

462517112173001 08N06W25AABB01 (LUTTRELL WELL EPA-1)

LOCATION.--Lat 46°25'16.6", long 112°17'29.8" (NAD 83), in NW¼NE¼NE¼ sec. 25, T.8N., R.6W., Jefferson County, Hydrologic Unit 10030101.

HYDROGEOLOGIC UNIT.--Tertiary volcanics.

WELL CHARACTERISTICS.--Drilled in May 1999, casing diameter 4 in., depth 108 ft.

DATUM.--Measuring point, top of PVC casing, 1.20 ft above land surface datum. Elevation of land-surface datum is 7,565.63 ft (NGVD 29).

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

REMARKS.--All water levels are reported as distance, in feet below land-surface datum. Well was pumped extensively on June 30 and Aug. 8 in an attempt to remove sediment and standing water from the well casing.

MEASURED WATER LEVEL  
IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR 2004

	<u>DATE</u>	<u>WATER LEVEL</u>	<u>DATE</u>	<u>WATER LEVEL</u>
	Oct. 22	73.59	July 12	61.68
	Apr. 5	84.27	Aug. 18	66.55
	Apr. 26	78.00	Sept. 8	68.21
	June 4	63.35		

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

Date	Time	Flow rate, instantaneous gal/min (00059)	Pump or flow period prior to sampling, minutes (72004)	Sampling depth, feet (00003)	Turbidity white light, det ang 90+/-30 corrcd NTRU (63676)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specific conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
APR 26...	1400	--	--	--	33	--	4.0	143	5.0	1	.32	.066	4.32
JUN 04...	1300	1.0	63	100	1.2	<.1	3.8	140	6.0	--	.20	.066	4.36
SEP 08...	1600	1.2	70	103	.8	<.1	3.6	148	6.0	1	.31	.101	4.49

Date	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, water, fltrd inc tit field, mg/L as CaCO3 (39086)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue, water, fltrd, sum of constituents mg/L (70301)	Residue, water, fltrd, tons/ acre-ft (70303)	Aluminum, water, fltrd, ug/L (01106)	Arsenic, water, fltrd, ug/L (01000)	Cadmium, water, fltrd, ug/L (01025)
APR 26...	1	2.80	<2	.35	<.2	49.9	69.2	E128	E.17	3,730	E.1	.57
JUN 04...	1	2.92	<2	.31	<.2	55.8	64.8	E130	E.18	3,800	<.2	.54
SEP 08...	1	2.92	<2	.39	<.2	50.8	48.3	E109	E.15	4,350	E.1	.62

Date	Copper, water, fltrd, ug/L (01040)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium, water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Zinc, water, fltrd, ug/L (01090)
APR 26...	3.5	180	5.75	1.3	8.0	170
JUN 04...	1.1	260	6.12	1.2	6.4	166
SEP 08...	1.9	214	13.5	1.2	6.7	189

E--Estimated.

BOULDER RIVER BASIN

462507112170601 08N05W30BBCD01 (LUTTRELL WELL EPA-6)

LOCATION.--Lat 46°25'06.8", long 112°17'05.6" (NAD 83), in SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec. 30, T.8 N., R.5 W., Lewis and Clark County, Hydrologic Unit 10020006.

HYDROGEOLOGIC UNIT.--Boulder batholith quartz monzonite.

WELL CHARACTERISTICS.--Drilled in June 2000, casing diameter 2 in., depth 84.5 ft.

DATUM.--Measuring point, top of PVC casing, 2.60 ft above land surface datum. Elevation of land-surface datum is 7,689.44 ft (NGVD 29).

PERIOD OF RECORD.--June 2000 to current year.

REMARKS.--All water levels are reported as distance, in feet below land-surface datum. Well was pumped extensively on Aug. 8 in an attempt to remove sediment and standing water from the well casing.

MEASURED WATER LEVEL,  
IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR 2004

DATE	WATER LEVEL	DATE	WATER LEVEL
Oct. 22	36.95	July 12	31.40
Apr. 5	42.08	Aug. 18	34.39
Apr. 27	33.98	Sept. 9	36.28
June 3	26.15		

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

Date	Time	Flow rate, instantaneous gal/min (00059)	Pump or flow period prior to sampling, minutes (72004)	Sampling depth, feet (00003)	Turbidity white light, det ang 90+/-30 corrctd NTRU (63676)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specific conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO <sub>3</sub> (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
JUN 03...	1300	.50	65	65.0	12	<.1	6.6	107	12.5	38	9.18	3.56	1.48
SEP 09...	1300	.60	39	77.0	16	<.1	6.5	105	9.0	37	9.43	3.35	1.43

Date	Sodium adsorption ratio (00931)	Sodium water, fltrd, mg/L (00930)	Alkalinity, water, fltrd fxd end lab, mg/L as CaCO <sub>3</sub> (29801)	Alkalinity, water, fltrd inc tit field, mg/L as CaCO <sub>3</sub> (39086)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Aluminum, water, fltrd, ug/L (01106)	Arsenic water, fltrd, ug/L (01000)	Cadmium water, fltrd, ug/L (01025)
JUN 03...	.3	4.12	43	--	.40	.3	28.0	8.3	86	.12	E1	E.2	E.02
SEP 09...	.3	4.13	42	48	.29	.3	28.7	7.6	88	.12	E1	<.2	<.04

Date	Copper, water, fltrd, ug/L (01040)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Zinc, water, fltrd, ug/L (01090)
JUN 03...	<.4	4,380	<.08	6.9	343	2.6
SEP 09...	<.4	4,100	<.08	7.8	317	2.0

E--Estimated.

462503112172302 08N06W25ADAC02 (LUTTRELL WELL EPA-4S)

LOCATION.--Lat 46°25'02.7", long 112°17'22.8" (NAD 83), in NE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>, sec. 25, T.8 N., R.6 W., Jefferson County, Hydrologic Unit 10020006.

HYDROGEOLOGIC UNIT.--Tertiary volcanics.

WELL CHARACTERISTICS.--Drilled in June 2000, casing diameter 2 in., depth 98.5 ft.

DATUM.--Measuring point, top of PVC casing, 1.60 ft above land surface datum. Elevation of land-surface datum is 7,521.47 ft (NGVD 29).

PERIOD OF RECORD.--June 2000 to current year.

REMARKS.--All water levels are reported as distance, in feet below land-surface datum. Well was pumped extensively on Aug. 8 in an attempt to remove sediment and standing water from well casing.

MEASURED WATER LEVEL,  
IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR 2004

<u>DATE</u>	<u>WATER LEVEL</u>	<u>DATE</u>	<u>WATER LEVEL</u>
Oct. 22	23.98	July 12	19.55
Apr. 5	23.03	Aug. 18	20.25
Apr. 27	19.23	Sept. 8	20.60
June 4	17.50		

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

Date	Time	Flow rate, instantaneous gal/min (00059)	Pump or flow period prior to sampling, minutes (72004)	Sampling depth, feet (00003)	Turbidity white light, det ang 90+/-30 correctd NTRU (63676)	Dis-solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)
APR 27...	1100	--	--	--	>1,000	--	4.5	62	5.0	3	1.08	.131	3.68
JUN 04...	1000	.50	100	90.0	250	3.1	4.6	64	9.0	3	1.04	.144	3.87
SEP 08...	1200	.30	75	95.0	170	3.1	4.4	64	11.5	3	1.07	.139	3.72

Date	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, water, fltrd fxd end lab, mg/L as CaCO3 (29801)	Alkalinity, water, fltrd inc tit field, mg/L as CaCO3 (39086)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Aluminum, water, fltrd, ug/L (01106)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Arsenic water, fltrd, ug/L (01000)	Cadmium water, fltrd, ug/L (01025)
APR 27...	.9	3.88	<2	<2	3.40	<.2	33.9	21.6	409	E69	E.09	<.2	.10
JUN 04...	1	4.40	<2	<2	4.73	<.2	34.0	24.7	553	E74	E.10	<.2	.11
SEP 08...	.9	3.93	<2	E1	3.48	<.2	35.6	16.7	500	E66	E.09	<.2	.12

Date	Copper, water, fltrd, ug/L (01040)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Zinc, water, fltrd, ug/L (01090)
APR 27...	2.1	12	70.0	.7	11.2	89.7
JUN 04...	2.4	23	49.2	E.6	9.0	96.4
SEP 08...	3.7	51	244	.8	10.4	96.6

E--Estimated.

BOULDER RIVER BASIN

462503112172301 08N06W25ADAC01 (LUTTRELL WELL EPA-4)

LOCATION.--Lat 46°25'02.7", long 112°17'22.8" (NAD 83), in NE¼SE¼NE¼ sec. 25, T.8 N., R.6 W., Jefferson County, Hydrologic Unit 10020006.

HYDROGEOLOGIC UNIT.--Boulder batholith quartz monzonite.

WELL CHARACTERISTICS.--Drilled in May 1999, casing diameter 4 in., depth 170 ft.

DATUM.--Measuring point, top of PVC casing, 0.0 ft above land surface datum. Elevation of land-surface datum is 7,521.1 ft (NGVD 29).

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

REMARKS.--All water levels are reported as distance, in feet below land-surface datum. Well was pumped extensively on June 30 and Aug. 8 in an attempt to remove sediment and standing water from the well casing.

