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**HYDROLOGIC AND WATER QUALITY INVESTIGATIONS RELATED TO
PLACER MINING IN INTERIOR ALASKA; SUMMER 1990**

by

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Geological and Geophysical Surveys

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THIS REPORT HAS NOT BEEN REVIEWED FOR
TECHNICAL CONTENT (EXCEPT AS NOTED IN
TEXT) OR FOR CONFORMITY TO THE
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INTRODUCTION

Monitoring of interior Alaska streams affected by placer mining was continued during the 1989 field season by Alaska Division of Geological and Geophysical Surveys (DGGS) investigators. The study, which began in 1984, is a combined effort of the Alaska Departments of Environmental Conservation (ADEC) and Fish and Game (ADF&G). Results of the previous field seasons can be found in Ray **(1990)**, Ray **(1989)**, **Mack** et. al. **(1988)**, **Mack** et al. **(1987)**, **Mack** and **Moorman (1987)**, and **Mack** and **Moorman** **(1986)**.

The 1990 field sampling **plan was slightly changed from** the 1989 plan. Deadwood creek was added as an automated sediment sampling site. This site was added to the study since a high concentration of miners still exists upstream. Bear Creek was added as both a sediment and flow data collection site for comparison to data from the Gold Dust Creek nonpoint-source study. Goldstream Creek at Minto was dropped from the study. The remaining sites were continued from the 1989 sampling season. These sites are Birch Creek (above Twelve Mile Creek and at the Steese Highway bridge), Faith Creek, Gold Dust Creek (both middle and upper), Goldstream Creek at Ballaine road, and the Little Chena River at Chena **Hot Springs road.**

To ensure consistency of data between the different field seasons, the same sampling and analytical techniques were used during each field season. For details of the methods, see **Mack** et. al. **(1988)**.

RESULTS

Discharge

Streamflow during June and July were generally below average at all stations due to the below normal precipitation which fell during those months. Fairbanks received significant precipitation during July (approximately five inches). The precipitation events were localized with little falling in the Birch Creek drainage. Precipitation during late August and early September covered most of interior Alaska with precipitation totals of two to five inches. This resulted in above average streamflows during September in most interior Alaska streams. Table 1 summarizes the monthly discharge data for the study streams. Figures 1-7 are the hydrographs for the study sites.

Table 1. Summary of average monthly discharge data (discharge values in cfs).

			Aug	Sep	Ave
Bear Creek					
1990		7.2	9.5	25.8	15.8
Birch Creek at Bridge					
1990	2100*	748	1680	2840	1800
1989	3100	2000*	675	507	1580
1988	2490	1230	1300	1370	1430
1987	4120	2570	2380	1010	2520
1986	3730	2370	700	828	1910
1985	4600	1710	1930	3790	3010
Birch Creek above 12 Mile Creek					
1990	99.3	35.7	49.7	116	75.0
1989	164	89.5	37.4	27.4	73.8
1988	66.9	35.4	47.5	68.0	49.2
1987	1%	147	149	74.8	142
1986	207	125	71.2	76.5	120
Faith Creek					
1990	82.0	53.5	86.5	251	114
1989	108	47.4	32.4	24.3	49.2
1988	81.8	46.1	91.3	93.9	70.6
1987	113	51.6	134	103	100
1986	107	80.4	141	149	123
Gold Dust Creek (upper)					
1990	7.7	1.8			5.4
1989	8.8	6.1	2.1	1.6	4.7

