

450137106595101 YOUNGS CREEK NEAR RESERVATION BOUNDARY, NEAR DECKER, MT

LOCATION.--Lat 44°01'37", long 106°59'51" (NAD 27), SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec. 25, T.9s., R.83e., Bighorn County, Hydrologic Unit 10090101, at dirt road crossing about 7 mi upstream from Wyoming Highway 338, 1.5 mi northeast of Pearl School, and 6.5 mi west of Decker.

DRAINAGE AREA.--21.5 mi<sup>2</sup>.

PERIOD OF RECORD.--October 2002 to May 2004 (discontinued).

GAGE.--None. Elevation at sampling site is 3,780 ft (NGVD 29).

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

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity white light, det ang 90+/-30 corrctd 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)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	
MAY 04...	0830	.64	10.0	665	8.9	95	8.2	791	12.0	12.0	430	76.4	57.2	
Date	Time	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, water, fltrd 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)	Ammonia water, fltrd, mg/L as N (00608)
MAY 04...	7.22	.5	23.5	11	375	2.89	.8	14.5	73.1	480	.65	.83	<.010	
Date	Time	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitrogen, water, unfltrd mg/L (62855)	Ortho-phosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Arsenic water unfltrd ug/L (01002)	Barium, water, unfltrd recover-able, ug/L (01007)	Boron, water, unfltrd recover-able, ug/L (01022)	Cadmium water, unfltrd ug/L (01027)	Chromium, water, unfltrd recover-able, ug/L (01034)	Copper, water, unfltrd recover-able, ug/L (01042)	Iron, water, unfltrd recover-able, ug/L (01045)	Lead, water, unfltrd recover-able, ug/L (01051)
MAY 04...	<.016	<.002	.34	.009	.038	E1	124	98	E.02	<.8	1.3	280	.23	
Date	Time	Manganese, water, unfltrd recover-able, ug/L (01055)	Mercury water, unfltrd recover-able, ug/L (71900)	Nickel, water, unfltrd recover-able, ug/L (01067)	Selenium, water, unfltrd ug/L (01147)	Silver, water, unfltrd recover-able, ug/L (01077)	Zinc, water, unfltrd recover-able, ug/L (01092)	Suspended sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)				
MAY 04...		107	<.02	3.08	.4	<.16	E1	72	48	.08				

E--Estimated.

445832106551401 YOUNGS CREEK ABOVE MOUTH, NEAR DECKER, MT

LOCATION.--Lat 44°58'32", long 106°55'14" (NAD 27), SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec. 30, T.58N., R.83W., Sheridan County, WY, Hydrologic Unit 10090101, at Wyoming Highway 338, 1.2 mi upstream from mouth, near Decker.

DRAINAGE AREA.--62.3 mi<sup>2</sup>.

PERIOD OF RECORD.--October 2002 to May 2004 (discontinued).

GAGE.--None. Elevation at sampling site is 3,570 ft (NGVD 29).

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

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity white light, det ang 90+/-30 corrctd 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)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)
MAY 04...	1030	.27	4.51	672	8.9	96	8.2	1,680	21.0	13.0	850	109	140
Date	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, water, fltrd 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)	Ammonia water, fltrd, mg/L as N (00608)
MAY 04...	13.7	2	117	23	452	6.58	.9	11.8	548	1,220	1.66	.89	<.010
Date	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitrogen, water, unfltrd mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Arsenic water unfltrd ug/L (01002)	Barium, water, unfltrd recover-able, ug/L (01007)	Boron, water, unfltrd recover-able, ug/L (01022)	Cadmium water, unfltrd ug/L (01027)	Chromium, water, unfltrd recover-able, ug/L (01034)	Copper, water, unfltrd recover-able, ug/L (01042)	Iron, water, unfltrd recover-able, ug/L (01045)	Lead, water, unfltrd recover-able, ug/L (01051)
MAY 04...	<.016	<.002	.43	.015	.041	E1	66	228	.16	<.8	3.2	200	.09
Date	Manganese, water, unfltrd recover-able, ug/L (01055)	Mercury water, unfltrd recover-able, ug/L (71900)	Nickel, water, unfltrd recover-able, ug/L (01067)	Selenium, water, unfltrd ug/L (01147)	Silver, water, unfltrd recover-able, ug/L (01077)	Zinc, water, unfltrd recover-able, ug/L (01092)	Suspended sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)				
MAY 04...	118	<.02	4.89	.6	<.16	E2	60	28	.02				

E--Estimated.

450047106514201 SQUIRREL CREEK ABOVE MOUTH, AT DECKER, MT

LOCATION.--Lat 45°00'47", long 106°51'42" (NAD 27), NW¼SE¼SW¼ sec. 29, T.9S., R.40E., Bighorn County, Hydrologic Unit 10090101 at Montana Highway 314, 2 mi north of Montana-Wyoming state line, 0.7 mi upstream from mouth, and 200 yards north of Decker.

DRAINAGE AREA.--49.3 mi<sup>2</sup>.

PERIOD OF RECORD.--October 2002 to May 2004 (discontinued).

GAGE.--None. Elevation at sampling site is 3,510 ft (NGVD 29).

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

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity white light, det ang 90+/-30 corrctd 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)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	
MAY 04...	1200	.03	11.2	672	8.3	95	8.1	5,540	21.0	14.5	3,000	233	594	
Date	Time	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, water, fltrd 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)	Ammonia, water, fltrd, mg/L as N (00608)
MAY 04...	28.1	8	1,050	43	722	15.5	.9	7.2	2,920	5,280	7.19	.43	.015	
Date	Time	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitrogen, water, unfltrd mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Arsenic, water, unfltrd ug/L (01002)	Barium, water, unfltrd recover-able, ug/L (01007)	Boron, water, unfltrd recover-able, ug/L (01022)	Cadmium, water, unfltrd ug/L (01027)	Chromium, water, unfltrd recover-able, ug/L (01034)	Copper, water, unfltrd recover-able, ug/L (01042)	Iron, water, unfltrd recover-able, ug/L (01045)	Lead, water, unfltrd recover-able, ug/L (01051)
MAY 04...	<.016	E.001	.75	.008	.052	E1	23	355	E.04	1.5	10.9	580	.22	
Date	Time	Manganese, water, unfltrd recover-able, ug/L (01055)	Mercury, water, unfltrd recover-able, ug/L (71900)	Nickel, water, unfltrd recover-able, ug/L (01067)	Selenium, water, unfltrd ug/L (01147)	Silver, water, unfltrd recover-able, ug/L (01077)	Zinc, water, unfltrd recover-able, ug/L (01092)	Suspended sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)				
MAY 04...		382	<.02	9.66	1.5	<.16	7	68	68	.01				

E--Estimated.

## 06299980 TONGUE RIVER AT MONARCH, WY

LOCATION.--Lat 44°54'01", long 107°01'13", in NW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> SE<sup>1</sup>/<sub>4</sub> sec.20, T.57 N., R.84 W., Sheridan County, Hydrologic Unit 10090101, on right bank at county bridge, 0.4 mi downstream from South Dry Creek, and 0.9 mi east of Monarch.

DRAINAGE AREA.--478 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May to September 2004.

GAGE.--Water-stage recorder. Elevation of gage is 3,620 ft above NGVD of 1929, from topographic map. U.S. Geological Survey data collection platform with satellite telemetry at station.

REMARKS.--Records good. Numerous diversions for irrigation upstream from station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								79	160	151	49	23
2								71	143	165	41	27
3								79	129	143	42	25
4								103	130	136	56	35
5								154	145	213	54	44
6								219	153	222	45	40
7								244	167	176	45	36
8								235	157	154	44	34
9								232	151	141	42	33
10								209	158	132	48	28
11								209	215	125	50	28
12								219	225	119	46	28
13								192	191	95	41	35
14								168	165	86	39	37
15								154	150	81	36	40
16								152	146	89	36	44
17								153	154	86	35	45
18								150	152	75	38	42
19								168	155	67	39	49
20								163	153	64	35	55
21								187	158	57	33	78
22								204	164	52	30	78
23								224	148	66	36	78
24								206	149	88	31	80
25								189	167	82	30	76
26								177	154	67	30	72
27								167	155	55	39	70
28								158	146	59	48	83
29								155	130	55	42	92
30								186	127	59	36	77
31								174	---	53	27	---
TOTAL								5,380	4,697	3,213	1,243	1,512
MEAN								174	157	104	40.1	50.4
MAX								244	225	222	56	92
MIN								71	52	52	27	23
AC-FT								10,670	9,320	6,370	2,470	3,000

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

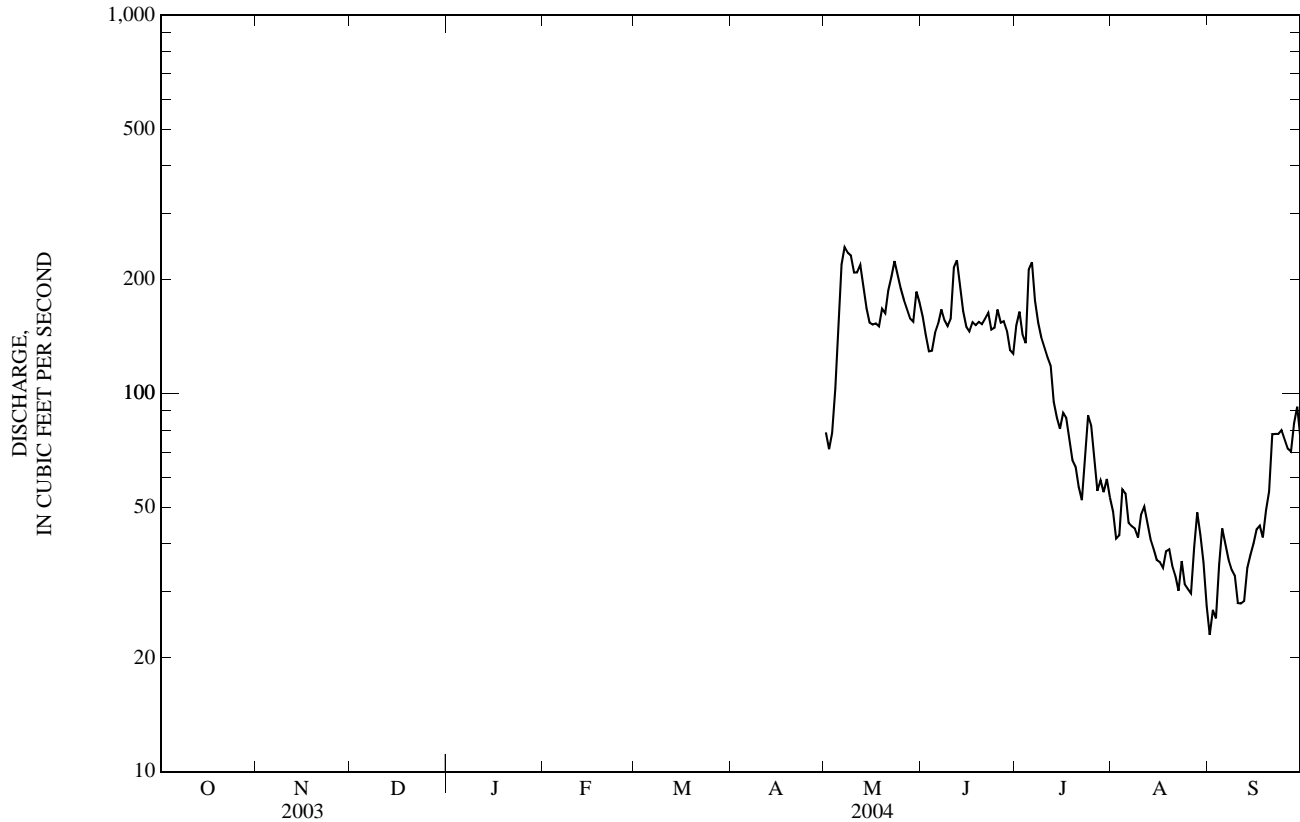
MEAN	174	157	104	40.1	50.4
MAX	174	157	104	40.1	50.4
(WY)	(2004)	(2004)	(2004)	(2004)	(2004)
MIN	174	157	104	40.1	50.4
(WY)	(2004)	(2004)	(2004)	(2004)	(2004)

## SUMMARY STATISTICS

## FOR 2004 WATER YEAR

HIGHEST DAILY MEAN	244	May 7
LOWEST DAILY MEAN	23	Sep 1
MAXIMUM PEAK FLOW	293	May 7
MAXIMUM PEAK STAGE	3.16	May 7

YELLOWSTONE RIVER BASIN  
06299980 TONGUE RIVER AT MONARCH, WY—Continued



WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974-80, 1982-83, January 2004 to September 2004.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 2004 to September 2004.

INSTRUMENTATION.--Conductance probe installed in late April 2004.

REMARKS.--Seasonal specific conductance records are rated excellent. Missing specific conductance data for May 5-8 are due to equipment problems.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 582 microsiemens per centimeter ( $\mu\text{S}/\text{cm}$ ), Sept. 4, 2004; minimum, 242  $\mu\text{S}/\text{cm}$ , May 12, 2004. 2003.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: During period of seasonal operation, maximum, 582 microsiemens per centimeter ( $\mu\text{S}/\text{cm}$ ), Sept. 4; minimum, 242  $\mu\text{S}/\text{cm}$ , May 12.

## 06299980 TONGUE RIVER AT MONARCH, WY—Continued

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

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, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
JAN													
20...	1630	62	672	10.7	83	8.1	414	2.0	0.0	210	50.9	19.8	1.12
FEB													
04...	0830	59	665	12.6	99	8.1	440	-10.0	0.0	220	52.9	21.1	1.22
24...	0845	66	667	12.4	97	8.1	432	-0.5	0.0	220	51.2	21.7	1.84
MAR													
08...	1430	64	678	11.0	85	8.2	421	14.0	0.0	230	53.5	23.1	1.50
23...	0800	67	665	10.0	93	8.4	456	4.0	6.5	230	54.5	23.1	1.82
APR													
14...	1615	102	661	10.0	107	8.5	368	24.0	12.0	180	45.0	17.3	1.34
27...	1030	57	667	10.6	117	8.5	416	25.0	13.5	200	47.8	19.3	1.64
MAY													
13...	1830	183	678	13.4	129	8.6	263	10.5	8.5	130	32.1	12.5	1.22
26...	0830	174	661	8.8	92	8.2	316	12.0	11.0	150	36.0	15.1	1.25
JUN													
10...	0815	147	661	7.9	93	8.1	297	17.0	16.0	150	35.7	14.3	1.09
22...	0830	169	670	8.5	94	8.2	343	16.0	14.0	170	39.2	16.5	1.43
JUL													
14...	1645	88	669	11.3	163	8.8	366	36.5	27.0	170	36.2	18.4	1.28
27...	0800	56	668	6.1	77	8.3	393	18.0	20.0	180	38.3	20.8	1.47
AUG													
18...	1525	41	674	11.4	148	8.7	535	24.0	22.0	240	44.9	30.8	2.13
24...	0950	30	666	8.8	105	8.4	499	20.5	17.0	230	44.8	29.7	2.28
SEP													
15...	1500	41	667	12.0	136	8.7	503	25.0	15.0	250	49.6	30.2	2.21
27...	1530	71	678	9.4	103	8.4	396	13.0	14.0	190	44.1	20.2	1.28

Date	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, water, 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)	Suspended sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
JAN													
20...	.3	8.91	165	1.82	<.2	7.07	42.3	231	.31	38.3	74	7	1.2
FEB													
04...	.3	10.3	166	2.07	<.2	7.20	47.6	243	.33	38.7	78	10	1.6
24...	.3	10.7	176	2.22	<.2	6.48	53.2	253	.34	45.0	80	2	.36
MAR													
08...	.4	13.5	181	2.10	<.2	5.78	54.3	262	.36	45.3	83	2	.35
23...	.4	14.8	179	2.42	.2	4.83	67.5	277	.38	50.0	58	28	5.1
APR													
14...	.3	9.42	157	2.10	<.2	4.84	36.9	212	.29	58.3	91	11	3.0
27...	.3	11.1	167	2.09	.2	4.92	44.3	232	.32	35.8	94	12	1.9
MAY													
13...	.2	6.59	116	1.20	<.2	7.50	25.5	157	.21	77.4	94	14	6.9
26...	.3	7.78	134	1.40	<.2	6.35	29.1	178	.24	83.4	96	31	15
JUN													
10...	.3	7.58	135	1.04	<.2	5.79	25.6	172	.23	68.3	94	14	5.6
22...	.3	10.0	150	1.45	<.2	5.88	33.3	198	.27	90.4	92	17	7.8
JUL													
14...	.4	11.1	147	1.40	.2	3.92	39.0	200	.27	47.5	88	10	2.4
27...	.4	12.4	167	1.66	.2	5.48	45.6	226	.31	34.2	97	7	1.1
AUG													
18...	.5	18.2	206	2.03	.2	6.96	68.2	297	.40	32.9	97	10	1.1
24...	.5	18.5	209	1.79	.3	7.32	69.3	300	.41	24.3	98	6	.49
SEP													
15...	.5	18.7	206	1.82	.2	6.82	69.9	303	.41	33.5	94	6	.66
27...	.3	10.4	175	1.23	.2	5.50	41.3	229	.31	43.9	93	5	.96

## WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—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)	Total nitro- gen, water, unfltrd 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)
FEB 04...	0830	E.008	.143	.002	.23	<.006	.004	<2	20	.3	<2	44	44
MAR 08...	1430	<.010	E.008	E.001	.14	<.006	.009	<2	29	.3	<2	37	39
APR 14...	1615	<.010	<.016	<.002	.23	<.006	.023	E1	91	.4	E1	43	43
27...	1030	<.010	<.016	<.002	.24	<.006	.027	<2	120	.5	<2	46	48
MAY 13...	1830	E.005	<.016	E.001	.27	.015	.047	3	146	.4	<2	31	31
26...	0830	<.010	E.009	<.002	.18	E.003	.041	2	272	.3	<2	35	41
JUN 10...	0815	E.005	<.016	E.001	.16	E.005	.027	E1	109	.4	E1	36	37
22...	0830	<.010	<.016	<.002	.24	E.005	.033	E1	134	.3	<2	37	38
JUL 27...	0800	<.010	<.016	<.002	.26	<.006	.017	2	80	.7	<2	46	46
AUG 24...	0950	<.010	<.016	<.002	.28	<.006	.019	<2	76	.7	<2	50	53

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)
FEB 04...	<.06	<.06	30	<.04	<.04	1	.8	1.8	8	60	<.08	E.04	8.3
MAR 08...	<.06	<.06	44	<.04	<.04	<1	1.1	.7	44	90	<.08	<.06	9.7
APR 14...	<.06	<.06	30	<.04	<.04	3	.7	1.1	23	220	E.05	.19	6.0
27...	<.06	<.06	38	<.04	<.04	<1	1.1	1.3	20	230	<.08	.25	8.5
MAY 13...	<.06	<.06	21	<.04	<.04	2	.8	.9	31	280	<.08	.23	5.4
26...	<.06	E.03	26	<.04	<.04	3	.8	1.3	22	470	<.08	.44	6.8
JUN 10...	<.06	<.06	25	<.04	<.04	<1	1.0	.9	33	270	.16	.25	6.3
22...	<.06	<.06	30	<.04	<.04	<1	1.1	1.4	24	240	<.08	.23	8.4
JUL 27...	<.06	<.06	41	<.04	<.04	<1	1.5	1.6	17	160	<.08	.17	12.6
AUG 24...	<.06	<.06	60	<.04	<.04	<1	1.1	1.5	20	160	<.08	.16	19.0

E--Estimated.

