BIRNEY DAY SCHOOL BRIDGE, NEAR BIRNEY, MT—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, unfltrd mg/L (00665)	Total nitro- gen, wat unfl by anal ysis, mg/L (62855)	Alum- inum, water, fltrd, ug/L (01106)	Alum- inum, water, unfltrd recover- able, ug/L (01105)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Barium, water, fltrd, ug/L (01005)	Barium, water, unfltrd recover- able, ug/L (01007)
OCT 13...	<.010	<.016	<.002	<.006	.008	.22	<2	24	.8	<2	42	43
DEC 08...	E.005	<.016	<.002	E.003	.007	.27	E1	18	.8	<2	56	56
FEB 08...	E.008	<.016	E.001	<.006	.009	.23	<2	11	.7	<2	59	60
APR 05...	E.008	<.016	<.002	<.006	.018	.31	2	47	.9	<2	63	67
MAY 16...	E.007	<.016	E.001	<.006	.110	.82	3	605	.9	<2	54	73
JUL 13...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 24...	E.005	E.008	E.001	<.006	.037	.33	4	152	1.0	1.4	48	54

Date	Beryll- ium, water, fltrd, ug/L (01010)	Beryll- ium, water, unfltrd recover- able, ug/L (01012)	Boron, water, fltrd, ug/L (01020)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)	Chrom- ium, water, unfltrd recover- able, ug/L (01034)	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)
OCT 13...	<.06	<.06	82	<.04	<.04	<2	1.8	4.3	11	60	E.05	E.04
DEC 08...	<.06	<.06	88	<.04	<.04	<2	3.9	2.9	11	50	<.08	<.06
FEB 08...	<.06	<.06	82	<.04	<.04	E2	1.2	2.3	23	70	<.08	E.04
APR 05...	<.06	<.06	85	<.04	<.04	3	2.8	7.2	26	140	.10	.16
MAY 16...	<.06	E.05	70	<.04	.09	3	4.5	4.6	E4	1,300	.17	1.25
JUL 13...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 24...	<.06	E.04	43	<.04	<.04	E1	5.8	1.5	15	310	.24	.30

Date	Lithium water, fltrd, ug/L (01130)	Mangan- ese, water, fltrd, ug/L (01056)	Mangan- ese, water, unfltrd recover- able, ug/L (01055)	Mercury water, unfltrd ng/L (50286)	Mercury water, unfltrd recover- able, ug/L (71900)	Nickel, water, fltrd, ug/L (01065)	Nickel, water, unfltrd recover- able, ug/L (01067)	Selen- ium, water, fltrd, ug/L (01145)	Selen- ium, water, unfltrd ug/L (01147)	Stront- ium, water, fltrd, ug/L (01080)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover- able, ug/L (01092)
OCT 13...	25.6	4.2	7	--	<.01	1.85	2.07	E.4	.6	473	1.2	E1
DEC 08...	22.4	8.4	11	--	<.01	1.85	2.93	.5	.6	599	1.3	2
FEB 08...	28.9	17.4	19	--	<.01	2.21	2.23	.4	.7	607	1.3	E1
APR 05...	29.5	19.0	37	--	--	--	2.02	.6	.4	611	--	2
MAY 16...	24.8	3.8	157	--	--	2.22	3.41	.5	.9	496	4.5	6
JUL 13...	--	--	--	1.22	--	--	--	--	--	--	--	--
AUG 24...	10.9	5.5	54	--	--	1.70	1.90	E.2	<.4	300	4.4	E2

E--Estimated.

06307616 TONGUE RIVER AT BIRNEY DAY SCHOOL BRIDGE, NEAR BIRNEY, MT—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
SEASON OCTOBER 2004 TO OCTOBER 2005

DAY	OCTOBER 2004			MARCH 2005			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	696	682	688	---	---	---	783	769	776	754	741	745
2	689	674	681	---	---	---	782	771	777	756	733	743
3	695	683	689	---	---	---	780	771	775	746	738	742
4	696	681	688	---	---	---	780	770	775	744	741	743
5	692	680	686	---	---	---	777	763	770	745	740	743
6	692	680	686	---	---	---	775	764	770	745	740	743
7	692	680	686	---	---	---	772	762	767	745	740	743
8	692	679	685	---	---	---	773	761	767	704	560	641
9	694	682	687	---	---	---	763	719	735	694	647	677
10	701	693	696	---	---	---	737	716	727	728	688	709
11	702	684	692	---	---	---	742	699	728	747	677	724
12	694	684	689	---	---	---	746	710	738	765	674	699
13	695	684	690	---	---	---	758	745	752	772	656	729
14	694	685	691	---	---	---	762	750	756	740	720	731
15	695	688	691	---	---	---	762	750	756	721	712	717
16	694	681	685	798	778	788	763	751	757	724	718	721
17	699	687	693	790	781	785	762	751	757	721	673	708
18	699	683	692	801	784	792	759	740	753	675	615	650
19	705	697	700	799	782	791	755	723	747	676	623	649
20	710	705	709	798	777	789	726	696	711	677	660	670
21	710	701	706	784	761	772	699	680	687	660	630	646
22	705	693	698	776	759	767	681	666	672	631	450	583
23	706	699	703	771	762	767	717	681	702	610	587	598
24	710	703	706	772	757	765	737	717	728	592	574	582
25	708	700	704	780	750	765	744	717	733	576	556	566
26	709	703	706	780	754	772	743	728	737	572	547	562
27	708	702	705	777	767	773	746	727	735	558	535	549
28	708	702	705	786	773	780	746	730	738	550	528	541
29	704	689	693	784	772	778	753	739	746	551	509	535
30	700	691	695	782	768	776	756	740	746	521	487	509
31	676	688	693	783	770	777	---	---	---	511	477	487
MONTH	710	674	694	801	750	777	783	666	744	772	450	656
	JUNE			JULY			AUGUST			SEPTEMBER		
1	493	440	476	316	305	310	343	331	338	458	401	435
2	505	428	460	333	301	311	344	331	338	435	401	419
3	457	432	441	324	306	313	390	333	344	432	402	419
4	454	400	432	315	305	311	352	343	348	432	406	422
5	427	389	408	314	303	307	365	345	355	439	417	431
6	407	393	399	321	313	317	359	343	351	448	427	442
7	400	379	387	336	321	326	364	347	356	469	439	456
8	388	367	381	330	316	324	370	352	361	459	438	449
9	378	354	366	329	312	321	367	351	359	460	439	451
10	367	352	361	329	318	323	376	360	368	460	441	453
11	366	352	361	331	309	321	379	359	370	465	453	460
12	365	354	358	321	306	315	373	359	367	472	455	463
13	357	338	349	326	311	319	377	363	371	465	457	461
14	352	333	340	323	308	316	395	362	378	469	451	460
15	336	331	334	320	307	314	375	348	362	467	451	462
16	338	330	334	320	303	313	366	347	357	470	456	464
17	334	326	330	319	308	314	386	359	378	473	459	466
18	333	323	327	320	308	315	410	379	397	474	460	468
19	326	318	321	324	310	316	423	387	409	492	468	481
20	321	314	319	324	313	318	442	401	425	490	476	485
21	324	314	318	330	317	324	427	380	407	499	483	491
22	320	316	319	330	317	324	437	387	416	494	479	488
23	321	314	317	331	317	324	450	405	429	514	494	505
24	318	312	316	352	314	325	453	409	436	509	488	499
25	315	301	307	358	321	336	444	410	430	523	497	508
26	310	296	305	326	323	324	460	415	442	523	513	520
27	309	289	301	335	326	330	456	402	435	521	505	515
28	310	299	304	333	323	329	445	403	430	508	495	502
29	314	306	310	340	329	334	449	401	429	512	499	506
30	319	308	313	337	327	333	435	401	417	515	498	507
31	---	---	---	340	329	336	438	404	429	---	---	---
MONTH	505	289	353	358	301	321	460	331	388	523	401	470

06307616 TONGUE RIVER AT BIRNEY DAY SCHOOL BRIDGE, NEAR BIRNEY, MT—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS--CONTINUED
SEASON OCTOBER 2004 TO OCTOBER 2005

DAY	MAX	MIN	MEAN
OCTOBER 2005			
1	516	501	509
2	517	502	510
3	513	489	501
4	501	483	495
5	512	475	495
6	518	501	509
7	538	518	528
8	536	518	528
9	533	502	515
10	535	500	516
11	554	530	543
12	532	504	517
13	550	519	536
14	559	529	543
15	558	536	547
16	568	534	551
17	573	543	559
18	571	545	555
19	566	545	558
20	583	537	559
21	578	546	561
22	573	539	558
23	575	566	571
24	567	541	557
25	568	547	559
26	564	542	555
27	566	539	554
28	563	540	554
29	568	545	557
30	588	556	576
31	586	563	577
MONTH	588	475	540

YELLOWSTONE RIVER BASIN

451732106085001 OTTER CREEK BELOW TAYLOR CREEK, NEAR OTTER, MT

LOCATION.--Lat 45°17'32", long 106°08'50" (NAD 27), in NE¹/₄NE¹/₄NW¹/₄ sec. 30, T.6 S., R.46 E., Powder River County, Hydrologic Unit 10090102, at county road crossing, 0.5 mi downstream from Taylor Creek, and 6.0 mi north of Otter.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--October 1976 to October 1978, July 2005.

GAGE.--None. Elevation of site is 3,250 ft (NGVD 29).

REMARKS.--Biology samples (aquatic macroinvertebrates and fish) were collected and a habitat assessment was made in conjunction with the water-quality sample. Biology and habitat results were unavailable in time for publication in this report, but will be published at a future date.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity white light, det ang 90+/-30 correctd NTRU (63676)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat 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)
JUN 29...	0900	.75	5.5	678	7.8	96	7.7	3,470	24.0	19.0	1,200	116	233
Date	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, wat fltrd end lab, mg/L as CaCO3 (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue, water, fltrd, sum of constituents mg/L (70301)	Residue, water, fltrd, tons/acre-ft (70303)	Residue, water, fltrd, tons/d (70302)	
JUN 29...	19.4	5	418	42	464	9.39	.6	12.9	1,390	2,480	3.37	5.02	

452642106091201 OTTER CREEK BELOW TENMILE CREEK, NEAR ASHLAND, MT

LOCATION.--Lat 45°26'42", long 106°09'12" (NAD 27), in NW¹/₄NW¹/₄SW¹/₄ sec. 35, T.4 S., R.45 E., Powder River County, Hydrologic Unit 10090102, 0.5 mi downstream from Tenmile Creek, 0.5 mi upstream from Gene Creek, and 8 mi southeast of Ashland.

DRAINAGE AREA.--Not determined.

PERIOD OF RECORD.--June 2005.

GAGE.--None. Elevation of site is 3,100 ft (NGVD 29).

REMARKS.--Biology samples (aquatic macroinvertebrates and fish) were collected and a habitat assessment was made in conjunction with the water-quality sample. Biology and habitat results were unavailable in time for publication in this report, but will be published at a future date.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity white light det ang 90+/-30 NTRU (63676)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/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)
JUN 28...	1100	.26	4.4	678	6.4	83	8.8	3,600	28.0	21.5	1,100	52.0	246

Date	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, water fltrd end lab, mg/L as CaCO ₃ (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue, water, fltrd, sum of constituents mg/L (70301)	Residue, water, fltrd, tons/acre-ft (70303)	Residue, water, fltrd, tons/d (70302)
JUN 28...	19.4	6	475	47	438	12.9	.7	1.16	1,730	2,800	3.81	1.97

YELLOWSTONE RIVER BASIN

06307740 OTTER CREEK AT ASHLAND, MT

LOCATION.--Lat 45°38'18", long 106°15'17" (NAD 27), in NE¹/₄ NE¹/₄ SE¹/₄ sec.11, T.3 S., R.44 E., Rosebud County, Hydrologic Unit 10090102, on left bank 200 ft downstream from bridge on U.S. Highway 212, 0.3 mi southeast of Ashland, and at river mile 2.7.

DRAINAGE AREA.--707 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1972 to November 1985, October 1987 to September 1995, October 2003 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,916.57 ft (NGVD 29).