MEASURED WATER LEVEL,  
IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR 2004

DATE	WATER LEVEL	DATE	WATER LEVEL
Oct. 22	39.17	July 12	34.41
Apr. 5	44.54	Aug. 18	35.91
June 3	34.60	Sept. 8	36.62

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

Date	Time	Flow rate, instantaneous gal/min (00059)	Pump or flow period prior to sampling, minutes (72004)	Sampling depth, feet (00003)	Turbidity white light, det ang 90+/-30 corrctd NTRU (63676)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	
Date		Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, water, fltrd fxd end lab, mg/L as CaCO3 (29801)	Alkalinity, water, fltrd inc tit field, mg/L as CaCO3 (39086)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue, water, fltrd, sum of constituents mg/L (70301)	Residue, water, fltrd, tons/ acre-ft (70303)	Aluminum, water, fltrd, ug/L (01106)	Arsenic, water, fltrd, ug/L (01000)	Cadmium, water, fltrd, ug/L (01025)
JUN 04...	1100	.50	59	160	190	.6	6.8	128	8.0	33	9.37	2.43	5.66	
SEP 08...	1100	1.4	--	165	87	<.1	6.6	135	7.5	34	9.89	2.37	5.32	
JUN 04...		.6	7.49	20	--	.50	.2	37.8	32.2	109	.15	E2	1.1	.04
SEP 08...		.6	7.53	25	24	.44	.2	35.1	32.7	109	.15	<2	.9	.06

Date	Copper, water, fltrd, ug/L (01040)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium, water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Zinc, water, fltrd, ug/L (01090)
JUN 04...	.5	924	<.08	6.5	123	10.4
SEP 08...	.4	454	.11	7.6	109	8.7

E--Estimated.

462500112170701 08N05W30BCBD01 (LUTTRELL WELL EPA-5)

Lat 46°24'59.6", long 112°17'06.6 (NAD 83)", in NW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec. 30, T.8 N., R.5 W., Jefferson County, Hydrologic Unit 10020006.

HYDROGEOLOGIC UNIT.--Boulder batholith quartz monzonite.

WELL CHARACTERISTICS.--Drilled in June 1999, casing diameter 4 in., depth 110 ft.

DATUM.--Measuring point, top of PVC casing, 0.8 ft above land surface datum. Elevation of land-surface datum is 7,577.99 ft (NGVD 29).

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

REMARKS.--All water levels are reported as distance, in feet below land-surface datum. Well was pumped extensively on Aug. 8 in an attempt to remove sediment and standing water from the well casing.

MEASURED WATER LEVEL,  
IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR 2004

<u>DATE</u>	<u>WATER LEVEL</u>	<u>DATE</u>	<u>WATER LEVEL</u>
Oct. 22	31.34	July 12	27.11
Apr. 5	34.27	Aug. 18	29.10
Apr. 27	29.43	Sept. 10	28.54
June 3	25.45		

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

Date	Time	Flow rate, instantaneous gal/min (00059)	Pump or flow period prior to sampling, minutes (72004)	Sampling depth, feet (00003)	Turbidity white light, det ang 90+/-30 correctd NTRU (63676)	Dis-solved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	
Date		Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, water, fltrd fxd end lab, mg/L as CaCO3 (29801)	Alkalinity, water, fltrd inc tit field, mg/L as CaCO3 (39086)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Aluminum, water, fltrd, ug/L (01106)	Arsenic water, fltrd, ug/L (01000)	Cadmium water, fltrd, ug/L (01025)
JUN 03...	1600		1.5	90	100	26	.9	6.2	60	6.0	19	3.30	2.63	1.15
SEP 10...	1200		.60	78	90.0	11	1.1	6.2	62	6.5	17	3.00	2.24	1.06
JUN 03...		.6	5.57	24	--	.42	.3	33.0	7.7	69	.09	2	.3	<.04
SEP 10...		.6	5.50	22	20	.37	.3	34.0	6.9	66	.09	2	.3	<.04
Date						Copper, water, fltrd, ug/L (01040)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Zinc, water, fltrd, ug/L (01090)			
JUN 03...						E.4	83	<.08	12.1	102	6.0			
SEP 10...						.7	86	<.08	17.9	70.0	6.1			

E--Estimated.

BOULDER RIVER BASIN

462347112173301 08N06W36DCAA01 (BUCKEYE WELL BTMW-9)

LOCATION.--Lat 46°23'47", long 112°17'33", (NAD 27) in NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec. 36, T.8N., R.6W., Jefferson County, Hydrologic Unit 10020006.

HYDROGEOLOGIC UNIT.--Quaternary alluvium.

WELL CHARACTERISTICS.--Drilled in December 1998, casing diameter 2 in., depth 15.3 ft.

DATUM.--Measuring point, top of protective casing, 2.7 ft above land surface datum. Elevation of land-surface datum is 7,040 ft (NGVD 29).

PERIOD OF RECORD.--December 1998 to current year.

REMARKS.--All water levels are reported as distance, in feet below land-surface datum.

MEASURED WATER LEVEL,  
IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR 2004

DATE	WATER LEVEL
July 12	1.57
July 13	1.63
Sept. 8	1.56
Sept. 9	1.59

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

Date	Time	Flow rate, instantaneous gal/min (00059)	Pump or flow period prior to sampling, minutes (72004)	Sampling depth, feet (00003)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
JUL 13...	0900	.10	--	--	7.1	6.5	912	8.0	460	141	27.2	6.39	.3
SEP 09...	0930	.13	5	4.00	--	6.2	868	9.0	440	132	27.0	6.44	.2

Date	Sodium, water, fltrd, mg/L (00930)	Alkalinity, water, fxd end lab, mg/L as CaCO3 (29801)	Alkalinity, water, fltrd inc tit field, mg/L as CaCO3 (39086)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Aluminum, water, fltrd, ug/L (01106)	Arsenic, water, fltrd, ug/L (01000)	Cadmium, water, fltrd, ug/L (01025)	Copper, water, fltrd, ug/L (01040)
JUL 13...	13.9	57	--	1.02	<.2	42.0	398	664	.90	--	17.0	15.2	2.6
SEP 09...	10.6	54	59	.70	<.2	42.0	403	663	.90	<2	2.0	22.5	2.2

Date	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium, water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Zinc, water, fltrd, ug/L (01090)
JUL 13...	--	.15	--	--	679
SEP 09...	3,670	E.06	65.7	1,250	644

E--Estimated.

462344112173701 08N06W36DCAC01 (BUCKEYE BTMW-1)

LOCATION.--Lat 46°23'44", long 112°17'37", (NAD 27) in NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec. 36, T.8N., R.6W., Jefferson County, Hydrologic Unit 10020006.

HYDROGEOLOGIC UNIT.--Quaternary alluvium.

WELL CHARACTERISTICS.--Drilled in December 1998, casing diameter 2 in., depth 10.6 ft.

DATUM.--Measuring point, top of PVC casing, 2.8 ft above land surface datum. Elevation of land-surface datum is 7,040 ft (NGVD 29).

PERIOD OF RECORD.--December 1998 to current year.

REMARKS.--All water levels are reported as distance, in feet below land-surface datum.

MEASURED WATER LEVEL,  
IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR 2004

DATE	WATER LEVEL
July 12	1.17
July 13	1.27
Sept. 8	6.99
Sept. 9	7.15

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

Date	Time	Flow rate, instantaneous gal/min (00059)	Pump or flow period prior to sampling, minutes (72004)	Sampling depth, feet (00003)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO <sub>3</sub> (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
JUL 13...	1000	.10	--	--	8.9	4.2	524	6.0	150	47.2	7.40	2.44	.2
SEP 09...	1000	.13	5	9.00	--	7.8	417	--	160	40.1	14.4	2.13	.6

Date	Time	Sodium, water, fltrd, mg/L (00930)	Alkalinity, water, fltrd fxd end lab, mg/L as CaCO <sub>3</sub> (29801)	Alkalinity, water, fltrd inc tit field, mg/L as CaCO <sub>3</sub> (39086)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue water, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Aluminum, water, fltrd, ug/L (01106)	Arsenic, water, fltrd, ug/L (01000)	Cadmium, water, fltrd, ug/L (01025)	Copper, water, fltrd, ug/L (01040)
JUL 13...	6.03	--	<2	1.47	.5	47.1	222	E335	E.46	--	1.9	54.4	914	
SEP 09...	18.8	73	80	.62	.3	19.5	126	273	.37	<2	12.3	.04	.7	

Date	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium, water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Zinc, water, fltrd, ug/L (01090)
JUL 13...	--	96.6	--	--	5,140
SEP 09...	688	E.04	13.6	1,600	2.6

E--Estimated.

## BOULDER RIVER BASIN

462342112174201 08N06W36DCBD02 (BUCKEYE WELL BTMW-3)

LOCATION.--Lat 46°23'42", long 112°17'42", (NAD 27) in NW¼SW¼SE¼ sec. 36, T.8N., R.6W., Jefferson County, Hydrologic Unit 10020006.

HYDROGEOLOGIC UNIT.--Quaternary alluvium.

WELL CHARACTERISTICS.--Drilled in December 1998, casing diameter 2 in., depth 10.5 ft.

DATUM.--Measuring point, top of PVC casing, 3.0 ft above land surface datum. Elevation of land-surface datum is 7,035 ft (NGVD 29).

PERIOD OF RECORD.--December 1998 to current year.

REMARKS.--All water levels are reported as distance, in feet below land-surface datum.

MEASURED WATER LEVEL,  
IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR 2004

DATE	WATER LEVEL
July 12	3.96
July 13	4.04
Sept. 8	4.25
Sept. 9	4.28

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

Date	Time	Flow rate, instantaneous gal/min (00059)	Pump or flow period prior to sampling, minutes (72004)	Sampling depth, feet (00003)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	
Date		Sodium, water, fltrd, mg/L (00930)	Alkalinity, water, fltrd inc tit field, mg/L as CaCO3 (39086)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Aluminum, water, fltrd, ug/L (01106)	Arsenic water, fltrd, ug/L (01000)	Cadmium water, fltrd, ug/L (01025)	Copper, water, fltrd, ug/L (01040)	Iron, water, fltrd, ug/L (01046)
JUL 13...	1200	.10	3	--	1.0	5.6	1,060	5.0	360	108	22.9	1.76	.3	
SEP 09...	1130	.13	5	8.00	--	5.9	495	7.5	180	50.9	12.2	1.08	.2	
JUL 13...	12.1	--	1.88	.4	54.3	760	--	--	--	9,590	93.2	18.1	--	
SEP 09...	6.67	40	.59	.3	40.0	228	425	.58	59	4,800	5.33	.9	52,300	
							Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Zinc, water, fltrd, ug/L (01090)				
							JUL 13...	8.54	--	--	6,600			
							SEP 09...	2.16	10.3	1,940	1,620			



462342112174601 08N06W36DCBC01—Continued

## BOULDER RIVER BASIN

462342112174601 08N06W36DCBC01 (BUCKEYE WELL BTMW-6)

LOCATION.--Lat 46°23'42", long 112°17'46", (NAD 27) in NW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec. 36, T.8N., R.6W., Jefferson County, Hydrologic Unit 10020006.