06299980 TONGUE RIVER AT MONARCH, WY—Continued

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

Date	Mangan- ese, water, fltrd, ug/L (01056)	Mangan- ese, water, unfltrd recover- able, ug/L (01055)	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)
FEB 04...	4.6	6	<.02	1.09	1.46	E.4	E.3	213	.8	<2
MAR 08...	8.9	12	<.02	1.07	1.23	E.3	E.3	213	1.4	E1
APR 14...	18.1	35	<.02	.70	1.32	E.2	E.3	189	1.1	E1
27...	21.4	33	<.02	1.18	2.18	E.4	<.4	211	2.2	<2
MAY 13...	11.3	20	<.02	.47	1.01	E.3	E.3	119	1.0	7
26...	12.1	36	<.02	1.35	1.43	<.4	E.2	134	E.6	2
JUN 10...	11.7	24	<.02	.73	1.52	E.3	<.4	137	1.0	E2
22...	8.5	19	<.02	1.25	1.10	<.4	<.4	142	1.0	E2
JUL 27...	5.3	14	<.02	1.18	1.76	E.3	.6	202	2.6	E2
AUG 24...	4.5	11	<.02	2.54	2.58	E.3	.7	240	.6	E1

E--Estimated.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS  
MAY 2004 TO SEPTEMBER 2004

DAY	MAY			JUNE			JULY			AUGUST		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	350	338	342	301	292	296	363	344	357	455	434	442
2	365	350	358	309	301	306	366	347	358	484	449	459
3	377	358	369	321	309	317	374	348	362	486	459	473
4	365	324	347	323	308	318	372	348	361	479	470	476
5	---	---	---	316	295	303	410	348	374	479	467	470
6	---	---	---	298	291	293	410	365	387	479	455	464
7	---	---	---	298	280	292	365	348	358	484	465	475
8	---	---	---	282	272	278	363	342	353	488	463	477
9	262	251	258	296	282	289	359	337	348	495	467	480
10	274	256	266	305	296	302	364	335	350	499	475	485
11	262	245	257	332	291	309	360	338	349	481	462	470
12	252	242	247	325	307	316	370	337	355	475	457	467
13	277	252	265	313	305	309	366	338	357	477	454	465
14	294	277	287	321	313	315	387	355	372	470	447	459
15	303	286	295	331	320	325	388	355	375	475	453	465
16	303	297	300	336	330	332	396	371	385	483	459	473
17	304	299	302	342	330	335	385	354	370	499	479	488
18	310	302	307	346	337	340	382	353	369	521	499	513
19	307	292	302	350	335	342	389	362	376	523	505	515
20	298	284	288	365	339	345	387	371	379	522	491	508
21	298	289	294	369	356	360	388	374	380	528	504	516
22	307	290	302	359	324	340	397	369	384	528	513	519
23	324	298	309	345	332	339	415	389	403	522	497	511
24	332	323	328	355	341	347	422	384	411	519	495	508
25	327	312	317	348	322	334	406	373	390	512	499	505
26	317	312	315	343	331	339	400	372	388	543	506	525
27	323	315	319	358	321	340	409	385	400	553	511	533
28	332	316	320	339	326	333	422	396	410	516	478	494
29	326	320	323	352	337	345	441	416	427	511	479	489
30	320	292	304	360	340	351	459	434	447	520	497	509
31	298	289	293	---	---	---	444	437	441	517	502	511
MONTH	---	---	---	369	272	323	459	335	380	553	434	489



SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS  
MAY 2004 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN
SEPTEMBER			
1	539	512	528
2	549	537	544
3	562	549	556
4	582	562	573
5	565	520	539
6	530	507	520
7	520	491	507
8	518	499	509
9	521	498	511
10	523	508	515
11	532	513	523
12	542	528	536
13	536	518	526
14	525	507	518
15	530	508	518
16	514	485	501
17	491	462	477
18	491	465	478
19	478	448	462
20	463	447	453
21	469	449	461
22	449	420	435
23	433	414	424
24	416	395	409
25	407	390	398
26	402	388	395
27	408	392	401
28	418	398	411
29	399	373	387
30	403	384	392
31	---	---	---
MONTH	582	373	480

## 06305700 GOOSE CREEK NEAR ACME, WY

LOCATION.--Lat 44°53'11", long 106°59'18", in SE $\frac{1}{4}$  SE $\frac{1}{4}$  NE $\frac{1}{4}$  sec.28, T.57 N., R.84 W., Sheridan County, Hydrologic Unit 10090101, on right bank 0.2 mi north of county road, 1.6 mi south of Acme, and 3.4 mi upstream from mouth.

DRAINAGE AREA.--413 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1984 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,620 ft above NGVD of 1929, from topographic map. U.S. Geological Survey data collection platform with satellite telemetry at station.

REMARKS.--Discharge records good except those for estimated daily discharges, which are poor. Some regulation by many small reservoirs, combined capacity, about 15,000 acre-ft. Natural flow of stream affected by transbasin diversions, storage reservoirs, diversions for irrigation, and return flow from irrigated areas.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	e62	71	e48	e50	e48	75	29	46	102	30	30
2	59	e64	67	e52	e56	e47	79	27	30	146	25	28
3	52	e64	70	e41	e57	e45	80	21	21	119	19	30
4	49	e62	e58	e30	e56	e46	75	18	13	86	22	48
5	48	e56	e46	e32	e52	e48	77	12	9.7	145	31	54
6	46	e60	e56	e36	e54	e52	81	12	36	176	22	45
7	46	e66	e54	e38	e56	e54	82	10	106	147	18	37
8	45	e70	e50	e39	e52	e62	85	9.9	121	114	23	32
9	46	e76	e47	e42	e47	e74	90	8.0	99	99	28	30
10	45	73	e42	e46	e40	e96	86	11	88	77	29	23
11	46	67	e41	e50	e34	e90	69	7.5	116	61	31	31
12	48	68	e43	e52	e32	e86	72	37	121	49	29	33
13	50	65	e46	e52	e37	e88	72	52	92	43	31	33
14	57	66	e52	e54	e35	89	75	47	76	38	28	36
15	58	67	e47	e56	e38	81	77	35	54	33	24	50
16	60	65	e46	e56	e41	81	76	21	45	36	24	54
17	62	65	e50	e54	e44	86	70	12	52	52	24	50
18	63	63	e54	e50	e48	91	68	11	53	40	21	52
19	61	62	e52	e56	e52	92	74	22	54	36	20	43
20	59	69	e52	e54	e56	91	66	29	51	30	21	56
21	55	e62	e54	e56	e54	81	64	44	49	25	31	80
22	56	e54	e52	e62	e52	74	67	60	42	27	31	80
23	55	e47	e50	e60	e52	72	61	71	37	38	38	77
24	54	e52	e48	e54	e54	71	51	64	30	69	36	73
25	54	e54	e50	e48	e56	75	44	59	51	74	29	68
26	55	e58	e48	e36	e54	74	35	51	71	48	31	55
27	58	e60	e47	e32	e60	76	31	41	91	37	41	59
28	60	63	e42	e30	e56	80	29	37	85	48	48	95
29	e64	76	e42	e35	e52	76	36	30	69	50	41	81
30	e60	78	e43	e40	---	76	39	60	63	45	38	67
31	e58	---	e44	e47	---	72	---	62	---	38	33	---
TOTAL	1,695	1,914	1,564	1,438	1,427	2,274	1,986	1,010.4	1,871.7	2,128	897	1,530
MEAN	54.7	63.8	50.5	46.4	49.2	73.4	66.2	32.6	62.4	68.6	28.9	51.0
MAX	66	78	71	62	60	96	90	71	121	176	48	95
MIN	45	47	41	30	32	45	29	7.5	9.7	25	18	23
AC-FT	3,360	3,800	3,100	2,850	2,830	4,510	3,940	2,000	3,710	4,220	1,780	3,030

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

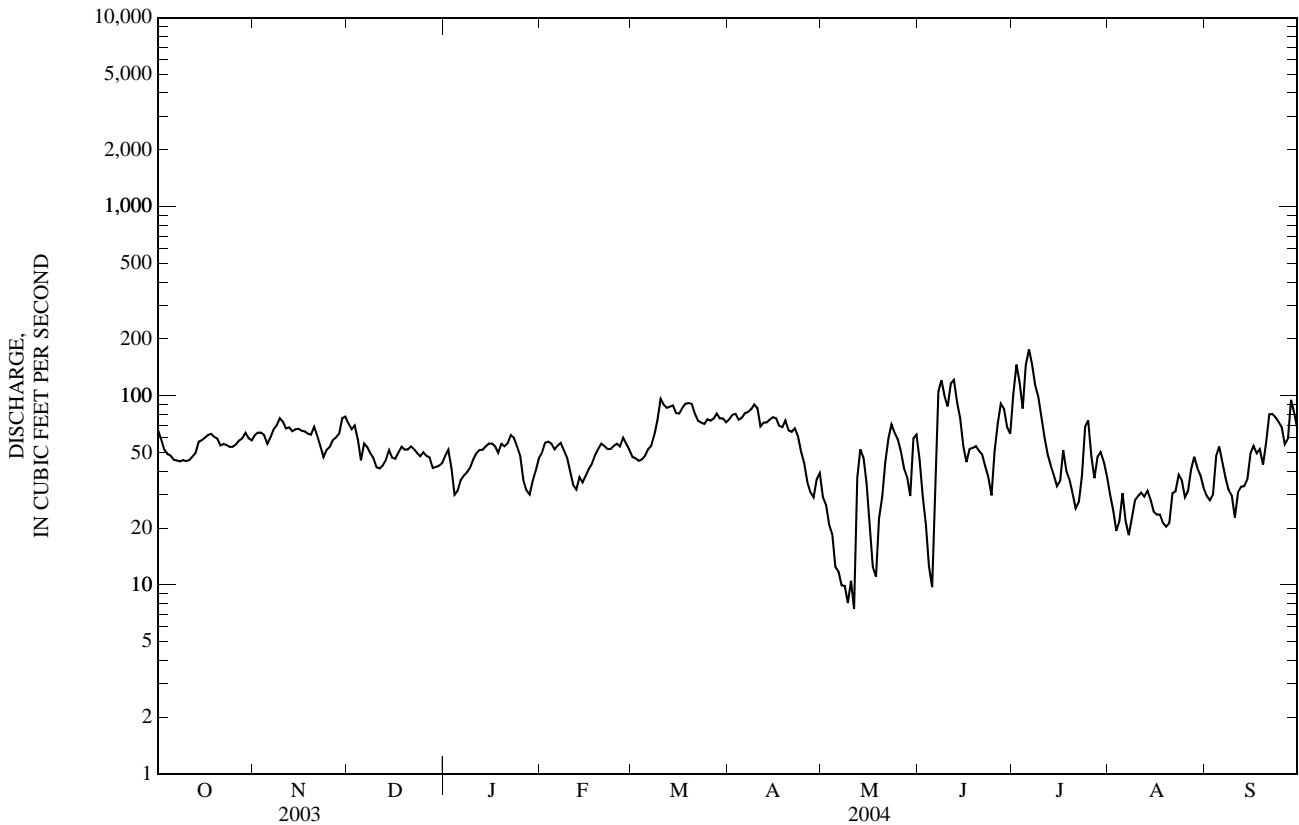
MEAN	96.9	90.4	75.4	68.1	81.8	97.3	130	365	543	141	57.4	82.5
MAX	156	144	107	109	137	185	195	891	1,592	547	157	158
(WY)	(1985)	(1999)	(1996)	(1990)	(1996)	(1994)	(1994)	(1984)	(1995)	(1995)	(1998)	(1998)
MIN	41.6	47.1	42.3	43.5	36.7	46.0	66.2	32.6	39.2	9.51	15.6	28.0
(WY)	(2002)	(2003)	(2002)	(2002)	(1989)	(2002)	(2004)	(2004)	(2001)	(2001)	(1988)	(2001)

YELLOWSTONE RIVER BASIN

06305700 GOOSE CREEK NEAR ACME, WY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1984 - 2004	
ANNUAL TOTAL	52,246.7		19,735.1			
ANNUAL MEAN	143		53.9		147	
HIGHEST ANNUAL MEAN					303	1995
LOWEST ANNUAL MEAN					50.4	2002
HIGHEST DAILY MEAN	1,210	Jun 2	176	Jul 6	3,040	Jun 17, 1995
LOWEST DAILY MEAN	6.2	Aug 9	7.5	May 11	3.0	Aug 24, 2001
ANNUAL SEVEN-DAY MINIMUM	7.7	Aug 9	10	May 5	4.3	Aug 22, 2001
MAXIMUM PEAK FLOW			a210	Jul 5	3,330	Jun 17, 1995
MAXIMUM PEAK STAGE			b3.77	Feb 21	c7.65	Feb 25, 1986
ANNUAL RUNOFF (AC-FT)	103,600		39,140		106,300	
10 PERCENT EXCEEDS	399		81		297	
50 PERCENT EXCEEDS	65		52		86	
90 PERCENT EXCEEDS	25		29		37	

a--Gage height, 3.19 ft.  
 b--Backwater from ice.  
 c--From floodmarks, backwater from ice.  
 e--Estimated.



WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1983-89, February 2004 to September 2004.

PERIOD OF DAILY RECORD.--  
 SPECIFIC CONDUCTANCE: Apr. 21, 2004 to September 2004.

INSTRUMENTATION.--Specific conductance probe installed late April 2004.

REMARKS.--Specific conductance rated good. Missing specific conductance values for May 19, July 10, and Sept. 8, 9, and 13 due to equipment problems.

EXTREMES FOR PERIOD OF DAILY RECORD.--  
 SPECIFIC CONDUCTANCE: Maximum, 996 microsiemens per centimeter ( $\mu\text{S}/\text{cm}$ ), May 11, 2004; minimum, 336  $\mu\text{S}/\text{cm}$ , June 8, 2004.

EXTREMES FOR CURRENT YEAR.--  
 SPECIFIC CONDUCTANCE: Maximum, 996 microsiemens per centimeter ( $\mu\text{S}/\text{cm}$ ), May 11; minimum, 336  $\mu\text{S}/\text{cm}$ , June 8.

06305700 GOOSE CREEK NEAR ACME, WY—Continued

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

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, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
FEB													
03...	1645	E57	665	15.6	123	8.0	643	-2.0	0.0	310	63.4	37.9	2.40
MAR													
08...	1615	E62	678	14.6	127	8.4	610	16.0	4.5	340	66.9	41.6	2.72
APR													
14...	1500	78	662	10.7	115	8.5	553	24.0	12.0	260	51.8	31.0	2.10
27...	0930	29	668	12.4	132	8.7	726	18.5	12.0	340	67.0	42.9	3.09
MAY													
14...	0745	49	674	9.7	92	8.4	546	9.0	7.5	250	49.9	30.7	2.82
26...	1100	52	661	11.4	124	8.5	610	23.5	12.5	290	57.3	36.1	3.17
JUN													
09...	1615	98	665	13.0	168	9.0	336	24.0	21.0	160	33.2	18.2	2.07
22...	1000	44	670	10.6	123	8.6	725	22.0	16.0	350	67.3	44.6	3.45
JUL													
15...	0810	34	670	5.0	66	8.3	670	22.5	22.5	310	59.4	39.6	3.30
AUG													
17...	1545	22	670	15.1	200	9.0	744	27.0	22.5	370	65.5	50.4	4.04

Date	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, water, fltrd 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)	Ammonia water, fltrd, mg/L as N (00608)
FEB												
03...	.6	23.0	14	249	6.39	.3	9.69	112	408	.55	E62.8	.587
MAR												
08...	.6	25.7	14	230	6.58	.3	6.76	121	411	.56	E68.8	.279
APR												
14...	.6	20.4	15	195	5.49	.2	5.15	95.7	330	.45	69.5	.041
27...	.7	30.8	16	240	10.2	.3	1.05	149	450	.61	35.2	E.006
MAY												
14...	.6	21.4	15	179	6.89	.2	6.83	105	335	.46	44.3	E.008
26...	.6	24.3	15	201	6.35	.3	3.36	125	378	.51	53.0	E.006
JUN												
09...	.4	12.6	15	114	2.92	<.2	5.72	60.9	204	.28	54.1	E.009
22...	.7	29.4	15	249	7.46	.3	1.05	149	453	.62	53.8	<.010
JUL												
15...	.7	26.6	16	236	6.62	.3	4.62	124	408	.58	39.1	.019
AUG												
17...	.8	34.1	16	248	11.7	.3	4.98	159	481	.65	28.6	E.006

E--Estimated.

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

Date	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitrogen, water, unfltrd 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)	Beryllium, water, fltrd, ug/L (01010)	Beryllium, water, unfltrd recover-able, ug/L (01012)
FEB 03...	.301	.013	1.10	.075	.103	E1	17	.4	<2	50	50	<.06	<.06
MAR 08...	.141	.009	.66	.040	.075	<1	30	.4	<2	42	44	<.06	<.06
APR 14...	.088	.008	.53	.078	.139	E1	80	.5	<2	43	47	<.06	<.06
APR 27...	.109	.008	.59	.072	.135	<1	38	.6	<2	51	53	<.06	<.06
MAY 14...	.522	.010	1.10	.129	.215	E1	103	.6	<2	37	37	<.06	<.06
MAY 26...	.132	.006	.52	.068	.175	E2	149	.6	<2	40	46	<.06	<.06
JUN 09...	.016	.004	.30	.083	.170	3	207	.6	E2	27	32	<.06	<.06
JUN 22...	<.016	<.002	.45	.112	.160	E2	46	.7	<2	50	50	<.06	<.06
JUL 15...	.048	.005	.49	.139	.189	E1	16	1.2	E1	50	51	<.06	<.06
AUG 17...	.042	.007	.55	.192	.234	E2	16	1.1	E1	49	48	<.06	<.06

Date	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)	Manganese, water, fltrd, ug/L (01056)	Manganese, water, unfltrd recover-able, ug/L (01055)
FEB 03...	68	<.04	<.04	2	1.3	2.6	26	100	<.08	.09	14.8	20.4	26
MAR 08...	76	<.04	<.04	<1	1.6	1.6	44	170	<.08	.06	15.9	42.1	49
APR 14...	61	<.04	<.04	4	1.1	1.5	32	290	E.06	.29	10.9	37.0	62
APR 27...	96	<.04	E.02	<1	1.7	2.0	81	250	.13	.24	16.4	56.5	68
MAY 14...	74	<.04	<.04	4	1.3	1.7	32	380	.09	.41	12.4	43.8	71
MAY 26...	83	<.04	<.04	6	1.7	2.2	33	530	E.05	.54	16.1	41.2	80
JUN 09...	47	<.04	<.04	<1	1.4	2.1	37	590	.19	.68	9.2	24.4	67
JUN 22...	103	<.04	<.04	2	2.4	1.9	80	230	E.06	.18	19.3	30.7	46
JUL 15...	100	<.04	<.04	<1	1.6	1.8	57	160	E.05	.12	19.3	29.8	32
AUG 17...	137	<.04	<.04	<1	2.1	2.0	48	140	E.05	.12	24.4	6.5	12

E--Estimated.

06305700 GOOSE CREEK NEAR ACME, WY—Continued

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

Date	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)	Sus- pended sediment, percent <.063mm (70331)	Sus- pended sediment concentration mg/L (80154)	Sus- pended sediment discharge, tons/d (80155)
FEB 03...	<.02	1.48	2.16	.7	.5	415	2.4	3	80	5	E0.77
MAR 08...	<.02	1.70	2.24	.6	.5	407	2.3	2	78	4	E.67
APR 14...	<.02	1.08	1.81	.5	E.4	350	2.7	3	60	13	2.7
27...	<.02	2.15	3.58	.5	.6	472	4.2	4	86	8	.63
MAY 14...	<.02	.85	1.84	.5	.4	335	5.3	6	93	14	1.9
26...	<.02	2.56	2.40	.4	.5	386	3.6	6	84	22	3.1
JUN 09...	<.02	1.00	1.96	E.4	E.4	223	1.8	7	90	29	7.7
22...	<.02	2.39	2.68	.5	E.4	439	3.1	8	89	5	.59
JUL 15...	<.02	2.47	2.26	E.2	.5	433	2.6	3	96	3	.28
AUG 17...	<.02	2.35	2.87	.4	.5	492	4.0	4	79	3	.18

E--Estimated.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS  
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	APRIL			MAY			JUNE			JULY		
				MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	814	776	795	557	514	536	593	548	577			
2	---	---	---	826	774	800	624	557	606	549	428	477			
3	---	---	---	823	781	801	693	624	661	438	419	428			
4	---	---	---	833	791	814	793	691	724	481	437	463			
5	---	---	---	864	791	829	830	793	808	492	436	468			
6	---	---	---	882	834	861	838	767	813	525	468	500			
7	---	---	---	909	854	891	767	363	530	468	442	455			
8	---	---	---	932	877	901	363	336	347	473	446	459			
9	---	---	---	934	889	918	363	339	347	506	473	490			
10	---	---	---	946	887	916	386	363	371	---	---	---			
11	---	---	---	996	893	936	410	360	385	554	516	536			
12	---	---	---	935	750	857	469	410	451	570	478	535			
13	---	---	---	776	532	659	480	441	455	623	524	581			
14	---	---	---	578	533	553	535	480	502	647	562	621			
15	---	---	---	613	552	586	573	535	555	689	647	666			
16	---	---	---	661	609	634	639	573	605	705	660	688			
17	---	---	---	721	658	694	650	637	644	705	646	677			
18	---	---	---	807	674	754	650	612	632	669	618	651			
19	---	---	---	---	---	---	636	605	623	679	648	664			
20	---	---	---	810	765	792	647	621	633	714	678	697			
21	598	559	578	765	693	729	664	636	652	722	696	710			
22	597	564	582	734	560	628	727	664	698	732	708	721			
23	583	561	570	563	480	516	742	712	729	748	677	722			
24	602	575	590	570	490	532	745	727	737	734	640	676			
25	645	602	623	578	568	573	755	712	735	640	600	621			
26	700	645	668	603	573	592	713	601	675	616	600	609			
27	742	700	718	607	511	574	601	553	573	623	605	615			
28	776	742	758	588	547	566	558	523	539	611	530	590			
29	791	655	736	620	577	598	575	531	547	652	533	619			
30	813	709	787	667	596	634	585	553	567	650	616	632			
31	---	---	---	613	502	557	---	---	---	638	604	620			
MONTH	---	---	---	---	---	---	838	336	589	---	---	---			

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS--CONTINUEDP  
 WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN
	AUGUST			SEPTEMBER		
1	666	636	653	721	676	701
2	685	663	674	729	689	713
3	701	672	686	741	718	731
4	741	682	704	736	683	716
5	743	704	728	742	677	712
6	757	727	739	728	685	710
7	772	720	746	720	690	706
8	774	727	752	---	---	---
9	767	734	748	---	---	---
10	744	706	732	752	717	735
11	736	706	724	760	702	732
12	738	714	728	757	710	734
13	739	722	729	---	---	---
14	743	707	731	735	713	727
15	744	709	728	739	706	721
16	754	728	743	728	674	700
17	796	741	765	717	682	699
18	831	778	808	709	675	693
19	845	796	823	734	703	717
20	858	805	834	735	707	725
21	843	787	818	707	604	665
22	827	764	797	720	686	703
23	787	729	751	704	642	687
24	750	687	720	672	637	656
25	757	721	745	658	634	645
26	767	726	749	661	637	648
27	775	739	756	663	642	655
28	749	694	723	679	598	646
29	727	685	709	700	657	680
30	716	663	694	693	671	681
31	709	664	691	---	---	---
MONTH	858	636	740	---	---	---

## 06306250 PRAIRIE DOG CREEK NEAR ACME, WY

LOCATION.--Lat 44°59'02", long 106°50'21", in NE $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 23, T.58 N., R.83 W., Sheridan County, Hydrologic Unit 10090101, on right bank 600 ft upstream from county bridge, 0.9 mi upstream from mouth, 2.8 mi downstream from Coutant Creek, and 7.6 mi northeast of Acme.

