

12334650 BLACKFOOT RIVER BELOW ALICE CREEK, NEAR LINCOLN, MT

LOCATION.--Lat 46°59'21", long 112°30'40" (NAD 27) in SE¹/₄SE¹/₄SW¹/₄ sec. 5, T.14 N., R.1 W., Lewis and Clark County, Hydrologic Unit 17010203, at discontinued gage site at road bridge, 0.4 mi upstream from mouth of Hogum Creek, 3.0 mi downstream from Alice Creek, and 8.2 mi northeast of Lincoln.

DRAINAGE AREA.--96.9 mi².

PERIOD OF RECORD.--October 1970 to June 1974, September 1995 to May 1997, March 2004 to November 2005, discontinued.

GAGE.--None. Elevation at sampling site is 4,803 ft (NGVD 29).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Water years 1970-75.

REMARKS.--Data for November 2005 included to provide final sample results for project. Several unpublished observations of specific conductance and water temperature were made during the year

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 23.0°C, July 10, 1973; minimum, 0.0°C, on many days during winter.

WATER-QUALITY DATA, NOVEMBER 2004 TO NOVEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity white light, det ang 90+/-30 corrcrtd NTRU (63676)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, mg/L fltrd, (00915)
NOV 09...	0830	18	<2.0	640	11.6	99	8.0	251	2.0	1.5	130	31.1
APR 13...	0900	24	<2.0	638	11.4	100	8.1	221	8.0	2.5	110	25.2
MAY 10...	0900	386	98	638	13.9	130	7.3	147	5.0	5.0	67	15.2
JUN 06...	1100	231	4.7	635	9.6	100	8.0	158	15.0	9.0	75	17.5
JUL 26...	0850	34	<2.0	646	10.2	104	8.0	234	12.0	9.0	130	30.2
AUG 24...	0845	17	<2.0	638	9.3	97	8.5	244	11.0	9.5	130	30.6
NOV 01...	0820	18	<2.0	642	9.8	90	8.4	239	2.5	4.5	120	28.0

Date	Magnesium, water, fltrd, mg/L (00925)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitrogen, wat unfltrd by analysis, mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Aluminum, water, fltrd, ug/L (01106)	Arsenic water unfltrd ug/L (01002)	Cadmium water, unfltrd ug/L (01027)	Copper, water, unfltrd recoverable, ug/L (01042)
NOV 09...	12.6	<.010	<.016	<.002	E.05	<.006	.005	<2	<2	E.03	1.2
APR 13...	10.5	E.009	E.011	E.001	E.05	<.006	.007	E1	<2	.04	2.0
MAY 10...	7.13	E.008	E.012	E.001	.90	E.003	.43	7	4	1.94	28.9
JUN 06...	7.64	<.010	E.012	<.002	.10	E.003	.012	4	E1	.23	2.9
JUL 26...	12.9	<.010	<.016	<.002	E.05	<.006	.004	<2	<2	.05	1.6
AUG 24...	13.0	E.006	E.014	E.001	.08	<.006	.006	E1	.54	E.03	1.1
NOV 01...	12.8	<.010	.017	<.002	.06	<.006	E.003	2	.35	E.02	.8

E--Estimated.

12334650 BLACKFOOT RIVER BELOW ALICE CREEK, NEAR LINCOLN, MT—Continued

WATER-QUALITY DATA, NOVEMBER 2004 TO NOVEMBER 2005—CONTINUED

Date	Iron, water, unfltrd recover- able, ug/L (01045)	Lead, water, unfltrd recover- able, ug/L (01051)	Mangan- ese, water, unfltrd recover- able, ug/L (01055)	Zinc, water, unfltrd recover- able, ug/L (01092)	Suspnd. sedi- ment, percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
NOV 09...	20	<.06	2	13	75	1	.05
APR 13...	100	.13	5	23	83	1	.06
MAY 10...	4,610	10.5	1,080	477	63	289	301
JUN 06...	150	.44	19	94	71	6	3.7
JUL 26...	40	<.06	4	15	64	1	.09
AUG 24...	30	<.06	4	10	73	1	.05
NOV 01...	50	<.06	3	10	86	1	.05

12334680 LANDERS FORK NEAR LINCOLN, MT

LOCATION.--Lat 46°58'40", long 112°33'19" (NAD 27) in SW¹/₄NE¹/₄SW¹/₄ sec. 12, T.14 N., R.8 W., Lewis and Clark County, Hydrologic Unit 17010203, at highway bridge crossing, 0.24 mi southeast of Landers Fork Road and 6.0 mi northeast of Lincoln.

DRAINAGE AREA.--130 mi².

PERIOD OF RECORD.--September 1995 to May 1997, March 2004 to November 2005, discontinued.

GAGE.--None. Elevation at sampling site is 4,750 ft (NGVD 29).

REMARKS.--Data for November 2005 included to provide final sample results for project.

WATER-QUALITY DATA, NOVEMBER 2004 TO NOVEMBER 2005

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)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
NOV 09...	1000	51	<2.0	643	11.4	101	8.1	244	4.0	3.0	130	33.5
APR 13...	1100	74	<2.0	639	10.8	101	8.4	236	7.5	5.0	120	31.4
MAY 10...	1115	568	260	*	*	*	8.1	194	5.0	4.5	99	25.1
JUN 06...	1200	550	5.2	637	10.8	109	8.4	204	15.0	8.0	100	26.9
JUL 26...	1020	98	<2.0	647	9.8	99	8.1	246	18.5	8.5	140	35.9
AUG 24...	0955	49	<2.0	640	9.0	93	8.4	259	14.0	9.0	150	37.6
NOV 01...	0930	32	<2.0	642	10.1	94	8.4	252	4.5	5.0	140	34.3

Date	Magnesium, water, fltrd, mg/L (00925)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitrogen, wat unfltrd by analysis, mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Aluminum, water, fltrd, ug/L (01106)	Arsenic water unfltrd ug/L (01002)	Cadmium water, unfltrd ug/L (01027)	Copper, water, unfltrd recoverable, ug/L (01042)
NOV 09...	11.2	<.010	.064	E.001	.18	<.006	.004	3	<2	<.04	.8
APR 13...	10.6	E.006	.128	E.001	.17	<.006	E.003	3	<2	<.04	.7
MAY 10...	8.83	E.009	.198	E.001	1.17	E.004	.32	11	9	.46	22.3
JUN 06...	8.95	<.010	.086	<.002	.17	<.006	.013	6	<2	<.04	1.3
JUL 26...	12.7	<.010	.081	<.002	.10	<.006	<.004	3	<2	<.04	E.5
AUG 24...	12.9	<.010	.085	E.001	.14	<.006	E.003	3	.64	<.04	<.6
NOV 01...	12.6	<.010	.099	<.002	.12	<.006	<.004	3	.75	<.04	E.5

*--Equipment problem.
E--Estimated.

WATER-QUALITY DATA, NOVEMBER 2004 TO NOVEMBER 2005--CONTINUED

Date	Iron, water, unfltrd recover- able, ug/L (01045)	Lead, water, unfltrd recover- able, ug/L (01051)	Mangan- ese, water, unfltrd recover- able, ug/L (01055)	Zinc, water, unfltrd recover- able, ug/L (01092)	Suspnd. sedi- ment, percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
NOV 09...	10	.08	2	<2	83	2	.28
APR 13...	30	.16	5	<2	78	4	.80
MAY 10...	6,300	25.2	813	44	79	749	1,150
JUN 06...	210	.51	19	E2	72	20	30
JUL 26...	20	.14	2	<2	79	2	.53
AUG 24...	20	.07	2	<2	88	2	.26
NOV 01...	<6	<.06	.5	<2	67	1	.09

E--Estimated.

12334800 BLACKFOOT RIVER AT DALTON MOUNTAIN ROAD BRIDGE, NEAR LINCOLN, MT

LOCATION.--Lat 46°56'42", long 112°44'17" (NAD 27) in NE¹/₄NW¹/₄NE¹/₄ sec. 28, T.14 N., R.9 W., Lewis and Clark County, Hydrologic Unit 17010203, at county road bridge to Dalton Mountain and 3.2 mi southwest of Lincoln.

DRAINAGE AREA.--399 mi².

PERIOD OF RECORD.--Water years 1973, 1995-97, March 2004 through November 2005, discontinued.

GAGE.--None. Elevation at sampling site is 4,460 ft (NGVD 29).

REMARKS.--Data for November 2005 included to provide final sample results for project.

WATER-QUALITY DATA, OCTOBER 2004 TO NOVEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity white light, det ang 90+/-30 corrected NTRU (63676)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
NOV 09...	1130	105	<2.0	650	11.2	102	8.0	305	6.0	4.5
APR 13...	1200	78	<2.0	645	10.2	101	8.4	301	13.0	7.5
MAY 10...	1300	762	150	*	*	*	8.2	206	8.0	6.0
JUN 06...	1345	965	6.8	644	9.9	104	8.2	215	15.0	10.0
JUL 26...	1130	190	<2.0	654	9.3	100	7.7	292	20.5	11.5
AUG 24...	1115	103	<2.0	648	9.4	97	8.4	311	10.0	9.5
NOV 01...	1040	103	<2.0	648	10.1	96	8.3	308	4.0	6.0

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitrogen, wat unfltrd by analysis, mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)
NOV 09...	160	45.3	12.6	E.005	.022	<.002	.07	<.006	.006
APR 13...	160	43.2	11.9	E.007	.027	E.001	E.04	<.006	.006
MAY 10...	100	26.5	9.17	E.008	.095	E.001	.97	E.003	.30
JUN 06...	110	28.3	9.01	<.010	.034	<.002	.12	<.006	.020
JUL 26...	160	43.9	13.4	<.010	.018	<.002	E.06	<.006	E.004
AUG 24...	170	47.2	13.6	E.005	.027	E.001	.08	<.006	.005
NOV 01...	160	43.8	13.4	<.010	.035	<.002	.08	<.006	.004

*--Equipment problems.
E--Estimated.

12334800 BLACKFOOT RIVER AT DALTON MOUNTAIN ROAD BRIDGE, NEAR LINCOLN, MT—Continued

WATER-QUALITY DATA, OCTOBER 2004 TO NOVEMBER 2005--CONTINUED

Date	Alum- inum, water, fltrd, ug/L (01106)	Arsenic water unfltrd ug/L (01002)	Cadmium water, unfltrd ug/L (01027)	Copper, water, unfltrd recover- able, ug/L (01042)	Iron, water, unfltrd recover- able, ug/L (01045)	Lead, water, unfltrd recover- able, ug/L (01051)	Mangan- ese, water, unfltrd recover- able, ug/L (01055)	Zinc, water, unfltrd recover- able, ug/L (01092)	Suspnd. sedi- ment, percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
NOV 09...	<2	E1	<.04	.7	30	E.04	3	<2	44	4	1.1
APR 13...	2	<2	<.04	1.0	60	.12	5	<2	90	2	.42
MAY 10...	9	6	.46	18.7	4,150	16.1	550	89	84	451	928
JUN 06...	4	E1	E.03	2.2	310	.67	24	12	67	29	76
JUL 26...	E1	<2	<.04	E.6	40	.07	5	E1	75	2	1.0
AUG 24...	E1	1.1	<.04	E.3	40	E.06	5	E1	32	8	2.2
NOV 01...	3	1.2	<.04	.7	50	E.03	5	<2	82	1	.28

E--Estimated.

12335100 BLACKFOOT RIVER ABOVE NEVADA CREEK, NEAR HELMVILLE, MT

LOCATION.--Lat 46°55'09", long 113°00'53" (NAD 27), in SW¹/₄SW¹/₄SE¹/₄ sec. 32, T.14 N., R.11 W., Powell County, Hydrologic Unit 17010203, on right bank 40 ft downstream from county road bridge, 1.9 mi south of Browns Lake, 4.2 mi upstream from Nevada Creek, 4.4 mi northwest of Helmville, and at river mile 72.0.

DRAINAGE AREA.--494 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1999 to current year. Records equivalent to those published as "12335000 Blackfoot River near Helmville," September 1940 to October 1953 at site 13.5 mi upstream.

GAGE.--Water-stage recorder. Elevation of gage is 4,280 ft (NGVD 29).

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. Numerous diversions for irrigation upstream from station. Several observations of water temperature and specific conductance were made during the year. U.S. Geological Survey satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 5, 1953 reached a discharge of 6,040 ft³/s at 12335000 Blackfoot River near Helmville.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	176	174	e150	e80	142	124	140	366	878	575	197	150
2	177	173	150	e80	140	124	140	353	1,190	542	195	147
3	180	174	150	e70	140	125	144	343	1,290	511	187	148
4	180	175	149	e80	139	125	146	345	1,320	483	181	144
5	174	171	e140	e60	138	125	144	354	1,310	462	178	144
6	177	170	e140	e60	137	125	142	379	1,330	440	175	143
7	177	168	146	e70	137	127	139	453	1,320	420	170	143
8	174	167	146	e70	147	129	146	557	1,250	399	166	143
9	174	167	144	e70	e145	130	150	634	1,130	386	166	144
10	173	166	145	e80	e130	132	146	702	1,020	382	162	152
11	172	165	157	e90	e130	132	146	1,210	932	377	160	158
12	172	165	161	e100	e140	135	145	1,800	908	361	159	159
13	172	162	155	e80	e130	135	143	1,540	948	345	161	160
14	170	159	149	e70	e120	131	160	1,290	869	330	164	160
15	169	158	148	e60	e110	129	157	1,230	815	322	162	157
16	173	158	147	e70	e110	130	161	1,270	802	314	159	158
17	186	157	145	e90	e120	131	169	1,420	871	304	157	180
18	194	156	144	e120	e130	131	169	1,460	973	296	163	184
19	193	157	144	e200	e130	127	169	1,410	902	288	166	172
20	188	155	145	e400	e130	127	170	1,400	821	273	161	166
21	189	153	144	e350	e130	128	171	1,370	772	264	157	162
22	192	152	e130	e300	e130	129	169	1,320	752	257	154	161
23	190	153	e100	e250	128	128	167	1,270	733	252	153	161
24	190	154	e130	e200	125	126	170	1,230	707	242	154	172
25	188	167	e140	e180	124	125	191	1,130	679	238	154	176
26	185	182	e120	168	124	125	275	1,040	656	236	152	170
27	182	172	e100	156	123	128	356	956	639	235	148	167
28	180	e160	e90	153	124	142	390	904	640	228	145	165
29	178	e150	e100	150	---	160	386	891	621	219	144	164
30	177	e140	e120	146	---	151	372	883	597	212	146	162
31	176	---	e90	143	---	144	---	846	---	205	151	---
TOTAL	5,578	4,880	4,219	4,196	3,653	4,060	5,673	30,356	27,675	10,398	5,047	4,772
MEAN	180	163	136	135	130	131	189	979	922	335	163	159
MAX	194	182	161	400	147	160	390	1,800	1,330	575	197	184
MIN	169	140	90	60	110	124	139	343	597	205	144	143
AC-FT	11,060	9,680	8,370	8,320	7,250	8,050	11,250	60,210	54,890	20,620	10,010	9,470

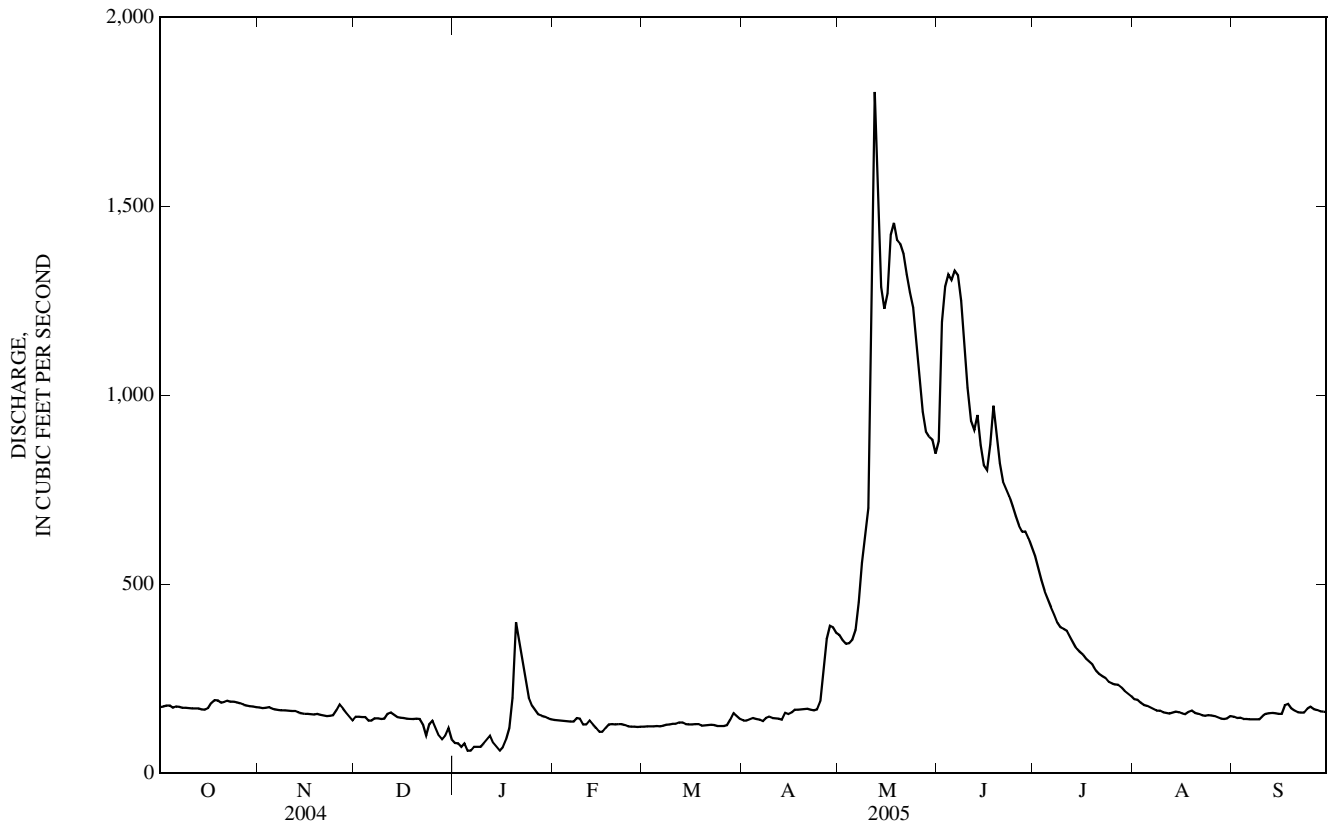
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2005, BY WATER YEAR (WY)

MEAN	164	156	142	137	130	143	246	680	848	341	181	163
MAX	180	180	165	152	151	183	398	979	1,457	538	242	199
(WY)	(2005)	(2000)	(2000)	(2000)	(2003)	(2003)	(2003)	(2005)	(2002)	(2002)	(2002)	(2004)
MIN	142	139	128	129	107	121	139	433	578	262	152	135
(WY)	(2002)	(2002)	(2001)	(2001)	(2001)	(2002)	(2001)	(2001)	(2000)	(2000)	(2000)	(2001)

12335100 BLACKFOOT RIVER ABOVE NEVADA CREEK, NEAR HELMVILLE, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2000 - 2005	
ANNUAL TOTAL	97,098		110,507			
ANNUAL MEAN	265		303		278	
HIGHEST ANNUAL MEAN					328	2002
LOWEST ANNUAL MEAN					215	2001
HIGHEST DAILY MEAN	855	Jun 7	1,800	May 12	1,820	Jun 18, 2002
LOWEST DAILY MEAN	90	Dec 28	60	Jan 5	60	Jan 5, 2005
ANNUAL SEVEN-DAY MINIMUM	109	Dec 25	69	Jan 3	69	Jan 3, 2005
MAXIMUM PEAK FLOW			1,870	May 12	1,890	Jun 19, 2002
MAXIMUM PEAK STAGE			6.86	May 12	6.91	Jun 19, 2002
ANNUAL RUNOFF (AC-FT)	192,600		219,200		201,300	
10 PERCENT EXCEEDS	577		870		629	
50 PERCENT EXCEEDS	178		162		163	
90 PERCENT EXCEEDS	125		125		128	

e--Estimated.



12335100 BLACKFOOT RIVER ABOVE NEVADA CREEK, NEAR HELMVILLE, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1995 to August 1998, April 2002 to November 2005, discontinued.

REMARKS.--Data for November 2005 included to provide final sample results for project. Several unpublished observations of specific conductance and water temperature were made during the year.

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

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity white light, det ang 90+/-30 correctd NTRU (63676)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, mg/L (00915)	Magnesium, water, mg/L (00925)
APR 13...	1330	150	<2.0	649	10.0	101	8.4	290	12.0	8.5	150	40.8	11.7
MAY 10...	1500	695	41	*	*	*	8.2	223	9.0	7.5	110	29.3	10.1
JUN 07...	1300	1,310	13	649	9.8	100	8.2	219	12.0	9.0	110	27.9	8.81
JUL 26...	1300	237	<2.0	658	9.2	107	8.2	290	23.0	15.5	160	42.7	13.2
AUG 24...	1315	154	<2.0	652	8.8	99	8.6	297	15.5	13.5	170	43.8	13.6
NOV 01...	1210	186	<2.0	651	11.3	101	8.6	294	5.5	4.0	160	42.2	13.7

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, wat unfltrd by analysis, mg/L (62855)	Aluminum, water, fltrd, ug/L (01106)	Arsenic water unfltrd ug/L (01002)	Cadmium water, unfltrd ug/L (01027)	Copper, water, unfltrd recoverable, ug/L (01042)
APR 13...	E.006	<.016	<.002	<.006	.007	<.06	<2	E1	<.04	.9
MAY 10...	E.006	.074	E.001	<.006	.099	.35	3	3	.05	5.6
JUN 07...	<.010	.025	<.002	<.006	.026	.14	4	E2	E.03	2.9
JUL 26...	<.010	<.016	<.002	<.006	.006	E.04	E1	<2	<.04	.8
AUG 24...	<.010	<.016	E.001	<.006	.005	.10	E1	1.4	<.04	1.4
NOV 01...	<.010	<.016	<.002	<.006	E.002	E.04	E1	1.3	<.04	E.5

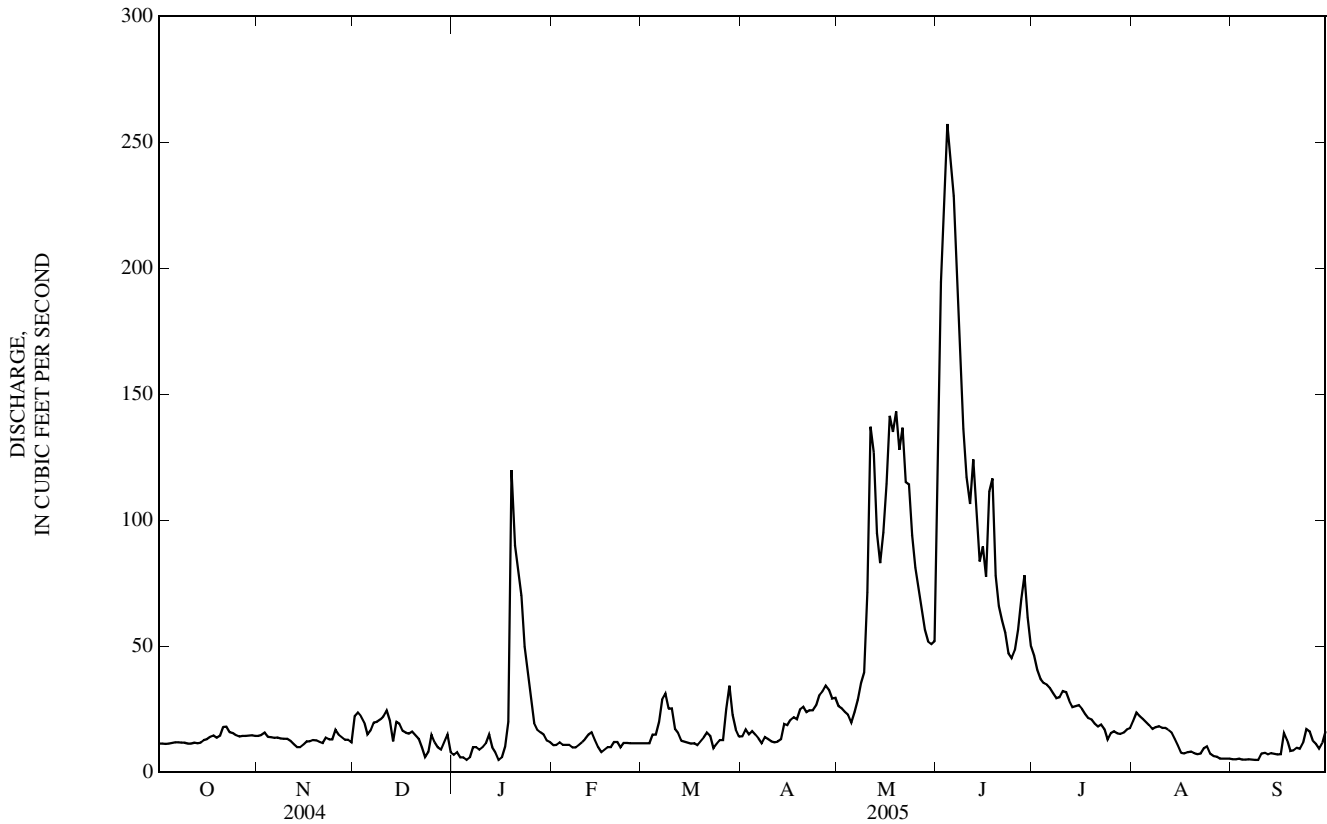
Date	Iron, water, unfltrd recoverable, ug/L (01045)	Lead, water, unfltrd recoverable, ug/L (01051)	Manganese, water, unfltrd recoverable, ug/L (01055)	Zinc, water, unfltrd recoverable, ug/L (01092)	Suspnd. sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
APR 13...	100	.13	21	<2	92	4	1.6
MAY 10...	1,280	2.91	89	12	78	132	248
JUN 07...	440	.92	33	7	71	53	187
JUL 26...	60	.09	9	<2	94	3	1.9
AUG 24...	70	.07	10	<2	62	4	1.7
NOV 01...	70	.07	11	<2	55	14	7.0

*--Equipment problems.
E--Estimated.