* Estimate

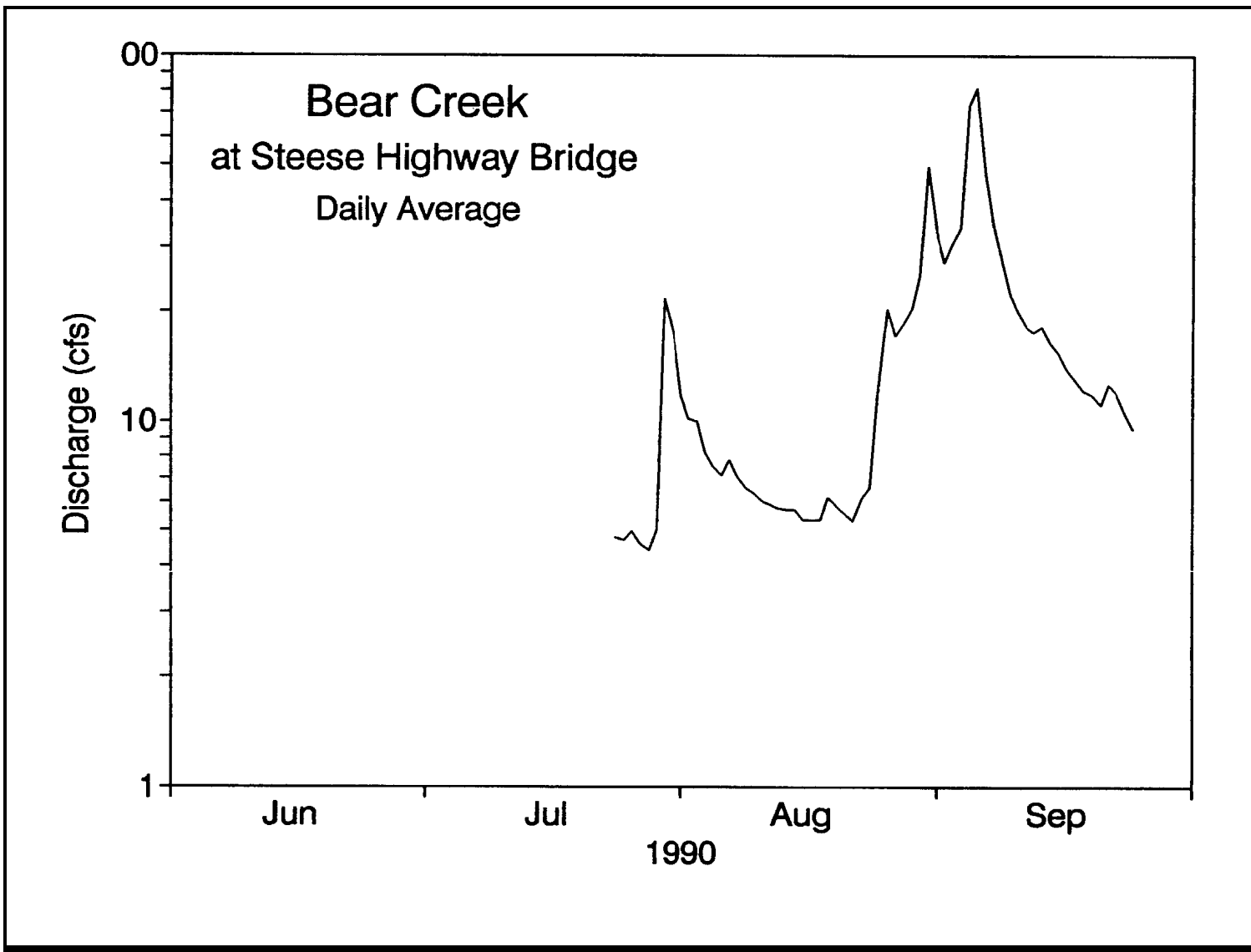


Figure 1. Hydrograph of Bear Creek at Steese Highway • 1990

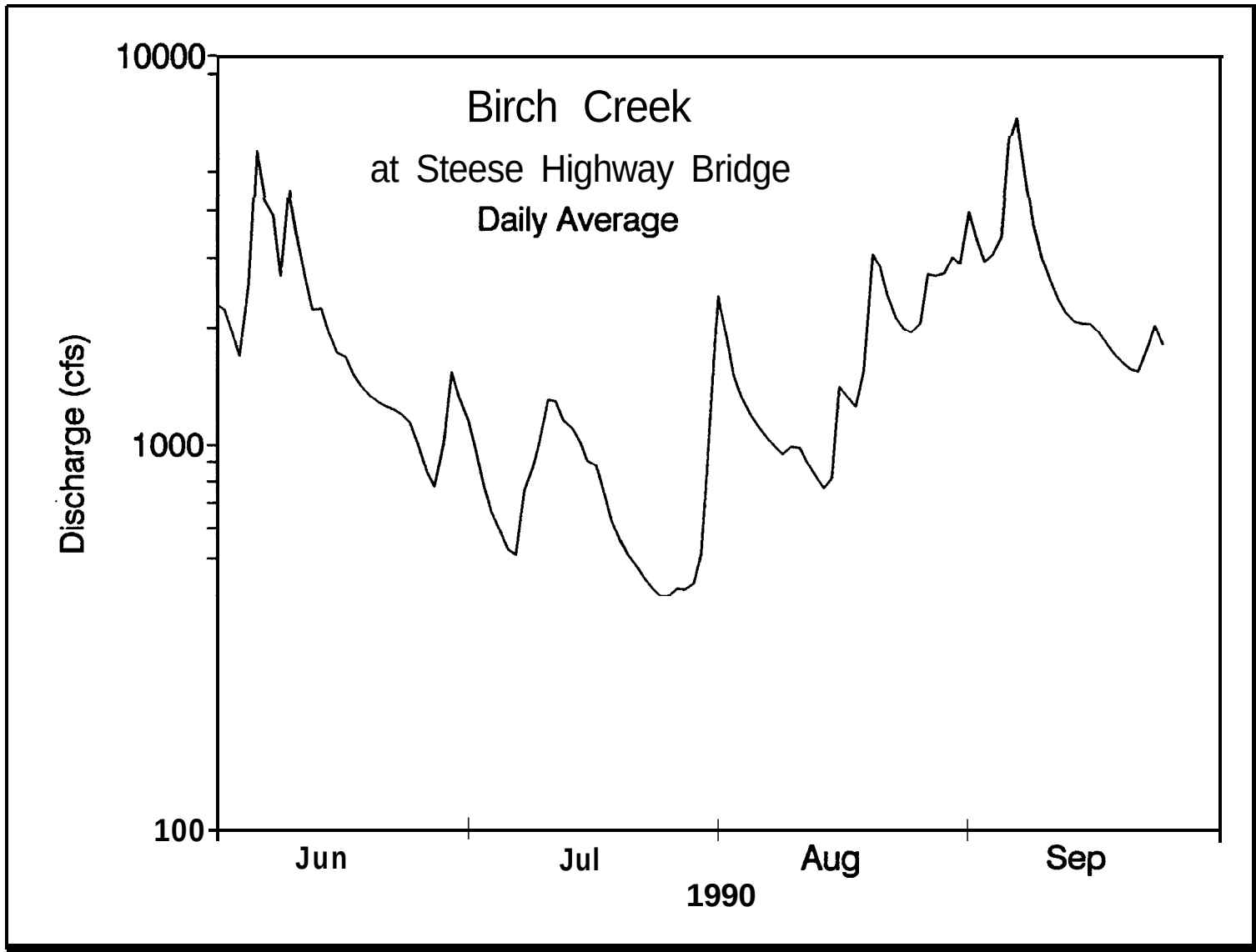


Figure 2. Hydrograph of Birch Creek at Steese Highway Bridge - 1990

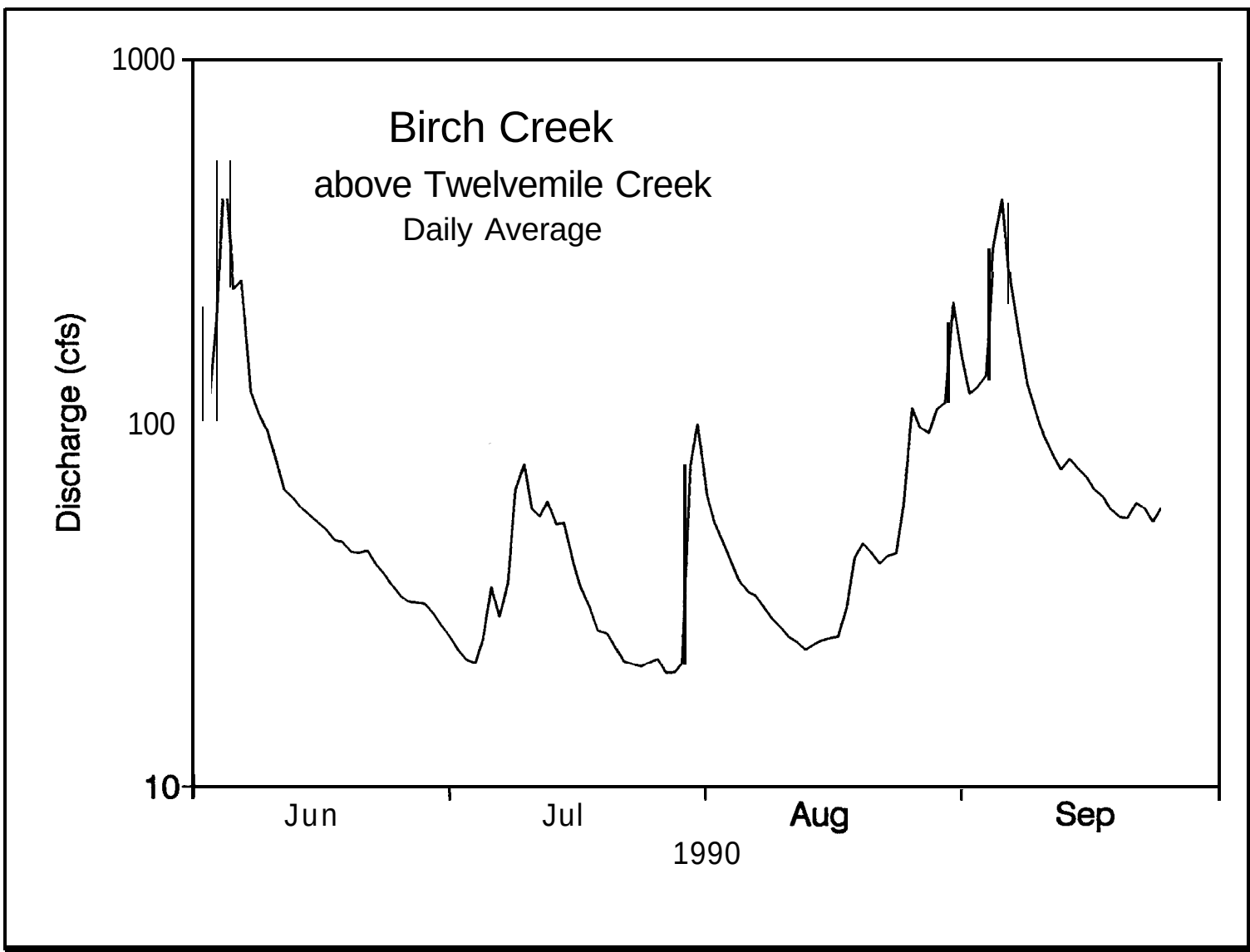


Figure 3. X Hydrograph of Birch Creek above Twelvemile Creek - 1990

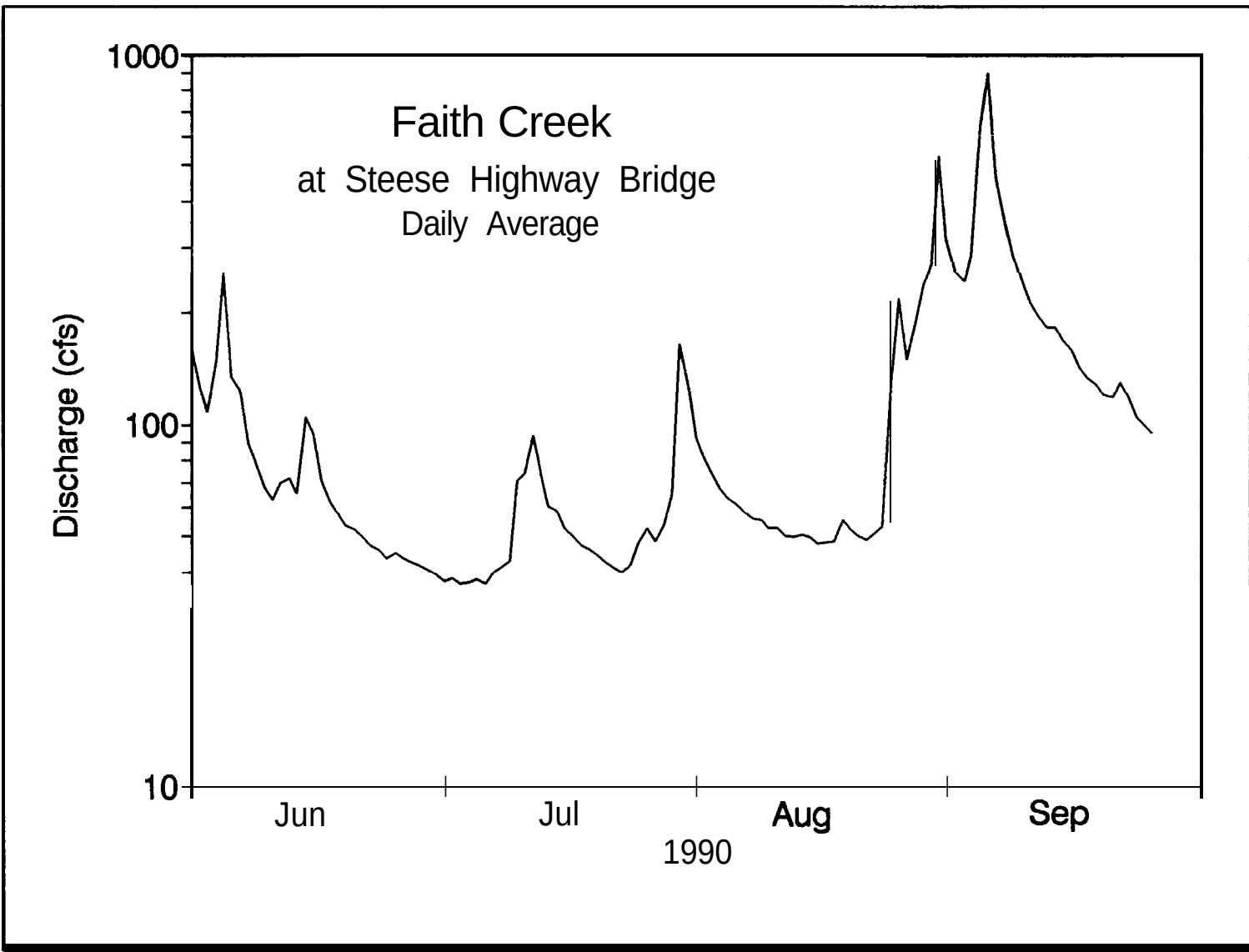


Figure 4. Hydrograph of Faith Creek at Steese Highway Bridge - 1990

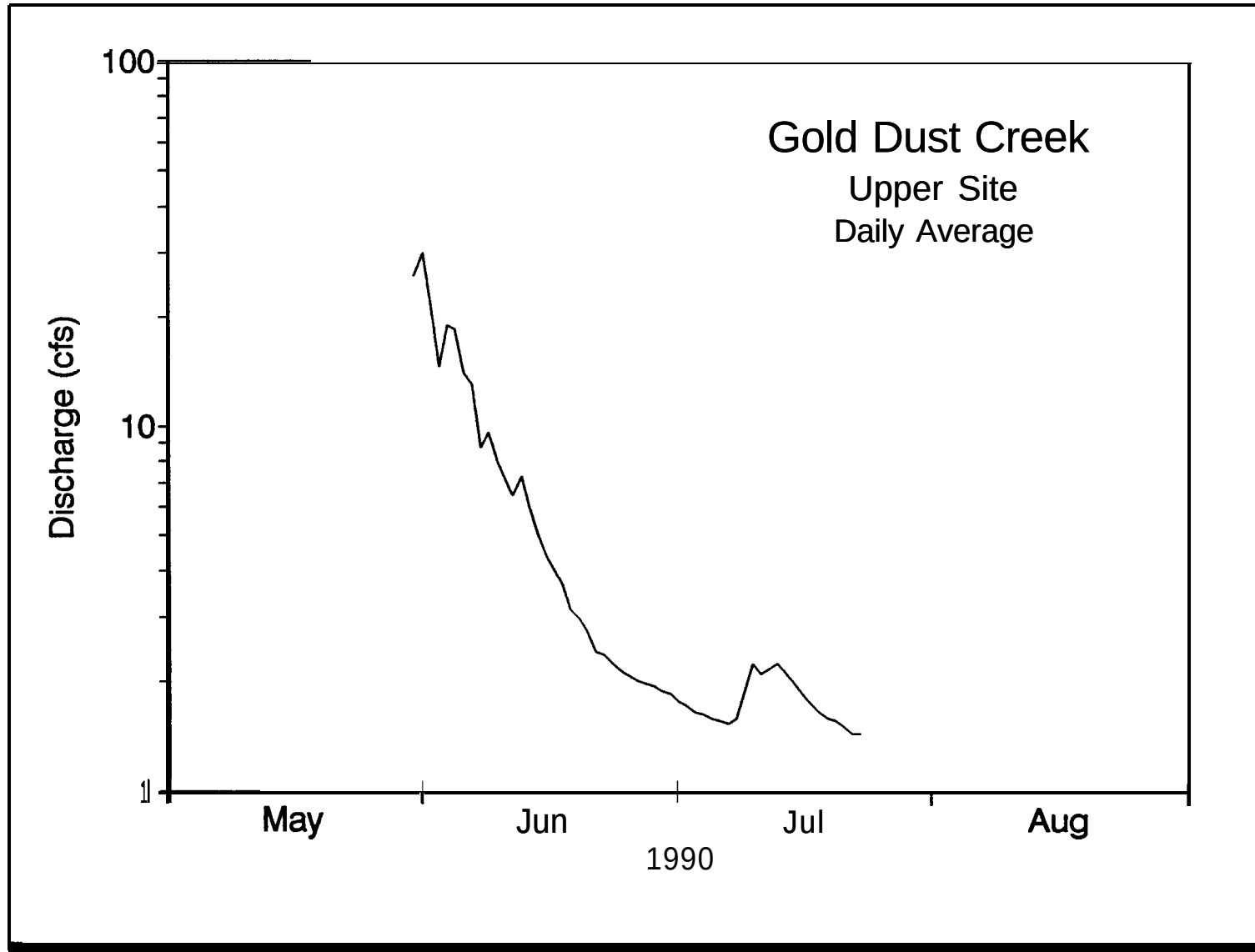


Figure 5. Hydrograph of Gold Dust Creek (upper site) - 1990

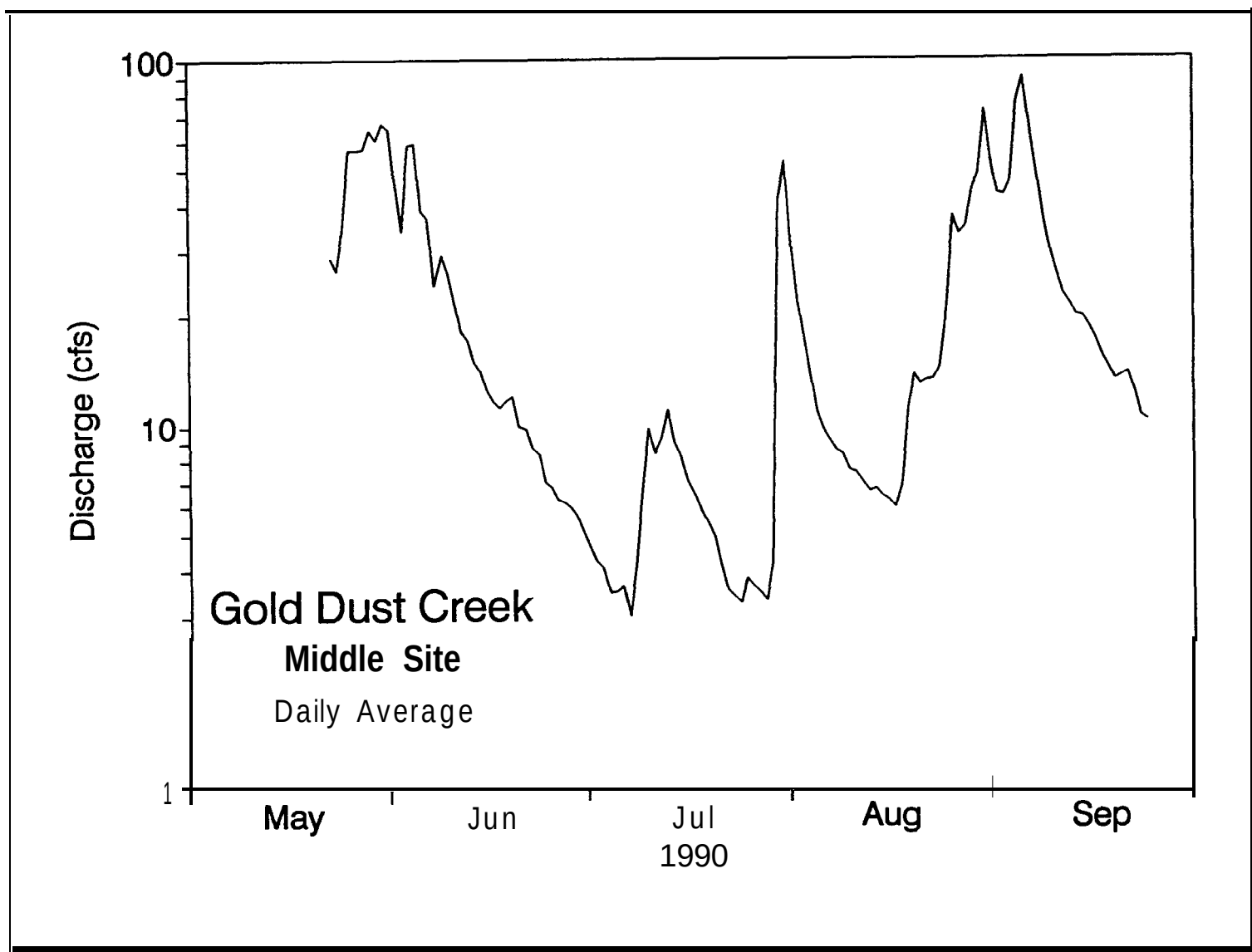


Figure 6. Hydrograph of Gold Dust Creek (middle site) - 1990

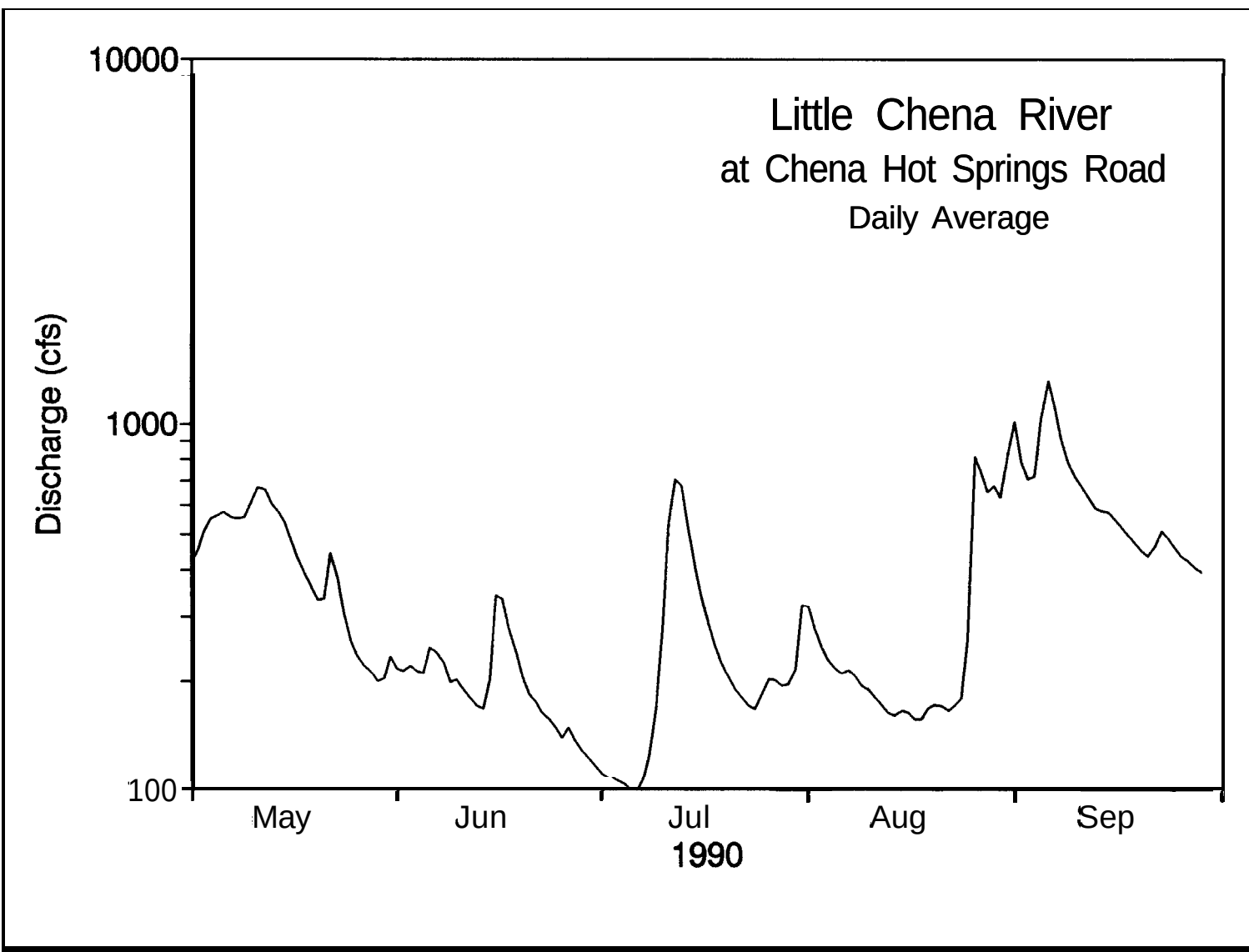


Figure 7. Hydrograph of Little Chena River at Chena Hot Springs Road - 1990

Turbidity

Monthly turbidity values were highest during May due to high flow associated with break-up (Table 3). The next highest period was late-August and September. This corresponds to the high flows from precipitation events during that period. Turbidity values continued to fall on the placer mining streams since the study began. For the first time since the study began seasonal median turbidity values were below five NTU at Birch Creek at the Steese Highway bridge, Faith Creek at the Steese Highway bridge, and at Goldstream Creek at Ballaine Road. The median turbidity had fallen to 6.6 NTU at Birch Creek above Twelve Mile Creek, a decrease of 87 percent from 1989. This is very near five NTU and far below the 230 NTU median value of 1986 (Table 4).

Table 3. Monthly mean and median turbidity values from automated sites in 1990. AN values are in NTUs.

Bear Creek						
Mean	1.3	1.8	2.3	2.3	3.4	2.4
Median	1.3	1.3	1.6	1.5	2.8	1.6
number of samples (n)	4	28	31	26	22	111
Birch Creek above 12 Mile Creek						
Mean	33	5.4	5.6	24	41	20
Median	33	2.5	3.6	8.6	13	6.6
n	1	12	31	31	24	99
Birch Creek at Bridge						
Mean	9.9	5.6	2.1	5.1	9.3	5.8
Median	9.2	4.1	1.5	3.9	6.5	3.8
ll	9	29	26	31	26	121
Deadwood Creek						
Mean	53	30	17	51	27	32
Median	48	19	2.7	29	19	15
n	4	30	31	31	26	122
Faith Creek						
Mean	23	3.7	2.8	3.3	17	7.6
Median	21	1.4	1.5	1.5	6.1	2.1
n	11	30	31	31	25	128
Gold Dust Creek (upper)						
Mean	2.5	0.94	0.64	0.72	1.3	0.93
Median	2.5	0.75	0.60	0.60	1.0	0.65
n	1	29	25	10	27	92

Table 3 (cont). Monthly mean and median turbidity values from automated sites in 1990. All values are in NTUs.

Site	May	Jun	Jul	Aug	Sep	Season
Gold Dust Creek (middle)						
Mean	24	14	3.1	14	2.1	11
Median	22	6.2	2.8	18	2.1	4.5
n	9	30	29	3	1	72
Goldstream Creek at Ballaine						
Mean		4.7	14	5.0	5.0	7.5
Median		3.4	3.1	3.0	4.0	3.4
n		20	31	30	24	105
Little Chena River at USGS gage						
Mean		4.8	4.4	8.8	14	8.5
Median		4.6	3.3	5.4	10	4.6
n		5	31	31	27	94

Table 4. Seasonal mean and median turbidity values from automated sites for all years of available data. All values are in NTUs.

Site	n	Mean	Median
Bear Creek			
1990	111	2.4	1.6
Birch Creek above 12 Mile Creek			
1990	99	20	6.6
1989	93	56	50
1988	80	92	91
1987	107	206	150
1986	113	236	230
Birch Creek at Bridge			
1990	121	5.8	3.8
1989	80	12	6.0
1988	98	11	7.1
1987	106	38	18
1986	54	54	23
1985	20	31	25
Deadwood Creek			
1990	122	32	15

Table 4 (cont). Seasonal mean and median turbidity values from automated sites for *all* years of available data. AN values are in NTUs.