DRAINAGE AREA.--358 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1970 to September 1979, June 2000 to current year. Records for May 1965 to September 1970 in files of Wyoming State Engineer's Office.

GAGE.--Water-stage recorder. Elevation of gage is 3,450 ft above NGVD of 1929, from topographic map. U.S. Geological Survey data collection platform with satellite telemetry at station.

REMARKS.--Records good except those for November 1-18 and those for estimated daily discharges, which are poor. Diversions for irrigation of about 13,600 acres above station, of which about 60 acres are below station. Flow supplemented by 3 transbasin diversions from North Piney Creek and South Piney Creek via Prairie Dog Creek ditch, Piney and Cruse ditch, and Mead-Coffeen ditch.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	21	e15	e12	11	e13	16	15	1.8	8.6	26	26
2	29	20	e17	e11	10	e13	15	17	1.5	11	25	24
3	30	20	e16	e10	10	e12	14	11	1.5	7.4	22	22
4	30	20	e15	e9.0	10	e12	14	12	1.4	6.5	19	23
5	32	15	e15	e7.0	10	e14	13	11	1.5	9.7	23	25
6	31	14	e13	e8.0	9.9	e16	12	8.5	1.7	19	22	26
7	32	17	e16	e9.0	9.8	e18	12	6.2	1.4	24	20	25
8	31	19	e15	e9.0	9.7	e20	11	6.7	1.2	23	22	25
9	31	17	e14	e10	9.9	e23	11	4.8	1.0	23	21	23
10	28	18	e14	e10	10	e23	9.1	3.8	1.1	22	17	21
11	24	21	e12	e10	9.8	e24	10	3.1	1.4	21	16	16
12	23	21	e13	e10	9.3	e26	10	2.8	1.6	28	16	17
13	22	23	e13	e10	9.0	e28	10	6.5	1.6	26	15	16
14	22	21	e12	e10	9.1	e30	11	8.5	e1.5	17	11	17
15	22	26	e12	e10	9.3	e33	13	5.5	e1.1	15	7.1	20
16	22	24	e11	e10	9.4	31	12	3.5	e1.5	14	7.3	23
17	22	21	e11	e10	e9.5	30	11	2.9	1.9	14	9.4	24
18	21	19	e10	e9.0	e11	32	9.5	2.7	3.0	14	10	28
19	21	17	e10	e10	e11	32	16	2.7	3.9	11	7.5	27
20	20	17	e10	e11	e11	33	26	2.2	5.4	10	8.0	27
21	20	e15	e10	e11	e11	30	26	3.0	9.1	6.6	9.0	31
22	21	e12	e10	e11	e12	27	25	5.0	8.0	3.4	9.7	35
23	21	e9.0	e9.0	e10	e12	25	e20	6.5	7.2	4.5	11	33
24	19	e9.0	e9.0	e10	e13	24	e16	6.8	9.6	16	12	31
25	20	e15	e8.0	e10	e13	23	e12	6.3	9.0	26	12	31
26	19	e16	e8.0	e10	e14	23	e9.0	4.9	9.5	33	15	28
27	19	e16	e8.0	e10	e15	22	e6.0	2.4	5.5	25	16	28
28	20	e17	e9.0	10	e14	20	e9.0	1.7	5.7	27	20	28
29	22	e17	e9.0	11	e14	19	e11	1.7	6.1	25	24	31
30	26	e16	e9.0	11	---	18	e13	1.7	6.3	27	23	35
31	30	---	e9.0	12	---	16	---	2.0	---	24	23	---
TOTAL	767	533.0	362.0	311.0	316.7	710	402.6	178.4	113.0	541.7	499.0	766
MEAN	24.7	17.8	11.7	10.0	10.9	22.9	13.4	5.75	3.77	17.5	16.1	25.5
MAX	37	26	17	12	15	33	26	17	9.6	33	26	35
MIN	19	9.0	8.0	7.0	9.0	12	6.0	1.7	1.0	3.4	7.1	16
AC-FT	1,520	1,060	718	617	628	1,410	799	354	224	1,070	990	1,520

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 2004, BY WATER YEAR (WY)\*

MEAN	36.2	27.7	22.1	17.5	31.7	72.1	55.7	75.1	33.0	18.8	24.9	37.8
MAX	59.5	43.6	32.3	26.7	82.7	167	101	384	86.2	45.0	45.7	79.0
(WY)	(1974)	(1974)	(1976)	(1974)	(1974)	(1972)	(1971)	(1978)	(1978)	(1975)	(1978)	(1973)
MIN	15.5	12.3	10.9	8.55	9.49	16.7	13.4	5.75	3.09	4.39	3.00	13.4
(WY)	(2002)	(2002)	(2002)	(2002)	(2003)	(2002)	(2004)	(2004)	(2002)	(2001)	(2001)	(2001)



YELLOWSTONE RIVER BASIN

06306250 PRAIRIE DOG CREEK NEAR ACME, WY—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1971 - 2004*	
ANNUAL TOTAL	9,371.2		5,500.4		37.9	
ANNUAL MEAN	25.7		15.0		72.8	
HIGHEST ANNUAL MEAN					15.0	
LOWEST ANNUAL MEAN					3,090	
HIGHEST DAILY MEAN	250 <sup>e</sup>	Mar 14	37	Oct 1	0.48	May 19, 1978
LOWEST DAILY MEAN	1.7	Aug 2	1.0	Jun 9	0.70	Jul 7, 2001
ANNUAL SEVEN-DAY MINIMUM	3.3	Jul 30	1.3	Jun 4	0.70	Jul 5, 2001
MAXIMUM PEAK FLOW			a46	Oct 1	c3,940	May 18, 1978
MAXIMUM PEAK STAGE			b2.71	Feb 22	d12.60	May 18, 1978
ANNUAL RUNOFF (AC-FT)	18,590		10,910		27,450	
10 PERCENT EXCEEDS	49		27		64	
50 PERCENT EXCEEDS	16		13		27	
90 PERCENT EXCEEDS	8.5		4.9		10	

\*--For period of operation.

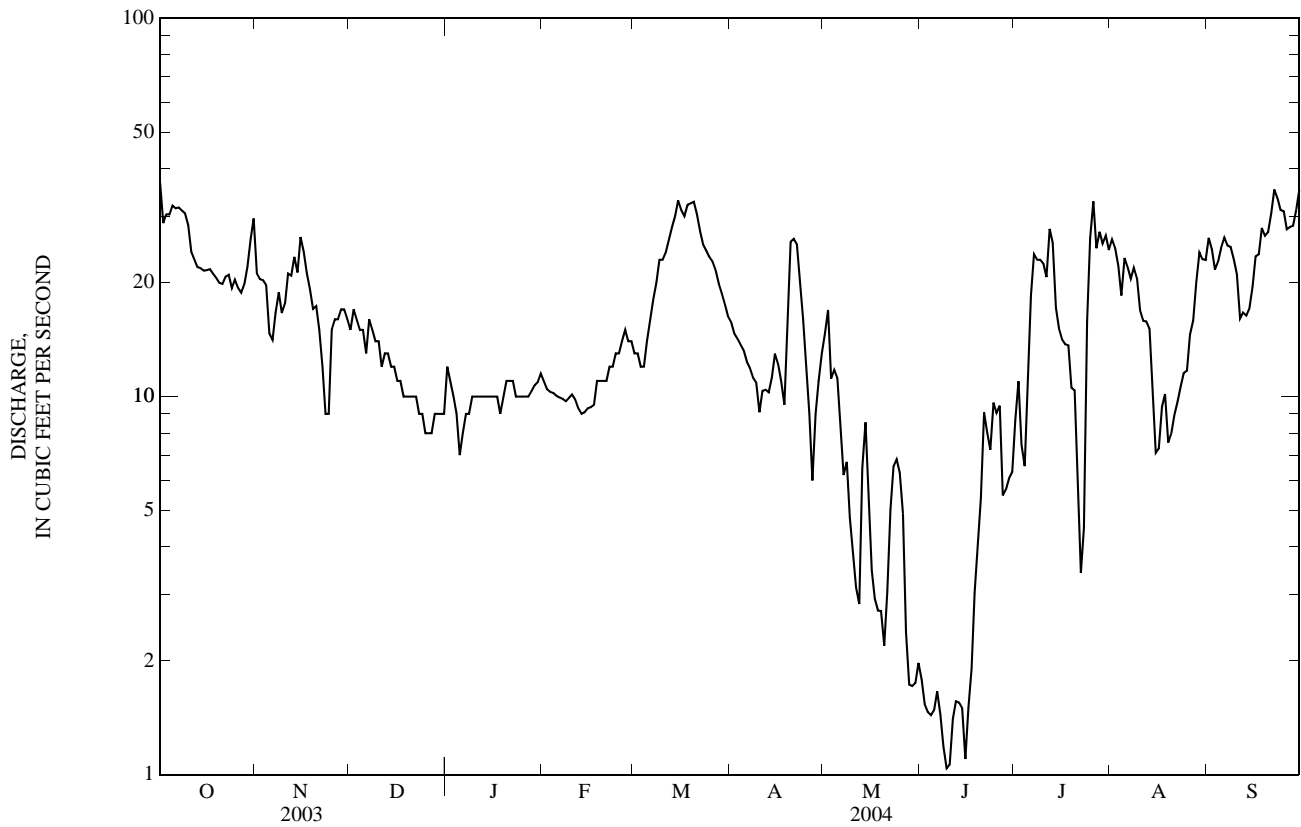
a--Gage height, 2.05 ft.

b--Backwater from ice.

c--From rating curve extended above 760 ft<sup>3</sup>/s on basis of slope-area determination of peak flow.

d--From floodmarks.

e--Estimated.



06306250 PRAIRIE DOG CREEK NEAR ACME, WY—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 2003 to September 2004.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: April 30, 2004 to September 30, 2004 (intermittent operation).

INSTRUMENTATION.--Specific conductance probe installed April 30, 2004.

REMARKS.--Daily specific conductance records rated good except for missing record due to instrument malfunction.

EXTREMES FOR PERIOD OF DAILY RECORD:

SPECIFIC CONDUCTANCE: Maximum daily, 2,510 microsiemens per centimeter (µS/cm) at 25°C, June 10, 2004; minimum daily, 739 µS/cm at 25°C, July 27, 2004.

EXTREMES FOR CURRENT YEAR:

SPECIFIC CONDUCTANCE: Maximum daily during period of operation, 2,510 microsiemens per centimeter (µS/cm) at 25°C, June 10; minimum daily, 739 µS/cm at 25°C, July 27.

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

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, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
FEB													
04...	1045	10	670	11.9	93	7.8	1,620	-4.0	.0	810	163	98.4	7.80
MAR													
09...	1115	E23	673	11.2	89	8.4	1,560	17.0	.5	780	152	97.3	9.15
APR													
14...	1130	11	668	9.8	97	8.4	1,330	16.0	9.0	670	121	88.3	7.84
27...	0815	6.0	673	9.0	91	8.4	1,460	9.0	10.0	670	129	83.7	7.04
MAY													
13...	1330	6.5	672	11.3	114	8.4	2,080	13.5	10.0	930	170	121	10.2
26...	1700	3.5	664	13.4	154	8.3	1,910	19.0	15.0	890	159	120	10.4
JUN													
09...	1045	1.2	672	8.6	98	8.0	2,510	19.5	15.0	1,100	195	152	11.9
21...	1630	11	674	9.6	118	8.3	1,670	22.0	19.0	780	149	98.7	9.52
JUL													
14...	1100	17	674	8.3	109	8.3	944	35.0	22.0	400	81.8	48.0	5.41
AUG													
18...	1030	9.5	678	9.7	114	8.3	1,400	19.0	17.0	660	131	80.4	7.59
SEP													
15...	1200	19	671	10.4	110	8.5	1,140	20.5	12.0	560	116	66.3	6.06

Date	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, water fltrd 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)	Residue on evap. at 180degC wat flt mg/L (70300)	Ammonia water, fltrd, mg/L as N (00608)
FEB													
04...	1	85.9	19	299	5.33	.3	15.7	542	1,100	1.50	29.8	--	.052
MAR													
09...	1	92.9	20	289	5.47	.3	12.3	608	1,160	1.68	E77.0	1,240	.045
APR													
14...	1	86.4	22	275	5.49	.3	7.20	489	972	1.32	28.9	--	E.005
27...	2	104	25	307	4.78	.3	9.93	537	1,060	1.53	18.3	1,130	E.006
MAY													
13...	3	177	29	331	7.14	.3	14.1	868	1,570	2.34	30.2	1,720	.026
26...	2	137	25	291	6.55	.3	9.46	792	1,410	2.08	14.4	1,530	<.010
JUN													
09...	3	208	29	381	8.30	.4	11.5	1,090	1,910	2.75	6.55	2,020	.015
21...	2	109	23	309	5.50	.3	13.4	631	1,200	1.76	38.4	1,290	<.010
JUL													
14...	1	44.9	19	226	2.66	.3	14.4	283	619	.92	31.0	676	.040
AUG													
18...	1	74.8	20	293	4.15	.3	14.7	501	992	1.40	26.5	1,030	.013
SEP													
15...	1	53.6	17	268	2.79	.3	13.9	362	781	1.13	42.7	832	--

E--Estimated.

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

Date	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Ortho-phosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, wat unfltrd mg/L (62855)	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)	Beryllium, water, fltrd, ug/L (01010)	Beryllium, water, unfltrd recover-able, ug/L (01012)
FEB 04...	.634	.003	.008	.037	.90	<2	234	.7	<2	47	50	<.06	<.06
MAR 09...	.442	.003	.018	.21	1.14	<2	1,500	.8	2	39	68	<.06	.15
APR 14...	<.016	<.002	<.006	.018	.29	E1	78	.7	<2	35	40	<.06	<.06
APR 27...	<.016	<.002	E.003	.020	.26	<2	103	.7	<2	42	45	<.06	<.06
MAY 13...	.231	.004	E.005	.023	.59	<2	38	.9	<2	53	48	<.06	<.06
MAY 26...	<.016	<.002	<.006	.040	.32	2	266	.9	<2	50	55	<.06	E.03
JUN 09...	.022	E.001	.013	.023	.37	E1	59	.9	E2	56	56	<.06	<.06
JUN 21...	.059	.003	<.006	.117	.69	E1	772	.8	E1	49	64	<.06	.08
JUL 14...	.226	.004	.016	.179	.96	10	1,370	.9	E1	31	56	<.06	.16
AUG 18...	.087	E.001	.010	.036	.39	<2	123	1.0	<10	44	44	<.06	<.06
SEP 15...	--	--	--	--	--	--	466	.8	--	--	37	--	E.05

Date	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)	Manganese, water, fltrd, ug/L (01056)	Manganese, water, unfltrd recover-able, ug/L (01055)
FEB 04...	126	<.04	<.04	5	3.0	8.3	8	590	<.08	.35	33.5	73.7	105
MAR 09...	109	<.04	.06	<1	3.8	7.4	18	3,600	<.08	2.40	35.9	52.3	289
APR 14...	142	<.04	<.04	8	2.9	3.7	E6	240	<.08	.13	31.6	59.7	74
APR 27...	109	<.04	<.04	<1	3.2	4.3	13	320	E.07	.17	30.4	120	139
MAY 13...	168	<.04	<.04	10	4.9	5.4	13	190	<.08	.07	49.4	205	193
MAY 26...	151	<.04	<.04	13	5.2	8.2	15	750	<.08	.48	55.4	177	217
JUN 09...	185	<.04	<.04	<1	5.8	8.9	E14	430	.19	.16	59.5	394	398
JUN 21...	148	<.04	.05	1	4.7	7.1	10	2,270	<.08	1.49	39.4	244	474
JUL 14...	88	<.04	.07	3	2.9	6.1	16	3,400	<.08	2.32	20.3	55.7	383
AUG 18...	133	<.04	<.04	<1	3.5	4.1	7	410	<.08	.23	34.4	73.6	103
SEP 15...	--	--	--	--	--	--	E3	--	--	--	--	42.3	--

E--Estimated.

## 06306250 PRAIRIE DOG CREEK NEAR ACME, WY—Continued

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

Date	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)	Sus- pended sediment, percent <.063mm (70331)	Sus- pended sediment concentration mg/L (80154)	Sus- pended sediment dis- charge, tons/d (80155)
FEB 04...	<.02	3.71	5.78	2.1	1.5	2,080	2.1	5	79	61	1.6
MAR 09...	<.02	5.21	7.46	1.6	1.6	1,940	2.6	16	89	192	E.58
APR 14...	<.02	2.29	3.69	1.0	.9	1,800	1.4	E2	76	47	1.4
27...	<.02	2.81	5.94	.9	.9	1,710	2.6	13	74	38	.62
MAY 13...	<.02	2.38	5.37	2.1	1.6	2,290	4.0	3	65	38	.67
26...	<.02	6.10	5.75	1.6	1.4	2,260	3.3	6	78	105	.99
JUN 09...	<.02	3.76	8.28	1.4	1.3	2,640	4.1	5	84	78	.25
21...	<.02	4.57	5.52	1.1	1.5	2,000	2.5	9	90	178	5.3
JUL 14...	<.02	2.99	5.55	.7	.6	1,060	1.8	12	97	172	7.9
AUG 18...	<.02	1.49	4.24	1.2	.9	1,710	1.8	5	90	78	2.0
SEP 15...	--	--	--	--	1.4	--	--	--	91	85	4.4

E--Estimated.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS  
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	MAY			JUNE			JULY			AUGUST		
1	1,280	1,150	1,230	---	---	---	1,330	1,290	1,320	851	823	836
2	1,150	1,080	1,110	---	---	---	1,290	1,180	1,230	862	845	854
3	1,260	1,130	1,220	---	---	---	1,200	1,150	1,170	880	856	867
4	---	---	---	---	---	---	1,290	1,200	1,250	920	878	899
5	---	---	---	---	---	---	1,300	1,280	1,300	918	901	913
6	---	---	---	---	---	---	1,280	1,160	1,230	902	893	897
7	---	---	---	---	---	---	1,160	990	1,090	896	887	892
8	---	---	---	---	---	---	990	966	972	919	888	903
9	---	---	---	---	---	*2,510	999	958	977	935	909	918
10	---	---	---	2,510	2,480	2,490	1,020	993	1,000	1,010	935	969
11	---	---	---	2,490	2,400	2,450	1,030	1,000	1,020	1,060	1,010	1,030
12	---	---	---	2,490	2,470	2,480	1,000	924	959	1,120	1,060	1,090
13	---	---	*2,080	---	---	---	940	828	889	1,150	1,120	1,140
14	---	---	---	---	---	---	984	897	938	1,170	1,140	1,150
15	---	---	---	---	---	---	982	953	961	1,220	1,170	1,190
16	---	---	---	---	---	---	1,090	972	1,040	1,320	1,220	1,270
17	---	---	---	2,340	2,210	2,260	1,130	1,080	1,100	1,360	1,320	1,350
18	---	---	---	2,410	2,210	2,310	1,120	1,090	1,110	1,370	1,330	1,350
19	---	---	---	2,240	1,940	2,100	1,180	1,080	1,130	1,570	1,370	1,490
20	---	---	---	1,970	1,530	1,850	1,250	1,180	1,220	1,560	1,410	1,500
21	---	---	---	1,840	1,580	1,720	1,260	1,210	1,230	1,410	1,370	1,390
22	---	---	---	1,600	1,510	1,560	1,430	1,260	1,350	1,390	1,360	1,380
23	---	---	---	1,570	1,460	1,550	1,500	1,430	1,470	1,370	1,320	1,360
24	---	---	---	1,460	1,310	1,370	1,490	1,190	1,390	1,320	1,240	1,260
25	---	---	---	1,310	1,260	1,270	1,190	923	1,040	1,240	1,200	1,220
26	---	---	*1,910	1,260	1,170	1,210	923	753	816	1,210	1,080	1,150
27	---	---	---	1,230	1,160	1,200	775	739	751	1,090	1,060	1,080
28	---	---	---	1,290	1,230	1,260	812	775	797	1,060	1,000	1,030
29	---	---	---	1,320	1,280	1,300	853	812	831	1,000	915	960
30	---	---	---	1,320	1,300	1,310	859	824	849	948	921	934
31	---	---	---	---	---	---	825	807	818	966	939	953
MONTH	---	---	---	---	---	---	1,500	739	1,070	1,570	823	1,100

\*--Instantaneous value from USGS sample.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS--CONTINUED  
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN
SEPTEMBER			
1	980	936	960
2	1,010	979	992
3	1,010	987	994
4	1,050	1,010	1,020
5	1,070	1,050	1,060
6	1,080	1,070	1,070
7	1,080	1,060	1,070
8	1,080	1,060	1,060
9	1,080	1,030	1,060
10	1,030	1,020	1,030
11	1,060	1,030	1,040
12	1,090	1,060	1,070
13	1,110	1,090	1,100
14	1,140	1,110	1,130
15	1,180	1,140	1,160
16	1,160	1,060	1,100
17	1,060	1,010	1,040
18	1,030	1,000	1,010
19	1,060	1,030	1,040
20	1,070	1,040	1,050
21	1,060	1,010	1,040
22	1,010	964	979
23	1,030	964	996
24	1,060	1,030	1,040
25	1,080	1,060	1,070
26	1,170	1,080	1,120
27	1,170	1,150	1,160
28	1,190	1,170	1,180
29	1,190	1,130	1,170
30	1,130	1,080	1,090
31	---	---	---
MONTH	1,190	936	1,060

## 06306300 TONGUE RIVER AT STATE LINE, NEAR DECKER, MT

LOCATION.--Lat 45°00'32", long 106°50'08" (NAD 27), in NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec.33, T.9 S., R.40 E., Big Horn County, Hydrologic Unit 10090101, on left bank 1 mi north of Wyoming-Montana State line, 1.4 mi southeast of Decker, 1.6 mi upstream from Badger Creek, and at river mile 200.9.