12335500 NEVADA CREEK ABOVE RESERVOIR, NEAR HELMVILLE, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1939 - 2005	
ANNUAL TOTAL	7,658.4		10,738.1			
ANNUAL MEAN	20.9		29.4		35.1	
HIGHEST ANNUAL MEAN					77.2	1975
LOWEST ANNUAL MEAN					11.8	1988
HIGHEST DAILY MEAN	163	Mar 17	257	Jun 4	1,240	May 22, 1981
LOWEST DAILY MEAN	5.0	Jan 6	5.0	Jan 5	2.0	Jan 11, 1944
ANNUAL SEVEN-DAY MINIMUM	6.5	Aug 16	5.2	Sep 3	2.0	Feb 9, 1944
MAXIMUM PEAK FLOW			a268	Jun 4	c1,800	Jun 2, 1953
MAXIMUM PEAK STAGE			b3.45	Jan 19	d7.40	May 29, 1953
INSTANTANEOUS LOW FLOW					f2.0	Aug 20, 1944
ANNUAL RUNOFF (AC-FT)	15,190		21,300		25,440	
10 PERCENT EXCEEDS	37		78		86	
50 PERCENT EXCEEDS	15		15		15	
90 PERCENT EXCEEDS	9.0		8.0		6.5	

a--Gage height, 3.17 ft.
 b--Backwater from ice.
 c--Gage height, 6.00 ft, site and datum then in use; from rating curve extended above 400 ft³/s on the basis of inflow-outflow study of Nevada Lake.
 d--Site and datum then in use; backwater from diversion dam.
 e--Estimated.
 f--Probably less than 2.0 ft³/s in several years.



12336600 NEVADA CREEK BELOW RESERVOIR, NEAR HELMVILLE, MT

LOCATION.--Lat 46°48'10", long 112°49'00" (NAD 27) in SW¹/₄SW¹/₄SE¹/₄ sec. 11, T.12 N., R.10 W., Powell County, Hydrologic Unit 17010203, 0.6 mi downstream of Nevada Lake, 8.3 mi southeast of Helmsville and at river mile 31.1.

DRAINAGE AREA.--143 mi².

PERIOD OF RECORD.--Water years 1973, 1995-97, December 2003 to November 2005, discontinued.

GAGE.--None. Elevation at sampling site is 4,540 ft (NGVD 29).

REMARKS.--Data for November 2005 included to provide final sample results for project.

WATER-QUALITY DATA, APRIL 2005 TO NOVEMBER 2005

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)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
APR 14...	1530	2.3	7.7	650	10.9	105	8.4	252	6.0	7.0	110	31.1
MAY 11...	1530	37	7.3	650	10.2	101	8.0	236	9.5	8.0	100	27.3
JUN 08...	1500	204	6.7	645	9.4	103	8.0	208	12.0	12.0	89	23.7
JUL 27...	1445	72	14	660	9.6	110	7.5	220	29.0	15.0	100	28.4
AUG 25...	1405	70	14	650	9.4	112	8.8	214	22.5	16.0	110	30.6
NOV 02...	1250	5.6	6.6	644	10.6	101	8.8	233	7.5	6.0	110	29.2

Date	Magnesium, water, fltrd, mg/L (00925)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitrogen, wat unfltrd by analysis, mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Aluminum, water, fltrd, ug/L (01106)	Arsenic water, unfltrd ug/L (01002)	Cadmium water, unfltrd ug/L (01027)	Copper, water, unfltrd recoverable, ug/L (01042)
APR 14...	8.73	.027	.026	.002	.40	.027	.091	<2	5	<.04	1.6
MAY 11...	7.84	.036	E.011	.002	.45	.026	.087	<2	3	<.04	1.3
JUN 08...	7.15	.031	E.014	E.001	.50	.026	.066	3	3	<.04	2.2
JUL 27...	7.49	.127	.122	.009	.72	.125	.23	3	9	<.04	1.5
AUG 25...	8.17	E.006	<.016	.002	.66	.012	.104	2	4.4	<.04	1.4
NOV 02...	8.02	E.006	<.016	<.002	.37	.006	.048	E1	3.6	<.04	.9

Date	Iron, water, unfltrd recoverable, ug/L (01045)	Lead, water, unfltrd recoverable, ug/L (01051)	Manganese, water, unfltrd recoverable, ug/L (01055)	Zinc, water, unfltrd recoverable, ug/L (01092)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
APR 14...	400	.25	473	E1	96	11	.07
MAY 11...	290	.25	133	E1	90	13	1.3
JUN 08...	260	.21	74	E2	84	9	5.0
JUL 27...	710	.44	339	E2	98	17	3.3
AUG 25...	480	.44	90	E2	98	21	4.0
NOV 02...	260	.21	87	<2	85	11	.17

E--Estimated.

12337800 NEVADA CREEK AT MOUTH, NEAR HELMVILLE, MT

LOCATION.--Lat 46°53'27", long 113°02'216" (NAD 27), in SW¹/₄SW¹/₄SW¹/₄ sec.7, T.13N., R.11W., Powell County, Hydrologic Unit 17010203, on left bank 0.5 mi upstream from private road bridge, 3.8 mi southwest of Browns Lake, 4.0 mi northwest of Helmville, and at river mile 0.7.

DRAINAGE AREA.--308 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 2001 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,240 ft (NGVD 29). Oct. 1, 2001 to Oct. 2, 2002, water-stage recorder 0.5 mi downstream at different elevation.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. Partial regulation by Nevada lake (station number 12336500). Numerous diversions for irrigation upstream from station. U.S. Geological Survey satellite telemeter at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	21	21	e16	32	24	25	20	62	183	21	31
2	18	22	21	e16	31	26	25	20	119	167	23	31
3	18	22	21	e15	e26	27	28	19	195	130	23	29
4	18	25	22	e15	e23	29	31	19	222	102	21	29
5	18	24	e17	e14	24	29	29	20	242	86	21	30
6	21	24	e18	e14	e23	33	27	22	268	75	22	32
7	19	26	20	e15	e22	33	26	23	288	70	22	35
8	19	27	21	e16	e22	34	29	28	312	66	21	36
9	19	25	20	e15	e22	36	31	31	310	49	21	36
10	18	25	20	e16	e21	36	28	33	274	40	17	41
11	18	24	23	e16	e20	33	26	51	234	38	16	51
12	18	24	25	e17	19	32	23	52	208	34	18	50
13	19	21	e18	e16	20	30	16	44	213	31	21	44
14	19	21	e19	e15	e20	29	17	41	199	30	23	40
15	19	22	21	e13	e18	30	21	43	188	26	24	37
16	20	23	22	e14	e16	28	33	48	167	23	23	35
17	21	24	21	e16	e17	29	35	72	172	24	26	43
18	22	22	21	e20	e18	26	29	62	229	26	25	58
19	23	25	23	e25	e18	25	26	66	227	28	27	51
20	23	21	e20	e80	e20	27	27	73	208	28	31	39
21	22	e16	e17	e70	22	27	25	68	176	28	31	37
22	23	e20	e16	e80	e20	28	24	62	138	28	30	34
23	25	28	e14	e60	e21	23	22	61	111	26	33	33
24	25	29	e15	e50	21	e22	20	55	98	23	35	38
25	25	33	e18	e45	21	25	20	48	85	23	34	46
26	24	34	e18	e40	22	23	21	43	88	22	37	44
27	23	e25	e17	e35	22	26	21	39	98	23	40	38
28	23	e20	e16	e30	23	30	20	42	164	22	35	31
29	23	e20	e17	e28	---	32	19	45	200	22	36	28
30	23	e18	e17	e27	---	30	20	45	192	24	36	28
31	22	---	e16	e26	---	27	---	46	---	23	34	---
TOTAL	647	711	595	875	604	889	744	1,341	5,687	1,520	827	1,135
MEAN	20.9	23.7	19.2	28.2	21.6	28.7	24.8	43.3	190	49.0	26.7	37.8
MAX	25	34	25	80	32	36	35	73	312	183	40	58
MIN	18	16	14	13	16	22	16	19	62	22	16	28
AC-FT	1,280	1,410	1,180	1,740	1,200	1,760	1,480	2,660	11,280	3,010	1,640	2,250

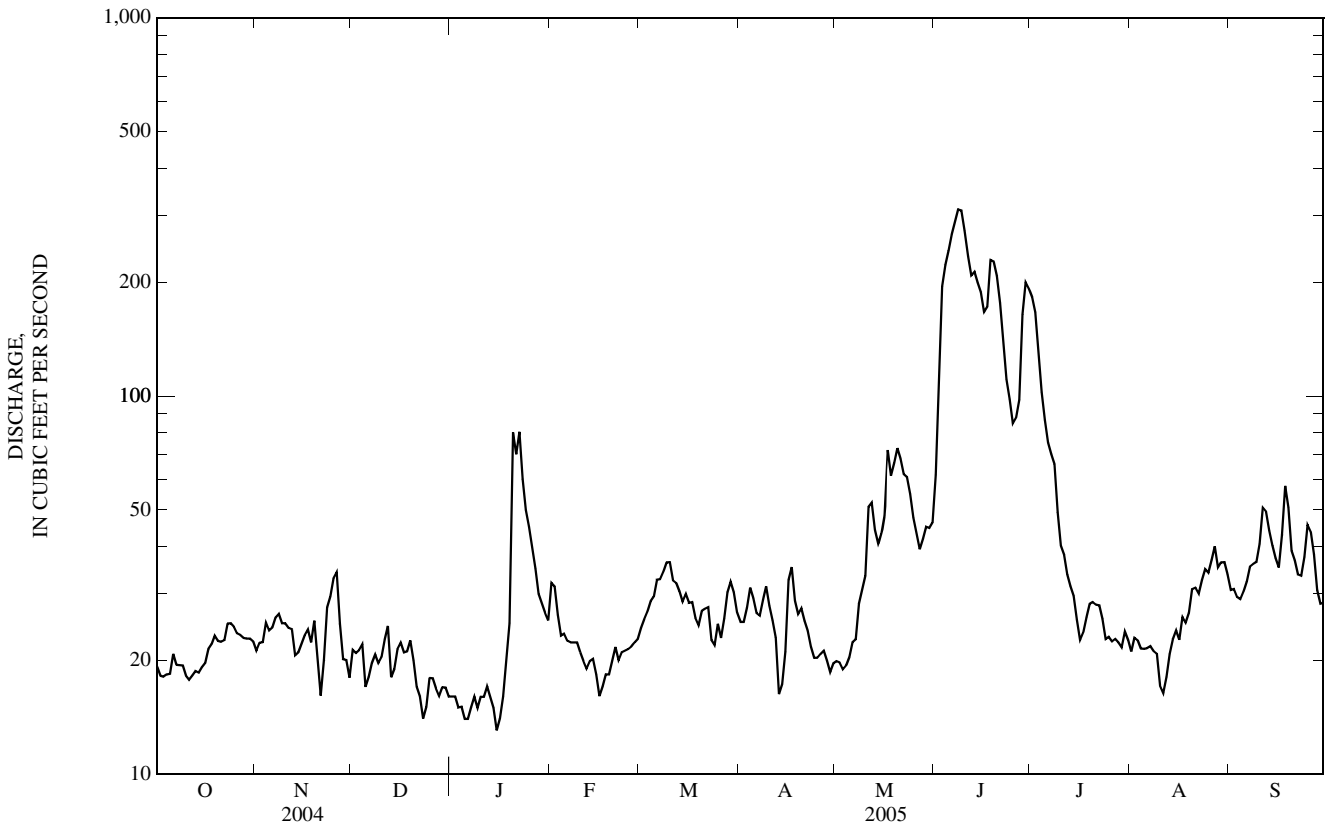
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2005, BY WATER YEAR (WY)

MEAN	21.8	23.9	22.2	23.3	27.0	53.2	58.9	60.4	100	35.8	24.1	30.1
MAX	24.5	24.6	24.5	28.2	47.8	102	112	135	190	49.0	27.7	37.8
(WY)	(2002)	(2003)	(2003)	(2005)	(2003)	(2003)	(2003)	(2003)	(2005)	(2005)	(2002)	(2005)
MIN	19.7	22.8	19.2	15.1	17.8	26.5	24.8	28.7	35.9	24.1	17.8	25.5
(WY)	(2003)	(2004)	(2005)	(2004)	(2004)	(2002)	(2005)	(2004)	(2004)	(2004)	(2004)	(2003)

12337800 NEVADA CREEK AT MOUTH, NEAR HELMVILLE, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 2001 - 2005	
ANNUAL TOTAL	9,600.0		15,575			
ANNUAL MEAN	26.2		42.7		40.0	
HIGHEST ANNUAL MEAN					55.7	
LOWEST ANNUAL MEAN					26.6	
HIGHEST DAILY MEAN	272	Mar 10	312	Jun 8	500	Mar 14, 2003
LOWEST DAILY MEAN	6.0	Jan 6	13	Jan 15	6.0	Jan 6, 2004
ANNUAL SEVEN-DAY MINIMUM	9.6	Jan 5	15	Jan 3	9.6	Jan 5, 2004
MAXIMUM PEAK FLOW			322	Jun 9	a500	Mar 14, 2003
MAXIMUM PEAK STAGE			4.45	Jun 9	b5.86	Feb 2, 2003
ANNUAL RUNOFF (AC-FT)	19,040		30,890		28,990	
10 PERCENT EXCEEDS	39		77		72	
50 PERCENT EXCEEDS	21		25		25	
90 PERCENT EXCEEDS	15		18		18	

a--Estimated daily discharge during period of ice effect.
 b--Backwater from ice.
 e--Estimated.



12337800 NEVADA CREEK AT MOUTH, NEAR HELMVILLE, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 2001 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 2001 to current year.

INSTRUMENTATION.--Temperature probe installed Oct. 25, 2001.

REMARKS--Water temperature record rated excellent. Missing temperature data for Oct. 5-7 and Feb. 17, 18 due to equipment problems. Water-quality sampling discontinued; data for November 2005 included to provide final sample results for project.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 27.5°C, July 13, 2002; minimum, 0.0°C, many days during winter months.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 25.0°C, July 13; minimum, 0.0°C, many days November through March.

WATER-QUALITY DATA, WATER YEAR APRIL 2005 TO NOVEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity white light, det ang 90+/-30 corrcd NTRU (63676)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
APR 13...	1445	15	13	649	10.1	102	8.5	402	10.0	8.5
MAY 11...	1300	52	20	658	10.4	102	8.4	433	8.5	8.0
JUN 07...	1045	285	10	649	7.2	79	7.9	318	10.0	12.0
JUL 26...	1430	22	5.2	658	12.5	158	8.7	396	23.5	19.5
AUG 25...	1145	35	2.6	658	10.1	113	8.6	444	23.0	13.5
NOV 01...	1330	39	6.8	651	11.9	107	8.5	436	9.0	4.0

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	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)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, wat unfltrd by analysis, mg/L (62855)
APR 13...	180	50.8	12.9	.019	<.016	E.001	.073	.144	.33
MAY 11...	200	55.0	16.3	.010	E.010	.002	.311	.394	.92
JUN 07...	140	35.3	12.7	E.009	<.016	E.001	.110	.190	.92
JUL 26...	200	51.7	16.2	<.010	<.016	<.002	.096	.151	.47
AUG 25...	220	59.7	16.8	E.005	<.016	E.001	.124	.183	.72
NOV 01...	200	51.8	16.5	<.010	<.016	<.002	.056	.088	.27

E--Estimated.

PEND OREILLE RIVER BASIN

12337800 NEVADA CREEK AT MOUTH, NEAR HELMVILLE, MT—Continued

Date	Aluminum, water, fltrd, ug/L (01106)	Arsenic water unfltrd ug/L (01002)	Cadmium water, unfltrd ug/L (01027)	Copper, water, unfltrd recover-able, ug/L (01042)	Iron, water, unfltrd recover-able, ug/L (01045)	Lead, water, unfltrd recover-able, ug/L (01051)	Manganese, water, unfltrd recover-able, ug/L (01055)	Zinc, water, unfltrd recover-able, ug/L (01092)	Suspnd. sedi-ment, percent <.063mm (70331)	Suspended sedi-ment concentration mg/L (80154)	Suspended sedi-ment discharge, tons/d (80155)
APR 13...	<2	5	<.04	1.9	430	.42	178	E2	97	18	.73
MAY 11...	2	5	E.04	3.0	520	.50	113	3	99	28	3.9
JUN 07...	3	5	<.04	3.1	440	.36	53	3	98	22	17
JUL 26...	E1	6	<.04	1.9	150	.18	27	<2	96	7	.42
AUG 25...	2	5.8	<.04	1.3	130	.12	22	<2	90	4	.38
NOV 01...	E1	3.9	<.04	1.1	250	.18	22	E1	99	9	.95

E--Estimated.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	11.5	8.5	10.0	1.5	0.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0
2	10.5	8.0	9.5	4.0	1.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0
3	11.0	8.5	10.0	5.0	3.5	4.0	0.0	0.0	0.0	0.0	0.0	0.0
4	11.0	8.5	10.0	3.5	1.5	2.0	0.0	0.0	0.0	0.0	0.0	0.0
5	---	---	---	2.5	0.5	1.5	0.5	0.0	0.0	0.0	0.0	0.0
6	---	---	---	3.5	2.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
7	---	---	---	5.5	3.5	4.5	0.0	0.0	0.0	0.5	0.0	0.0
8	11.0	9.0	10.0	5.0	3.0	3.5	0.0	0.0	0.0	0.5	0.0	0.0
9	10.5	9.0	10.0	3.5	2.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0
10	9.5	7.5	8.5	4.0	3.0	3.5	0.5	0.0	0.0	0.5	0.0	0.0
11	8.0	6.0	7.5	3.5	2.0	2.5	2.0	0.5	1.5	0.0	0.0	0.0
12	9.0	7.0	8.0	2.0	0.5	1.0	1.5	0.0	0.5	0.5	0.0	0.0
13	9.0	7.5	8.5	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
14	10.0	7.5	9.0	0.5	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
15	11.0	9.5	10.0	1.5	0.5	1.0	1.5	0.0	0.5	0.0	0.0	0.0
16	10.0	9.0	9.5	2.0	1.0	1.5	1.5	0.5	1.0	0.0	0.0	0.0
17	9.0	5.5	7.0	3.5	2.0	2.5	1.5	0.0	0.5	0.0	0.0	0.0
18	6.5	4.5	5.5	2.5	0.5	1.5	2.0	0.5	1.0	0.0	0.0	0.0
19	6.5	5.0	5.5	1.5	0.5	1.0	2.5	1.5	2.0	0.0	0.0	0.0
20	6.5	5.0	6.0	1.5	0.5	1.0	2.0	0.0	0.5	0.0	0.0	0.0
21	6.5	6.0	6.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22	6.0	5.0	5.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
23	6.5	5.0	5.5	1.5	0.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0
24	5.5	4.0	4.5	3.0	1.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0
25	4.5	3.0	4.0	3.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
26	4.0	2.5	3.5	2.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
27	4.0	2.5	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
28	4.0	3.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
29	3.5	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	4.0	3.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	3.0	1.5	2.0	---	---	---	0.0	0.0	0.0	0.0	0.0	0.0
MONTH	11.5	1.5	7.0	5.5	0.0	1.5	2.5	0.0	0.2	0.5	0.0	0.0

12337800 NEVADA CREEK AT MOUTH, NEAR HELMVILLE, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	1.0	0.0	0.5	4.0	2.0	3.0	7.5	4.0	6.0	13.0	3.5	8.0
2	1.0	0.0	0.5	4.5	0.0	2.5	8.5	5.5	7.5	12.0	5.5	9.0
3	1.5	0.0	0.5	5.0	1.0	3.0	8.0	5.5	6.5	13.5	8.5	11.0
4	1.5	0.0	0.5	5.5	0.5	3.0	7.5	5.0	6.5	13.5	10.0	11.5
5	1.0	0.0	0.5	5.5	0.5	3.0	9.0	4.5	6.5	15.5	9.5	12.5
6	1.0	0.0	0.5	5.5	1.0	3.5	12.0	5.0	8.5	15.5	13.0	14.5
7	0.5	0.0	0.0	5.0	1.0	2.5	12.0	8.5	10.5	15.5	12.0	14.0
8	0.5	0.0	0.0	5.5	1.5	3.5	11.5	8.5	10.0	15.0	12.0	13.0
9	1.0	0.0	0.5	6.5	1.0	3.5	10.0	6.0	8.0	13.0	10.5	11.0
10	1.0	0.0	0.5	5.5	1.0	3.0	10.0	5.5	7.5	11.0	8.5	9.5
11	1.0	0.0	0.5	6.0	0.5	3.0	9.5	5.0	7.0	9.5	6.5	8.0
12	1.5	0.0	0.5	5.0	2.5	3.5	9.5	5.5	7.5	14.0	7.0	10.0
13	1.5	0.5	1.5	4.0	1.5	2.5	9.5	6.0	8.0	16.0	10.5	13.0
14	1.0	0.0	0.5	6.0	1.5	3.5	8.0	3.5	6.0	16.0	10.0	13.5
15	0.5	0.0	0.0	5.5	3.0	4.5	9.5	4.0	7.0	16.5	11.0	14.0
16	0.5	0.0	0.0	5.0	3.0	4.0	13.0	6.0	9.5	16.0	13.0	14.5
17	---	---	---	4.5	2.5	3.5	12.5	8.5	9.5	14.5	10.5	12.5
18	---	---	---	4.5	1.5	3.5	9.5	7.0	8.0	14.5	10.0	12.5
19	0.5	0.0	0.0	4.5	1.0	3.0	8.0	6.0	7.0	15.5	11.0	13.0
20	0.5	0.0	0.0	5.0	3.0	4.0	7.0	5.0	5.5	15.0	10.5	12.5
21	0.5	0.0	0.0	5.0	2.5	4.0	8.0	3.0	5.5	16.0	9.0	12.5
22	0.5	0.0	0.5	4.5	2.0	3.0	13.0	5.5	9.0	15.0	11.0	12.5
23	1.0	0.0	0.5	2.0	0.0	0.5	13.0	9.0	11.5	16.5	8.0	12.0
24	1.5	0.0	1.0	1.0	0.0	0.5	14.0	10.0	12.0	17.0	8.0	12.0
25	2.5	0.0	1.5	3.0	0.0	1.0	16.0	9.5	13.0	18.5	8.0	13.0
26	2.5	0.5	2.0	5.0	0.5	2.5	15.5	11.0	13.0	20.5	9.0	14.5
27	3.0	0.5	2.0	6.5	4.0	5.0	12.5	7.0	9.5	21.0	11.5	16.0
28	4.0	0.5	2.0	6.5	5.5	6.0	9.0	4.0	6.5	21.5	13.0	17.0
29	---	---	---	6.0	3.5	4.5	9.5	3.0	6.5	18.5	13.0	16.0
30	---	---	---	5.5	2.5	4.0	11.0	3.5	7.5	19.0	12.5	16.0
31	---	---	---	7.5	2.5	5.0	---	---	---	17.5	14.0	15.0
MONTH	4.0	0.0	0.6	7.5	0.0	3.3	16.0	3.0	8.2	21.5	3.5	12.7
	JUNE			JULY			AUGUST			SEPTEMBER		
1	14.0	10.0	11.5	20.5	16.5	18.5	21.5	17.0	19.0	16.5	10.0	13.5
2	10.5	9.5	10.0	19.5	17.0	18.0	21.0	16.5	19.0	16.5	10.5	14.0
3	11.0	9.0	10.0	19.5	14.5	17.0	22.5	16.0	19.0	17.5	12.0	15.0
4	15.0	10.0	12.0	20.5	14.0	17.5	22.5	15.5	19.0	17.0	12.0	14.5
5	16.0	13.5	15.0	22.0	15.5	18.5	22.0	16.5	19.5	17.0	12.0	14.5
6	15.5	13.5	14.5	21.5	18.0	19.5	22.0	16.0	19.0	17.0	11.0	14.0
7	13.5	11.5	12.5	21.5	18.5	20.0	22.5	17.0	20.0	17.0	11.0	14.0
8	12.5	11.5	12.0	23.0	19.0	21.0	21.0	18.5	20.0	17.0	12.0	14.5
9	12.5	11.5	12.0	22.0	18.5	20.0	22.0	16.5	19.5	16.0	13.0	14.5
10	13.0	11.5	12.5	19.5	16.5	18.0	21.5	18.0	20.0	14.0	11.0	12.5
11	14.0	12.5	13.5	21.5	16.5	19.0	21.5	16.0	18.5	11.5	9.5	10.5
12	14.0	12.5	13.5	24.0	17.5	21.0	18.5	15.0	16.5	10.5	9.0	10.0
13	15.0	10.5	12.5	25.0	20.0	22.5	18.5	14.0	16.0	11.5	9.5	10.5
14	16.5	12.0	14.5	24.5	19.0	22.0	19.0	13.5	16.5	12.5	10.0	11.0
15	19.0	14.5	16.5	24.0	18.5	21.5	20.0	14.5	17.5	13.5	10.0	11.5
16	17.5	15.0	16.0	23.0	20.0	21.5	20.0	15.5	18.0	13.0	10.5	11.5
17	15.0	13.0	14.0	22.0	17.5	20.0	19.0	15.5	17.0	12.0	11.0	11.0
18	15.0	11.5	13.5	23.0	17.0	20.0	17.0	14.0	15.5	13.0	10.5	11.5
19	17.5	13.5	15.0	23.5	17.5	20.5	18.0	13.0	16.0	13.5	10.0	11.5
20	20.0	16.5	18.0	23.0	17.5	20.5	19.0	13.5	16.5	14.5	10.0	12.0
21	21.5	18.5	20.0	24.0	17.5	20.5	20.0	14.5	17.5	14.0	10.5	12.5
22	22.5	19.0	20.5	22.5	19.0	20.5	19.5	15.5	17.5	13.0	9.0	11.5
23	21.5	18.5	20.0	22.5	17.5	20.0	19.0	16.0	17.5	11.5	9.0	10.0
24	20.5	17.5	19.0	22.5	15.0	19.0	17.5	14.5	15.5	9.0	7.0	8.0
25	19.0	16.5	18.0	20.0	15.5	18.0	17.0	11.5	14.5	10.5	7.0	8.5
26	17.5	15.5	16.5	21.0	13.0	17.0	17.0	11.5	14.5	12.0	8.5	10.0
27	18.0	15.0	16.5	22.0	14.5	18.5	18.0	11.5	14.5	12.0	9.0	10.5
28	16.5	15.0	15.5	20.5	15.0	18.5	18.5	12.5	15.5	11.5	7.5	9.5
29	18.0	15.0	16.0	21.5	16.5	19.5	18.0	13.0	15.5	10.5	8.0	9.0
30	19.5	15.0	17.5	23.0	17.5	20.0	15.0	13.0	14.0	11.5	9.5	10.5
31	---	---	---	21.5	17.0	19.0	16.0	10.5	13.0	---	---	---
MONTH	22.5	9.0	14.9	25.0	13.0	19.6	22.5	10.5	17.1	17.5	7.0	11.7

PEND OREILLE RIVER BASIN

12337820 BLACKFOOT RIVER AT RAYMOND BRIDGE, NEAR OVANDO, MT

LOCATION.--Lat 46°56'00", long 113°06'50" (NAD 27) in SW¹/₄SE¹/₄SE¹/₄ sec. 28, T.14 N., R.12 W., Powell County, Hydrologic Unit 17010203, 0.2 mi downstream from Wales Creek, 0.8 mi upstream from Frazier Creek and 6.0 mi south of Ovando.

DRAINAGE AREA.--Undetermined.

PERIOD OF RECORD.-- December 2003 to November 2005, discontinued.