Site	n	Mean	Median
Faith Creek			
1990	128	7.6	2.1
1989	98	2.2	7.1
1988	92	6.5	5.9
1987	121	21	14
1986	80	8.5	31
Gold Dust Creek (upper)			
1990	92	0.93	0.65
1989	105	1.9	1.1
Gold Dust Creek (middle)			
1990	72	11	4.5
1989	93	50	9.1
Goldstream Creek at Ballaine			
1990	105	7.5	3.4
1989	95	5.1	2.7
1988	78	6.2	6.7
1987	64	185	170
Goldstream Creek at Minto			
1989	82	7.6	6.6
1988	105	2.5	19
1987	52	6.8	6.2
Little Chena River at USGS gage			
1990	94	8.5	4.6
1989	62	7.2	4.3

Total Suspended Sediment

As was the case with the turbidity, the TSS values were highest during break-up or in late-summer (Table 5). Although the TSS values also dropped from **1989**, the decrease was not as dramatic. For most automated sites, 1990 had the lowest TSS values since the study began.

Table 5. Monthly mean and median TSS values from automated sites in 1990. All values are in mg/l.

Bear Creek						
Mean	7.99	29.4	14.8	14.3	34.7	22.4
Median	5.25	13.8	12.0	6.20	2.31	12.8
number of samples (n)	4	28	31	26	22	111
Birch Creek above 12 Mile Creek						
Mean	523	30.1	39.2	82.6	208	97.6
Median	523	25.6	26.5	23.2	53.4	30.6
n	1	12	31	31	24	99
Birch Creek at Bridge						
Mean	130	77.7	11.1	31.1	88.4	57.7
Median	121	33.9	8.41	17.7	47.9	19.8
n	9	29	26	31	26	121
Deadwood Creek						
Mean	239	168	105	261	210	187
Median	245	111	21	249	110	77.4
n	4	30	31	31	26	122
Faith Creek						
Mean	242	32.5	7.72	12.9	88.1	50.6
Median	226	10.1	3.81	5.10	17.7	9.94
n	11	30	31	31	25	128
Gold Dust Creek (upper)						
Mean	6.09	4.69	4.73	8.31	11.4	7.07
Median	6.09	3.68	4.56	7.77	6.51	4.74
n	1	29	25	10	27	92
Gold Dust Creek (middle)						
Mean	422	489	18.9	58.6	16.6	285
Median	414	216	18.9	69.1	16.6	69.1
n	9	30	24	3	1	67
Goldstream Creek at Ballaine						
Mean		24.4	53.4	15.2	24.2	30.3
Median		15.5	10.3	5.31	15.2	10.4
n		20	31	30	24	105
Little Chena River at USGS gage						
Mean		10.3	28.1	40.7	88.1	48.4
Median		10.5	8.06	10.6	30.8	12.5
n		5	31	31	27	94

Table 6. Seasonal mean and median Tss values from automated sites for all years of available data. All values *are* in NTUs.

Site	n	Mean	Median
Bear Creek			
1990	111	22.0	12.8
Birch Creek above 12 Mile Creek			
1990	99	97.6	30.6
1989	93	104	41.3
1988	80	83.7	75.0
1987	107	1360	339
1986	113	293	214
Birch Creek at Bridge			
1990	121	57.7	19.8
1989	80	57.0	32.7
1988	98	123	28.0
1987	106	332	112
1986	54	267	166
1985	12	50.6	26.3
Deadwood Creek			
1990	122	187	77.4
Faith Creek			
1990	128	50.6	9.94
1989	98	51.9	9.75
1988	92	14.7	11.5
1987	121	85.4	28.5
1986	75	599	61.0
Gold Dust Creek (upper)			
1990	92	7.07	4.74
1989	105	12.8	3.87
Gold Dust Creek (middle)			
1990	67	285	69.1
1989	93	666	69.1
Goldstream Creek at Ballaine			
1990	105	30.3	10.4
1989	95	160	88.1
1988	78	129	84.9
1987	67	159	145
Goldstream Creek at Minto			
1989	82	15.8	11.0
1988	105	68.1	50.8
1987	52	26.1	21.7
Little Chena River at USGS gage			
1990	94	48.6	12.5
1989	62	59.3	32.1

Sediment Load

Sediment loads in 1990 were usually similar to those of 1989, but far below the loads of 1985-1987 (Table 7). Although the TSS has continued to fall, the loads have remained steady due to the higher flows of the last two years.

Table 7. Average daily sediment load by month and season (tons/day).

Birch Creek					
1990		0.49	0.61	3.1	1.6
Birch Creek at Bridge					
1990	805	27.5	170	1080	511
1989	1020	515	56.5	18.5	213
1988	2810	188	90.7	175	772
1987	8660	6580	1100		5260
1986	7270	1450		567	3100
Birch Creek above 12 Mile Creek					
1990	353	3.2	4.6	18.9	43.8
1989	172	63.6	4.4	1.6	44.4
1988	8.1	8.7	9.1	31.4	12.1
1987	4580	1110	426	32.0	1150
1986	420	79.2	40.2	48.3	147
Faith Creek					
1990	13.4	1.7	5.4	166	38.6
1989	185	2.6	0.83	0.51	42.7
1988	6.0	1.4	5.0	3.1	3.4
1987	119	8.9	22.1	13.6	30.9
1986	57.2	31.3	548	57.9	174
Gold Dust Creek (upper)					
1990	0.10	0.02			0.07
1989	3.1	0.11	0.02	0.03	0.92
Gold Dust Creek (middle)					
1990	62.4	46.9	0.41	4.5	29.7
1989	168	167	2.1	0.22	91.3
Little Chena River at USGS gage					
1990		38.4	66.1	213	94.8
1989		16.8	35.0	13.5	89.4

Grab Sites

Turbidity from the mined streams continued to fall, with the median value at Eagle Creek dropping almost 90 percent. All mined streams had the lowest median turbidity values since the study began. **Unmined** stream turbidity has varied throughout the study period, and is related to the discharge and magnitude of storm events.

Table 8. Mean and Median values for turbidity and total suspended solids from grab-sample sites.

Site	number of samples	Turb	Mean Tss	Median Turb	Tss
Albert Creek					
1990	16	4.3	15.1	1.7	4.62
1989	6	63	213	1.7	2.00
1988	1	0.8	2.15	0.8	2.15
1987	0				
1986	17	19		2.6	
Bedrock Creek					
1990	17	1.5	8.3	1.2	4.17
1989	11	8.8	40.7	1.5	2.60
1988	15	1.0	1.71	0.8	1.27
1987	3	0.8	7.93	0.5	1.60
1986	20	1.9		1.1	
1985	23	0.8		0.5	
1984	9	1.0		1.0	
Boulder Creek					
1990	18	8.0	54.2	2.6	14.3
1989	11	16	139	1.9	2.80
1988	14	0.7	1.76	0.7	1.46
1987	3	1.0	10.6	0.4	1.60
1986	88	2.7	19.6	1.2	6.4
1985	13	2.0		0.5	
1984	2	2.8		2.8	
Chatanika River at 39 Mile Steese					
1990	17	2.7	13.3	1.5	3.73
1989	11	1.1	1.43	0.9	1.20
1988	2	0.7	2.68	0.7	2.68
1987	1	23	154	23	154
1986	10	4.7		2.2	
1985	28	10		7.6	
1984	24	24		19	

Table 8 (cont). Mean and Median values for turbidity and total suspended solids *from* grab samples.

Site	number of samples	Turb	Mean Tss	Median Turb	Tss
Crooked Creek below Bedrock					
1990	5	17	34.4	17	26.5
1989	6	48	84.8	38	19.2
1988	2	58	33.9	58	33.9
1987	1	72	43.7	72	43.7
Crooked Creek at Steese					
1990	17	25	77.1	21	43.2
1989	12	45	131	31	7.15
1988	13	120	93.4	110	81.3
1987	3	140	530	90	102
1986	25	150		140	
1985	34	410		240	
1984	7	840		790	
Deadwood Creek					
1990	122	32	187	15	77.4
1989	13	43	93.1	14	6.60
1988	14	54	63.9	47	52.9
1987	13	180	275	110	81.9
1986	26	65		36	
1985	35	670		350	
1984	4	920		1100	
Eagle Creek					
1990	17	66	288	37	170
1989	12	410	405	343	210
1988	7	490	344	120	70.4
1987	1	920	1660	920	1660
Ketchum Creek					
1990	18	148	389	70	51.3
1989	13	190	725	157	501
1988	15	300	288	230	200
1987	12	620	463	520	304
1986	25	240		140	
1985	33	820		650	
1984	4	880		750	
Mammoth Creek					
1990	17	19	40.2	15	10.5
1989	14	125	120	68	30.7
1988	15	260	463	200	179
1987	4	180	359	180	204
1986	117	290	620	250	310
1985	31	350		290	
1984	8	400		310	

Table 8 (cont). Mean and Median values for turbidity and total suspended solids from grab samples.

Site	number of samples	Mean		Median	
		Turb	Tss	Turb	Tss
Pedro Creek					
1990	6	7.3	23.3	3.6	12.6
Ptarmigan Creek					
1990	17	0.9	3.43	0.4	1.63
1989	11	1.2	2.26	1.1	1.89
1988	8	0.9	1.49	1.0	1.33
1987	1	1.4	11.7	1.4	11.7
Sourdough Creek					
1990	16	1.9	4.68	1.4	2.82
1989	10	2.1	2.18	1.4	2.04
Twelve Mile Creek					
1990	16	3.8	10.6	0.7	3.50
1989	11	1.8	7.24	0.9	0.85
1988	13	0.7	1.83	0.6	1.24
1987	4	0.6	3.87	0.6	2.20

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Appendix A

Bear Creek above Steese Hwy Bridge

Daily Average Discharge - 1990 (cfs)

1		17.6	49.8
2		11.7	32.3
3		10.2	27.0
4		9.95	30.4
5		8.24	33.6
6		7.52	72.4
7		7.08	81.1
8		7.81	47.3
9		7.03	34.8
10		6.57	27.3
11		6.35	22.2
12		6.04	20.0
13		5.91	18.2
14		5.74	17.6
15		5.72	18.1
16		5.72	16.4
17		5.33	15.2
18		5.33	13.9
19		5.33	12.9
20		6.20	12.1
21		5.80	11.8
22		5.52	11.1
23		5.32	12.6
24		6.15	12.0
25	4.79	6.57	10.4
26	4.70	12.2	9.50
27	4.96	20.2	
28	4.60	17.1	
29	4.41	18.3	
30	5.00	20.2	
31	21.7	25.1	
Average	7.17	9.48	25.8

Season Average - 15.8 cfs

Peak Flow - 105 cfs on September 7

Appendix A (cont)

Birch Creek above Twelve Mile Creek

Daily Average Discharge - 1990 (cfs)

				Aug	Sep
1	259	27.8	98.9	211	
2	168	25.9	63.1	148	
3	102	23.8	53.2	119	
4	193	22.6	47.4	124	
5	525	22.1	41.4	133	
6	232	25.4	36.9	2%	
7	243	35.4	34.3	403	
8	122	29.5	33.4	240	
9	107	36.7	30.8	168	
10	95.1	65.2	29.0	127	
11	80.8	77.2	27.3	105	
12	66.1	58.1	25.9	91.3	
13	62.9	55.4	25.1	80.9	
14	58.7	61.1	23.9	74.1	
15	56.3	52.4	24.6	78.9	
16	53.6	53.0	25.2	74.3	
17	51.3	41.7	25.7	70.5	
18	47.7	35.2	25.8	65.4	
19	47.2	31.1	31.1	62.2	
20	44.3	27.0	42.4	57.7	
21	44.1	26.5	46.7	54.9	
22	44.9	24.5	44.2	54.3	
23	41.4	22.2	41.1	60.0	
24	38.8	21.9	42.8	57.7	
25	35.9	21.4	43.7	53.2	
26	33.4	22.0	59.6	57.8	
27	32.4	22.4	108	55.0	
28	32.1	20.7	96.8		
29	31.9	20.8	92.3		
30	30.0	21.8	108		
31	250	75.8	112		
Average	250	99.3	35.7	49.7	116

Season Average - 75.0 cfs

Peak Flow - 988 cfs on June 4

Appendix A (cont)

Birch Creek at Steese Hwy Bridge

Daily Average Discharge • 1990 (cfs)

1	2290	1320	1090	2930
2	2220	1150	2410	4000
3	1940	965	1910	3410
4	1690	783	1520	2960
5	2600	663	1320	3080
6	5650	591	1200	3420
7	4240	528	1120	6060
8	3880	513	1050	6930
9	2700	759	987	4830
10	4500	862	942	3710
11	3370	1020	986	3050
12	2710	1300	978	2660
13	2220	1290	894	2370
14	2230	1150	827	2200
15	1930	1100	771	2080
16	1730	1020	820	2060
17	1670	908	1420	2050
18	1510	879	1320	1950
19	1410	752	1250	1830
20	1330	633	1550	1730
21	1280	558	3110	1640
22	1250	515	2880	1570
23	1220	481	2430	1550
24	1190	442	2120	1780
25	1130	421	2000	2040
26	990	401	1950	1820
27	846	401	2060	
28	777	422	2750	
29	1010	417	2720	
30	1540	433	2760	
31		520	3050	
Average	2100	748	1680	2840
Season Average • 1800 cfs				
Peak Flow • 7530 cfs on September 8				

Appendix A (cont)

Faith Creek above Steese Hwy Bridge

Daily Average Discharge - 1990 (cfs)



1	161	39.6	127	531
2	127	38.1	92.3	313
3	108	38.7	81.5	255
4	148	37.6	72.5	242
5	254	37.7	67.2	283
6	134	38.2	63.2	643
7	124	37.6	61.0	897
8	89.9	40.0	58.0	461
9	78.9	41.2	55.8	349
10	67.8	43.1	55.2	284
11	63.1	70.3	52.5	240
12	69.8	73.7	52.6	212
13	71.3	93.4	49.9	194
14	65.7	73.1	49.6	182
15	105	60.4	50.3	182
16	95.1	58.4	49.7	168
17	70.8	52.6	47.6	158
18	61.8	49.5	48.1	143
19	57.7	47.4	48.5	133
20	53.4	46.3	55.3	128
21	52.1	44.5	52.1	120
22	49.5	42.6	50.2	118
23	47.2	41.1	49.1	130
24	45.7	40.0	51.1	119
25	43.7	41.8	53.2	105
26	45.2	47.8	131	99.2
27	43.8	52.6	217	95.3
28	42.6	48.7	149	
29	41.7	53.4	187	
30	40.8	64.7	237	
31		164	269	
Average	82.0	53.5	86.5	251

Season Average - 114 cfs

Peak Flow - 1360 cfs on September 7

Appendix A (cont)

Gold Dust Creek (middle site)

Daily Average Discharge ■ 1990 (cfs)

				Aug	Sep
1		64.9	5.10	52.5	72.9
2		45.7	4.64	31.0	53.0
3		34.1	4.23	21.6	42.6
4		58.3	4.07	17.0	42.3
5		59.0	3.45	13.4	46.4
6		38.7	3.49	10.8	76.1
7		36.9	3.60	9.70	88.6
8		24.3	3.00	9.05	62.0
9		29.2	4.13	8.45	47.0
10		26.0	6.57	8.24	36.1
11		21.8	9.79	7.49	29.5
12		18.1	8.35	7.38	25.7
13		17.1	9.12	6.87	22.5
14		15.0	11.0	6.55	21.3
15		14.1	9.00	6.63	19.7
16		12.5	8.14	6.34	19.6
17		11.6	7.03	6.20	18.5
18		11.2	6.36	5.88	17.1
19		11.6	5.74	6.81	15.4
20		12.0	5.34	11.1	14.3
21		9.97	4.88	13.6	13.1
22		9.84	4.10	12.7	13.5
23	28.7	8.60	3.50	13.1	13.8
24	26.6	8.25	3.37	13.2	12.2
25	34.7	6.98	3.23	14.2	10.5
26	56.8	6.77	3.78	20.9	10.2
27	56.5	6.25	3.60	37.2	
28	56.9	6.11	3.45	33.3	
29	64.3	5.94	3.31	34.7	
30	60.4	5.63	4.19	43.6	
31	67.2		41.2	48.5	
Average	50.2	21.2	6.47	17.4	32.5

Season Average ■ 21.0 cfs

Peak Flow ■ 133 cfs on June 4

Appendix A (cont)

Gold Dust Creek (upper site)

Daily Average Discharge • 1990 (cfs)

Date	May	Jun	Jul	Aug	Sep
1		29.9	1.87		
2		21.4	1.79		
3		14.7	1.74		
4		19.1	1.67		
5		18.6	1.64		
6		14.2	1.61		
7		13.1	1.58		
8		8.72	1.55		
9		9.65	1.61		
10		8.01	1.89		
11		7.18	2.24		
12		6.47	2.11		
13		7.32	2.19		
14		6.04	2.24		
15		5.07	2.11		
16		4.47	2.00		
17		4.02	1.87		
18		3.70	1.75		
19		3.17	1.67		
20		2.99	1.61		
21		2.76	1.58		
22		2.42	1.52		
23		2.39	1.46		
24		2.25	1.46		
25		2.16			
26		2.10			
27		2.03			
28		2.00			
29		1.97			
30		1.90			
31	25.9				
Average	25.9	7.66	1.78		

