ERRATA SHEET

U.S. Geological Survey Open-File Report 97-204

Page 15 and table 41 of U.S. Geological Survey Open-File Report 97-204, "Hydrologic and water-quality data, Guanella Pass area, Colorado, water year 1995," by Michael R. Stevens, David A. Johncox, and Jennifer R. Cox, are incorrect.

FIRST FULL PARAGRAPH ON PAGE 15 SHOULD READ AS FOLLOWS:

Periphyton samples were collected concurrently with macroinvertebrate samples at the 11 sites according to a modified method described in Porter and others (1993). A device called an SG-92, which is constructed from part of a syringe body, a toothbrush, and a rubber O-ring, was used to scrub the attached periphyton from a rock surface and allow that solution of water and algae to be collected in a hand pipette for transfer to a wide-mouth plastic jar. The device has an area of 3.66 cm^2, which is used in density calculations. Five rocks were collected at each of the five cross sections, and the SG-92 was used on five separate spots on each rock at streamside. The cumulative sample area then was 458 cm^2 for the composited periphyton sample. Formalin was added to each composite sample to equal 3 to 5 percent of the total sample volume for preservation.

Table 41 has been amended as attached. Attention should be directed to the changed values and Family designations in the updated version.

Attachment

Table 41. Taxa and densities of periphyton collected at biological sampling sites

[--, no data; NC, not calculated because samples constituted <5% of total biovolume at every site

A, abundance as cells per cm^3; B, biovolume as mm^3 per cm^2; densities and biovolumes rounded to 2 significant figures;

see table 7 and figure 7 for site locations]