REMARKS.--Water-discharge records fair except those for estimated daily discharges, which are poor. Flow regulated by Tongue River Reservoir (station number 06307000), and many small reservoirs in Wyoming (combined capacity, about 15,000 acre-ft). Numerous diversions for irrigation upstream from station. U.S. Geological Survey satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e0.70	e0.70	1.9	1.7	1.7	1.3	2.1	2.1	2.4	1.5	e1.5	0.82
2	e0.50	e1.0	1.9	2.0	1.8	1.3	2.0	2.1	2.8	1.5	e1.0	0.86
3	e0.40	1.6	2.0	2.0	1.8	1.2	2.3	2.1	3.1	1.6	1.1	0.75
4	e0.30	1.7	2.0	2.1	1.7	1.1	2.0	2.0	2.9	1.4	1.1	0.69
5	e0.20	1.7	1.9	2.2	1.7	1.3	1.9	1.9	3.2	1.3	e1.5	0.65
6	e0.10	1.7	1.9	e2.0	1.8	1.3	2.0	1.6	3.2	1.2	1.1	0.58
7	e0.15	2.7	1.9	e2.0	1.7	1.3	1.9	2.4	3.0	1.1	1.0	0.54
8	e0.20	2.5	1.8	2.0	1.7	1.5	1.9	5.8	4.1	1.1	0.90	0.53
9	e0.20	2.2	1.8	1.9	1.7	1.5	2.4	9.1	5.4	1.0	0.88	0.61
10	e0.20	e2.0	1.8	e2.0	1.7	1.6	2.4	12	5.0	1.0	0.94	0.63
11	e0.15	e2.0	1.8	e2.0	1.7	1.7	2.6	9.6	5.1	1.0	0.95	0.58
12	e0.15	e2.0	1.8	e2.0	1.7	1.8	2.4	8.6	4.3	0.98	1.0	0.58
13	e0.10	e2.0	1.7	e2.0	1.7	2.0	3.0	8.4	3.8	0.97	1.2	0.62
14	e0.15	e2.0	1.7	e2.0	1.6	2.1	2.3	7.2	3.6	0.93	1.3	0.63
15	e0.20	e2.0	1.8	e2.0	1.6	1.9	2.0	12	3.2	1.0	1.2	0.68
16	e0.30	1.5	1.8	e2.0	1.5	1.8	1.9	9.2	3.2	0.96	1.1	0.68
17	e0.40	1.7	1.8	e2.0	1.5	5.5	2.0	6.3	3.2	0.92	1.1	0.70
18	e0.50	1.5	1.8	e2.0	1.5	2.8	1.8	5.4	2.9	0.92	1.1	0.72
19	e0.60	1.5	1.8	e2.0	1.5	1.8	1.9	4.9	2.5	1.0	1.3	0.68
20	e0.70	1.7	2.0	e2.0	1.5	2.0	2.6	4.3	2.5	1.0	1.2	0.68
21	e0.80	1.8	1.8	2.1	1.5	e2.0	3.3	3.8	2.2	1.2	1.2	0.70
22	e0.90	1.9	1.8	1.7	1.5	e2.0	3.4	3.8	2.1	1.3	1.0	0.70
23	e1.0	1.9	1.9	1.9	1.4	e2.0	3.2	3.3	1.8	1.4	0.86	0.68
24	e1.0	1.9	1.9	1.8	1.4	e2.0	2.8	3.1	1.7	1.2	0.81	0.71
25	e1.0	1.9	1.9	1.8	1.4	e2.0	2.4	3.1	1.7	1.3	0.82	0.73
26	e1.0	1.9	1.8	1.8	1.4	e1.5	2.1	3.0	1.6	1.7	0.84	0.80
27	e1.0	1.8	1.8	1.8	1.4	e1.5	2.2	2.8	1.7	2.6	0.80	0.73
28	e1.0	1.9	1.8	1.8	1.4	e1.5	2.2	2.6	1.8	2.6	0.77	0.76
29	e1.0	1.9	1.7	1.8	---	e1.5	2.1	2.4	1.7	2.5	0.83	0.75
30	e0.90	1.9	1.8	1.8	---	e1.5	2.1	2.4	1.6	e3.0	0.81	0.82
31	e0.80	---	1.7	1.8	---	e1.5	---	2.3	---	e2.0	0.75	---
TOTAL	16.60	54.50	56.8	60.0	44.5	55.8	69.2	149.6	87.3	43.18	31.96	20.59
MEAN	0.54	1.82	1.83	1.94	1.59	1.80	2.31	4.83	2.91	1.39	1.03	0.69
MAX	1.0	2.7	2.0	2.2	1.8	5.5	3.4	12	5.4	3.0	1.5	0.86
MIN	0.10	0.70	1.7	1.7	1.4	1.1	1.8	1.6	1.6	0.92	0.75	0.53
AC-FT	33	108	113	119	88	111	137	297	173	86	63	41

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2005, BY WATER YEAR (WY)*

MEAN	1.36	2.42	2.42	4.61	6.55	14.4	6.17	6.89	4.19	2.19	1.31	0.86
MAX	4.43	6.12	7.03	30.2	34.9	107	28.1	53.1	15.7	8.93	5.53	4.08
(WY)	(1973)	(1980)	(1976)	(1975)	(1974)	(1975)	(1975)	(1978)	(1978)	(1978)	(1982)	(1978)
MIN	0.18	0.71	0.57	0.10	0.36	1.26	0.99	0.71	0.36	0.28	0.00	0.00
(WY)	(1993)	(1992)	(1993)	(1991)	(1993)	(1992)	(1992)	(1992)	(1993)	(1977)	(1992)	(1992)

06307740 OTTER CREEK AT ASHLAND, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1973 - 2005*	
ANNUAL TOTAL	617.04		690.03			
ANNUAL MEAN	1.69		1.89		c4.46	
HIGHEST ANNUAL MEAN					19.0	
LOWEST ANNUAL MEAN					0.60	
HIGHEST DAILY MEAN	14	Mar 14	12	May 10	350	Mar 6, 1994
LOWEST DAILY MEAN	0.10	Oct 6	0.10	Oct 6	0.00	Oct 14, 1976
ANNUAL SEVEN-DAY MINIMUM	0.16	Oct 6	0.16	Oct 6	0.00	Jun 24, 1977
MAXIMUM PEAK FLOW			a14	May 14	425	Mar 21, 1978
MAXIMUM PEAK STAGE			b4.77	Oct 20	b9.08	Mar 6, 1994
INSTANTANEOUS LOW FLOW					d0.00	Oct 1, 1990
ANNUAL RUNOFF (AC-FT)	1,220		1,370		3,220	
10 PERCENT EXCEEDS	3.6		3.0		8.0	
50 PERCENT EXCEEDS	1.0		1.7		1.9	
90 PERCENT EXCEEDS	0.40		0.70		0.29	

*--During period of operation (1973-85, 1988-95, October 2003 to current year).

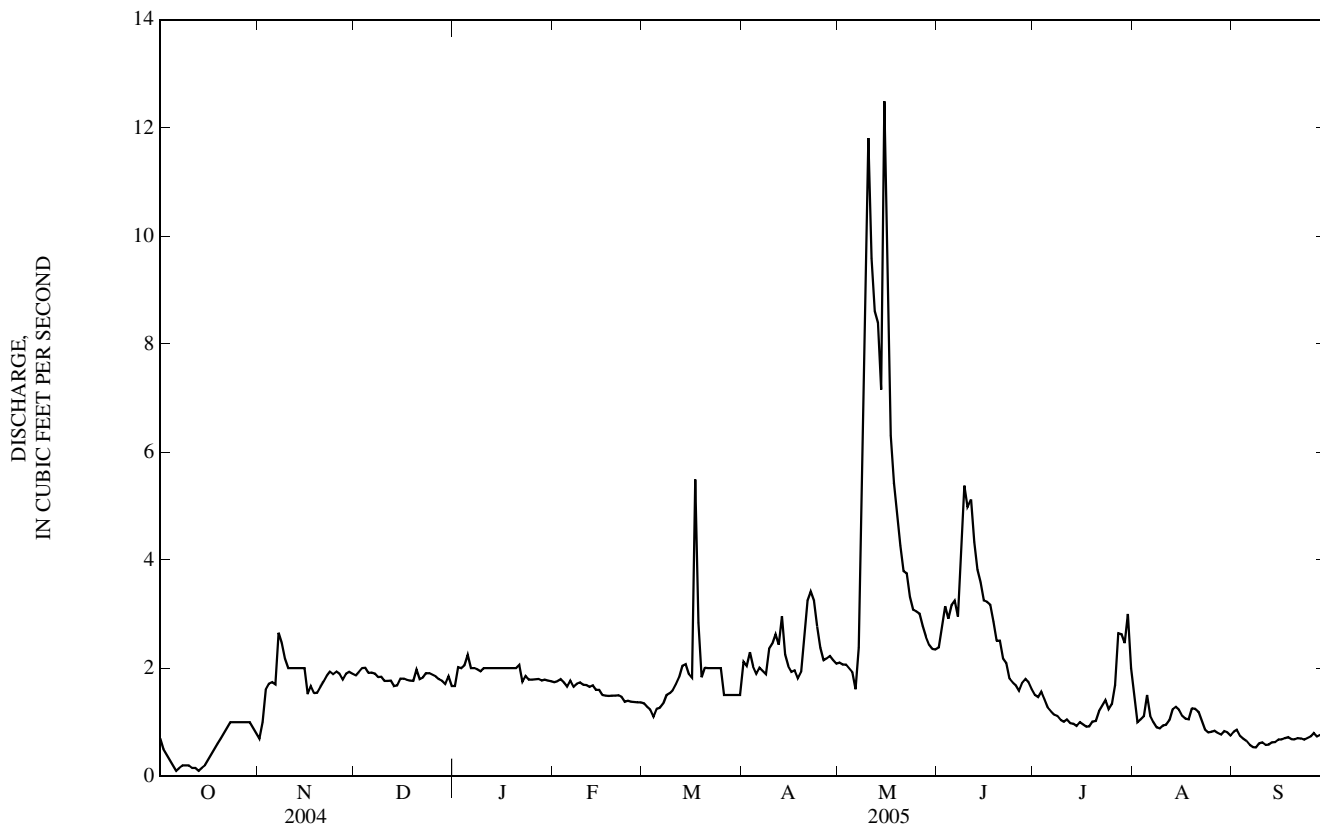
a--Gage height, 1.89 ft.

b--Backwater from ice and beaver dam, previous site and datum.

c--Median of yearly mean discharge, 3.3 ft³/s, 2,390 acre-ft/yr.

d--No flow at times most years.

e--Estimated.



WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975-85, July 2003 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1980 to August 1985 (observer daily samples), May 2004 to October 2005 (seasonal electronic records).

INSTRUMENTATION.--Specific conductance probe was installed in May 2004.

REMARKS.--Daily specific conductance records are rated good to excellent except for the periods Apr. 18; May 1-4, 12-14; June 3-7, 16-18; and July 11 and 12, which are rated fair, and the period May 15, 16 and June 19-21, which are rated poor. Daily specific conductance data for Sept. 6 to Oct. 4 was deleted due to heavy silt on the probe. Low-level mercury samples collected on July 12 and Aug. 2; results reported in nanograms per liter. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,850 microsiemens per centimeter ($\mu\text{S}/\text{cm}$) at 25.0°C, Dec. 3, 1983; minimum daily, 942 $\mu\text{S}/\text{cm}$ at 25.0°C, Feb. 19, 1982.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE (seasonal records): Maximum, 3,210 microsiemens per centimeter ($\mu\text{S}/\text{cm}$) at 25.0°C, June 21; minimum, 1,760 $\mu\text{S}/\text{cm}$ at 25.0°C, Mar. 28.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unf 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)	Potassium, water, fltrd, mg/L (00935)
OCT													
12...	1015	E15	687	8.3	81	8.4	2,260	13.5	9.0	700	59.5	134	18.1
DEC													
08...	1130	1.7	670	13.3	108	8.3	2,950	5.0	1.0	860	86.8	156	20.1
FEB													
09...	0830	1.6	687	13.7	105	8.5	2,500	-3.0	0.0	720	74.4	129	16.3
MAR													
08...	1100	1.8	686	11.9	106	8.5	2,340	9.5	5.5	680	67.3	123	14.8
APR													
05...	1130	1.7	687	8.8	93	8.3	2,990	12.0	12.5	870	83.1	161	18.5
18...	1030	1.8	680	7.6	84	8.3	2,910	14.5	14.0	870	86.4	158	20.7
MAY													
04...	1020	2.1	684	9.2	95	8.5	2,810	7.5	11.5	790	72.2	148	17.9
16...	1030	9.3	676	6.8	81	8.1	2,550	21.5	17.5	740	80.0	130	16.3
JUN													
07...	0930	2.6	678	*	*	8.2	2,890	17.5	18.0	900	86.9	165	18.3
21...	0835	2.2	690	5.1	70	8.2	3,180	36.0	26.0	960	87.3	180	20.1
JUL													
12...	1245	.96	687	*	*	8.5	2,810	30.5	25.5	780	73.0	146	19.6
AUG													
02...	1015	1.0	686	5.4	71	8.4	2,330	31.0	23.5	690	57.5	132	18.8

*--Equipment problems.

06307740 OTTER CREEK AT ASHLAND, MT—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005--CONTINUED

Date	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt fxd end lab, mg/L as CaCO3 (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, fltrd, tons/d (70302)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
OCT 12...	5	325	548	11.5	.9	8.33	799	1,690	2.29	E68.3	86	35	E1.4
DEC 08...	6	412	666	13.1	1.1	16.6	1,060	2,170	2.95	9.96	72	46	.21
FEB 09...	5	334	560	10.2	.9	12.5	866	1,780	2.42	7.75	74	45	.20
MAR 08...	5	321	507	9.36	.9	8.28	844	1,690	2.30	8.23	92	30	.15
APR 05...	7	443	612	12.0	1.0	10.6	1,150	2,250	3.06	10.3	82	112	.51
APR 18...	7	464	587	11.8	1.0	9.90	1,110	2,220	3.01	10.8	95	93	.45
MAY 04...	6	408	554	11.3	.9	9.96	1,060	2,060	2.80	11.7	98	114	.65
MAY 16...	6	363	406	9.65	.7	14.0	1,040	1,900	2.58	47.6	98	110	2.8
JUN 07...	6	421	562	11.3	.9	9.60	1,190	2,240	3.05	15.7	64	94	.66
JUN 21...	6	442	592	12.3	1.0	14.2	1,260	2,370	3.22	14.1	97	163	.97
JUL 12...	6	400	550	10.6	.9	16.3	967	1,960	2.67	5.09	81	160	.41
AUG 02...	5	328	520	9.66	.9	15.0	789	1,660	2.26	4.63	94	148	.41

Date	Time	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitrogen, wat unfltrd by analysis, mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Aluminum, water, fltrd, ug/L (01106)	Aluminum, water, unfltrd recover-able, ug/L (01105)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Barium, water, fltrd, ug/L (01005)	Barium, water, unfltrd recover-able, ug/L (01007)
OCT 12...	1015	E.009	<.016	<.002	.58	<.006	.050	E1	299	1.7	E1	31	36
DEC 08...	1130	.013	.048	.003	.53	<.006	.025	<3	71	1.4	E2	37	39
FEB 09...	0830	E.006	.024	.003	.38	<.006	.021	<3	57	1.1	<2	21	25
APR 05...	1130	E.006	<.016	E.001	.71	<.006	.078	<3	522	1.6	2	36	48
MAY 16...	1030	.020	E.011	.002	1.09	<.006	.104	2	807	1.5	E1	35	50
JUL 12...	1245	--	--	--	--	--	--	--	--	--	--	--	--
AUG 02...	1015	<.010	<.016	E.001	1.29	<.006	.185	E2	1,020	6.5	6	41	65