Season Average • 5.43 cfs

Peak Flow • 44.1 cfs on June 4

Appendix A (cont)

Little Chena River (USGS Data)

Daily Average Discharge • 1990 (cfs)



1	418	217	118	321	842
2	452	212	112	320	1010
3	513	219	110	279	785
4	550	213	106	250	701
5	559	210	104	229	713
6	575	247	100	217	1030
7	558	241	97	210	1310
8	553	224	107	215	1110
9	556	198	126	208	907
10	608	201	172	1%	786
11	673	190	275	190	723
12	657	181	537	181	672
13	603	171	704	172	629
14	574	169	675	165	591
15	540	201	500	162	580
16	482	344	399	167	574
17	429	334	333	165	549
18	389	277	284	158	523
19	360	236	251	158	4%
20	331	204	223	168	472
21	334	184	204	173	452
22	444	175	190	171	437
23	381	165	181	167	466
24	303	158	173	173	515
25	258	150	168	179	490
26	234	141	187	260	458
27	222	150	203	812	437
28	211	139	201	731	422
29	199	129	195	648	406
30	202	124	197	678	395
31	233		217	628	
Average	432	200	240	282	649

Season Average • 360 cfs

Peak Flow •

Appendix B

Bear Creek above Steese Hwy Bridge

Daily Sediment Load - 1990 (tons)

Date	May	Jun	Jul	Aug	Sep
1				1.32	18.4
2				1.36	12.0
3				0.40	3.36
4				0.36	1.96
5				0.14	2.01
6				0.11	11.2
7				0.11	10.4
8				0.11	2.11
9				0.11	2.77
10				0.06	1.44
11				0.15	1.78
12				0.06	1.82
13				0.07	0.65
14				0.13	0.38
15				0.07	0.37
16				0.13	1.11
17				0.08	0.46
18				0.09	0.58
19				0.05	1.76
20				0.06	0.26
21				0.06	0.68
22				0.07	0.18
23				0.41	0.30
24				0.67	0.60
25			0.11	0.58	1.22
26			0.11	2.37	
27			0.10	1.05	
28			0.13	2.15	
29			0.24	2.00	
30			0.08	1.29	
31			2.68	3.41	
Total			3.44	19.0	77.8
Average			0.49	0.61	3.11

Season Total - 100 tons

Season Average - 1.59 tons/day

Appendix B (cont)

Birch Creek above Twelve Mile Creek

Daily Sediment Load - 1990 (tons)



1			2.44	244	375
2			1.44	34.2	112
3			2.32	10.9	62.3
4			1.15	5.22	46.1
5			2.33	3.69	59.2
6			2.68	3.15	554
7			3.14	2.66	1330
8			1.95	1.74	355
9			5.10	1.35	123
10			13.3	1.34	70.1
11			11.9	1.63	32.6
12			5.94	1.11	29.7
13			4.19	1.34	11.7
14			4.37	0.96	9.58
15			4.49	0.80	6.87
16			49.3	0.86	10.6
17			2.97	0.89	4.71
18			3.06	0.71	6.15
19		5.52	0.91	1.66	3.85
20		5.93	1.56	3.13	4.26
21		6.60	0.88	4.43	4.35
22		3.31	0.84	2.43	4.48
23		4.27	0.38	1.68	4.12
24		2.23	0.72	2.68	
25		2.34	1.44	2.23	
26		1.20	2.57	13.3	
27		2.26	0.92	87.8	0.81
28		1.19	0.90	19.4	
29		1.97	0.57	15.1	
30		2.05	3.04	32.3	
31	353		4.59	81.5	
Total	353	38.9	141	585	3220
Average	353	3.24	4.56	18.9	134

Season Total - 4340 tons

Season Average - 43.8 tons/day

Appendix B (cont)

Birch Creek at Steese Hwy Bridge

Daily Sediment Load • 1990 (tons)

1	661	125	263	268
2	239	55.0	899	1710
3	177	30.1	266	720
4	145	17.5	80.1	307
5	1010	13.9	31.0	336
6	14900	11.2	34.5	472
7	1580	11.5	20.2	6450
8	913	9.10	21.6	7740
9	287	15.9	21.0	3000
10	1720	39.5	23.0	1590
11	419	37.0	14.0	1570
12	264	93.9	18.7	355
13	178	47.1	18.8	2%
14	156	23.9	11.6	303
15	100	21.3	6.70	465
16	160	26.4	15.2	458
17	155	20.9	41.8	358
18	188	24.5	37.2	99.3
19	357	15.0	59.6	55.4
20	57.4	19.2	657	56.0
21	40.8	106	44.6	
22	47.1	690	25.3	
23	50.0	265	36.8	
24	76.1	148	89.0	
25	23.0	107	239	
26	39.1	5.38	85.0	
27	11.9	4.46	107	
28	29.7	7.56	345	
29	67.2	8.29	297	
30	106	10.1	176	
31		20.9	414	
Total	24200	714	5280	27000
Average	805	27.5	170	1080

Season Total - 57200 tons

Season Average - 511 tons/day

Appendix B (cont)

Faith Creek above Steese Hwy Bridge

Daily Sediment Load • 1990 (tons)



1	61.8	0.41	4.18	513
2	14.3	0.41	2.19	15.0
3	8.47	0.41	1.34	30.5
4	12.2	0.35	0.69	6.37
5	213	0.31	0.92	10.0
6	27.7	4.04	1.56	184
7	17.6	0.69	0.52	2640
8	3.78	0.44	0.85	147
9	3.50	0.54	0.80	99.4
10	2.47	0.30	0.37	78.5
11	1.64	4.49	0.74	11.9
12	1.90	2.23	0.47	6.53
13	2.12	3.82	0.48	7.68
14	1.37	2.53	1.63	7.67
15	6.42	0.37	0.26	5.45
16	3.81	0.17	0.37	15.8
17	1.16	0.27	0.31	4.42
18	0.82	0.18	0.35	13.0
19	0.84	0.18	0.28	6.35
20	1.45	0.21	0.27	6.40
21	0.78	0.25	0.30	3.13
22	0.66	0.56	0.23	2.76
23	0.92	0.27	0.19	4.10
24	0.74	0.31	0.26	
25	0.40	0.38	1.51	
26	0.43	0.47	35.6	
27	0.67	0.64	42.9	
28	0.60	0.57	5.57	
29	0.44	0.52	6.43	
30	10.7	0.84	15.7	
31		24.1	39.9	
Total	403	51	167	3820
Average	13.4	1.65	5.39	166

Season Total • 4440 tons

Season Average • 38.6 tons/day

Appendix B (cont)

Gold Dust Creek (middle site)

Daily Sediment Load • 1990 (tons)



1		254	0.29	2.38
2		166	0.35	5.77
3		65.3	0.21	5.24
4		44.7	0.18	
5		264	0.10	
6		309	0.14	
7		28.0	0.06	
8		14.0	0.07	
9		30.2	0.06	
10		27.1		
11		24.7		
12		34.9	0.42	
13		56.9	1.11	
14		39.9	0.72	
15		12.6	0.75	
16		5.89		
17		4.18		
18		6.50		
19		5.14		
20		4.88	0.24	
21		2.16	0.30	
22		2.06	0.00	
23	21.2	1.14	0.18	
24	18.9	1.56	0.27	
25	13.9	0.92	0.22	
26	50.5	1.01	0.14	
27	93.8	0.52	0.13	
28	63.5	0.44	0.09	
29	95.3	0.37	0.11	
30	118	0.30	0.07	
31	86.2		4.05	
Total	561	1410	10.3	13.4
Average	62.4	46.9	0.41	4.46

Season Total • 1990 tons

Season Average • 29.7 tons/day

Appendix B (cont)

Gold Dust Creek (upper site)

Daily Sediment Load • 1990 (tons)

Date	May	Jun	Jul	Aug	Sep
1		0.51	0.03		
2		0.21	0.00		
3		0.29	0.04		
4			0.02		
5		0.22	0.03		
6		0.15	0.07		
7		0.15	0.01		
8		0.27	0.03		
9		0.29	0.02		
10		0.05	0.03		
11		0.04	0.03		
12		0.03	0.01		
13		0.07	0.05		
14		0.05	0.01		
15		0.04	0.03		
16		0.04	0.01		
17		0.03	0.01		
18		0.06	0.01		
19		0.07	0.01		
20		0.05	0.04		
21		0.07	0.01		
22		0.07	0.02		
23		0.01	0.01		
24		0.01	0.02		
25		0.02			
26		0.00			
27		0.03			
28		0.02			
29		0.01			
30		0.02			
31	0.42				
Total	0.42	2.87	0.55		
Average	0.42	0.10	0.02		

Season Total • 3.85 tons

Season Average • 0.07 tons/day

Appendix B (cont)

Little Chena River (USGS Data)

Daily Sediment Load - 1990 (tons)

Date	May	Jun	Jul	Aug	Sep
1			1.35	7.57	655
2			1.87	6.53	862
3			1.26	5.94	161
4			1.05	1.21	69.8
5			1.49	5.98	583
6			1.44	4.38	1555
7			6.00	3.94	735
8			2.22	8.03	2238
9			2.19	3.57	107
10			2.90	3.13	133
11			19.8	3.44	106
12			239	6.08	60.1
13		4.86	450	4.93	67.9
14		6.54	262	7.89	49.1
15			83.4	6.63	46.7
16			31.1	6.53	34.7
17			19.5	5.54	27.4
18			14.7	4.65	20.2
19			5.79	5.15	14.0
20			4.85	3.65	14.7
21			5.36	7.11	21.6
22			6.36	3.87	11.3
23			4.11	2.21	31.1
24			4.61	4.49	27.7
25			3.99	3.26	21.5
26			3.39	99.8	18.5
27			2.78	1252	20.2
28		6.82	1.01	292	
29		1.85	2.99	98.5	
30		1.10	2.50	101	
31			2.56	79.6	
Total		21.2	1190	2050	5740
Average		4.24	38.4	66.1	213

Season Total - 9000 tons

Season Average - 94.8 tons/day

Appendix C

Location	Date	Time	Turb	TSS
Bear Creek	23-May-90	1345	1.8	3.10
Bear Creek	24-May-90	1745	1.8	1.24
Bear Creek	30-May-90	1720	0.70	7.39
Bear Creek	31-May-90	1200	0.75	20.2
Bear Creek	01-Jun-90	400	1.2	33.9
Bear Creek	01-Jun-90	2000	1.3	16.1
Bear Creek	02-Jun-90	1200	1.0	9.57
Bear Creek	03-Jun-90	400	1.3	6.32
Bear Creek	03-Jun-90	2000	1.1	8.67
Bear Creek	04-Jun-90	1200	3.1	60.3
Bear Creek	05-Jun-90	400	9.5	174
Bear Creek	05-Jun-90	2000	3.7	111
Bear Creek	06-Jun-90	1200	2.4	125
Bear Creek	07-Jun-90	400	1.6	76.0
Bear Creek	07-Jun-90	2000	1.4	41.2
Bear Creek	08-Jun-90	1200	2.2	20.1
Bear Creek	09-Jun-90	400	0.95	18.4
Bear Creek	09-Jun-90	2000	0.65	15.0
Bear Creek	10-Jun-90	1200	1.4	24.9
Bear Creek	11-Jun-90	400	1.1	10.3
Bear Creek	11-Jun-90	2000	1.1	8.03
Bear Creek	12-Jun-90	1200	2.6	6.70
Bear Creek	13-Jun-90	400	0.74	4.66
Bear Creek	13-Jun-90	2000	1.8	6.62
Bear Creek	14-Jun-90	1200	0.70	7.40
Bear Creek	15-Jun-90	400	0.90	9.93
Bear Creek	15-Jun-90	2000	1.3	8.80
Bear Creek	16-Jun-90	1200	0.53	44.3
Bear Creek	19-Jun-90		3.0	53.7
Bear Creek	20-Jun-90		1.1	20.5
Bear Creek	21-Jun-90		1.5	13.7
Bear Creek	22-Jun-90		1.3	13.5
Bear Creek	23-Jun-90		1.0	9.59
Bear Creek	24-Jun-90		4.7	65.0
Bear Creek	25-Jun-90		1.3	13.9
Bear Creek	26-Jun-90		1.3	10.8
Bear Creek	27-Jun-90		1.9	7.57
Bear Creek	28-Jun-90		1.5	13.7
Bear Creek	29-Jun-90		0.85	5.71
Bear Creek	30-Jun-90		2.6	22.9
Bear Creek	01-Jul-90		1.3	12.4
Bear Creek	02-Jul-90		1.1	13.9
Bear Creek	03-Jul-90		1.2	13.8
Bear Creek	04-Jul-90		1.7	26.9
Bear Creek	05-Jul-90		1.6	13.8
Bear Creek	06-Jul-90		2.6	30.7
Bear Creek	07-Jul-90		1.1	12.3
Bear Creek	08-Jul-90		0.75	12.8

Appendix C (cont)

Location	Date	Time	Turb	TSS
Bear Creek	09-Jul-90		1.2	17.6
Bear Creek	10-Jul-90		10	58.2
Bear Creek	11-Jul-90		4.6	33.8
Bear Creek	12-Jul-90		4.6	12.0
Bear Creek	13-Jul-90		2.7	13.8
Bear Creek	14-Jul-90		1.6	9.28
Bear Creek	15-Jul-90		3.2	13.7
Bear Creek	16-Jul-90		3.0	8.79
Bear Creek	17-Jul-90		1.6	8.05
Bear Creek	18-Jul-90		1.3	4.69
Bear Creek	19-Jul-90		1.1	3.13
Bear Creek	20-Jul-90		1.3	2.87
Bear Creek	21-Jul-90		0.95	4.44
Bear Creek	22-Jul-90		1.6	7.46
Bear Creek	23-Jul-90		2.1	9.21
Bear Creek	24-Jul-90		2.1	7.55
Bear Creek	25-Jul-90		1.5	8.23
Bear Creek	26-Jul-90		1.1	8.55
Bear Creek	27-Jul-90		2.1	7.14
Bear Creek	28-Jul-90		1.0	10.4
Bear Creek	29-Jul-90		4.4	20.4
Bear Creek	30-Jul-90		0.90	5.77
Bear Creek	31-Jul-90		5.1	45.8
Bear Creek	01-Aug-90		4.2	27.7
Bear Creek	02-Aug-90		5.4	43.0
Bear Creek	03-Aug-90		2.9	14.5
Bear Creek	04-Aug-90		2.1	13.5
Bear Creek	05-Aug-90		1.6	6.40
Bear Creek	06-Aug-90		1.7	5.25
Bear Creek	07-Aug-90		1.0	5.97
Bear Creek	08-Aug-90		2.2	5.43
Bear Creek	09-Aug-90		1.2	5.95
Bear Creek	10-Aug-90		0.80	3.59
Bear Creek	11-Aug-90		1.3	8.70
Bear Creek	12-Aug-90		2.2	3.93
Bear Creek	13-Aug-90		2.2	4.57
Bear Creek	14-Aug-90		0.90	8.33
Bear Creek	15-Aug-90		1.1	4.68
Bear Creek	16-Aug-90		1.4	8.67
Bear Creek	17-Aug-90		1.3	5.56
Bear Creek	18-Aug-90		1.0	6.36
Bear Creek	19-Aug-90		1.1	3.67
Bear Creek	20-Aug-90		0.90	3.56
Bear Creek	21-Aug-90		1.1	3.96
Bear Creek	22-Aug-90		1.4	4.59
Bear Creek	28-Aug-90		6.2	28.8
Bear Creek	29-Aug-90		3.1	40.4
Bear Creek	30-Aug-90		5.1	33.0

Appendix C (cont)