GAGE.--None. Elevation at sampling site is 4,540 ft (NGVD 29).

REMARKS--Water-quality sampling discontinued; data for November 2005 included to provide final sample results for project.

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

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity white light, det ang 90+/-30 correctd NTRU (63676)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
APR 13...	1630	175	3.1	650	11.4	119	8.7	302	6.0	10.0
MAY 10...	1600	742	41	*	*	*	8.3	243	13.0	9.0
JUN 07...	1500	1,470	28	652	10.0	106	8.3	238	12.0	11.0
JUL 26...	1620	267	<2.0	658	11.1	143	8.6	287	25.5	20.5
AUG 24...	1450	157	<2.0	655	10.7	128	8.9	317	18.0	16.5
NOV 01...	1500	226	2.2	650	12.3	113	8.7	315	5.0	5.0

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Ammonia, water, fltrd, mg/L as N (00608)	Nitrite + nitrate, water, fltrd, mg/L as N (00631)	Nitrite, water, fltrd, mg/L as N (00613)	Total nitrogen, wat unfltrd by analysis, mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, unfltrd mg/L (00665)
APR 13...	150	41.2	12.0	E.007	<.016	E.001	.09	.008	E.028
MAY 10...	120	31.4	10.8	E.006	.065	E.001	.47	.012	.115
JUN 07...	120	29.6	10.2	<.010	.019	<.002	.38	.024	.083
JUL 26...	160	42.0	14.1	<.010	<.016	<.002	.11	E.005	.015
AUG 24...	180	46.2	14.8	E.005	<.016	<.002	.23	.010	.026
NOV 01...	160	42.6	14.1	<.010	<.016	E.001	.10	.011	.018

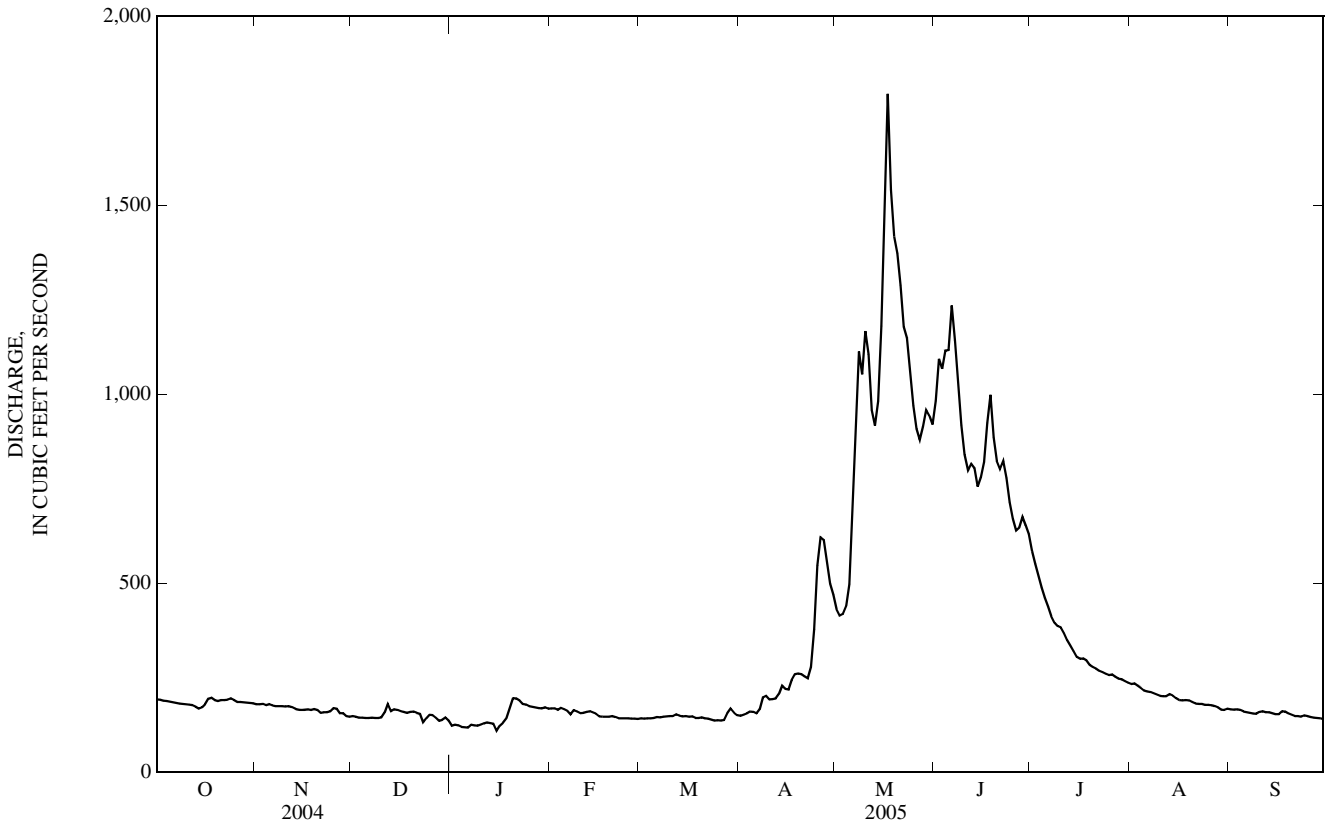
Date	Aluminum, water, fltrd, ug/L (01106)	Arsenic, water, unfltrd ug/L (01002)	Cadmium, water, unfltrd ug/L (01027)	Copper, water, unfltrd recover-able, ug/L (01042)	Iron, water, unfltrd recover-able, ug/L (01045)	Lead, water, unfltrd recover-able, ug/L (01051)	Manganese, water, unfltrd recover-able, ug/L (01055)	Zinc, water, unfltrd recover-able, ug/L (01092)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
APR 13...	--	2	<.04	1.1	130	.18	34	<2	96	5	2.4
MAY 10...	2	3	.06	5.6	1,240	2.67	106	11	94	108	216
JUN 07...	4	2	E.04	4.4	690	1.13	52	8	60	79	314
JUL 26...	E1	2.1	<.04	.8	50	.08	6	<2	91	3	2.2
AUG 24...	4	2.5	<.04	.6	60	.07	9	E2	92	2	.85
NOV 01...	2	1.9	<.04	.8	100	.09	10	<2	96	3	1.8

*--Equipment problems.
E--Estimated.

12338300 NORTH FORK BLACKFOOT RIVER ABOVE DRY GULCH, NEAR OVANDO, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1998 - 2005	
ANNUAL TOTAL	125,909		115,834			
ANNUAL MEAN	344		317		355	
HIGHEST ANNUAL MEAN					456	
LOWEST ANNUAL MEAN					242	
HIGHEST DAILY MEAN	1,780	May 8	1,790	May 17	3,870	May 26, 1999
LOWEST DAILY MEAN	79	Mar 1	110	Jan 15	72	Mar 18, 2001
ANNUAL SEVEN-DAY MINIMUM	80	Feb 29	122	Jan 3	73	Mar 5, 2001
MAXIMUM PEAK FLOW			1,950	May 17	a4,280	May 26, 1999
MAXIMUM PEAK STAGE			4.80	May 17	5.92	May 20, 2003
INSTANTANEOUS LOW FLOW					b69	Mar 18, 2001
ANNUAL RUNOFF (AC-FT)	249,700		229,800		256,900	
10 PERCENT EXCEEDS	903		883		948	
50 PERCENT EXCEEDS	192		175		164	
90 PERCENT EXCEEDS	86		143		91	

a--Gage height, 5.75 ft.
 b--Gage height, 2.35 ft.
 e--Estimated.



12338300 NORTH FORK BLACKFOOT RIVER ABOVE DRY GULCH, NEAR OVANDO, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--September 1995 to May 1997, April 2001 to September 2002, March 2003 to November 2005, discontinued.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: April 2001 to September 2002.

REMARKS.--Data for November 2005 included to provide final sample results for project. Several unpublished observations of specific conductance and water temperature were made during the year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum 17.5°C, Aug. 6 and 7, 2001; minimum, 0.0°C, several days in February and March 2002.

WATER-QUALITY DATA, NOVEMBER 2004 TO NOVEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity white light, det ang 90+/-30 corrcd NTRU (63676)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
NOV 09...	1330	176	<2.0	659	10.6	100	8.3	254	8.0	6.5	140	32.6
APR 14...	1400	231	<2.0	660	10.8	103	8.3	232	6.5	7.0	120	29.2
MAY 10...	1730	1,210	11	*	*	*	8.2	168	10.0	6.0	86	21.8
JUN 07...	1730	1,120	2.3	654	10.4	102	8.3	173	13.0	8.0	88	22.2
JUL 27...	1315	252	<2.0	661	9.9	111	8.2	250	27.0	14.0	140	33.1
AUG 24...	1620	179	2.0	659	9.0	99	8.5	262	17.5	13.0	150	34.8
NOV 01...	1630	138	<2.0	651	10.1	100	8.5	262	5.0	8.0	140	31.2

Date	Magnesium, water, fltrd, mg/L (00925)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitrogen, wat unfltrd by analysis, mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Aluminum, water, fltrd, ug/L (01106)	Arsenic water unfltrd ug/L (01002)	Cadmium water, unfltrd ug/L (01027)	Copper, water, unfltrd recoverable, ug/L (01042)
NOV 09...	13.5	<.010	.079	E.001	.11	.011	E.002	<2	<2	<.04	.6
APR 14...	11.5	<.010	.057	<.002	.08	<.006	<.004	E1	<2	<.04	.7
MAY 10...	7.58	<.010	.020	E.001	.16	<.006	.023	12	<2	E.02	1.8
JUN 07...	7.86	<.010	.019	<.002	E.06	<.006	.005	8	<2	<.04	1.1
JUL 27...	14.1	<.010	.083	<.002	.11	<.006	<.004	E2	<2	<.04	E.4
AUG 24...	15.2	<.010	.078	<.002	.14	<.006	<.004	2	.68	<.04	<.6
NOV 01...	15.3	<.010	.092	<.002	.12	<.006	<.004	2	.78	<.04	E.4

*--Equipment problem.
E--Estimated.

12338300 NORTH FORK BLACKFOOT RIVER ABOVE DRY GULCH, NEAR OVANDO, MT—Continued

WATER-QUALITY DATA, NOVEMBER 2004 TO NOVEMBER 2005—CONTINUED

Date	Iron, water, unfltrd recover- able, ug/L (01045)	Lead, water, unfltrd recover- able, ug/L (01051)	Mangan- ese, water, unfltrd recover- able, ug/L (01055)	Zinc, water, unfltrd recover- able, ug/L (01092)	Suspnd. sedi- ment, percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
NOV 09...	30	E.04	2	<2	13	8	3.8
APR 14...	40	.08	3	<2	74	4	2.5
MAY 10...	320	.62	17	E2	78	31	101
JUN 07...	60	.10	4	<2	79	5	15
JUL 27...	7	<.06	.6	<2	83	1	.68
AUG 24...	9	<.06	.8	<2	89	1	.48
NOV 01...	8	<.06	.9	<2	86	1	.37

E--Estimated.

12338690 MONTURE CREEK NEAR OVANDO, MT

LOCATION.--Lat 47°02'44", long 113°11'23" (NAD 27) in NW¹/₄SE¹/₄NW¹/₄ sec. 24, T.15 N., R.13 W., Powell County, Hydrologic Unit 17010203, at bridge on State Highway 200, 3.3 mi northwest of Ovando and at river mile 3.6.

DRAINAGE AREA.--140 mi².

PERIOD OF RECORD.-- December 2003 to November 2005, discontinued.

GAGE.--None. Elevation at sampling site is 3,987 ft (NGVD 29).

REMARKS.--Data for November 2005 included to provide final sample results for project.

WATER-QUALITY DATA, APRIL 2005 TO NOVEMBER 2005

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity white light, det ang 90+/-30 correctd NTRU (63676)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
APR 14...	1245	206	<2.0	663	12.1	105	8.1	125	6.5	3.5
MAY 11...	0800	492	5.0	663	10.9	98	7.6	92	9.0	5.0
JUN 08...	1300	439	<2.0	659	11.1	106	8.2	106	12.5	7.0
JUL 27...	1145	103	<2.0	663	9.8	110	8.2	176	24.0	14.5
AUG 25...	1005	52	<2.0	665	10.0	100	8.4	179	12.5	9.5
NOV 02...	0815	49	<2.0	660	11.1	97	8.4	205	1.5	3.5

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Ammonia, water, fltrd, mg/L as N (00608)	Nitrite + nitrate, water, fltrd, mg/L as N (00631)	Nitrite, water, fltrd, mg/L as N (00613)	Total nitrogen, wat unfltrd by analysis, mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)
APR 14...	62	14.9	6.16	<.010	.054	E.001	.11	<.006	.011
MAY 11...	46	11.1	4.54	E.005	.046	E.001	.17	<.006	.019
JUN 08...	51	12.4	4.87	<.010	.021	<.002	.11	E.003	.011
JUL 27...	91	22.1	8.74	<.010	E.008	<.002	.07	<.006	.005
AUG 25...	100	23.8	10.2	<.010	E.008	E.001	.11	<.006	.005
NOV 02...	110	24.3	10.9	<.010	.028	<.002	.13	<.006	E.003

Date	Aluminum, water, fltrd, ug/L (01106)	Arsenic, water, unfltrd ug/L (01002)	Cadmium, water, unfltrd ug/L (01027)	Copper, water, unfltrd recover-able, ug/L (01042)	Iron, water, unfltrd recover-able, ug/L (01045)	Lead, water, unfltrd recover-able, ug/L (01051)	Manganese, water, unfltrd recover-able, ug/L (01055)	Zinc, water, unfltrd recover-able, ug/L (01092)	Suspnd. sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
APR 14...	5	<2	<.04	.7	90	.06	12	<2	70	7	3.9
MAY 11...	17	E1	<.04	.7	150	.14	12	<2	70	16	21
JUN 08...	14	E1	<.04	.7	80	.08	8	<2	78	6	7.1
JUL 27...	3	1.0	<.04	E.3	50	<.06	5	<2	90	1	.28
AUG 25...	3	.56	<.04	E.3	40	E.04	5	E1	85	1	.14
NOV 02...	5	.63	<.04	E.4	60	<.06	7	<2	89	1	.13

E--Estimated.

12338700 BLACKFOOT RIVER AT SCOTTY BROWN BRIDGE, NEAR OVANDO, MT

LOCATION.--Lat 47°01'05", long 113°14'22" (NAD 27) in SE¹/₄NE¹/₄NE¹/₄ sec. 33, T.15 N., R.13 W., Powell County, Hydrologic Unit 17010203, at county road bridge called Scotty Brown Bridge, 0.9 mi south of Highway 200, 5.0 mi west of Ovando.

DRAINAGE AREA.--1,428 mi².

PERIOD OF RECORD.-- September 1995 to May 1997, December 2003 to November 2005, discontinued.

GAGE.--None. Elevation at sampling site is 3,910 ft (NGVD 29).

REMARKS.--Data for November 2005 included to provide final sample results for project.

WATER-QUALITY DATA, APRIL 2005 TO NOVEMBER 2005

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)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
APR 14...	1045	692	<2.0	663	12.0	104	8.3	219	4.0	3.5	110	26.6
MAY 11...	1200	E2,500	26	665	10.8	100	8.2	172	9.5	6.0	86	21.8
JUN 08...	0845	3,120	10	660	10.2	100	8.0	185	10.0	8.0	89	23.1
JUL 27...	0830	578	<2.0	665	9.0	97	8.2	264	13.0	12.5	150	35.6
AUG 25...	0820	402	<2.0	666	9.5	95	8.5	268	2.5	9.5	150	36.7
NOV 02...	0920	450	<2.0	660	11.6	102	8.5	294	4.5	4.0	150	38.0

Date	Magnesium, water, fltrd, mg/L (00925)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Total nitrogen, wat unfltrd by analysis, mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Aluminum, water, fltrd, ug/L (01106)	Arsenic water unfltrd ug/L (01002)	Cadmium water, unfltrd ug/L (01027)	Copper, water, unfltrd recoverable, ug/L (01042)
APR 14...	9.57	<.010	.018	E.001	.09	<.006	.014	2	<2	<.04	.9
MAY 11...	7.58	<.010	.045	E.001	.31	E.004	.067	8	E2	E.03	3.2
JUN 08...	7.68	<.010	.016	<.002	.20	.010	.035	7	E2	<.04	1.9
JUL 27...	14.0	<.010	.026	<.002	.10	<.006	.005	2	<2	<.04	.6
AUG 25...	14.0	<.010	.020	E.001	.15	<.006	.007	2	1.6	<.04	E.4
NOV 02...	14.3	<.010	.019	<.002	.11	<.006	E.003	5	1.1	<.04	E.5

Date	Iron, water, unfltrd recoverable, ug/L (01045)	Lead, water, unfltrd recoverable, ug/L (01051)	Manganese, water, unfltrd recoverable, ug/L (01055)	Zinc, water, unfltrd recoverable, ug/L (01092)	Suspnd. sediment, sieve diametr percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
APR 14...	90	.14	16	E1	82	7	13
MAY 11...	760	1.49	62	6	86	64	E432
JUN 08...	350	.56	28	3	83	26	219
JUL 27...	30	E.04	5	<2	77	3	4.7
AUG 25...	40	.06	7	<2	92	2	2.2
NOV 02...	60	E.05	6	<2	77	3	3.6

E--Estimated.

12339500 CLEARWATER RIVER AT CLEARWATER, MT

LOCATION.--Lat 46°58'00", long 113°22'40" (NAD 27) in NE¹/₄SW¹/₄ sec. 16, T.14 N., R.14 W., Missoula County, Hydrologic Unit 17010203, on left bank 400 ft upstream from mouth and 2.5 mi south of Clearwater Post Office.

DRAINAGE AREA.--391 mi².

PERIOD OF RECORD.--December 2003 to November 2005, discontinued.

GAGE.--None. Elevation at sampling site is 3,760 ft (NGVD 29).

REMARKS.--Data for November 2005 included to provide final sample results for project.

WATER-QUALITY DATA, APRIL 2005 TO NOVEMBER 2005

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)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
APR 14...	0845	747	<2.0	667	12.6	111	8.0	116	1.0	4.5
MAY 11...	1000	1,070	2.2	670	9.2	94	7.7	115	9.0	10.5
JUN 08...	1100	753	2.3	663	10.0	108	8.0	120	12.5	12.5
JUL 27...	1020	96	<2.0	668	9.5	112	8.0	170	23.0	17.0
AUG 24...	1835	49	<2.0	666	8.6	102	8.8	169	16.5	17.0
NOV 02...	1100	71	<2.0	664	10.9	102	8.5	163	8.0	6.5

Date	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Ammonia, water, fltrd, mg/L as N (00608)	Nitrite + nitrate, water, fltrd, mg/L as N (00631)	Nitrite, water, fltrd, mg/L as N (00613)	Total nitrogen, wat unfltrd by analysis, mg/L (62855)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)
APR 14...	56	14.8	4.71	<.010	<.016	<.002	.14	<.006	.012
MAY 11...	56	14.6	4.79	<.010	<.016	E.001	.19	<.006	.013
JUN 08...	57	15.2	4.71	<.010	E.009	<.002	.16	<.006	.010
JUL 27...	87	23.8	6.71	<.010	E.011	<.002	.13	<.006	.009
AUG 24...	92	24.7	7.27	<.010	<.016	<.002	.19	<.006	.010
NOV 02...	85	22.3	7.01	<.010	E.010	<.002	.14	<.006	.005

Date	Aluminum, water, fltrd, ug/L (01106)	Arsenic, water, unfltrd ug/L (01002)	Cadmium, water, unfltrd ug/L (01027)	Copper, water, unfltrd recover-able, ug/L (01042)	Iron, water, unfltrd recover-able, ug/L (01045)	Lead, water, unfltrd recover-able, ug/L (01051)	Manganese, water, unfltrd recover-able, ug/L (01055)	Zinc, water, unfltrd recover-able, ug/L (01092)	Suspnd. sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
APR 14...	9	<2	<.04	.9	50	E.05	11	<2	80	2	4.0
MAY 11...	6	<2	<.04	E.5	50	E.05	10	<2	72	3	8.7
JUN 08...	4	<2	<.04	1.8	40	<.06	9	E1	69	1	2.0
JUL 27...	3	.89	<.04	E.4	20	<.06	9	<2	83	1	.26
AUG 24...	3	.75	<.04	1.0	20	<.06	9	<2	75	2	.26
NOV 02...	6	.57	<.04	E.4	30	<.06	5	<2	83	1	.19

E--Estimated.

12340000 BLACKFOOT RIVER NEAR BONNER, MT

LOCATION.--Lat 46°53'59", long 113°45'20" (NAD 27), in SE¹/₄SE¹/₄NW¹/₄ sec.9, T.13 N., R.17 W., Missoula County, Hydrologic Unit 17010203, on right bank 5.0 mi downstream from Union Creek, 5.6 mi northeast of Bonner, and at river mile 7.9.

DRAINAGE AREA.--2,290 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July to November 1898, March 1899 to September 1901, May 1903 to January 1905, March to October 1905, October 1939 to current year. Monthly discharge only for some periods, published in WSP 1316. Published as "at Bonner" 1898-99 and as Big Blackfoot near Bonner 1903-05.

REVISED RECORDS.--WSP 1216: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,344.76 ft (NGVD 29). July 7, 1898 to June 30, 1901, and May 15, 1903, to Oct. 31, 1905, nonrecording gage at site 7 mi downstream at different elevation. Oct. 4, 1939, to Sept. 30, 1955, nonrecording gage at site 1.3 mi downstream at elevation 21.82 ft lower.

REMARKS.--Water-discharge records excellent except those for estimated daily discharges, which are fair. Flow slightly regulated by Nevada Creek Reservoir (station number 12336500). Diversions for irrigation of about 20,000 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	679	638	618	456	857	565	975	2,430	3,230	2,140	697	489
2	674	631	583	e370	837	571	993	2,280	3,770	2,030	694	480
3	668	639	576	e350	810	575	1,010	2,180	4,070	1,920	687	478
4	667	634	572	e300	795	578	1,060	2,140	4,190	1,800	655	482
5	662	628	554	e330	784	577	1,080	2,170	4,210	1,670	642	479
6	648	626	555	e350	762	584	1,080	2,380	4,370	1,590	625	474
7	655	621	557	e400	715	595	1,100	2,860	4,360	1,480	610	472
8	644	619	556	e470	711	610	1,210	3,440	4,170	1,410	600	471
9	638	633	561	e470	710	635	1,360	3,740	3,900	1,350	589	466
10	627	648	564	e500	690	665	1,420	4,030	3,600	1,320	580	494
11	621	650	609	e530	677	675	1,440	4,200	3,350	1,290	577	512
12	614	647	666	e550	681	724	1,480	4,490	3,240	1,240	578	518
13	607	637	650	e600	679	755	1,480	4,500	3,250	1,180	587	519
14	597	629	635	e550	675	761	1,590	4,170	3,070	1,110	591	510
15	588	620	663	e450	657	760	1,560	4,150	2,960	1,070	580	500
16	602	612	647	e400	606	772	1,510	4,470	2,910	1,020	571	488
17	642	611	641	e450	599	787	1,530	5,140	2,980	1,010	571	537
18	669	604	637	e530	609	779	1,580	5,200	3,290	991	571	571
19	672	604	637	e650	629	772	1,590	4,910	3,200	959	578	561
20	661	605	643	e850	644	763	1,570	4,890	2,970	924	575	532
21	671	577	630	e1,100	606	769	1,560	4,670	2,780	886	571	505
22	673	588	627	1,170	568	759	1,510	4,400	2,680	862	e560	497
23	676	587	538	1,130	570	754	1,520	4,200	2,570	843	e550	509
24	683	605	498	1,080	576	722	1,820	3,990	2,420	817	e540	506
25	685	654	628	1,030	574	724	2,180	3,730	2,300	800	e525	528
26	671	709	654	999	567	713	2,520	3,480	2,240	788	e530	526
27	660	670	638	982	563	737	2,840	3,310	2,220	771	e530	515
28	655	633	e550	968	560	875	2,850	3,220	2,390	750	e515	505
29	652	594	e500	941	---	979	2,750	3,220	2,380	731	e490	500
30	648	587	e550	922	---	998	2,600	3,220	2,270	713	481	503
31	643	---	592	890	---	982	---	3,190	---	702	484	---
TOTAL	20,152	18,740	18,529	20,768	18,711	22,515	48,768	114,400	95,340	36,167	17,934	15,127
MEAN	650	625	598	670	668	726	1,626	3,690	3,178	1,167	579	504
MAX	685	709	666	1,170	857	998	2,850	5,200	4,370	2,140	697	571
MIN	588	577	498	300	560	565	975	2,140	2,220	702	481	466
AC-FT	39,970	37,170	36,750	41,190	37,110	44,660	96,730	226,900	189,100	71,740	35,570	30,000
CFSM	0.28	0.27	0.26	0.29	0.29	0.32	0.71	1.61	1.39	0.51	0.25	0.22
IN.	0.33	0.30	0.30	0.34	0.30	0.37	0.79	1.86	1.55	0.59	0.29	0.25

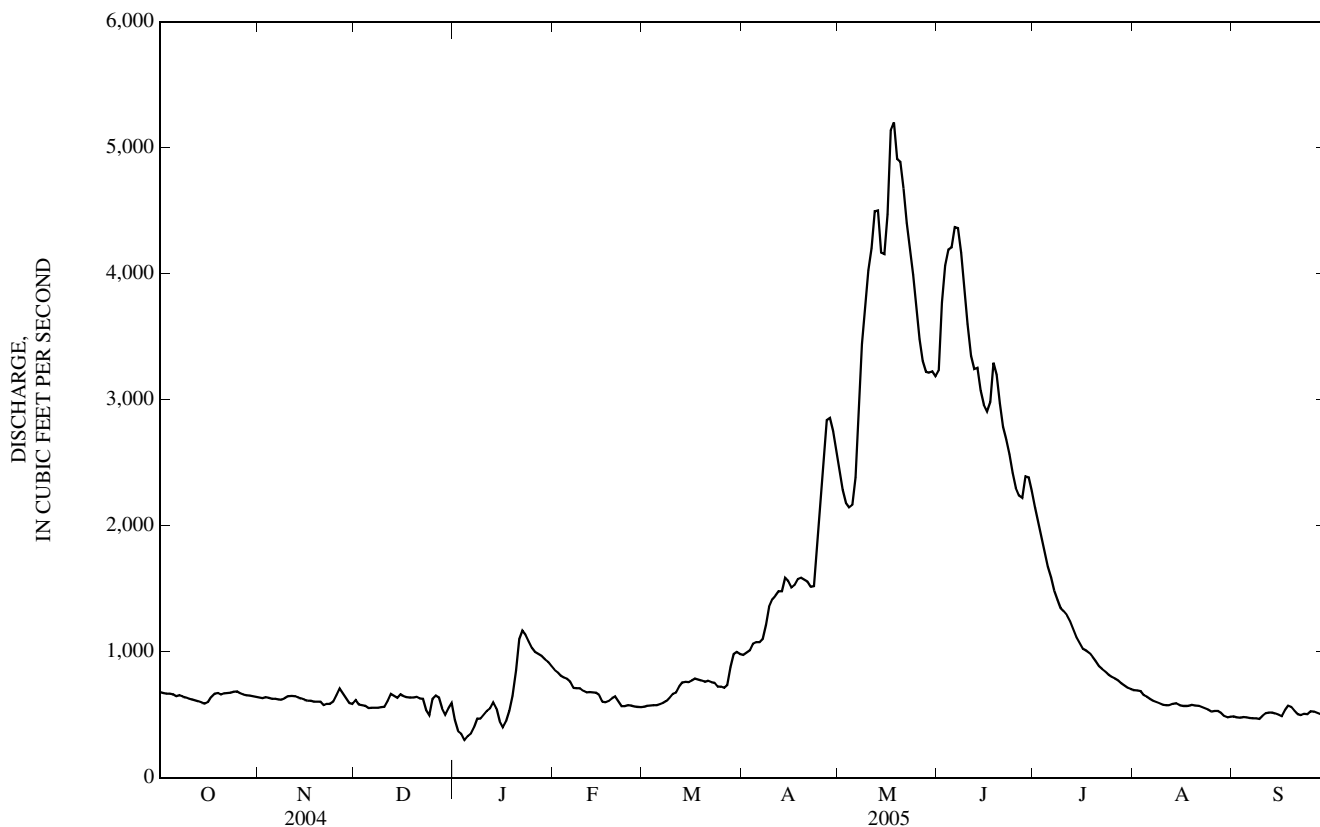
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1898 - 2005, BY WATER YEAR (WY)*

MEAN	653	649	606	554	599	782	2,052	4,867	4,877	1,844	831	670
MAX	1,547	1,480	1,555	1,069	1,668	2,351	4,727	9,802	13,610	6,557	1,921	1,250
(WY)	(1960)	(1960)	(1996)	(1976)	(1971)	(1986)	(1943)	(1997)	(1899)	(1899)	(1899)	(1899)
MIN	370	369	332	348	359	435	463	1,096	1,158	533	365	363
(WY)	(1988)	(1988)	(1988)	(1988)	(1993)	(1988)	(1905)	(1941)	(1987)	(1977)	(1988)	(1988)

12340000 BLACKFOOT RIVER NEAR BONNER, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1898 - 2005*	
ANNUAL TOTAL	454,318		447,151			
ANNUAL MEAN	1,241		1,225		1,567	
HIGHEST ANNUAL MEAN					2,480	1976
LOWEST ANNUAL MEAN					558	1941
HIGHEST DAILY MEAN	4,500	May 9	5,200	May 18	18,000	Jun 10, 1964
LOWEST DAILY MEAN	300	Jan 6	300	Jan 4	200	Jan 4, 1950
ANNUAL SEVEN-DAY MINIMUM	377	Jan 1	365	Jan 1	239	Dec 21, 1983
MAXIMUM PEAK FLOW			5,360	May 17	a19,200	Jun 10, 1964
MAXIMUM PEAK STAGE			6.02	May 17	b16.00	Feb 9, 1996
INSTANTANEOUS LOW FLOW					c156	Feb 2, 1989
ANNUAL RUNOFF (AC-FT)	901,100		886,900		1,136,000	
ANNUAL RUNOFF (CFSM)	0.542		0.535		0.684	
ANNUAL RUNOFF (INCHES)	7.38		7.26		9.30	
10 PERCENT EXCEEDS	3,130		3,220		4,070	
50 PERCENT EXCEEDS	664		670		730	
90 PERCENT EXCEEDS	455		508		450	

*--During periods of operation (1900-01, 1904, 1940 to current year).
 a--Gage height, 10.89 ft.
 b--Backwater from ice.
 c--Gage height, 1.20 ft, but may have been less during a period of ice effect.
 e--Estimated.