HYDROGEOLOGIC UNIT.--Quaternary alluvium.

WELL CHARACTERISTICS.--Drilled in December 1998, casing diameter 2 in., depth 10 ft.

DATUM.--Measuring point, top of PVC casing, 3.2 ft above land surface datum. Elevation of land-surface datum is 7,035 ft (NGVD 29).

PERIOD OF RECORD.--December 1998 to current year.

REMARKS.--All water levels are reported as distance, in feet below land-surface datum.

MEASURED WATER LEVEL,  
IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR 2004

<u>DATE</u>	<u>WATER LEVEL</u>
July 12	1.61
July 13	1.68
Sept. 8	2.11
Sept. 9	2.83

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

Date	Time	Flow rate, instantaneous gal/min (00059)	Pump or flow period prior to sampling, minutes (72004)	Sampling depth, feet (00003)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO <sub>3</sub> (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	
Date		Sodium, water, fltrd, mg/L (00930)	Alkalinity, water, fltrd fxd end lab, mg/L as CaCO <sub>3</sub> (29801)	Alkalinity, water, fltrd inc tit field, mg/L as CaCO <sub>3</sub> (39086)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Aluminum, water, fltrd, ug/L (01106)	Arsenic water, fltrd, ug/L (01000)	Cadmium water, fltrd, ug/L (01025)	Copper, water, fltrd, ug/L (01040)
JUL 13...	1020	.10	--	--	1.4	6.6	397	8.0	170	49.9	10.5	3.61	.3	
SEP 09...	1300	.13	5	5.00	--	6.4	372	10.0	170	50.1	11.2	3.74	.2	
JUL 13...	7.52	98	--	1.39	<.2	17.9	90.1	239	.33	--	15.1	.07	.8	
SEP 09...	7.24	101	125	.55	<.2	20.4	89.3	264	.36	<2	22.6	.07	.6	
Date		Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Zinc, water, fltrd, ug/L (01090)								
JUL 13...		--	.19	--	--	7.5								
SEP 09...		2,890	<.08	17.0	3,840	3.9								

BOULDER RIVER BASIN

462341112174601 08N06W36DCCB01 (BUCKEYE WELL BTMW-7)

LOCATION.--Lat 46°23'41", long 112°17'46", (NAD 27) in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec. 36, T.8N., R.6W., Jefferson County, Hydrologic Unit 10020006.

HYDROGEOLOGIC UNIT.--Quaternary alluvium.

WELL CHARACTERISTICS.--Drilled in December 1998, casing diameter 2 in., depth 11 ft.

DATUM.--Measuring point, top of PVC casing, 2.9 ft above land surface datum. Elevation of land-surface datum is 7,035 ft (NGVD 29).

PERIOD OF RECORD.--December 1998 to current year.

REMARKS.--All water levels are reported as distance, in feet below land-surface datum.

MEASURED WATER LEVEL,  
IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR 2004

DATE	WATER LEVEL
July 12	2.38
July 13	2.42
Sept. 8	2.56
Sept. 9	2.57

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

Date	Time	Flow rate, instantaneous gal/min (00059)	Pump or flow period prior to sampling, minutes (72004)	Sampling depth, feet (00003)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water unfltrd uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
JUL 13...	1100	.10	--	--	.3	6.4	308	5.5	93	26.9	6.32	1.64	.2
SEP 09...	1200	.13	5	5.00	--	6.0	297	8.5	91	26.0	6.31	1.73	.2

Date	Time	Sodium, water, fltrd, mg/L (00930)	Alkalinity, water, fltrd fxd end lab, mg/L as CaCO3 (29801)	Alkalinity, water, fltrd inc tit field, mg/L as CaCO3 (39086)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Aluminum, water, fltrd, ug/L (01106)	Arsenic, water, fltrd, ug/L (01000)	Cadmium, water, fltrd, ug/L (01025)	Copper, water, fltrd, ug/L (01040)
JUL 13...	5.27	25	--	.69	.3	30.5	80.0	167	.23	--	536	<.04	1.0	
SEP 09...	5.01	25	64	.47	.3	32.0	81.7	218	.30	4	528	<.04	.7	

Date	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium, water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Zinc, water, fltrd, ug/L (01090)
JUL 13...	--	.31	--	--	7.4
SEP 09...	23,200	.34	6.0	1,980	7.2

462342112174801 08N06W36DCBC02 (BUCKEYE WELL BTMW-8)

LOCATION.--Lat 46°23'42", long 112°17'48", (NAD 27) in NW¼SW¼SE¼ sec. 36, T.8N., R.6W., Jefferson County, Hydrologic Unit 10020006.

HYDROGEOLOGIC UNIT.--Quaternary alluvium.

WELL CHARACTERISTICS.--Drilled in December 1998, casing diameter 2 in., depth 10.5 ft.

DATUM.--Measuring point, top of PVC casing, 2.8 ft above land surface datum. Elevation of land-surface datum is 7,035 ft (NGVD 29).

PERIOD OF RECORD.--December 1998 to current year.

REMARKS.--All water levels are reported as distance, in feet below land-surface datum.

MEASURED WATER LEVEL,  
IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR 2004

DATE	WATER LEVEL
July 12	5.15
July 13	5.19
Sept. 8	6.11
Sept. 9	5.49

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

Date	Time	Flow rate, instantaneous gal/min (00059)	Pump or flow period prior to sampling, minutes (72004)	Sampling depth, feet (00003)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)
JUL 13...	1050	.10	--	--	.3	6.5	322	5.5	120	36.3	7.86	1.88	.2
SEP 09...	1230	.13	5	9.00	--	6.3	305	10.0	110	32.8	7.24	1.72	.2

Date	Sodium, water, fltrd, mg/L (00930)	Alkalinity, water, fxd end lab, mg/L as CaCO3 (29801)	Alkalinity, water, ftrd inc tit field, mg/L as CaCO3 (39086)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue water, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Aluminum, water, fltrd, ug/L (01106)	Arsenic, water, fltrd, ug/L (01000)	Cadmium, water, fltrd, ug/L (01025)	Copper, water, fltrd, ug/L (01040)
JUL 13...	6.09	75	--	1.06	.3	35.0	59.8	196	.27	--	49.6	1.87	.7
SEP 09...	4.70	93	111	.43	<.2	29.3	32.7	188	.26	7	77.0	.05	E.3

Date	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium, water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Zinc, water, fltrd, ug/L (01090)
JUL 13...	--	.23	--	--	2,600
SEP 09...	11,400	E.06	8.2	701	402

E--Estimated.

## BOULDER RIVER BASIN

462347112180401 BASIN CREEK BELOW BUCKEYE MINE NEAR LOGGING ROAD, NEAR BASIN, MT

LOCATION.--Lat 46°23'47", long 112°18'04" (NAD 27), in SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec. 36, T.8 N., R.6 W., Jefferson County, Hydrologic Unit 10020006, at old logging road crossing, 0.5 mi downstream from the Buckeye Mine, and 8.7 mi north of Basin.

DRAINAGE AREA.--2.54 mi<sup>2</sup>.

PERIOD OF RECORD.--January 2000 to current year.

GAGE.--None. Elevation at site is 6,940 ft (NGVD 29).

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO <sub>3</sub> (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)
MAR 30...	1315	.70	7.4	86	10.0	1.0	36	10.3	2.43	16.2	25	.61	.64
MAY 24...	0945	5.2	7.1	50	0.0	0.5	19	5.48	1.23	8.6	9	.64	.63
JUL 29...	0900	.75	7.3	77	15.0	8.0	31	9.00	1.99	12.5	19	.18	.22
SEP 22...	0900	.92	7.6	78	3.0	3.0	31	9.23	2.03	11.7	15	.25	.28

Date	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recoverable, ug/L (01042)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recoverable, ug/L (01051)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recoverable, ug/L (01092)	Suspended sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
MAR 30...	5.8	5.9	1.04	1.85	113	114	78	3	.01
MAY 24...	7.6	7.4	1.35	2.30	92.2	87	82	1	.01
JUL 29...	1.5	2.3	.20	1.19	36.1	38	90	3	.01
SEP 22...	2.4	3.2	.24	.57	52.8	53	85	2	<.01

462500112170201 UNNAMED STREAM (LAD 1) DRAINING LUTTRELL REPOSITORY AREA, NEAR RIMINI

LOCATION.--Lat 46°24'59.9", long 112°17'02.5" (NAD 83), in NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec. 30, T.8N., R.5W., Jefferson County, Hydrologic Unit 10020006.

DRAINAGE AREA.--Undetermined.

PERIOD OF RECORD.--June 2004.

GAGE.--None. Elevation at sampling location is 7,560 ft (NGVD 29).

REMARKS.--No flow during September 2004 sampling trip.

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, wat flt fxd end lab, mg/L as CaCO3 (29801)
JUN 04...	1000	.01	5.0	86	4.0	25	6.97	1.88	.80	.3	4.00	25	3
Date	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, fltrd, tons/d (70302)	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)
JUN 04...	.51	<.2	11.3	29.9	57	.08	.00	78	.7	E1	.06	.06	2.0
Date	Copper, water, unfltrd recover-able, ug/L (01042)	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recover-able, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover-able, ug/L (01051)	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Manganese, water, unfltrd recover-able, ug/L (01055)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)			
JUN 04...	1.8	30	30	<.08	<.06	E.6	4.0	5	5.0	5			

462500112170501 UNNAMED STREAM (LAD 2) DRAINING LUTTRELL REPOSITORY AREA, NEAR RIMINI

LOCATION.--Lat 46°24'59.6", long 112°17'05.5" (NAD 83), in NE¼SW¼ NW¼ sec. 30, T.8N., R.5W., Jefferson County, Hydrologic Unit 10020006.

DRAINAGE AREA.--Undetermined.

PERIOD OF RECORD.-- June 2004.