E--Estimated.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Beryllium, water, fltrd, ug/L (01010)	Beryllium, water, unfltrd recover-able, ug/L (01012)	Boron, water, fltrd, ug/L (01020)	Cadmium, water, fltrd, ug/L (01025)	Cadmium, water, unfltrd ug/L (01027)	Chromium, water, unfltrd recover-able, ug/L (01034)	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)	Lithium, water, fltrd, ug/L (01130)
OCT 12...	<.06	<.06	570	E.02	E.02	<2	5.9	6.2	<18	590	<.08	.63	104
DEC 08...	<.12	<.12	597	E.04	<.08	<6	11.3	15.1	30	220	<.16	.28	109
FEB 09...	<.06	<.06	466	E.02	E.02	E5	3.2	7.1	28	240	<.08	.11	120
APR 05...	<.12	E.06	499	<.08	<.08	9	3.8	20.1	E13	1,120	<.16	1.23	162
MAY 16...	<.06	.09	392	E.02	.05	7	9.5	14.0	27	2,030	.09	2.16	80.0
JUL 12...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG 02...	<.06	.10	532	E.03	.06	6	3.9	4.8	<18	2,220	.09	2.24	99.0

Date	Manganese, water, fltrd, ug/L (01056)	Manganese, water, unfltrd recover-able, ug/L (01055)	Mercury, water, unfltrd ng/L (50286)	Mercury, water, unfltrd recover-able, ug/L (71900)	Nickel, water, fltrd, ug/L (01065)	Nickel, water, unfltrd recover-able, ug/L (01067)	Selenium, water, fltrd, ug/L (01145)	Selenium, water, unfltrd ug/L (01147)	Strontium, water, fltrd, ug/L (01080)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)
OCT 12...	9.0	68	--	<.01	2.84	5.04	1.0	1.2	1,280	2.6	5
DEC 08...	40.8	56	--	<.01	3.06	6.35	1.5	1.8	2,150	2.2	6
FEB 09...	71.4	75	--	<.01	2.76	3.75	1.6	1.6	1,750	2.8	3
APR 05...	137	208	--	--	7.94	7.98	1.9	1.5	2,120	5.3	10
MAY 16...	64.0	187	--	--	5.10	8.61	1.3	2.1	1,720	4.4	13
JUL 12...	--	--	3.17	--	--	--	--	--	--	--	--
AUG 02...	11.4	196	4.94	--	4.03	6.45	1.5	1.4	1,440	5.4	10

E--Estimated.

06307740 OTTER CREEK AT ASHLAND, MT—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
SEASON OCTOBER 2004 TO OCTOBER 2005

DAY	OCTOBER 2004			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	2,410	2,370	2,390	---	---	---	2,620	2,540	2,570	2,990	2,950	2,970
2	2,390	2,350	2,370	---	---	---	2,840	2,610	2,700	2,960	2,860	2,920
3	2,390	2,350	2,370	---	---	---	3,070	2,840	2,950	2,860	2,720	2,820
4	2,390	2,380	2,380	---	---	---	3,110	3,070	3,080	2,790	2,480	2,690
5	2,390	2,380	2,380	---	---	---	3,070	2,910	2,980	2,640	2,480	2,570
6	2,390	2,380	2,380	---	---	---	2,910	2,750	2,850	2,630	2,530	2,600
7	2,410	2,380	2,390	---	---	---	2,780	2,620	2,730	2,630	2,310	2,510
8	2,420	2,410	2,420	---	---	---	2,720	2,630	2,700	2,360	2,200	2,250
9	2,430	2,380	2,400	---	---	---	2,700	2,570	2,620	2,280	2,150	2,220
10	2,390	2,340	2,360	---	---	---	2,630	2,560	2,580	2,730	2,150	2,400
11	2,350	2,320	2,340	---	---	---	2,640	2,590	2,620	2,770	2,680	2,750
12	2,480	2,320	2,380	---	---	---	2,620	2,590	2,600	2,680	2,420	2,510
13	2,430	2,420	2,430	---	---	---	2,620	2,590	2,610	2,670	2,520	2,630
14	2,450	2,430	2,430	---	---	---	2,620	2,600	2,610	2,640	2,380	2,500
15	2,440	2,300	2,340	---	---	---	2,670	2,600	2,630	2,530	2,370	2,440
16	2,300	2,270	2,280	---	---	---	2,820	2,670	2,740	2,740	2,530	2,610
17	2,290	2,260	2,270	---	---	---	2,940	2,820	2,880	2,760	2,670	2,720
18	2,260	2,250	2,260	---	---	---	2,950	2,860	2,930	2,720	2,560	2,690
19	2,260	2,240	2,250	---	---	---	2,860	2,700	2,800	2,670	2,560	2,600
20	2,300	2,250	2,280	---	---	---	2,710	2,580	2,650	2,710	2,560	2,630
21	2,260	2,240	2,250	---	---	---	2,600	2,540	2,570	2,790	2,710	2,760
22	2,260	2,220	2,240	---	---	---	2,540	2,320	2,470	2,780	2,700	2,740
23	2,240	2,230	2,230	2,460	2,400	2,450	2,320	2,210	2,270	2,720	2,660	2,690
24	2,240	2,230	2,240	2,450	2,410	2,430	2,330	2,220	2,290	2,660	2,580	2,630
25	2,270	2,240	2,260	2,480	2,420	2,450	2,580	2,330	2,450	2,620	2,560	2,580
26	2,290	2,270	2,280	2,450	2,230	2,370	2,780	2,580	2,690	2,760	2,620	2,680
27	2,320	2,270	2,290	2,270	1,910	2,140	2,880	2,780	2,830	2,910	2,760	2,830
28	2,340	2,220	2,270	2,010	1,760	1,900	2,980	2,880	2,920	3,010	2,910	2,960
29	2,250	2,120	2,190	2,190	1,790	2,000	3,000	2,970	2,990	3,060	3,010	3,030
30	2,140	2,120	2,130	2,440	2,180	2,360	3,000	2,980	2,990	3,100	3,050	3,080
31	2,130	2,100	2,120	2,550	2,440	2,490	---	---	---	3,160	3,100	3,130
MONTH	2,480	2,100	2,310	2,550	1,760	2,290	3,110	2,210	2,710	3,160	2,150	2,680
	JUNE			JULY			AUGUST			SEPTEMBER		
1	3,190	3,150	3,160	2,610	2,550	2,590	2,350	2,310	2,330	2,380	2,350	2,360
2	3,150	3,120	3,140	2,600	2,490	2,570	2,400	2,340	2,350	2,410	2,370	2,380
3	3,140	3,120	3,130	2,530	2,480	2,510	2,360	2,320	2,340	2,430	2,390	2,400
4	3,120	3,080	3,100	2,540	2,480	2,500	2,510	2,360	2,400	2,440	2,410	2,420
5	3,090	3,010	3,050	2,580	2,510	2,540	2,670	2,510	2,580	2,470	2,440	2,450
6	3,010	2,960	2,980	2,610	2,540	2,580	2,800	2,660	2,730	---	---	---
7	3,030	2,520	2,890	2,630	2,570	2,600	2,870	2,800	2,840	---	---	---
8	2,750	2,630	2,700	2,680	2,610	2,640	2,900	2,850	2,880	---	---	---
9	2,710	2,570	2,640	2,720	2,660	2,690	2,910	2,830	2,880	---	---	---
10	2,780	2,570	2,760	2,740	2,690	2,720	2,890	2,840	2,870	---	---	---
11	2,890	2,750	2,820	2,790	2,710	2,750	2,870	2,800	2,830	---	---	---
12	3,040	2,890	3,000	2,790	2,580	2,720	2,830	2,740	2,780	---	---	---
13	3,020	2,970	2,980	2,670	2,590	2,630	2,740	2,660	2,700	---	---	---
14	3,020	2,970	2,990	2,710	2,630	2,670	2,670	2,570	2,620	---	---	---
15	2,990	2,820	2,930	2,730	2,680	2,710	2,580	2,500	2,540	---	---	---
16	2,820	2,780	2,790	2,750	2,710	2,730	2,530	2,470	2,500	---	---	---
17	2,910	2,780	2,840	2,740	2,720	2,730	2,470	2,430	2,450	---	---	---
18	3,040	2,910	2,970	2,760	2,720	2,740	2,460	2,410	2,430	---	---	---
19	3,100	3,020	3,060	2,760	2,730	2,740	2,420	2,380	2,400	---	---	---
20	3,180	3,090	3,130	2,760	2,710	2,730	2,400	2,320	2,360	---	---	---
21	3,210	2,990	3,140	2,760	2,720	2,730	2,340	2,300	2,310	---	---	---
22	3,100	3,010	3,070	2,770	2,740	2,750	2,330	2,310	2,320	---	---	---
23	3,060	3,000	3,030	2,770	2,660	2,690	2,340	2,310	2,320	---	---	---
24	3,010	2,930	2,980	2,690	2,660	2,670	2,320	2,290	2,300	---	---	---
25	3,000	2,960	2,970	2,670	2,620	2,650	2,320	2,280	2,300	---	---	---
26	2,990	2,920	2,960	2,620	2,580	2,600	2,300	2,280	2,290	---	---	---
27	2,930	2,810	2,890	2,590	2,530	2,550	2,310	2,280	2,290	---	---	---
28	2,870	2,790	2,830	2,540	2,460	2,500	2,310	2,280	2,290	---	---	---
29	2,810	2,780	2,790	2,460	2,410	2,430	2,330	2,290	2,300	---	---	---
30	2,780	2,550	2,700	2,410	2,370	2,390	2,340	2,280	2,320	---	---	---
31	---	---	---	2,400	2,320	2,360	2,360	2,300	2,330	---	---	---
MONTH	3,210	2,520	2,950	2,790	2,320	2,630	2,910	2,280	2,490	2,470	2,350	2,400

YELLOWSTONE RIVER BASIN

06307740 OTTER CREEK AT ASHLAND, MT—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS--CONTINUED
SEASON OCTOBER 2004 TO OCTOBER 2005

DAY	MAX	MIN	MEAN
OCTOBER			
1	---	---	---
2	---	---	---
3	---	---	---
4	---	---	---
5	2,020	1,920	1,950
6	2,000	1,930	1,970
7	2,010	1,960	1,990
8	1,960	1,920	1,940
9	1,920	1,860	1,890
10	1,930	1,880	1,900
11	1,940	1,930	1,940
12	1,980	1,940	1,960
13	2,090	1,980	2,020
14	2,220	2,090	2,160
15	2,290	2,210	2,250
16	2,340	2,260	2,300
17	2,350	2,340	2,340
18	2,370	2,340	2,360
19	2,440	2,370	2,400
20	2,540	2,440	2,480
21	2,640	2,540	2,590
22	2,710	2,640	2,680
23	2,730	2,700	2,710
24	2,720	2,670	2,700
25	2,680	2,640	2,650
26	2,640	2,620	2,630
27	2,620	2,590	2,610
28	2,600	2,570	2,590
29	2,570	2,530	2,560
30	2,540	2,520	2,530
31	2,530	2,510	2,520
MONTH	2,730	1,860	2,320

06307830 TONGUE RIVER BELOW BRANDENBERG BRIDGE, NEAR ASHLAND, MT

LOCATION.--Lat 45°50'24", long 106°13'22" (NAD 27), in SE¹/₄ SW¹/₄ NE¹/₄ sec. 14, T.1 N., R.44 E., Rosebud County, Hydrologic Unit 10090102, on right bank downstream from county bridge, 22 mi north of Ashland, and at river mile 81.3.

DRAINAGE AREA.--3,948 mi². Area at site used prior to July 2000, 4,062 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1973 to September 1984, July 2000 to current year.

GAGE--Water-stage recorder. Elevation of gage is 2,760 ft (NGVD 29), from topographic map. October 1973 to September 1984, water-stage recorder at site 6.5 mi downstream at different elevation.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. Flow regulated by Tongue River Reservoir (station number 06307000), and many small reservoirs in Wyoming combined capacity (about 15,000 acre-ft). Diversions for irrigation for about 73,000 acres above station. U.S. Geological Survey satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	109	e120	e50	e100	98	86	101	1,330	1,120	427	338
2	96	105	e130	e50	e100	96	85	99	1,290	1,100	398	323
3	99	104	e130	e50	e100	98	84	97	1,190	1,140	397	319
4	97	103	e120	e60	e100	92	84	96	1,150	967	408	332
5	97	103	e110	e50	e90	91	83	95	1,090	877	371	338
6	97	102	e90	e60	e70	90	83	94	1,090	834	358	335
7	96	102	e90	e70	e50	89	83	95	1,020	720	368	316
8	96	102	e90	e80	e60	88	82	204	1,050	601	376	318
9	96	103	e100	e80	e60	88	97	306	1,110	561	369	319
10	96	102	e110	e70	e80	88	97	175	1,250	547	377	306
11	94	102	e120	e70	e100	87	98	150	1,260	530	373	309
12	96	103	e110	e60	e110	87	92	203	1,200	507	388	315
13	97	103	e90	e50	e130	89	85	257	1,150	488	397	337
14	98	103	e90	e40	e120	92	82	1,120	1,160	473	412	330
15	103	104	e110	e50	e110	90	80	1,100	1,230	469	412	311
16	103	104	e100	e60	e100	88	79	1,130	1,300	463	422	284
17	107	104	e110	e70	e90	88	80	1,150	1,270	457	419	281
18	106	104	e110	e90	e100	93	79	930	1,320	447	397	277
19	105	104	e110	e100	e100	90	82	1,010	1,460	427	397	286
20	104	104	e110	e110	e110	87	95	1,060	1,680	420	394	276
21	106	102	e100	e90	e100	89	108	1,090	1,880	421	379	271
22	105	106	e80	e70	e100	88	120	1,200	1,870	419	374	253
23	104	103	e60	e80	94	91	118	1,610	1,810	409	361	251
24	103	117	e70	e100	99	94	119	2,080	1,690	412	350	251
25	101	124	e100	e100	103	93	111	2,190	1,580	427	344	255
26	101	118	e90	e100	103	92	106	2,170	1,500	425	342	233
27	101	107	e90	e100	105	89	108	2,060	1,430	419	338	227
28	101	e90	e80	e100	104	88	111	1,840	1,350	402	349	232
29	112	e100	e90	e100	---	91	116	1,640	1,270	405	350	233
30	112	e110	e80	e100	---	90	113	1,480	1,190	406	335	229
31	111	---	e70	e90	---	88	---	1,360	---	417	337	---
TOTAL	3,135	3,147	3,060	2,350	2,688	2,802	2,846	28,192	40,170	17,710	11,719	8,685
MEAN	101	105	98.7	75.8	96.0	90.4	94.9	909	1,339	571	378	290
MAX	112	124	130	110	130	98	120	2,190	1,880	1,140	427	338
MIN	94	90	60	40	50	87	79	94	1,020	402	335	227
AC-FT	6,220	6,240	6,070	4,660	5,330	5,560	5,650	55,920	79,680	35,130	23,240	17,230