12340000 BLACKFOOT RIVER NEAR BONNER, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1956-59, 1985 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 22.5°C, July 19, 2003; minimum, 0.0°C on many days during winter periods.
SUSPENDED-SEDIMENT DISCHARGE: July 1986 to April 1987, June 1988 to September 1995.

REMARKS.--Daily water temperature record good. Missing daily water temperature data from Jan. 1-16 due to backwater problems from ice conditions.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 22.5°C, July 19, 2003; minimum, 0.0°C on many days during winter periods.
SEDIMENT CONCENTRATION: Maximum daily mean, 335 mg/L, May 19, 1991; minimum daily mean, 1 mg/L on many days.
SEDIMENT LOAD: Maximum daily, 8,100 tons, May 19, 1991; minimum daily, 0.54 ton, Feb. 8, 1995.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 22.0°C, July 13; minimum, 0.0°C on many days November through February.

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

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity white light, det ang 90+/-30 correctd NTRU (63676)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	
DEC	20...	1215	641	<2.0	679	12.3	100	8.4	240	3.0	2.0	120	30.2	11.0
APR	20...	1415	1,570	2.2	678	11.2	102	8.4	185	6.5	6.5	91	23.2	7.99
MAY	18...	0930	5,250	30	670	9.5	96	8.2	161	11.0	9.0	77	20.2	6.51
JUN	03...	0845	4,070	13	674	9.2	90	8.3	172	9.0	9.0	89	23.6	7.28
JUL	27...	0745	772	2.0	681	8.0	89	8.4	247	10.0	15.0	130	32.6	12.3
AUG	24...	1455	E540	<2.0	678	9.6	109	8.6	257	19.5	16.0	140	33.6	12.7

Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, wat unfltrd by analysis, mg/L (62855)	Aluminum, water, fltrd, ug/L (01106)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recoverable, ug/L (01042)	
DEC	20...	<.010	E.013	E.001	<.006	.006	.09	--	.9	<2	E.02	<.04	E.4	E.3
APR	20...	<.010	<.016	E.001	E.003	.016	.17	5	.8	<2	<.04	<.04	.9	1.2
MAY	18...	E.006	.040	<.002	E.005	.064	.33	19	.8	<2	<.04	E.03	1.1	4.8
JUN	03...	<.010	E.015	<.002	E.003	.042	.18	11	.8	<2	E.02	<.04	.9	2.7
JUL	27...	<.010	E.011	<.002	<.006	.010	.16	<2	1.2	1.1	<.04	<.04	.6	1.2
AUG	24...	E.005	E.012	E.001	<.006	.008	.15	<2	1.4	1.5	<.04	<.04	.6	.7

E--Estimated.

12340000 BLACKFOOT RIVER NEAR BONNER, MT—Continued

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

Date	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recover-able, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover-able, ug/L (01051)	Mangan-ese, water, fltrd, ug/L (01056)	Mangan-ese, water, unfltrd recover-able, ug/L (01055)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)	Suspnd. sedi-ment, percent <.063mm (70331)	Sus-pended sedi-ment concen-tration mg/L (80154)	Sus-pended sedi-ment dis-charge, tons/d (80155)
DEC 20...	<6	30	<.08	<.06	.8	2	<.6	<2	73	2	3.5
APR 20...	12	100	<.08	.13	1.9	12	.9	<2	81	6	25
MAY 18...	24	750	E.05	1.34	2.1	54	1.1	6	87	66	936
JUN 03...	29	400	.09	.62	1.7	33	.6	4	89	33	363
JUL 27...	E5	50	<.08	.10	1.6	9	.7	E1	82	4	8.3
AUG 24...	E4	30	<.08	E.04	1.5	6	.6	<2	81	2	E2.9

E--Estimated.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

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

PEND OREILLE RIVER BASIN

12340000 BLACKFOOT RIVER NEAR BONNER, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	2.0	1.5	1.5	4.5	2.5	3.5	7.0	4.5	6.0	9.5	7.0	8.0
2	2.5	1.5	2.0	4.5	2.5	3.5	8.5	6.0	7.0	10.5	7.5	9.0
3	2.0	0.5	1.5	4.5	2.0	3.5	7.5	6.0	6.5	11.0	8.5	9.5
4	2.0	0.5	1.5	4.5	2.0	3.5	7.5	6.0	6.5	10.0	8.5	9.5
5	2.5	1.5	1.5	5.0	2.5	4.0	7.5	5.5	6.5	11.5	9.0	10.0
6	1.5	1.0	1.0	6.0	3.5	5.0	9.0	5.5	7.0	13.0	11.0	11.5
7	1.0	0.0	0.5	6.5	4.0	5.5	9.0	7.0	8.0	12.0	10.5	11.0
8	1.0	0.0	0.5	7.5	4.5	6.0	10.0	8.0	8.5	11.5	10.0	10.5
9	1.5	0.0	1.0	7.5	4.5	6.5	8.5	6.5	7.5	10.0	9.0	9.5
10	1.0	0.0	0.5	8.0	5.5	6.5	8.5	6.5	7.5	9.0	8.5	9.0
11	0.5	0.0	0.5	7.0	4.5	6.0	8.0	6.0	7.0	8.5	8.0	8.0
12	2.0	0.0	1.0	6.5	5.0	5.5	8.5	6.0	7.5	10.0	7.5	8.5
13	2.5	1.5	2.0	5.5	3.5	4.5	7.5	6.0	6.5	10.0	8.5	9.5
14	2.5	1.5	1.5	6.0	3.5	4.5	6.5	4.5	5.5	11.0	9.5	10.5
15	1.5	0.0	1.0	6.0	3.5	5.0	8.0	5.0	6.5	11.0	10.0	11.0
16	0.5	0.0	0.0	5.0	4.0	4.5	9.5	6.0	7.5	11.0	10.5	11.0
17	0.5	0.0	0.0	5.0	3.0	4.0	9.0	8.0	8.5	10.5	9.5	10.0
18	0.0	0.0	0.0	4.5	3.0	4.0	8.0	7.0	7.5	10.0	9.0	9.5
19	0.0	0.0	0.0	5.5	3.0	4.5	8.0	7.0	7.5	11.0	9.5	10.0
20	0.5	0.0	0.0	6.5	4.0	5.0	7.0	6.5	7.0	11.0	9.5	10.0
21	1.5	0.0	0.5	6.0	4.0	5.0	7.5	5.5	6.5	11.0	9.5	10.0
22	1.5	0.0	0.5	5.5	4.0	4.5	10.0	6.5	8.0	11.0	10.0	10.5
23	1.5	0.0	0.5	4.0	2.5	3.0	10.5	8.0	9.5	11.0	9.0	10.0
24	1.5	0.0	1.0	3.0	1.5	2.5	11.5	9.0	10.0	11.0	9.0	10.0
25	2.0	0.0	1.0	4.5	2.5	3.5	12.0	9.0	10.0	11.0	9.5	10.5
26	2.5	0.5	1.5	5.0	3.0	4.0	11.5	9.0	10.0	12.5	10.0	11.5
27	3.0	0.5	2.0	6.0	4.5	5.5	10.5	8.5	9.0	13.0	11.0	12.0
28	3.0	0.5	2.0	7.5	5.5	6.0	8.5	6.5	7.5	14.0	12.0	13.0
29	---	---	---	6.5	5.0	6.0	8.0	5.5	6.5	14.0	12.5	13.0
30	---	---	---	6.0	4.5	5.5	8.5	6.0	7.0	13.5	12.0	12.5
31	---	---	---	6.5	4.5	5.5	---	---	---	13.0	11.5	12.0
MONTH	3.0	0.0	1.0	8.0	1.5	4.5	12.0	4.5	7.5	14.0	7.0	10.5
	JUNE			JULY			AUGUST			SEPTEMBER		
1	11.5	10.0	11.0	18.5	16.0	17.0	21.0	17.0	19.0	15.5	12.0	14.0
2	10.0	9.0	9.5	18.0	16.0	16.5	20.0	17.5	19.0	15.5	12.5	14.5
3	9.5	9.0	9.0	17.5	15.0	16.0	20.5	17.0	19.0	16.0	13.5	15.0
4	12.0	9.5	10.5	18.0	14.5	16.0	21.0	16.5	19.0	16.0	13.5	14.5
5	12.5	11.5	12.0	19.0	15.5	17.0	21.0	17.0	19.0	16.0	13.0	15.0
6	12.5	11.5	11.5	19.5	16.5	18.0	21.0	17.0	19.5	16.0	13.0	14.5
7	11.5	10.0	10.5	20.5	17.5	18.5	21.0	17.5	19.5	16.0	12.5	14.5
8	10.5	10.0	10.0	21.0	17.5	19.0	20.0	18.0	19.0	16.0	12.5	14.5
9	10.5	9.5	10.0	19.5	16.5	18.0	21.0	17.0	19.0	15.0	13.0	14.0
10	11.5	10.0	11.0	17.5	14.5	16.0	20.5	17.5	19.0	13.0	11.5	12.5
11	13.0	11.5	12.0	19.5	15.5	17.0	20.5	17.0	19.0	12.5	10.5	11.5
12	13.0	11.0	12.0	21.0	16.5	18.5	19.0	16.5	17.5	11.5	10.0	11.0
13	12.0	10.0	11.0	22.0	18.0	20.0	18.0	14.5	16.5	12.5	10.5	11.5
14	13.0	11.5	12.5	21.0	17.5	19.0	18.0	14.0	16.0	13.0	10.0	11.5
15	15.5	13.0	14.0	21.0	17.0	19.0	18.0	14.5	16.5	13.5	10.5	12.0
16	15.0	14.0	14.5	20.5	18.5	19.5	18.0	15.0	16.5	12.5	10.5	12.0
17	14.0	12.5	13.0	19.5	16.5	18.0	17.0	15.0	16.0	12.0	11.5	11.5
18	13.0	11.0	12.0	20.0	15.5	18.0	16.5	14.0	15.0	13.0	11.0	12.0
19	14.5	11.5	13.0	20.5	16.5	18.5	17.0	13.0	15.0	13.5	11.0	12.0
20	16.5	14.0	15.0	20.5	16.5	18.5	17.5	13.5	15.5	13.0	10.0	12.0
21	17.5	16.0	16.5	20.5	16.5	18.5	18.5	14.5	16.5	13.0	10.5	12.0
22	18.5	16.0	17.0	20.0	17.5	18.5	18.0	15.0	16.5	12.0	10.0	11.0
23	18.0	16.5	17.5	20.5	17.5	19.0	18.0	16.0	17.0	11.5	10.0	10.5
24	17.0	15.5	16.5	20.5	16.5	18.5	16.5	14.5	15.5	10.0	9.5	10.0
25	16.0	14.5	15.5	19.5	17.0	18.5	16.0	12.5	14.5	11.0	8.5	9.5
26	15.0	14.0	14.5	19.0	15.5	17.5	16.5	12.5	14.5	11.5	8.5	10.0
27	15.0	13.5	14.5	20.0	15.5	17.5	17.0	13.5	15.5	11.5	9.0	10.5
28	14.5	14.0	14.0	19.5	16.0	18.0	17.5	14.0	16.0	11.0	8.5	10.0
29	15.0	13.5	14.0	20.5	16.5	18.5	17.5	14.5	16.0	11.0	9.0	10.0
30	17.5	14.0	15.5	21.0	17.0	19.0	16.0	13.5	14.5	11.5	11.0	11.5
31	---	---	---	20.5	17.0	19.0	15.0	11.5	13.5	---	---	---
MONTH	18.5	9.0	13.0	22.0	14.5	18.0	21.0	11.5	17.0	16.0	8.5	12.0

12340500 CLARK FORK ABOVE MISSOULA, MT

LOCATION.--Lat 46°52'38", long 113°55'53" (NAD 27), in NW¹/₄NW¹/₄NW¹/₄ sec.19, T.13 N., R.18 W., Missoula County, Hydrologic Unit 17010204, on right bank 0.2 mi downstream from county road bridge, 2.8 mi east of Missoula, 2.8 mi downstream from Milltown Dam, 3.0 mi downstream from Blackfoot River, and at river mile 361.6.

DRAINAGE AREA.--5,999 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1929 to current year. Monthly discharge only for some periods, published in WSP 1316.

REVISED RECORDS.--WSP 1042: 1936. WSP 1152: 1942. WSP 1246: 1929-30, 1935, drainage area. WSP 1316: 1932-33.

GAGE.--Water-stage recorder. Elevation of gage is 3,198.30 ft (NGVD 29) (levels by U.S. Army Corps of Engineers). Prior to May 27, 1929, nonrecording gage.

REMARKS.--Water-discharge records good except those for Nov. 12 to Dec. 2, and Jan. 1-20, which are fair, and those for estimated daily discharges, which are poor. Diurnal fluctuation caused by powerplant at Milltown. Diversions for irrigation of about 120,000 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1908 reached a discharge of 48,000 ft³/s, provided by The Montana Power Company.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,510	1,370	1,190	e950	1,450	1,100	1,560	3,450	5,700	4,630	1,230	923
2	1,470	1,330	1,250	e700	1,470	1,140	1,560	3,210	7,130	4,250	1,220	940
3	1,460	1,370	1,250	e630	1,420	1,130	1,600	3,040	8,140	3,990	1,220	936
4	1,440	1,350	1,220	e530	1,380	1,130	1,660	2,970	8,800	3,700	1,120	930
5	1,420	1,370	1,210	e500	1,390	1,150	1,670	3,000	9,050	3,510	1,100	899
6	1,420	1,360	1,200	e550	1,370	1,160	1,660	3,240	8,980	3,280	1,090	895
7	1,430	1,330	1,210	e630	1,260	1,170	1,680	3,840	8,890	3,050	1,060	905
8	1,430	1,370	1,230	e800	1,230	1,200	1,830	4,530	8,330	2,820	1,060	911
9	1,390	1,350	1,230	e830	1,270	1,240	2,010	5,090	7,620	2,730	1,030	908
10	1,390	1,350	1,230	e850	1,220	1,320	2,080	5,690	6,940	2,590	1,050	960
11	1,370	1,360	1,280	e900	1,190	1,290	2,080	6,630	6,380	2,580	1,030	1,010
12	1,360	1,350	1,340	e950	1,220	1,340	2,080	7,600	6,310	2,510	1,010	1,050
13	1,360	1,330	1,340	e1,050	1,210	1,390	2,070	7,410	6,780	2,410	1,020	1,050
14	1,360	1,310	1,270	e1,000	1,230	1,340	2,240	6,740	6,320	2,250	1,040	1,070
15	1,360	1,300	1,350	e830	1,200	1,330	2,280	6,660	5,970	2,220	1,040	1,080
16	1,370	1,290	1,330	e700	1,120	1,320	2,110	7,060	5,950	2,070	1,010	1,050
17	1,410	1,310	1,310	e800	1,030	1,360	2,200	8,330	6,130	2,020	990	1,170
18	1,450	1,300	1,290	e1,000	1,030	1,350	2,310	9,070	7,050	1,970	986	1,330
19	1,460	1,270	1,300	e1,250	1,110	1,320	2,360	8,680	7,040	1,910	1,030	1,350
20	1,450	1,290	1,290	e1,500	1,130	1,310	2,370	9,170	6,240	1,810	1,020	1,310
21	1,450	1,260	1,280	e1,900	1,180	1,330	2,380	8,900	5,820	1,690	1,000	1,210
22	1,480	1,170	1,290	e2,100	1,120	1,350	2,320	8,580	5,600	1,660	971	1,190
23	1,460	1,230	e1,100	e2,000	1,100	1,320	2,290	8,200	5,460	1,590	984	1,220
24	1,450	1,300	e900	1,920	1,100	1,280	2,610	7,800	5,170	1,520	977	1,240
25	1,460	1,390	e1,100	1,740	1,100	1,240	2,980	7,150	4,790	1,470	960	1,320
26	1,410	1,440	1,300	1,690	1,110	1,260	3,450	6,600	4,670	1,450	973	1,340
27	1,400	1,400	1,210	1,660	1,110	1,260	3,930	6,070	4,670	1,430	962	1,330
28	1,390	1,260	e1,000	1,650	1,090	1,420	4,000	5,790	5,020	1,430	945	1,300
29	1,380	1,220	e900	1,630	---	1,600	3,840	5,680	5,170	1,380	921	1,280
30	1,380	1,140	e1,100	1,610	---	1,650	3,630	5,640	4,970	1,310	911	1,280
31	1,370	---	e1,200	1,530	---	1,600	---	5,540	---	1,260	907	---
TOTAL	43,940	39,470	37,700	36,380	33,840	40,400	70,840	191,360	195,090	72,490	31,867	33,387
MEAN	1,417	1,316	1,216	1,174	1,209	1,303	2,361	6,173	6,503	2,338	1,028	1,113
MAX	1,510	1,440	1,350	2,100	1,470	1,650	4,000	9,170	9,050	4,630	1,230	1,350
MIN	1,360	1,140	900	500	1,030	1,100	1,560	2,970	4,670	1,260	907	895
AC-FT	87,150	78,290	74,780	72,160	67,120	80,130	140,500	379,600	387,000	143,800	63,210	66,220

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2005, BY WATER YEAR (WY)

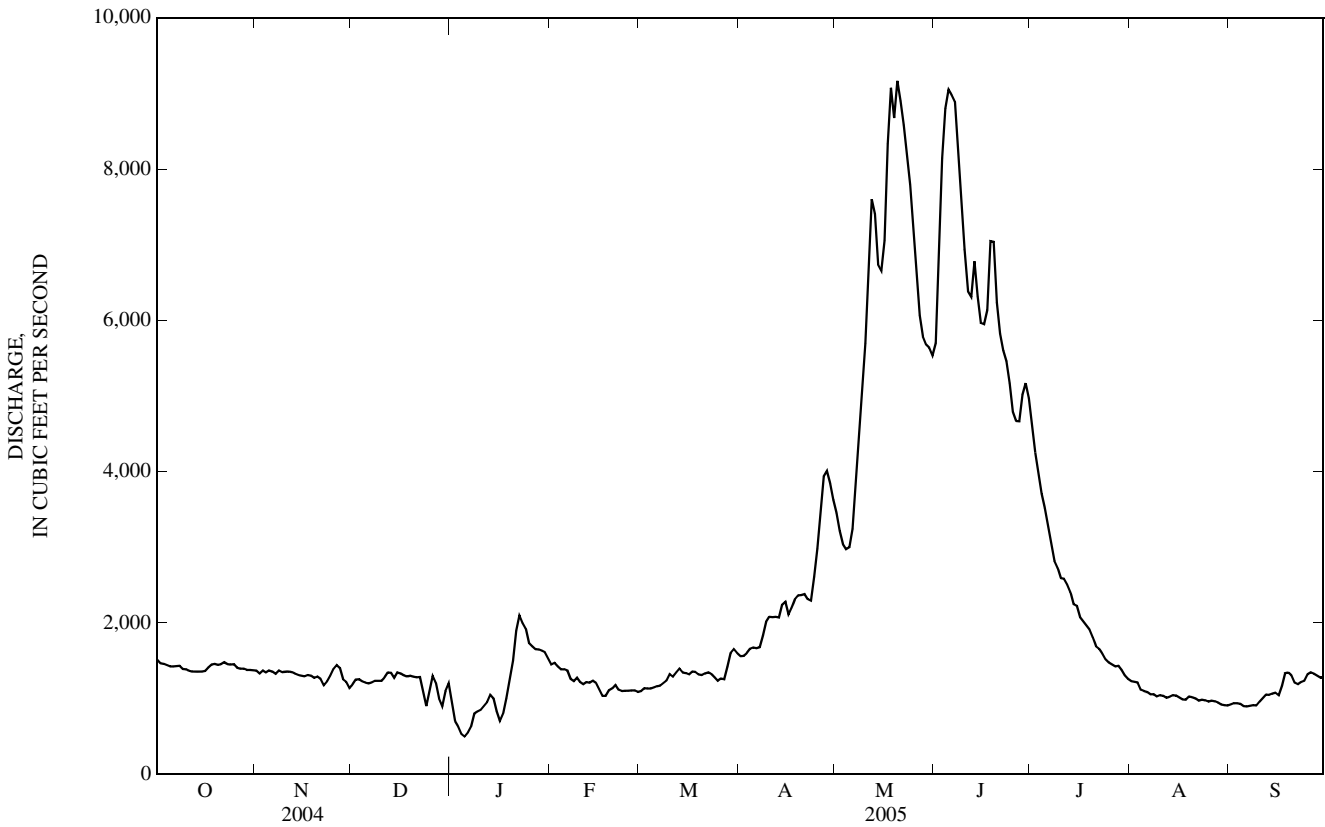
MEAN	1,551	1,548	1,409	1,321	1,465	1,858	3,702	7,824	8,192	3,133	1,476	1,395
MAX	2,987	2,852	3,323	2,546	3,431	4,124	10,080	17,240	19,270	8,759	3,448	2,874
(WY)	(1960)	(1960)	(1976)	(1976)	(1996)	(1986)	(1934)	(1976)	(1975)	(1975)	(1975)	(1965)
MIN	854	882	874	606	674	1,037	1,191	2,005	2,122	868	627	653
(WY)	(1936)	(1938)	(1945)	(1937)	(1933)	(1937)	(1941)	(1941)	(1992)	(1931)	(1988)	(1937)

PEND OREILLE RIVER BASIN

12340500 CLARK FORK ABOVE MISSOULA, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1929 - 2005	
ANNUAL TOTAL	760,300		826,764			
ANNUAL MEAN	2,077		2,265		2,914	
HIGHEST ANNUAL MEAN					5,071	
LOWEST ANNUAL MEAN					1,344	
HIGHEST DAILY MEAN	6,050	Jun 7	9,170	May 20	30,800	Jun 21, 1975
LOWEST DAILY MEAN	500	Jan 7	500	Jan 5	340	Sep 27, 1937
ANNUAL SEVEN-DAY MINIMUM	721	Jan 4	620	Jan 2	446	Jan 7, 1937
MAXIMUM PEAK FLOW			9,400	May 20	32,300	Jun 21, 1975
MAXIMUM PEAK STAGE			7.09	May 20	13.75	Jun 21, 1975
INSTANTANEOUS LOW FLOW					a115	Oct 25, 1943
ANNUAL RUNOFF (AC-FT)	1,508,000		1,640,000		2,111,000	
10 PERCENT EXCEEDS	4,320		5,870		6,820	
50 PERCENT EXCEEDS	1,380		1,360		1,650	
90 PERCENT EXCEEDS	1,060		981		1,000	

a--Gage height, 0.64 ft.
e--Estimated.



12340500 CLARK FORK ABOVE MISSOULA, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969-71, 1977-83, 1986 to current year. Water years 1969-71 samples collected 3.4 miles downstream from gaging station.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: June 1977 to September 1983, February 2002 to September 2002.

SUSPENDED-SEDIMENT DISCHARGE: July 1986 to April 1987, June 1988 to January 1996, March 1996 to March 2003, August 2003 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 22.5°C, Aug. 7, 8, 1983, July 13-15, 2002; minimum, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATION: Maximum daily mean, 592 mg/L, May 18, 1997; minimum daily mean, 1 mg/L, on many days from 1990 to 1994, and 1999 to 2001.