GAGE.--None. Elevation at sampling location is 7,560 ft (NGVD 29).

REMARKS.--No flow during September 2004 sampling trip.

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Sodium, percent (00932)	Alkalinity, wat flt fxd end lab, mg/L as CaCO3 (29801)
JUN 04...	0930	.01	5.6	94	4.5	24	6.21	1.97	.99	.7	7.97	41	5

Date	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, fltrd, tons/d (70302)	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)
JUN 04...	.52	<.2	11.8	33.1	66	.09	.00	69	2.1	2	.08	.08	2.8

Date	Copper, water, unfltrd recover-able, ug/L (01042)	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recover-able, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover-able, ug/L (01051)	Lithium water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Manganese, water, unfltrd recover-able, ug/L (01055)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)
JUN 04...	2.6	30	30	<.08	<.06	.9	1.6	2	7.8	7

## 46250112173501 UNNAMED TRIBUTARY TO GRUB CREEK, SS NO. 4, NEAR RIMINI, MT

LOCATION.--Lat 46°25'00.8", long 112°17'35.2" (NAD 83), in SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec. 25, T.8 N., R.6 W., Jefferson County, Hydrologic Unit 10020006, 0.25 mi upstream from Grub Creek and 5.9 mi south of Rimini.

DRAINAGE AREA.--Undetermined.

PERIOD OF RECORD.--October 2001 to August 2004, (discontinued).

GAGE.--None. Elevation at site is 7,420 ft (NGVD 29).

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	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)	Sodium, percent (00932)
JUN 04...	1210	.36	6.7	79	--	10.0	24	7.10	1.43	2.82	.1	1.41	10
AUG 31...	1045	.01	5.7	93	19.0	6.5	27	8.19	1.64	4.34	.2	2.00	12
Date	Alkalinity, water, fltrd fxd end lab, mg/L as CaCO3 (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, fltrd, tons/d (70302)	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)
JUN 04...	5	1.25	<.2	7.22	23.1	48	.07	.05	45	.7	2	.41	.43
AUG 31...	<2	2.59	<.2	17.5	33.7	E71	E.10	<.01	38	.8	E2	.20	.20
Date	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recover-able, ug/L (01042)	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recover-able, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover-able, ug/L (01051)	Lithium, water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Manganese, water, unfltrd recover-able, ug/L (01055)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)		
JUN 04...	1.2	2.2	1,000	1,460	.23	2.05	.9	94.6	95	81.4	80		
AUG 31...	.8	1.5	2,400	2,530	.16	1.43	.9	143	145	59.0	55		

E--Estimated.

462458112173201 UNNAMED TRIBUTARY TO GRUB CREEK, SS NO. 5, NEAR RIMINI, MT

LOCATION.--Lat 46°24'57.6", long 112°17'32.5" (NAD 27), SW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$  sec. 25, T.8N., R.6W., Jefferson County, Hydrologic Unit 10020006, 0.2 mi upstream from Grub Creek and 5.9 mi south of Rimini.

DRAINAGE AREA.--Undetermined.

PERIOD OF RECORD.--July 2003 to August 2004, (discontinued).

GAGE.--None. Elevation at sampling site is 7,370 ft (NGVD 29).

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	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)	Sodium, percent (00932)
JUN 04...	1040	.53	6.6	82	8.0	7.0	28	8.53	1.67	3.04	.1	1.71	10
AUG 31...	1015	.03	5.9	90	19.0	7.5	26	7.65	1.69	3.64	.2	2.10	13
Date	Alkalinity, water, fltrd fxd end lab, mg/L as CaCO3 (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, fltrd, tons/d (70302)	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)
JUN 04...	4	1.22	<.2	7.71	28.4	56	.08	.08	44	.6	2	.47	.46
AUG 31...	<2	2.11	<.2	15.0	31.9	E65	E.09	E.01	64	.7	E2	.23	.22
Date	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recover-able, ug/L (01042)	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recover-able, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover-able, ug/L (01051)	Lithium, water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Manganese, water, unfltrd recover-able, ug/L (01055)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)		
JUN 04...	1.3	2.6	510	880	.18	1.58	.9	104	104	84.9	83		
AUG 31...	1.0	1.4	504	690	.11	.62	1.3	178	174	61.7	56		

E--Estimated.



462442112174602 UNNAMED TRIBUTARY TO GRUB CREEK AT MOUTH, SS NO. 6, NEAR RIMINI, MT

LOCATION.--Lat 46°24'42.3", long 112°17'45.5" (NAD 27), SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec. 25, T.8N., R.6W., Jefferson County, Hydrologic Unit 10020006, 30 ft upstream from Grub Creek and 5.9 mi south of Rimini.

DRAINAGE AREA.--Undetermined.

PERIOD OF RECORD.--July 2003 to current year.

GAGE.--None. Elevation at sampling site is 7,320 ft (NGVD 29).

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	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)	Sodium, percent (00932)
JUN 04...	1300	.94	6.5	73	--	9.0	24	6.89	1.54	2.37	.2	1.71	12
AUG 31...	0930	.02	7.3	93	17.0	6.0	33	9.52	2.28	3.00	.2	2.14	11

Date	Alkalinity, water, fltrd fxd end lab, mg/L as CaCO3 (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, fltrd, tons/d (70302)	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)
JUN 04...	6	1.13	<.2	8.28	21.7	47	.06	.12	58	.8	E2	.34	.33
AUG 31...	12	1.79	<.2	13.3	26.3	66	.09	<.01	13	.6	<1	.15	.16

Date	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recover-able, ug/L (01042)	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recover-able, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover-able, ug/L (01051)	Lithium, water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Manganese, water, unfltrd recover-able, ug/L (01055)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)
JUN 04...	4.5	5.1	83	390	.16	1.28	1.5	64.2	63	76.4	73
AUG 31...	1.9	2.2	40	160	E.07	.98	2.2	82.6	80	48.4	47

E--Estimated.

462442112174601 GRUB CREEK ABOVE MOUTH OF UNNAMED TRIBUTARY (GC03), NEAR RIMINI, MT

LOCATION.--Lat 46°24'42.1", long 112°17'45.7" (NAD 27), NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec. 25, T.8N., R.6W., Jefferson County, Hydrologic Unit 10020006, 1.1 mi upstream from Basin Creek and 5.9 mi south of Rimini.

DRAINAGE AREA.--Undetermined.

PERIOD OF RECORD.--July 2003 to current year.

GAGE.--None. Elevation at sampling site is 7,290 ft (NGVD 29).

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	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)	Sodium, percent (00932)
JUN 04...	1330	1.4	6.2	30	--	9.0	10	2.90	.679	.61	.2	1.25	20
AUG 31...	0945	.01	7.0	60	17.0	6.0	22	6.51	1.46	.90	.2	1.84	15
Date	Alkalinity, water, fltrd fxd end lab, mg/L as CaCO3 (29801)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)	Residue water, fltrd, tons/ acre-ft (70303)	Residue water, fltrd, tons/d (70302)	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)
JUN 04...	5	.53	<.2	8.31	6.4	24	.03	.09	128	1.4	E2	.32	.32
AUG 31...	9	1.36	<.2	8.97	15.2	42	.06	.00	39	1.0	4	.45	.44
Date	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recover-able, ug/L (01042)	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recover-able, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover-able, ug/L (01051)	Lithium, water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Manganese, water, unfltrd recover-able, ug/L (01055)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)		
JUN 04...	15.1	15.1	42	50	.09	.19	.9	1.6	2	55.8	52		
AUG 31...	8.6	8.8	14	100	E.06	3.26	1.2	1.0	3	98.6	92		

E--Estimated.

## 462155112181501 JACK CREEK ABOVE BULLION MINE TRIBUTARY, NEAR BASIN, MT

LOCATION.--Lat 46°21'55", long 112°18'15" (NAD 27), in NW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec. 12, T.7 N., R.6 W., Jefferson County, Hydrologic Unit 10020006, 0.2 mi upstream of Bullion Mine tributary, 2.4 mi upstream of Basin Creek, and 7.1 mi north of Basin.

DRAINAGE AREA.--2.55 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1996 to August 1999, March 2003 to current year.

GAGE.--None. Elevation at site is 6,580 ft (NGVD 29).

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO <sub>3</sub> (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)
MAR 30...	1200	.57	7.4	129	6.0	0.5	48	13.8	3.23	4.7	5	--	.34
MAY 24...	1120	3.9	7.5	65	0.5	1.0	26	7.75	1.65	4.1	5	.13	.11
JUL 30...	1200	.48	7.3	92	20.0	10.0	39	11.8	2.34	6.0	7	.21	.21
SEP 23...	1200	1.8	7.6	86	8.0	5.0	36	11.1	2.12	5.9	6	.09	.09

Date	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recoverable, ug/L (01042)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recoverable, ug/L (01051)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recoverable, ug/L (01092)	Suspended sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
MAR 30...	--	3.9	--	E.03	--	48	33	2	<.01
MAY 24...	4.8	4.7	.11	.31	21.4	19	89	1	.01
JUL 30...	3.5	3.5	<.08	.17	31.1	30	83	1	<.01
SEP 23...	3.4	3.1	.17	.20	20.2	12	75	1	<.01

E--Estimated.

## 462120112173701 BULLION MINE ADIT NEAR BASIN, MT

LOCATION.--Lat 46°21'20", long 112°17'37" (NAD 27), in NW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec. 13, T.7 N., R.6 W., Jefferson County, Hydrologic Unit 10020006, at PVC pipe draining the Bullion mine adit about 400 ft upstream from the Bullion mine tributary, 2 mi upstream from Jack Creek, and 6.3 mi northwest of Basin.

DRAINAGE AREA.--Indeterminate (subsurface).

PERIOD OF RECORD.--October 1999 to current year.

GAGE.--None. Elevation at site is 7,360 ft (NGVD 29).