Site	Sampling sites																					
	CC8		CC8		CC11		CC12		GC1		GC2		GC8		GC7		GC8		GC10		GC11	
Date	8/30/95		8/24/95		9/1/95		8/30/95		8/29/95		8/26/95		8/28/95		8/28/95		8/25/95		9/2/95		8/28/95	
Time	1510		1100		1010		1000		1100		1500		1510		1300		1200		1600		1500	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
DIVISION																						
Family																						
Genus species																						
CHLOROPHYTA - Green algae																						
(undet coccoid >10um)	--	--	--	--	--	--	--	--	-	--	--	--	83.	NC	--	--	--	--	--	-	-	--
(undet coccoid 3-5um)	--	--	--	--	--	--	--	--	-	--	-	--	170.	NC	--	--	--	--	--	--	--	-
(undet filamentous) sp.	--	--	14.	NC	--	--	--	--	--	--	-	--	--	--	--	--	--	--	--	-	--	-
(undet) sp.	--	--	--	--	--	--	--	--	-	--	-	--	4,800.	NC	--		-	--	--	-	-	
Chaetophoraceae																						
Stigeoclonium lubricum	--	--	--	--	--	--	--	--	--	--	--	--	--	--	32.	NC	--	-	--	--		--
Desmidiaceae																						
Closterium aceroeum	--	--	--	--	--	--	--	--	--	--	--	--	160.	NC	--		--	--	--	--	-	
Closterium littorale	--	-	--	--	730.	NC	--	-	--	--	45.	NC	170.	NC	-		--	--	--	--	-	-
Closterium moniliferum	--	--	3.4	NC	--	--	--	-	--	-	-	-	--	--	--		--	--	--	--	--	-
Cosmarium botrytis	--	--	--	--	--	--	--	-	--	-	--		22,000.	NC	--		--	--	--	--	--	
Staurastrum sp.	--	--	--	--	--	--	--	--	--	--	--	-	310.	NC	--		--	--	--	-		-
Microsporaceae																						
Microspora sp.	--	--	--	--	--	--	--	--	--	-	--	--	11,000.	NC	--		--	--	-		--	--
Ulvaceae																						
Schizomeris leibleinii	--	-	--	--	96,000.	NC	--	--	--	--	--	--	--	--	--		--	--	--		--	--
Zygnemataceae																						
Spirogyra sp.	--	--	--	--	--	--	--	-		--	--	-	170.	NC	--		--	--	-	--		--
CHRYSOPHYTA - Golden and yellow-green, including diatoms																						
Achnanthaceae																						
Achnanthes bioreti	--	--	--	--	430.	NC	6.	NC	--	--	--	--	--	--	0.2	NC	--	--	-	--	--	--
Achnanthes deflexa	2.4	NC	--	--	--	-	--	--	--	--	--	--	--	--	--		--	-	--	--	-	--
Achnanthes delha	--	--	--	--	--	--	--	--	--	-	--	--	380.	NC	--		--	--	--	--	--	--
Achnanthes grana	--	--	--	--	690.	NC	--	-	--	--	--	--	--	--	--		--	--	--	--	-	--
Achnanthes lapidosa	2.4	NC	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--	--	-	
Achnanthes lapponica	--	--	--	--	620.	NC	--	--	--	--	--	--	500.	NC	--		--	--	-		-	-
Achnanthes microcephala	--	--	--	--	2,000.	NC	--	--	-	--	--	--	120.	NC	--		--	--	--	-	--	-
Achnanthidiaceae																						
Achnanthidium affine	--	--	--	--	4,000.	NC	--	--	-	--	--	--	--	--	--		--	--	--	-	--	
Achnanthidium biporomum	6.2	NC	--	--	--	--	--	--	-	--	--	-	--	--	--		--	--	-	-	-	
Achnanthidium clevei rostratum	--	--	--	--	--	--	--	--	--	--	68.	NC	--	--	--		-	-	--	--	--	-
Achnanthidium exiguum	--	--	--	--	--	--	--	--	3.6	NC	--	--	--	--	--		--	--	--		--	
Achnanthidium lanceolatum	34.	NC	13.	NC	640.	NC	--	--	--	--	68.	NC	69.	NC	--		--	13	NC	-	--	14 NC
Achnanthidium lanceolatum dubium	14.	NC	--	--	--	--	--	--	--	--	--	--	260.	NC	0.2	NC	--	--	-	--	-	
Achnanthidium minutissimum	310.	24,000.	200.	15,000.	140,000.	10,000,000	85.	6,400.	19.	1,400.	6,500	490,000.	23,000.	1,600,000.	16.	1,300.	240.	16,000	200.	15,000.	730	55,000
Achnanthidium pusillum	--	--	--	--	750.	NC	-	--	-	--	--	--	120.	NC	4.2	NC	-	-	--		--	
Amphipleuraceae																						
Frustulia rhomboides	--	--	--	--	--	--	--	--	--	--	--	--	69.	NC	--		--	-	--		-	--
Frustulia vulgaris	--	--	--	--	-	--	--	--	--	--	--	--	140.	NC	--		--	--	--	-	-	
Autacoseiraceae																						
Autacoseira alpigena	--	--	41.	NC	12,000.	2,000,000.	15.	2,600.	-	--	--	--	7,500.	1,200,000.	--		--	--	16.	2,600	5 2	870
Autacoseira ambigua	--	--	--	--	9,500	NC	9.	NC	--	--	200.	NC	380.	NC	0.6	NC	0.6	NC	-	-		
Autacoseira italica	--	--	--	--	1,000.	NC	--	--	3.6	NC	--	--	3,500.	NC	--		-	--	16.	NC	-	
Autacoseira italica tenuissima	--	--	--	--	--	--	--	--	--	--	--	--	380.	150,000.	--		-	--				

Table 41. Taxa and densities of periphyton collected at biological sampling sites

[--, no data; NC, not calculated because samples constituted <5% of total biovolume at every site

A, abundance as cells per cm^2; B, biovolume as mm^3 per cm^2; densities and biovolumes rounded to 2 significant figures;

see table 7 and figure 7 for site locations]