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2005, BY WATER YEAR (WY)*

MEAN	247	197	178	196	208	274	288	769	1,324	626	403	292
MAX	511	388	389	334	406	705	594	2,502	3,452	2,261	915	436
(WY)	(1974)	(1974)	(1979)	(1975)	(1983)	(1975)	(1975)	(1978)	(1978)	(1975)	(1975)	(1979)
MIN	101	84.3	95.5	75.8	90.4	81.3	94.9	111	185	183	125	107
(WY)	(2005)	(1976)	(2002)	(2005)	(2002)	(2002)	(2005)	(2002)	(2004)	(2002)	(2001)	(2004)

06307830 TONGUE RIVER BELOW BRANDENBERG BRIDGE, NEAR ASHLAND, MT—Continued

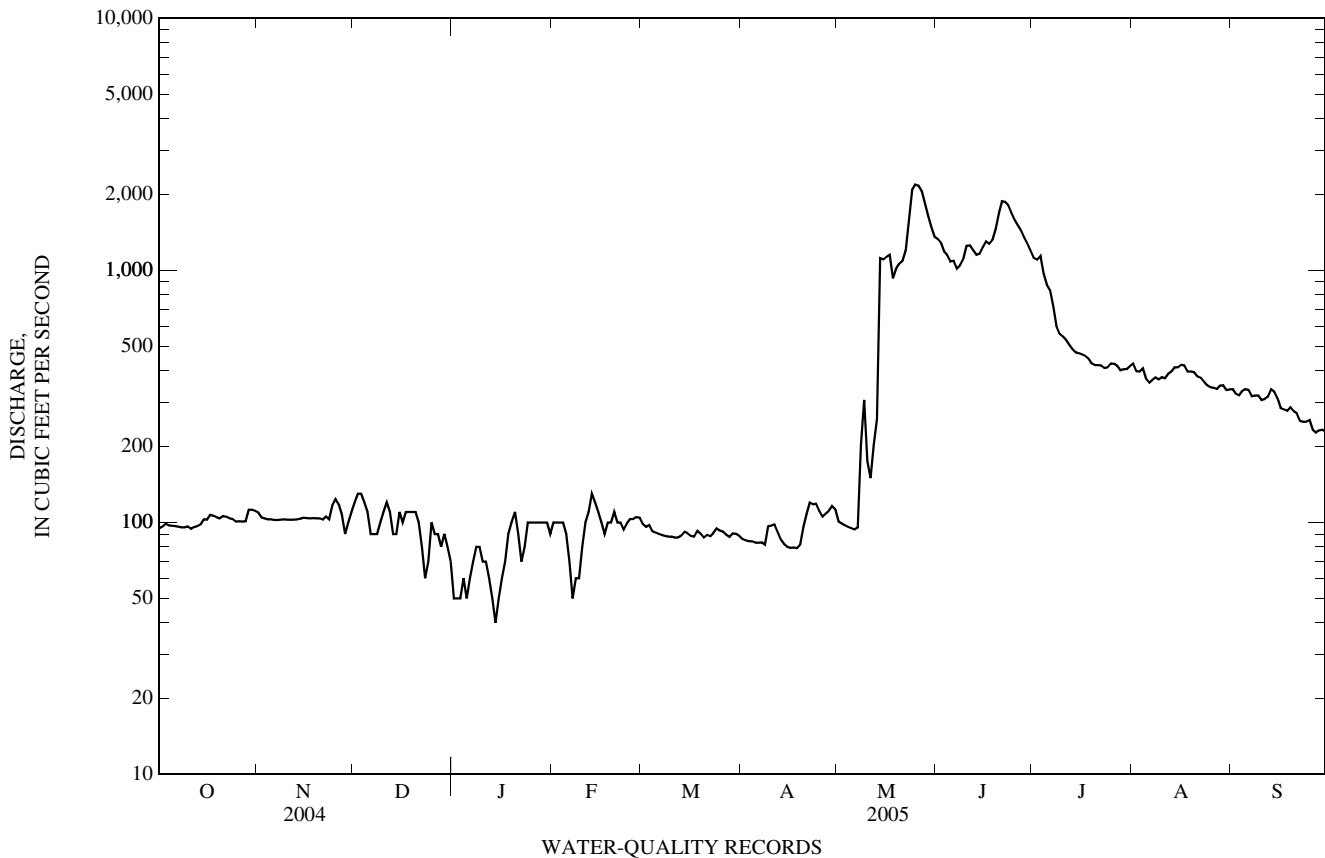
SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1974 - 2005*	
ANNUAL TOTAL	54,567		126,504			
ANNUAL MEAN	149		347		419	
HIGHEST ANNUAL MEAN					885	1975
LOWEST ANNUAL MEAN					120	2002
HIGHEST DAILY MEAN	280	Aug 6	2,190	May 25	7,600	May 22, 1978
LOWEST DAILY MEAN	60	Jan 5	40	Jan 14	40	Jan 14, 2005
ANNUAL SEVEN-DAY MINIMUM	81	Dec 22	56	Dec 31	53	Nov 25, 1975
MAXIMUM PEAK FLOW			2,220	May 25	a8,280	May 22, 1978
MAXIMUM PEAK STAGE			8.85	May 25	b11.49	Mar 15, 2003
ANNUAL RUNOFF (AC-FT)	108,200		250,900		303,500	
10 PERCENT EXCEEDS	215		1,140		876	
50 PERCENT EXCEEDS	144		107		258	
90 PERCENT EXCEEDS	97		82		102	

*--During period of operation (October 1973 to September 1984, July 2000 to current year).

a--Gage height 9.96 ft, site and datum then in use.

b--Backwater from ice.

e--Estimated.



PERIOD OF RECORD.--Water years 1974-81, June 2000 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: August 2000 to current year, (seasonal records).

SUSPENDED-SEDIMENT DISCHARGE: October 1974 to September 1981.

INSTRUMENTATION.--Conductance probe installed Aug. 23, 2000.

REMARKS.--Specific conductance data available for period Oct. 1-31, 2004 and Mar. 16 to Oct. 31, 2005 to provide approved data for the complete period of seasonal operation. Seasonal specific conductance records are rated good to excellent except during the periods May 25-28, June 16-19, and Oct. 30-31, when they were rated fair and May 15-16, 29-31, June 1-7 and 20-21, when they were rated poor. Missing daily specific conductance data for Mar. 21-22 due to equipment problems. Several unpublished observations of water temperature and specific conductance were made during the year. Low-level mercury analysis on Aug. 2; result is reported in nanograms per liter.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,140 microsiemens per centimeter ($\mu\text{S}/\text{cm}$) at 25.0°C, Jan. 2, 3, 2002; minimum, 322 $\mu\text{S}/\text{cm}$ at 25.0°C, July 1, 2005.

SEDIMENT CONCENTRATION: Maximum daily mean, 6,400 mg/L July 26, 1979; minimum daily mean, 1 mg/L Oct. 18, 24, 1976.

SEDIMENT LOAD: Maximum daily, 27,200 tons May 19, 1978; minimum daily, 0.47 ton Nov. 15-17, 1975.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE (seasonal records): Maximum, 1,020 microsiemens per centimeter ($\mu\text{S}/\text{cm}$) at 25.0°C, Mar. 31 and Apr. 1; minimum, 322 $\mu\text{S}/\text{cm}$, at 25.0°C July 1.

06307830 TONGUE RIVER BELOW BRANDENBERG BRIDGE, NEAR ASHLAND, MT—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat 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)	Potassium, water, fltrd, mg/L (00935)	
OCT														
12...	1230	95	692	10.1	101	8.5	786	13.0	11.0	320	53.3	46.2	4.95	
NOV														
01...	1215	110	698	12.0	104	8.7	768	7.5	5.5	300	52.3	40.5	4.37	
DEC														
08...	1300	E90	673	13.1	102	8.4	910	6.5	0.0	360	64.3	48.2	4.84	
FEB														
09...	1000	E60	690	13.4	102	8.4	926	1.5	0.0	380	69.8	50.8	4.63	
MAR														
10...	1100	92	692	11.1	102	8.5	904	11.0	7.5	370	65.3	50.6	4.91	
22...	1300	90	686	11.2	108	8.4	906	15.5	9.0	370	64.5	51.7	4.91	
APR														
06...	1130	85	694	10.3	104	8.5	920	17.5	11.5	360	59.3	51.1	5.38	
18...	1230	80	686	9.8	111	8.5	919	18.0	16.0	360	59.3	50.9	5.83	
MAY														
04...	1220	97	689	10.0	109	8.5	876	20.0	14.5	350	58.7	50.5	4.96	
16...	1330	1,130	681	8.3	98	8.3	744	26.5	17.5	310	58.6	38.9	3.67	
JUN														
07...	1200	1,000	683	8.4	97	8.1	430	21.0	17.0	190	36.9	22.6	3.36	
21...	1100	1,880	694	7.5	96	8.0	337	29.0	23.0	150	32.5	16.2	2.41	
JUL														
12...	1445	510	691	--	--	8.6	373	36.0	26.0	170	37.9	18.6	2.24	
27...	1230	420	690	8.2	102	8.3	412	33.0	21.0	170	39.0	18.4	2.67	
AUG														
02...	1220	396	691	8.0	110	8.3	408	31.0	26.5	180	40.5	19.3	2.49	
23...	1545	369	681	8.3	110	8.4	480	32.0	23.5	200	43.0	22.8	3.07	
SEP														
06...	1300	336	694	9.0	108	8.5	473	29.0	19.5	210	45.0	23.6	2.87	
20...	1100	272	693	9.3	101	8.4	530	25.0	14.5	230	50.8	26.0	3.04	
Date		Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt fxd end lab, mg/L as CaCO3 (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, fltrd, tons/d (70302)	Suspnd. sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
OCT														
12...	2	62.9	228	5.13	.4	4.55	209	524	.71	134	75	34	8.7	
NOV														
01...	1	59.2	230	4.89	.4	4.15	197	501	.68	149	89	36	11	
DEC														
08...	2	66.2	263	5.39	.4	7.58	222	577	.78	E140	82	68	E16	
FEB														
09...	2	68.3	288	5.48	.4	7.47	222	602	.82	E98	88	45	E7.3	
MAR														
10...	2	70.9	271	5.59	.4	4.80	220	585	.80	145	90	31	7.7	
22...	2	72.7	265	5.42	.4	5.21	223	587	.80	143	90	22	5.3	
APR														
06...	2	75.6	269	5.76	.4	4.56	233	597	.81	137	46	218	50	
18...	2	80.4	251	5.90	.4	4.13	241	598	.81	129	94	58	13	
MAY														
04...	2	69.8	241	5.68	.4	4.05	219	557	.76	146	91	37	9.7	
16...	1	44.3	223	4.91	.3	3.14	167	455	.62	1,390	90	513	1,570	
JUN														
07...	.7	21.2	137	2.49	.2	6.57	84.7	260	.35	703	91	157	424	
21...	.5	13.5	115	1.82	.2	7.17	53.5	196	.27	996	86	271	1,380	
JUL														
12...	.7	20.6	137	2.05	.2	6.62	69.6	240	.33	330	90	54	74	
27...	.6	19.3	135	1.79	.2	6.88	70.2	239	.33	271	95	71	81	
AUG														
02...	.6	18.7	142	1.69	.2	6.59	65.9	240	.33	257	90	40	43	
23...	.8	25.6	163	2.30	.2	3.47	87.2	286	.39	285	93	29	29	
SEP														
06...	.7	23.7	156	2.51	.2	1.81	89.6	283	.38	257	89	19	17	
20...	.8	27.6	182	2.74	.3	3.09	104	327	.44	240	89	13	9.5	

E--Estimated.

06307830 TONGUE RIVER BELOW BRANDENBERG BRIDGE, NEAR ASHLAND, MT—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Time	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, unfltrd mg/L (00665)	Total nitro- gen, wat unf by anal ysis, mg/L (62855)	Alum- inum, water, fltrd, ug/L (01106)	Alum- inum, water, unfltrd recover- able, ug/L (01105)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Barium, water, fltrd, ug/L (01005)
OCT 12...	1230	<.010	<.016	<.002	<.006	.013	.23	2	109	.8	<2	58
DEC 08...	1300	E.005	<.016	E.001	<.006	.018	.30	<2	172	.8	E1	55
FEB 09...	1000	E.006	<.016	<.002	<.006	.007	.18	<2	46	.6	E1	51
APR 06...	1130	E.005	<.016	<.002	<.006	.024	.31	E1	119	.8	<2	68
MAY 16...	1330	E.005	<.016	E.001	<.006	.30	1.36	4	3,550	.8	3	66
AUG 02...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 23...	1545	<.010	<.016	<.002	<.006	.036	.29	4	291	1.1	1.1	49

Date	Barium, water, unfltrd recover- able, ug/L (01007)	Beryll- ium, water, fltrd, ug/L (01010)	Beryll- ium, water, unfltrd recover- able, ug/L (01012)	Boron, water, fltrd, ug/L (01020)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)	Chrom- ium, water, unfltrd recover- able, ug/L (01034)	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)
OCT 12...	59	<.06	<.06	121	<.04	<.04	<2	2.6	2.4	E4	240	<.08	.22
DEC 08...	58	<.06	<.06	113	<.04	<.04	<2	3.4	5.1	10	360	<.08	.29
FEB 09...	57	<.06	<.06	109	<.04	<.04	E2	1.5	2.8	15	130	<.08	.10
APR 06...	69	<.06	<.06	123	<.04	<.04	3	1.9	5.5	8	250	E.06	.27
MAY 16...	140	<.06	.40	66	<.04	.17	8	3.3	13.1	<6	6,880	.17	6.98
AUG 02...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG 23...	56	<.06	E.05	56	<.04	<.04	E1	1.3	1.5	E4	490	E.08	.48

Date	Lithium water, fltrd, ug/L (01130)	Mangan- ese, water, fltrd, ug/L (01056)	Mangan- ese, water, unfltrd recover- able, ug/L (01055)	Mercury water unfltrd ng/L (50286)	Mercury water, unfltrd recover- able, ug/L (71900)	Nickel, water, fltrd, ug/L (01065)	Nickel, water, unfltrd recover- able, ug/L (01067)	Selen- ium, water, fltrd, ug/L (01145)	Selen- ium, water, unfltrd ug/L (01147)	Stront- ium, water, fltrd, ug/L (01080)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover- able, ug/L (01092)
OCT 12...	26.1	7.0	16	--	<.01	1.73	2.93	E.4	E.4	641	1.2	E2
DEC 08...	24.2	8.9	32	--	<.01	1.60	3.15	E.3	.8	694	.9	3
FEB 09...	30.6	13.0	16	--	<.01	2.08	2.33	E.3	.6	701	1.1	E2
APR 06...	42.6	12.5	55	--	--	3.47	2.46	E.4	E.4	787	3.0	3
MAY 16...	22.3	1.0	397	--	--	2.08	10.7	.5	1.4	553	3.4	27
AUG 02...	--	--	--	2.02	--	--	--	--	--	--	--	--
AUG 23...	14.5	1.4	39	--	--	2.32	2.29	E.2	<.4	346	1.5	2

E--Estimated.