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO <sub>3</sub> (00900)	Calcium, water, mg/L fltrd, (00915)	Magnesium, water, mg/L fltrd, (00925)	Potassium, water, mg/L fltrd, (00935)	Sodium adsorption ratio (00931)	Sodium, water, mg/L fltrd, (00930)
MAR 30...	0845	.01	3.5	1,360	-5.0	0.0	290	74.7	26.1	2.83	.1	5.42
MAY 24...	1230	.01	3.4	1,460	4.0	5.0	310	79.0	27.5	2.67	.1	4.62
JUL 06...	1230	.01	2.7	1,970	17.0	9.0	340	85.3	31.1	--	--	--
30...	1100	.02	2.8	2,000	--	7.0	350	89.8	31.5	<8.00	--	E3.83
AUG 27...	1330	.01	2.8	1,820	11.0	7.0	310	76.4	28.5	--	--	--
SEP 24...	1030	.01	2.9	1,730	7.0	5.0	330	84.1	29.6	E2.18	.1	5.25

Date	Chloride, water, mg/L fltrd, (00940)	Fluoride, water, mg/L fltrd, (00950)	Silica, water, mg/L fltrd, (00955)	Sulfate, water, mg/L fltrd, (00945)	Aluminum, water, ug/L fltrd, (01106)	Antimony, water, ug/L fltrd, (01095)	Arsenic, water, ug/L fltrd, (01000)	Cadmium, water, ug/L fltrd, (01025)	Chromium, water, ug/L fltrd, (01030)	Copper, water, ug/L fltrd, (01040)	Iron, water, ug/L fltrd, (01046)
MAR 30...	1.33	.5	33.9	993	9,810	14.1	944	292	1.2	4,120	173,000
MAY 24...	2.04	.4	32.5	1,060	10,500	15.0	1,850	355	1.2	3,490	175,000
JUL 06...	--	--	--	--	--	--	1,890	468	--	9,990	--
30...	1.35	.5	46.6	981	17,900	17.4	1,020	434	3.3	8,660	206,000
AUG 27...	--	--	--	--	--	--	670	380	--	7,440	--
SEP 24...	E.57	.5	41.2	893	13,500	16.9	556	379	2.6	6,840	192,000

Date	Lead, water, ug/L fltrd, (01049)	Manganese, water, ug/L fltrd, (01056)	Mercury, water, ug/L fltrd, (71890)	Nickel, water, ug/L fltrd, (01065)	Silver, water, ug/L fltrd, (01075)	Zinc, water, ug/L fltrd, (01090)
MAR 30...	290	17,000	<.02	67.6	<.2	30,900
MAY 24...	305	18,000	<.02	68.7	E.2	36,500
JUL 06...	360	--	--	--	--	51,600
30...	351	23,300	<.02	97.3	.6	43,000
AUG 27...	341	--	--	--	--	38,600
SEP 24...	322	19,700	<.02	67.7	E.1	38,600

E--Estimated.

## 462153112181701 BULLION MINE TRIBUTARY AT MOUTH, NEAR BASIN, MT

LOCATION.--Lat 46°21'53", long 112°18'17" (NAD 27), in SE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec. 13, T.7 N., R.5 W., Jefferson County, Hydrologic Unit 10020006, at confluence with Jack Creek, 2.2 mi upstream from Basin Creek, and 6.7 mi northwest of Basin.

DRAINAGE AREA.--1.19 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1996 to current year.

GAGE.--None. Elevation at site is 6,595 ft (NGVD 29).

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO <sub>3</sub> (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)
OCT 28...	1250	.14	5.0	278	--	3.0	100	28.8	7.25	.4	8	50.7	48.8
MAR 30...	1140	.15	7.0	176	7.0	0.5	65	18.3	4.71	3.5	3	20.2	--
MAY 24...	1150	1.8	7.2	86	0.5	1.0	29	8.43	1.99	5.9	14	6.38	6.26
JUL 06...	1315	.68	6.8	122	23.0	12.5	41	12.0	2.77	1.0	24	15.7	15.4
JUL 30...	1230	.21	4.9	231	20.0	12.0	81	23.3	5.44	.7	27	37.7	38.1
AUG 27...	1400	.30	6.0	108	14.0	8.5	65	18.7	4.43	.6	12	28.2	27.7
SEP 23...	1130	.65	6.8	153	5.0	7.0	55	15.8	3.74	1.1	9	18.1	18.6

Date	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recover-able, ug/L (01042)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover-able, ug/L (01051)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)	Suspended sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
OCT 28...	472	625	3.54	6.13	5,290	5,280	--	--	--
MAR 30...	128	--	2.09	--	2,380	--	95	3	<.01
MAY 24...	71.5	73.4	1.47	4.57	774	716	73	2	.01
JUL 06...	38.7	224	.08	4.41	1,780	1,760	90	3	.01
JUL 30...	533	555	2.53	9.40	4,520	4,270	94	19	.01
AUG 27...	121	313	E.08	4.65	784	3,110	97	9	.01
SEP 23...	47.8	217	.34	4.57	1,980	2,120	92	2	<.01

E--Estimated.

## BOULDER RIVER BASIN

462047112201901 JACK CREEK AT MOUTH, NEAR BASIN, MT

LOCATION.--Lat 46°20'47", long 112°20'19" (NAD 27), in NW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec. 22, T.7 N., R.6 W., Jefferson County, Hydrologic Unit 10020006, at Basin Creek road crossing, 7 mi northwest of Basin.

DRAINAGE AREA.--8.55 mi<sup>2</sup>.

PERIOD OF RECORD.--January 2000 to current year.

GAGE.--None. Elevation at site is 6,260 ft (NGVD 29).

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO <sub>3</sub> (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)
MAR 22...	0830	1.4	7.9	103	4.0	0.5	39	10.9	2.97	2.8	5	2.74	2.85
MAY 24...	1030	12	7.4	63	2.0	0.0	24	7.03	1.57	3.7	7	1.32	1.41
JUL 29...	1000	1.4	7.5	98	7.0	9.5	37	10.7	2.42	3.8	8	2.53	2.68
SEP 22...	1000	2.1	7.5	103	3.5	--	40	11.3	2.79	2.5	5	3.83	3.81

Date	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recoverable, ug/L (01042)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recoverable, ug/L (01051)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recoverable, ug/L (01092)	Suspended sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
MAR 22...	18.7	36.9	.20	1.18	368	379	50	2	.01
MAY 24...	20.8	24.3	.43	1.87	175	174	46	6	.19
JUL 29...	13.6	23.2	.11	.64	331	339	90	3	.01
SEP 22...	19.4	34.8	.18	.81	456	473	67	1	.01

## 06031600 BASIN CREEK AT BASIN, MT

LOCATION.--Lat 46°16'16", long 112°15'42" (NAD 27), in NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec. 17, T.6 N., R.5 W., Jefferson County, Hydrologic Unit 10020006, at county bridge on old interstate 15 in Basin.

DRAINAGE AREA.--41.1 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1996 to current year.

GAGE.--None. Elevation at site is 5,340 ft (NGVD 29).

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO <sub>3</sub> (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)
MAR 22...	1000	7.5	7.5	100	7.0	1.5	38	10.7	2.82	3.3	4	.51	.54
MAY 24...	0930	67	7.2	50	0.5	0.0	17	5.16	1.12	3.3	5	.34	.37
JUL 29...	1130	4.7	7.8	92	23.0	14.5	34	10.1	2.22	5.8	7	.25	.27
SEP 22...	1100	7.0	7.7	92	7.0	6.0	35	10.4	2.31	4.0	5	.34	.39

Date	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recover-able, ug/L (01042)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover-able, ug/L (01051)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)	Suspended sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
MAR 22...	4.1	5.2	E.07	.44	91.2	89	50	2	.04
MAY 24...	7.3	9.3	.26	1.61	54.7	57	77	6	1.1
JUL 29...	4.5	4.0	.17	.26	39.9	41	72	2	.03
SEP 22...	4.1	5.1	.09	.41	64.2	68	38	5	.09

## BOULDER RIVER BASIN

462053112153601 CRYSTAL MINE ADIT NEAR BASIN, MT

LOCATION.--Lat 46°20'53", long 112°15'36" (NAD 27), in NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec. 20, T.7 N., R.5 W., Jefferson County, Hydrologic Unit 10020006, adit discharge from Crystal Mine, about 3 mi upstream from the mouth of Uncle Sam Gulch, and 5.25 mi north of Basin.

DRAINAGE AREA.--Indeterminate (subsurface).

PERIOD OF RECORD.--June 2003 to current year.

GAGE.--None. Elevation at site is 7,600 ft (NGVD 29).

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO <sub>3</sub> (00900)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)
MAR 30...	0940	.06	4.5	716	-3.0	5.0	180	47.9	15.3	1.43	.1	3.91
MAY 24...	1345	.01	4.0	726	6.0	5.0	220	60.1	16.9	1.46	.1	3.56
JUL 06...	1030	.05	3.6	936	17.0	5.0	260	69.5	20.0	--	--	--
30...	1000	.07	3.7	900	--	5.5	250	67.7	18.8	E1.58	.1	3.65
AUG 27...	1230	.04	3.7	910	11.0	5.0	220	57.8	18.0	--	--	--
SEP 23...	0930	.04	3.9	864	6.5	4.5	210	57.5	17.3	1.50	.1	3.75

Date	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Aluminum, water, fltrd, ug/L (01106)	Antimony, water, fltrd, ug/L (01095)	Arsenic, water, fltrd, ug/L (01000)	Cadmium, water, fltrd, ug/L (01025)	Chromium, water, fltrd, ug/L (01030)	Copper, water, fltrd, ug/L (01040)	Iron, water, fltrd, ug/L (01046)
MAR 30...	.77	<.2	18.3	471	1,840	1.47	60.7	517	<.8	3,590	40,500
MAY 24...	1.08	<.2	18.9	501	1,760	1.20	39.2	526	<.8	3,940	24,600
JUL 06...	--	--	--	--	--	--	129	693	--	7,480	--
30...	.74	<.2	22.6	477	3,840	2.00	95.3	737	<.8	7,450	50,200
AUG 27...	--	--	--	--	--	--	93.5	723	--	7,280	--
SEP 23...	.55	<.2	22.7	487	4,200	2.09	90.7	725	<.8	6,540	51,000

Date	Lead, water, fltrd, ug/L (01049)	Manganese, water, fltrd, ug/L (01056)	Mercury, water, fltrd, ug/L (71890)	Nickel, water, fltrd, ug/L (01065)	Silver, water, fltrd, ug/L (01075)	Zinc, water, fltrd, ug/L (01090)
MAR 30...	14.8	12,200	<.02	34.5	<.2	41,800
MAY 24...	13.8	12,400	<.02	33.1	<.2	40,500
JUL 06...	34.4	--	--	--	--	54,800
30...	38.1	13,900	<.02	41.9	.5	49,800
AUG 27...	36.5	--	--	--	--	54,200
SEP 23...	38.9	15,100	<.02	39.3	<.2	53,800



461904112144401 UNCLE SAM GULCH AT MOUTH, NEAR BASIN, MT

LOCATION.--Lat 46°19'04", long 112°14'44" (NAD 27), in SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec. 32, T.7 N., R.5 W., Jefferson County, Hydrologic Unit 10020006, at confluence with Cataract Creek, 3.4 mi northeast of Basin.