Site	Sampling sites																					
	CC8		CC9		CC11		CC12		GC1		GC2		GC6		GC7		GC8		GC10		GC11	
Date	8/30/95		8/24/95		9/1/95		8/30/95		8/29/95		8/26/95		8/28/95		8/28/95		8/25/95		9/2/95		8/28/95	
Time	1510		1100		1010		1000		1100		1500		1510		1300		1200		1600		1500	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
DIVISION																						
Family																						
Genus species																						
Aulacoseira lacustris	--	--	--	--	--	--	--	--	--	--	--	--	9,100.	3,600,000.	--	-	--	--	--	-	-	--
Bacillariaceae																						
Denticula elegans	--	--	--	--	260	NC	--	--		--	--	--	--	--	--	-	--	--	--	--	--	--
Denticula tenuis	--	--	--	--	--	--	--	--	3.6	NC	--	--	--	--	--	--	-	--	--	--	-	--
Hantzschia amphioxys	6.8	NC	--	--	--	--	--	--	-	--	--	--	63.	NC	--	--	--	--	16	NC	-	--
Nitzschia acicularis	12.	NC	--	--	--	--	-	--	--	--	--	--	--	--	--	--	--	--	--	-	--	
Nitzschia amphibia	12.	NC	13.	NC	430	NC	--	--	--	--	-	--	--	--	0.2	NC	--	--	--	--	--	--
Nitzschia dissipata	--	--	13.	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--
Nitzschia dissipata media	24.	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Nitzschia frustulum	8.6	NC	13.	NC	1,300	NC	--	--	-	--	34.	NC	1,600.	NC	0.6	NC	--	--	--	--	--	-
Nitzschia frustulum perminuta	28.	NC		--	1,500.	NC	--	--	--	--	--	--	460.	NC	--	--	--	--	16.	NC	1.6	NC
Nitzschia frustulum subsalina	41.	NC	13.	NC	--	--	--	--	--	--	--	-	250	NC	-	--	--	--	31	NC	-	--
Nitzschia kuetzingiana	52.	NC	54.	NC	1,600.	NC	--	--	--	--	--	--	290.	NC	1.4	NC	3.	NC	31.	NC	--	-
Nitzschia palea	14.	NC	--	--	--	--	--	--	--	--	--	--	--	-	--	--	--	--	--	--	-	-
Nitzschia romana	17.	NC	--	--	--	--	--	--	--	--	--	-	--	--	--	--	--	--	--	--	-	--
Nitzschia sociabilis	--	--	--	--	--	-	--	--	--	--	-	--	140.	NC	-	--	--	--	-	--	--	-
Nitzschia subtilis	--	--	--	--	-	--	--	--	--	--	--	--	120.	NC	--	--	--	--	--	--	-	-
Brachysiraceae																						
Brachysira brebissonii	--	--	68.	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.	NC	--	--
Brachysira vitrea	--	--	--	--	--	-	--	--	--	--	--	--	--	--	--	--	--	--	--	-	3.4	NC
Catenulaceae																						
Amphora ovalis	--	--	--	--	750.	NC	--	--	--	--	--	--	--	--	--	--	--	--	-	-	--	--
Amphora ovalis pediculus	--	--	--	--	1,500.	NC	--	--	--	--	-	--	1,000.	NC	--	--	--	--	--	--	--	--
Amphora perpusilla	9.2	NC	--	--	13,000.	NC	--	--	--	--	68.	NC	1,400.	NC	1.	NC	--	-	16.	NC	-	--
Cocconeidaceae																						
Cocconeis pediculus	2.4	NC	27.	NC	340.	NC	--	--	--	--	--	--	--	--	0.6	NC	--	--	--	--	--	--
Cocconeis placentula euglypta	2.4	NC	--	--	1,400.	NC	--	--	--	--	--	--	140.	NC	1.	NC	--	--	16	NC	--	--
Cocconeis placentula lineata	--	--	--	--	7,900.	NC	6.	NC	7.4	NC	--	--	420.	NC	--	--	--	--	-	--	--	--
Cocconeis thumensis	6.6	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-	--	--	--
Cymbellaceae																						
Cymbella affinis	6.6	NC	--	--	4,000.	NC	--	--	--	--	--	--	--	--	--	--	--	--	16.	NC	--	--
Cymbella aspera	--	--	--	--	620.	NC	--	--	--	--	--	--	--	--	--	--	--	--	16.	NC	--	--
Cymbella brehmii	44.	NC	--	--	650.	NC	6.	NC	37.	NC	--	--	470.	NC	--	--	--	--	--	-	--	--
Cymbella cesatii	2.4	NC	--	--	-	--	6.	NC	--	--	--	--	460.	NC	--	--	--	--	-	--	--	--
Cymbella cistula	6.8	NC	--	--	--	--	--	--	7.4	NC	--	--	--	--	--	--	--	--	--	-	--	--
Cymbella cuspidata	2.4	NC	--	--	--	--	--	--	--	--	--	--	360.	NC	--	--	--	--	--	--	--	-
Cymbella lunata	--	--	--	--	1,200.	NC	--	--	--	--	--	--	--	--	--	-	--	--	--	--	--	--
Cymbella microcephala	--	--	--	--	620.	NC	--	--	--	--	--	--	--	--	--	--	--	--	-	--	--	--
Cymbella minuta latens	--	--	--	--	-	--	--	--	--	--	--	--	2,100.	NC	--	--	--	-	--	-	--	-
Cymbella minuta silesiaca	78.	NC	13.	NC	5,500.	NC	--	--	--	--	140.	NC	1,200.	NC	0.4	NC	2.2	NC	63	NC	--	--
Cymbella naviculiformis	14.	NC	13.	NC	1,300.	NC	9.	NC	--	--	--	--	1,300.	NC	--	-	--	--	--	--	--	-
Cymbella tumida	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.	NC	--	--
Cymbella turgidula	6.2	NC	--	--	11,000.	NC	--	--	--	--	--	--	250.	NC	--	--	--	--	16.	NC	-	
Encyonema minutum	190.	64,000.	110.	37,000.	31,000.	11,000,000.	75.	26,000.	3.6	1,300.	270.	93,000.	23,000.	7,400,000.	1.4	500.	13.	4,300.	220	75,000.	28.	9,600.
Encyonema muelleri	14.	NC	27.	NC	-	--	--	--	--	--	--	--	--	--	--	--	--	--	-			-