SEDIMENT LOAD: Maximum daily, 42,200 tons, May 18, 1997; minimum daily, 1.6 tons, Dec. 27, 1992.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATION: Maximum daily mean, 116 mg/L, May 12; minimum daily mean, 2 mg/L, on many days in November, December, February, August, and September.

SEDIMENT LOAD: Maximum daily, 2,380 tons, May 12; minimum daily, 4.0 tons, Jan. 5.

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

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity white light, det ang 90+/-30 correctd NTRU (63676)	pH, water, unfltrd field, std units (00400)	Specific conductance, water unfiltered, 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)
DEC 20...	1350	1,290	<2.0	8.6	323	3.5	3.0	150	40.5	12.2
MAR 10...	0750	1,280	2.2	8.4	312	4.5	7.0	150	40.3	11.8
APR 20...	1030	2,360	3.3	8.4	248	7.5	7.0	120	31.2	9.30
MAY 18...	0715	9,110	37	8.1	170	8.5	9.5	77	20.7	6.11
JUN 03...	0645	7,960	15	8.2	193	8.5	9.0	91	25.1	6.79
JUN 29...	1235	5,180	5.7	8.3	243	17.0	13.5	120	32.9	8.39
JUL 27...	0900	1,430	<2.0	8.5	276	16.0	18.0	140	37.0	11.6
AUG 24...	1630	959	<2.0	8.5	306	21.5	16.0	150	39.4	12.3

Date	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd, ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water unfltrd, ug/L (01027)	Copper, water, fltrd, ug/L (01040)	Copper, water unfltrd recoverable, ug/L (01042)	Iron, water, fltrd, ug/L (01046)	Iron, water unfltrd recoverable, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water unfltrd recoverable, ug/L (01051)
DEC 20...	3.2	3	E.03	.04	1.4	3.3	<6	70	<.08	.43
MAR 10...	3.6	3	<.04	.05	2.1	6.5	7	120	E.05	.73
APR 20...	2.5	2	<.04	.06	1.4	5.5	13	150	E.05	.83
MAY 18...	2.7	6	<.04	.22	2.3	26.2	43	1,260	.16	5.91
JUN 03...	4.0	7	E.03	.21	4.2	31.9	32	930	.17	5.32
JUN 29...	5.4	6	E.03	.10	4.3	14.8	16	330	.09	2.23
JUL 27...	3.8	4.0	<.04	.06	2.4	6.1	9	80	E.05	.52
AUG 24...	3.7	3.9	<.04	E.03	1.8	4.2	7	80	E.04	.46

E--Estimated.

12340500 CLARK FORK ABOVE MISSOULA, MT—Continued

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

Date	Mangan- ese, water, fltrd, ug/L (01056)	Mangan- ese, water, unfltrd recover- able, ug/L (01055)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover- able, ug/L (01092)	Suspnd. sedi- ment, percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment dis- charge, tons/d (80155)
DEC 20...	7.5	12	2.3	6	86	5	17
MAR 10...	30.3	34	6.3	9	90	7	24
APR 20...	14.1	25	1.5	9	92	9	57
MAY 18...	8.8	121	2.4	44	90	89	2,190
JUN 03...	8.0	122	3.9	48	90	55	1,180
JUN 29...	13.6	49	3.8	19	89	18	252
JUL 27...	13.8	25	1.3	8	92	5	19
AUG 24...	14.1	30	1.2	5	84	5	13

SUSPENDED-SEDIMENT
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Day	Mean concentration (mg/l)		Load (tons/day)		Mean concentration (mg/l)		Load (tons/day)		Mean concentration (mg/l)		Load (tons/day)		Mean concentration (mg/l)		Load (tons/day)	
	Mean concentration (mg/l)	Load (tons/day)	Mean concentration (mg/l)	Load (tons/day)	Mean concentration (mg/l)	Load (tons/day)	Mean concentration (mg/l)	Load (tons/day)	Mean concentration (mg/l)	Load (tons/day)	Mean concentration (mg/l)	Load (tons/day)	Mean concentration (mg/l)	Load (tons/day)	Mean concentration (mg/l)	Load (tons/day)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH					
1	6	24	5	18	3	9.6	3	7.7	6	23	5	15				
2	7	28	4	14	3	10	3	5.7	6	24	6	18				
3	7	28	3	11	3	10	3	5.1	6	23	4	12				
4	6	23	3	11	3	9.9	3	4.3	5	19	5	15				
5	5	19	3	11	2	6.5	3	4.0	5	19	5	16				
6	5	19	3	11	2	6.5	3	4.5	4	15	6	19				
7	5	19	3	11	2	6.5	3	5.1	4	14	6	19				
8	6	23	3	11	2	6.6	3	6.5	4	13	6	19				
9	5	19	3	11	3	10	4	9.0	3	10	6	20				
10	5	19	3	11	3	10	4	9.2	4	13	9	32				
11	4	15	2	7.3	4	14	4	9.7	4	13	6	21				
12	4	15	2	7.3	3	11	4	10	5	16	6	22				
13	5	18	2	7.2	2	7.2	3	8.5	5	16	6	23				
14	5	18	2	7.1	2	6.9	3	8.1	5	17	9	33				
15	6	22	2	7.0	2	7.3	3	6.7	6	19	8	29				
16	6	22	2	7.0	2	7.2	3	5.7	7	21	7	25				
17	6	23	3	11	2	7.1	3	6.5	8	22	7	26				
18	6	23	3	11	2	7.0	5	14	7	19	9	33				
19	5	20	3	10	2	7.0	6	20	6	18	7	25				
20	5	20	2	7.0	4	14	12	49	5	15	7	25				
21	5	20	2	6.8	4	14	10	51	4	13	7	25				
22	4	16	2	6.3	3	10	9	51	3	9.1	6	22				
23	4	16	3	10	2	5.9	7	38	2	5.9	7	25				
24	4	16	3	11	2	4.9	6	31	2	5.9	4	14				
25	3	12	3	11	3	8.9	4	19	2	5.9	6	20				
26	3	11	4	16	3	11	4	18	3	9.0	6	20				
27	3	11	4	15	3	9.8	4	18	3	9.0	6	20				
28	3	11	3	10	3	8.1	5	22	4	12	8	31				
29	3	11	3	9.9	3	7.3	5	22	---	---	10	43				
30	3	11	3	9.2	3	8.9	5	22	---	---	9	40				
31	4	15	---	---	3	9.7	8	33	---	---	10	43				
TOTAL	---	567	---	307.1	---	272.8	---	524.3	---	418.8	---	750				

12340500 CLARK FORK ABOVE MISSOULA, MT—Continued

SUSPENDED-SEDIMENT—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Day	Mean concentration (mg/l)		Load (tons/day)		Mean concentration (mg/l)		Load (tons/day)		Mean concentration (mg/l)		Load (tons/day)	
	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER						
1	10	42	10	93	18	277	13	163	7	23	3	7.5
2	8	34	10	87	30	578	9	103	6	20	3	7.6
3	9	39	9	74	58	1,270	8	86	6	20	3	7.6
4	8	36	8	64	81	1,920	8	80	5	15	3	7.5
5	8	36	9	73	90	2,200	8	76	4	12	3	7.3
6	8	36	8	70	68	1,650	8	71	4	12	2	4.8
7	8	36	12	124	60	1,440	8	66	4	11	3	7.3
8	8	40	20	245	52	1,170	8	61	5	14	3	7.4
9	12	65	27	371	34	700	9	66	4	11	3	7.4
10	10	56	32	492	26	487	8	56	4	11	3	7.8
11	11	62	48	859	25	431	7	49	4	11	4	11
12	9	51	116	2,380	20	341	6	41	5	14	4	11
13	8	45	114	2,280	28	513	5	33	5	14	5	14
14	8	48	65	1,180	28	478	5	30	5	14	5	14
15	9	55	55	989	22	355	5	30	5	14	4	12
16	10	57	50	953	23	369	5	28	4	11	6	17
17	8	48	66	1,480	23	381	5	27	5	13	4	13
18	10	62	80	1,960	54	1,030	5	27	4	11	6	22
19	9	57	64	1,500	44	836	5	26	4	11	5	18
20	8	51	71	1,760	30	505	5	24	3	8.3	5	18
21	8	51	58	1,390	23	361	5	23	3	8.1	5	16
22	10	63	57	1,320	20	302	5	22	3	7.9	5	16
23	10	62	53	1,170	19	280	5	21	3	8.0	6	20
24	10	70	46	969	15	209	5	21	4	11	5	17
25	9	72	36	695	17	220	5	20	4	10	5	18
26	13	121	31	552	16	202	5	20	3	7.9	5	18
27	21	223	26	426	14	177	6	23	3	7.8	5	18
28	14	151	22	344	16	217	4	15	2	5.1	5	18
29	13	135	18	276	18	251	4	15	2	5.0	5	17
30	12	118	18	274	16	215	4	14	2	4.9	5	17
31	---	---	18	269	---	---	6	20	2	4.9	---	---
TOTAL	---	2,022	---	24,719	---	19,365	---	1,357	---	350.9	---	397.2

Total load for year = 51,051.1 tons.

12342500 WEST FORK BITTERROOT RIVER NEAR CONNER, MT

LOCATION.--Lat 45°43'30", long 114°16'50" (NAD 27), in SE¹/₄NE¹/₄NW¹/₄ sec.26, T.1 S., R.22 W., Ravalli County, Hydrologic Unit 17010205, on right bank 0.6 mi downstream from Painted Rocks Lake, 6.4 mi upstream from Nez Perce Creek, 16.1 mi southwest of Conner, and at river mile 19.2.

DRAINAGE AREA.--317 mi².

PERIOD OF RECORD.--April 1941 to current year.

REVISED RECORDS.--WSP 1246: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 4,581.36 ft (NGVD 29) (U.S. Forest Service bench mark).

REMARKS.--Records good. Flow regulated by Painted Rocks Lake (station 12342000). Diversions for irrigation of about 200 acres upstream from station. Bureau of Reclamation satellite telemeter at station. Several unpublished observations of water temperature and specific conductance were made during the year

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67	60	58	60	63	63	65	76	686	252	337	189
2	68	60	58	61	63	63	66	76	659	231	334	159
3	69	60	58	61	63	63	66	78	626	218	333	157
4	69	60	58	61	63	63	66	80	577	210	333	157
5	69	60	58	61	63	63	66	80	542	202	333	157
6	69	60	58	61	63	63	66	80	546	191	333	157
7	69	60	69	61	63	63	66	81	519	184	330	155
8	69	60	70	61	63	63	66	81	488	177	329	154
9	69	60	60	61	63	64	66	82	461	167	330	154
10	69	60	60	61	63	64	67	83	437	171	331	154
11	69	60	60	61	63	64	67	85	430	178	337	154
12	69	60	61	61	63	64	67	85	475	168	342	154
13	64	60	61	61	63	64	68	87	449	158	338	154
14	60	60	61	61	63	64	68	87	420	150	337	151
15	60	60	61	61	63	64	69	87	409	144	333	147
16	60	60	60	61	63	64	69	88	403	136	333	140
17	61	60	60	61	63	64	69	89	417	132	331	140
18	61	59	60	61	63	64	69	384	412	129	329	140
19	61	58	60	61	63	64	71	809	388	169	325	138
20	61	58	60	61	63	64	71	948	365	194	323	137
21	61	58	60	61	63	64	71	972	347	190	320	137
22	61	58	60	61	63	64	71	930	333	190	318	118
23	61	58	60	61	63	64	71	903	318	191	316	93
24	61	58	60	61	63	64	71	843	306	190	274	93
25	61	58	60	61	63	64	72	771	288	265	237	93
26	61	58	60	61	63	64	73	719	284	339	236	93
27	61	58	60	61	63	64	74	679	291	338	232	93
28	61	58	60	62	63	64	74	663	285	338	232	82
29	61	58	60	63	---	64	75	663	284	338	231	74
30	61	58	60	63	---	64	76	662	268	338	228	74
31	60	---	60	63	---	64	---	645	---	338	228	---
TOTAL	1,983	1,775	1,871	1,897	1,764	1,976	2,076	11,996	12,713	6,616	9,503	3,998
MEAN	64.0	59.2	60.4	61.2	63.0	63.7	69.2	387	424	213	307	133
MAX	69	60	70	63	63	64	76	972	686	339	342	189
MIN	60	58	58	60	63	63	65	76	268	129	228	74
AC-FT	3,930	3,520	3,710	3,760	3,500	3,920	4,120	23,790	25,220	13,120	18,850	7,930

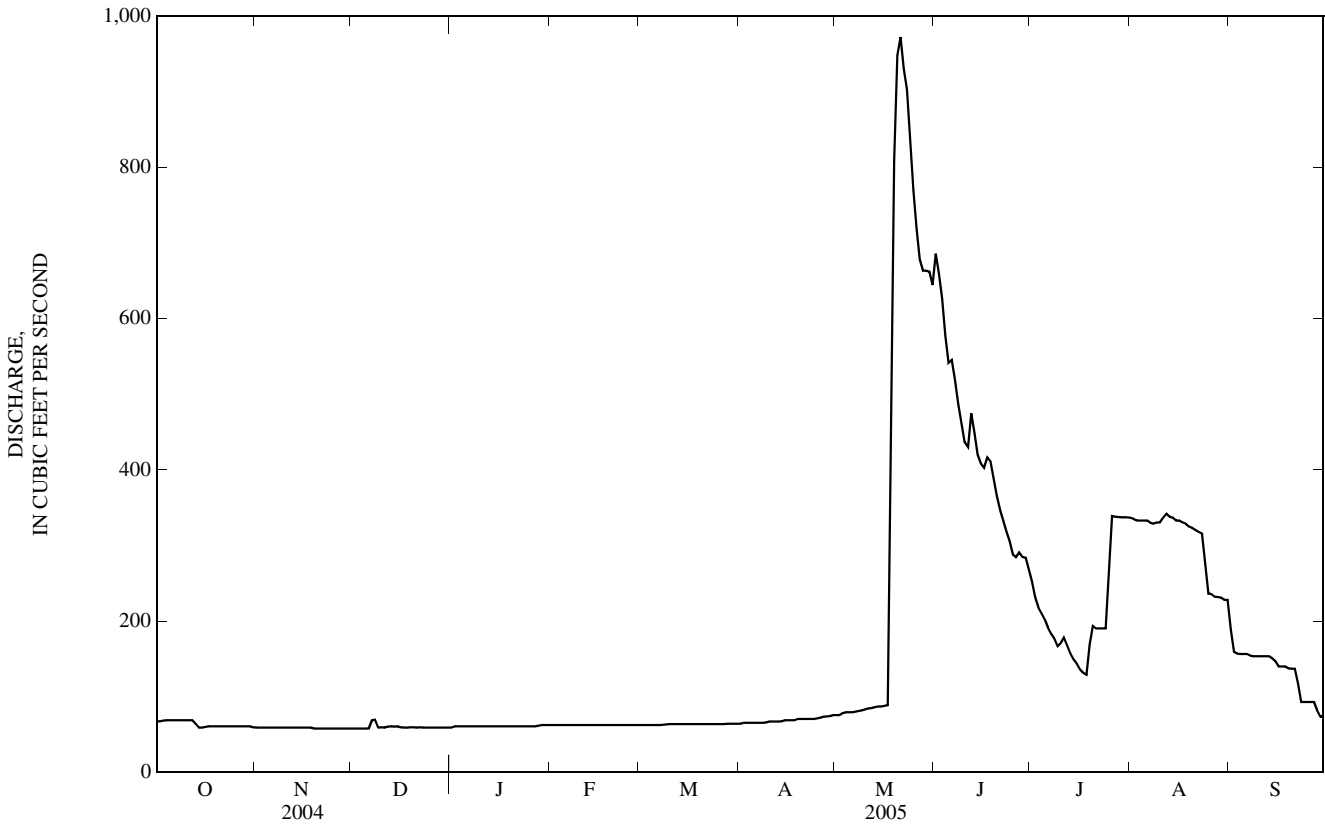
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2005, BY WATER YEAR (WY)

MEAN	153	111	90.0	83.0	79.5	92.8	201	799	901	264	205	178
MAX	484	416	270	243	215	277	719	2,011	1,960	633	439	385
(WY)	(1943)	(1945)	(1960)	(1957)	(1957)	(1952)	(1956)	(1947)	(1964)	(1975)	(1995)	(1973)
MIN	52.3	53.3	27.8	21.4	6.80	7.85	8.65	119	118	127	84.5	62.4
(WY)	(1999)	(1988)	(1958)	(1977)	(1944)	(1944)	(1944)	(1977)	(1987)	(1973)	(1945)	(1944)

12342500 WEST FORK BITTERROOT RIVER NEAR CONNER, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1941 - 2005	
ANNUAL TOTAL	67,216		58,168		265	
ANNUAL MEAN	184		159		120	
HIGHEST ANNUAL MEAN					457	1976
LOWEST ANNUAL MEAN					120	1977
HIGHEST DAILY MEAN	701	May 23	972	May 21	3,900	May 9, 1947
LOWEST DAILY MEAN	a58	Nov 19	58	Nov 19	b0.60	May 3, 1954
ANNUAL SEVEN-DAY MINIMUM	58	Nov 19	58	Nov 19	0.66	May 1, 1954
MAXIMUM PEAK FLOW			991	May 21	4,060	May 9, 1947
MAXIMUM PEAK STAGE			3.22	May 21	6.18	May 9, 1947
INSTANTANEOUS LOW FLOW					c0.20	Nov 25, 1952
ANNUAL RUNOFF (AC-FT)	133,300		115,400		191,900	
10 PERCENT EXCEEDS	424		340		624	
50 PERCENT EXCEEDS	108		68		115	
90 PERCENT EXCEEDS	60		60		58	

a--Nov. 19 to Dec. 6.
 b--May 3-7, 1954.
 c--Dam shutdown.



PEND OREILLE RIVER BASIN

12343400 EAST FORK BITTERROOT RIVER NEAR CONNER, MT

LOCATION.--Lat 45°53'00", long 114°03'53" (NAD 27), in NE¹/₄SW¹/₄NE¹/₄ sec.34, T.2 N., R.20 W., Ravalli County, Hydrologic Unit 17010205, on right bank 10 ft downstream from private bridge, 4.3 mi southwest of Conner, and at river mile 6.1.

DRAINAGE AREA.--381 mi².

PERIOD OF RECORD.--March 2001 to current year.

GAGE.--Elevation is 4,191.81 ft (NGVD 29).

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

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unfiltered uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Particulate nitrogen, susp, water, mg/L (49570)	Total nitrogen, wat unfiltered by analysis, mg/L (62855)
APR 20...	1515	167	8.1	111	6.0	5.5	<.016	<.002	.04	.14
MAY 17...	1200	1,210	7.9	66	10.0	6.5	.081	E.001	.45	.68
JUN 22...	1215	479	8.1	78	27.5	14.5	<.016	<.002	.06	.16
AUG 29...	1245	69	8.2	117	25.0	15.0	<.016	E.001	.04	.10

Date	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Organic carbon, suspnd sediment total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Suspnd. sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
APR 20...	<.006	.020	.5	2.7	82	3	1.4
MAY 17...	.010	.122	6.0	6.2	44	111	363
JUN 22...	E.005	.030	.8	2.8	56	7	9.1
AUG 29...	E.004	.021	.4	--	88	3	.56

Date	Time	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)	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)
APR 20...	1515	44	14.0	2.13	1.09	.3	3.86	47	1.35	.2	13.1
JUN 22...	1215	32	10.6	1.44	.86	.2	2.46	36	.59	E.1	11.7

Date	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)	Arsenic water, fltrd, ug/L (01000)	Arsenic water, unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)	Chromium, water, fltrd, ug/L (01030)	Chromium, water, unfltrd recoverable, ug/L (01034)
APR 20...	3.5	67	.09	30.3	.3	<2	E.03	<.04	<.8	<.8
JUN 22...	2.1	51	.07	66.2	.3	<2	E.03	E.03	<.8	E.6

E--Estimated.

12343400 EAST FORK BITTERROOT RIVER NEAR CONNER, MT—Continued

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

Date	Copper, water, filtrd, ug/L (01040)	Copper, water, unfiltrd recover- able, ug/L (01042)	Lead, water, filtrd, ug/L (01049)	Lead, water, unfiltrd recover- able, ug/L (01051)	Nickel, water, filtrd, ug/L (01065)	Nickel, water, unfiltrd recover- able, ug/L (01067)	Zinc, water, filtrd, ug/L (01090)	Zinc, water, unfiltrd recover- able, ug/L (01092)
APR 20...	E.3	E.5	.26	.14	<.06	.29	.8	<2
JUN 22...	.5	.7	.23	.44	.50	.31	1.0	E2

E--Estimated.

PEND OREILLE RIVER BASIN

12344000 BITTERROOT RIVER NEAR DARBY, MT

LOCATION.--Lat 45°58'20", long 114°08'26" (NAD 27), in SW¹/₄ SE¹/₄ NE¹/₄ sec.36, T.3 N., R.21 W., Ravalli County, Hydrologic Unit 17010205, on left bank 50 ft upstream from bridge on U.S. Highway 93, 0.3 mi downstream from Chaffin Creek, 4.1 mi southeast of Darby, and at river mile 77.2.

DRAINAGE AREA.--1,049 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1937 to current year. Monthly discharge only for April 1937, published in WSP 1316.

REVISED RECORDS.--WSP 1246: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,942.14 ft (NGVD 29). Prior to Oct. 1, 1987, at elevation 1.00 ft higher. Prior to Aug. 2, 1939, nonrecording gage at highway bridge 45 ft upstream at same elevation.

REMARKS.--Water-discharge records good. Some regulation by Painted Rocks Lake (station number 12342000). Diversions for irrigation of about 5,000 acres upstream from station. Ditch bypassing station irrigates about 500 acres downstream from station. U.S. Geological Survey satellite telemeter at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	344	251	228	206	277	233	285	716	2,430	1,010	554	327
2	334	259	266	176	266	229	288	703	2,130	970	567	266
3	327	285	229	e150	262	227	301	728	2,010	884	553	257
4	319	261	222	e140	266	230	308	773	1,830	815	531	252
5	311	248	200	e130	267	232	297	859	1,790	768	518	252
6	303	263	220	e150	230	240	294	1,050	1,890	741	510	249
7	300	266	232	e180	242	249	341	1,300	1,760	717	506	247
8	297	264	243	e190	249	265	479	1,340	1,590	691	506	244
9	290	269	231	e190	204	281	476	1,450	1,460	665	511	242
10	285	275	240	e195	215	307	436	1,840	1,360	641	505	278
11	283	271	295	204	212	324	416	1,690	1,320	642	503	287
12	278	263	317	206	249	341	415	1,440	1,550	603	498	275
13	275	251	277	211	260	325	425	1,350	1,480	568	488	279
14	265	248	269	e200	232	306	430	1,440	1,380	539	483	277
15	264	251	271	e180	208	302	401	1,640	1,430	507	476	269
16	259	260	256	e190	187	295	417	1,890	1,530	482	471	256
17	256	254	240	218	186	290	461	2,440	1,690	460	469	334
18	272	239	245	260	211	256	466	2,130	1,640	432	470	376
19	274	253	253	367	237	286	468	3,090	1,470	429	465	324
20	267	238	248	409	241	283	461	3,280	1,400	467	459	290
21	273	179	230	389	234	279	453	3,140	1,450	445	452	274
22	275	194	226	357	217	267	458	2,920	1,510	438	447	264
23	272	265	168	341	208	267	505	2,890	1,420	432	448	228
24	275	260	185	324	210	233	585	2,630	1,270	420	430	243
25	264	274	250	316	215	266	743	2,370	1,180	436	359	249
26	261	272	242	315	214	245	913	2,250	1,160	548	353	238
27	263	202	198	320	213	283	1,090	2,210	1,140	546	346	230
28	264	208	172	314	216	319	946	2,240	1,160	540	345	224
29	263	161	194	311	---	319	851	2,310	1,150	541	339	208
30	259	161	232	298	---	295	785	2,230	1,080	542	335	204
31	265	---	221	284	---	277	---	2,120	---	542	336	---
TOTAL	8,737	7,345	7,300	7,721	6,428	8,551	15,194	58,459	45,660	18,461	14,233	7,943
MEAN	282	245	235	249	230	276	506	1,886	1,522	596	459	265
MAX	344	285	317	409	277	341	1,090	3,280	2,430	1,010	567	376
MIN	256	161	168	130	186	227	285	703	1,080	420	335	204
AC-FT	17,330	14,570	14,480	15,310	12,750	16,960	30,140	116,000	90,570	36,620	28,230	15,750

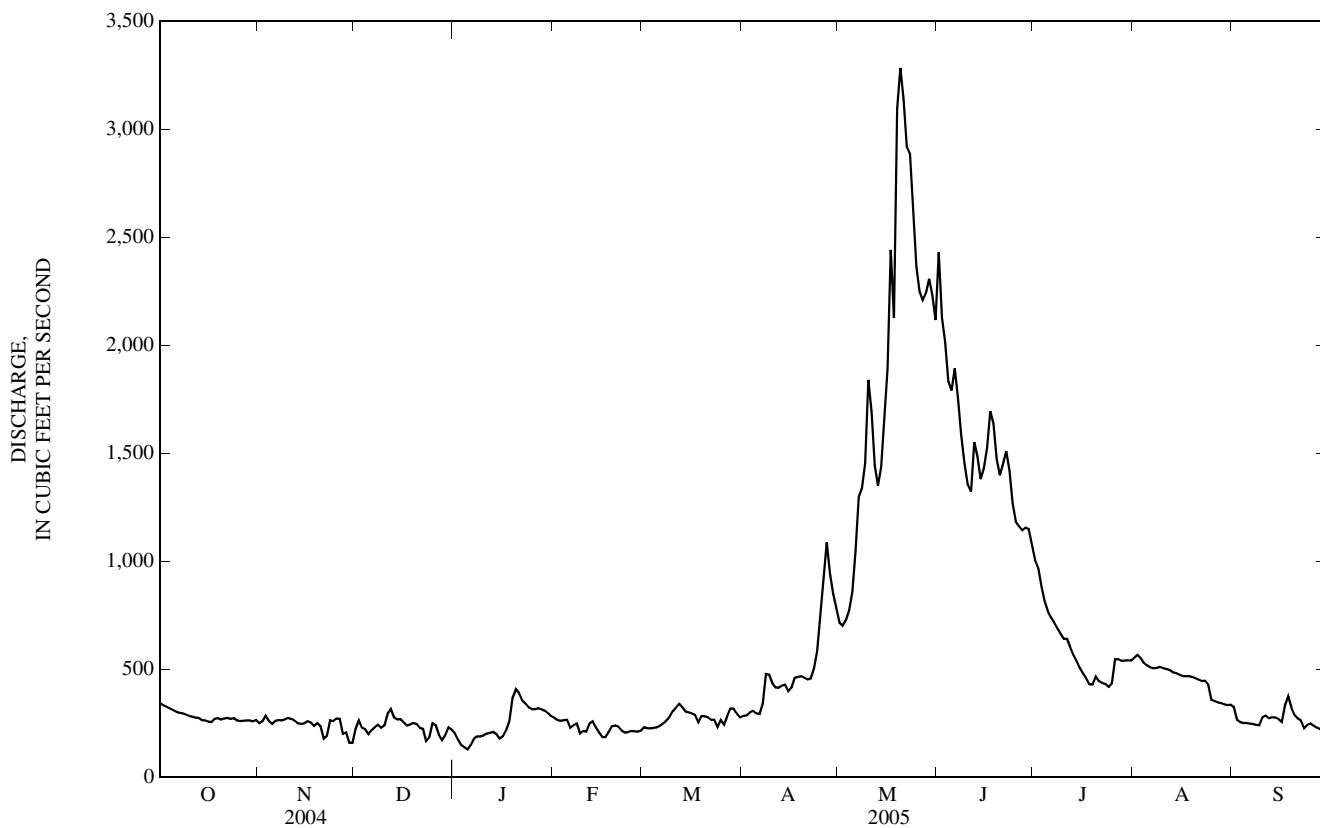
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 2005, BY WATER YEAR (WY)

MEAN	353	312	278	249	269	354	967	2,850	3,025	968	411	350
MAX	1,020	788	765	421	791	1,011	2,530	5,995	6,235	2,608	751	634
(WY)	(1947)	(1947)	(1947)	(1947)	(1996)	(1972)	(1943)	(1947)	(1964)	(1975)	(1975)	(1941)
MIN	143	144	138	125	125	139	306	1,110	678	210	141	129
(WY)	(1938)	(1988)	(1988)	(1988)	(1941)	(1944)	(1937)	(1977)	(1987)	(1940)	(1940)	(1937)

12344000 BITTERROOT RIVER NEAR DARBY, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1937 - 2005	
ANNUAL TOTAL	243,558		206,032			
ANNUAL MEAN	665		564		872	
HIGHEST ANNUAL MEAN					1,423	1976
LOWEST ANNUAL MEAN					454	1987
HIGHEST DAILY MEAN	2,770	Jun 6	3,280	May 20	11,000	May 9, 1947
LOWEST DAILY MEAN	130	Jan 5	130	Jan 5	80	Feb 9, 1939
ANNUAL SEVEN-DAY MINIMUM	163	Jan 3	159	Jan 2	98	Jan 1, 1988
MAXIMUM PEAK FLOW			3,600	May 19	a11,500	May 9, 1947
MAXIMUM PEAK STAGE			5.00	May 19	8.45	May 31, 2003
INSTANTANEOUS LOW FLOW					b71	Feb 9, 1939
ANNUAL RUNOFF (AC-FT)	483,100		408,700		631,600	
10 PERCENT EXCEEDS	1,750		1,450		2,330	
50 PERCENT EXCEEDS	453		297		367	
90 PERCENT EXCEEDS	190		211		195	

a--Gage height, 8.18 ft, datum then in use.
 b--Observed.
 c--Estimated.



WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1997-98, October 2000 to to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Seasonal records, April 2001 to current year.

INSTRUMENTATION.--Temperature probe installed Mar. 27, 2001.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE (seasonal records): Maximum, 24.5°C, Aug. 8, 2001; minimum, 0.5°C, Apr. 2, 3, 2002.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE (seasonal records): Maximum, 21.5°C, July 13; minimum, 0.0°C, many days during winter.

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Particulate nitrogen, susp, water, mg/L (49570)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)
APR 20...	1630	453	7.6	78	6.0	5.0	E.010	<.002	.04	<.006	.011
MAY 17...	1400	2,410	7.6	44	14.0	7.0	.054	<.002	.15	E.005	.059
JUN 22...	1345	1,500	8.0	49	29.0	14.0	<.016	<.002	.06	<.006	.016
AUG 29...	1330	346	7.8	77	23.0	16.5	E.008	E.001	.04	<.006	.010

Date	Total nitrogen, wat unfltrd by analysis, mg/L (62855)	Organic carbon, suspnd sediment total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Suspnd. sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
APR 20...	.12	.5	2.2	76	4	4.9
MAY 17...	.44	1.6	4.4	47	54	351
JUN 22...	.12	.5	2.3	64	5	20
AUG 29...	.11	.4	--	81	2	1.9

Date	Time	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)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt fxd end lab, mg/L as CaCO3 (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)
APR 20...	1630	31	9.77	1.54	.91	.2	3.11	33	.80	.2	11.4	2.7
JUN 22...	1345	13	4.09	.564	.43	.2	1.41	23	.37	.1	8.5	1.6

E--Estimated.

12344000 BITTERROOT RIVER NEAR DARBY, MT—Continued

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

Date	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)	Chrom-ium, water, fltrd, ug/L (01030)	Chrom-ium, water, unfltrd recover-able, ug/L (01034)	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recover-able, ug/L (01042)
APR 20...	50	.07	61.7	.2	<2	<.04	<.04	<.8	<.8	.5	.8
JUN 22...	31	.04	125	E.1	<2	.04	E.03	<.8	<.8	1.1	1.1

Date	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover-able, ug/L (01051)	Nickel, water, fltrd, ug/L (01065)	Nickel, water, unfltrd recover-able, ug/L (01067)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)
APR 20...	E.05	.18	<.06	.33	<.6	E1
JUN 22...	.18	.19	.27	.28	1.8	E2

E--Estimated.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

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

PEND OREILLE RIVER BASIN

12344000 BITTERROOT RIVER NEAR DARBY, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	2.0	0.0	1.0	5.5	1.5	3.0	6.0	3.0	4.5	9.5	3.5	6.5
2	2.0	0.0	1.0	5.0	1.0	3.0	8.5	3.5	5.5	10.0	4.5	7.5
3	2.5	0.0	1.0	5.0	0.5	2.5	7.0	4.0	5.5	9.5	6.0	8.0
4	2.5	0.5	1.5	5.0	0.5	3.0	5.5	3.5	4.5	8.5	5.5	7.0
5	2.0	0.5	1.5	5.5	1.0	3.0	8.5	3.0	5.5	10.0	6.0	8.0
6	1.5	0.0	0.5	5.5	1.0	3.5	10.5	3.5	7.0	10.0	6.0	8.0
7	1.5	0.0	0.5	6.5	2.5	4.5	10.0	6.0	8.0	9.0	5.0	7.0
8	1.5	0.0	0.5	7.0	3.0	5.0	8.5	6.0	7.0	9.5	6.0	7.5
9	1.5	0.0	0.5	7.0	2.5	5.0	7.0	4.5	5.5	8.5	6.0	7.0
10	1.5	0.0	0.5	8.0	4.0	6.0	8.5	4.0	6.0	6.5	5.0	5.5
11	1.5	0.0	0.5	6.5	2.0	4.5	7.0	3.5	5.5	6.5	4.5	5.5
12	2.0	0.0	1.0	5.5	2.0	4.0	8.5	4.5	6.5	10.0	4.5	7.0
13	2.0	1.0	1.5	4.5	0.5	2.5	7.0	4.5	5.5	10.5	5.5	8.0
14	2.0	0.0	1.0	4.5	1.0	3.0	7.5	3.0	5.0	9.5	6.0	8.0
15	0.5	0.0	0.0	5.0	1.5	3.0	9.0	2.5	5.5	9.0	6.0	7.5
16	0.5	0.0	0.5	4.0	1.0	3.0	10.5	4.0	7.0	7.5	6.5	7.0
17	1.0	0.0	0.5	5.0	2.0	3.0	8.5	6.0	6.5	8.0	5.0	6.5
18	1.0	0.0	0.5	4.0	0.5	2.0	7.5	4.5	6.0	8.5	5.5	7.0
19	1.5	0.0	0.5	6.0	1.0	3.5	6.0	4.0	4.5	10.0	6.5	8.0
20	1.5	0.5	1.0	6.5	3.5	4.5	5.5	3.5	4.5	8.5	6.0	7.5
21	3.5	0.5	1.5	4.5	2.5	3.5	9.0	3.5	6.5	10.5	6.0	8.0
22	3.0	0.0	1.5	4.0	2.0	3.0	11.5	5.0	8.0	9.0	7.0	8.0
23	2.5	0.0	1.0	3.0	0.0	1.5	9.5	6.0	8.0	10.5	6.0	8.0
24	3.0	0.0	1.0	3.0	0.0	1.5	10.5	6.5	8.5	9.5	5.5	7.5
25	3.5	0.0	1.5	5.5	1.0	3.0	11.5	5.5	8.5	11.0	5.5	8.0
26	3.5	0.0	1.5	5.0	1.0	3.0	10.5	5.5	8.0	12.0	6.0	8.5
27	3.5	0.0	1.5	6.0	3.5	4.5	9.0	3.5	5.5	13.0	6.5	9.5
28	3.5	0.0	2.0	7.0	4.0	5.0	7.0	2.0	4.5	13.0	7.5	10.0
29	---	---	---	5.0	2.0	3.5	6.5	2.5	4.5	12.5	7.5	10.0
30	---	---	---	5.5	2.0	3.5	9.0	3.0	5.5	12.5	6.5	9.5
31	---	---	---	7.0	1.5	4.5	---	---	---	10.5	7.5	9.0
MONTH	3.5	0.0	1.0	8.0	0.0	3.5	11.5	2.0	6.0	13.0	3.5	7.5
	JUNE			JULY			AUGUST			SEPTEMBER		
1	10.0	8.0	9.0	17.5	11.0	14.5	17.5	12.0	15.0	17.0	11.5	14.5
2	9.0	7.5	8.5	17.0	12.0	14.5	17.5	12.5	15.0	17.0	11.5	14.5
3	9.5	7.5	8.5	16.5	10.5	13.5	18.5	11.5	15.0	16.5	12.5	14.5
4	13.0	7.0	9.5	17.0	10.5	14.0	18.5	11.0	15.0	17.0	12.0	14.5
5	10.5	8.0	9.5	18.0	11.5	15.0	19.0	12.0	15.5	17.0	12.0	14.5
6	10.0	7.5	9.0	19.0	12.5	15.5	18.0	12.0	15.5	17.0	11.0	14.0
7	10.5	7.0	8.5	19.5	13.0	16.5	19.5	12.5	16.0	17.5	11.5	14.5
8	10.0	7.0	8.5	19.5	13.5	16.5	17.5	13.5	15.5	17.0	12.0	14.5
9	10.0	7.0	8.5	17.5	13.0	15.0	18.5	13.0	15.5	15.5	12.5	14.0
10	12.0	7.5	9.5	14.5	11.5	13.0	18.5	12.5	16.0	14.5	11.0	12.5
11	12.5	8.0	10.0	19.0	12.0	15.5	18.0	12.0	15.0	14.0	8.5	11.5
12	11.0	8.5	10.0	20.5	13.0	16.5	17.0	11.5	14.5	12.5	9.0	11.0
13	12.0	6.5	9.5	21.5	15.0	18.0	17.5	11.5	14.5	13.5	10.5	12.0
14	12.5	8.0	10.5	20.0	14.0	17.0	17.5	11.0	14.5	15.0	9.0	12.0
15	14.5	9.5	12.0	20.5	13.5	17.0	18.0	11.5	15.0	16.0	10.5	13.5
16	12.5	9.0	10.5	20.5	15.5	17.5	17.5	12.0	15.0	13.5	10.5	12.5
17	11.0	9.0	10.0	19.5	13.0	16.0	16.0	12.0	14.5	12.5	11.0	12.0
18	11.5	8.0	9.5	20.0	13.0	16.5	17.0	11.5	14.5	13.0	10.0	11.5
19	13.0	7.5	10.5	20.5	14.5	17.5	18.0	11.5	15.0	14.5	9.0	11.5
20	15.5	9.0	12.0	20.0	14.0	17.0	19.0	12.0	15.5	15.0	10.0	12.5
21	14.5	10.5	12.5	19.5	13.5	17.0	19.5	13.0	16.5	15.0	10.5	12.5
22	16.0	10.5	13.0	19.5	14.0	16.5	18.0	13.5	16.0	13.0	9.0	11.5
23	16.0	11.0	13.5	20.0	14.5	17.5	18.5	13.5	16.0	12.0	9.5	11.0
24	16.0	10.0	13.0	19.5	13.5	16.5	16.5	12.0	14.5	10.0	7.5	9.0
25	14.0	10.5	12.5	18.5	13.5	16.0	17.5	11.0	14.5	13.0	7.5	10.0
26	14.0	11.0	12.5	17.5	10.5	14.5	18.0	12.0	15.0	13.5	7.5	10.5
27	13.5	10.0	12.0	18.0	10.5	14.5	18.5	12.5	15.5	13.5	8.5	11.0
28	13.0	10.5	12.0	16.5	11.0	14.0	19.0	13.0	16.5	13.0	7.5	10.5
29	13.5	10.5	12.0	17.5	11.5	14.5	17.5	13.0	15.5	13.0	8.0	10.5
30	16.0	9.5	13.0	17.0	11.5	14.5	16.0	12.5	14.5	14.0	10.0	12.0
31	---	---	---	18.0	12.0	15.0	17.0	10.5	13.5	---	---	---
MONTH	16.0	6.5	10.5	21.5	10.5	15.5	19.5	10.5	15.0	17.5	7.5	12.5

12350250 BITTERROOT RIVER AT BELL CROSSING, NEAR VICTOR, MT

LOCATION.--Lat 46°26'36", long 114°07'22" (NAD 27), in NW¹/₄NW¹/₄NE¹/₄ sec. 20, T.8 N., R.20 W., Ravalli County, Hydrologic Unit 17010205, on right bank 20 ft downstream from highway bridge at Bell Crossing, 1.5 mi northeast of Victor, 2.0 mi upstream from Big Creek, and at river mile 38.3.

DRAINAGE AREA.--1,963 mi².

PERIOD OF RECORD.--April 1987 to current year (seasonal records only).

GAGE.--Water-stage recorder. Elevation of gage is 3,330 ft (NGVD 29).

REMARKS.--Seasonal records good. Some regulation by Painted Rocks Lake (station number 12342000). Diversions for irrigation of about 80,000 acres upstream from station. Several unpublished observations of water temperature and specific conductance were made during the year.

DISCHARGE, CUBIC FEET PER SECOND, CALENDAR YEAR JANUARY TO DECEMBER 2005
DAILY MEAN VALUES

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1							1,660	260	239			
2							1,530	286	236			
3							1,340	301	216			
4							1,160	287	212			
5							1,010	272	209			
6							905	249	208			
7							830	235	203			
8							782	236	199			
9							729	239	202			
10							697	247	237			
11							664	253	266			
12							621	264	269			
13							555	280	286			
14							501	277	299			
15							431	277	309			
16							379	273	314			
17							337	265	411			
18							320	274	494			
19							286	281	482			
20							270	272	454			
21							268	265	430			
22							241	255	418			
23							235	251	410			
24							227	255	428			
25							214	248	450			
26							221	226	437			
27							253	222	426			
28							260	222	403			
29							259	223	400			
30							252	224	394			
31							254	232	---			
TOTAL							17,691	7,951	9,941			
MEAN							571	256	331			
MAX							1,660	301	494			
MIN							214	222	199			
AC-FT							35,090	15,740	19,720			

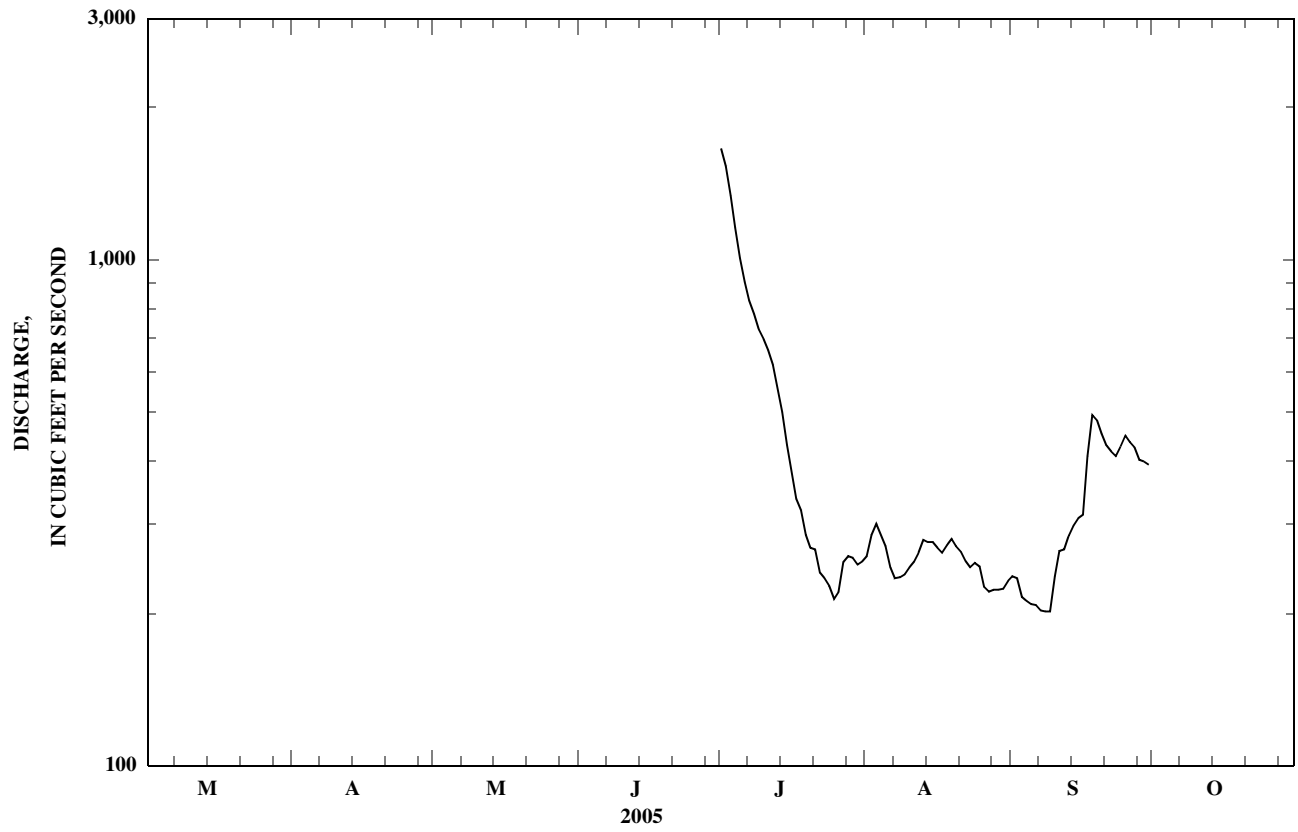
STATISTICS OF MONTHLY MEAN DATA FOR SEASONS 1987 - 2005

MEAN		1,713	3,769	5,158	1,165	379	404	541	1,798
MAX		3,052	5,177	11,060	2,665	670	890	947	1,798
(WY)		(1990)	(2003)	(1996)	(1996)	(1993)	(2004)	(1996)	(1996)
MIN		747	3,092	1,372	207	95.8	145	397	1,798
(WY)		(1991)	(1987)	(1987)	(1987)	(1988)	(1987)	(1989)	(1996)

SUMMARY STATISTICS

	FOR 2005 SEASON		FOR SEASONS 1987 - 2005	
HIGHEST DAILY MEAN	1,660	Jul 1	17,500	Jun 9, 1996
LOWEST DAILY MEAN	199	Sep 8	63	Jul 16, 1987
MAXIMUM PEAK FLOW			a18,700	Jun 9, 1996
MAXIMUM PEAK STAGE			10.82	May 31, 2003
INSTANTANEOUS LOW FLOW			60	Jul 16, 1987

a--Gage height, 10.07 ft.



12351200 BITTERROOT RIVER NEAR FLORENCE, MT

LOCATION.--Lat 46°38'00", long 114°03'00" (NAD 27), in SW¹/₄SE¹/₄SE¹/₄sec. 12, T.10 N., R.20 W., Ravalli County, Hydrologic Unit 17010205, on right bank 85 ft upstream from bridge on State secondary Highway 203, 1.3 mi east of Florence, 240 ft upstream from Eightmile Creek, and at river mile 22.7.

DRAINAGE AREA.--2,354 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1957 to December 1965, October 2002 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,200 ft (NGVD 29). Prior to Jan. 1, 1966, nonrecording gage at different datum.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are fair. Some regulation by Painted Rocks Lake (station number 12342000). Diversions for irrigation of about 105,000 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,260	917	674	731	927	650	780	1,620	5,780	3,060	513	510
2	1,200	901	761	660	888	660	782	1,470	6,050	2,830	536	508
3	1,150	922	801	e550	860	654	785	1,390	5,670	2,480	575	491
4	1,100	946	768	e500	843	654	810	1,460	5,280	2,140	570	476
5	1,070	898	729	e450	835	655	806	1,660	4,770	1,860	550	469
6	1,030	897	711	e430	816	659	735	2,210	5,080	1,650	530	453
7	999	899	730	e500	763	675	732	3,040	4,730	1,540	508	446
8	981	894	758	e600	781	702	870	3,350	4,240	1,440	511	433
9	962	902	772	e630	747	734	1,120	3,540	3,720	1,340	519	431
10	933	918	767	e630	701	772	1,090	4,800	3,390	1,280	526	479
11	920	927	858	e650	690	824	1,020	5,190	3,230	1,210	521	531
12	905	915	1,090	e670	714	886	964	4,190	3,480	1,120	540	551
13	884	902	1,090	683	769	930	964	3,650	3,700	1,010	561	566
14	855	882	1,020	673	756	890	1,040	3,840	3,310	913	568	583
15	835	871	988	e600	701	851	955	4,410	3,430	809	561	601
16	825	875	957	e630	637	824	881	4,930	3,810	743	558	588
17	883	870	919	e670	588	819	919	6,590	4,150	677	549	677
18	906	847	890	792	610	801	1,020	5,880	4,660	648	567	792
19	925	832	886	1,210	657	767	1,020	6,030	4,140	605	574	802
20	920	833	900	1,580	720	780	1,030	8,180	3,940	553	571	759
21	918	797	872	1,510	715	776	974	7,340	4,060	548	548	729
22	930	743	846	1,410	684	761	932	6,740	4,330	517	535	705
23	938	782	748	1,290	640	769	919	6,950	4,300	504	540	693
24	940	833	643	1,210	637	730	1,040	6,220	3,780	489	553	713
25	933	838	776	1,160	642	719	1,450	5,430	3,330	472	560	748
26	915	879	851	1,120	641	724	1,940	4,950	3,170	465	533	726
27	911	837	787	1,090	638	714	2,510	4,850	3,000	502	517	713
28	920	764	682	1,070	636	807	2,600	5,040	3,230	513	514	683
29	925	698	627	1,040	---	907	2,150	5,370	3,500	515	525	665
30	927	635	711	1,010	---	861	1,860	5,460	3,480	514	511	657
31	923	---	784	966	---	808	---	5,180	---	515	507	---
TOTAL	29,723	25,654	25,396	26,715	20,236	23,763	34,698	140,960	122,740	33,462	16,751	18,178
MEAN	959	855	819	862	723	767	1,157	4,547	4,091	1,079	540	606
MAX	1,260	946	1,090	1,580	927	930	2,600	8,180	6,050	3,060	575	802
MIN	825	635	627	430	588	650	732	1,390	3,000	465	507	431
AC-FT	58,960	50,880	50,370	52,990	40,140	47,130	68,820	279,600	243,500	66,370	33,230	36,060

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2005, BY WATER YEAR (WY)*

MEAN	1,164	1,052	950	805	941	1,001	2,261	5,953	8,186	2,031	725	986
MAX	3,025	2,019	1,604	1,365	1,795	1,450	3,599	9,886	13,180	4,060	1,288	2,012
(WY)	(1960)	(1960)	(1959)	(1965)	(1963)	(2003)	(1965)	(1958)	(1964)	(1964)	(1965)	(1965)
MIN	566	585	561	561	607	644	1,157	4,321	4,091	935	399	573
(WY)	(1961)	(2003)	(2003)	(2004)	(2004)	(1964)	(2005)	(1960)	(2005)	(1961)	(1961)	(2003)

12351200 BITTERROOT RIVER NEAR FLORENCE, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1957 - 2005*	
ANNUAL TOTAL	613,162		518,276			
ANNUAL MEAN	1,675		1,420		2,164	
HIGHEST ANNUAL MEAN					3,070	
LOWEST ANNUAL MEAN					1,420	
HIGHEST DAILY MEAN	7,580	Jun 6	8,180	May 20	19,600	Jun 9, 1964
LOWEST DAILY MEAN	300	Jan 7	430	Jan 6	300	Jan 7, 2004
ANNUAL SEVEN-DAY MINIMUM	429	Jan 4	455	Sep 4	372	Aug 17, 1961
MAXIMUM PEAK FLOW			8,570		b20,300	
MAXIMUM PEAK STAGE			10.09		May 20	
INSTANTANEOUS LOW FLOW			a424		May 20	
ANNUAL RUNOFF (AC-FT)	1,216,000		1,028,000		1,567,000	
10 PERCENT EXCEEDS	4,080		3,820		5,690	
50 PERCENT EXCEEDS	926		838		990	
90 PERCENT EXCEEDS	578		531		574	

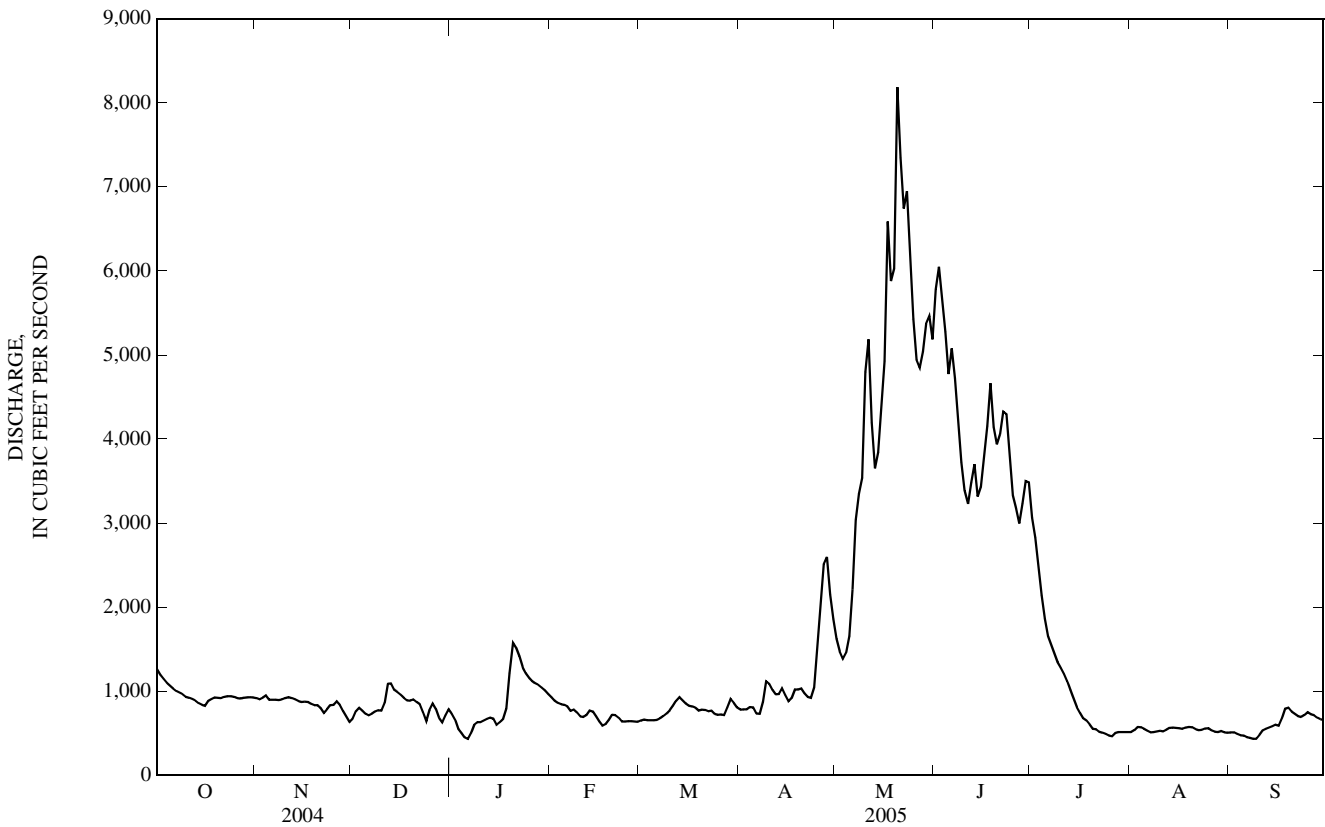
*--During period of operation (September 1957 to December 1965, October 2002 to current year).

a--Gage height, 5.41 ft.

b--Gage height, 10.82 ft, from graph based on gage readings, datum then in use.

c--Observed.

e--Estimated.