DRAINAGE AREA.--3.06 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1996 to current year.

GAGE.--None. Elevation at site is 6,315 ft (NGVD 29).

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)
MAR													
30...	1015	1.1	7.1	117	-3.0	1.0	43	12.5	2.84	4.9	6	17.4	20.3
MAY													
24...	1430	3.6	7.2	73	8.0	2.0	26	7.74	1.56	5.6	14	8.75	8.48
JUL													
06...	0900	1.5	7.5	102	12.0	7.5	37	11.2	2.14	4.8	12	16.0	15.5
30...	0900	.56	7.4	156	13.5	9.0	61	18.8	3.53	3.0	7	27.2	28.1
AUG													
27...	1100	.79	7.5	135	14.0	7.0	50	15.2	2.95	6.3	14	22.7	21.7
SEP													
23...	0830	1.5	7.8	121	5.5	5.0	43	13.0	2.66	3.9	21	21.1	21.6

Date	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recover-able, ug/L (01042)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover-able, ug/L (01051)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)	Suspended sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
MAR									
30...	86.2	165	.93	3.57	1,720	2,400	24	10	.03
MAY									
24...	84.0	101	1.55	8.68	826	803	61	5	.05
JUL									
06...	72.6	109	1.20	5.91	1,460	1,470	91	2	.01
30...	38.0	106	.09	2.57	2,470	2,440	92	2	<.01
AUG									
27...	96.2	116	2.25	9.31	684	2,040	64	4	.01
SEP									
23...	97.9	168	1.34	16.9	1,830	1,940	92	4	.02

## BOULDER RIVER BASIN

06031960 CATARACT CREEK AT BASIN, MT

LOCATION.--Lat 46°16'17", long 112°14'28" (NAD 27), in NE $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 16, T.6 N., R.5 W., Jefferson County, Hydrologic Unit 10020006, at county bridge, 0.1 mi upstream from the Boulder River, and 1 mi east of Basin.

DRAINAGE AREA.--29.3 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1996 to current year.

GAGE.--None. Elevation at site is 5,270 ft (NGVD 29).

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO <sub>3</sub> (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)
MAR 22...	1100	4.6	7.6	132	14.0	2.0	57	17.2	3.50	3.1	4	2.22	2.29
MAY 24...	1200	45	7.4	57	3.0	0.0	22	6.84	1.27	2.4	4	.98	1.11
JUL 29...	1200	3.8	8.0	129	--	14.5	56	17.5	3.01	3.9	5	2.44	2.51
SEP 22...	1230	8.3	7.8	112	12.0	6.0	47	14.4	2.72	2.6	3	2.96	3.13

Date	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recoverable, ug/L (01042)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recoverable, ug/L (01051)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recoverable, ug/L (01092)	Suspended sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
MAR 22...	10.2	11.2	.13	.39	232	228	68	5	.06
MAY 24...	15.5	18.7	.26	2.00	126	128	67	3	.36
JUL 29...	8.9	10.8	.10	.41	216	212	75	1	.01
SEP 22...	17.0	21.6	.18	1.05	283	286	67	2	.04

## 06032400 BOULDER RIVER BELOW LITTLE GALENA GULCH, NEAR BASIN, MT

LOCATION.--Lat 46°14'58", long 112°10'27 (NAD 27), in NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec. 25, T.6 N., R.5 W., Jefferson County, Hydrologic Unit 10020006, at county bridge, 0.2 mi downstream from Little Galena Gulch, and 2.5 mi northeast of Basin.

DRAINAGE AREA.--318 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1996 to current year.

GAGE.--None. Elevation at site is 5,020 ft (NGVD 29).

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

Date	Time	Instantaneous discharge, cfs (00061)	pH, water, unfltrd field, std units (00400)	Specif. conductance, water, unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO <sub>3</sub> (00900)	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)
MAR 22...	1200	61	7.8	148	15.0	2.0	55	15.7	3.86	3.7	7	.29	.55
MAY 24...	1330	329	7.5	79	8.0	2.5	28	8.52	1.74	2.9	5	.20	.35
JUL 29...	1300	23	8.6	149	24.0	19.0	59	17.9	3.49	6.2	7	.37	.42
SEP 22...	1330	105	8.1	130	11.0	9.0	48	14.4	3.00	3.5	4	.39	.53

Date	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recover-able, ug/L (01042)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover-able, ug/L (01051)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)	Suspended sediment, percent <.063mm (70331)	Suspended sediment concentration mg/L (80154)	Suspended sediment discharge, tons/d (80155)
MAR 22...	7.8	11.7	.19	1.80	64.8	96	86	18	3.0
MAY 24...	6.9	9.6	.14	1.66	39.5	55	66	17	15
JUL 29...	7.7	8.2	.15	.22	42.8	47	38	4	.25
SEP 22...	6.2	7.4	.12	.72	54.3	71	84	5	1.4

## BOULDER RIVER BASIN

06033000 BOULDER RIVER NEAR BOULDER, MT

LOCATION.--Lat 46°12'40", long 112°05'27" (NAD 27), in SE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 3, T.5 N., R.4 W., Jefferson County, Hydrologic Unit 10020006, on left bank 40 ft downstream from county bridge, 1.1 mile downstream from Muskrat Creek, 2.0 mi southeast of Boulder, and at river mile 44.1.

DRAINAGE AREA.--381 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1929 to December 1932, March 1934 to September 1972, October 1984 to current year. Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WSP 1279: 1931.

GAGE.--Water-stage recorder. Elevation of gage is 4,810 ft (NGVD 29). Prior to Aug. 29, 1946, nonrecording gage at present site and elevation.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Diversions for irrigation of about 3,500 acres 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 May 22, 1981, reached a discharge of 7,000 ft<sup>3</sup>/s, gage height, 12.3 ft, from floodmarks.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	16	25	21	25	28	123	168	322	97	16	17
2	12	20	26	e20	25	26	110	163	292	94	16	16
3	12	20	26	e20	24	24	94	183	291	89	18	17
4	12	19	21	e19	24	27	109	235	296	97	21	17
5	13	17	20	e18	25	26	133	284	307	99	19	16
6	13	16	26	e17	24	25	159	297	318	87	18	16
7	12	e15	28	e18	24	26	171	290	285	75	17	15
8	12	15	25	20	25	31	176	294	275	62	16	14
9	12	16	24	20	25	40	177	274	273	54	15	14
10	12	17	24	21	25	45	147	246	283	50	14	14
11	12	19	25	22	24	41	130	229	478	50	12	13
12	14	20	27	22	24	43	126	209	347	47	12	14
13	14	20	27	21	24	51	144	187	276	44	12	16
14	14	20	27	22	23	35	169	172	242	39	11	18
15	14	20	26	22	23	40	186	159	210	31	11	19
16	17	21	26	23	23	39	163	154	199	31	9.7	19
17	17	21	26	23	23	40	150	167	179	29	9.2	18
18	18	22	25	23	24	53	141	167	173	27	11	18
19	20	25	24	23	25	65	131	204	159	32	12	26
20	19	28	24	23	25	48	127	201	160	34	12	41
21	18	23	25	23	25	53	123	316	144	32	11	43
22	18	22	25	24	24	83	113	458	131	29	10	43
23	17	22	24	24	25	89	107	449	120	28	20	43
24	18	25	23	24	26	107	127	381	101	25	39	45
25	18	25	24	26	28	117	121	342	97	24	27	44
26	18	25	25	25	28	109	133	338	100	23	32	38
27	19	24	25	25	28	78	175	354	93	22	28	34
28	20	24	23	25	26	75	233	363	107	20	25	32
29	28	25	22	25	28	66	188	393	125	19	22	30
30	28	25	e20	25	---	71	191	361	130	18	20	29
31	17	---	21	25	---	93	---	348	---	17	18	---
TOTAL	500	627	759	689	722	1,694	4,377	8,386	6,513	1,425	533.9	739
MEAN	16.1	20.9	24.5	22.2	24.9	54.6	146	271	217	46.0	17.2	24.6
MAX	28	28	28	26	28	117	233	458	478	99	39	45
MIN	12	15	20	17	23	24	94	154	93	17	9.2	13
AC-FT	992	1,240	1,510	1,370	1,430	3,360	8,680	16,630	12,920	2,830	1,060	1,470

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 2004, BY WATER YEAR (WY)\*

MEAN	36.2	34.6	28.5	26.3	30.5	48.2	166	458	402	93.8	30.9	28.4
MAX	113	71.2	53.0	42.1	68.5	121	511	961	1,027	374	194	156
(WY)	(1966)	(1966)	(1996)	(1969)	(1971)	(1986)	(1930)	(1948)	(1965)	(1938)	(1993)	(1993)
MIN	5.85	9.09	7.45	10.1	7.71	20.7	46.0	126	70.4	10.9	7.11	5.69
(WY)	(1936)	(1936)	(1936)	(1937)	(1937)	(1937)	(1967)	(1992)	(2000)	(1931)	(1931)	(1935)