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Site	Sampling sites																							
	CC5		CC9		CC11		CC12		GC1		GC2		GC5		GC7		GC8		GC10		GC11			
Date	8/30/95		8/24/95		9/1/95		8/30/95		8/29/95		8/26/95		8/28/95		8/28/95		8/25/95		9/2/95		8/28/95			
Time	1510		1100		1010		1000		1100		1500		1510		1300		1200		1600		1500			
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B		
DIVISION																								
Family																								
Genus species																								
Placoneis placentula	--	--	--	--	--	.	.	--	--	--	--	--	41	NC				--	--	--	--			
Diadesmidaceae																								
Luticola cohnii	--	--	13.	NC	--	--	--	--	--	--	--	--	69	NC		--	1.4	NC			.			
Diploneidaceae																								
Diploneis bombus	--	--	--	--	--	--	--	.	--	.	.	--	--	--	0.2	NC								
Diploneis elliptica	--	--	--	--	430.	NC	.	--	.	.	--	--	360.	NC	.	--	.	--	18.	NC		.		
Diploneis oblongella	--	--	--	--	64.	NC	--	--	--	--	--	--		--	--	--	--	--	--	--	--	--		
Epithemiaceae																								
Rhopalodia gibba	--	--	--	--	.	.	6	NC	--	--	--	--	--	--	.	.	--	--	.	.	.			
Rhopalodia gibba ventricosa	.	--	13.	NC	--	.	--	--	--	--	--	--	.	.		--	--	--	.	.	--	--		
Eunotiaceae																								
Eunotia exigua	--	--	13.	1,400.	330.	34,000.	--	--	--	.	--	--	.	--	21	2,200.		--	.	--	3.4	360.		
Eunotia flexuosa	--	.	--	--	--	--	--	--	.	--	--	--	--	--	0.2	NC	--	--	.	--	.	--		
Eunotia pectinalis minor	2.4	NC	27.	NC	470.	NC	6	NC	--	.	--	--	.	--	0.2	NC	--	--	31.	NC	--	.		
Eunotia praerupta	--	--	--	--	--	--		--	.	--	--	--	.	--		--	.	.	31	NC	.			
Eunotia tenella	--	--	--	--	1,400.	NC	--	--	--	--	68.	NC	61.	NC	0.2	NC	.	--	.	--		--		
Fragilariaceae																								
Asterionella formosa	--	--	--	--	--	--	--	--	.	--	--	--	--	--	0.2	NC	--	--	.	--	3.4	NC		
Diatoma anceps	--	--	27.	NC	130.	NC	--	.	--	--	200.	NC	280.	NC	--	--	--	--	.	--	.			
Diatoma mesodon	--	--	81.	65,000.	1,900.	1,500,000.	--	--	--	--	440.	350,000.	2,300.	1,800,000.	1.	870	4.8	3,800.	--	--	--	--		
Diatomella balfouriana	--	--	--	--	.	--	--	--	--	--	--	--	--	--	--	--	--	--	16.	NC	--	--		
Fragilaria brevistriata inflata	--	--	--	--	6,300.	NC	--	--	--	--	--	--	1,100	NC	--	.	--			.	3.4	NC		
Fragilaria construens binodis	--	--	--	--	--	--	--	--	--	--	--	--	6,300.	NC	--	--	--	--	--	--	.	--		