06307830 TONGUE RIVER BELOW BRANDENBERG BRIDGE, NEAR ASHLAND, MT—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
SEASONAL DATA FROM OCTOBER 2004 TO OCTOBER 2005

DAY	OCTOBER 2004			MARCH 2005			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	795	786	790				1,020	963	993	871	857	864
2	795	789	792				963	925	953	881	871	876
3	796	790	793				951	921	945	882	830	870
4	803	793	796				949	911	939	899	854	882
5	811	802	806				944	903	930	899	883	892
6	811	804	808				959	908	944	916	887	892
7	809	801	805				956	920	947	916	826	877
8	814	804	808				949	933	945	836	739	778
9	814	803	809				939	834	885	780	651	704
10	812	804	808				901	849	880	729	658	677
11	811	805	808				916	901	910	787	729	770
12	812	804	807				915	898	908	855	784	822
13	810	801	805				915	905	909	820	769	790
14	810	802	806				929	915	924	778	670	719
15	806	797	802				930	920	926	759	729	751
16	802	793	797	951	931	941	939	922	934	764	750	758
17	796	786	790	946	935	940	932	924	929	765	756	759
18	791	777	785	937	912	923	944	929	937	784	758	770
19	789	776	783	996	920	947	935	903	928	775	704	743
20	795	789	792	996	972	982	903	856	882	704	554	608
21	795	782	788	---	---	---	859	851	855	571	541	564
22	833	781	800	---	---	*906	855	835	846	566	555	561
23	832	808	816	947	940	944	835	830	832	556	524	542
24	810	802	806	944	921	932	836	829	833	534	522	529
25	815	805	810	931	908	921	841	831	835	523	515	521
26	816	808	812	930	918	923	841	828	835	522	514	518
27	814	804	809	930	922	926	833	824	828	516	508	514
28	814	806	810	926	896	921	843	833	839	517	503	510
29	814	732	773	911	895	905	850	843	846	513	507	510
30	783	748	774	926	900	915	857	845	851	511	501	506
31	782	774	779	1,020	908	946	---	---	---	512	481	499
MONTH	833	732	799	1,020	895	933	1,020	824	898	916	481	696
	JUNE			JULY			AUGUST			SEPTEMBER		
1	481	462	472	355	322	337	401	389	396	499	474	486
2	493	463	478	334	328	331	405	389	399	495	473	482
3	484	450	462	339	328	332	409	396	402	515	493	503
4	471	444	454	363	338	352	419	397	405	509	477	489
5	469	454	462	366	360	363	442	397	419	490	475	483
6	462	413	437	372	363	369	438	423	432	489	475	482
7	458	421	440	402	372	386	447	437	442	500	487	492
8	449	411	438	424	400	408	444	433	438	509	496	501
9	449	427	439	427	419	423	446	428	437	522	503	511
10	428	415	422	422	406	415	453	434	444	523	510	517
11	422	405	414	415	404	409	456	443	449	519	515	517
12	429	413	422	415	407	410	455	443	449	521	511	516
13	438	423	431	418	404	412	460	441	451	517	510	513
14	440	418	429	411	397	406	456	445	450	524	511	517
15	432	414	423	409	395	403	459	446	453	530	516	523
16	417	406	411	402	392	398	477	457	466	539	526	532
17	427	411	418	397	385	393	466	446	458	540	531	535
18	427	354	391	395	381	389	458	444	451	543	532	538
19	357	344	349	400	381	392	472	447	461	539	532	536
20	349	338	343	400	387	394	480	459	469	541	533	536
21	345	341	343	401	386	393	485	459	472	545	535	541
22	345	339	342	400	386	393	503	474	491	568	545	560
23	343	338	340	406	390	399	494	479	486	570	561	566
24	346	337	341	445	393	411	494	463	478	580	566	573
25	342	334	338	403	389	396	503	473	488	579	565	572
26	340	335	338	394	384	390	505	478	492	607	577	594
27	339	333	336	419	384	406	508	492	499	613	595	604
28	341	332	335	407	397	402	513	483	497	614	601	607
29	352	328	339	416	403	411	512	492	502	628	614	620
30	355	344	349	411	395	406	503	481	492	633	619	625
31	---	---	---	408	394	401	502	486	495	---	---	---
MONTH	493	328	398	445	322	391	513	389	457	633	473	536

*--Instantaneous value from water-quality sample.

YELLOWSTONE RIVER BASIN

06307830 TONGUE RIVER BELOW BRANDENBERG BRIDGE, NEAR ASHLAND, MT—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS--CONTINUED
SEASONAL DATA FROM OCTOBER 2004 TO OCTOBER 2005

DAY	MAX	MIN	MEAN
OCTOBER 2005			
1	632	613	620
2	630	613	619
3	621	588	599
4	596	557	578
5	557	540	546
6	559	545	553
7	577	551	566
8	599	576	587
9	599	583	590
10	606	584	596
11	607	594	599
12	639	607	623
13	647	630	638
14	657	644	651
15	671	651	662
16	690	666	678
17	709	685	697
18	720	703	711
19	732	716	724
20	736	726	731
21	740	719	730
22	751	709	736
23	761	748	754
24	758	748	754
25	755	742	751
26	745	732	739
27	734	721	729
28	722	712	717
29	714	704	709
30	706	696	701
31	697	686	692
MONTH	761	540	664

06307990 TONGUE RIVER ABOVE T&Y DIVERSION DAM, NEAR MILES CITY, MT

LOCATION.--Lat 46°11'15", long 105°46'46" (NAD 27), in NE¹/₄ NE¹/₄ SE¹/₄ sec.13, T.5 N., R.48 E., Custer County, Hydrologic Unit 10090102, on right bank at private bridge, 4.7 mi south of Twelve Mile Diversion Dam 16 mi south of Miles City, and at river mile 28.4.

DRAINAGE AREA.--4,508 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 2004 to September 2005.

GAGE.--Water-stage recorder. Elevation of gage is 2,480 ft (NGVD 29).

REMARKS.--Water-discharge records good except those for estimated daily discharges for Oct. 1-26, which are fair and those for Nov. 27-29 and Dec. 8 to Feb. 27, which are poor. Flow regulated by Tongue River Reservoir (station number 06307000) and many small reservoirs in Wyoming (combined capacity about 15,000 acre-ft). U. S. Geological Survey telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e100	111	93	e60	e90	100	88	98	1,470	1,300	319	275
2	e100	107	109	e50	e90	100	86	89	1,500	1,230	326	271
3	e100	104	155	e50	e90	91	83	80	1,390	1,190	304	265
4	e100	101	140	e60	e90	90	83	78	1,290	1,210	300	266
5	e100	99	104	e50	e80	85	85	77	1,250	1,000	307	278
6	e100	98	82	e60	e60	85	77	75	1,180	911	280	284
7	e100	98	77	e70	e50	79	74	89	1,190	827	263	287
8	e100	98	e80	e70	e60	84	74	277	1,720	711	278	277
9	e100	98	e90	e70	e60	82	79	305	1,420	591	290	270
10	e100	98	e100	e60	e100	82	113	309	1,310	547	289	271
11	e90	98	e110	e60	e120	85	108	212	1,370	524	292	266
12	e90	98	e100	e50	e130	86	96	226	1,360	485	297	271
13	e90	98	e90	e50	e130	89	89	486	1,290	460	323	290
14	e90	99	e90	e40	e130	89	80	998	1,250	425	325	296
15	e100	99	e100	e50	e120	89	80	1,210	1,260	401	331	293
16	e100	99	e90	e60	e110	90	77	1,130	1,350	394	329	283
17	e110	99	e100	e60	e100	89	74	1,150	1,390	392	336	270
18	e110	99	e100	e60	e100	88	72	1,140	1,360	385	330	265
19	e100	99	e100	e70	e100	88	71	931	1,430	367	328	259
20	e100	99	e100	e100	e100	90	103	1,050	1,570	332	324	263
21	e100	98	e90	e100	e100	89	178	1,150	1,790	321	321	258
22	e100	97	e70	e90	e90	90	131	1,150	1,910	315	305	255
23	e100	99	e60	e80	e90	90	110	1,270	1,880	323	297	242
24	e100	104	e70	e90	e90	95	102	1,720	1,830	307	289	240
25	e100	111	e90	e90	e100	95	101	2,030	1,800	314	283	239
26	e100	109	e80	e90	e100	94	100	2,100	1,710	350	279	241
27	97	e100	e80	e90	e100	91	99	2,100	1,720	336	281	227
28	98	e80	e70	e90	101	89	94	2,020	1,580	336	287	221
29	130	e80	e80	e90	---	91	96	1,830	1,680	317	288	219
30	140	85	e80	e90	---	90	94	1,680	1,430	318	271	218
31	116	---	e70	e80	---	87	---	1,540	---	314	266	---
TOTAL	3,161	2,962	2,850	2,180	2,681	2,762	2,797	28,600	44,680	17,233	9,338	7,860
MEAN	102	98.7	91.9	70.3	95.8	89.1	93.2	923	1,489	556	301	262
MAX	140	111	155	100	130	100	178	2,100	1,910	1,300	336	296
MIN	90	80	60	40	50	79	71	75	1,180	307	263	218
AC-FT	6,270	5,880	5,650	4,320	5,320	5,480	5,550	56,730	88,620	34,180	18,520	15,590

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2005 - 2005, BY WATER YEAR (WY)

MEAN	102	98.7	91.9	70.3	95.8	89.1	93.2	923	1,489	556	301	262
MAX	102	98.7	91.9	70.3	95.8	89.1	93.2	923	1,489	556	301	262
(WY)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)
MIN	102	98.7	91.9	70.3	95.8	89.1	93.2	923	1,489	556	301	262
(WY)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)	(2005)

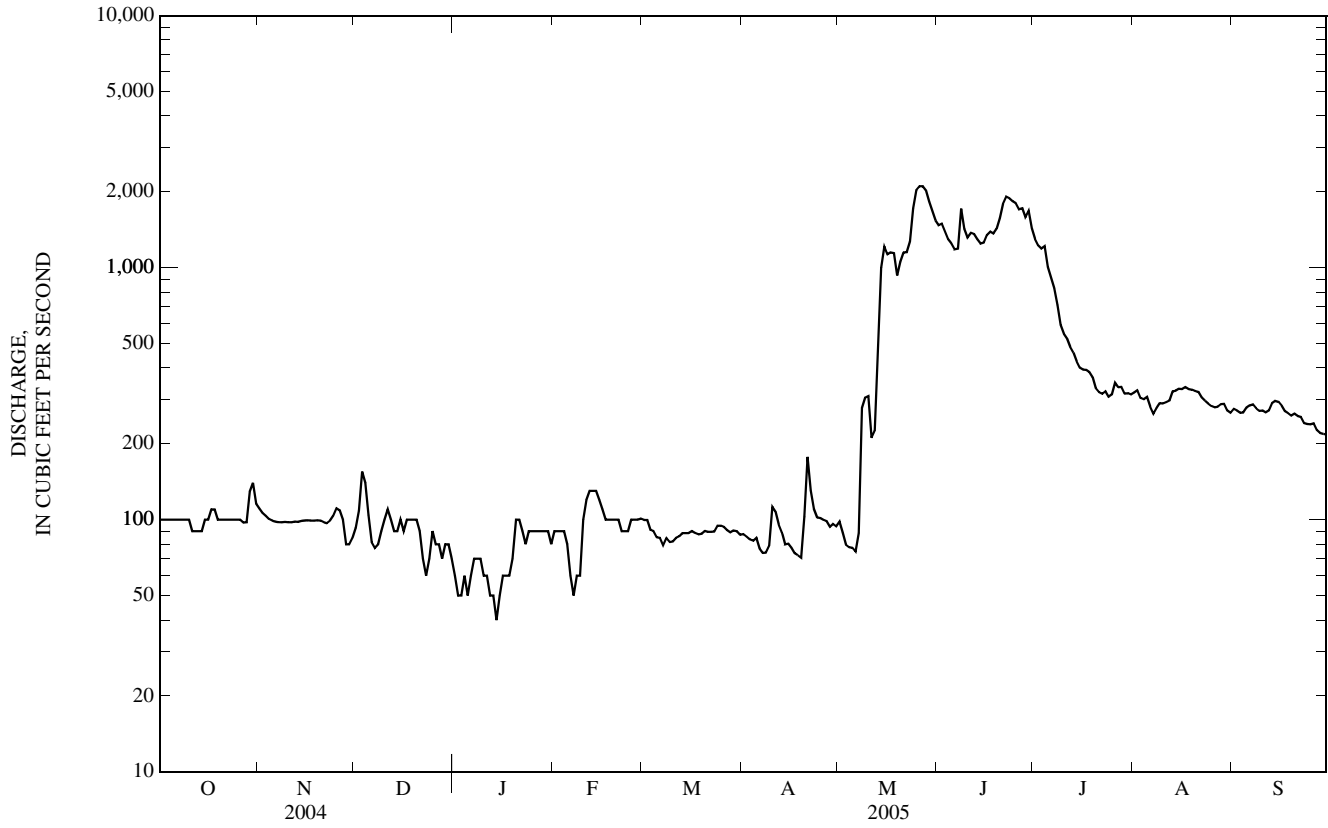
SUMMARY STATISTICS

FOR 2005 WATER YEAR

ANNUAL TOTAL	127,104	
ANNUAL MEAN	348	
HIGHEST DAILY MEAN	2,100	May 26
LOWEST DAILY MEAN	40	Jan 14
ANNUAL SEVEN-DAY MINIMUM	53	Jan 10
MAXIMUM PEAK FLOW	2,140	May 26
MAXIMUM PEAK STAGE	5.88	May 26
ANNUAL RUNOFF (AC-FT)	252,100	
10 PERCENT EXCEEDS	1,250	
50 PERCENT EXCEEDS	100	
90 PERCENT EXCEEDS	77	

e--Estimated.