Location	Date	Time	Turb	TSS
Bear Creek	31-Aug-90		7.1	71.7
Bear Creek	01-Sep-90		6.7	137
Bear Creek	02-Sep-90		13	138
Bear Creek	03-Sep-90		3.8	46.1
Bear Creek	04-Sep-90		2.7	23.9
Bear Creek	05-Sep-90		2.1	22.2
Bear Creek	06-Sep-90		4.3	57.1
Bear Creek	07-Sep-90		3.2	47.8
Bear Creek	08-Sep-90		2.9	16.5
Bear Creek	09-Sep-90		3.3	29.5
Bear Creek	10-Sep-90		4.2	19.7
Bear Creek	11-Sep-90		5.7	29.9
Bear Creek	12-Sep-90		4.2	33.8
Bear Creek	13-Sep-90		2.5	13.2
Bear Creek	14-Sep-90		0.90	7.96
Bear Creek	15-Sep-90		1.5	7.51
Bear Creek	16-Sep-90		4.6	25.3
Bear Creek	17-Sep-90		1.2	11.1
Bear Creek	18-Sep-90		2.4	15.6
Bear Creek	19-Sep-90		3.1	50.5
Bear Creek	20-Sep-90		0.95	8.00
Bear Creek	21-Sep-90		2.0	21.6
Bear Creek	27-Sep-90	1610	0.35	0.43
Birch Cr ab 12 Mile Creek	31-May-90		33	523
Birch Cr ab 12 Mile Creek	19-Jun-90		15	43.3
Birch Cr ab 12 Mile Creek	20-Jun-90		14	49.6
Birch Cr ab 12 Mile Creek	21-Jun-90		11	55.6
Birch Cr ab 12 Mile Creek	22-Jun-90		7.3	27.3
Birch Cr ab 12 Mile Creek	23-Jun-90		4.1	38.3
Birch Cr ab 12 Mile Creek	24-Jun-90		2.4	21.4
Birch Cr ab 12 Mile Creek	25-Jun-90		2.1	24.2
Birch Cr ab 12 Mile Creek	26-Jun-90		1.4	13.4
Birch Cr ab 12 Mile Creek	27-Jun-90		1.3	25.8
Birch Cr ab 12 Mile Creek	28-Jun-90		1.9	13.7
Birch Cr ab 12 Mile Creek	29-Jun-90		1.3	23.0
Birch Cr ab 12 Mile Creek	30-Jun-90		2.5	25.4
Birch Cr ab 12 Mile Creek	01-Jul-90		2.0	32.5
Birch Cr ab 12 Mile Creek	02-Jul-90		1.3	20.6
Birch Cr ab 12 Mile Creek	03-Jul-90		1.8	36.2
Birch Cr ab 12 Mile Creek	04-Jul-90		1.6	18.8
Birch Cr ab 12 Mile Creek	05-Jul-90		6.0	39.2
Birch Cr ab 12 Mile Creek	06-Jul-90		2.2	39.1
Birch Cr ab 12 Mile Creek	07-Jul-90		1.6	33.0
Birch Cr ab 12 Mile Creek	08-Jul-90		2.9	24.5
Birch Cr ab 12 Mile Creek	09-Jul-90		3.9	51.5
Birch Cr ab 12 Mile Creek	10-Jul-90		9.8	75.7
Birch Cr ab 12 Mile Creek	11-Jul-90		22	57.0

Appendix C (cont)

Birch Cr ab 12 Mile Creek	12-Jul-90	19	37.9
Birch Cr ab 12 Mile Creek	13-Jul-90	5.6	28.1
Birch Cr ab 12 Mile Creek	14-Jul-90	5.2	26.5
Birch Cr ab 12 Mile Creek	15-Jul-90	7.8	31.7
Birch Cr ab 12 Mile Creek	16-Jul-90	18	345
Birch Cr ab 12 Mile Creek	17-Jul-90	5.9	26.4
Birch Cr ab 12 Mile Creek	18-Jul-90	3.6	32.3
Birch Cr ab 12 Mile Creek	19-Jul-90	2.8	10.8
Birch Cr ab 12 Mile Creek	20-Jul-90	2.9	21.4
Birch Cr ab 12 Mile Creek	21-Jul-90	1.5	12.2
Birch Cr ab 12 Mile Creek	22-Jul-90	1.5	12.7
Birch Cr ab 12 Mile Creek	23-Jul-90	1.5	6.41
Birch Cr ab 12 Mile Creek	24-Jul-90	2.2	12.3
Birch Cr ab 12 Mile Creek	25-Jul-90	3.6	25.0
Birch Cr ab 12 Mile Creek	26-Jul-90	4.4	43.3
Birch Cr ab 12 Mile Creek	27-Jul-90	4.6	15.1
Birch Cr ab 12 Mile Creek	28-Jul-90	2.0	16.2
Birch Cr ab 12 Mile Creek	29-Jul-90	2.3	10.2
Birch Cr ab 12 Mile Creek	30-Jul-90	20	51.5
Birch Cr ab 12 Mile Creek	31-Jul-90	4.8	22.4
Birch Cr ab 12 Mile Creek	01-Aug-90	380	916
Birch Cr ab 12 Mile Creek	02-Aug-90	45	201
Birch Cr ab 12 Mile Creek	03-Aug-90	17	76.2
Birch Cr ab 12 Mile Creek	04-Aug-90	12	40.9
Birch Cr ab 12 Mile Creek	05-Aug-90	10	33.1
Birch Cr ab 12 Mile Creek	06-Aug-90	8.6	31.6
Birch Cr ab 12 Mile Creek	07-Aug-90	9.6	28.8
Birch Cr ab 12 Mile Creek	08-Aug-90	6.6	19.3
Birch Cr ab 12 Mile Creek	09-Aug-90	6.2	16.2
Birch Cr ab 12 Mile Creek	10-Aug-90	4.9	17.1
Birch Cr ab 12 Mile Creek	11-Aug-90	5.3	22.1
Birch Cr ab 12 Mile Creek	12-Aug-90	5.0	15.9
Birch Cr ab 12 Mile Creek	13-Aug-90	3.3	19.8
Birch Cr ab 12 Mile Creek	14-Aug-90	4.0	14.8
Birch Cr ab 12 Mile Creek	15-Aug-90	3.1	12.0
Birch Cr ab 12 Mile Creek	16-Aug-90	3.2	12.6
Birch Cr ab 12 Mile Creek	17-Aug-90	3.9	12.9
Birch Cr ab 12 Mile Creek	18-Aug-90	7.8	10.3
Birch Cr ab 12 Mile Creek	19-Aug-90	14	19.8
Birch Cr ab 12 Mile Creek	20-Aug-90	7.6	27.4
Birch Cr ab 12 Mile Creek	21-Aug-90	8.6	35.2
Birch Cr ab 12 Mile Creek	22-Aug-90	6.2	20.4
Birch Cr ab 12 Mile Creek	23-Aug-90	4.7	15.2
Birch Cr ab 12 Mile Creek	24-Aug-90	14	23.2
Birch Cr ab 12 Mile Creek	25-Aug-90	9.7	19.0
Birch Cr ab 12 Mile Creek	26-Aug-90	20	82.8
Birch Cr ab 12 Mile Creek	27-Aug-90	28	300
Birch Cr ab 12 Mile Creek	28-Aug-90	10	74.3

Appendix C (cont)

Location	Date	Time	Turb	TSS
Birch Cr ab 12 Mile Creek	29-Aug-90		13	60.5
Birch Cr ab 12 Mile Creek	30-Aug-90		18	111
Birch Cr ab 12 Mile Creek	31-Aug-90		50	269
Birch Cr ab 12 Mile Creek	01-Sep-90		9.8	659
Birch Cr ab 12 Mile Creek	02-Sep-90		230	281
Birch Cr ab 12 Mile Creek	03-Sep-90		29	194
Birch Cr ab 12 Mile Creek	04-Sep-90		13	138
Birch Cr ab 12 Mile Creek	05-Sep-90		20	165
Birch Cr ab 12 Mile Creek	06-Sep-90		85	694
Birch Cr ab 12 Mile Creek	07-Sep-90		200	1220
Birch Cr ab 12 Mile Creek	08-Sep-90		160	548
Birch Cr ab 12 Mile Creek	09-Sep-90		50	270
Birch Cr ab 12 Mile Creek	10-Sep-90		29	205
Birch Cr ab 12 Mile Creek	11-Sep-90		21	115
Birch Cr ab 12 Mile Creek	12-Sep-90		34	120
Birch Cr ab 12 Mile Creek	13-Sep-90		12	53.8
Birch Cr ab 12 Mile Creek	14-Sep-90		12	47.9
Birch Cr ab 12 Mile Creek	15-Sep-90		10	32.3
Birch Cr ab 12 Mile Creek	16-Sep-90		17	53.0
Birch Cr ab 12 Mile Creek	17-Sep-90		7.1	24.8
Birch Cr ab 12 Mile Creek	18-Sep-90		9.4	34.9
Birch Cr ab 12 Mile Creek	19-Sep-90		5.8	22.9
Birch Cr ab 12 Mile Creek	20-Sep-90		5.7	27.4
Birch Cr ab 12 Mile Creek	21-Sep-90		5.6	29.4
Birch Cr ab 12 Mile Creek	22-Sep-90		12	30.6
Birch Cr ab 12 Mile Creek	23-Sep-90		6.1	25.4
Birch Cr ab 12 Mile Creek	27-Sep-90	1535	0.90	5.48
Birch Cr at bridge	09-May-90	1200	21	270
Birch Cr at bridge	22-May-90		11	160
Birch Cr at bridge	22-May-90	1800	14	102
Birch Cr at bridge	23-May-90		9.7	148
Birch Cr at bridge	23-May-90	1635	16	94.4
Birch Cr at bridge	24-May-90		9.2	121
Birch Cr at bridge	24-May-90	1250	12	73.4
Birch Cr at bridge	25-May-90		9.8	102
Birch Cr at bridge	26-May-90		7.0	78.2
Birch Cr at bridge	27-May-90		6.5	67.8
Birch Cr at bridge	28-May-90		8.0	159
Birch Cr at bridge	29-May-90		6.8	66.8
Birch Cr at bridge	01-Jun-90		6.0	107
Birch Cr at bridge	02-Jun-90		5.5	40.0
Birch Cr at bridge	03-Jun-90		4.2	33.9
Birch Cr at bridge	04-Jun-90		4.3	31.9
Birch Cr at bridge	05-Jun-90		12	143
Birch Cr at bridge	06-Jun-90		33	979
Birch Cr at bridge	07-Jun-90		11	138
Birch Cr at bridge	08-Jun-90		8.3	87.2

Appendix C (cont)

Birch Cr at bridge	09-Jun-90	5.5	39.4
Birch Cr at bridge	10-Jun-90	9.4	142
Birch Cr at bridge	11-Jun-90	6.4	46.1
Birch Cr at bridge	12-Jun-90	4.4	36.2
Birch Cr at bridge	13-Jun-90	3.5	29.8
Birch Cr at bridge	14-Jun-90	3.8	25.9
Birch Cr at bridge	15-Jun-90	2.5	19.3
Birch Cr at bridge	16-Jun-90	2.9	34.2
Birch Cr at bridge	17-Jun-90	3.3	34.4
Birch Cr at bridge	18-Jun-90	4.1	46.2
Birch Cr at bridge	20-Jun-90	6.2	93.9
Birch Cr at bridge	21-Jun-90	2.5	16.0
Birch Cr at bridge	22-Jun-90	1.9	11.8
Birch Cr at bridge	23-Jun-90	2.0	14.0
Birch Cr at bridge	24-Jun-90	2.3	15.2
Birch Cr at bridge	25-Jun-90	2.4	23.7
Birch Cr at bridge	26-Jun-90	1.9	7.53
Birch Cr at bridge	27-Jun-90	2.4	14.6
Birch Cr at bridge	28-Jun-90	2.4	5.20
Birch Cr at bridge	29-Jun-90	5.3	14.2
Birch Cr at bridge	30-Jun-90	2.5	24.7
Birch Cr at bridge	01-Jul-90	2.9	35.1
Birch Cr at bridge	02-Jul-90	5.1	17.7
Birch Cr at bridge	03-Jul-90	2.7	11.6
Birch Cr at bridge	04-Jul-90	1.7	8.31
Birch Cr at bridge	05-Jul-90	1.4	7.77
Birch Cr at bridge	06-Jul-90	2.6	7.03
Birch Cr at bridge	07-Jul-90	1.9	8.09
Birch Cr at bridge	08-Jul-90	1.7	6.58
Birch Cr at bridge	09-Jul-90	12	7.76
Birch Cr at bridge	10-Jul-90	2.2	17.0
Birch Cr at bridge	11-Jul-90	2.0	13.5
Birch Cr at bridge	12-Jul-90	1.5	26.8
Birch Cr at bridge	13-Jul-90	1.3	13.5
Birch Cr at bridge	14-Jul-90	1.3	7.69
Birch Cr at bridge	15-Jul-90	1.2	7.17
Birch Cr at bridge	16-Jul-90	1.3	9.60
Birch Cr at bridge	17-Jul-90	1.2	8.52
Birch Cr at bridge	18-Jul-90	1.0	10.3
Birch Cr at bridge	19-Jul-90	0.60	7.42
Birch Cr at bridge	20-Jul-90	0.85	11.2
Birch Cr at bridge	26-Jul-90	1.1	4.97
Birch Cr at bridge	27-Jul-90	1.0	4.12
Birch Cr at bridge	28-Jul-90	0.90	6.64
Birch Cr at bridge	29-Jul-90	1.7	7.37
Birch Cr at bridge	30-Jul-90	1.5	8.61
Birch Cr at bridge	31-Jul-90	3.0	14.9
Birch Cr at bridge	01-Aug-90	2.8	89.6

Appendix C (cont)

Location	Date	Time	Turb	TSS
Birch Cr at bridge	02-Aug-90		11	138
Birch Cr at bridge	03-Aug-90		13	51.7
Birch Cr at bridge	04-Aug-90		3.7	19.5
Birch Cr at bridge	05-Aug-90		2.8	8.71
Birch Cr at bridge	06-Aug-90		4.3	10.7
Birch Cr at bridge	07-Aug-90		2.5	6.69
Birch Cr at bridge	08-Aug-90		3.5	7.64
Birch Cr at bridge	09-Aug-90		2.4	7.89
Birch Cr at bridge	10-Aug-90		1.5	9.06
Birch Cr at bridge	11-Aug-90		2.6	5.26
Birch Cr at bridge	12-Aug-90		4.0	7.09
Birch Cr at bridge	13-Aug-90		2.0	7.78
Birch Cr at bridge	14-Aug-90		1.8	5.20
Birch Cr at bridge	15-Aug-90		1.6	3.23
Birch Cr at bridge	16-Aug-90		3.9	6.89
Birch Cr at bridge	17-Aug-90		2.0	10.9
Birch Cr at bridge	18-Aug-90		3.2	10.4
Birch Cr at bridge	19-Aug-90		5.5	17.7
Birch Cr at bridge	20-Aug-90		4.0	157
Birch Cr at bridge	21-Aug-90		21	12.6
Birch Cr at bridge	22-Aug-90		14	88.9
Birch Cr at bridge	23-Aug-90		5.7	40.4
Birch Cr at bridge	24-Aug-90		6.1	26.0
Birch Cr at bridge	25-Aug-90		4.2	19.8
Birch Cr at bridge	26-Aug-90		3.7	16.2
Birch Cr at bridge	27-Aug-90		2.5	19.2
Birch Cr at bridge	28-Aug-90		5.9	46.5
Birch Cr at bridge	29-Aug-90		8.7	40.4
Birch Cr at bridge	30-Aug-90		5.5	23.6
Birch Cr at bridge	31-Aug-90		4.0	50.4
Birch Cr at bridge	01-Sep-90		7.0	33.9
Birch Cr at bridge	02-Sep-90		14	158
Birch Cr at bridge	03-Sep-90		12	78.3
Birch Cr at bridge	04-Sep-90		8.0	38.5
Birch Cr at bridge	05-Sep-90		11	40.5
Birch Cr at bridge	06-Sep-90		9.5	51.1
Birch Cr at bridge	07-Sep-90		29	394
Birch Cr at bridge	08-Sep-90		24	414
Birch Cr at bridge	09-Sep-90		19	230
Birch Cr at bridge	10-Sep-90		16	158
Birch Cr at bridge	11-Sep-90		31	191
Birch Cr at bridge	12-Sep-90		6.2	49.5
Birch Cr at bridge	13-Sep-90		4.6	46.3
Birch Cr at bridge	14-Sep-90		2.5	51.0
Birch Cr at bridge	15-Sep-90		4.5	82.8
Birch Cr at bridge	16-Sep-90		6.7	82.4
Birch Cr at bridge	17-Sep-90		2.8	64.8
Birch Cr at bridge	18-Sep-90		5.3	18.9

Appendix C (cont)