Fragilaria construens pumila	76.	9,600.	.	--	46,000.	5,800,000.	--	--	--	--	200.	26,000.	22,000.	2,800,000.	--	--	.	--	16.	2,000	.	.		
Fragilaria construens venter	--	--	--	--	1,900.	NC	--	--	--	--	--	--	1,800.	NC	.	.	.	--		--	7.	NC		
Fragilaria pinnata lancettula	20.	NC	--	--	190.	NC	--	--	--	--	--	--	63.	NC	--	--	--	--	--	--	--	--		
Fragilaria vaucheriae	46.	6,800.	110	21,000.	37,000.	7,000,000.	140.	27,000.	--	--	6,800.	1,700,000.	14,000.	2,800,000.	19.	3,700.	84	16,000.	31.	8,000	110.	21,000		
Fragilaria virescens clavata	.	--	--	--	--	--	--	--	--	--	--	--	140	NC	.	--	--	--	--	--	--			
Fragilaria virescens exigua	--	--	--	--	--	--	--	--	--	--	--	--	600.	NC	.	.	--	--	--	--	--	.		
Fragilariforma virescens	--	--	--	--	--	--	--	--	--	--	--	--	1,900.	570,000.		--	--	.		--	--	.		
Hannaea arcus	19.	15,000.	81.	64,000	6,800.	5,200,000.	12.	9,600.	3.6	2,900.	410.	320,000.	630.	490,000.	1.8	1,400.	4.8	3,700.	18.	12,000.	5.2	4,100.		
Hannaea arcus amphioxys	--	--	13.	NC	--	--	--	.	--	--	.	--	--	--	--	.	--	--	--	--	--	.		
Martyana martyi	--	--	--	--	330.	NC	--	--	--	--	--	--	.	.	.	.	--	.	--	--	--	.		
Meridion circulare	12.	NC	54.	NC	1,200.	NC	6.	NC	--	--	440.	NC	310.	NC	--	.	.	--	--	--	--	--		
Meridion circulare constrictum	--	--	13.	NC	620.	NC	--	--	--	--	--	--	.	--		.	.	--	--	--	--	.		
Pseudostaurosira brevistriata	21.	2,100	13.	1,300.	33,000.	3,300,000.	--	--	--	--	68.	6,700.	24,000.	2,400,000.	0.4	54.	1.4	160.	47.	4,700.	7.	700		
Pseudostaurosira robusta	--	--	--	--	--	--	--	--	--	--	--	--	1,000.	NC		.	--	--	--	--	.	--		
Staurosira construens	--	--	--	--	--	--	--	--	--	--	--	--	--	--	.	--	--	--	16.	NC	--	--		
Staurosirella leptostauron	110.	52,000.	--	--	32,000.	16,000,000.	--	--	--	--	68.	33,000.	7,300.	3,500,000.	.	.	--	--	47.	23,000.		.		
Staurosirella pinnata	250.	26,000.	13.	1,500.	71,000.	6,000,000.	12.	1,400.	11.	1,300.	--	--	23,000.	2,800,000.	3.6	410.	1.4	160.	890.	78,000.	30.	3,400		
Synedra acus	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.4	NC	--	--	--	--	.	.		
Synedra minuscula	12.	NC	--	--	430.	NC	--	--	--	--	--	--	130.	NC	--	--	--	--	--	--	3.4	NC		
Synedra rumpens	--	--	41.	5,000.	--	--	--	--	--	--	170.	21,000.	750.	92,000.	7.2	890	.	--	--	--	72.	8,800		
Synedra rumpens familiaris	--	--	--	--	--	--	--	--	--	--	--	--	130.	NC	0.2	NC	.	--	--	--	--	--		
Synedra rumpens fragilarioides	--	--	--	--	--	--	--	--	--	--	--	--	1,200.	NC			.	--	.	--	--			