06307990 TONGUE RIVER ABOVE T&Y DIVERSION DAM, NEAR MILES CITY, MT—Continued



06307990 TONGUE RIVER ABOVE T&Y DIVERSION DAM, NEAR MILES CITY, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 2004 to September 2005.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 2005 to October 2005 (seasonal records).

INSTRUMENTATION.--Conductance probe installed March 2005.

REMARKS.--Daily specific conductance records are rated good to excellent, except for July 27, which is rated fair. Missing values for May 14-16, 18-25, 27-30 and June 1-21 due to equipment problems. Low-level mercury sample collected on July 13; results are reported in nanograms per liter. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,000 microsiemens per centimeter ($\mu\text{S}/\text{cm}$) at 25.0°C, April 4, 5, 2005; minimum, 319 $\mu\text{S}/\text{cm}$ at 25.0°C, June 26, 2005.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE (seasonal records): Maximum, 1,000 microsiemens per centimeter ($\mu\text{S}/\text{cm}$) at 25.0°C, April 4, and 5; minimum, 319 $\mu\text{S}/\text{cm}$ at 25.0°C, June 26, may have been lower during missing record on days of high-flow conditions in May and June.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/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)	Potassium, water, fltrd, mg/L (00935)
NOV													
01...	1435	110	705	12.2	108	8.7	841	9.0	6.5	320	56.8	43.0	4.88
DEC													
08...	1530	E80	680	13.3	103	8.4	1,000	5.0	0.0	380	67.0	51.4	5.17
JAN													
19...	1215	E70	696	11.6	87	7.7	990	15.0	0.0	400	74.0	51.9	5.36
FEB													
09...	1230	E60	696	13.4	101	8.4	947	4.0	0.0	360	66.4	47.5	4.45
22...	1030	E90	703	13.3	100	8.3	809	0.5	0.5	370	66.6	50.2	4.71
MAR													
10...	0830	70	698	11.8	101	8.5	939	5.5	5.0	370	62.8	50.3	4.93
22...	1500	89	692	10.9	111	8.4	939	11.0	11.5	370	63.2	52.0	5.09
APR													
06...	1400	76	702	10.5	117	8.5	979	21.5	16.5	350	56.0	51.0	5.59
18...	1530	70	692	9.4	110	8.6	972	16.5	18.0	350	56.5	51.0	6.22
MAY													
04...	1400	76	695	10.0	118	8.6	926	23.0	19.0	340	55.7	49.5	5.09
18...	0830	1,170	687	8.2	94	8.4	738	14.5	16.5	310	60.0	39.6	3.83
JUN													
07...	1500	1,150	689	8.8	109	8.3	434	20.5	20.5	190	36.4	22.8	3.43
21...	1345	1,810	704	7.4	100	8.1	351	33.0	26.5	140	32.0	15.1	2.41
JUL													
13...	0745	466	--	--	--	8.5	419	28.5	25.0	180	39.7	19.6	2.50
27...	1430	337	696	8.4	110	8.6	455	24.5	24.0	180	38.7	19.5	2.61
AUG													
02...	1455	326	698	8.4	118	8.5	453	35.0	28.0	190	41.4	21.0	2.67
23...	1300	296	689	8.2	107	8.4	512	32.0	23.5	210	45.7	23.4	3.23
SEP													
06...	1445	282	700	8.4	105	8.4	525	30.0	22.0	230	47.9	26.1	3.17
20...	1245	265	698	9.8	112	8.5	579	29.5	17.5	260	54.4	29.1	3.43

E--Estimated.

06307990 TONGUE RIVER ABOVE T&Y DIVERSION DAM, NEAR MILES CITY, MT—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt fxd end lab, mg/L as CaCO3 (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, fltrd, tons/d (70302)	Suspnd. sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
NOV 01...	2	73.8	241	5.12	.4	5.46	217	551	.75	163	98	208	62
DEC 08...	2	81.5	280	5.79	.4	8.02	251	639	.87	E138	90	93	E20.1
JAN 19...	2	82.9	301	5.54	.4	9.40	240	649	.88	E123	99	80	E15.1
FEB 09...	2	79.1	286	5.60	.4	7.54	238	621	.84	E101	91	46	E7.45
22...	2	78.2	280	5.62	.4	8.45	222	604	.82	E147	90	43	E10.4
MAR 10...	2	81.2	272	5.74	.4	5.40	241	616	.84	116	88	57	11
22...	2	82.5	268	5.69	.4	5.03	239	614	.84	148	98	25	6.0
APR 06...	2	89.9	267	6.04	.4	5.30	262	638	.87	131	90	62	13
18...	2	91.7	246	6.21	.4	4.33	267	632	.86	120	97	62	12
MAY 04...	2	77.9	247	5.94	.4	3.67	241	588	.80	121	99	54	11
18...	1	48.3	219	4.92	.4	3.46	164	457	.62	1,440	92	612	1,930
JUN 07...	.7	20.9	139	2.49	.2	5.98	84.2	260	.35	808	87	164	509
21...	.5	14.8	118	1.78	.2	6.49	57.0	201	.27	981	89	356	1,740
JUL 13...	.8	25.1	146	2.32	.2	7.57	82.1	267	.36	336	97	63	79
27...	.8	24.7	148	1.94	.2	6.49	80.1	263	.36	239	97	48	44
AUG 02...	.7	23.5	152	1.93	.2	6.72	79.8	268	.36	236	94	43	38
23...	.9	31.3	166	2.46	.2	3.88	99.1	310	.42	247	94	27	22
SEP 06...	.8	29.3	169	2.84	.3	1.76	105	318	.43	242	96	19	14
20...	1	34.9	190	3.02	.3	3.28	119	362	.49	259	89	11	7.9

Date	Time	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitrogen, wat unfltrd by analysis, mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Aluminum, water, fltrd, ug/L (01106)	Aluminum, water, unfltrd recover-able, ug/L (01105)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Barium, water, fltrd, ug/L (01005)	Barium, water, unfltrd recover-able, ug/L (01007)
DEC 08...	1530	E.005	<.016	E.001	.27	<.006	.015	<1	214	.7	<2	58	61
FEB 09...	1230	E.007	<.016	E.001	.18	<.006	.009	<1	69	.6	<2	47	56
MAR 10...	0830	<.010	<.016	<.002	.23	<.006	.018	<1	153	.5	<2	55	59
APR 06...	1400	E.005	<.016	<.002	.31	<.006	.025	2	185	.7	<2	65	68
18...	1530	E.007	<.016	E.001	.39	<.006	.039	2	509	.7	<2	64	68
MAY 04...	1400	E.007	<.016	<.002	.32	<.006	.033	3	285	.5	<2	58	65
18...	0830	E.006	.025	<.002	1.33	<.006	.37	3	4,820	.7	3	67	165
JUN 07...	1500	<.010	<.016	<.002	.59	<.006	.139	8	1,600	.7	E1	44	81
21...	1345	E.005	E.013	<.002	.69	<.006	.25	7	3,010	.7	2	40	103
JUL 27...	1430	<.010	<.016	<.002	.28	<.006	.049	8	410	.8	2	50	51
AUG 02...	1455	--	--	--	--	--	--	--	--	--	--	--	--
23...	1300	<.010	<.016	<.002	.27	<.006	.030	7	344	.8	1.2	50	58

E--Estimated.

06307990 TONGUE RIVER ABOVE T&Y DIVERSION DAM, NEAR MILES CITY, MT—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Beryllium, water, fltrd, ug/L (01010)	Beryllium, water, unfltrd recover-able, ug/L (01012)	Boron, water, fltrd, ug/L (01020)	Cadmium, water, fltrd, ug/L (01025)	Cadmium, water, unfltrd, ug/L (01027)	Chromium, water, unfltrd recover-able, ug/L (01034)	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)	Lithium, water, fltrd, ug/L (01130)
DEC 08...	<.06	<.06	126	<.04	<.04	<2	4.1	5.0	E4	360	<.08	.35	24.1
FEB 09...	<.06	<.06	109	<.04	<.04	E2	1.6	3.1	E6	130	<.08	.13	27.5
MAR 10...	<.06	<.06	121	<.04	<.04	E2	1.4	4.0	7	250	<.08	.32	24.7
APR 06...	<.06	<.06	136	<.04	<.04	3	2.6	6.4	E4	280	E.08	.35	42.6
18...	<.06	E.05	144	<.04	<.04	3	1.7	5.2	E3	660	E.04	.84	32.1
MAY 04...	<.06	<.06	124	E.03	<.04	3	2.8	4.2	E6	350	.40	.54	27.2
18...	<.06	.58	72	<.04	.22	10	2.8	15.9	<6	8,480	<.08	9.33	22.8
JUN 07...	<.06	.17	42	<.04	.06	3	1.9	5.5	6	2,760	.11	2.47	12.3
21...	<.06	.27	32	E.03	.12	5	1.7	10.6	8	5,310	.11	5.09	8.7
JUL 27...	<.06	E.05	46	E.02	E.03	E1	2.4	2.3	<6	850	.23	.86	12.5
AUG 02...	--	--	--	--	--	--	--	--	--	--	--	--	--
23...	<.06	<.06	60	E.02	E.03	E1	3.4	1.8	<6	500	.10	.51	14.6

Date	Manganese, water, fltrd, ug/L (01056)	Manganese, water, unfltrd recover-able, ug/L (01055)	Mercury, water, unfltrd, ng/L (50286)	Mercury, water, unfltrd recover-able, ug/L (71900)	Nickel, water, fltrd, ug/L (01065)	Nickel, water, unfltrd recover-able, ug/L (01067)	Selenium, water, fltrd, ug/L (01145)	Selenium, water, unfltrd, ug/L (01147)	Strontium, water, fltrd, ug/L (01080)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)
DEC 08...	5.7	25	--	E.01	1.86	3.42	.5	.8	741	.8	4
FEB 09...	10.3	15	--	<.01	2.11	2.34	.4	.6	673	1.8	E2
MAR 10...	8.5	22	--	--	2.57	2.57	.5	.8	701	.9	3
APR 06...	6.3	58	--	--	3.51	2.69	.5	.8	798	4.3	3
18...	4.3	83	--	--	3.16	3.57	.7	.9	753	1.0	4
MAY 04...	5.1	39	--	--	3.11	2.46	E.4	1.0	679	5.0	4
18...	4	518	--	--	1.81	13.4	.6	1.0	564	1.1	34
JUN 07...	1.4	138	--	--	2.53	4.36	.6	.9	299	2.0	11
21...	.6	251	--	--	2.80	7.15	.4	.8	238	1.4	17
JUL 27...	1.9	41	--	--	2.95	2.77	.4	E.3	315	3.5	3
AUG 02...	--	--	2.17	--	--	--	--	--	--	--	--
23...	1.4	31	--	--	1.49	2.29	<.4	<.4	366	1.8	3

E--Estimated.