DRAINAGE AREA.--1,453 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1960 to current year. Records published as "near Decker" May 1928 to September 1938, not equivalent owing to intervening drainage area.

REVISED RECORDS.--WDR MT-04-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,429.14 ft (NGVD 29) (levels by U.S. Army Corps of Engineers).

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. Flow regulated by many small reservoirs in Wyoming, combined capacity, about 15,000 acre-ft. Diversions for irrigation of about 64,300 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	185	203	e160	e140	e135	e150	154	136	203	167	93	66
2	177	203	e155	e135	e140	e145	163	126	177	221	83	59
3	169	207	e150	e125	e140	e140	170	112	146	223	78	60
4	167	205	e145	e125	e140	e150	168	114	134	190	73	61
5	164	206	e140	e120	e135	e150	161	130	130	217	78	73
6	162	e195	e135	e110	e140	e150	168	169	135	313	82	89
7	159	e200	e145	e125	e140	e145	182	218	169	303	72	84
8	161	e205	e155	e135	e145	e150	188	223	228	253	68	81
9	156	e210	e150	e130	e150	e155	194	218	215	223	68	72
10	148	e215	e145	e130	e150	e160	193	212	198	199	65	66
11	152	e200	e140	e130	e145	e170	165	194	215	175	69	56
12	159	e190	e145	e130	e140	e175	157	204	288	166	71	55
13	159	e180	e130	e125	e130	e180	151	234	259	148	69	63
14	166	e185	e140	e130	e140	e185	161	218	225	121	65	65
15	177	e190	e145	e130	e150	e190	173	188	195	108	54	71
16	174	e190	e145	e130	e155	192	174	164	167	103	49	88
17	180	e180	e140	e135	e160	188	168	149	154	112	51	97
18	181	173	e145	e130	e160	194	163	159	165	120	51	101
19	182	160	e140	e135	e160	192	172	185	164	102	47	102
20	180	158	e140	e135	e160	192	174	198	169	94	48	110
21	175	e150	e145	e135	e165	188	171	201	176	82	47	127
22	175	e145	e150	e130	e155	176	168	247	167	70	47	161
23	176	e150	e150	e140	e155	170	163	264	163	66	50	163
24	176	e155	e145	e140	e155	168	143	269	152	92	52	163
25	177	e155	e140	e135	e160	173	125	244	155	135	53	162
26	177	e160	e145	e125	e155	177	121	220	179	135	54	154
27	183	e160	e150	e120	e160	171	102	200	178	104	49	149
28	194	e155	e145	e115	e165	175	103	187	193	101	62	151
29	201	e160	e140	e120	e160	170	132	174	176	100	77	184
30	206	e160	e135	e130	---	158	148	176	158	102	74	179
31	207	---	e140	e135	---	154	---	220	---	98	70	---
TOTAL	5,405	5,405	4,475	4,010	4,345	5,233	4,775	5,953	5,433	4,643	1,969	3,112
MEAN	174	180	144	129	150	169	159	192	181	150	63.5	104
MAX	207	215	160	140	165	194	194	269	288	313	93	184
MIN	148	145	130	110	130	140	102	112	130	66	47	55
AC-FT	10,720	10,720	8,880	7,950	8,620	10,380	9,470	11,810	10,780	9,210	3,910	6,170

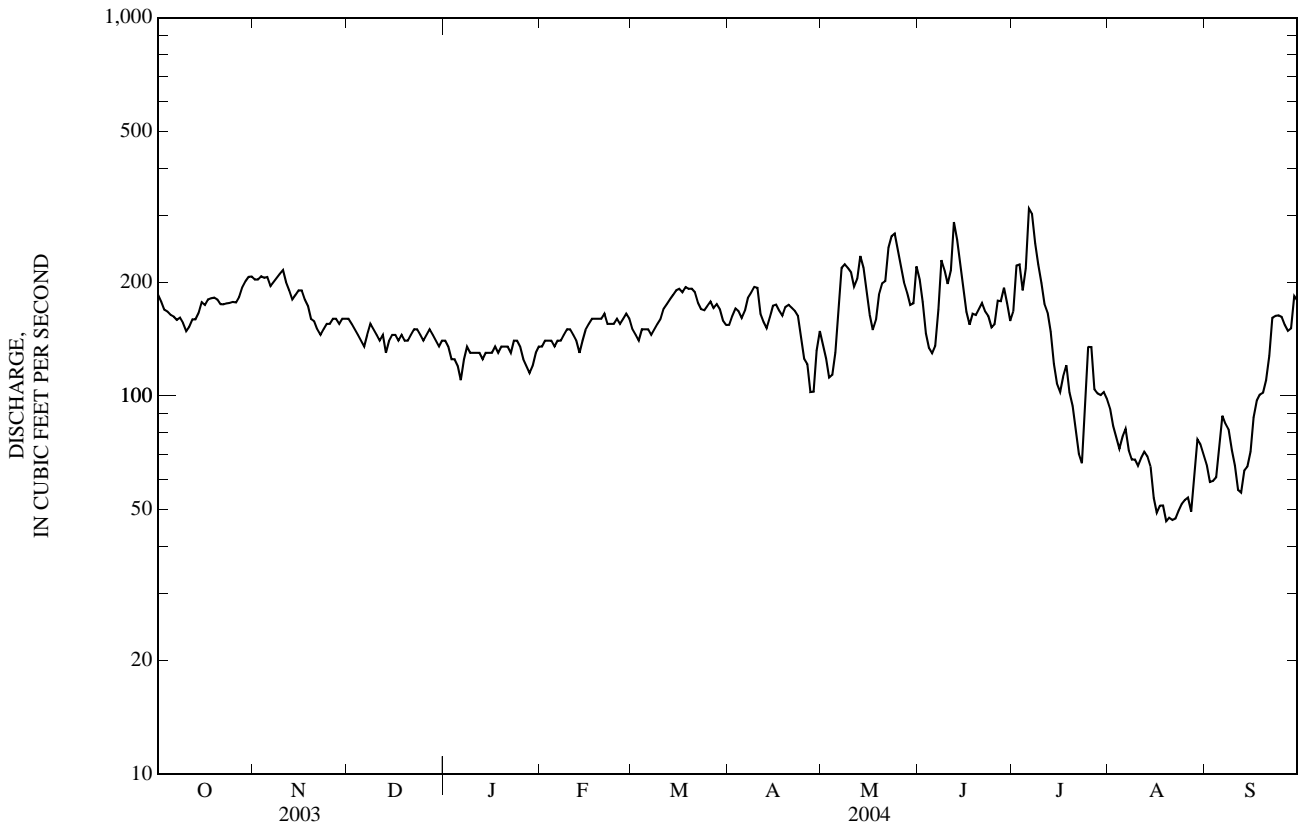
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2004, BY WATER YEAR (WY)

MEAN	249	221	177	175	225	303	350	1,111	1,597	450	171	214
MAX	403	324	271	330	672	855	676	3,283	3,570	1,674	475	615
(WY)	(1969)	(1974)	(1976)	(1974)	(1971)	(1972)	(1977)	(1978)	(1978)	(1975)	(1968)	(1968)
MIN	116	126	102	78.7	79.8	88.5	124	192	176	54.7	13.1	73.3
(WY)	(1961)	(2002)	(1985)	(2002)	(2002)	(2002)	(1961)	(2004)	(2001)	(2001)	(2001)	(2001)

06306300 TONGUE RIVER AT STATE LINE, NEAR DECKER, MT—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1961 - 2004	
ANNUAL TOTAL	130,878		54,758			
ANNUAL MEAN	359		150		437	
HIGHEST ANNUAL MEAN					862	1978
LOWEST ANNUAL MEAN					138	2002
HIGHEST DAILY MEAN	2,690	Jun 2	313	Jul 6	15,400	May 19, 1978
LOWEST DAILY MEAN	55	Aug 7	47	Aug 19	5.4	Aug 24, 1961
ANNUAL SEVEN-DAY MINIMUM	59	Aug 3	49	Aug 16	7.2	Aug 22, 1961
MAXIMUM PEAK FLOW			a326	Jul 6	17,500	May 12, 1978
MAXIMUM PEAK STAGE			b3.44	Feb 21	14.25	May 12, 1978
INSTANTANEOUS LOW FLOW			44	Aug 19	3.0	Aug 23, 1961
ANNUAL RUNOFF (AC-FT)	259,600		108,600		316,400	
10 PERCENT EXCEEDS	930		203		1,010	
50 PERCENT EXCEEDS	180		154		230	
90 PERCENT EXCEEDS	91		73		110	

a--Gage height, 3.10 ft.  
 b--Backwater from ice.  
 e--Estimated.



WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1965 to September 1976, November 1980 to December 1986, August 2000 to current year.

WATER TEMPERATURE: October 1965 to September 1976.

INSTRUMENTATION: Specific conductance probe installed Aug. 21, 2000.

REMARKS.--Specific conductance record is rated good. Missing conductance data for Nov. 23 due to ice conditions, Feb. 19, 20, and 28, May 4-13, and June 9, 10 are due to equipment malfunction, and June 25 to July 6 due to the probe being packed in mud. Samples of aquatic insects and algae were collected to obtain baseline information on biological conditions.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,490 microsiemens per centimeter ( $\mu\text{S}/\text{cm}$ ), Aug. 12, 1966, Jan. 11, 1972; minimum daily, 161  $\mu\text{S}/\text{cm}$ , May 30 and June 1, 2003.

WATER TEMPERATURE: Maximum, 30.5°C, July 16, 1966; minimum, 0.0°C on many days during winter.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 909 microsiemens per centimeter ( $\mu\text{S}/\text{cm}$ ), Aug. 27; minimum, 384  $\mu\text{S}/\text{cm}$ , June 11.

## 06306300 TONGUE RIVER AT STATE LINE, NEAR DECKER, MT—Continued

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

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, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO <sub>3</sub> (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT													
06...	1800	162	670	8.3	93	8.8	643	24.0	14.5	290	58.5	35.8	2.87
NOV													
18...	1330	198	668	14.3	115	8.5	636	18.0	1.0	300	62.9	35.6	2.52
DEC													
04...	1115	E145	687	13.7	104	8.2	636	7.0	0.0	300	63.1	35.6	2.40
JAN													
20...	1400	E135	676	10.7	83	8.3	653	10.5	0.0	310	66.0	35.7	2.44
FEB													
04...	1300	E140	669	14.5	113	8.1	705	7.0	0.0	320	65.9	36.7	2.47
23...	1630	E155	670	15.0	117	8.3	629	12.0	0.0	280	57.5	33.4	4.59
MAR													
09...	1345	E155	670	12.6	100	8.5	680	24.0	.5	320	64.8	38.5	3.01
22...	1800	171	671	10.2	107	8.5	725	15.0	11.5	320	63.3	39.7	3.51
APR													
14...	1315	168	666	10.6	113	8.3	562	23.0	12.0	250	52.9	29.3	2.17
26...	1645	120	678	10.6	124	8.7	584	24.0	17.0	250	51.1	29.8	2.54
MAY													
13...	1615	237	678	12.6	130	8.6	400	12.0	11.5	180	38.9	19.2	1.79
26...	1500	219	664	9.6	112	8.5	477	19.0	16.0	220	47.5	24.2	2.32
JUN													
09...	1315	226	672	8.1	100	8.4	403	22.5	19.5	180	38.1	20.0	1.97
22...	1315	171	674	10.7	131	8.6	534	24.0	19.0	230	48.3	27.3	2.50
JUL													
14...	1420	120	674	8.9	127	8.6	570	39.0	27.0	230	45.2	28.8	2.75
27...	1015	106	675	8.5	107	8.5	634	24.0	20.5	280	53.1	35.0	3.28
AUG													
18...	1250	52	679	8.2	103	8.4	810	26.0	21.0	340	57.6	46.9	4.01
24...	0835	57	671	6.3	73	8.4	876	17.0	16.0	360	62.4	49.3	4.30
SEP													
15...	1405	68	671	11.3	135	8.7	780	24.0	17.5	350	61.5	47.7	4.08
27...	1400	152	683	9.3	103	8.4	643	14.5	15.0	300	59.0	36.0	3.05

E--Estimated.



## 06306300 TONGUE RIVER AT STATE LINE, NEAR DECKER, MT—Continued

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

Date	Sodium adsorp- tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, water, fltrd fxd end lab, mg/L as CaCO <sub>3</sub> (29801)	Chlor- ide, water, fltrd, mg/L (00940)	Fluor- ide, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)
OCT								
06...	.7	29.2	18	182	3.89	.2	4.61	123
NOV								
18...	.7	27.5	16	189	4.10	.3	7.08	116
DEC								
04...	.7	26.7	16	202	4.73	.3	6.80	119
JAN								
20...	.7	28.0	16	206	5.43	.3	7.73	115
FEB								
04...	.8	31.0	17	179	4.60	.3	7.23	128
23...	.7	26.7	17	214	6.28	.3	6.41	115
MAR								
09...	.8	33.6	18	216	5.43	.2	4.62	149
22...	.9	35.5	19	227	5.49	.3	2.61	170
APR								
14...	.7	26.6	18	197	4.44	.2	2.66	102
26...	.9	32.5	22	204	4.47	.3	2.04	106
MAY								
13...	.6	18.9	19	145	2.87	.2	5.96	65.5
26...	.7	22.7	18	168	2.85	.2	5.07	82.1
JUN								
09...	.6	18.3	18	155	2.56	.2	4.81	58.7
22...	.7	26.0	19	196	3.03	.2	2.68	88.0
JUL								
14...	.9	29.8	22	194	2.93	.3	4.41	102
27...	.8	31.6	20	216	4.32	.3	6.78	124
AUG								
18...	1	49.9	24	245	5.32	.3	6.42	191
24...	1	58.6	26	271	4.75	.4	6.95	214
SEP								
15...	1	48.6	23	239	4.74	.4	5.46	186
27...	.7	29.3	18	228	3.19	.3	5.55	125

## 06306300 TONGUE RIVER AT STATE LINE, NEAR DECKER, MT—Continued

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

Date	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, fltrd, tons/d (70302)	Suspended sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
OCT 06...	367	.52	166	90	69	30
NOV 18...	369	.52	203	74	63	34
DEC 04...	380	.53	E153	35	15	E5.9
JAN 20...	384	.58	E155	62	10	E3.6
FEB 04...	385	.61	E171	66	11	E4.2
FEB 23...	379	.52	E159	90	8	E3.4
MAR 09...	429	.61	E187	92	54	E23
MAR 22...	457	.62	211	70	57	26
APR 14...	339	.46	154	92	24	11
APR 26...	351	.49	118	89	19	6.2
MAY 13...	241	.33	154	91	19	12
MAY 26...	288	.41	177	92	36	21
JUN 09...	238	.32	145	89	40	24
JUN 22...	316	.44	149	90	28	13
JUL 14...	332	.45	108	90	28	9.1
JUL 27...	388	.55	116	85	54	15
AUG 18...	508	.69	71.4	94	26	3.7
AUG 24...	564	.79	89.3	92	28	4.3
SEP 15...	502	.68	92.2	83	39	7.2
SEP 27...	398	.56	170	87	53	22

E--Estimated.

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, water, unfltrd 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 06...	1800	<.04	<.016	E.001	.22	<.006	.027	--	164	.5	<2	--	46
NOV 18...	1330	<.04	.034	<.002	.20	<.006	.018	--	66	.3	<2	--	51
DEC 04...	1115	<.04	E.009	<.002	.21	<.006	.016	--	33	.4	<2	--	50
FEB 04...	1300	.104	.247	.005	.49	E.005	.016	<2	20	.4	<2	51	52
MAR 09...	1345	.024	.085	.003	.50	E.004	.070	E1	374	.4	<2	39	50
APR 14...	1315	E.005	<.016	<.002	.34	<.006	.043	E1	161	.5	<2	49	54
APR 26...	1645	E.006	<.016	<.002	.34	E.003	.040	E1	128	.6	<2	51	55
MAY 13...	1615	E.007	<.016	E.001	.37	E.005	.047	2	157	.5	<2	39	41
MAY 26...	1500	<.010	<.016	<.002	.23	E.003	.065	E1	242	.5	<2	44	52
JUN 09...	1315	<.010	<.016	E.001	.23	<.006	.071	2	250	.6	E2	44	50
JUN 22...	1315	<.010	<.016	<.002	.30	<.006	.045	E1	198	.5	<2	49	52
JUL 27...	1015	<.010	<.016	<.002	.50	E.003	.061	E1	341	.9	<2	52	58
AUG 24...	0835	.030	<.016	E.001	.44	<.006	.037	E2	185	1.0	<2	65	68

## 06306300 TONGUE RIVER AT STATE LINE, NEAR DECKER, MT—Continued

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

Date	Beryllium, water, ftrd, ug/L (01010)	Beryllium, water, unfltrd recover-able, ug/L (01012)	Boron, water, ftrd, ug/L (01020)	Boron, water, unfltrd recover-able, ug/L (01022)	Cadmium, water, ftrd, ug/L (01025)	Cadmium, water, unfltrd recover-able, ug/L (01027)	Chromium, water, unfltrd recover-able, ug/L (01034)	Copper, water, ftrd, ug/L (01040)	Copper, water, unfltrd recover-able, ug/L (01042)	Iron, water, ftrd, ug/L (01046)	Iron, water, unfltrd recover-able, ug/L (01045)	Lead, water, ftrd, ug/L (01049)	Lead, water, unfltrd recover-able, ug/L (01051)
OCT 06...	--	<.06	--	78	--	<.04	<.8	--	2.3	10	340	--	.30
NOV 18...	--	<.06	--	70	--	<.04	E.6	--	2.2	12	150	--	.14
DEC 04...	--	<.06	--	69	--	<.04	<.8	--	2.2	16	80	--	.06
FEB 04...	<.06	<.06	62	68	<.04	<.04	2	1.2	2.9	17	70	<.08	E.05
MAR 09...	<.06	E.03	66	62	<.04	<.04	<1	1.7	2.3	27	810	<.08	.58
APR 14...	<.06	<.06	50	--	<.04	<.04	<1	1.2	1.5	36	460	E.05	.36
APR 26...	<.06	<.06	56	56	<.04	<.04	<1	1.4	1.6	41	350	E.06	.31
MAY 13...	<.06	<.06	38	35	<.04	<.04	3	1.0	1.4	30	360	<.08	.30
MAY 26...	<.06	E.04	47	48	<.04	E.02	4	1.4	2.9	26	630	E.04	.62
JUN 09...	<.06	E.04	46	48	<.04	<.04	<1	1.2	1.7	41	640	.14	.61
JUN 22...	<.06	<.06	54	56	<.04	<.04	<1	1.6	1.7	22	430	<.08	.46
JUL 27...	<.06	E.04	77	79	<.04	E.03	<1	1.6	2.6	9	730	<.08	.66
AUG 24...	<.06	<.06	101	105	<.04	<.04	<1	2.1	2.6	14	420	<.08	.36

Date	Lithium water, ftrd, ug/L (01130)	Manganese, water, ftrd, ug/L (01056)	Manganese, water, unfltrd recover-able, ug/L (01055)	Mercury water, unfltrd recover-able, ug/L (71900)	Nickel, water, ftrd, ug/L (01065)	Nickel, water, unfltrd recover-able, ug/L (01067)	Selenium, water, ftrd, ug/L (01145)	Selenium, water, unfltrd recover-able, ug/L (01147)	Strontium, water, ftrd, ug/L (01080)	Zinc, water, ftrd, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)
OCT 06...	--	12.8	37.5	--	--	2.90	--	.4	--	--	4
NOV 18...	--	11.1	19.5	--	--	2.47	--	E.4	--	--	3
DEC 04...	--	11.0	12.8	--	--	2.60	--	E.4	--	--	2
FEB 04...	16.6	16.9	18	<.02	1.63	2.40	.6	.6	488	1.4	2
MAR 09...	16.5	27.9	93	<.02	1.68	2.70	.5	.6	478	1.8	4
APR 14...	13.2	29.1	58	<.02	1.40	2.05	E.3	E.2	365	1.1	3
APR 26...	15.5	24.2	46	<.02	1.52	2.81	E.4	E.3	367	1.1	E1
MAY 13...	9.3	11.1	42	<.02	.77	2.00	E.3	<.4	207	2.5	3
MAY 26...	15.1	15.8	60	--	2.10	2.85	E.2	<.4	281	1.4	5
JUN 09...	11.1	14.7	70	<.02	1.16	2.61	E.3	<.4	231	1.8	17
JUN 22...	13.6	9.6	45	<.02	1.82	1.59	<.4	.4	305	1.2	3
JUL 27...	19.5	14.2	90	<.02	2.52	3.08	.5	.4	454	1.3	6
AUG 24...	30.2	16.0	51	<.02	2.04	3.06	.6	.7	664	1.3	3

E--Estimated.