				TSS
Birch Cr at bridge	19-Sep-90		3.1	11.2
Birch Cr at bridge	20-Sep-90		2.1	12.0
Birch Cr at bridge	21-Sep-90		2.9	10.1
Birch Cr at bridge	22-Sep-90		3.1	5.96
Birch Cr at bridge	23-Sep-90		2.2	8.80
Birch Cr at bridge	24-Sep-90		4.9	18.5
Birch Cr at bridge	25-Sep-90		8.4	43.5
Birch Cr at bridge	27-Sep-90	1850	1.3	2.30
Birch Cr at bridge	30-May-90	2000	7.3	27.5
Deadwood Creek	09-May-90	1300	60	393
Deadwood Creek	22-May-90	2015	36	141
Deadwood Creek	24-May-90	1205	14	75.5
Deadwood Creek	30-May-90	2035	100	349
Deadwood Creek	01-Jun-90		15	262
Deadwood Creek	02-Jun-90		22	164
Deadwood Creek	04-Jun-90		27	377
Deadwood Creek	04-Jun-90		30	320
Deadwood Creek	05-Jun-90		70	755
Deadwood Creek	06-Jun-90		50	163
Deadwood Creek	07-Jun-90		33	448
Deadwood Creek	08-Jun-90		32	254
Deadwood Creek	09-Jun-90		30	490
Deadwood Creek	10-Jun-90		36	345
Deadwood Creek	11-Jun-90		25	203
Deadwood Creek	12-Jun-90		20	201
Deadwood Creek	13-Jun-90		18	146
Deadwood Creek	14-Jun-90		19	104
Deadwood Creek	15-Jun-90		37	117
Deadwood Creek	16-Jun-90		300	87.1
Deadwood Creek	17-Jun-90		13	52.2
Deadwood Creek	18-Jun-90		7.9	66.9
Deadwood Creek	19-Jun-90		3.7	10.6
Deadwood Creek	20-Jun-90		6.3	44.0
Deadwood Creek	21-Jun-90		7.4	36.7
Deadwood Creek	22-Jun-90		10	45.2
Deadwood Creek	23-Jun-90		7.8	27.2
Deadwood Creek	24-Jun-90		6.9	24.9
Deadwood Creek	25-Jun-90		2.9	21.3
Deadwood Creek	26-Jun-90		3.3	15.3
Deadwood Creek	27-Jun-90		4.4	21.1
Deadwood Creek	28-Jun-90		7.3	33.8
Deadwood Creek	29-Jun-90		40	149
Deadwood Creek	30-Jun-90		12	50.1
Deadwood Creek	01-Jul-90		2.9	24.8
Deadwood Creek	02-Jul-90		2.5	16.2
Deadwood Creek	03-Jul-90		2.7	14.7
Deadwood Creek	04-Jul-90		3.4	21.0

Appendix C (cont)

Deadwood Creek	05-Jul-90	3.6	9.40	
Deadwood Creek	06-Jul-90	2.4	10.6	
Deadwood Creek	07-Jul-90	2.2	9.42	
Deadwood Creek	08-Jul-90	2.2	9.02	
Deadwood Creek	09-Jul-90	10	40.4	
Deadwood Creek	10-Jul-90	50	308	
Deadwood Creek	11-Jul-90	150	454	
Deadwood Creek	12-Jul-90	24	124	
Deadwood Creek	13-Jul-90	11	48.4	
Deadwood Creek	14-Jul-90	11	63.7	
Deadwood Creek	15-Jul-90	10	46.0	
Deadwood Creek	16-Jul-90	6.5	276	
Deadwood Creek	17-Jul-90	5.5	32.5	
Deadwood Creek	18-Jul-90	3.2	28.2	
Deadwood Creek	19-Jul-90	2.4	23.7	
Deadwood Creek	20-Jul-90	3.0	23.2	
Deadwood Creek	21-Jul-90	2.4	19.8	
Deadwood Creek	22-Jul-90	2.4	20.0	
Deadwood Creek	23-Jul-90	2.2	19.4	
Deadwood Creek	24-Jul-90	1.7	19.6	
Deadwood Creek	25-Jul-90	2.7	19.7	
Deadwood Creek	26-Jul-90	1.7	19.6	
Deadwood Creek	27-Jul-90	1.4	19.3	
Deadwood Creek	28-Jul-90	2.1	22.4	
Deadwood Creek	29-Jul-90	1.6	21.0	
Deadwood Creek	30-Jul-90	1.2	19.3	
Deadwood Creek	31-Jul-90	200	1470	
Deadwood Creek	01-Aug-90	190	637	
Deadwood Creek	02-Aug-90	21	255	
Deadwood Creek	03-Aug-90	15	88.3	
Deadwood Creek	04-Aug-90	12	73.2	
Deadwood Creek	05-Aug-90	11	58.0	
Deadwood Creek	06-Aug-90	8.5	38.9	
Deadwood Creek	07-Aug-90	5.2	34.8	
Deadwood Creek	08-Aug-90	6.0	37.7	
Deadwood Creek	09-Aug-90	5.2	29.7	
Deadwood Creek	10-Aug-90	5.4	22.2	
Deadwood Creek	11-Aug-90	4.4	24.2	
Deadwood Creek	12-Aug-90	5.1	18.6	
Deadwood Creek	13-Aug-90	7.4	27.9	
Deadwood Creek	14-Aug-90	5.6	18.8	
Deadwood Creek	15-Aug-90	4.1	18.3	
Deadwood Creek	16-Aug-90	50	249	
Deadwood Creek	17-Aug-90	120	329	
Deadwood Creek	18-Aug-90	22	96.0	
Deadwood Creek	19-Aug-90	29	126	
Deadwood Creek	20-Aug-90	260	1510	
Deadwood Creek	21-Aug-90	70	559	

Appendix C (cont)

Location	Date	Time	Turb	TSS
Deadwood Creek	22-Aug-90		70	484
Deadwood Creek	23-Aug-90		55	386
Deadwood Creek	24-Aug-90		120	337
Deadwood Creek	25-Aug-90		50	259
Deadwood Creek	26-Aug-90		45	293
Deadwood Creek	27-Aug-90		55	375
Deadwood Creek	28-Aug-90		45	272
Deadwood Creek	29-Aug-90		100	552
Deadwood Creek	30-Aug-90		130	532
Deadwood Creek	31-Aug-90		65	352
Deadwood Creek	01-Sep-90		60	350
Deadwood Creek	02-Sep-90		40	254
Deadwood Creek	03-Sep-90		34	236
Deadwood Creek	04-Sep-90		70	550
Deadwood Creek	05-Sep-90		60	434
Deadwood Creek	06-Sep-90		75	762
Deadwood Creek	07-Sep-90		50	537
Deadwood Creek	08-Sep-90		32	322
Deadwood Creek	09-Sep-90		25	219
Deadwood Creek	10-Sep-90		32	399
Deadwood Creek	11-Sep-90		26	208
Deadwood Creek	12-Sep-90		17	108
Deadwood Creek	13-Sep-90		17	112
Deadwood Creek	14-Sep-90		19	108
Deadwood Creek	15-Sep-90		18	102
Deadwood Creek	16-Sep-90		15	78.5
Deadwood Creek	17-Sep-90		14	58.9
Deadwood Creek	18-Sep-90		10	55.0
Deadwood Creek	19-Sep-90		12	53.8
Deadwood Creek	20-Sep-90		7.6	53.1
Deadwood Creek	21-Sep-90		12	54.1
Deadwood Creek	22-Sep-90		8.5	38.3
Deadwood Creek	23-Sep-90		16	63.0
Deadwood Creek	24-Sep-90		13	76.3
Deadwood Creek	25-Sep-90		23	207
Deadwood Creek	28-Sep-90	730	4.1	11.7
Faith Creek	09-May-90	1600	7.0	74.4
Faith Creek	22-May-90		50	457
Faith Creek	23-May-90		34	305
Faith Creek	24-May-90		21	226
Faith Creek	24-May-90	1835	35	207
Faith Creek	25-May-90		23	264
Faith Creek	X-May-90		32	331
Faith Creek	27-May-90		18	212
Faith Creek	B-May-90		7.4	159
Faith Creek	29-May-90		8.6	103
Faith Creek	30-May-90		38	302

Appendix C (cont)

Faith Creek	30-May-90	1635	85	567
Faith Creek	31-May-90		16	225
Faith Creek	01-Jun-90		7.6	142
Faith Creek	02-Jun-90		6.5	41.8
Faith Creek	03-Jun-90		2.1	29.0
Faith Creek	04-Jun-90		2.7	30.7
Faith Creek	05-Jun-90		37	310
Faith Creek	06-Jun-90		13	76.6
Faith Creek	07-Jun-90		8.1	52.7
Faith Creek	08-Jun-90		1.3	15.6
Faith Creek	09-Jun-90		1.9	16.4
Faith Creek	10-Jun-90		1.4	13.5
Faith Creek	11-Jun-90		1.4	9.65
Faith Creek	12-Jun-90		0.85	10.1
Faith Creek	13-Jun-90		2.4	11.0
Faith Creek	14-Jun-90		1.2	7.75
Faith Creek	15-Jun-90		3.6	22.8
Faith Creek	16-Jun-90		2.1	14.9
Faith Creek	17-Jun-90		1.4	6.08
Faith Creek	18-Jun-90		1.1	4.94
Faith Creek	19-Jun-90		1.2	5.43
Faith Creek	20-Jun-90		2.0	10.1
Faith Creek	21-Jun-90		1.6	5.54
Faith Creek	22-Jun-90		1.0	4.91
Faith Creek	23-Jun-90		1.2	7.24
Faith Creek	24-Jun-90		1.3	6.02
Faith Creek	25-Jun-90		0.95	3.40
Faith Creek	26-Jun-90		1.0	3.54
Faith Creek	27-Jun-90		1.1	5.64
Faith Creek	28-Jun-90		0.75	5.21
Faith Creek	29-Jun-90		1.0	3.95
Faith Creek	30-Jun-90		1.1	97.5
Faith Creek	01-Jul-90		1.1	3.81
Faith Creek	02-Jul-90		0.80	3.97
Faith Creek	03-Jul-90		1.2	3.88
Faith Creek	04-Jul-90		0.80	3.44
Faith Creek	05-Jul-90		0.80	3.08
Faith Creek	06-Jul-90		13	39.2
Faith Creek	07-Jul-90		1.6	6.81
Faith Creek	08-Jul-90		1.2	4.12
Faith Creek	09-Jul-90		1.3	4.89
Faith Creek	10-Jul-90		0.65	2.62
Faith Creek	11-Jul-90		1.5	23.6
Faith Creek	12-Jul-90		21	11.2
Faith Creek	13-Jul-90		2.7	15.2
Faith Creek	14-Jul-90		2.2	12.8
Faith Creek	15-Jul-90		2.8	2.25
Faith Creek	16-Jul-90		1.2	1.09

Appendix C (cont)

Faith Creek	17-Jul-90	0.95	1.90
Faith Creek	18-Jul-90	3.1	1.32
Faith Creek	19-Jul-90	2.1	1.38
Faith Creek	20-Jul-90	0.90	1.69
Faith Creek	21-Jul-90	2.2	2.12
Faith Creek	22-Jul-90	0.70	4.88
Faith Creek	23-Jul-90	1.1	2.46
Faith Creek	24-Jul-90	1.4	2.86
Faith Creek	25-Jul-90	1.6	3.40
Faith Creek	26-Jul-90	2.1	3.63
Faith Creek	27-Jul-90	1.9	4.50
Faith Creek	28-Jul-90	4.0	4.35
Faith Creek	29-Jul-90	2.2	3.59
Faith Creek	30-Jul-90	1.0	4.80
Faith Creek	31-Jul-90	8.4	54.5
Faith Creek	01-Aug-90	1.6	12.2
Faith Creek	02-Aug-90	1.8	8.78
Faith Creek	03-Aug-90	2.7	6.08
Faith Creek	04-Aug-90	1.2	3.55
Faith Creek	05-Aug-90	1.4	5.10
Faith Creek	06-Aug-90	2.0	9.18
Faith Creek	07-Aug-90	1.2	3.16
Faith Creek	08-Aug-90	3.5	5.42
Faith Creek	09-Aug-90	4.1	5.34
Faith Creek	10-Aug-90	2.1	2.49
Faith Creek	11-Aug-90	1.4	5.21
Faith Creek	12-Aug-90	1.2	3.31
Faith Creek	13-Aug-90	1.5	3.56
Faith Creek	14-Aug-90	1.0	12.2
Faith Creek	15-Aug-90	1.0	1.89
Faith Creek	16-Aug-90	0.95	2.78
Faith Creek	17-Aug-90	0.55	2.39
Faith Creek	18-Aug-90	1.4	2.67
Faith Creek	19-Aug-90	1.1	2.16
Faith Creek	20-Aug-90	1.3	1.82
Faith Creek	21-Aug-90	1.4	2.14
Faith Creek	22-Aug-90	1.2	1.71
Faith Creek	23-Aug-90	1.3	1.41
Faith Creek	24-Aug-90	1.7	1.88
Faith Creek	25-Aug-90	1.9	10.5
Faith Creek	26-Aug-90	20	101
Faith Creek	27-Aug-90	17	73.2
Faith Creek	28-Aug-90	5.4	13.9
Faith Creek	29-Aug-90	7.1	12.8
Faith Creek	30-Aug-90	5.3	24.6
Faith Creek	31-Aug-90	5.4	55.0
Faith Creek	01-Sep-90	65	358
Faith Creek	02-Sep-90	2.8	17.8

Appendix C (cont)

Location	Date	Time	Turb	TSS
Faith Creek	03-Sep-90		2.7	44.4
Faith Creek	04-Sep-90		2.2	9.77
Faith Creek	05-Sep-90		2.7	13.1
Faith Creek	06-Sep-90		21	106
Faith Creek	07-Sep-90		200	1090
Faith Creek	08-Sep-90		12	118
Faith Creek	09-Sep-90		15	106
Faith Creek	10-Sep-90		18	102
Faith Creek	11-Sep-90		3.2	18.4
Faith Creek	12-Sep-90		2.1	11.4
Faith Creek	13-Sep-90		7.0	14.7
Faith Creek	14-Sep-90		5.0	15.6
Faith Creek	15-Sep-90		4.0	11.1
Faith Creek	16-Sep-90		6.2	34.9
Faith Creek	17-Sep-90		2.0	10.4
Faith Creek	18-Sep-90		11	33.7
Faith Creek	19-Sep-90		6.1	17.7
Faith Creek	20-Sep-90		13	18.5
Faith Creek	21-Sep-90		3.5	9.71
Faith Creek	22-Sep-90		8.2	8.65
Faith Creek	23-Sep-90		8.1	11.7
Faith Creek	24-Sep-90		3.4	14.7
Faith Creek	28-Sep-90	1205	3.4	5.73
Gold Dust Creek (middle)	23-May-90		19	274
Gold Dust Creek (middle)	24-May-90		33	264
Gold Dust Creek (middle)	25-May-90		17	148
Gold Dust Creek (middle)	26-May-90		26	330
Gold Dust Creek (middle)	27-May-90		22	615
Gold Dust Creek (middle)	28-May-90		18	414
Gold Dust Creek (middle)	29-May-90		32	549
Gold Dust Creek (middle)	30-May-90		20	725
Gold Dust Creek (middle)	31-May-90		34	475
Gold Dust Creek (middle)	01-Jun-90		65	1450
Gold Dust Creek (middle)	02-Jun-90		25	1350
Gold Dust Creek (middle)	03-Jun-90		17	709
Gold Dust Creek (middle)	04-Jun-90		80	284
Gold Dust Creek (middle)	05-Jun-90		90	1660
Gold Dust Creek (middle)	06-Jun-90		12	2960
Gold Dust Creek (middle)	07-Jun-90		7.4	281
Gold Dust Creek (middle)	08-Jun-90		6.8	215
Gold Dust Creek (middle)	09-Jun-90		7.0	383
Gold Dust Creek (middle)	10-Jun-90		6.7	385
Gold Dust Creek (middle)	11-Jun-90		4.3	421
Gold Dust Creek (middle)	12-Jun-90		8.5	716
Gold Dust Creek (middle)	13-Jun-90		14	1230
Gold Dust Creek (middle)	14-Jun-90		10	990
Gold Dust Creek (middle)	15-Jun-90		5.8	330

Appendix C (cont)