12351200 BITTERROOT RIVER NEAR FLORENCE, MT—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1997 to August 1998, March 2004 to current year.

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

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Particulate nitrogen, susp, water, mg/L (49570)	Total nitrogen, wat unfltrd by analysis, mg/L (62855)
APR 21...	0845	972	7.5	99	6.5	4.0	.042	<.002	.07	.20
MAY 18...	0845	6,040	7.5	49	11.5	8.5	.055	<.002	.18	.34
JUN 23...	0915	4,360	7.9	62	17.5	14.5	<.016	<.002	.08	.15
AUG 29...	1545	533	8.6	178	23.0	18.0	.030	.002	.04	.20

Date	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Organic carbon, suspnd sediment total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Suspnd. sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
APR 21...	<.006	.022	.7	1.9	78	7	18
MAY 18...	E.004	.051	1.8	3.6	40	63	1,030
JUN 23...	E.003	.023	.8	2.2	53	13	153
AUG 29...	E.004	.021	.3	--	84	2	2.9

Date	Time	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)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt fxd end lab, mg/L as CaCO3 (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)
APR 21...	0845	41	12.4	2.40	1.14	.3	3.99	44	1.22	.1	11.5
JUN 23...	0915	23	7.03	1.37	.73	.2	2.21	27	.56	E.1	8.2

Date	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)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)	Chromium, water, fltrd, ug/L (01030)	Chromium, water, unfltrd recoverable, ug/L (01034)
APR 21...	2.9	62	.08	164	.4	<2	E.02	<.04	<.8	<.8
JUN 23...	1.4	38	.05	444	.3	<2	<.04	<.04	<.8	E.5

E--Estimated.

PEND OREILLE RIVER BASIN

12351200 BITTERROOT RIVER NEAR FLORENCE, MT—Continued

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

Date	Copper, water, filtrd, ug/L (01040)	Copper, water, unfiltrd recover- able, ug/L (01042)	Lead, water, filtrd, ug/L (01049)	Lead, water, unfiltrd recover- able, ug/L (01051)	Nickel, water, filtrd, ug/L (01065)	Nickel, water, unfiltrd recover- able, ug/L (01067)	Zinc, water, filtrd, ug/L (01090)	Zinc, water, unfiltrd recover- able, ug/L (01092)
APR 21...	.6	.6	.11	.18	<.06	.26	1.6	E1
JUN 23...	.7	1.3	.09	.34	.42	.31	1.1	E2

E--Estimated.

12352500 BITTERROOT RIVER NEAR MISSOULA, MT

LOCATION--Lat 46°49'55", long 114°03'11" (NAD 27), in SW¹/₄ NW¹/₄ NE¹/₄ sec. 1, T.12 N., R.20 W., Missoula County, Hydrologic Unit 17010205, on right bank 40 ft downstream from bridge on U.S. Highway 93, 0.5 mi south of Fort Missoula, and at river mile 5.7.

DRAINAGE AREA--2,814 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD--July 1898 to November 1901, May 1903 to December 1904, July 1989 to current year.

GAGE--Water-stage recorder. Elevation of gage is 3,110 ft (NGVD 29). Prior to Jan. 1, 1905, nonrecording gage at site 1.5 mi upstream at different elevation.

REMARKS--Water-discharge records excellent except those for Nov. 12 to Dec. 2, Jan. 15-21, and estimated daily discharges, which are fair. Some regulation by Painted Rocks Lake (station number 12342000). Diversions for irrigation of about 111,000 acres upstream from station. U.S. Geological Survey satellite telemeter at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,340	1,000	725	795	1,100	758	983	2,040	6,320	3,590	585	535
2	1,260	988	798	696	1,070	776	979	1,870	6,970	3,290	598	538
3	1,210	997	857	592	1,030	769	983	1,770	6,570	2,970	629	526
4	1,170	1,030	827	537	1,010	767	1,010	1,810	6,320	2,600	e620	501
5	1,140	991	793	e500	1,010	769	1,010	1,990	5,700	2,290	e600	494
6	1,100	971	772	e450	983	778	954	2,450	5,870	2,030	e580	481
7	1,070	978	792	e530	913	794	935	3,250	5,670	1,880	e550	468
8	1,050	970	805	e650	913	825	1,050	3,760	5,150	1,770	e540	456
9	1,040	971	820	e700	910	863	1,280	3,930	4,530	1,640	e570	448
10	1,010	984	821	e720	831	916	1,320	5,150	4,070	1,570	571	486
11	994	993	877	e730	813	965	1,260	6,130	3,810	1,500	567	543
12	981	983	1,090	e770	824	1,020	1,220	5,200	3,970	1,400	576	575
13	973	968	1,140	e800	906	1,080	1,220	4,440	4,360	1,280	596	593
14	956	946	1,080	e770	905	1,060	1,290	4,470	3,930	1,180	613	607
15	938	935	1,070	703	841	1,020	1,240	5,030	3,880	1,070	609	630
16	923	929	1,020	726	758	990	1,160	5,630	4,290	971	603	636
17	970	930	986	793	690	980	1,180	7,030	4,660	885	595	695
18	1,020	917	953	954	693	957	1,300	7,120	5,380	828	608	835
19	1,030	904	948	1,290	738	922	1,330	6,620	4,920	778	615	886
20	1,030	898	959	1,750	821	924	1,340	8,760	4,580	706	614	848
21	1,020	865	942	1,670	837	931	1,300	8,270	4,620	672	596	806
22	1,040	830	910	1,490	804	911	1,260	7,710	4,930	646	579	770
23	1,040	831	827	1,390	754	916	1,240	7,700	5,020	616	584	755
24	1,040	885	714	1,320	737	867	1,350	7,280	4,520	593	585	769
25	1,040	899	799	1,270	749	857	1,680	6,450	3,940	573	595	839
26	1,020	930	905	1,230	748	855	2,180	5,870	3,700	564	580	824
27	1,010	910	854	1,210	745	848	2,730	5,680	3,510	572	555	806
28	1,010	830	756	1,210	741	987	3,040	5,800	3,610	590	548	782
29	1,010	784	690	1,190	---	1,110	2,620	6,090	3,960	596	549	754
30	1,020	715	725	1,160	---	1,090	2,300	6,230	4,060	589	546	747
31	1,010	---	829	1,130	---	1,020	---	6,020	---	585	533	---
TOTAL	32,465	27,762	27,084	29,726	23,874	28,325	42,744	161,550	142,820	40,824	18,089	19,633
MEAN	1,047	925	874	959	853	914	1,425	5,211	4,761	1,317	584	654
MAX	1,340	1,030	1,140	1,750	1,100	1,110	3,040	8,760	6,970	3,590	629	886
MIN	923	715	690	450	690	758	935	1,770	3,510	564	533	448
AC-FT	64,390	55,070	53,720	58,960	47,350	56,180	84,780	320,400	283,300	80,970	35,880	38,940

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1898 - 2005, BY WATER YEAR (WY)*

MEAN	989	1,050	970	884	979	1,256	2,745	6,590	8,195	3,019	1,000	894
MAX	1,570	2,211	3,141	1,791	3,030	2,021	4,944	13,430	21,880	14,510	3,412	1,623
(WY)	(1904)	(1996)	(1996)	(1997)	(1996)	(1997)	(1996)	(1997)	(1899)	(1899)	(1899)	(1899)
MIN	568	614	530	542	477	801	1,336	4,039	2,397	980	503	455
(WY)	(1905)	(1905)	(1905)	(1993)	(1994)	(2002)	(2001)	(1990)	(1992)	(1994)	(2000)	(1904)

12352500 BITTERROOT RIVER NEAR MISSOULA, MT—Continued

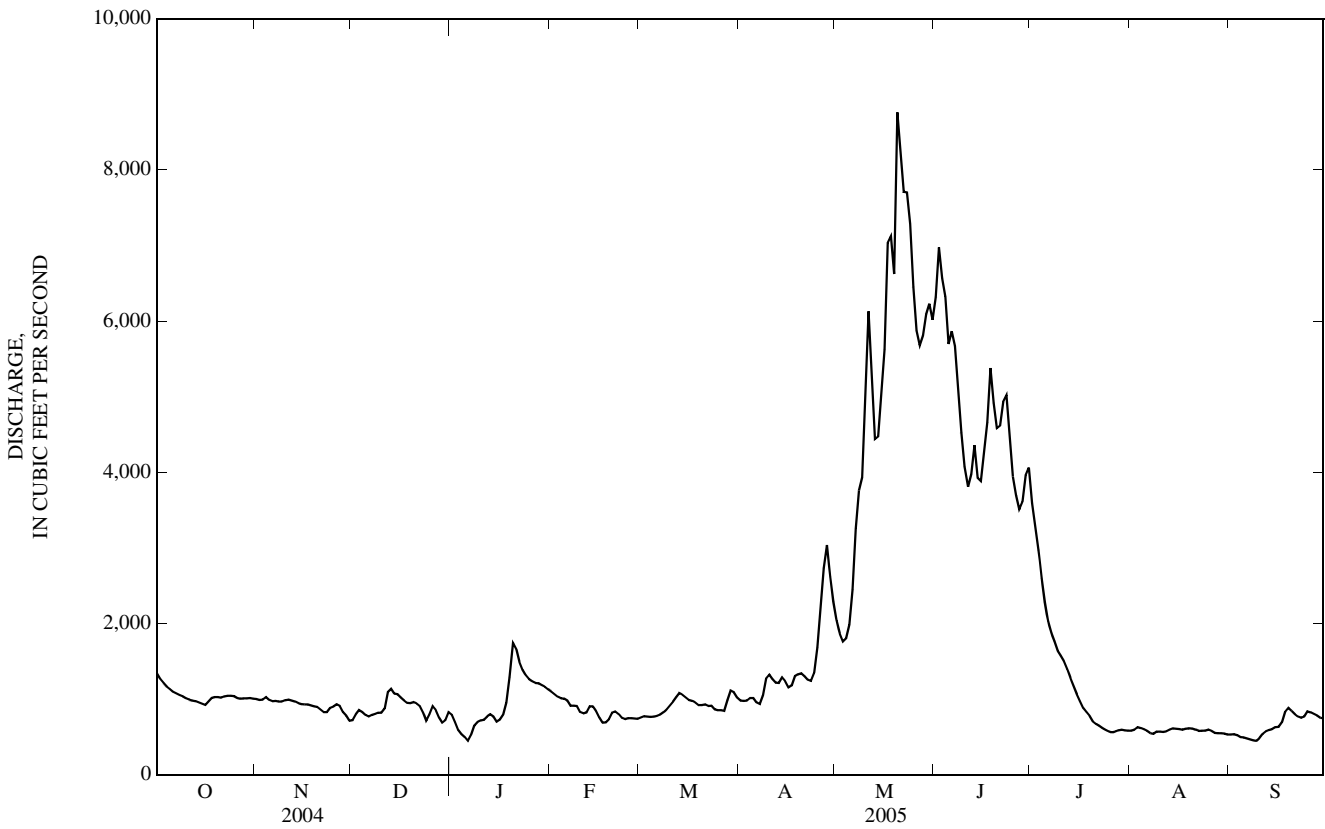
SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1898 - 2005*	
ANNUAL TOTAL	688,097		594,896			
ANNUAL MEAN	1,880		1,630		2,373	
HIGHEST ANNUAL MEAN					4,864	
LOWEST ANNUAL MEAN					1,366	
HIGHEST DAILY MEAN	8,140	Jun 6	8,760	May 20	37,400	Jun 20, 1899
LOWEST DAILY MEAN	320	Jan 7	448	Sep 9	300	Feb 9, 1994
ANNUAL SEVEN-DAY MINIMUM	461	Jan 4	476	Sep 4	370	Sep 16, 1904
MAXIMUM PEAK FLOW			9,100	May 20	b38,300	Jun 20, 1899
MAXIMUM PEAK STAGE			7.94	May 20	13.11	May 18, 1997
INSTANTANEOUS LOW FLOW			a440	Jan 4	300	Feb 9, 1994
ANNUAL RUNOFF (AC-FT)	1,365,000		1,180,000		1,719,000	
10 PERCENT EXCEEDS	4,600		4,520		6,020	
50 PERCENT EXCEEDS	1,020		959		1,090	
90 PERCENT EXCEEDS	650		585		633	

*--During period of operation (July 1898 to November 1901, May 1903 to December 1904, and July 1989 to current year).

a--Gage height, 2.46 ft, also occurred on September 9.

b--Observed gage height, 11.55 ft, site and datum then in use.

c--Estimated.



12352500 BITTERROOT RIVER NEAR MISSOULA, MT—Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: November 1999 to September 2003 (only seasonal records for 2003), October 2004 to September 2005.

REMARKS.--No water temperature data for August 4-9 due to equipment problems; water temperature record rated good.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE : Maximum, 24.5°C, Aug. 1, 2000; July 20, 22 and Aug. 1, 2003; minimum, 0.0°C, many days during winter months.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE : Maximum, 23.5°C, July 21 and Aug. 9, but may have been higher during period of no record (Aug 4-8); minimum, 0.0°C, several days in December and January.

REMARKS.--Missing filtered organic carbon sample for Aug. 29 due to sampling error.

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unfiltered, uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Particulate nitrogen, susp, water, mg/L (49570)
APR 20...	1200	1,350	8.0	103	10.0	7.0	E.009	<.002	.09
MAY 17...	1715	7,520	7.6	45	17.5	10.5	.047	E.001	.43
JUN 22...	0930	4,860	7.9	76	24.5	15.5	<.016	<.002	.09
AUG 29...	0915	546	8.2	181	16.5	17.0	.020	E.001	--

Date	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd, mg/L (00665)	Total nitrogen, wat unfiltered, by analysis, mg/L (62855)	Organic carbon, suspnd sediment total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Suspnd. sediment, percent <.063mm (70331)	Suspended sediment concentration, mg/L (80154)	Suspended sediment discharge, tons/d (80155)
APR 20...	<.006	.021	.19	.8	2.1	81	6	22
MAY 17...	E.005	.093	.50	4.8	3.6	34	178	3,610
JUN 22...	E.003	.024	.15	.7	2.3	62	11	144
AUG 29...	<.006	.016	.22	.4	--	89	2	2.9

Date	Time	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)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat fltrd end lab, mg/L as CaCO3 (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)
APR 20...	1200	42	12.2	2.76	1.06	.3	3.95	45	1.53	.2	11.3	2.7
JUN 22...	0930	25	7.46	1.61	.80	.2	2.37	31	.69	E.1	8.3	1.7

E--Estimated.

12352500 BITTERROOT RIVER NEAR MISSOULA, MT—Continued

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

Date	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/acre-ft (70303)	Residue water, fltrd, tons/d (70302)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)	Chromium, water, fltrd, ug/L (01030)	Chromium, water, unfltrd recover-able, ug/L (01034)	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recover-able, ug/L (01042)
APR 20...	62	.08	228	.3	<2	E.03	<.04	<.8	<.8	.7	1.0
JUN 22...	42	.06	546	.3	<2	<.04	<.04	<.8	<.8	.8	1.0

Date	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover-able, ug/L (01051)	Nickel, water, fltrd, ug/L (01065)	Nickel, water, unfltrd recover-able, ug/L (01067)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)
APR 20...	.10	.25	E.04	.44	1.6	E2
JUN 22...	.08	.25	.39	.25	E.5	E2

E--Estimated.

TEMPERATURE, WATER, DEGREES CELSIUS,
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

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

12352500 BITTERROOT RIVER NEAR MISSOULA, MT—Continued

TEMPERATURE, WATER, DEGREES CELSIUS,
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	3.5	2.0	3.0	6.5	4.5	5.5	8.0	6.0	7.5	11.5	7.5	9.5
2	3.0	2.0	2.5	7.0	4.5	5.5	9.0	7.0	8.0	12.5	9.0	10.5
3	3.5	1.5	2.5	7.5	4.5	6.0	9.0	7.5	8.5	13.0	10.0	11.5
4	3.0	2.0	2.5	7.5	4.5	6.0	8.5	7.0	7.5	12.0	10.0	11.0
5	4.0	2.0	3.0	7.5	4.5	6.0	9.5	5.5	7.5	13.0	9.5	11.0
6	3.5	2.0	2.5	8.0	5.0	6.5	11.5	7.0	9.0	13.5	11.0	12.0
7	3.0	1.0	2.0	8.5	6.0	7.5	11.0	9.0	10.0	12.5	10.5	11.5
8	2.5	2.0	2.5	10.0	7.0	8.5	11.5	9.0	10.0	11.5	10.5	11.0
9	3.0	1.5	2.5	10.0	7.5	8.5	10.0	8.5	9.0	11.5	10.5	11.0
10	3.0	1.0	2.0	10.5	8.0	9.0	9.5	7.0	8.5	10.5	8.0	9.0
11	3.0	1.0	2.0	9.5	6.5	8.0	9.5	7.0	8.0	8.5	7.5	8.0
12	3.0	1.5	2.0	8.0	5.5	7.0	9.5	7.0	8.0	10.5	7.5	9.0
13	4.0	2.0	3.0	6.5	4.5	5.5	8.5	7.0	8.0	12.5	10.0	11.5
14	3.0	2.0	2.5	7.5	5.0	6.0	9.0	6.0	7.0	12.5	11.0	12.0
15	3.0	1.5	2.0	7.0	5.0	6.0	10.0	6.0	8.0	12.0	11.0	11.0
16	2.5	0.5	1.5	7.5	5.5	6.5	12.0	7.5	9.5	11.0	10.0	10.5
17	3.0	0.5	1.5	6.5	5.0	5.5	11.5	9.5	10.0	11.0	8.5	9.5
18	3.0	0.5	1.5	6.0	4.5	5.0	10.5	7.5	9.0	11.0	9.5	10.0
19	2.5	1.0	1.5	6.5	4.0	5.5	9.5	8.0	8.5	12.0	9.5	10.5
20	2.5	1.5	2.0	8.0	5.5	6.5	8.5	7.0	7.0	11.5	10.0	10.5
21	4.0	1.5	2.5	8.0	6.0	6.5	9.5	6.0	7.5	11.5	9.0	10.0
22	4.0	2.5	3.0	6.5	5.0	6.0	13.0	8.0	10.0	11.5	10.0	11.0
23	4.5	1.5	3.0	5.0	3.5	4.0	12.5	10.0	11.5	11.0	9.0	10.0
24	5.0	2.0	3.5	4.0	2.0	3.5	13.0	10.5	12.0	11.0	9.5	10.5
25	5.0	2.0	3.5	6.0	3.5	4.5	13.5	10.0	12.0	12.0	9.5	11.0
26	5.5	2.5	4.0	6.5	4.0	5.0	13.0	10.5	12.0	13.5	10.5	12.0
27	5.5	2.5	4.0	8.0	6.0	6.5	12.5	8.0	10.0	14.0	11.5	13.0
28	6.0	3.0	4.5	8.0	6.5	7.5	8.0	5.5	7.0	14.5	12.5	13.5
29	---	---	---	8.0	6.0	6.5	8.5	6.0	7.5	15.0	12.5	14.0
30	---	---	---	7.5	5.5	6.5	10.5	6.5	8.5	14.5	12.0	13.5
31	---	---	---	9.0	5.0	7.0	---	---	---	14.0	11.5	12.5
MONTH	6.0	0.5	2.5	10.5	2.0	6.5	13.5	5.5	9.0	15.0	7.5	11.0
	JUNE			JULY			AUGUST			SEPTEMBER		
1	12.0	10.5	11.0	19.0	16.0	17.0	22.5	18.5	20.5	18.5	14.0	16.5
2	10.5	10.0	10.5	18.5	16.5	17.5	22.5	19.0	21.0	18.5	15.0	16.5
3	10.0	9.5	10.0	18.0	16.0	17.0	23.0	18.0	20.5	19.5	15.5	17.0
4	13.0	9.5	11.0	19.0	15.5	17.5	---	---	---	17.5	15.0	16.5
5	13.5	12.5	13.0	20.0	16.5	18.0	---	---	---	18.5	14.0	16.0
6	12.5	10.5	11.5	20.5	17.5	19.0	---	---	---	18.5	14.0	16.0
7	12.0	10.5	11.0	21.5	18.0	19.5	---	---	---	18.5	14.0	16.5
8	12.0	11.0	11.5	21.5	18.0	20.0	---	---	---	18.5	14.5	16.5
9	11.5	10.5	11.0	20.5	16.5	18.0	23.5	---	---	17.0	15.0	16.0
10	12.5	10.5	11.5	17.5	14.5	16.0	23.0	19.0	21.0	15.0	13.0	13.5
11	15.0	12.5	13.5	20.5	15.5	18.0	21.5	18.0	20.0	15.0	11.5	13.0
12	14.0	12.5	13.5	22.0	17.5	20.0	20.5	17.0	18.5	13.5	12.0	13.0
13	13.5	11.5	12.5	23.0	19.0	21.0	20.0	15.5	17.5	14.5	12.0	13.0
14	14.5	12.0	13.0	22.0	18.0	20.0	20.0	15.5	17.5	15.0	12.0	13.5
15	16.0	13.5	14.5	22.5	18.0	20.0	21.0	16.0	18.5	16.5	13.0	14.5
16	15.5	14.0	14.5	22.0	19.0	20.5	21.0	17.0	18.5	15.5	13.0	14.5
17	14.0	12.5	13.0	21.0	16.5	19.0	19.0	16.5	17.5	14.5	13.0	13.5
18	13.0	11.0	12.0	22.5	17.5	20.0	18.5	15.5	16.5	14.5	12.5	13.5
19	15.0	12.0	13.5	22.5	18.0	20.5	20.0	15.0	17.0	15.5	12.0	14.0
20	17.0	14.0	15.5	23.0	18.0	20.5	20.5	15.5	18.0	16.0	13.0	14.5
21	18.0	15.5	16.5	23.5	18.0	20.5	21.5	17.0	19.0	16.0	13.0	14.5
22	18.0	16.0	17.0	22.0	19.5	20.0	20.5	17.5	19.0	14.5	12.0	13.5
23	18.0	16.0	17.0	23.0	18.0	20.5	19.5	17.0	18.0	13.5	12.0	12.5
24	17.5	15.5	16.5	23.0	18.0	20.5	17.0	15.5	16.0	12.0	10.5	11.0
25	17.0	15.5	16.0	21.0	18.0	19.5	18.5	13.5	16.0	13.5	10.0	11.5
26	15.5	14.0	14.5	22.0	16.5	19.0	19.5	14.5	17.0	14.5	11.0	12.5
27	15.5	13.5	14.5	23.0	17.5	20.0	20.0	15.5	17.5	15.0	11.5	13.0
28	15.0	14.0	14.5	22.0	18.0	20.0	21.0	16.0	18.5	14.5	11.5	13.0
29	15.5	14.0	14.5	22.5	18.0	20.5	20.0	16.5	18.0	13.0	11.5	12.0
30	17.0	13.5	15.0	23.0	18.5	20.5	18.0	15.5	16.5	14.5	12.0	13.0
31	---	---	---	22.5	19.0	21.0	18.5	13.5	16.0	---	---	---
MONTH	18.0	9.5	13.5	23.5	14.5	19.5	23.5	13.5	18.0	19.5	10.0	14.0

12353000 CLARK FORK BELOW MISSOULA, MT

LOCATION.--Lat 46°52'09", long 114°07'33" (NAD 27), in NW¹/₄ NE¹/₄ SE¹/₄ sec.21, T.13 N., R.20 W., Missoula County, Hydrologic Unit 17010204, on right bank 1.0 mi downstream from Bitterroot River, 4.5 mi west of Missoula, and at river mile 349.5.

DRAINAGE AREA.--9,003 mi².

PERIOD OF RECORD.--October 1929 to current year.

REVISED RECORDS.--WSP 1042: 1931. WSP 1246: Drainage area. WSP 1316: 1932(M), 1935(M), 1946(M).

GAGE.--Water-stage recorder. Elevation of gage is 3,083.88 ft (NGVD 29) (levels by U.S. Army Corps of Engineers).