YELLOWSTONE RIVER BASIN

06307990 TONGUE RIVER ABOVE T&Y DIVERSION DAM, NEAR MILES CITY, MT—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
SEASON MARCH 2005 TO OCTOBER 2005

DAY	MARCH			APRIL			MAY			JUNE		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	958	950	954	920	870	912	---	---	---
2	---	---	---	958	951	954	929	900	923	---	---	---
3	---	---	---	959	951	955	939	922	929	---	---	---
4	---	---	---	1,000	953	966	944	928	935	---	---	---
5	---	---	---	1,000	985	990	940	933	937	---	---	---
6	---	---	---	987	977	982	945	932	938	---	---	---
7	---	---	---	990	977	985	942	789	897	---	---	*434
8	---	---	---	979	966	972	792	643	712	---	---	---
9	---	---	---	972	921	954	751	729	741	---	---	---
10	---	---	---	951	913	935	797	740	761	---	---	---
11	---	---	---	920	887	902	829	797	818	---	---	---
12	---	---	---	942	904	927	848	829	840	---	---	---
13	---	---	---	947	917	930	---	---	---	---	---	---
14	---	---	---	948	921	934	---	---	---	---	---	---
15	---	---	---	979	946	964	---	---	---	---	---	---
16	966	947	956	985	966	974	---	---	---	---	---	---
17	967	954	960	995	967	976	718	692	704	---	---	---
18	972	956	965	989	962	973	---	---	*738	---	---	---
19	970	955	962	990	946	972	---	---	---	---	---	---
20	964	949	955	946	839	887	---	---	---	---	---	---
21	953	946	948	866	720	771	---	---	---	---	---	*351
22	948	937	943	786	735	748	---	---	---	341	340	341
23	989	943	965	903	786	861	---	---	---	341	335	338
24	988	965	974	915	901	908	---	---	---	338	329	334
25	974	947	959	910	894	901	---	---	---	357	328	338
26	958	944	949	917	889	900	639	568	610	340	319	331
27	958	945	948	897	885	894	---	---	---	351	328	339
28	972	946	964	905	856	898	---	---	---	349	326	337
29	949	938	945	911	866	904	---	---	---	362	326	341
30	953	946	949	912	865	906	---	---	---	342	330	338
31	956	951	954	---	---	---	515	497	505	---	---	---
MONTH	989	937	956	1,000	720	926	945	497	811	362	319	337
	JULY			AUGUST			SEPTEMBER			OCTOBER		
1	341	336	338	449	442	447	538	519	528	619	609	614
2	341	337	340	445	438	442	534	524	528	621	611	616
3	345	339	342	446	437	442	530	517	524	612	590	597
4	348	339	344	456	438	448	521	513	518	590	554	579
5	400	348	376	455	446	450	532	521	526	556	525	536
6	443	398	418	469	449	458	533	509	519	527	508	519
7	459	435	446	493	454	470	518	507	513	508	487	502
8	472	446	459	493	481	486	516	509	512	519	477	497
9	484	459	476	486	481	484	525	515	519	524	449	496
10	470	450	458	483	473	480	527	524	526	501	453	470
11	477	465	471	481	471	476	536	527	531	557	501	538
12	473	464	468	477	471	474	542	522	536	583	557	570
13	465	448	456	476	466	470	529	522	526	620	583	602
14	459	450	457	473	461	467	529	525	526	632	618	625
15	460	447	453	485	469	476	531	525	528	639	627	632
16	449	435	443	476	466	472	537	529	533	649	631	640
17	442	427	435	471	462	467	542	536	538	662	648	655
18	437	428	432	480	466	474	550	542	547	657	647	652
19	449	431	440	480	465	472	556	547	552	669	649	655
20	463	440	451	474	467	471	569	548	559	679	654	669
21	460	446	453	489	468	478	566	558	561	667	656	660
22	446	416	433	508	485	496	559	554	557	668	656	662
23	434	412	423	516	501	507	562	555	558	674	662	666
24	438	417	429	532	503	518	576	562	567	673	664	668
25	437	429	433	532	519	524	579	575	577	677	668	672
26	443	427	434	527	513	519	583	578	580	691	672	681
27	443	425	435	535	520	525	586	580	584	694	688	691
28	439	434	437	536	523	529	602	586	594	693	689	691
29	462	435	453	539	530	534	607	600	604	698	691	694
30	449	444	447	539	523	529	616	600	608	697	692	694
31	454	444	449	540	531	535	---	---	---	693	690	692
MONTH	484	336	430	540	437	485	616	507	546	698	449	617

*--Instantaneous value from water-quality sample.

06308500 TONGUE RIVER AT MILES CITY, MT

LOCATION.--Lat 46°23'05", long 105°50'41" (NAD 27), in SE¹/₄ SE¹/₄ SE¹/₄ sec. 4, T.7 N., R.47 E., Custer County, Hydrologic Unit 10090102, on right bank 1.5 mi south of Miles City and at river mile 2.3.

DRAINAGE AREA.--5,397 mi². Area at site used prior to Oct. 4, 1995, 5,379 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1938 to April 1942, April 1946 to current year. Published as "near Miles City" April 1938 to April 1942. Not equivalent to records published as "near Miles City" May 1929 to October 1932. April 1946 to Oct. 4, 1995, at site 2.5 mi upstream from present site. Flows at present site are equivalent with flows at site operated from 1946. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WSP 1729: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,360 ft (NGVD 29). April 1938 to April 1942, nonrecording gage at site 8 mi upstream from present site at different elevation. April 1946 to Sept. 30, 1963, at elevation 1.00 ft higher than present site. Oct. 4, 1995, gage was moved 2.5 miles downstream.

REMARKS.--Water-discharge records good except estimated daily discharges for July 10, July 27 to Aug. 2, which are fair, and estimated daily discharges for Nov. 22-30, Dec. 9, 10, and Dec. 18 to Mar. 3, which are poor. Flow regulation by Tongue River Reservoir (station 0630700) with capacity of 79,100 acre-feet, and many small reservoirs in Wyoming with combined capacity about 15,000 acre-ft. Diversions for irrigation of about 100,800 acres upstream from station. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	136	72	e50	e80	e100	99	105	1,410	1,310	e170	123
2	78	127	100	e50	e80	e100	99	107	1,500	1,150	e170	126
3	78	121	138	e50	e80	e110	97	64	1,530	1,110	168	126
4	78	114	146	e60	e80	110	86	17	1,300	1,110	138	129
5	74	111	120	e60	e60	110	86	12	1,210	970	138	134
6	75	110	98	e60	e50	107	90	12	1,140	852	116	158
7	76	109	63	e60	e40	106	80	38	1,130	760	88	170
8	78	109	62	e60	e45	105	68	467	2,040	610	85	182
9	75	109	e80	e60	e45	103	73	752	2,880	513	113	171
10	52	108	e100	e60	e45	102	104	485	1,490	e450	114	173
11	43	109	143	e60	e60	100	128	343	1,420	393	104	183
12	44	109	e120	e50	e80	99	115	320	1,380	322	116	180
13	45	108	105	e40	e100	101	101	584	1,310	301	137	217
14	41	110	95	e40	e90	103	97	1,890	1,240	248	163	223
15	43	109	92	e45	e90	103	92	1,450	1,230	211	167	233
16	44	109	108	e50	e80	103	90	1,330	1,270	181	151	224
17	46	109	140	e60	e90	103	86	1,260	1,340	180	166	219
18	55	109	e140	e70	e90	101	82	1,250	1,300	173	179	207
19	79	109	e130	e90	e90	100	84	1,060	1,280	155	203	207
20	133	109	e100	e100	e90	101	105	1,060	1,430	136	212	200
21	125	110	e80	e70	e100	104	239	1,210	1,650	119	213	194
22	117	e100	e70	e60	e100	102	284	1,180	1,860	106	189	121
23	116	e100	e50	e70	e100	102	169	1,260	1,900	109	207	104
24	115	e80	e70	e90	e110	107	135	1,560	1,840	118	157	96
25	111	e100	e100	e80	e110	106	113	2,050	1,810	113	144	109
26	110	e130	e90	e80	e100	107	115	2,270	1,680	180	139	121
27	109	e120	e80	e80	e100	106	111	2,310	1,820	e170	138	91
28	109	e100	e80	e80	e100	103	108	2,210	1,550	e170	148	83
29	149	e60	e80	e80	---	104	106	1,960	2,000	e160	137	85
30	210	e70	e70	e80	---	104	106	1,740	1,650	e160	131	76
31	168	---	e60	e80	---	102	---	1,570	---	e170	124	---
TOTAL	2,752	3,214	2,982	2,025	2,285	3,214	3,348	31,926	46,590	12,710	4,625	4,665
MEAN	88.8	107	96.2	65.3	81.6	104	112	1,030	1,553	410	149	156
MAX	210	136	146	100	110	110	284	2,310	2,880	1,310	213	233
MIN	41	60	50	40	40	99	68	12	1,130	106	85	76
AC-FT	5,460	6,370	5,910	4,020	4,530	6,370	6,640	63,330	92,410	25,210	9,170	9,250

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2005, BY WATER YEAR (WY)*

MEAN	239	248	187	191	272	521	427	682	1,249	456	178	196
MAX	694	585	423	529	1,794	1,783	1,693	2,983	3,825	2,207	700	599
(WY)	(1972)	(1942)	(1950)	(1999)	(1971)	(1971)	(1965)	(1978)	(1978)	(1975)	(1975)	(1968)
MIN	10.3	60.9	68.0	65.3	74.5	74.5	12.5	29.2	41.9	12.6	6.08	2.40
(WY)	(1961)	(1989)	(1990)	(2005)	(2003)	(2002)	(1961)	(1961)	(2002)	(1960)	(1949)	(1938)

06308500 TONGUE RIVER AT MILES CITY, MT—Continued

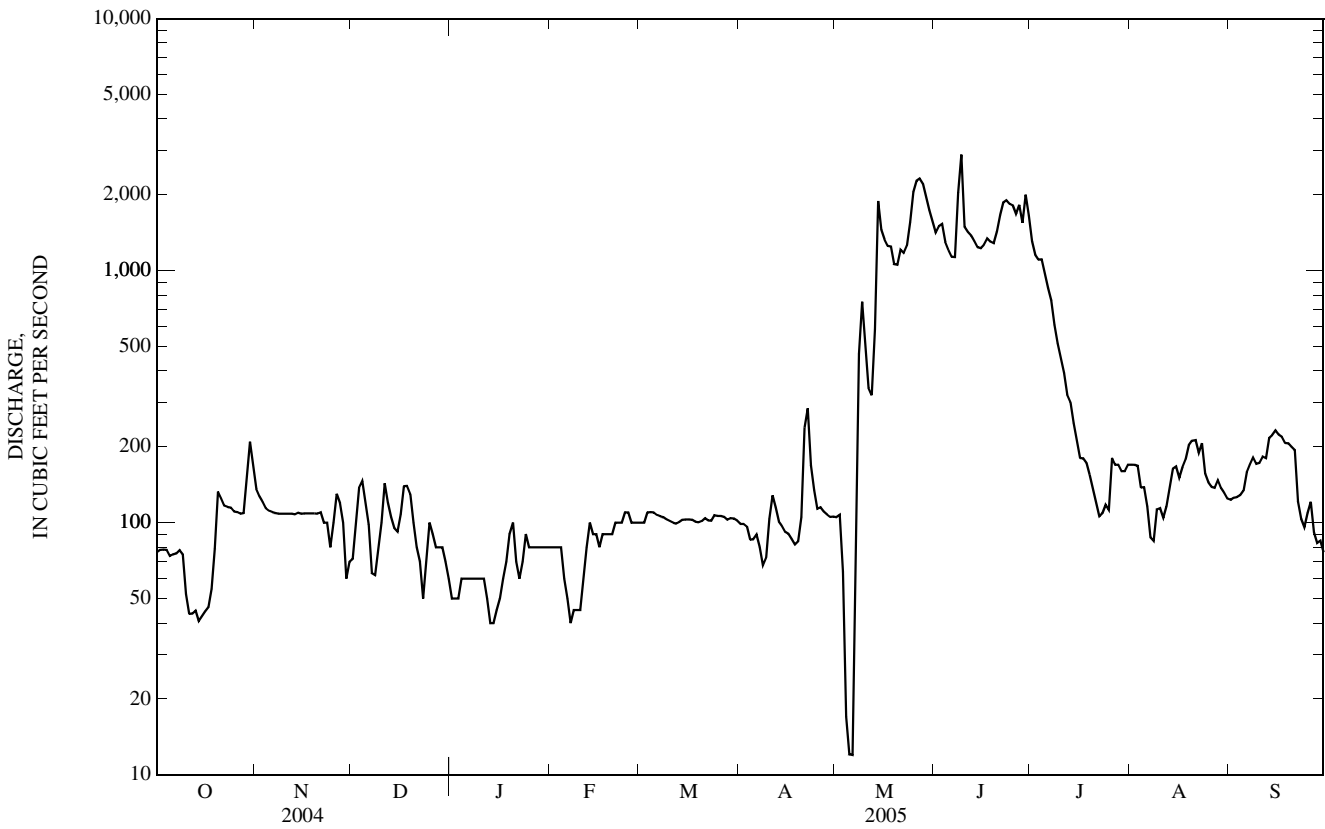
SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1938 - 2005*	
ANNUAL TOTAL	30,903.4		120,336			
ANNUAL MEAN	84.4		330		400	
HIGHEST ANNUAL MEAN					986	1978
LOWEST ANNUAL MEAN					57.2	1961
HIGHEST DAILY MEAN	500	Mar 10	2,880	Jun 9	9,290	Jun 15, 1962
LOWEST DAILY MEAN	7.6	May 8	12	May 5	0.00	Jul 9, 1940
ANNUAL SEVEN-DAY MINIMUM	8.5	May 3	44	Oct 11	0.00	Jul 9, 1940
MAXIMUM PEAK FLOW			3,750	Jun 9	a13,300	Jun 15, 1962
MAXIMUM PEAK STAGE			7.40	Jun 9	b12.27	Mar 19, 1960
INSTANTANEOUS LOW FLOW					0.00	Jul 9, 1940
ANNUAL RUNOFF (AC-FT)	61,300		238,700		290,100	
10 PERCENT EXCEEDS	163		1,270		906	
50 PERCENT EXCEEDS	79		109		220	
90 PERCENT EXCEEDS	16		60		65	

*--During period of record (April 1938 to April 1942, April 1946 to current year).

a--Gage height, 11.33 ft, at previous site and datum.

b--Ice jam, at previous site and datum.

c-- Estimated.



WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1946 to September 1994, October 1977 to December 1985, May 1999 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1965 to September 1981 (observer daily samples), April 29, 2004 to current year (seasonal electronic records).

WATER TEMPERATURE: Seasonal records, April 2000 to September 2003.

SUSPENDED-SEDIMENT DISCHARGE: October 1977 to December 1985.

INSTRUMENTATION.--A specific conductance probe was installed on April 28, 2004.

REMARKS--Specific conductance records are rated good to excellent except during the periods of May 7, 8 and June 20-22, which are rated fair and May 9-18 which are rated poor. Low-level mercury analysis on Aug. 3; result is reported in nanograms per liter. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,520 microsiemens per centimeter ($\mu\text{S}/\text{cm}$) at 25.0°C, May 24, 1981; minimum daily, 215 $\mu\text{S}/\text{cm}$ at 25.0°C, Feb. 16, 1971.

WATER TEMPERATURE (seasonal records): Maximum, 37.0°C, Aug. 22, 2001; minimum 0.0°C, Apr. 5, 2002.

SEDIMENT CONCENTRATION: Maximum daily mean, 14,200 mg/L, Aug. 3, 1985; minimum daily mean, 3 mg/L, Dec. 20, 1983.