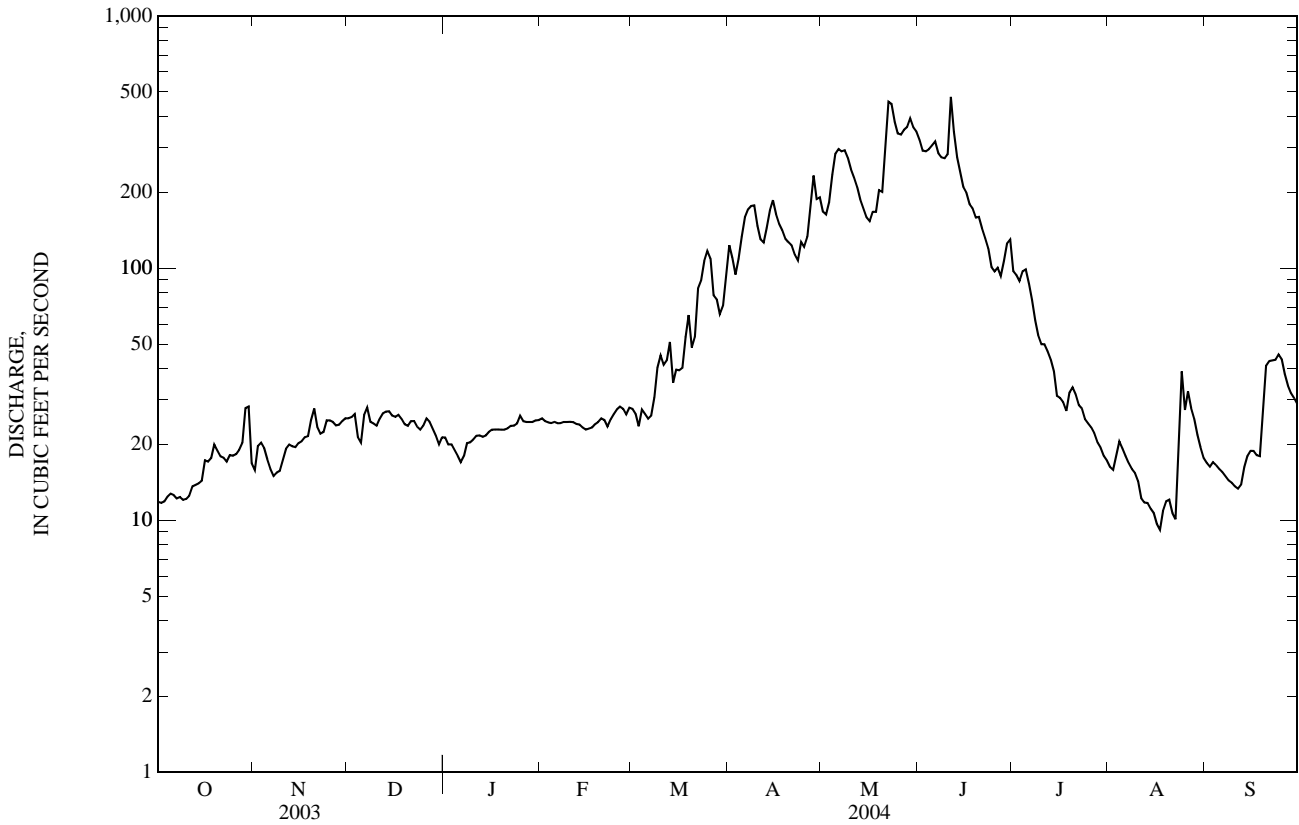
06033000 BOULDER RIVER NEAR BOULDER, MT—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1929 - 2004*	
ANNUAL TOTAL	36,087.6		26,964.9		116	
ANNUAL MEAN	98.9		73.7		211	
HIGHEST ANNUAL MEAN					48.2	
LOWEST ANNUAL MEAN					2000	
HIGHEST DAILY MEAN	1,060	May 29	478	Jun 11	2,400	May 22, 1948
LOWEST DAILY MEAN	8.2	Aug 21	9.2	Aug 17	0.00	Jul 15, 1931
ANNUAL SEVEN-DAY MINIMUM	8.9	Aug 17	11	Aug 16	1.0	Jan 21, 1930
MAXIMUM PEAK FLOW			554	Jun 11	3,490	Jun 9, 1964
MAXIMUM PEAK STAGE			6.82	Jun 11	10.90	Jun 9, 1964
INSTANTANEOUS LOW FLOW			9.1	Aug 17	0.00	Jul 15, 1931
ANNUAL RUNOFF (AC-FT)	71,580		53,480		83,890	
10 PERCENT EXCEEDS	317		206		334	
50 PERCENT EXCEEDS	24		25		36	
90 PERCENT EXCEEDS	11		15		16	

\*--During periods of operation (May 1929 to December 1932, March 1934 to September 1972, October 1984 to present).

a--Gage height, 4.78 ft.

e--Estimated.



## WILLOW CREEK BASIN

06035000 WILLOW CREEK NEAR HARRISON, MT

LOCATION.--Lat 46°43'23", long 111°44'25" (NAD 27), in SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec.28, T.1 S., R.1 W., Madison County, Hydrologic Unit 10020005, on right bank 2.2 mi upstream from Willow Creek Dam, 2.5 mi northeast of Harrison, and at river mile 13.6.

DRAINAGE AREA.--83.8 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1938 to September 1982, October 1982 to October 2002, March to July 2004 (seasonal records only). Monthly discharge only for some periods, published in WSP 1309.

REVISED RECORDS.--WSP 1559: Drainage area.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 4,750 ft (NGVD 29). Prior to Oct. 8, 1946, water-stage recorder at elevation 0.22 ft higher, with different concrete control.

REMARKS.--Seasonal water-discharge records good except those for Mar. 8 to Apr. 28, which are fair, and those for estimated daily discharges, which are poor. Diversions for irrigation of about 12,500 acres of which 3,500 acres are in Norwegian Creek drainage. U.S. Geological Survey satellite telemeter at station.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						25	17	12	18	80		
2						e22	17	12	13	78		
3						e17	16	11	14	71		
4						e19	16	10	23	82		
5						e20	15	11	28	110		
6						e22	15	12	51	93		
7						e25	15	12	56	84		
8						28	15	14	52	79		
9						30	33	17	40	70		
10						28	29	22	66	58		
11						22	27	16	89	54		
12						23	23	15	61	50		
13						22	16	11	52	43		
14						20	16	6.6	48	36		
15						19	16	5.3	46	31		
16						21	13	7.8	40	27		
17						24	13	11	39	21		
18						26	14	14	36	16		
19						27	11	22	27	16		
20						23	12	13	27	19		
21						22	11	13	29	15		
22						22	9.7	20	35	13		
23						23	9.0	46	41	10		
24						23	8.6	44	54	8.2		
25						21	8.6	24	62	6.0		
26						23	8.9	17	89	4.9		
27						22	9.1	15	88	5.2		
28						20	12	21	84	7.0		
29						19	14	44	84	5.0		
30						17	15	30	79	4.9		
31						13	---	23	---	4.2		
TOTAL						688	454.9	551.7	1,471	1,201.4		
MEAN						22.2	15.2	17.8	49.0	38.8		
MAX						30	33	46	89	110		
MIN						13	8.6	5.3	13	4.2		
AC-FT						1,360	902	1,090	2,920	2,380		

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2004, BY WATER YEAR (WY)\*

	29.1	33.7	29.9	24.7	27.4	31.5	41.2	61.8	110	60.3	12.3	18.9
MEAN	29.1	33.7	29.9	24.7	27.4	31.5	41.2	61.8	110	60.3	12.3	18.9
MAX	80.1	56.5	47.4	43.6	60.9	44.7	72.5	167	300	278	61.0	62.4
(WY)	(1983)	(1947)	(1948)	(1976)	(1963)	(1974)	(1996)	(1984)	(1995)	(1975)	(1993)	(1965)
MIN	2.01	9.40	11.5	10.0	12.0	18.0	11.1	11.1	10.1	1.52	1.12	2.01
(WY)	(1989)	(1955)	(1955)	(1940)	(1940)	(1940)	(1961)	(2002)	(1966)	(1988)	(1988)	(1956)

06035000 WILLOW CREEK NEAR HARRISON, MT—Continued

SUMMARY STATISTICS	FOR 2004 SEASON		WATER YEARS 1938 - 1982*		SEASONS 1983 - 2004*	
ANNUAL MEAN			40.7			
HIGHEST ANNUAL MEAN			76.0	1975		
LOWEST ANNUAL MEAN			19.2	1954		
HIGHEST DAILY MEAN	110	Jul 5	591	Jun 27, 1944	423	Jun 6, 1995
LOWEST DAILY MEAN	4.2	Jul 31	1.6	Sep 16, 1952	0.59	Jul 23, 1988
ANNUAL SEVEN-DAY MINIMUM			1.6	Sep 16, 1952		
MAXIMUM PEAK FLOW	122	Jul 5	813	Feb 3, 1963	448	Jun 6, 1995
MAXIMUM PEAK STAGE	1.59	Jul 5	4.24	Feb 3, 1963	3.38	Jun 6, 1995
INSTANTANEOUS LOW FLOW	a3.0	Jul 31	b1.4	Sep 17, 1956	c0.32	Jul 21, 1988
ANNUAL RUNOFF (AC-FT)			29,480			
10 PERCENT EXCEEDS			88			
50 PERCENT EXCEEDS			30			
90 PERCENT EXCEEDS			6.9			