Gold Dust Creek (middle)	16-Jun-90	4.6	175
Gold Dust Creek (middle)	17-Jun-90	6.2	134
Gold Dust Creek (middle)	18-Jun-90	5.7	216
Gold Dust Creek (middle)	19-Jun-90	6.2	164
Gold Dust Creek (middle)	20-Jun-90	8.3	151
Gold Dust Creek (middle)	21-Jun-90	4.5	80.3
Gold Dust Creek (middle)	22-Jun-90	3.1	77.6
Gold Dust Creek (middle)	23-Jun-90	2.6	49.2
Gold Dust Creek (middle)	24-Jun-90	2.7	70.0
Gold Dust Creek (middle)	25-Jun-90	2.2	49.0
Gold Dust Creek (middle)	26-Jun-90	2.6	55.3
Gold Dust Creek (middle)	27-Jun-90	2.0	30.6
Gold Dust Creek (middle)	28-Jun-90	1.3	26.5
Gold Dust Creek (middle)	29-Jun-90	2.7	22.9
Gold Dust Creek (middle)	30-Jun-90	1.1	19.9
Gold Dust Creek (middle)	01-Jul-90	2.0	21.3
Gold Dust Creek (middle)	02-Jul-90	2.5	28.0
Gold Dust Creek (middle)	03-Jul-90	2.8	18.5
Gold Dust Creek (middle)	04-Jul-90	2.0	16.4
Gold Dust Creek (middle)	05-Jul-90	1.4	10.6
Gold Dust Creek (middle)	06-Jul-90	1.0	15.4
Gold Dust Creek (middle)	07-Jul-90	1.2	5.88
Gold Dust Creek (middle)	08-Jul-90	1.5	9.23
Gold Dust Creek (middle)	09-Jul-90	1.3	5.80
Gold Dust Creek (middle)	12-Jul-90	4.5	18.8
Gold Dust Creek (middle)	13-Jul-90	4.1	45.3
Gold Dust Creek (middle)	14-Jul-90	5.0	24.4
Gold Dust Creek (middle)	15-Jul-90	7.7	31.1
Gold Dust Creek (middle)	16-Jul-90	5.4	
Gold Dust Creek (middle)	17-Jul-90	4.1	
Gold Dust Creek (middle)	18-Jul-90	2.8	
Gold Dust Creek (middle)	19-Jul-90	5.0	
Gold Dust Creek (middle)	20-Jul-90	2.5	16.7
Gold Dust Creek (middle)	21-Jul-90	4.2	22.8
Gold Dust Creek (middle)	22-Jul-90	4.9	
Gold Dust Creek (middle)	23-Jul-90	4.2	18.9
Gold Dust Creek (middle)	24-Jul-90	4.1	29.2
Gold Dust Creek (middle)	25-Jul-90	3.5	25.0
Gold Dust Creek (middle)	26-Jul-90	2.5	13.3
Gold Dust Creek (middle)	27-Jul-90	4.1	13.1
Gold Dust Creek (middle)	28-Jul-90	2.1	10.0
Gold Dust Creek (middle)	29-Jul-90	1.7	12.4
Gold Dust Creek (middle)	30-Jul-90	1.6	6.30
Gold Dust Creek (middle)	31-Jul-90	1.3	36.5
Gold Dust Creek (middle)	01-Aug-90	1.5	16.8
Gold Dust Creek (middle)	02-Aug-90	2.1	69.1
Gold Dust Creek (middle)	03-Aug-90	1.8	89.8
Gold Dust Creek (middle)	27-Sep-90	2.1	16.6

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Appendix C (cont)

Gold Dust Creek (upper)	31-May-90	2.5	6.09
Gold Dust Creek (upper)	01-Jun-90	1.4	6.29
Gold Dust Creek (upper)	02-Jun-90	3.1	3.68
Gold Dust Creek (upper)	03-Jun-90	1.1	7.33
Gold Dust Creek (upper)	05-Jun-90	0.75	4.41
Gold Dust Creek (upper)	06-Jun-90	1.3	3.90
Gold Dust Creek (upper)	07-Jun-90	0.60	4.25
Gold Dust Creek (upper)	08-Jun-90	1.5	11.6
Gold Dust Creek (upper)	09-Jun-90	1.3	11.0
Gold Dust Creek (upper)	10-Jun-90	0.90	2.38
Gold Dust Creek (upper)	11-Jun-90	0.50	1.90
Gold Dust Creek (upper)	12-Jun-90	0.40	1.47
Gold Dust Creek (upper)	13-Jun-90	0.55	3.47
Gold Dust Creek (upper)	14-Jun-90	0.53	2.81
Gold Dust Creek (upper)	15-Jun-90	0.75	3.03
Gold Dust Creek (upper)	16-Jun-90	0.40	3.30
Gold Dust Creek (upper)	17-Jun-90	0.60	3.24
Gold Dust Creek (upper)	18-Jun-90	0.60	5.61
Gold Dust Creek (upper)	19-Jun-90	0.90	8.32
Gold Dust Creek (upper)	20-Jun-90	1.3	5.84
Gold Dust Creek (upper)	21-Jun-90	0.65	8.81
Gold Dust Creek (upper)	22-Jun-90	1.7	11.3
Gold Dust Creek (upper)	23-Jun-90	0.53	1.43
Gold Dust Creek (upper)	24-Jun-90	0.85	1.59
Gold Dust Creek (upper)	25-Jun-90	1.2	3.07
Gold Dust Creek (upper)	26-Jun-90	0.55	0.88
Gold Dust Creek (upper)	27-Jun-90	0.60	5.49
Gold Dust Creek (upper)	28-Jun-90	0.95	3.02
Gold Dust Creek (upper)	29-Jun-90	0.75	2.79
Gold Dust Creek (upper)	30-Jun-90	1.1	3.83
Gold Dust Creek (upper)	01-Jul-90	0.65	6.51
Gold Dust Creek (upper)	02-Jul-90	0.60	0.93
Gold Dust Creek (upper)	03-Jul-90	1.1	9.55
Gold Dust Creek (upper)	04-Jul-90	0.55	4.91
Gold Dust Creek (upper)	05-Jul-90	0.60	5.83
Gold Dust Creek (upper)	06-Jul-90	0.65	15.5
Gold Dust Creek (upper)	07-Jul-90	0.55	1.91
Gold Dust Creek (upper)	08-Jul-90	0.60	6.25
Gold Dust Creek (upper)	09-Jul-90	0.55	4.56
Gold Dust Creek (upper)	10-Jul-90	1.1	5.67
Gold Dust Creek (upper)	11-Jul-90	0.95	5.48
Gold Dust Creek (upper)	12-Jul-90	0.60	1.30
Gold Dust Creek (upper)	13-Jul-90	1.5	8.25
Gold Dust Creek (upper)	14-Jul-90	1.0	2.28
Gold Dust Creek (upper)	15-Jul-90	0.55	5.65
Gold Dust Creek (upper)	16-Jul-90	0.70	2.29
Gold Dust Creek (upper)	17-Jul-90	0.40	1.09
Gold Dust Creek (upper)	18-Jul-90	0.30	1.88

Appendix C (cont)

Gold Dust Creek (upper)	19-Jul-90	0.40	2.02
Gold Dust Creek (upper)	24-Jul-90	0.60	9.77
Gold Dust Creek (upper)	21-Jul-90	0.50	2.31
Gold Dust Creek (upper)	22-Jul-90	0.30	4.15
Gold Dust Creek (upper)	23-Jul-90	0.50	2.46
Gold Dust Creek (upper)	24-Jul-90	0.40	5.33
Gold Dust Creek (upper)	25-Jul-90	0.45	250
Gold Dust Creek (upper)	17-Aug-90	0.70	7.58
Gold Dust Creek (upper)	18-Aug-90	1.0	7.96
Gold Dust Creek (upper)	19-Aug-90	0.15	4.24
Gold Dust Creek (upper)	20-Aug-90	2.5	18.6
Gold Dust Creek (upper)	22-Aug-90	0.65	13.9
Gold Dust Creek (upper)	23-Aug-90	0.30	3.37
Gold Dust Creek (upper)	24-Aug-90	0.35	9.35
Gold Dust Creek (upper)	25-Aug-90	0.30	1.50
Gold Dust Creek (upper)	26-Aug-90	0.55	3.86
Gold Dust Creek (upper)	27-Aug-90	0.65	12.7
Gold Dust Creek (upper)	01-Sep-90	1.6	12.4
Gold Dust Creek (upper)	02-Sep-90	0.65	5.67
Gold Dust Creek (upper)	03-Sep-90	0.50	3.41
Gold Dust Creek (upper)	04-Sep-90	0.30	3.45
Gold Dust Creek (upper)	05-Sep-90	1.0	10.7
Gold Dust Creek (upper)	06-Sep-90	2.8	30.4
Gold Dust Creek (upper)	07-Sep-90	0.90	8.87
Gold Dust Creek (upper)	08-Sep-90	1.6	24.5
Gold Dust Creek (upper)	09-Sep-90	0.35	10.8
Gold Dust Creek (upper)	10-Sep-90	0.60	4.37
Gold Dust Creek (upper)	11-Sep-90	0.40	3.78
Gold Dust Creek (upper)	12-Sep-90	2.0	18.7
Gold Dust Creek (upper)	13-Sep-90	2.2	21.8
Gold Dust Creek (upper)	14-Sep-90	4.6	38.8
Gold Dust Creek (upper)	15-Sep-90	2.6	32.8
Gold Dust Creek (upper)	16-Sep-90	1.2	14.6
Gold Dust Creek (upper)	17-Sep-90	1.1	4.48
Gold Dust Creek (upper)	18-Sep-90	0.50	3.68
Gold Dust Creek (upper)	19-Sep-90	0.70	4.50
Gold Dust Creek (upper)	20-Sep-90	2.0	11.4
Gold Dust Creek (upper)	21-Sep-90	0.50	5.06
Gold Dust Creek (upper)	22-Sep-90	1.4	10.6
Gold Dust Creek (upper)	23-Sep-90	1.5	5.63
Gold Dust Creek (upper)	24-Sep-90	0.80	4.37
Gold Dust Creek (upper)	25-Sep-90	0.90	2.95
Gold Dust Creek (upper)	26-Sep-90	1.1	6.51
Gold Dust Creek (upper)	27-Sep-90	0.50	2.81
Gold Dust Creek (upper)	27-Sep-90	1700	0.15
Goldstream Cr at Ballaine Rd	11-Jun-90	10	77.8
Goldstream Cr at Ballaine Rd	12-Jun-90	11	64.8

Appendix C (cont)

Goldstream Cr at Ballaine Rd	13-Jun-90	7.1	52.6
Goldstream Cr at Ballaine Rd	14-Jun-90	5.6	31.5
Goldstream Cr at Ballaine Rd	15-Jun-90	6.5	41.6
Goldstream Cr at Ballaine Rd	16-Jun-90	6.3	33.0
Goldstream Cr at Ballaine Rd	17-Jun-90	3.1	20.3
Goldstream Cr at Ballaine Rd	18-Jun-90	3.4	17.7
Goldstream Cr at Ballaine Rd	19-Jun-90	3.4	15.9
Goldstream Cr at Ballaine Rd	20-Jun-90	3.2	12.8
Goldstream Cr at Ballaine Rd	21-Jun-90	3.4	10.1
Goldstream Cr at Ballaine Rd	22-Jun-90	2.4	8.89
Goldstream Cr at Ballaine Rd	23-Jun-90	3.3	7.31
Goldstream Cr at Ballaine Rd	24-Jun-90	3.6	10.6
Goldstream Cr at Ballaine Rd	25-Jun-90	2.9	8.00
Goldstream Cr at Ballaine Rd	26-Jun-90	3.2	14.2
Goldstream Cr at Ballaine Rd	27-Jun-90	4.1	9.53
Goldstream Cr at Ballaine Rd	28-Jun-90	3.4	15.0
Goldstream Cr at Ballaine Rd	29-Jun-90	2.0	8.51
Goldstream Cr at Ballaine Rd	30-Jun-90	6.4	27.5
Goldstream Cr at Ballaine Rd	01-Jul-90	2.6	10.2
Goldstream Cr at Ballaine Rd	02-Jul-90	2.2	12.4
Goldstream Cr at Ballaine Rd	03-Jul-90	2.6	9.49
Goldstream Cr at Ballaine Rd	04-Jul-90	2.1	7.28
Goldstream Cr at Ballaine Rd	05-Jul-90	3.4	5.52
Goldstream Cr at Ballaine Rd	06-Jul-90	2.5	4.58
Goldstream Cr at Ballaine Rd	07-Jul-90	3.2	10.3
Goldstream Cr at Ballaine Rd	08-Jul-90	7.9	37.7
Goldstream Cr at Ballaine Rd	09-Jul-90	4.8	16.0
Goldstream Cr at Ballaine Rd	10-Jul-90	5.6	26.9
Goldstream Cr at Ballaine Rd	11-Jul-90	210	899
Goldstream Cr at Ballaine Rd	12-Jul-90	85	30.4
Goldstream Cr at Ballaine Rd	13-Jul-90	27	233
Goldstream Cr at Ballaine Rd	14-Jul-90	11	105
Goldstream Cr at Ballaine Rd	15-Jul-90	6.3	64.4
Goldstream Cr at Ballaine Rd	16-Jul-90	5.1	39.3
Goldstream Cr at Ballaine Rd	17-Jul-90	5.0	29.1
Goldstream Cr at Ballaine Rd	18-Jul-90	5.4	20.6
Goldstream Cr at Ballaine Rd	19-Jul-90	2.5	16.4
Goldstream Cr at Ballaine Rd	20-Jul-90	3.3	9.53
Goldstream Cr at Ballaine Rd	21-Jul-90	2.1	6.31
Goldstream Cr at Ballaine Rd	22-Jul-90	1.5	3.74
Goldstream Cr at Ballaine Rd	23-Jul-90	1.9	4.75
Goldstream Cr at Ballaine Rd	24-Jul-90	2.9	4.57
Goldstream Cr at Ballaine Rd	25-Jul-90	1.9	4.79
Goldstream Cr at Ballaine Rd	26-Jul-90	2.2	3.98
Goldstream Cr at Ballaine Rd	27-Jul-90	1.9	12.7
Goldstream Cr at Ballaine Rd	28-Jul-90	3.6	10.1
Goldstream Cr at Ballaine Rd	29-Jul-90	1.9	10.4
Goldstream Cr at Ballaine Rd	30-Jul-90	2.4	3.40

Appendix C (cont)

Location			
Goldstream Cr at Ballaine Rd	31-Jul-90	3.1	3.83
Goldstream Cr at Ballaine Rd	01-Aug-90	3.0	5.03
Goldstream Cr at Ballaine Rd	02-Aug-90	2.1	4.09
Goldstream Cr at Ballaine Rd	03-Aug-90	4.2	3.25
Goldstream Cr at Ballaine Rd	04-Aug-90	2.3	3.44
Goldstream Cr at Ballaine Rd	05-Aug-90	1.9	3.87
Goldstream Cr at Ballaine Rd	06-Aug-90	2.1	1.97
Goldstream Cr at Ballaine Rd	07-Aug-90	2.6	4.99
Goldstream Cr at Ballaine Rd	08-Aug-90	2.9	3.47
Goldstream Cr at Ballaine Rd	09-Aug-90	2.2	3.01
Goldstream Cr at Ballaine Rd	10-Aug-90	2.3	4.66
Goldstream Cr at Ballaine Rd	11-Aug-90	2.2	6.74
Goldstream Cr at Ballaine Rd	12-Aug-90	1.9	3.70
Goldstream Cr at Ballaine Rd	13-Aug-90	2.0	7.89
Goldstream Cr at Ballaine Rd	14-Aug-90	2.6	4.08
Goldstream Cr at Ballaine Rd	15-Aug-90	3.4	13.6
Goldstream Cr at Ballaine Rd	17-Aug-90	3.0	7.21
Goldstream Cr at Ballaine Rd	18-Aug-90	5.0	8.45
Goldstream Cr at Ballaine Rd	19-Aug-90	2.7	7.64
Goldstream Cr at Ballaine Rd	20-Aug-90	21	5.94
Goldstream Cr at Ballaine Rd	21-Aug-90	4.7	8.18
Goldstream Cr at Ballaine Rd	22-Aug-90	3.5	5.31
Goldstream Cr at Ballaine Rd	23-Aug-90	3.0	7.61
Goldstream Cr at Ballaine Rd	24-Aug-90	3.6	5.64
Goldstream Cr at Ballaine Rd	25-Aug-90	4.1	4.58
Goldstream Cr at Ballaine Rd	26-Aug-90	3.5	4.82
Goldstream Cr at Ballaine Rd	27-Aug-90	5.2	25.7
Goldstream Cr at Ballaine Rd	28-Aug-90	28	173
Goldstream Cr at Ballaine Rd	29-Aug-90	8.7	55.7
Goldstream Cr at Ballaine Rd	30-Aug-90	6.3	32.6
Goldstream Cr at Ballaine Rd	31-Aug-90	9.3	30.1
Goldstream Cr at Ballaine Rd	01-Sep-90	4.0	20.0
Goldstream Cr at Ballaine Rd	02-Sep-90	4.5	35.8
Goldstream Cr at Ballaine Rd	03-Sep-90	5.0	33.9
Goldstream Cr at Ballaine Rd	04-Sep-90	3.7	14.3
Goldstream Cr at Ballaine Rd	05-Sep-90	2.2	14.6
Goldstream Cr at Ballaine Rd	06-Sep-90	7.2	21.0
Goldstream Cr at Ballaine Rd	07-Sep-90	16	100
Goldstream Cr at Ballaine Rd	08-Sep-90	12	69.4
Goldstream Cr at Ballaine Rd	09-Sep-90	8.0	34.7
Goldstream Cr at Ballaine Rd	10-Sep-90	7.6	59.0
Goldstream Cr at Ballaine Rd	11-Sep-90	4.2	22.6
Goldstream Cr at Ballaine Rd	12-Sep-90	4.4	16.7
Goldstream Cr at Ballaine Rd	13-Sep-90	4.8	13.6
Goldstream Cr at Ballaine Rd	14-Sep-90	3.3	11.2
Goldstream Cr at Ballaine Rd	15-Sep-90	3.8	10.0
Goldstream Cr at Ballaine Rd	16-Sep-90	3.3	20.2
Goldstream Cr at Ballaine Rd	17-Sep-90	3.9	11.2