## 06306300 TONGUE RIVER AT STATE LINE, NEAR DECKER, MT—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS  
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	608	594	599	693	642	658	661	622	643	762	729	744
2	656	607	630	766	672	717	668	609	638	757	734	744
3	673	650	660	797	734	761	653	605	629	754	728	743
4	669	649	660	771	741	750	663	610	633	764	729	748
5	669	644	656	770	719	752	708	656	684	794	744	769
6	665	639	653	846	753	781	696	642	669	846	786	822
7	671	646	658	866	747	807	694	620	657	830	815	823
8	678	642	659	811	734	779	670	641	655	828	801	819
9	679	653	665	817	729	768	671	632	653	811	769	797
10	704	675	692	777	698	737	678	611	648	772	717	747
11	716	689	704	759	695	732	702	629	670	722	680	702
12	727	711	720	731	693	708	713	661	689	686	664	679
13	739	710	724	744	677	707	792	696	755	678	662	670
14	721	692	710	714	668	690	741	687	723	682	661	673
15	708	692	701	723	652	691	712	655	684	682	669	677
16	720	691	705	710	655	683	683	642	667	683	666	674
17	716	689	703	708	664	687	689	628	661	679	660	669
18	708	685	697	737	662	693	675	626	647	671	657	663
19	708	687	695	709	684	695	709	643	678	682	656	670
20	706	683	694	697	673	687	716	646	680	681	659	668
21	697	682	690	705	662	685	687	649	663	672	653	664
22	705	686	695	765	685	713	679	643	660	673	656	663
23	699	678	691	---	---	---	679	636	661	690	659	674
24	699	682	689	792	739	769	697	641	676	683	658	674
25	711	690	702	776	737	758	727	665	700	671	650	660
26	712	687	700	783	731	760	690	637	668	688	654	677
27	717	688	698	752	706	733	679	653	665	762	682	721
28	708	690	697	745	690	718	678	658	670	789	757	777
29	697	678	689	704	653	684	738	668	711	801	772	785
30	693	646	672	675	643	657	715	676	696	818	794	804
31	651	633	643	---	---	---	757	695	729	811	766	789
MONTH	739	594	682	866	642	723	792	605	673	846	650	722
	FEBRUARY			MARCH			APRIL			MAY		
1	781	731	761	653	620	637	695	671	683	656	564	598
2	736	692	715	669	629	646	692	667	678	659	622	635
3	696	681	687	695	667	682	680	634	656	658	628	644
4	717	688	708	698	660	683	642	612	629	---	---	*613
5	724	704	717	702	630	660	626	598	614	---	---	---
6	720	695	709	702	656	678	617	588	602	---	---	---
7	703	681	695	684	633	661	603	555	575	---	---	---
8	697	677	688	667	591	635	565	532	547	---	---	---
9	686	667	678	707	597	654	540	511	528	---	---	---
10	676	660	668	678	643	659	523	489	506	---	---	---
11	693	660	676	699	614	650	550	517	531	---	---	---
12	706	670	686	683	628	649	560	536	546	---	---	---
13	739	686	716	692	644	679	581	539	554	---	---	*400
14	732	722	727	760	666	699	583	562	572	485	465	480
15	725	692	709	733	680	704	605	566	593	485	461	475
16	713	683	696	729	688	712	601	566	586	461	444	451
17	689	661	676	751	716	734	576	554	565	453	427	441
18	691	650	672	753	732	742	569	546	559	432	420	427
19	---	---	---	764	746	753	602	546	571	451	425	435
20	---	---	---	778	753	767	570	500	534	434	405	420
21	645	606	625	768	748	758	516	496	505	436	407	421
22	673	613	638	767	743	756	524	506	517	475	416	440
23	671	628	649	765	745	755	543	518	528	501	474	491
24	655	619	642	766	741	753	571	540	557	505	497	502
25	692	627	660	757	728	742	597	567	578	497	487	491
26	654	614	633	742	711	727	603	578	591	488	474	483
27	669	592	638	735	702	717	617	593	607	477	463	468
28	---	---	---	714	677	695	649	606	624	476	466	470
29	642	616	628	694	675	685	643	602	628	481	473	478
30	---	---	---	687	671	680	619	589	603	505	471	489
31	---	---	---	693	662	677	---	---	---	493	458	470
MONTH	781	592	681	778	591	698	695	489	579	659	405	486

\*--Instantaneous value from USGS sample.

## YELLOWSTONE RIVER BASIN

## 06306300 TONGUE RIVER AT STATE LINE, NEAR DECKER, MT—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS—CONTINUED  
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	501	487	496	---	---	---	688	663	682	821	795	808
2	489	469	480	---	---	---	712	687	702	839	816	831
3	487	469	478	---	---	---	731	686	711	850	833	839
4	501	487	493	---	---	---	731	701	713	869	842	854
5	508	496	501	---	---	---	739	696	718	870	816	848
6	508	472	489	---	---	*485	723	691	706	817	773	789
7	484	423	451	543	520	533	727	698	709	801	774	784
8	530	423	499	540	517	523	757	722	738	812	785	801
9	---	---	*403	520	508	514	766	746	756	818	795	807
10	---	---	---	533	511	518	789	753	767	828	790	810
11	402	384	393	541	525	535	790	762	773	827	804	813
12	416	387	399	561	531	549	783	767	776	852	824	839
13	563	411	477	547	536	542	799	771	784	853	806	830
14	590	543	571	587	542	558	804	782	791	813	789	804
15	545	524	535	618	582	607	799	771	780	818	796	808
16	524	468	490	660	614	629	808	785	798	820	775	805
17	493	480	489	663	620	644	855	804	837	782	730	745
18	525	488	501	622	610	615	857	821	841	750	735	746
19	540	523	530	680	619	646	874	824	847	752	732	743
20	554	528	534	686	661	673	850	815	827	733	708	720
21	571	533	548	721	667	685	854	831	840	718	677	705
22	561	524	541	732	633	667	872	846	861	683	672	677
23	558	531	543	734	656	687	870	852	858	678	664	672
24	569	546	553	723	687	705	893	861	874	676	659	668
25	---	---	---	691	612	642	879	860	867	675	654	666
26	---	---	---	646	628	638	904	869	884	665	652	658
27	---	---	---	659	633	639	909	883	895	669	651	658
28	---	---	---	659	633	649	897	863	881	660	646	653
29	---	---	---	652	638	644	868	800	828	666	633	642
30	---	---	---	663	642	654	802	785	794	651	636	644
31	---	---	---	667	637	648	805	780	794	---	---	---
MONTH	590	384	500	734	508	614	909	663	795	870	633	756

\*--Instantaneous value from USGS sample.

## BIOLOGICAL DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Biomass periphyton, ashfree drymass g/m2 (49954)	Periphyton biomass ash weight, g/m2 (00572)	Periphyton biomass dry weight, g/m2 (00573)	Biomass chlorophyll ratio, periphyton, number (70950)	Pheophytin a, periphyton, mg/m2 (62359)	Chlorophyll a periphyton, mg/m2 (70957)
SEP 25...	0900	201	8.2	577	14.0	11.0	7.4	220	225.6	172	23	43.0

06306300 TONGUE RIVER AT STATE LINE, NEAR DECKER, MT—Continued

BENTHIC INVERTEBRATE SAMPLES  
SEPTEMBER 24, 2003

Qualitative multiple habitat sample--visual selection Equipment type--D-frame net; mesh size--500 µm			Richest targeted habitat sample--riffles Composite of 5 samples (area of 0.25 m <sup>2</sup> /sample) Equipment type--Slack sampler; mesh size--500 µm		
Organism	No. of individuals	Percentage of composition	Organism	No. of individuals	Percentage of composition
<b>NON INSECTS</b>			<b>NON INSECTS</b>		
Naididae	200	3.3	Nematoda	5	0.2
Tubificidae	173	2.9	Tubificidae	55	2.4
Sphaeriidae	13	0.2	Physidae	20	0.9
Physidae	213	3.6	<i>Hyalella azteca</i>	5	0.2
Planorbidae	13	0.2			
<i>Hyalella azteca</i>	186	3.1			
<b>ODONATA</b>			<b>ODONATA</b>		
Calopterygidae	13	0.2	Gomphidae	5	0.2
Coenagrionidae	386	6.5	Coenagrionidae	5	0.2
<b>EPHEMEROPTERA</b>			<b>EPHEMEROPTERA</b>		
<i>Acentrella insignificans</i>	146	2.5	<i>Acentrella insignificans</i>	210	9.1
<i>Fallceon quilleri</i>	1117	18.8	<i>Baetis tricaudatus</i>	5	0.2
<i>Plauditus punctoventris</i>	80	1.3	<i>Camelobaetidium warreni</i>	5	0.2
<i>Stenonema</i>	93	1.6	<i>Fallceon quilleri</i>	900	38.9
<i>Tricorythodes</i>	372	6.3	<i>Plauditus punctoventris</i>	60	2.6
			<i>Stenonema</i>	150	6.5
			<i>Tricorythodes</i>	55	2.4
			<i>Neochoroterpes</i>	55	2.4
<b>HEMIPTERA</b>			<b>HEMIPTERA</b>		
<i>Belostoma</i>	13	0.2	Corixidae	5	0.2
<i>Corixidae</i>	80	1.3	<i>Ambrysus</i>	5	0.2
<i>Ambrysus</i>	40	0.7			
<b>TRICHOPTERA</b>			<b>TRICHOPTERA</b>		
<i>Protophila</i>	27	0.4	<i>Helicopsyche</i>	5	0.2
<i>Cheumatopsyche</i>	13	0.2	<i>Cheumatopsyche</i>	5	0.2
<i>Hydropsyche</i>	27	0.4	<i>Hydropsyche</i>	10	0.4
<i>Hydroptila</i>	13	0.2	<i>Oecetis</i>	15	0.6
<i>Nectopsyche</i>	53	0.9	<i>Chimarra</i>	25	1.1
<i>Oecetis</i>	13	0.2	<i>Polycentropus</i>	5	0.2
Limnephilidae	53	0.9			
<i>Chimarra</i>	160	2.7			
<i>Polycentropus</i>	27	0.4			
<b>COLEOPTERA</b>			<b>COLEOPTERA</b>		
<i>Coptotomus</i>	13	0.2	<i>Dubiraphia</i>	35	1.5
<i>Dubiraphia</i>	226	3.8	<i>Microcylloepus</i>	205	8.9
<i>Microcylloepus</i>	572	9.6	<i>Stenelmis</i>	20	0.9
<i>Stenelmis</i>	279	4.7			
<i>Ochthebius</i>	133	2.2			
<i>Berosus</i>	27	0.4			
<b>DIPTERA</b>			<b>DIPTERA</b>		
Ceratopogoninae	27	0.4	<i>Simulium</i>	280	12.1
<i>Simulium</i>	186	3.1			
<b>CHIRONOMIDAE</b>			<b>CHIRONOMIDAE</b>		
<i>Chironomidae-pupae</i>	53	0.9	<i>Chironomidae-pupae</i>	35	1.5
<i>Cricotopus/Orthocladius</i>	67	1.1	<i>Cricotopus (Isocladius) Sylvestris Group</i>	5	0.2
<i>Cricotopus Trifascia Group</i>	333	5.6	<i>Cricotopus Trifascia Group</i>	105	4.5
<i>Dicrotendipes</i>	27	0.4	<i>Parakiefferiella</i>	5	0.2
<i>Limnophyes</i>	13	0.2	<i>Rheotanytarsus</i>	5	0.2
<i>Parakiefferiella</i>	279	4.7	<i>Thienemannimyia Complex</i>	5	0.2
<i>Polypedilum</i>	13	0.2			
<i>Rheocricotopus</i>	13	0.2			
<i>Thienemannimyia Complex</i>	173	2.9			
Total number of taxon	42		Total number of taxon	33	
Total number of organisms	5,958		Total number of organisms	2,315	
Hilsenhoff biotic index	6		Organisms per m <sup>2</sup>	1,852	
EPT abundance	2,194		Hilsenhoff biotic index	5.53	
Number of EPT taxon	14		EPT abundance	1,505	
			Number of EPT taxon	14	
			EPT per m <sup>2</sup>	1,204	

ALGAE SAMPLES  
SEPTEMBER 24, 2003

Richest targeted habitat sample Sample method--Top rock scrape			Depositional targeted habitat sample Sample method--Inverted petri dish		
Organism	Percent of composition	Cell density cells/mm <sup>2</sup>	Organism	Percent of composition	Cell density cells/mm <sup>2</sup>
<b>BACILLARIOPHYTA</b>			<b>BACILLARIOPHYTA</b>		
<i>Achnanthyrium minutissimum</i>	4.46	87.8	<i>Achnanthes delicatula</i>	0.20	0.28
<i>Amphipleura pellucida</i>	3.32	65.4	<i>Achnanthyrium minutissimum</i>	2.04	2.78
<i>Amphora inariensis</i>	0.41	8.17	<i>Amphipleura pellucida</i>	1.12	1.53
<i>Amphora pediculus</i>	0.41	8.17	<i>Amphora inariensis</i>	0.31	0.42
<i>Cocconeis pediculus</i>	1.55	30.6	<i>Asterionella formosa</i>	0.41	0.56
<i>Cocconeis placentula</i>	3.01	59.2	<i>Bacillaria paradoxa</i>	0.51	0.70
<i>Cymbella excisa</i>	6.74	133	<i>Biremis circumtexta</i>	0.20	0.28
<i>Cymbella tumida</i>	0.21	4.09	<i>Cocconeis pediculus</i>	2.96	4.03
<i>Diatoma mesodon</i>	0.10	2.04	<i>Cocconeis placentula</i>	6.34	8.62
<i>Diatoma moniliformis</i>	1.66	32.7	<i>Cratichia cuspidata</i>	0.10	0.14
<i>Diatoma vulgare</i>	0.21	4.09	<i>Cyclotella meneghiniana</i>	0.61	0.83
<i>Diploneis puella</i>	0.21	4.09	<i>Cymbella excisa</i>	0.82	1.11
<i>Encyonema auerswaldii</i>	0.10	2.04	<i>Cymbella tumida</i>	0.20	0.28
<i>Epithemia adnata</i>	0.21	4.09	<i>Diatoma vulgare</i>	0.31	0.42
<i>Epithemia sorex</i>	3.63	71.5	<i>Diploneis puella</i>	0.10	0.14
<i>Gomphonema apiculatum</i>	0.21	4.09	<i>Epithemia adnata</i>	0.20	0.28
<i>Gomphonema olivaceum</i>	0.62	12.3	<i>Epithemia sorex</i>	1.33	1.81
<i>Gomphonema parvulum</i>	0.73	14.3	<i>Fragilaria atomus</i>	0.20	0.28
<i>Gomphonema pumilum</i>	0.83	16.3	<i>Fragilaria vaucheriae</i>	0.41	0.56
<i>Karayevia clevei</i>	0.21	4.09	<i>Gomphonema olivaceum</i>	0.51	0.70
<i>Melosira varians</i>	0.73	14.3	<i>Gomphonema parvulum</i>	0.82	1.11
<i>Gomphonema pumilum</i>	0.83	16.3	<i>Fragilaria vaucheriae</i>	0.41	0.56
<i>Karayevia clevei</i>	0.21	4.09	<i>Gomphonema olivaceum</i>	0.51	0.70
<i>Melosira varians</i>	0.73	14.3	<i>Gomphonema parvulum</i>	0.82	1.11
<i>Navicula amphiceropsis</i>	0.10	2.04	<i>Gomphonema pumilum</i>	1.33	1.81
<i>Navicula canalis</i>	0.52	10.2	<i>Gyrosigma acuminatum</i>	0.10	0.14
<i>Navicula capitatoradiata</i>	0.83	16.3	<i>Hannaea arcus</i>	0.20	0.28
<i>Navicula caterva</i>	0.21	4.09	<i>Hippodonta hungarica</i>	0.20	0.28
<i>Navicula erifuga</i>	0.21	4.09	<i>Karayevia clevei</i>	0.10	0.14
<i>Navicula germanii</i>	0.41	8.17	<i>Melosira varians</i>	0.82	1.11
<i>Navicula gregaria</i>	0.62	12.3	<i>Navicula amphiceropsis</i>	1.43	1.95
<i>Navicula lanceolata</i>	0.21	4.09	<i>Navicula antonii</i>	0.20	0.28
<i>Navicula minima</i>	0.62	12.3	<i>Navicula canalis</i>	2.25	3.06
<i>Navicula recens</i>	0.31	6.13	<i>Navicula capitatoradiata</i>	2.15	2.92
<i>Navicula reichardtiana</i>	1.87	36.8	<i>Navicula erifuga</i>	0.41	0.56
<i>Navicula salinicola</i>	0.10	2.04	<i>Navicula germanii</i>	5.21	7.09
<i>Navicula symmetrica</i>	0.73	14.3	<i>Navicula gregaria</i>	0.41	0.56
<i>Navicula tripunctata</i>	0.41	8.17	<i>Navicula halophila</i>	0.20	0.28
<i>Navicula veneta</i>	0.10	2.04	<i>Navicula kotschy</i>	0.61	0.83
<i>Nitzschia agnita</i>	5.28	104	<i>Navicula krasskei</i>	0.20	0.28
<i>Nitzschia angustata</i>	0.21	4.09	<i>Navicula lanceolata</i>	1.12	1.53
<i>Nitzschia dissipata</i>	6.74	133	<i>Navicula libonensis</i>	0.20	0.28
<i>Nitzschia frustulum</i>	5.80	114	<i>Navicula minima</i>	0.61	0.83
<i>Nitzschia graciliformis</i>	2.28	44.9	<i>Navicula pseudanglica</i>	0.20	0.28
<i>Nitzschia inconspicua</i>	0.21	4.09	<i>Navicula radiosa</i>	0.20	0.28
<i>Nitzschia microcephala</i>	0.21	4.09	<i>Navicula reichardtiana</i>	2.86	3.89
<i>Nitzschia palea</i>	6.32	125	<i>Navicula salinicola</i>	1.02	1.39
<i>Nitzschia pusilla</i>	0.21	4.09	<i>Navicula sp.</i>	0.10	0.14
<i>Nitzschia reversa</i>	0.41	8.17	<i>Navicula symmetrica</i>	0.92	1.25
<i>Nitzschia sociabilis</i>	1.04	20.4	<i>Navicula tripunctata</i>	0.51	0.70
<i>Nitzschia supralitorea</i>	0.21	4.09	<i>Navicula veneta</i>	0.82	1.11
<i>Planothidium dubium</i>	0.21	4.09	<i>Navicula viridula</i>	0.10	0.14
<i>Planothidium lanceolatum</i>	0.10	2.04	<i>Navicula weinzierlii</i>	0.20	0.28
<i>Pleurosigma delicatulum</i>	0.10	2.04	<i>Nitzschia acicularis</i>	1.33	1.81
<i>Reimeria sinuata</i>	0.41	8.17	<i>Nitzschia agnita</i>	4.39	5.98
<i>Rhoicosphenia abbreviata</i>	0.52	10.2	<i>Nitzschia angustatula</i>	0.10	0.14
<i>Simonsenia delognei</i>	0.41	8.17	<i>Nitzschia aurariae</i>	0.20	0.28
<i>Staurosira construens</i>	1.35	26.6	<i>Nitzschia dissipata</i>	2.04	2.78
<i>Staurosirella leptostauron</i>	0.52	10.2	<i>Nitzschia frustulum</i>	6.34	8.62
<i>Stephanodiscus hantzschii</i>	0.21	4.09	<i>Nitzschia graciliformis</i>	1.74	2.36
<i>Surirella minuta</i>	0.41	8.17	<i>Nitzschia heufleriana</i>	0.10	0.14
<i>Surirella ovalis</i>	0.21	4.09	<i>Nitzschia palea</i>	7.25	9.87
<i>Synedra acus</i>	1.55	30.6	<i>Nitzschia reversa</i>	2.04	2.78
<i>Synedra ulna</i>	2.80	55.1	<i>Nitzschia sp.</i>	0.41	0.56
			<i>Nitzschia supralitorea</i>	0.61	0.83
			<i>Nitzschia vermicularis</i>	0.41	0.56
			<i>Planothidium dubium</i>	0.20	0.28
			<i>Planothidium lanceolatum</i>	0.51	0.70
			<i>Pleurosigma delicatulum</i>	0.92	1.25
			<i>Reimeria sinuata</i>	0.72	0.97
			<i>Rhoicosphenia abbreviata</i>	1.12	1.53
			<i>Rhopalodia gibba</i>	0.20	0.28
			<i>Rhopalodia operculata</i>	0.20	0.28
			<i>Simonsenia delognei</i>	0.20	0.28
			<i>Staurosira construens</i>	1.84	2.50
<b>CHLOROPHYTA</b>					
<i>Ankistrodesmus sp.</i>	0.22	4.33			
<i>Mougeotia sp.</i>	0.22	4.33			
<i>Scenedesmus sp.</i>	0.44	8.66			
<b>CYANOPHYTA</b>					
<i>Anabaena sp.</i>	7.03	139			
<i>Oscillatoria sp.</i>	17.6	347			
Total algae cells/mm <sup>2</sup>		1,971			