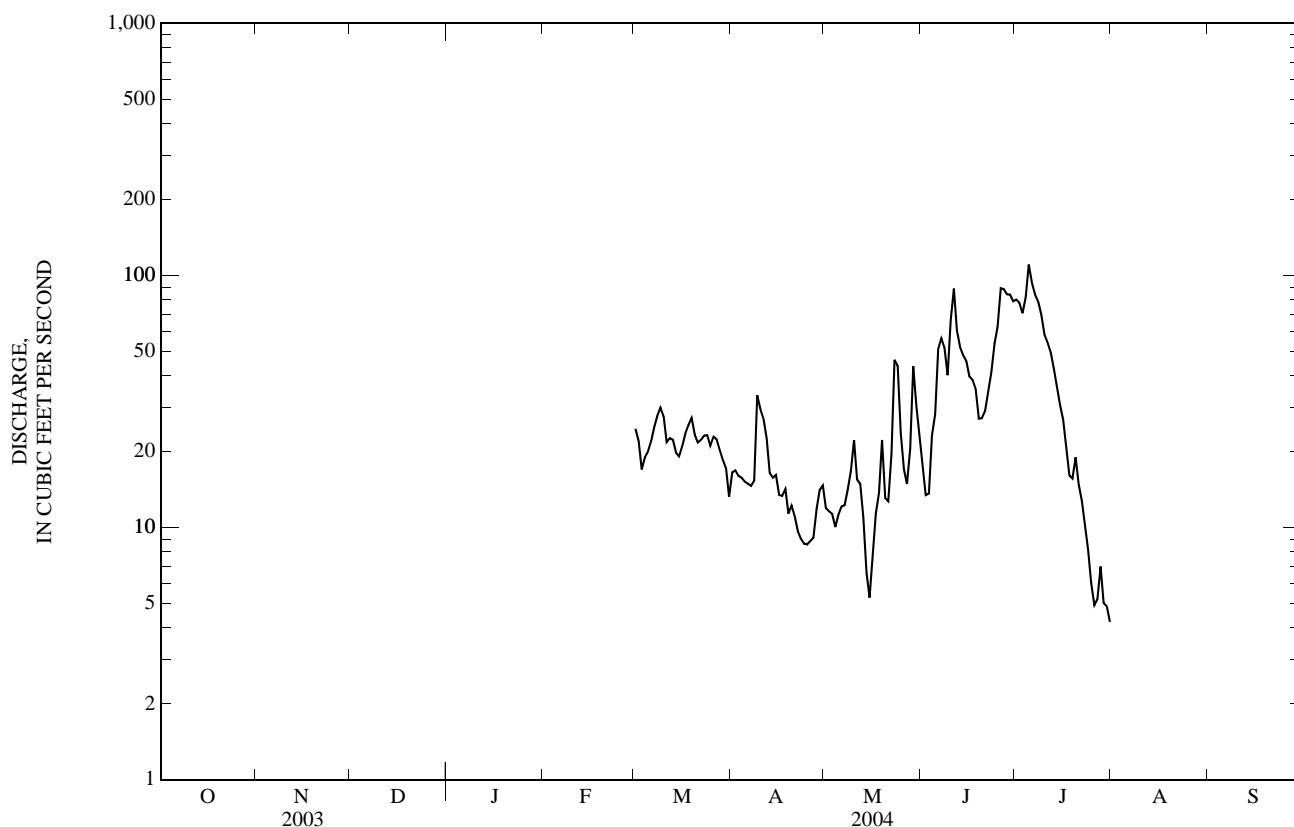
\*--During periods of operation (April 1938 to September 1982, October 1982 to October 2002, March to July 2004).

a--Gage height, 0.38 ft.

b--Gage height, 0.39 ft.

c--Gage height, 0.26 ft.

e--Estimated.



WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1997-98, October 2000 to October 2002, March to July 2004.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Seasonal records from Apr. 24, 2002 to Oct. 27, 2002, March to July 2004.

INSTRUMENTATION.--Temperature probe installed Apr. 23, 2002.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE (Seasonal records): Maximum, 29.5°C, July 13, 14, 2002; minimum, 0.0°C, Oct. 24-27, 2002, Mar. 2-7, and 11, 2004.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: During period of seasonal operation, maximum, 25.5°C, July 31; minimum, 0.0°C, Mar. 2-7 and 11.





## 06036650 JEFFERSON RIVER NEAR THREE FORKS, MT

LOCATION.--Lat 45°53'52", long 111°35'45" (NAD 27), in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>NW<sup>1</sup>/<sub>4</sub> sec.27, T.2 N., R.1 E., Broadwater County, Hydrologic Unit 10020005, on left bank 50 ft downstream from bridge on U.S. Highway 10, 2.5 mi northwest of Three Forks, and at river mile 2,329.3.

DRAINAGE AREA.--9,532 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1978 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,076.76 ft (NGVD 29).

REMARKS.--Records good except those for estimated daily discharges, which are poor. Some regulation by Ruby River Reservoir (station number 06020500) and Clark Canyon Reservoir (station number 06015300). Diversions for irrigation of about 390,000 acres upstream from station. U.S. Army Corps of Engineers satellite telemeter at station. Several observations of water temperature and conductance were made during the year.

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	457	933	1,090	e650	e600	897	1,380	813	2,070	1,730	236	553
2	494	983	1,010	e700	e550	893	1,540	699	1,840	1,740	224	505
3	504	984	1,020	e650	e550	862	1,590	620	1,570	1,880	218	486
4	517	1,030	988	e550	e550	861	1,520	613	1,340	2,020	227	492
5	528	1,020	988	e450	e600	864	1,470	627	1,270	2,030	235	494
6	555	952	971	e400	e600	859	1,530	669	1,430	1,890	228	469
7	551	903	1,030	e400	e650	846	1,600	776	1,670	1,790	221	466
8	545	1,040	1,020	e450	e700	892	1,630	881	1,810	1,640	211	446
9	539	1,130	983	e500	e700	952	1,730	850	1,710	1,470	208	427
10	546	1,280	912	e500	e750	984	1,690	834	1,770	1,210	211	412
11	586	1,230	1,000	e550	e750	973	1,640	795	2,300	1,040	203	372
12	629	1,150	969	e550	e700	966	1,530	804	3,000	969	185	357
13	657	1,100	973	e550	e700	959	1,430	865	2,950	850	164	386
14	664	1,040	1,060	e550	e700	973	1,380	885	2,550	708	156	447
15	693	1,030	1,010	e550	e700	972	1,380	823	2,110	616	147	515
16	729	1,040	925	e550	e700	972	1,360	726	1,790	544	141	537
17	746	1,050	908	e550	e750	962	1,330	726	1,590	495	145	543
18	754	1,050	e900	e550	e800	960	1,300	768	1,400	451	155	546
19	751	1,060	860	e550	e850	987	1,280	913	1,300	426	186	566
20	758	1,070	840	e550	e800	1,070	1,230	1,030	1,300	455	202	675
21	753	1,070	937	e550	e750	1,180	1,190	1,330	1,390	495	217	875
22	741	966	920	e550	e750	1,330	1,110	1,570	1,410	493	230	1,060
23	775	e900	860	e600	e750	1,510	1,000	2,330	1,340	490	291	1,080
24	807	e950	863	e600	e750	1,700	885	2,940	1,220	473	428	1,060
25	814	e900	1,030	e550	e800	1,880	787	2,800	1,160	427	503	1,030
26	872	e950	1,040	e500	e850	2,040	731	2,470	1,230	400	560	1,010
27	880	1,060	926	e550	e900	2,090	655	2,200	1,340	366	591	979
28	902	1,140	800	e600	940	1,830	607	2,090	1,530	336	663	980
29	941	1,240	630	e650	910	1,590	669	2,200	1,690	304	679	952
30	975	1,200	e550	e650	---	1,420	829	2,260	1,670	273	626	931
31	973	---	e600	e600	---	1,350	---	2,210	---	248	586	---
TOTAL	21,636	31,451	28,613	17,150	21,100	36,624	38,003	40,117	50,750	28,259	9,277	19,651
MEAN	698	1,048	923	553	728	1,181	1,267	1,294	1,692	912	299	655
MAX	975	1,280	1,090	700	940	2,090	1,730	2,940	3,000	2,030	679	1,080
MIN	457	900	550	400	550	846	607	613	1,160	248	141	357
AC-FT	42,920	62,380	56,750	34,020	41,850	72,640	75,380	79,570	100,700	56,050	18,400	38,980

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 2004, BY WATER YEAR (WY)

MEAN	1,548	1,609	1,326	1,197	1,275	1,524	2,341	3,670	4,966	1,987	868	1,109
MAX	3,163	2,805	1,993	1,929	1,964	2,295	4,444	7,679	11,420	5,505	3,030	3,303
(WY)	(1985)	(1984)	(1999)	(1983)	(1984)	(1996)	(1996)	(1997)	(1997)	(1995)	(1984)	(1984)
MIN	698	1,039	805	553	728	824	1,267	990	988	352	59.1	262
(WY)	(2004)	(1989)	(1993)	(2004)	(2004)	(2002)	(2004)	(1992)	(1992)	(1988)	(1988)	(1994)

06036650 JEFFERSON RIVER NEAR THREE FORKS, MT—Continued

SUMMARY STATISTICS	FOR 2003 CALENDAR YEAR		FOR 2004 WATER YEAR		WATER YEARS 1978 - 2004	
ANNUAL TOTAL	509,620		342,631			
ANNUAL MEAN	1,396		936		1,951	
HIGHEST ANNUAL MEAN					3,650	1984
LOWEST ANNUAL MEAN					936	2004
HIGHEST DAILY MEAN	11,300	Jun 2	3,000	Jun 12	16,800	Jun 9, 1995
LOWEST DAILY MEAN	152	Aug 3	141	Aug 16	44	Aug 19, 1988
ANNUAL SEVEN-DAY MINIMUM	164	Aug 2	156	Aug 12	48	Aug 19, 1988
MAXIMUM PEAK FLOW			a3,120	Jun 12	d17,000	Jun 9, 1995
MAXIMUM PEAK STAGE			b4.97	Jan 11	c9.88	Jan 3, 1997
INSTANTANEOUS LOW FLOW			c138	Aug 16	f43	Aug 19, 1988
ANNUAL RUNOFF (AC-FT)	1,011,000		679,600		1,413,000	
10 PERCENT EXCEEDS	3,030		1,670		3,740	
50 PERCENT EXCEEDS	950		862		1,430	
90 PERCENT EXCEEDS	195		427		593	

a--Gage height, 4.71 ft.  
 b--Backwater from ice.  
 c--Gage height, 1.70 ft.  
 d--Gage height, 9.00 ft.  
 e--Estimated.  
 f--Gage height, 1.31 ft.