SEDIMENT LOAD: Maximum daily, 84,400 tons May 18, 1978; minimum daily, .13 tons May 5, 1981.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,320 microsiemens per centimeter ($\mu\text{S}/\text{cm}$) at 25.0°C, May 7; minimum, 375 $\mu\text{S}/\text{cm}$ at 25.0°C, June 22.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfiltered, 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)	Potassium, water, fltrd, mg/L (00935)
OCT													
13...	1015	45	628	10.5	111	8.5	1,000	10.5	9.0	360	61.1	49.6	5.65
NOV													
02...	1320	128	700	13.0	111	8.6	829	17.0	5.0	280	52.9	37.0	4.79
DEC													
09...	1030	E80	692	13.2	100	8.4	1,070	7.5	0.0	380	67.8	51.4	5.21
FEB													
10...	0800	E45	702	13.0	97	8.3	1,030	2.0	0.0	370	69.0	48.6	4.63
MAR													
09...	1630	98	693	10.7	105	8.5	944	14.0	10.0	370	65.1	50.1	4.99
23...	0830	101	688	11.2	98	8.4	974	3.5	5.0	380	63.5	52.8	5.18
APR													
07...	1100	80	695	10.5	110	8.5	1,050	21.0	13.0	360	56.5	52.7	5.91
18...	1730	80	695	9.4	107	8.6	1,020	17.5	17.0	360	57.9	51.4	6.33
MAY													
04...	1700	13	699	10.3	124	8.5	1,050	22.5	20.0	380	65.5	52.3	6.02
17...	1730	1,250	686	7.6	95	8.3	724	18.0	20.5	290	55.5	35.9	4.43
JUN													
09...	0730	3,560	696	8.0	85	8.2	407	17.0	14.0	57	14.0	5.36	4.20
22...	0715	1,860	700	7.1	94	8.0	354	27.5	25.0	150	31.9	16.4	2.56
JUL													
13...	1300	304	*	*	*	8.7	492	37.0	27.0	190	42.3	21.4	2.97
27...	1600	138	698	8.4	112	8.5	547	30.0	25.0	200	43.5	22.6	3.14
AUG													
03...	1000	175	703	7.9	97	8.3	519	21.0	21.5	210	45.2	23.4	3.12
23...	1110	198	693	6.8	85	8.1	495	28.0	21.5	170	37.4	17.5	4.23
SEP													
06...	1725	164	703	8.6	107	8.5	614	30.0	22.0	250	53.0	29.4	3.63
20...	1415	206	700	10.5	119	8.6	630	29.5	17.0	270	56.5	31.0	3.63

*--Equipment problems.

E--Estimated.

06308500 TONGUE RIVER AT MILES CITY, MT—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt fxd end lab, mg/L as CaCO3 (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, fltrd, tons/d (70302)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
OCT 13...	2	97.6	279	5.96	.4	6.68	265	661	.90	80.5	100	123	15
NOV 02...	2	81.3	245	5.11	.4	5.97	220	555	.75	192	99	796	275
DEC 09...	2	95.9	306	6.17	.4	8.63	273	693	.94	E150	90	122	E26.4
FEB 10...	2	88.6	307	5.78	.4	8.14	251	661	.90	E80	88	75	E9.11
MAR 09...	2	90.8	275	5.73	.4	5.78	246	634	.86	168	98	74	20
MAR 23...	2	92.4	281	5.88	.4	5.26	255	649	.88	177	98	47	13
APR 07...	2	103	283	6.23	.4	5.22	287	688	.94	149	96	99	21
APR 18...	2	105	262	6.33	.4	4.18	282	670	.91	145	99	201	43
MAY 04...	2	107	279	6.32	.4	5.71	278	689	.94	24.7	94	54	1.9
MAY 17...	1	50.0	209	4.76	.4	4.80	167	449	.61	1,520	96	868	2,930
JUN 09...	4	64.3	111	1.65	.4	7.21	83.1	250	.34	2,400	97	8,110	78,000
JUN 22...	.5	14.9	120	1.92	.2	7.05	56.8	204	.28	1,020	88	404	2,030
JUL 13...	1	30.9	159	2.60	.3	8.46	94.0	298	.41	245	99	55	45
JUL 27...	1	33.3	170	2.40	.3	7.44	105	320	.43	119	99	56	21
AUG 03...	1	33.4	170	2.54	.2	7.54	100	317	.43	150	95	31	15
AUG 23...	1	40.9	146	2.30	.3	4.50	105	301	.41	161	99	1,460	783
SEP 06...	1	39.3	193	3.10	.3	2.35	126	373	.51	165	98	39	17
SEP 20...	1	42.0	207	3.31	.3	3.48	131	396	.54	220	96	31	17

Date	Time	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitrogen, wat unfltrd by analysis, mg/L (62855)	Ortho-phosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Aluminum, water, fltrd, ug/L (01106)	Aluminum, water, unfltrd recover-able, ug/L (01105)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Barium, water, fltrd, ug/L (01005)	Barium, water, unfltrd recover-able, ug/L (01007)
OCT 13...	1015	E.005	.106	E.001	.41	<.006	.034	2	935	.6	<2	63	74
DEC 09...	1030	.021	.070	.002	.36	<.006	.028	E1	819	.6	<2	65	73
FEB 10...	0800	.012	.066	.002	.27	E.003	.011	<1	153	.6	<2	49	59
APR 07...	1100	<.010	<.016	E.001	.37	<.006	.060	E1	510	.7	<2	68	75
MAY 17...	1730	E.007	.034	E.001	1.58	<.006	.41	3	8,280	.8	4	76	220
JUN 09...	0730	<.010	.594	.010	4.14	.010	2.74	6	38,600	1.1	8	32	1,020
AUG 03...	1000	--	--	--	--	--	--	--	--	--	--	--	--
AUG 23...	1110	E.005	.154	.006	1.37	<.006	.57	7	14,200	.8	3.1	49	252

YELLOWSTONE RIVER BASIN

06308500 TONGUE RIVER AT MILES CITY, MT—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005—CONTINUED

Date	Beryllium, water, fltrd, ug/L (01010)	Beryllium, water, unfltrd recover-able, ug/L (01012)	Boron, water, fltrd, ug/L (01020)	Cadmium, water, fltrd, ug/L (01025)	Cadmium, water, unfltrd, ug/L (01027)	Chromium, water, unfltrd recover-able, ug/L (01034)	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)	Lithium, water, fltrd, ug/L (01130)
OCT 13...	<.06	.07	162	<.04	<.04	<2	3.0	4.0	<6	1,010	<.08	1.06	26.5
DEC 09...	<.06	.06	140	<.04	E.03	<2	5.6	6.1	E3	750	<.08	.95	23.2
FEB 10...	<.06	<.06	120	<.04	<.04	2	1.6	3.5	E4	190	<.08	.23	28.0
APR 07...	<.06	.07	151	<.04	E.03	4	1.8	7.6	E3	670	<.08	.91	43.1
MAY 17...	<.06	.95	77	<.04	.30	14	3.1	23.6	<6	12,500	<.08	15.0	21.5
JUN 09...	<.06	8.14	66	<.04	1.85	48	4.6	120	15	42,400	.23	90.2	9.2
AUG 03...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG 23...	<.06	1.21	72	E.02	.42	20	5.0	30.8	E5	18,600	.14	23.2	12.1

Date	Manganese, water, fltrd, ug/L (01056)	Manganese, water, unfltrd recover-able, ug/L (01055)	Manganese, water, unfltrd recover-able, ng/L (50286)	Mercury, water, unfltrd recover-able, ug/L (71900)	Nickel, water, fltrd, ug/L (01065)	Nickel, water, unfltrd recover-able, ug/L (01067)	Selenium, water, fltrd, ug/L (01145)	Selenium, water, unfltrd, ug/L (01147)	Strontium, water, fltrd, ug/L (01080)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)
OCT 13...	20.3	71	--	E.01	1.99	4.06	E.3	.7	750	1.4	6
DEC 09...	18.1	44	--	<.01	2.35	4.34	.5	.6	782	1.2	6
FEB 10...	25.9	32	--	<.01	2.05	2.63	.5	.7	701	1.1	2
APR 07...	14.3	97	--	--	3.44	3.48	.4	.6	819	1.8	6
MAY 17...	.4	647	--	--	2.09	20.4	.5	1.3	588	1.3	55
JUN 09...	1.6	1,430	--	--	4.86	123	1.6	2.5	256	6.0	337
AUG 03...	--	--	2.17	--	--	--	--	--	--	--	--
AUG 23...	.6	438	--	--	3.30	30.4	.5	.6	370	5.7	85

E--Estimated.

06308500 TONGUE RIVER AT MILES CITY, MT—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
SEASON OCTOBER 2004 TO OCTOBER 2005

DAY	OCTOBER 2004			MARCH 2005			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	946	940	943	---	---	---	1,020	1,000	1,010	987	978	983
2	944	937	939	---	---	---	1,010	1,010	1,010	987	979	984
3	939	934	936	---	---	---	1,010	1,000	1,010	1,030	985	998
4	944	933	937	---	---	---	1,020	1,010	1,010	1,100	1,030	1,080
5	958	943	952	---	---	---	1,020	1,010	1,010	1,210	1,100	1,160
6	960	953	957	---	---	---	1,070	1,020	1,040	1,280	1,210	1,260
7	959	954	956	---	---	---	1,080	1,060	1,070	1,320	946	1,200
8	958	950	954	---	---	---	1,070	1,060	1,070	991	816	884
9	965	953	958	---	---	---	1,080	1,040	1,070	848	816	839
10	1,000	961	976	---	---	---	1,040	1,000	1,020	888	839	854
11	1,040	1,000	1,020	---	---	---	1,030	1,000	1,010	935	888	916
12	1,030	1,020	1,020	---	---	---	1,110	1,000	1,070	943	933	938
13	1,020	1,020	1,020	---	---	---	1,060	1,010	1,030	949	912	939
14	1,030	1,020	1,030	---	---	---	1,030	1,010	1,020	913	444	655
15	1,040	1,030	1,040	---	---	---	1,040	1,020	1,030	614	451	521
16	1,040	1,010	1,030	---	---	---	1,050	1,030	1,040	697	611	654
17	1,020	1,000	1,010	1,030	1,020	1,020	1,070	1,050	1,060	741	697	720
18	1,010	951	993	1,020	1,010	1,020	1,070	1,050	1,060	747	739	743
19	955	864	917	1,030	1,010	1,020	1,060	1,040	1,050	761	745	754
20	909	843	871	1,030	1,010	1,020	1,040	987	1,020	773	759	766
21	1,000	843	909	1,010	1,000	1,010	987	856	911	759	706	737
22	896	863	885	1,010	1,000	1,000	856	803	819	713	691	701
23	901	894	896	1,010	992	1,000	845	802	825	723	713	719
24	899	895	897	992	975	983	912	838	871	718	689	706
25	912	897	905	1,020	988	1,000	960	912	938	689	660	669
26	917	911	914	1,020	1,000	1,010	966	959	963	660	650	652
27	944	917	926	1,000	993	998	967	961	964	657	650	653
28	951	940	945	1,010	999	1,000	966	961	964	660	652	656
29	940	830	889	1,010	998	1,000	974	965	970	658	648	653
30	872	758	813	1,000	991	996	979	972	975	649	646	648
31	902	782	838	1,010	1,000	1,010	---	---	---	648	644	646
MONTH	1,040	758	944	1,030	975	1,010	1,110	802	997	1,320	444	816
DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	662	644	654	414	411	413	559	550	554	649	632	642
2	660	632	641	411	398	406	554	545	551	647	636	641
3	667	640	651	398	395	396	551	537	544	642	630	636
4	686	599	661	396	389	393	570	540	557	640	624	634
5	599	570	576	396	388	391	575	563	570	633	617	624
6	570	547	555	413	396	402	591	572	582	618	612	615
7	547	531	542	436	413	424	619	587	605	613	598	607
8	531	483	501	451	435	443	644	615	628	598	589	593
9	511	469	481	474	450	460	631	605	619	595	585	591
10	475	469	471	497	468	485	613	602	609	600	590	595
11	482	474	478	523	493	508	615	608	613	610	594	602
12	484	481	482	531	519	524	615	596	607	614	602	608
13	484	481	483	531	511	521	596	583	589	611	602	608
14	482	469	477	526	512	518	584	572	577	605	599	603
15	469	458	464	539	520	529	572	560	566	603	598	600
16	459	445	454	555	534	544	579	560	571	603	594	600
17	446	420	433	542	530	537	578	563	571	607	596	603
18	421	404	410	537	530	533	567	552	559	616	603	611
19	404	397	400	549	531	540	563	551	557	625	611	619
20	397	381	385	560	543	552	561	539	550	637	620	628
21	384	376	381	583	555	570	547	533	542	633	626	630
22	386	375	379	596	576	587	555	536	546	660	630	647
23	383	379	381	601	590	594	556	541	548	666	653	661
24	382	379	381	590	570	578	593	542	565	670	661	667
25	382	377	380	577	567	571	610	586	599	674	666	671
26	386	381	384	567	530	544	620	605	614	676	666	673
27	390	385	387	553	529	540	621	612	615	695	669	684
28	394	382	389	547	531	539	614	609	612	713	691	704
29	431	386	403	535	522	529	622	606	616	711	703	707
30	414	410	412	554	528	541	626	615	622	734	701	720
31	---	---	---	558	542	550	640	620	631	---	---	---
MONTH	686	375	469	601	388	505	644	533	584	734	585	634

YELLOWSTONE RIVER BASIN

06308500 TONGUE RIVER AT MILES CITY, MT—Continued

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SEASON OCTOBER 2004 TO OCTOBER 2005

DAY	MAX	MIN	MEAN
OCTOBER 2005			
1	733	721	727
2	730	718	722
3	720	693	706
4	694	649	671
5	654	629	642
6	631	623	627
7	630	624	627
8	625	610	617
9	614	580	606
10	580	557	568
11	574	564	570
12	573	566	571
13	580	566	574
14	592	576	584
15	606	588	597
16	633	601	614
17	650	626	637
18	657	644	651
19	706	653	675
20	713	696	706
21	714	706	712
22	716	709	713
23	719	709	715
24	730	717	724
25	732	725	729
26	733	726	731
27	736	726	733
28	738	729	733
29	732	726	730
30	734	727	732
31	735	729	731
MONTH	738	557	667