06306300 TONGUE RIVER AT STATE LINE, NEAR DECKER, MT—Continued

## ALGAE SAMPLES--CONTINUED

Depositional targeted habitat sample Sample method--Inverted petri dish		
Organism	Percent of composition	Cell density cells/mm <sup>2</sup>
<b>BACILLARIOPHYTA--Continued</b>		
<i>Stausosirella leptostauron</i>	0.41	0.56
<i>Stausosirella pinnata</i>	0.31	0.42
<i>Surirella angusta</i>	0.20	0.28
<i>Surirella brebissonii</i>	0.10	0.14
<i>Surirella minuta</i>	0.61	0.83
<i>Surirella ovalis</i>	0.61	0.83
<i>Synedra acus</i>	0.20	0.28
<i>Synedra rumpens</i>	0.20	0.28
<i>Synedra ulna</i>	0.41	0.56
<i>Thalassiosira pseudonana</i>	0.10	0.14
<i>Thalassiosira weissflogii</i>	0.20	0.28
<i>Tryblionella apiculata</i>	0.41	0.56
<i>Tryblionella calida</i>	0.31	0.42
<i>Tryblionella hungarica</i>	0.20	0.28
unknown genus	0.20	0.28
<b>CHLOROPHYTA</b>		
<i>Mougeotia sp.</i>	0.28	0.38
<b>CYANOPHYTA</b>		
<i>Chroococcus sp.</i>	1.12	1.5
<i>Oscillatoria sp.</i>	16.8	22.8
Total algae cells/mm <sup>2</sup>		136



## YELLOWSTONE RIVER BASIN

## 06307000 TONGUE RIVER RESERVOIR NEAR DECKER, MT

LOCATION.--Lat 45°07'48", long 106°46'13" (NAD 27), in SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec.13, T.8 W., R.40 E., Big Horn County, Hydrologic Unit 10090101, at dam on Tongue River, 4 mi upstream from Post Creek, 7 mi northeast of Decker, and at river mile 189.1.

DRAINAGE AREA.--1,770 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1938 to current year. Record prior to September 1939, published only in WSP 1309 and those for January, February 1956, published only in WSP 1729.

GAGE.--Nonrecording gage read most days. Elevation of gage is 3,374.40 ft (NGVD29) (levels by Bureau of Reclamation) New capacity table effective September 1, 1996.

REMARKS.--Reservoir is formed by earthfill dam with concrete spillway completed in May 1939. Total capacity, 79,070 acre-ft between elevation 3,374.4 ft, bottom of outlet, and 3,428.4 ft, spillway crest. Prior to October 1947, usable contents was 73,950 acre-ft at same elevations, due to sedimentation study. Dead storage, 711 acre-ft below elevation, 3,374.4 ft. Figures given herein represent usable contents. Water is used for irrigation. Records furnished by Montana Department of Natural Resources and Conservation.

REVISED RECORDS.--WSP 1309: 1947-50. WSP 1729: 1951, drainage area.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 79,500 acre-ft, June 21, 1999 and June 30, 2003, elevation, 3,428.70 ft; no storage October 1939 to February 1940.

EXTREMES FOR CURRENT YEAR.--Maximum monthend contents, 48,970 acre-ft, Apr. 30, elevation, 3,419.30 ft; minimum monthend contents, 26,620 acre-ft, Aug. 31 and Sept. 30, elevation, 3,409.30 ft.

## MONTHEND ELEVATION AND CONTENTS AT 2400 HOURS, SEPTEMBER 2003 TO SEPTEMBER 2004

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)
September 30	3,415.40	39,050	--
October 31	3,416.30	41,160	+2,110
November 30	3,417.10	43,240	+2,080
December 31	3,417.80	45,070	+1,830
Calendar Year 2003	--	--	+14,360
January 31	3,417.80	45,070	0
February 29	3,418.20	46,110	+1,040
March 31	3,419.20	48,710	+2,600
April 30	3,419.30	48,970	+260
May 31	3,418.00	45,580	-3,390
June 30	3,416.70	42,200	-3,380
July 31	3,413.80	35,500	-6,700
August 31	3,409.30	26,620	-8,880
September 30	3,409.30	26,620	0
Water Year 2004	--	--	-12,430

## 06307500 TONGUE RIVER AT TONGUE RIVER DAM, NEAR DECKER, MT

LOCATION.--Lat 45°08'29", long 106°46'15" (NAD 27), in SW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.12, T.8 S., R.40 E., Big Horn County, Hydrologic Unit 10090101, on left bank 0.5 mi downstream from Tongue River Dam, 4 mi upstream from Post Creek, 8 mi northeast of Decker, 16 mi southeast of Kirby, and at river mile 188.4.

DRAINAGE AREA.--1,770 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1939 to current year.

REVISED RECORDS.--WSP 1729: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,344.40 ft (NGVD 29) (levels by Bureau of Reclamation). Prior to Aug. 5, 1975, at elevation 10.00 ft lower.

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, combined capacity, about 15,000 acre-ft. Diversion for irrigation of about 64,800 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	157	106	114	116	118	114	175	175	199	e270	e275	e135
2	132	107	114	116	118	114	175	175	199	e270	e265	e135
3	126	107	113	116	118	114	175	175	200	e270	e270	e140
4	122	107	114	117	118	114	175	198	198	e270	e275	e140
5	117	107	116	118	118	112	175	227	198	e280	e270	e135
6	114	108	116	118	118	111	175	227	198	e280	e275	e125
7	111	110	116	118	118	111	163	243	198	e270	e275	e120
8	109	110	116	118	118	111	154	255	197	e260	e270	e120
9	110	110	116	118	117	111	154	255	208	e260	e260	e120
10	109	110	116	118	116	112	155	255	263	e260	e250	e120
11	109	111	116	118	116	111	156	255	260	e255	e245	e115
12	108	112	115	118	116	111	156	255	247	e255	e235	e115
13	108	112	114	118	116	111	156	255	248	e255	e230	e115
14	108	112	114	118	116	111	156	257	246	e270	e225	e115
15	107	112	115	120	116	111	156	259	247	e270	e225	e125
16	105	114	116	120	116	111	156	259	244	e275	e220	e120
17	103	110	116	120	115	110	156	260	245	e275	e220	110
18	104	101	116	120	114	140	156	254	246	e270	e230	105
19	105	99	116	120	114	175	156	230	245	e275	e230	102
20	104	99	116	120	114	175	157	234	228	e275	e230	98
21	103	99	116	120	114	175	158	237	214	e280	e230	95
22	103	103	115	120	114	175	159	227	216	e290	e230	93
23	105	110	116	120	114	175	158	220	226	e300	e240	91
24	105	112	115	119	114	175	158	223	232	e300	e210	91
25	103	112	116	118	114	175	156	228	238	e300	e190	91
26	103	112	116	119	113	174	159	239	248	e295	e170	92
27	103	113	116	120	113	175	175	236	249	e290	e160	91
28	105	114	117	120	114	175	176	236	262	e285	e150	91
29	106	114	117	120	114	175	175	203	e260	e280	e140	92
30	106	114	116	120	---	175	175	201	e270	e275	e140	92
31	106	---	116	120	---	175	---	199	---	e275	e135	---
TOTAL	3,416	3,267	3,581	3,681	3,354	4,314	4,886	7,152	6,929	8,535	6,970	3,329
MEAN	110	109	116	119	116	139	163	231	231	275	225	111
MAX	157	114	117	120	118	175	176	260	270	300	275	140
MIN	103	99	113	116	113	110	154	175	197	255	135	91
AC-FT	6,780	6,480	7,100	7,300	6,650	8,560	9,690	14,190	13,740	16,930	13,820	6,600

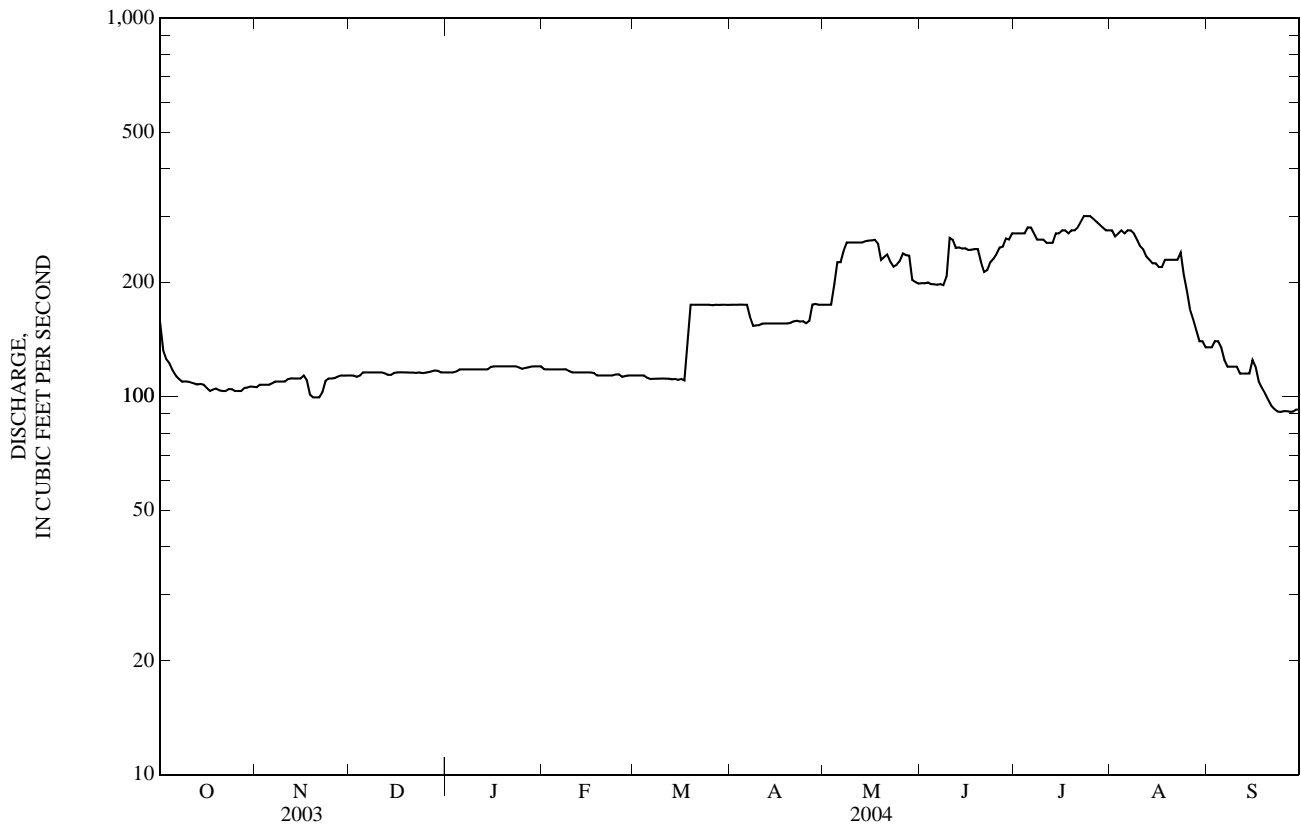
## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2004, BY WATER YEAR (WY)

MEAN	269	250	185	171	177	221	356	888	1,408	565	360	304
MAX	665	554	369	287	592	676	958	2,714	3,824	2,083	767	775
(WY)	(1946)	(1942)	(1979)	(1983)	(1971)	(1971)	(1965)	(1978)	(1944)	(1975)	(1975)	(1998)
MIN	71.1	40.6	61.7	79.9	56.9	22.7	14.9	157	183	169	103	107
(WY)	(1989)	(1976)	(1989)	(1961)	(1961)	(1961)	(1940)	(2002)	(2001)	(1956)	(1943)	(2001)

06307500 TONGUE RIVER AT TONGUE RIVER DAM, NEAR DECKER, MT—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1939 - 2004	
ANNUAL TOTAL	113,451		59,414			
ANNUAL MEAN	311		162		431	
HIGHEST ANNUAL MEAN					853	1978
LOWEST ANNUAL MEAN					133	2002
HIGHEST DAILY MEAN	2,220	Jun 3	300	Jul 23	9,580	May 20, 1978
LOWEST DAILY MEAN	85	Feb 6	91	Sep 23	0.50	Apr 17, 1940
ANNUAL SEVEN-DAY MINIMUM	85	Feb 6	91	Sep 23	0.50	Apr 17, 1940
MAXIMUM PEAK FLOW			a300	Jul 23	10,800	May 20, 1978
MAXIMUM PEAK STAGE			b11.71	Jul 13	c20.00	May 20, 1978
INSTANTANEOUS LOW FLOW					d0.00	Nov 12, 1969
ANNUAL RUNOFF (AC-FT)	225,000		117,800		312,100	
10 PERCENT EXCEEDS	763		261		889	
50 PERCENT EXCEEDS	116		120		250	
90 PERCENT EXCEEDS	86		107		111	

a--Gage height, 11.62 ft. Owing to algae affect, discharge may have been higher.  
 b--Backwater from ice.  
 c--From floodmark in well.  
 d--Result of dam closure.  
 e--Estimated.



WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 151. 1976 to 1995, January 2004 to September 2004.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1980 to December 1986, May 2004 to September 2004 (seasonal operation).

INSTRUMENTATION.--Specific conductance probe installed May 2004.

REMARKS.--Specific conductance record is rated good. Missing data for May 5-20, July 12, 13, Aug. 29, and Sept. 9, 21 due to equipment problems.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 713 microsiemens per centimeter ( $\mu\text{S}/\text{cm}$ ) at 25.0°C, Sept. 27, 2004; minimum daily, 230  $\mu\text{S}/\text{cm}$  at 25.0°C, July 1, 1983.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: During seasonal operation, maximum daily, 713 microsiemens per centimeter ( $\mu\text{S}/\text{cm}$ ) at 25.0°C, Sept. 27; minimum daily, 591  $\mu\text{S}/\text{cm}$  at 25.0°C, Aug. 13.

## 06307500 TONGUE RIVER AT TONGUE RIVER DAM, NEAR DECKER, MT—Continued

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

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, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
JAN													
20...	1100	120	679	12.9	111	8.2	713	7.5	4.0	330	68.2	39.0	3.23
FEB													
04...	1430	118	672	13.4	118	8.2	705	6.0	4.5	310	64.9	36.9	3.39
23...	1445	114	671	13.1	117	8.1	715	10.5	5.0	320	65.9	38.0	3.29
MAR													
09...	1500	112	671	11.7	104	8.4	700	19.5	5.0	320	65.6	36.6	3.40
22...	1630	175	673	11.5	101	8.3	676	17.5	4.5	300	62.7	35.1	3.50
APR													
13...	1600	153	672	11.4	114	8.4	766	25.0	9.5	300	61.0	35.1	3.20
26...	1500	156	681	11.8	124	8.6	653	23.0	12.5	290	59.1	33.5	3.33
MAY													
12...	1815	255	683	10.8	111	8.5	650	5.0	11.5	290	57.9	34.1	3.29
26...	1300	240	666	10.8	120	8.5	650	22.0	14.0	300	59.8	35.5	3.42
JUN													
09...	1415	198	672	10.4	121	8.5	646	22.0	16.5	280	55.7	33.7	3.21
22...	1430	210	676	12.1	142	8.5	634	30.0	17.0	270	55.7	32.5	3.13
JUL													
13...	1515	E255	676	11.3	139	8.4	629	33.0	19.5	240	48.9	29.6	3.00
27...	1245	E290	677	10.7	134	8.4	607	26.5	20.5	250	50.6	29.5	3.02
AUG													
17...	1305	E220	679	10.6	135	8.5	598	29.0	21.5	250	47.7	31.6	3.42
23...	1630	E240	667	9.9	130	8.8	593	26.5	22.0	250	45.9	31.8	3.47
SEP													
14...	1500	E115	671	9.9	121	8.5	665	16.0	18.5	280	52.0	36.5	3.87
27...	1230	92	686	8.9	100	8.3	693	12.0	15.5	280	50.7	36.9	3.56

Date	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, water, 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)	Suspended sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
JAN													
20...	.8	35.1	252	4.84	.3	5.73	138	446	.61	144	75	21	6.8
FEB													
04...	.9	37.0	210	4.98	.3	5.10	141	421	.57	134	77	7	2.2
23...	.8	33.4	237	4.63	.3	5.09	144	437	.59	134	67	1	.31
MAR													
09...	.9	36.7	223	4.67	.3	4.54	143	429	.58	130	82	2	.60
22...	.9	35.5	217	4.77	.3	3.81	140	416	.57	196	74	28	13
APR													
13...	.9	35.8	216	4.70	.3	3.85	131	405	.55	167	68	16	6.6
26...	.9	33.4	216	4.81	.3	3.55	135	403	.55	170	67	3	1.3
MAY													
12...	.9	33.4	217	4.75	.3	3.19	134	402	.55	276	40	15	10
26...	.9	35.8	209	4.88	.3	1.02	136	402	.55	261	42	16	10
JUN													
09...	.9	35.4	212	4.68	.3	1.04	132	393	.54	210	56	8	4.3
22...	.9	34.9	209	4.67	.3	1.51	130	388	.53	220	79	5	2.8
JUL													
13...	.9	33.6	201	4.26	.3	1.65	127	369	.50	E254	81	4	E2.8
27...	.9	31.2	202	3.98	.3	3.28	118	362	.49	E283	81	4	E3.1
AUG													
17...	.9	32.8	195	3.98	.3	4.74	123	364	.50	E216	90	5	E3.0
23...	.9	33.6	192	3.51	.3	4.30	127	366	.50	E237	84	5	E3.2
SEP													
14...	1	40.3	204	3.87	.3	5.97	150	416	.57	E129	88	4	E2.6
27...	1	45.4	210	4.04	.3	4.36	162	433	.59	107	88	10	2.5

E--Estimated.