REMARKS.--Records good. Some diurnal fluctuation at low flow caused by powerplant at Milltown 14.9 mi upstream. Diversions for irrigation of about 235,000 acres upstream from station. U.S. Geological Survey satellite telemeter at station. Several unpublished observations of water temperature and specific conductance were made during the year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,970	2,450	1,960	1,810	2,720	1,940	2,700	5,750	12,400	8,540	1,900	1,450
2	2,870	2,400	2,090	1,440	2,690	2,000	2,680	5,320	14,800	7,820	1,880	1,460
3	2,790	2,430	2,180	1,260	2,630	2,000	2,710	5,040	15,700	7,250	1,910	1,450
4	2,730	2,460	2,120	1,100	2,550	2,000	2,800	4,960	16,300	6,590	1,830	1,420
5	2,670	2,430	2,090	1,020	2,540	2,000	2,810	5,130	15,700	6,020	1,750	1,400
6	2,630	2,420	2,040	1,030	2,510	2,030	2,760	5,840	15,800	5,560	1,730	1,360
7	2,610	2,400	2,070	1,190	2,360	2,060	2,750	7,350	15,500	5,150	1,680	1,370
8	2,590	2,410	2,100	1,490	2,260	2,120	3,000	8,630	14,300	4,820	1,650	1,350
9	2,520	2,390	2,110	1,560	2,330	2,190	3,410	9,450	12,900	4,570	1,620	1,340
10	2,500	2,400	2,130	1,600	2,210	2,330	3,580	11,200	11,700	4,320	1,620	1,430
11	2,450	2,430	2,200	1,660	2,140	2,360	3,510	13,200	10,800	4,220	1,620	1,510
12	2,430	2,400	2,470	1,750	2,170	2,480	3,480	13,300	10,700	4,050	1,600	1,610
13	2,430	2,360	2,560	1,880	2,220	2,600	3,460	12,400	11,600	3,810	1,620	1,640
14	2,400	2,330	2,440	1,820	2,270	2,550	3,670	11,800	10,800	3,550	1,660	1,650
15	2,380	2,310	2,470	1,570	2,190	2,500	3,670	12,200	10,300	3,390	1,650	1,690
16	2,370	2,290	2,440	1,460	2,030	2,440	3,470	13,200	10,600	3,150	1,630	1,690
17	2,460	2,290	2,380	1,620	1,850	2,470	3,530	15,900	11,100	2,980	1,610	1,830
18	2,550	2,290	2,330	2,000	1,840	2,460	3,740	17,000	12,700	2,860	1,590	2,130
19	2,580	2,250	2,330	2,590	1,930	2,390	3,820	15,800	12,400	2,770	1,650	2,220
20	2,560	2,240	2,310	3,450	2,050	2,370	3,850	18,400	11,300	2,600	1,650	2,150
21	2,560	2,200	2,310	3,760	2,130	2,390	3,840	17,900	10,800	2,460	1,610	2,020
22	2,610	2,090	2,270	3,770	2,060	2,380	3,740	17,000	10,900	2,350	1,560	1,960
23	2,590	2,100	1,990	3,530	1,960	2,380	3,700	16,500	10,800	2,290	1,570	1,970
24	2,580	2,220	1,670	3,420	1,950	2,300	4,090	15,700	10,100	2,200	1,580	2,000
25	2,590	2,310	2,000	3,220	1,960	2,220	4,830	14,200	9,080	2,130	1,560	2,120
26	2,530	2,430	2,280	3,160	1,960	2,250	5,820	12,900	8,640	2,090	1,560	2,150
27	2,490	2,390	2,150	3,090	1,960	2,230	6,920	12,100	8,410	2,080	1,530	2,110
28	2,490	2,190	1,820	3,050	1,940	2,510	7,380	11,900	8,820	2,100	1,490	2,070
29	2,480	2,080	1,650	2,990	---	2,840	6,800	12,100	9,390	2,070	1,470	2,020
30	2,490	1,950	1,940	2,940	---	2,900	6,210	12,200	9,350	1,990	1,460	2,010
31	2,460	---	2,140	2,850	---	2,790	---	11,900	---	1,930	1,440	---
TOTAL	79,360	69,340	67,040	69,080	61,410	72,480	118,730	366,270	353,690	117,710	50,680	52,580
MEAN	2,560	2,311	2,163	2,228	2,193	2,338	3,958	11,820	11,790	3,797	1,635	1,753
MAX	2,970	2,460	2,560	3,770	2,720	2,900	7,380	18,400	16,300	8,540	1,910	2,220
MIN	2,370	1,950	1,650	1,020	1,840	1,940	2,680	4,960	8,410	1,930	1,440	1,340
AC-FT	157,400	137,500	133,000	137,000	121,800	143,800	235,500	726,500	701,500	233,500	100,500	104,300

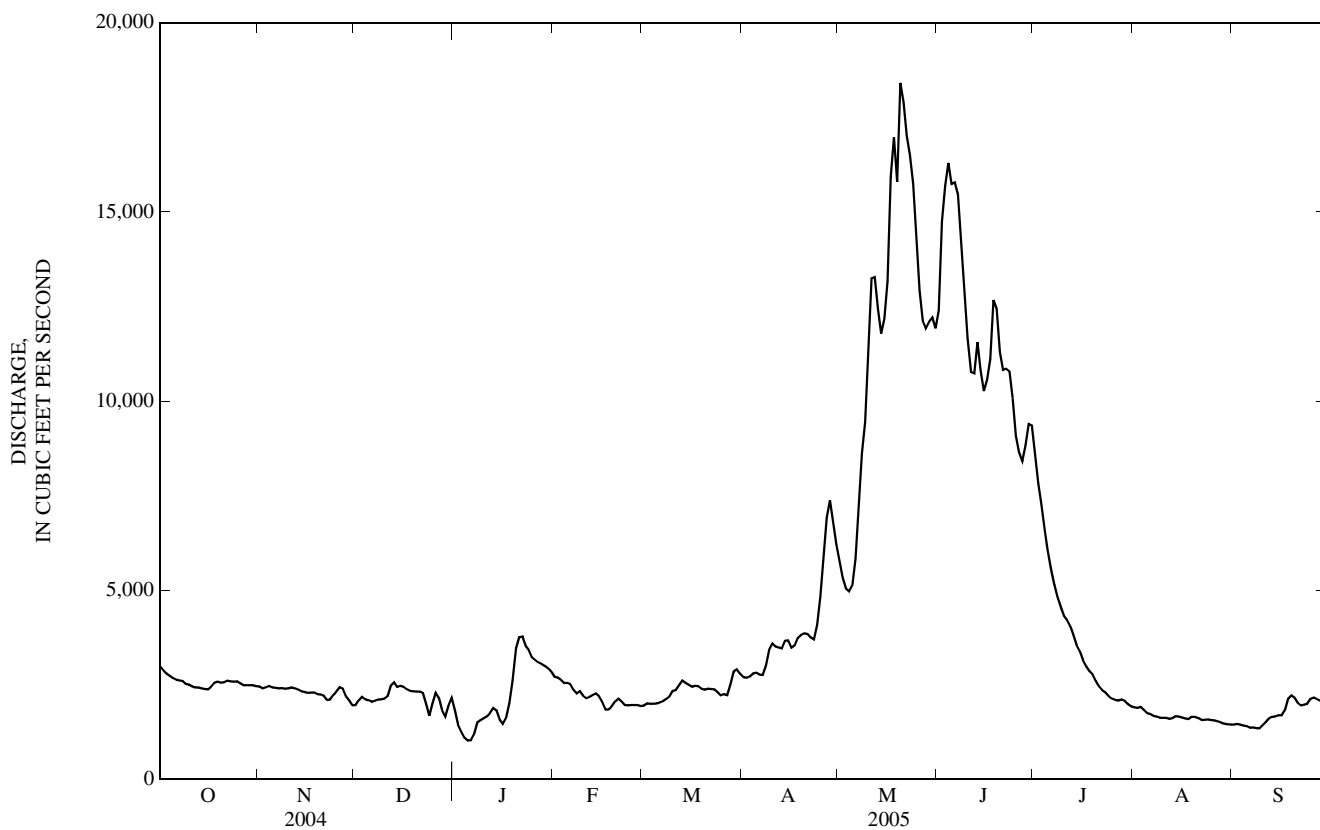
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2005, BY WATER YEAR (WY)

MEAN	2,701	2,714	2,461	2,236	2,481	3,088	6,372	14,690	16,580	5,772	2,282	2,283
MAX	6,617	5,110	6,064	4,401	6,697	7,012	16,500	30,440	33,970	16,320	5,530	5,160
(WY)	(1960)	(1960)	(1996)	(1934)	(1996)	(1972)	(1934)	(1997)	(1972)	(1975)	(1975)	(1965)
MIN	1,393	1,471	1,414	871	1,108	1,743	2,302	5,113	4,619	1,361	810	909
(WY)	(1938)	(1938)	(1988)	(1937)	(1933)	(1937)	(1941)	(1941)	(1987)	(1931)	(1931)	(1937)

12353000 CLARK FORK BELOW MISSOULA, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1930 - 2005	
ANNUAL TOTAL	1,489,244		1,478,370			
ANNUAL MEAN	4,069		4,050		5,307	
HIGHEST ANNUAL MEAN					8,832	
LOWEST ANNUAL MEAN					2,582	
HIGHEST DAILY MEAN	14,900	Jun 7	18,400	May 20	54,100	May 18, 1997
LOWEST DAILY MEAN	796	Jan 7	1,020	Jan 5	580	Jan 19, 1933
ANNUAL SEVEN-DAY MINIMUM	1,150	Jan 3	1,220	Jan 2	660	Dec 8, 1932
MAXIMUM PEAK FLOW			19,000	May 20	55,100	May 18, 1997
MAXIMUM PEAK STAGE			6.96	May 20	12.18	May 18, 1997
INSTANTANEOUS LOW FLOW			a894	Jan 5	b388	Jan 18, 1933
ANNUAL RUNOFF (AC-FT)	2,954,000		2,932,000		3,845,000	
10 PERCENT EXCEEDS	9,170		11,100		13,200	
50 PERCENT EXCEEDS	2,480		2,410		2,780	
90 PERCENT EXCEEDS	1,750		1,610		1,620	

a--Gage height, 0.39 ft, result of freezeup.
 b--Gage height, 0.58 ft, result of freezeup.



12354000 ST. REGIS RIVER NEAR ST. REGIS, MT

LOCATION.--Lat 47°17'49", long 115°07'18", (NAD 27) near center of NW¹/₄NE¹/₄ sec.26, T.18 N., R.28 W., Mineral County, on left bank 50 ft downstream from road bridge, 500 ft upstream from Little Joe Creek, 1.2 mi west of St. Regis, and at river mile 1.7.

DRAINAGE AREA.--303 mi².

PERIOD OF RECORD.--September 1910 to September 1917 (no winter records), annual maximum, water year 1948, published in WSP 1080, September 1958 to September 1975, February 2002 to current year. Monthly discharge only for some periods, published in WSP 1316, 1736.

REVISED RECORDS.--WSP 1246: water year 1912; WSP 1316: drainage area, 1911.

GAGE.--Water-stage recorder. Elevation of gage is 2,645.00 ft (NGVD 29). September 1910 to September 1917, non-recording gage at site 2 mi upstream at different elevation.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Minor diversions for irrigation of hay meadows above station. Bureau of Reclamation satellite telemeter at station. Several unpublished observations of water temperature and specific conductance were made during the year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood on or about Dec. 20, 1933, reached a stage of about 14.5 ft, from information by local residents (discharge unknown). Flood of May 19, 1954, reached a discharge of about 11,000 ft³/s, gage height, 9.4 ft, from rating curve extended above 5,100 ft³/s.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	113	152	179	219	484	234	552	854	771	238	112	78
2	112	149	173	e200	456	232	574	788	801	227	109	77
3	110	198	168	e192	444	e229	554	e773	773	221	107	75
4	109	186	165	185	438	e225	561	e795	710	213	105	73
5	107	171	160	e172	457	e225	543	945	670	206	103	72
6	106	163	160	e168	e426	e230	529	1,040	651	199	100	72
7	111	158	161	e164	e388	e235	567	1,250	598	193	e98	72
8	109	156	161	e158	399	e240	e663	1,260	565	188	e102	71
9	106	153	164	e158	e378	e280	e704	1,280	527	189	101	70
10	113	151	181	e154	e356	e300	e736	1,410	494	193	99	73
11	108	149	659	e150	e340	e350	e731	1,330	475	185	97	76
12	105	147	881	e147	355	e355	719	1,250	472	176	97	78
13	103	145	663	e142	350	e364	e695	1,200	441	169	108	82
14	102	143	570	e140	328	e357	e666	1,200	420	164	103	80
15	100	141	519	e138	e295	e340	654	1,200	401	158	99	76
16	99	140	460	e158	e264	e328	640	1,260	385	157	96	74
17	112	142	420	e180	e264	334	e666	1,370	431	171	94	74
18	128	140	393	e323	e264	317	e723	1,230	421	157	99	76
19	138	141	375	e524	284	311	e751	1,140	381	148	95	74
20	129	137	365	499	283	e306	775	1,080	355	143	92	72
21	145	134	337	e533	262	e303	786	1,070	330	139	89	71
22	169	133	315	e605	246	305	e850	1,040	314	136	87	70
23	174	131	275	e580	249	302	e930	998	307	136	87	68
24	167	136	284	e583	245	286	1,060	950	295	131	87	69
25	160	235	280	e576	241	e271	e1,230	898	281	128	87	70
26	153	256	270	569	238	271	e1,270	849	272	125	85	69
27	148	216	257	556	235	395	e1,310	834	269	122	82	68
28	144	202	248	540	231	718	1,230	839	268	120	81	67
29	142	189	234	e523	---	e631	e1,100	845	263	117	79	67
30	146	182	232	e505	---	e599	e945	823	255	114	79	114
31	161	---	233	489	---	e572	---	788	---	113	79	---
TOTAL	3,929	4,876	9,942	10,230	9,200	10,445	23,714	32,589	13,596	5,076	2,938	2,228
MEAN	127	163	321	330	329	337	790	1,051	453	164	94.8	74.3
MAX	174	256	881	605	484	718	1,310	1,410	801	238	112	114
MIN	99	131	160	138	231	225	529	773	255	113	79	67
AC-FT	7,790	9,670	19,720	20,290	18,250	20,720	47,040	64,640	26,970	10,070	5,830	4,420
CFSM	0.42	0.54	1.06	1.09	1.08	1.11	2.61	3.47	1.50	0.54	0.31	0.25
IN.	0.48	0.60	1.22	1.26	1.13	1.28	2.91	4.00	1.67	0.62	0.36	0.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1910 - 2005, BY WATER YEAR (WY)*

MEAN	138	221	210	268	295	412	1,218	2,097	1,468	383	160	128
MAX	350	590	555	1,363	759	1,366	2,057	4,700	3,367	1,150	313	204
(WY)	(1960)	(1915)	(1959)	(1974)	(1971)	(1972)	(1916)	(1917)	(1974)	(1916)	(1916)	(1914)
MIN	85.1	101	92.4	89.2	86.6	94.2	349	671	388	155	83.1	74.3
(WY)	(2004)	(1962)	(1964)	(2004)	(1964)	(1964)	(1975)	(1915)	(1915)	(1973)	(1973)	(2005)

12354000 ST. REGIS RIVER NEAR ST. REGIS, MT—Continued

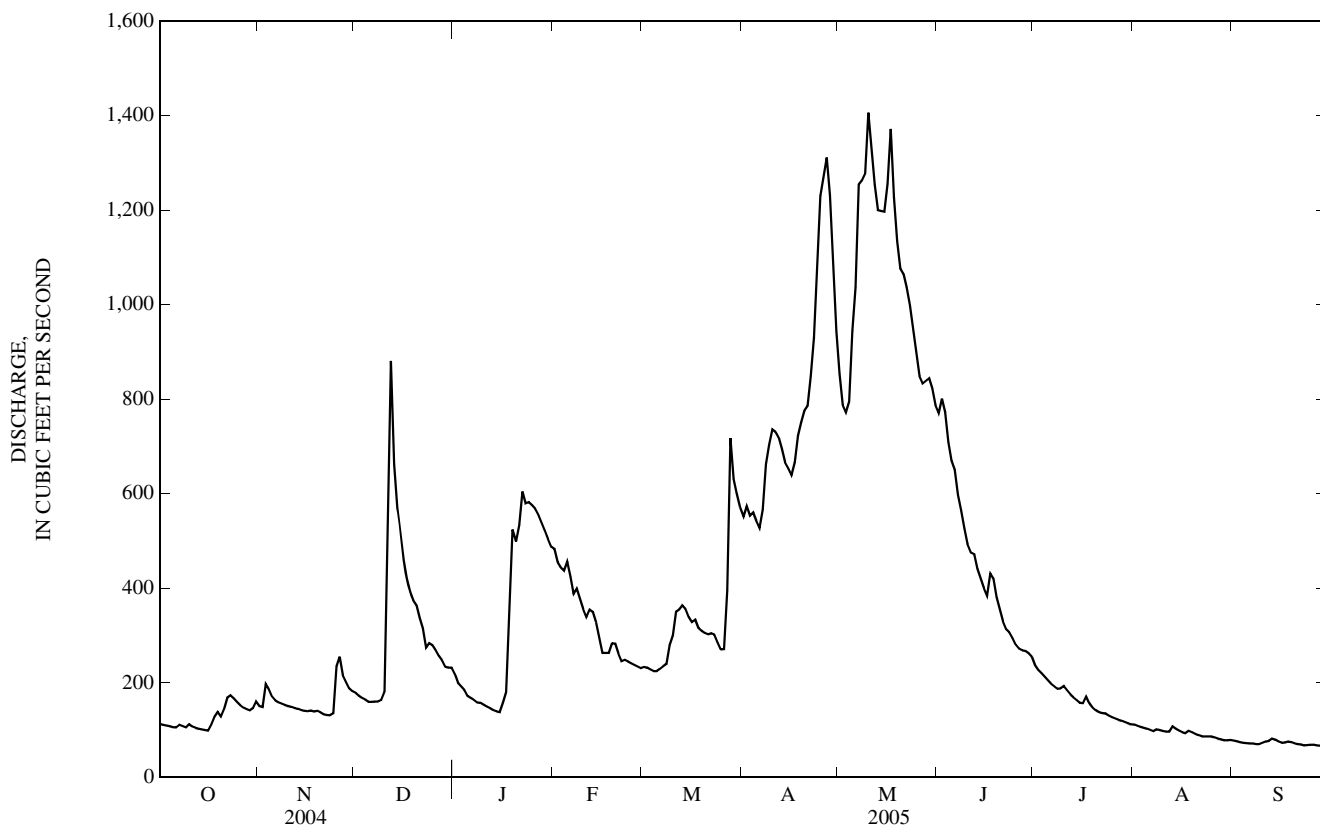
SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1910 - 2005*	
ANNUAL TOTAL	142,467		128,763			
ANNUAL MEAN	389		353		549	
HIGHEST ANNUAL MEAN					938	
LOWEST ANNUAL MEAN					256	
HIGHEST DAILY MEAN	1,450	Apr 15	1,410	May 10	8,500	Jan 16, 1974
LOWEST DAILY MEAN	64	Jan 6	67	Sep 28	45	Dec 11, 1961
ANNUAL SEVEN-DAY MINIMUM	71	Jan 1	68	Sep 23	59	Dec 5, 1972
MAXIMUM PEAK FLOW			1,480	May 10	a9,640	Jan 16, 1974
MAXIMUM PEAK STAGE			5.37	May 10	7.54	Apr 14, 2002
INSTANTANEOUS LOW FLOW			66	Sep 29	b41	Dec 30, 2001
ANNUAL RUNOFF (AC-FT)	282,600		255,400		397,500	
ANNUAL RUNOFF (CFSM)	1.28		1.16		1.81	
ANNUAL RUNOFF (INCHES)	17.49		15.81		24.60	
10 PERCENT EXCEEDS	1,100		827		1,480	
50 PERCENT EXCEEDS	167		232		212	
90 PERCENT EXCEEDS	103		87		97	

*--During periods of operation [September 1910 to September 1917 (no winter records), September 1958 to September 1975, February 2002 to current year].

a--Gage height, 7.38 ft.

b--Result of freezeup.

e--Estimated.



PEND OREILLE RIVER BASIN

12354500 CLARK FORK AT ST. REGIS, MT

LOCATION.--Lat 47°18'07", long 115°05'11" (NAD 27), in NW¹/₄SE¹/₄SW¹/₄ sec.19, T.18 N., R.27 W., Mineral County, Hydrologic Unit 17010204, on left bank at St. Regis, 0.4 mi downstream from St. Regis River, and at river mile 270.3.

DRAINAGE AREA.--10,709 mi².

PERIOD OF RECORD.--October 1910 to current year. Monthly discharge only for some periods, published in WSP 1316.

REVISED RECORDS.--WSP 1246: Drainage area. WSP 1316: 1916-17, 1920, 1929-31(M), 1933(M).

GAGE.--Water-stage recorder. Elevation of gage is 2,600.37 ft (NGVD 29) (levels by U.S. Army Corps of Engineers). Prior to Nov. 29, 1933, nonrecording gage at same site and elevation.

REMARKS.--Records good. Diversions for irrigation of about 244,000 acres upstream from station. U.S. Geological Survey satellite telemeter at station. Several unpublished observations of water temperature and specific conductance were made during the year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3,860	3,280	2,760	3,000	4,250	2,860	4,400	9,050	14,700	10,300	2,580	1,890
2	3,750	3,260	2,760	2,580	4,110	2,880	4,350	8,510	16,300	9,460	2,530	1,880
3	3,640	3,290	2,860	2,110	4,050	2,930	4,320	8,140	18,300	8,840	2,500	1,890
4	3,560	3,300	2,930	2,000	3,970	2,920	4,380	7,980	19,100	8,260	2,500	1,870
5	3,500	3,290	2,870	1,770	3,930	2,930	4,430	7,980	18,900	7,620	2,420	1,850
6	3,430	3,250	2,830	1,600	3,860	2,940	4,420	8,450	18,600	7,090	2,340	1,830
7	3,400	3,230	2,810	1,870	3,750	2,980	4,410	9,940	18,500	6,630	2,300	1,790
8	3,370	3,200	2,840	1,880	3,610	3,070	4,630	11,600	17,500	6,220	2,240	1,780
9	3,330	3,220	2,880	2,160	3,520	3,170	4,990	12,800	16,100	5,860	2,210	1,770
10	3,270	3,190	2,890	2,250	3,500	3,330	5,350	14,400	14,700	5,620	2,160	1,800
11	3,230	3,190	3,470	2,370	3,360	3,480	5,450	16,700	13,500	5,390	2,140	1,890
12	3,180	3,210	4,050	2,470	3,320	3,560	5,410	17,300	12,800	5,230	2,140	1,960
13	3,140	3,180	3,980	2,700	3,340	3,710	5,400	16,900	13,100	5,010	2,150	2,050
14	3,120	3,150	3,930	2,710	3,370	3,790	5,470	16,100	13,300	4,740	2,150	2,110
15	3,100	3,110	3,780	2,310	3,350	3,740	5,540	15,900	12,300	4,450	2,190	2,110
16	3,070	3,080	3,740	2,190	3,200	3,690	5,470	16,800	12,100	4,280	2,170	2,140
17	3,130	3,070	3,650	2,210	3,020	3,660	5,450	18,800	12,600	4,070	2,130	2,170
18	3,240	3,070	3,550	2,820	2,850	3,660	5,680	21,100	13,400	3,890	2,120	2,280
19	3,330	3,060	3,480	3,770	2,870	3,640	5,880	20,300	14,500	3,720	2,110	2,540
20	3,330	3,010	3,470	4,380	2,990	3,580	5,940	20,500	13,600	3,580	2,140	2,630
21	3,350	2,990	3,420	5,280	3,060	3,570	5,960	22,200	12,600	3,400	2,130	2,580
22	3,400	2,940	3,390	5,410	3,080	3,570	5,940	21,000	12,300	3,250	2,090	2,470
23	3,430	2,840	3,270	5,320	3,000	3,600	5,960	20,100	12,300	3,150	2,050	2,410
24	3,440	2,860	2,950	5,090	2,920	3,510	6,320	19,700	11,900	3,050	2,040	2,430
25	3,420	3,110	2,750	4,950	2,900	3,420	7,250	18,200	11,100	2,940	2,050	2,490
26	3,390	3,250	2,980	4,770	2,890	3,340	8,390	16,600	10,300	2,860	2,040	2,590
27	3,320	3,280	3,210	4,690	2,890	3,490	9,880	15,600	9,940	2,800	2,010	2,610
28	3,270	3,220	3,060	4,590	2,880	3,980	10,700	15,000	9,880	2,760	1,980	2,580
29	3,270	3,010	2,740	4,520	---	4,330	10,500	14,900	10,400	2,760	1,940	2,540
30	3,290	2,890	2,580	4,430	---	4,560	9,730	15,100	10,700	2,710	1,910	2,570
31	3,320	---	2,870	4,360	---	4,510	---	14,900	---	2,630	1,900	---
TOTAL	103,880	94,030	98,750	102,560	93,840	108,400	182,000	472,550	415,320	152,570	67,360	65,500
MEAN	3,351	3,134	3,185	3,308	3,351	3,497	6,067	15,240	13,840	4,922	2,173	2,183
MAX	3,860	3,300	4,050	5,410	4,250	4,560	10,700	22,200	19,100	10,300	2,580	2,630
MIN	3,070	2,840	2,580	1,600	2,850	2,860	4,320	7,980	9,880	2,630	1,900	1,770
MED	3,330	3,190	2,980	2,710	3,330	3,560	5,470	15,900	13,200	4,280	2,140	2,130
AC-FT	206,000	186,500	195,900	203,400	186,100	215,000	361,000	937,300	823,800	302,600	133,600	129,900
CFSM	0.31	0.29	0.30	0.31	0.31	0.33	0.57	1.42	1.29	0.46	0.20	0.20
IN.	0.36	0.33	0.34	0.36	0.33	0.38	0.63	1.64	1.44	0.53	0.23	0.23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2005, BY WATER YEAR (WY)*

MEAN	3,389	3,541	3,421	3,102	3,459	4,284	9,206	20,040	21,300	7,581	3,127	2,969
MAX	8,042	7,047	10,710	8,520	10,660	11,490	24,880	42,140	42,410	19,460	6,747	6,252
(WY)	(1960)	(1934)	(1934)	(1934)	(1996)	(1972)	(1934)	(1997)	(1972)	(1975)	(1975)	(1965)
MIN	1,854	1,942	1,909	1,474	1,592	2,199	3,333	7,190	6,021	1,998	1,454	1,351
(WY)	(1938)	(1932)	(1937)	(1937)	(1936)	(1937)	(1937)	(1941)	(1987)	(1931)	(1931)	(1937)

12354500 CLARK FORK AT ST. REGIS, MT—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1930 - 2005*	
ANNUAL TOTAL	1,995,256		1,956,760			
ANNUAL MEAN	5,452		5,361		7,122	
HIGHEST ANNUAL MEAN					11,560	
LOWEST ANNUAL MEAN					3,420	
HIGHEST DAILY MEAN	19,200	Jun 7	22,200	May 21	68,500	May 18, 1997
LOWEST DAILY MEAN	826	Jan 6	1,600	Jan 6	800	Feb 3, 1989
ANNUAL SEVEN-DAY MINIMUM	1,350	Jan 4	1,810	Sep 4	1,130	Jan 31, 1936
MAXIMUM PEAK FLOW			22,700		68,900	
MAXIMUM PEAK STAGE			12.17		20.27	
INSTANTANEOUS LOW FLOW			1,350		b702	
ANNUAL RUNOFF (AC-FT)	3,958,000		3,881,000		5,160,000	
ANNUAL RUNOFF (CFSM)	0.509		0.501		0.665	
ANNUAL RUNOFF (INCHES)	6.93		6.80		9.04	
10 PERCENT EXCEEDS	12,400		13,300		17,600	
50 PERCENT EXCEEDS	3,350		3,350		3,660	
90 PERCENT EXCEEDS	2,300		2,140		2,200	

*--Statistics not computed prior to 1930 because the 1924-29 period of record was estimated.

a--Also May 24, 1948, gage height, 19.96 ft.

b--Gage height, 3.58 ft, result of upstream freezeup.