Appendix C (cont)

Goldstream Cr at Ballaine Rd	18-Sep-90		3.2	8.60
Goldstream Cr at Ballaine Rd	19-Sep-90		3.1	9.77
Goldstream Cr at Ballaine Rd	20-Sep-90		2.4	7.83
Goldstream Cr at Ballaine Rd	21-Sep-90		2.2	7.66
Goldstream Cr at Ballaine Rd	22-Sep-90		2.0	7.74
Goldstream Cr at Ballaine Rd	23-Sep-90		4.0	15.8
Goldstream Cr at Ballaine Rd	24-Sep-90		4.0	14.6
Little Chena River	13-Jun-90		6.9	10.5
Little Chena River	13-Jun-90	1130	2.0	6.97
Little Chena River	14-Jun-90		4.6	14.4
Little Chena River	28-Jun-90		4.8	18.2
Little Chena River	29-Jun-90		3.2	5.33
Little Chena River	30-Jun-90		4.5	3.28
Little Chena River	01-Jul-90		3.2	4.23
Little Chena River	02-Jul-90		3.3	6.20
Little Chena River	03-Jul-90		3.1	4.24
Little Chena River	04-Jul-90		3.3	3.66
Little Chena River	05-Jul-90		3.2	5.33
Little Chena River	06-Jul-90		2.7	5.35
Little Chena River	07-Jul-90		3.6	22.9
Little Chena River	08-Jul-90		3.4	7.69
Little Chena River	09-Jul-90		2.9	6.44
Little Chena River	10-Jul-90		3.0	6.26
Little Chena River	11-Jul-90		4.2	26.7
Little Chena River	12-Jul-90		14	165
Little Chena River	13-Jul-90		31	237
Little Chena River	14-Jul-90		7.1	144
Little Chena River	15-Jul-90		3.5	61.8
Little Chena River	16-Jul-90		2.7	28.9
Little Chena River	17-Jul-90		2.1	21.7
Little Chena River	18-Jul-90		4.2	19.2
Little Chena River	19-Jul-90		3.6	8.55
Little Chena River	20-Jul-90		4.6	8.06
Little Chena River	21-Jul-90		3.6	9.74
Little Chena River	22-Jul-90		3.4	12.4
Little Chena River	23-Jul-90		3.5	8.41
Little Chena River	24-Jul-90		2.3	9.88
Little Chena River	25-Jul-90		3.3	8.80
Little Chena River	26-Jul-90		2.5	6.73
Little Chena River	27-Jul-90		1.8	5.07
Little Chena River	28-Jul-90		1.1	1.86
Little Chena River	29-Jul-90		2.8	5.69
Little Chena River	30-Jul-90		2.1	4.71
Little Chena River	31-Jul-90		2.2	4.37
Little Chena River	01-Aug-90		2.0	8.75
Little Chena River	02-Aug-90		2.7	7.56
Little Chena River	03-Aug-90		1.3	7.89

Appendix C (cont)

Location	Date	Time	Turb	TSS
Little Chena River	04-Aug-90		1.5	1.80
Little Chena River	05-Aug-90		3.3	9.69
Little Chena River	06-Aug-90		2.8	7.49
Little Chena River	07-Aug-90		1.1	6.95
Little Chena River	08-Aug-90		2.5	13.8
Little Chena River	09-Aug-90		2.8	6.37
Little Chena River	10-Aug-90		3.0	5.92
Little Chena River	11-Aug-90		3.2	6.71
Little Chena River	12-Aug-90		6.1	12.5
Little Chena River	13-Aug-90		7.6	10.6
Little Chena River	14-Aug-90		8.5	17.7
Little Chena River	15-Aug-90		8.0	15.2
Little Chena River	16-Aug-90		8.2	14.5
Little Chena River	17-Aug-90		8.4	12.4
Little Chena River	18-Aug-90		6.8	10.9
Little Chena River	19-Aug-90		6.0	12.1
Little Chena River	20-Aug-90		5.4	8.06
Little Chena River	21-Aug-90		10	15.2
Little Chena River	22-Aug-90		5.4	8.39
Little Chena River	23-Aug-90		3.0	4.91
Little Chena River	24-Aug-90		4.6	9.62
Little Chena River	25-Aug-90		3.8	6.75
Little Chena River	26-Aug-90		23	142
Little Chena River	27-Aug-90		80	572
Little Chena River	28-Aug-90		26	148
Little Chena River	29-Aug-90		17	56.4
Little Chena River	30-Aug-90		3.8	55.1
Little Chena River	31-Aug-90		6.0	47.0
Little Chena River	01-Sep-90		28	288
Little Chena River	02-Sep-90		35	317
Little Chena River	03-Sep-90		32	76.2
Little Chena River	04-Sep-90		7.5	36.9
Little Chena River	05-Sep-90		10	303
Little Chena River	06-Sep-90		31	560
Little Chena River	07-Sep-90		22	208
Little Chena River	08-Sep-90		22	96.2
Little Chena River	09-Sep-90		19	43.9
Little Chena River	10-Sep-90		14	62.7
Little Chena River	11-Sep-90		16	54.2
Little Chena River	12-Sep-90		12	33.2
Little Chena River	13-Sep-90		15	40.0
Little Chena River	14-Sep-90		12	30.8
Little Chena River	15-Sep-90		7.3	29.9
Little Chena River	16-Sep-90		9.5	22.4
Little Chena River	17-Sep-90		9.9	18.5
Little Chena River	18-Sep-90		8.4	14.3
Little Chena River	19-Sep-90		5.1	10.4
Little Chena River	20-Sep-90		3.6	11.5

Appendix C (cont)

Little Chena River	21-Sep-90		3.9	17.7
Little Chena River	22-Sep-90		6.8	9.59
Little Chena River	23-Sep-90		6.9	24.7
Little Chena River	24-Sep-90		7.0	20.0
Little Chena River	25-Sep-90		7.2	16.3
Little Chena River	26-Sep-90		5.0	15.0
Little Chena River	27-Sep-90		11	17.2
Little Chena River	09-Oct-90	1800	4.4	33.0

Appendix D

Location	Date	Time	Turb	TSS	Comments
Albert Creek	09-May-90	1235	4.3	96.3	at Steese Highway
Albert Creek	22-May-90	1900	1.9	15.6	
Albert Creek	23-May-90	1710	2.9	10.9	
Albert Creek	24-May-90	1220	1.8	4.07	
Albert Creek	30-May-90	1430	1.2	3.14	
Albert Creek	06-Jun-90	825	1.7	5.87	
Albert Creek	15-Jun-90	1905	0.85	0.82	
Albert Creek	20-Jun-90	1040	0.75	0.38	
Albert Creek	27-Jun-90	925	1.7	5.17	
Albert Creek	10-Jul-90	1110	9.0	28.5	
Albert Creek	18-Jul-90	1115	0.45	1.58	
Albert Creek	03-Aug-90		7.6	42.6	
Albert Creek	08-Aug-90	945	1.6	4.05	
Albert Creek	24-Aug-90	835	32	0.00	
Albert Creek	30-Aug-90	745	1.0	19.3	
Albert Creek	27-Sep-90	1820	0.70	2.66	
Bedrock Creek	09-May-90		2.5	12.4	at Steese Highway
Bedrock Creek	22-May-90	1815	2.5	13.5	
Bedrock Creek	24-May-90	1345	0.70	3.14	
Bedrock Creek	30-May-90	1610	1.5	3.35	
Bedrock Creek	06-Jun-90	1030	1.1	5.46	
Bedrock Creek	16-Jun-90	1025	2.1	7.21	
Bedrock Creek	20-Jun-90	1107	0.80	0.00	
Bedrock Creek	27-Jun-90	1125	1.3	1.14	
Bedrock Creek	10-Jul-90	1130	6.6	65.6	
Bedrock Creek	18-Jul-90	1155	0.35	0.43	
Bedrock Creek	26-Jul-90	1431	0.80	2.17	
Bedrock Creek	02-Aug-90	1700	0.85	6.55	
Bedrock Creek	08-Aug-90	1005	1.3	4.19	
Bedrock Creek	17-Aug-90	1806	0.40	0.00	
Bedrock Creek	24-Aug-90	905	1.3	8.86	
Bedrock Creek	30-Aug-90	815	1.2	2.94	
Bedrock Creek	28-Sep-90	1035	0.45	4.17	
Boulder Creek	09-May-90		2.4	39.4	at Steese Highway
Boulder Creek	22-May-90	1830	11	121	
Boulder Creek	24-May-90	1335	4.8	44.3	
Boulder Creek	30-May-90	1820	11	113	
Boulder Creek	06-Jun-90	1015	13	95.5	
Boulder Creek	16-Jun-90	1010	1.7	12.9	
Boulder Creek	20-Jun-90	1100	0.70	3.59	
Boulder Creek	27-Jun-90	1115	0.90	3.86	
Boulder Creek	29-Jun-90	1530	6.6	29.8	
Boulder Creek	10-Jul-90	1120	70	383	
Boulder Creek	18-Jul-90	1140	1.6	5.56	
Boulder Creek	26-Jul-90	1423	0.80	1.26	
Boulder Creek	02-Aug-90	1750	9.9	80.6	

Appendix D (cont)

Boulder Creek	08-Aug-90	955	3.5	8.18	at Steese Highway
Boulder Creek	17-Aug-90	1825	2.7	15.7	
Boulder Creek	24-Aug-90	855	1.4	1.55	
Boulder Creek	30-Aug-90	805	1.1	9.93	
Boulder Creek	28-Sep-90	1030	0.40	7.02	
Chatanika River	09-May-90	1630	4.8	58.7	at 39 mile Steese Highway
Chatanika River	22-May-90	1145	18	78.0	
Chatanika River	24-May-90	1920	5.0	13.3	
Chatanika River	30-May-90	1540	2.1	9.95	
Chatanika River	06-Jun-90	1325	2.6	20.0	
Chatanika River	16-Jun-90	1450	2.3	18.7	
Chatanika River	20-Jun-90	1400	1.2	0.62	
Chatanika River	27-Jun-90	1420	1.0	3.56	
Chatanika River	10-Jul-90	1320	1.7	5.05	
Chatanika River	18-Jul-90	1810	0.63	0.22	
Chatanika River	25-Jul-90	1100	0.80	0.23	
Chatanika River	03-Aug-90	1305	0.85	2.75	
Chatanika River	08-Aug-90	1215	2.2	2.89	
Chatanika River	17-Aug-90	1110	0.25	0.00	
Chatanika River	24-Aug-90	1215	0.40	3.73	
Chatanika River	30-Aug-90	1030	1.5	1.82	
Chatanika River	28-Sep-90	1250	0.55	6.38	
Crooked Creek	20-Jun-90	1113	32	26.5	below Bedrock Creek
Crooked Creek	26-Jul-90	1355	2.8	2.89	
Crooked Creek	02-Aug-90	1650	34	73.5	
Crooked Creek	17-Aug-90	1815	17	58.6	
Crooked Creek	28-Sep-90	1040	1.9	10.6	
Crooked Creek	09-May-90	1130	39	412	at Steese Highway
Crooked Creek	22-May-90	1845	25	231	
Crooked Creek	24-May-90	1212	11	80.1	
Crooked Creek	30-May-90	1915	12	65.1	
Crooked Creek	06-Jun-90	815	20	55.1	
Crooked Creek	16-Jun-90	1000	33	43.2	
Crooked Creek	20-Jun-90	1050	21	11.3	
Crooked Creek	27-Jun-90	925	16	6.02	
Crooked Creek	10-Jul-90	1050	37	121	
Crooked Creek	18-Jul-90	1105	45	35.8	
Crooked Creek	26-Jul-90	1435	16	28.2	
Crooked Creek	03-Aug-90	710	23	37.6	
Crooked Creek	08-Aug-90	930	30	25.0	
Crooked Creek	17-Aug-90	1832	20	50.0	
Crooked Creek	24-Aug-90	845	11	34.7	
Crooked Creek	30-Aug-90	755	11	18.9	
Crooked Creek	28-Sep-90	745	55	54.8	

Appendix D (cont)

Eagle Creek	09-May-90	1030	75	323	above Ptarmigan Creek
Eagle Creek	22-May-90	1535	85	305	
Eagle Creek	24-May-90	1715	80	218	
Eagle Creek	30-May-90	1740	240	2100	
Eagle Creek	06-Jun-90	1115	310	845	
Eagle Creek	16-Jun-90	1300	75	197	
Eagle Creek	20-Jun-90	1145	37	170	
Eagle Creek	27-Jun-90	1230	6.7	30.1	
Eagle Creek	10-Jul-90	1155	55	247	
Eagle Creek	18-Jul-90	1225	7.4	14.5	
Eagle Creek	26-Jul-90	1507	2.6	2.10	
Eagle Creek	02-Aug-90	1440	60	194	
Eagle Creek	08-Aug-90	1050	23	23.0	
Eagle Creek	17-Aug-90	1735	11	5.69	
Eagle Creek	24-Aug-90	940	16	73.2	
Eagle Creek	30-Aug-90	850	31	132	
Eagle Creek	28-Sep-90	1105	1.1	8.26	
Ketchem Creek	09-May-90	1250	110	775	at Circle Hot Springs Road
Ketchem Creek	22-May-90	2025	450	2230	
Ketchem Creek	24-May-90	1155	700	605	
Ketchem Creek	30-May-90	2040	110	147	
Ketchem Creek	06-Jun-90	740	500	2590	
Ketchem Creek	16-Jun-90	805	55	167	
Ketchem Creek	20-Jun-90	745	40	149	
Ketchem Creek	27-Jun-90	850	75	48.5	
Ketchem Creek	10-Jul-90	1040	90	50.6	
Ketchem Creek	11-Jul-90	915	60	60.0	
Ketchem Creek	18-Jul-90	635	110	18.8	
Ketchem Creek	26-Jul-90	820	70	5.88	
Ketchem Creek	02-Aug-90	1830	40	35.9	
Ketchem Creek	08-Aug-90	915	70	5.18	
Ketchem Creek	17-Aug-90	1850	31	29.3	
Ketchem Creek	24-Aug-90	810	55	51.9	
Ketchem Creek	30-Aug-90	730	38	34.2	
Ketchem Creek	28-Sep-90	700	60	5.95	
Mammoth Creek	09-May-90		90	396	at Steese Highway
Mammoth Creek	22-May-90	1630	20	92.4	
Mammoth Creek	24-May-90	1350	3.6	9.39	
Mammoth Creek	30-May-90	1800	15	36.3	
Mammoth Creek	06-Jun-90	1035	24	20.4	
Mammoth Creek	16-Jun-90	1030	34	8.81	
Mammoth Creek	20-Jun-90	1120	18	6.00	
Mammoth Creek	27-Jun-90	1135	12	5.05	
Mammoth Creek	10-Jul-90	1135	16	23.6	
Mammoth Creek	18-Jul-90	1200	18	4.74	
Mammoth Creek	26-Jul-90	1444	12	10.5	

Le

Appendix D (cont)

Twelve Mile Creek	09-May-90	1520	1.6	11.3	above Birch Creek	
Twelve Mile Creek	22-May-90	1410	0.70	3.36		
Twelve Mile Creek	24-May-90	1800	1.3	5.70		
Twelve Mile Creek	30-May-90	1705	0.95	0.83		
Twelve Mile Creek	06-Jun-90	1150	0.75	6.74		
Twelve Mile Creek	16-Jun-90	1355	0.85	5.03		
Twelve Mile Creek	20-Jun-90	1255	0.25	0.63		
Twelve Mile Creek	27-Jun-90	1245	50	110		
Twelve Mile Creek	10-Jul-90	1210	1.1	6.56		
Twelve Mile Creek	18-Jul-90	1245	1.3	0.65		
Twelve Mile Creek	03-Aug-90	1320	1.3	11.8		
Twelve Mile Creek	08-Aug-90	1105	0.25	0.42		
Twelve Mile Creek	17-Aug-90	1330	0.15	0.00		
Twelve Mile Creek	24-Aug-90	1035	0.30	3.64		
Twelve Mile Creek	30-Aug-90	905	0.25	0.92		
Twelve Mile Creek	27-Sep-90	1545	0.40	1.36		