## 06307500 TONGUE RIVER AT TONGUE RIVER DAM, NEAR DECKER, MT—Continued

## WATER-QUALITY DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004—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)	Total nitro- gen, water, unfltrd 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)
FEB 04...	1430	.111	.047	.006	.40	.010	.025	<2	7	.9	E1	58	59
MAR 09...	1500	.017	.058	E.001	.32	.006	.020	<2	5	.9	E1	52	55
APR 13...	1600	.012	E.008	E.001	.32	<.006	.017	<2	20	.9	<2	55	56
APR 26...	1500	.013	E.010	E.001	.33	<.006	.013	<2	25	.9	<2	53	55
MAY 12...	1815	E.009	E.014	.003	.27	E.003	.017	<2	30	.9	<2	55	54
MAY 26...	1300	E.009	<.016	E.001	.28	E.003	.017	E1	26	.9	<2	55	56
JUN 09...	1415	E.009	<.016	E.001	.24	E.003	.019	<2	16	.9	E1	59	55
JUN 22...	1430	.015	<.016	<.002	.29	.007	.024	<2	25	.9	E1	61	59
JUL 27...	1245	.067	<.016	E.001	.39	.023	.053	E1	40	1.5	E2	57	61
AUG 23...	1630	.025	E.009	.002	.47	.007	.043	E1	31	1.7	E2	51	52

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)
FEB 04...	<.06	<.06	67	<.04	<.04	2	1.3	3.0	<6	20	<.08	E.04	21.7
MAR 09...	<.06	<.06	70	<.04	<.04	<1	1.7	1.6	<6	20	<.08	<.06	24.0
APR 13...	<.06	<.06	66	<.04	<.04	<1	1.2	1.3	<6	40	<.08	E.03	19.7
APR 26...	<.06	<.06	65	<.04	<.04	<1	1.5	1.5	E5	40	<.08	.07	18.5
MAY 12...	<.06	<.06	70	<.04	<.04	4	1.3	1.5	10	50	<.08	E.05	18.3
MAY 26...	<.06	<.06	66	<.04	<.04	5	1.7	2.8	E3	40	<.08	E.05	22.2
JUN 09...	<.06	<.06	62	<.04	<.04	<1	1.6	2.2	<6	40	E.06	E.03	18.0
JUN 22...	<.06	<.06	61	<.04	<.04	1	1.6	1.4	7	50	<.08	E.05	17.9
JUL 27...	<.06	<.06	58	<.04	<.04	<1	1.7	2.4	E4	80	E.05	.10	19.2
AUG 23...	<.06	<.06	68	<.04	<.04	<1	1.6	1.8	<6	60	<.08	.14	20.0

E--Estimated.

## 06307500 TONGUE RIVER AT TONGUE RIVER DAM, NEAR DECKER, MT—Continued

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

Date	Mangan- ese, water, fltrd, ug/L (01056)	Mangan- ese, water, unfltrd recover- able, ug/L (01055)	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)
FEB 04...	26.7	54	<.02	1.74	2.71	.4	.4	518	1.2	E1
MAR 09...	22.3	35	<.02	2.71	2.50	.5	.5	525	1.3	E1
APR 13...	2.5	26	<.02	1.65	2.09	.5	.5	519	E.5	E1
26...	5.6	17	<.02	1.75	2.89	.5	.6	504	1.1	<2
MAY 12...	12.2	41	<.02	.82	2.68	.6	.4	479	2.2	3
26...	19.9	37	<.02	2.68	3.12	.6	.4	492	1.3	E1
JUN 09...	4.9	23	<.02	1.49	2.92	.4	.5	487	1.3	3
22...	7.0	45	<.02	1.91	2.22	E.4	E.4	456	.7	<2
JUL 27...	101	137	<.02	1.54	2.55	.5	.7	418	.9	E1
AUG 23...	17.8	37	<.02	1.75	2.39	.7	.7	446	.7	E1

E--Estimated.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS  
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	MAY			JUNE			JULY			AUGUST		
1	663	656	659	649	642	646	632	619	625	606	601	603
2	662	650	659	648	642	646	635	621	627	610	598	603
3	663	656	660	648	643	646	632	622	626	611	601	604
4	663	657	659	648	643	646	631	618	625	605	596	601
5	---	---	*652	648	643	645	627	614	622	606	597	602
6	---	---	---	651	644	647	626	618	622	605	598	601
7	---	---	---	649	641	645	627	619	624	607	596	602
8	---	---	---	648	642	645	626	617	622	610	601	605
9	---	---	---	648	638	643	625	617	621	609	597	603
10	---	---	---	647	638	642	624	618	621	605	597	601
11	---	---	---	646	635	640	624	616	620	604	594	600
12	---	---	---	641	635	638	---	---	*630	602	594	598
13	---	---	*650	642	636	638	---	---	---	602	591	597
14	---	---	---	640	631	635	626	613	622	605	595	600
15	---	---	---	640	633	636	623	614	619	608	596	604
16	---	---	---	639	629	634	620	613	618	610	598	605
17	---	---	---	637	630	634	619	606	615	616	598	606
18	---	---	*654	637	621	632	619	607	615	617	610	612
19	---	---	*651	634	624	629	619	602	613	617	606	611
20	686	648	661	638	628	632	621	605	611	615	607	611
21	669	645	656	639	625	633	620	598	609	614	608	611
22	---	---	---	636	623	631	616	596	608	616	608	612
23	658	645	652	635	625	630	616	595	609	614	604	610
24	658	647	652	637	625	632	612	595	606	616	610	614
25	653	648	650	635	623	631	615	596	606	616	610	613
26	652	647	650	638	625	632	612	594	606	617	606	612
27	651	648	650	638	624	631	608	599	605	617	613	615
28	651	648	649	635	621	629	606	599	603	617	609	612
29	654	648	651	631	622	627	608	600	604	---	---	---
30	651	646	649	631	623	628	606	597	602	652	636	642
31	650	645	648	---	---	---	607	596	603	648	636	641
MONTH	686	645	654	651	621	637	635	594	615	652	591	608

\*--Instantaneous value from USGS sample.

06307500 TONGUE RIVER AT TONGUE RIVER DAM, NEAR DECKER, MT—Continued

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS--CONTINUED  
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN
SEPTEMBER			
1	650	639	645
2	654	633	647
3	658	630	648
4	656	639	646
5	653	638	643
6	646	636	640
7	645	635	639
8	646	638	641
9	---	---	---
10	664	648	654
11	673	655	662
12	672	656	664
13	673	644	656
14	681	645	659
15	673	656	662
16	664	656	661
17	664	657	661
18	664	659	662
19	680	663	667
20	681	669	674
21	---	---	---
22	677	670	674
23	677	669	673
24	693	675	681
25	698	682	689
26	709	694	700
27	713	700	708
28	712	688	698
29	706	696	700
30	708	686	699
31	---	---	---
MONTH	713	630	666

## 06307600 HANGING WOMAN CREEK NEAR BIRNEY, MT

LOCATION (REVISED).--Lat 45°17'44", long 106°30'12" (NAD 27), in NW $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.19, T.6 S., R.43 E., Rosebud County, Hydrologic Unit 10090101, on right bank immediately downstream from bridge on Birney-Otter Road, 0.7 mi downstream from East Fork, 1.9 mi south of Birney, and at river mile 3.8.

DRAINAGE AREA.--470 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1973 to September 1984, October 1985 to September 1995, October 2003 to September 2004.

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 good except those for estimated daily discharges and those above 1 ft<sup>3</sup>/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 2003 TO SEPTEMBER 2004  
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e0.02	0.09	e0.08	e0.03	e0.03	e0.08	0.27	0.21	0.20	0.09	0.00	0.00
2	e0.02	0.09	e0.08	e0.03	e0.04	e0.08	0.25	0.20	0.20	0.06	0.00	0.00
3	e0.02	0.10	e0.08	e0.03	e0.04	e0.08	0.27	0.21	0.19	0.05	0.00	0.00
4	e0.02	0.10	e0.08	e0.03	e0.04	e0.08	0.26	0.21	0.19	0.05	0.00	0.00
5	e0.02	0.08	e0.08	e0.03	e0.04	e0.08	0.28	0.22	0.19	0.63	0.23	0.00
6	e0.02	0.07	e0.08	e0.03	e0.04	e0.08	0.27	0.21	0.17	0.67	19	0.00
7	e0.02	0.08	e0.08	e0.03	e0.04	e0.08	0.28	0.21	0.15	0.16	0.36	0.00
8	e0.02	0.07	e0.08	e0.03	e0.04	e0.09	0.26	0.21	0.15	0.07	0.06	0.00
9	e0.02	0.08	e0.08	e0.03	e0.04	e0.09	0.25	0.22	0.15	0.06	0.04	0.00
10	e0.02	0.08	e0.08	e0.03	e0.04	e0.09	0.23	0.22	0.14	0.07	0.04	0.00
11	e0.02	0.09	e0.08	e0.03	e0.04	e0.10	0.23	0.21	0.15	0.06	0.03	0.00
12	e0.02	0.11	e0.08	e0.03	e0.04	e0.10	0.23	0.20	0.16	0.05	0.03	0.00
13	e0.02	0.11	e0.06	e0.03	e0.05	e0.10	0.23	0.21	0.17	0.04	0.02	0.00
14	e0.02	0.12	e0.03	e0.03	e0.05	e0.10	0.23	0.22	0.17	0.03	0.02	0.00
15	e0.02	0.12	e0.03	e0.03	e0.05	e0.10	0.24	0.20	0.14	0.01	0.01	0.00
16	e0.03	0.12	e0.03	e0.03	e0.05	e0.10	0.22	0.22	0.13	0.02	0.00	0.00
17	e0.03	0.12	e0.03	e0.03	e0.05	e0.20	0.22	0.25	0.12	0.03	0.00	0.00
18	e0.03	0.12	e0.03	e0.03	e0.06	e0.20	0.22	0.25	0.14	0.00	0.00	0.00
19	e0.03	0.13	e0.03	e0.03	e0.06	e0.20	0.21	0.31	0.13	0.00	0.00	0.00
20	e0.03	0.12	e0.03	e0.03	e0.06	e0.20	0.22	0.30	0.11	0.00	0.00	0.00
21	e0.03	e0.10	e0.03	e0.03	e0.06	e0.20	0.36	0.47	0.10	0.00	0.00	0.00
22	e0.03	e0.10	e0.03	e0.03	e0.06	e0.20	0.35	2.4	0.10	0.00	0.00	0.02
23	e0.03	e0.10	e0.03	e0.03	e0.07	e0.20	0.28	1.6	0.10	0.00	0.00	0.02
24	e0.03	e0.10	e0.03	e0.03	e0.07	e0.20	0.24	0.76	0.10	0.00	0.00	0.02
25	e0.03	e0.10	e0.03	e0.03	e0.07	e0.30	0.21	0.53	0.08	0.00	0.00	0.02
26	e0.04	e0.10	e0.03	e0.03	e0.07	e0.30	0.20	0.42	0.09	0.00	0.00	0.02
27	e0.05	e0.10	e0.03	e0.03	e0.08	e0.30	0.20	0.38	0.08	0.00	0.00	0.02
28	e0.06	e0.10	e0.03	e0.03	e0.08	e0.30	0.21	0.34	0.07	0.00	0.00	0.03
29	e0.07	e0.09	e0.03	e0.03	e0.08	e0.30	0.21	0.31	0.06	0.00	0.00	0.02
30	0.08	e0.08	e0.03	e0.03	---	e0.30	0.21	0.26	0.06	0.00	0.00	0.02
31	0.09	---	e0.03	e0.03	---	0.30	---	0.22	---	0.00	0.00	---
TOTAL	0.99	2.97	1.56	0.93	1.54	5.13	7.34	12.18	3.99	2.15	19.84	0.19
MEAN	0.03	0.10	0.05	0.03	0.05	0.17	0.24	0.39	0.13	0.07	0.64	0.01
MAX	0.09	0.13	0.08	0.03	0.08	0.30	0.36	2.4	0.20	0.67	19	0.03
MIN	0.02	0.07	0.03	0.03	0.03	0.08	0.20	0.20	0.06	0.00	0.00	0.00
AC-FT	2.0	5.9	3.1	1.8	3.1	10	15	24	7.9	4.3	39	0.4

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2004, BY WATER YEAR (WY)\*

MEAN	0.65	0.84	0.91	2.47	9.78	9.33	2.80	6.31	3.50	2.72	1.02	0.42
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)



SUMMARY STATISTICS	FOR 2004 WATER YEAR		WATER YEARS 1974 - 2004	
ANNUAL TOTAL	58.81			
ANNUAL MEAN	0.16		b3.37	
HIGHEST ANNUAL MEAN			13.6	1975
LOWEST ANNUAL MEAN			0.16	2004
HIGHEST DAILY MEAN	19	Aug 6	1,730	May 19, 1978
LOWEST DAILY MEAN	0.00	Jul 18	0.00	Aug 13, 1981
ANNUAL SEVEN-DAY MINIMUM	0.00	Jul 18	0.00	Aug 13, 1981
MAXIMUM PEAK FLOW	a77	Aug 6	2,060	May 19, 1978
MAXIMUM PEAK STAGE	2.56	Aug 6	c11.56	May 19, 1978
INSTANTANEOUS LOW FLOW	0.00	Jul 18		
ANNUAL RUNOFF (AC-FT)	117		2,440	
10 PERCENT EXCEEDS	0.25		4.0	
50 PERCENT EXCEEDS	0.06		0.79	
90 PERCENT EXCEEDS	0.00		0.03	

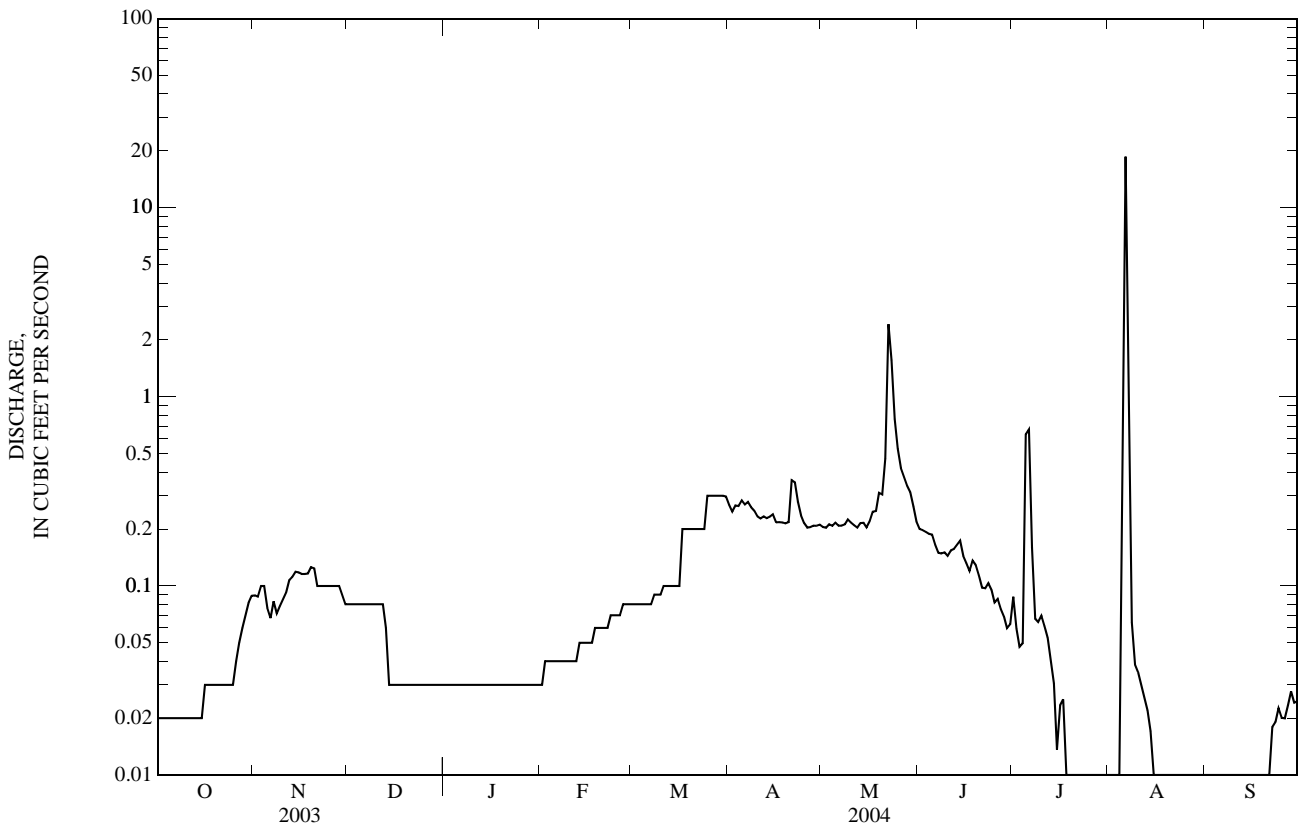
\*--During period of operation (September 1973 to September 1984, October 1985 to September 1995, October 2003 to current year).

a--From rating curve extended above 1.0 ft<sup>3</sup>/s.

b--Median of yearly mean discharge, 2.24 ft<sup>3</sup>/s, 1,620 acre-ft year.

c--From rating curve extended 360 ft<sup>3</sup>/s on basis of slope-area measurement of flow, site and datum then in use.

e--Estimated.



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, May 19, 2004 to July 16, 2004.

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

REMARKS.--Unable to collect water-quality samples from July through September due to no flow. Daily specific conductance record is rated fair. Specific conductance data not available for May 25-28, June 8-24 and July 17 through Sept. 30 due to low or no flow. Samples of aquatic insects and algae were collected to obtain baseline information on biological conditions.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily mean, 3,780 microsiemens per centimeter (μS/cm) at 25.0°C, July 3, 1986; minimum daily mean, 263 μS/cm at 25.0°C, Feb. 27, 1986.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily for seasonal operation, 3,070 microsiemens per centimeter (μS/cm) at 25.0°C, May 22; minimum daily mean, 1,270 μS/cm at 25.0°C, July 6.

## 06307600 HANGING WOMAN CREEK NEAR BIRNEY, MT—Continued

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

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, water unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
OCT													
06...	1430	E.02	678	13.7	162	8.5	1,650	23.0	17.5	570	76.4	93.1	12.9
NOV													
03...	1615	.10	677	10.8	85	8.2	1,880	-1.0	0.5	640	88.8	101	13.3
DEC													
04...	0915	E.08	693	7.4	56	7.6	2,370	-1.5	0.0	810	110	131	16.4
FEB													
05...	0845	E.04	686	11.9	92	7.8	3,410	-6.0	0.0	1,100	157	183	26.1
MAR													
10...	0900	E.09	688	7.1	54	8.0	2,000	-1.0	0.0	660	90.6	104	12.5
APR													
13...	1430	.25	677	11.6	124	8.1	2,720	25.0	12.5	730	98.2	118	14.7
26...	1330	.22	687	8.8	97	8.3	2,430	22.5	14.5	810	108	131	16.2
MAY													
12...	1630	.22	683	11.2	108	8.3	2,210	7.0	8.5	710	92.2	117	15.0
25...	1500	.54	679	9.7	110	8.2	2,570	18.0	15.5	780	98.3	129	19.8
JUN													
08...	1450	.14	685	10.9	140	8.5	1,880	22.0	22.0	680	77.4	119	15.8
22...	1700	.10	681	9.9	126	8.6	2,000	23.5	21.0	630	65.6	113	15.1

Date	Sodium adsorption ratio (00931)	Sodium water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, water fltrd 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, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, fltrd, tons/d (70302)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)
OCT													
06...	3	176	39	432	8.66	1.3	18.3	387	1,030	1.41	E.06	--	<.016
NOV													
03...	4	217	42	494	13.0	1.4	23.6	503	1,260	1.71	.34	--	<.016
DEC													
04...	5	313	45	477	13.4	1.3	21.1	825	1,720	2.33	E.37	--	.018
FEB													
05...	6	467	46	722	24.7	1.8	32.1	1,230	2,560	3.48	E.28	.184	.136
MAR													
10...	4	260	46	462	12.3	1.0	15.1	727	1,500	2.04	E.36	.012	<.016
APR													
13...	5	302	47	490	13.2	1.3	15.9	760	1,620	2.20	1.09	.012	<.016
26...	5	327	46	605	13.5	1.3	17.2	801	1,780	2.42	1.06	.010	<.016
MAY													
12...	5	285	46	582	11.8	1.4	17.6	677	1,570	2.13	.93	E.005	<.016
25...	5	341	48	525	14.9	1.1	11.9	957	1,890	2.57	2.76	<.010	<.016
JUN													
08...	5	303	48	543	11.6	1.3	9.98	720	1,590	2.16	.60	<.010	<.016
22...	5	268	47	527	9.76	1.3	7.57	589	1,390	1.89	.37	<.010	<.016

E--Estimated.

## 06307600 HANGING WOMAN CREEK NEAR BIRNEY, MT—Continued

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

Date		Nitrite water, fltrd, mg/L as N (00613)	Total nitrogen, water unfltrd mg/L (62855)	Ortho-phosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Suspnd. sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)				
OCT	06...	.002	.29	<.006	.025	94	63	<.01				
NOV	03...	<.002	.45	.007	.032	76	78	.02				
DEC	04...	.002	.35	.013	.042	24	120	E.02				
FEB	05...	.006	1.01	.087	.169	34	64	<.01				
MAR	10...	E.001	.36	.008	.047	76	33	<.01				
APR	13...	E.001	.38	E.005	.038	70	54	.04				
	26...	<.002	.34	.007	.025	74	65	.04				
MAY	12...	E.001	.30	.008	.028	48	46	.03				
	25...	<.002	.53	.008	.037	68	23	.03				
JUN	08...	E.001	.47	E.004	.029	96	17	.01				
	22...	<.002	.46	E.004	.029	87	20	.01				

Date	Time	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)	Beryllium, water, fltrd, ug/L (01010)	Beryllium, water, unfltrd recover-able, ug/L (01012)	Boron, water, fltrd, ug/L (01020)	Cadmium fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)
FEB	05...	E1	50	1.4	E1	65	70	<.06	<.12	346	E.02	<.08
MAR	10...	E1	108	.8	E1	28	32	<.06	<.06	204	<.04	<.04
APR	13...	<3	157	1.1	E2	30	34	<.12	<.12	268	<.08	<.08
	26...	<3	59	1.2	E1	28	30	<.06	<.06	293	<.04	E.02
MAY	12...	<2	37	1.6	E1	25	25	<.06	<.06	300	<.04	<.04
	25...	E1	43	1.3	E1	31	32	<.06	<.06	298	<.04	E.02
JUN	08...	E1	27	1.7	3	27	27	<.06	<.06	304	<.04	<.04
	22...	E1	56	1.6	E2	18	19	<.06	<.06	302	<.04	<.04

Date	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)	Manganese, water, fltrd, ug/L (01056)	Manganese, water, unfltrd recover-able, ug/L (01055)	
FEB	05...	9	5.5	8.2	210	690	<.08	E.09	147	485	496
MAR	10...	<1	3.4	4.4	77	500	<.08	.21	78.9	115	101
APR	13...	<1	3.6	5.4	22	540	<.16	.38	94.1	48.7	59
	26...	<1	4.1	5.1	20	220	<.08	.12	93.1	50.8	54
MAY	12...	10	3.9	4.1	29	220	<.08	.07	91.2	44.6	45
	25...	14	5.2	9.3	24	250	<.08	.14	117	24.6	29
JUN	08...	<1	4.1	6.6	29	230	.18	.07	91.1	31.8	35
	22...	<1	4.0	5.0	34	200	<.08	.09	97.4	18.4	23

E--Estimated.

## 06307600 HANGING WOMAN CREEK NEAR BIRNEY, MT—Continued

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

Date	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)
FEB 05...	<.02	4.30	6.69	.9	.8	2,150	4.8	8
MAR 10...	<.02	4.06	4.29	.6	.6	1,190	2.8	3
APR 13...	<.02	2.65	4.40	E.6	<.8	1,480	2.5	7
26...	<.02	3.34	5.87	.6	.4	1,560	2.6	E2
MAY 12...	<.02	1.43	5.38	.5	.6	1,350	2.8	2
25...	<.02	5.65	6.81	.8	.7	1,490	2.3	4
JUN 08...	<.02	2.49	5.49	.5	.5	1,270	2.6	3
22...	<.02	2.71	3.48	E.3	.5	1,070	2.3	4

E--Estimated.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS  
WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	MAY			JUNE			JULY		
1				2,280	2,180	2,240	2,080	1,930	2,000
2				2,280	2,240	2,260	2,080	1,970	2,040
3				2,310	2,240	2,260	2,120	2,000	2,060
4				2,290	2,240	2,270	2,130	2,000	2,060
5				2,290	2,240	2,270	2,100	1,760	1,930
6				2,320	2,240	2,280	1,840	1,270	1,430
7				2,310	2,250	2,280	1,410	1,290	1,330
8				---	---	*1,880	1,480	1,400	1,440
9				---	---	---	1,580	1,420	1,520
10				---	---	---	1,600	1,470	1,560
11				---	---	---	1,700	1,520	1,640
12			*2,210	---	---	---	1,910	1,620	1,750
13				---	---	---	1,950	1,700	1,830
14				---	---	---	2,170	1,720	1,930
15				---	---	---	2,290	2,040	2,190
16				---	---	---	2,280	2,040	2,190
17				---	---	---	---	---	---
18				---	---	---	---	---	---
19				---	---	---	---	---	---
20				---	---	---	---	---	---
21				---	---	---	---	---	---
22	3,070	2,200	2,730	---	---	*2,000	---	---	---
23	2,780	2,710	2,760	---	---	---	---	---	---
24	2,720	2,630	2,660	2,070	1,960	2,020	---	---	---
25	---	---	---	2,060	1,960	2,010	---	---	---
26	---	---	---	2,070	1,980	2,020	---	---	---
27	---	---	---	2,080	1,950	2,020	---	---	---
28	---	---	---	2,090	2,000	2,040	---	---	---
29	2,370	2,340	2,350	2,180	2,020	2,090	---	---	---
30	2,350	2,290	2,320	2,160	2,000	2,070	---	---	---
31	2,320	2,180	2,240	---	---	---	---	---	---
MONTH	3,070	2,180	2,510	2,320	1,950	2,150	2,290	1,270	1,810

\*--Instantaneous value from USGS sample.

06307600 HANGING WOMAN CREEK NEAR BIRNEY, MT—Continued

## BIOLOGICAL DATA, WATER YEAR OCTOBER 2003 TO SEPTEMBER 2004

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unfiltered, 25 degC uS/cm (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Biomass periphyton, ashfree drymass, g/m2 (49954)	Periphyton biomass ash weight, g/m2 (00572)	Periphyton biomass dry weight, g/m2 (00573)	Biomass chlorophyll ratio, periphyton, number (70950)	Pheophytin a, periphyton, mg/m2 (62359)	Chlorophyll a periphyton, mg/m2 (70957)
OCT 24...	1030	E.03	8.2	1,680	27.0	7.0	79.2	1,916	1,996	1,900	30	41.6

BENTHIC INVERTEBRATE SAMPLES  
OCTOBER 24, 2003

Qualitative multiple habitat sample--visual selection Equipment type--D-frame net; mesh size--500 µm				Richest targeted habitat sample--riffles Composite of 20 samples (area 0.023 m <sup>2</sup> /sample) Equipment type--Mini-Surber sampler; mesh size--500 µm			
Organism	No. of individuals	Percentage of composition		Organism	No. of individuals	Percentage of composition	
<b>NON INSECTS</b>				<b>NON INSECTS</b>			
Tubificidae	360	14.3		Nematoda	3	0.2	
Lumbricidae	15	0.6		Tubificidae	46	3.8	
<i>Hirudinea</i>	5	0.2		<i>Hirudinea</i>	3	0.2	
Physidae	560	22.3		Lymnaeidae	5	0.4	
Planorbidae	130	5.2		Physidae	164	13.4	
<i>Hyalella azteca</i>	120	4.8		Planorbidae	38	3.1	
				<i>Hyalella azteca</i>	14	1.1	
<b>ONDONATA</b>				<b>EPHEMEROPTERA</b>			
Coenagrionidae	55	2.2		<i>Callibaetis</i>	8	0.7	
<b>EPHEMEROPTERA</b>				<b>TRICHOPTERA</b>			
<i>Callibaetis</i>	25	1.0		<i>Cheumatopsyche</i>	25	2.0	
<i>Fallceon quilleri</i>	5	0.2		Limnephilidae	180	14.7	
<i>Caenis</i>	15	0.6		<b>COLEOPTERA</b>			
<b>HEMIPTERA</b>				<i>Agabus</i>			
Corixidae	5	0.2		<i>Colymbetinae</i>	3	0.2	
<i>Notonecta</i>	15	0.6		<i>Dubiraphia</i>	22	1.8	
<b>TRICHOPTERA</b>				<i>Microcylloepus</i>			
<i>Cheumatopsyche</i>	70	2.8		<i>Haliplus</i>	8	0.7	
Limnephilidae	185	7.4		<i>Peltodytes</i>	3	0.2	
<b>COLEOPTERA</b>				<i>Peltodytes</i>			
<i>Colymbetinae</i>	5	0.2		<b>DIPTERA</b>			
<i>Coptotomus</i>	5	0.2		Ceratopogonidae	85	6.9	
<i>Laccophilus</i>	5	0.2		Muscidae	11	0.9	
<i>Dubiraphia</i>	150	6.0		<i>Pericoma</i>	8	0.7	
<i>Haliplus</i>	35	1.4		<i>Psychoda</i>	11	0.9	
<i>Peltodytes</i>	5	0.2		<i>Simulium</i>	218	17.9	
<i>Ochthebius</i>	15	0.6		Stratiomyiidae	3	0.2	
<i>Tropisternus</i>	5	0.2		Tabanidae	3	0.2	
<b>DIPTERA</b>				<i>Dicranota</i>			
Ceratopogonidae	225	8.9		<i>Tipula</i>	3	0.2	
<i>Pericoma</i>	15	0.6		<b>CHIRONOMIDAE</b>			
<i>Psychoda</i>	15	0.6		<i>Acricotopus</i>	5	0.4	
<i>Simulium</i>	115	4.6		<i>Chaetocladius</i>	3	0.2	
<i>Dicranota</i>	5	0.2		<i>Cricotopus/Orthocladius</i>	3	0.2	
<b>CHIRONOMIDAE</b>				<i>Diplocladius</i>			
<i>Acricotopus</i>	65	2.6		<i>Hydrobaenus</i>	3	0.2	
<i>Chaetocladius</i>	5	0.2		<i>Micropsectra</i>	22	1.8	
<i>Hydrobaenus</i>	5	0.2		<i>Parakiefferiella</i>	66	5.4	
<i>Micropsectra</i>	15	0.6		<i>Paraphaenocladus</i>	3	0.2	
<i>Natarsia</i>	5	0.2		<i>Paratendipes</i>	11	0.9	
<i>Paramerina</i>	5	0.2		<i>Pseudochironomus</i>	16	1.3	
<i>Paraphaenocladus</i>	30	1.2		<i>Pseudosmittia</i>	19	1.6	
<i>Paratendipes</i>	10	0.4		<i>Rheocricotopus</i>	8	0.7	
<i>Procladius</i>	5	0.2		<i>Thienemannimyia Complex</i>	25	2.0	
<i>Pseudochironomus</i>	80	3.2					
<i>Pseudosmittia</i>	120	4.8					
<i>Thienemannimyia Complex</i>	5	0.2					

## 06307600 HANGING WOMAN CREEK NEAR BIRNEY, MT—Continued

BENTHIC INVERTEBRATE SAMPLES  
OCTOBER 24, 2003

Qualitative multiple habitat sample--visual selection Equipment type--D-frame net; mesh size--500 µm	Richest targeted habitat sample--riffles Composite of 20 samples (area 0.023 m <sup>2</sup> /sample) Equipment type--Mini-Surber sampler; mesh size--500 µm
Total number of taxon	39
Total number of organisms	2515
Hilsenhoff biotic index	7.46
EPT abundance	300
Number of EPT taxon	5
Total number of taxon	39
Total number of organisms	1223
Organisms per m <sup>2</sup>	2658
Hilsenhoff biotic index	6.77
EPT abundance	213
Number of EPT taxon <sub>2</sub>	3
EPT abundance per m <sup>2</sup>	463

ALGAE SAMPLES  
OCTOBER 24, 2003

Richest targeted habitat sample Sample method--Top rock scrape			Depositional targeted habitat sample Sample method--Inverted petri dish		
Organism	Percent of composition	Cell density cells/mm <sup>2</sup>	Organism	Percent of composition	Cell density cells/mm <sup>2</sup>
<b>BACILLARIOPHYTA</b>			<b>BACILLARIOPHYTA</b>		
<i>Achnanthydium minutissimum</i>	0.49	34.1	<i>Adlafia minuscula</i>	0.12	0.39
<i>Adlafia minuscula</i>	0.18	12.8	<i>Amphora libyca</i>	0.12	0.39
<i>Amphora libyca</i>	0.12	8.51	<i>Amphora pediculus</i>	0.25	0.78
<i>Amphora pediculus</i>	0.18	12.8	<i>Anomooneis sphaerophora</i>	0.06	0.20
<i>Bacillaria paradoxa</i>	0.18	12.8	<i>Biremis circumtexta</i>	0.43	1.37
<i>Biremis circumtexta</i>	0.31	21.3	<i>Caloneis bacillum</i>	0.12	0.39
<i>Caloneis silicula</i>	0.12	8.51	<i>Cocconeis placentula</i>	1.12	3.51
<i>Cocconeis placentula</i>	0.67	46.8	<i>Cyclotella meneghiniana</i>	1.30	4.10
<i>Cyclotella meneghiniana</i>	1.04	72.4	<i>Cylindrotheca gracilis</i>	0.12	0.39
<i>Diploneis puella</i>	0.12	8.51	<i>Cymbella pusilla</i>	1.86	5.86
<i>Encyonema silesiacum</i>	0.24	17.0	<i>Diploneis puella</i>	0.25	0.78
<i>Entomoneis paludosa</i>	0.37	25.5	<i>Encyonema silesiacum</i>	0.06	0.20
<i>Fallacia pygmaea</i>	0.43	29.8	<i>Epithemia adnata</i>	0.06	0.20
<i>Fragilaria capucina</i>	0.37	25.5	<i>Epithemia turgida</i>	0.31	0.98
<i>Gomphonema mexicanum</i>	0.67	46.8	<i>Fragilaria capucina</i>	0.12	0.39
<i>Gomphonema parvulum</i>	0.12	8.51	<i>Gomphonema gracile</i>	0.12	0.39
<i>Hippodonta hungarica</i>	0.12	8.51	<i>Gomphonema mexicanum</i>	0.06	0.20
<i>Luticola mutica</i>	0.06	4.26	<i>Gomphonema olivaceum</i>	0.06	0.20
<i>Mastogloia elliptica</i>	0.24	17.0	<i>Gomphonema parvulum</i>	0.25	0.78
<i>Melosira varians</i>	0.18	12.8	<i>Gyrosigma acuminatum</i>	0.12	0.39
<i>Navicula canalis</i>	0.98	68.1	<i>Hantzschia amphioxys</i>	0.19	0.59
<i>Navicula caterva</i>	0.49	34.1	<i>Hippodonta hungarica</i>	0.19	0.59
<i>Navicula cincta</i>	0.12	8.51	<i>Luticola mutica</i>	0.06	0.20
<i>Navicula erifuga</i>	1.59	111	<i>Navicula canalis</i>	1.37	4.29
<i>Navicula germainii</i>	0.12	8.51	<i>Navicula capitatoradiata</i>	0.12	0.39
<i>Navicula gregaria</i>	0.86	59.6	<i>Navicula caterva</i>	0.12	0.39
<i>Navicula peregrina</i>	0.24	17.0	<i>Navicula cincta</i>	0.62	1.95
<i>Navicula permissis</i>	0.12	8.51	<i>Navicula erifuga</i>	1.99	6.25
<i>Navicula reichardtiana</i>	0.12	8.51	<i>Navicula goersii</i>	0.19	0.59
<i>Navicula tenera</i>	0.06	4.26	<i>Navicula gregaria</i>	0.12	0.39
<i>Navicula veneta</i>	4.89	341	<i>Navicula omissa</i>	0.12	0.39
<i>Nitzschia acicularis</i>	0.98	68.1	<i>Navicula peregrina</i>	0.37	1.17
<i>Nitzschia agnita</i>	1.77	123	<i>Navicula recens</i>	0.37	1.17
<i>Nitzschia amphibia</i>	0.24	17.0	<i>Navicula salinarum</i>	0.12	0.39
<i>Nitzschia archibaldii</i>	0.12	8.51	<i>Navicula trivialis</i>	0.12	0.39
<i>Nitzschia aurariae</i>	0.73	51.1	<i>Navicula veneta</i>	5.15	16.2
<i>Nitzschia capitellata</i>	0.18	12.8	<i>Navicula weinzierlii</i>	0.06	0.20
<i>Nitzschia communis</i>	0.80	55.3	<i>Nitzschia acicularis</i>	0.06	0.20
<i>Nitzschia dissipata</i>	0.37	25.5	<i>Nitzschia agnita</i>	1.61	5.08
<i>Nitzschia frustulum</i>	8.07	562	<i>Nitzschia capitellata</i>	0.25	0.78
<i>Nitzschia incognita</i>	0.12	8.51	<i>Nitzschia communis</i>	0.62	1.95
<i>Nitzschia liebethuthii</i>	0.12	8.51	<i>Nitzschia desertorum</i>	0.12	0.39
<i>Nitzschia linearis</i>	0.31	21.3	<i>Nitzschia filiformis</i>	0.12	0.39
<i>Nitzschia microcephala</i>	6.48	451	<i>Nitzschia frustulum</i>	8.63	27.1
<i>Nitzschia palea</i>	4.83	336	<i>Nitzschia gracilis</i>	0.12	0.39
<i>Nitzschia pusilla</i>	2.39	166	<i>Nitzschia inconspicua</i>	0.12	0.39
<i>Nitzschia reversa</i>	0.43	29.8	<i>Nitzschia liebethuthii</i>	0.43	1.37
<i>Nitzschia solita</i>	0.12	8.51	<i>Nitzschia microcephala</i>	6.33	19.9
<i>Nitzschia supralitorea</i>	0.92	63.8	<i>Nitzschia palea</i>	2.30	7.22
<i>Nitzschia valdestrata</i>	0.24	17.0	<i>Nitzschia pusilla</i>	0.74	2.34
<i>Pleurosigma delicatulum</i>	0.06	4.26	<i>Nitzschia reversa</i>	0.31	0.98
<i>Reimeria sinuata</i>	0.12	8.51	<i>Nitzschia sigma</i>	0.12	0.39
<i>Rhoicosphenia abbreviata</i>	0.18	12.8	<i>Nitzschia solita</i>	0.12	0.39
<i>Rhopalodia brebissonii</i>	0.24	17.0	<i>Nitzschia supralitorea</i>	1.92	6.05
<i>Rhopalodia gibba</i>	0.61	42.6	<i>Nitzschia valdestrata</i>	0.12	0.39
<i>Rhopalodia musculus</i>	0.06	4.26	<i>Plagiotropis lepidoptera</i>	0.06	0.20
<i>Staurosira construens</i>	0.24	17.0	<i>Planohidium lanceolatum</i>	0.25	0.78
<i>Surirella minuta</i>	0.92	63.8	<i>Pleurosigma delicatulum</i>	0.06	0.20
<i>Synedra famelica</i>	0.12	8.51	<i>Rhoicosphenia abbreviata</i>	0.50	1.56

06307600 HANGING WOMAN CREEK NEAR BIRNEY, MT—Continued

ALGAE SAMPLES  
OCTOBER 24, 2003

Richest targeted habitat sample Sample method--Top rock scrape			Depositional targeted habitat sample Sample method--Inverted petri dish		
<b>BACILLARIOPHYTA--Continued</b>			<b>BACILLARIOPHYTA--Continued</b>		
<i>Tabularia fasciculata</i>	0.12	8.51	<i>Rhopalodia brebissonii</i>	0.12	0.39
<i>Tryblionella apiculata</i>	0.31	21.3	<i>Rhopalodia gibba</i>	0.68	2.15
<i>Tryblionella hungarica</i>	0.43	29.8	<i>Staurosira construens</i>	0.43	1.37
<b>CHLOROPHYTA</b>			<i>Surirella minuta</i>	0.12	0.39
<i>Stigeoclonium sp.</i>	2.43	169	<i>Surirella sp.</i>	0.12	0.39
<b>CHRYSOPHYTA</b>			<i>Synedra acus</i>	0.19	0.59
<i>Tribonema sp.</i>	1.87	130	<i>Synedra ulna</i>	0.06	0.20
<b>CYANOPHYTA</b>			<i>Tabularia fasciculata</i>	0.25	0.78
<i>Spirulina sp.</i>	47.2	3284	<i>Tryblionella apiculata</i>	0.19	0.59
			<i>Tryblionella gracilis</i>	0.12	0.39
			<i>Tryblionella hungarica</i>	0.43	1.37
			<i>Tryblionella levidensis</i>	0.06	0.20
Total algae cells/mm <sup>2</sup>		6958	<b>CHLOROPHYTA</b>		
			<i>Ankistrodesmus sp.</i>	0.18	0.57
			<i>Scenedesmus sp.</i>	0.37	1.15
			<i>Selenastrum sp.</i>	0.18	0.57
			<i>Spirogyra sp.</i>	0.18	0.57
			<b>CHRYSOPHYTA</b>		
			<i>Tribonema sp.</i>	3.28	10.3
			<b>CYANOPHYTA</b>		
			<i>Oscillatoria sp.</i>	49.8	157
			Total algae cells/mm <sup>2</sup>		315