Table 41. Taxa and densities of periphyton collected at biological sampling sites

[--, no data; NC, not calculated because samples constituted <5% of total biovolume at every site

A, abundance as cells per cm^2; B, biovolume as mm^3 per cm^2; densities and biovolumes rounded to 2 significant figures;

see table 7 and figure 7 for site locations]

Site	Sampling sites																					
	CC8		CC9		CC11		CC12		GC1		GC2		GC6		GC7		GC8		GC10		GC11	
Date	8/30/95		8/24/95		9/1/95		8/30/95		8/29/95		8/26/95		8/28/95		8/28/95		8/25/95		9/2/95		8/28/95	
Time	1510		1100		1010		1000		1100		1500		1510		1300		1200		1600		1500	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
DIVISION																						
Family																						
Genus species																						
Synedra rumpens meneghiniana	--	--	-	--	450.	NC	--	--	-	--	-	-	--	-	--	--	--	--	--	-	-	-
Synedra tenera	--	--	--	--	-	--	--	--	--	--	--	--	--	--	0.2	--	--	--	-	-	-	-
Synedra ulna	15.	NC	--	--	12,000.	NC	--	--	-	--	-	--	63	NC	--	--	--	-	--	-	-	--
Synedra ulna oxyrhynchus	23.	NC	--	--	-	--	--	--		--	-	--	--	--	--	--	--	--	-	-	1 6	NC
Gomphonemataceae																						
Gomphoneis eriense	24	NC	--	--	--	--	--	--	--	--	--	-	-	--	--	--	--	--	-			--
Gomphoneis herculeana	2.4	NC	--	-	-	--	-	--	--	--	--	--	--	--	--	--	--	--	-	--		--
Gomphonema acuminatum	--	--	--	--	1,300.	NC	6.	NC	7.4	NC	--	--	83.	NC	--	--	--	--		-		-
Gomphonema angustatum	160.	61,000.	--	--	55,000.	18,000,000.	6.	2,100	15.	5,200	34	12,000.	1,900.	650,000.	-	--	4.6	1,600	16.	5,400.		--
Gomphonema angustatum productum	-	--	--	--	2,800.	NC	--	--	--	--	--	-	1,000.	NC	--	--	--	--	31	NC	-	-
Gomphonema cl. clevei	150.	NC	--	--	2,000	NC	6.	NC	7.4	NC	--	--	1,300.	NC	1.2	NC	42.	NC	78	NC		--
Gomphonema grunowii	17.	NC	--	--	260.	NC	3.	NC	--	--	-	--	--	--	0.6	NC	-	--	--	--	-	--
Gomphonema intricatum	4.8	NC	--	--	--	--	--	-	3 6	NC	-	--	83.	NC	--	--	--	--	--	-	3 4	NC
Gomphonema olivaceoides hutchinsoniana	2 4	NC	--	--	--	--	--	--	-	--	--	--	330.	NC	--	--	--	--	--		3 4	NC
Gomphonema olivaceum	130.	NC	--	--	--	--	--	--	-	--	--	-	--	--	--	--	3.6	NC				-
Gomphonema parvulum	850.	130,000.	140	20,000.	40,000.	6,000,000.	940.	140,000	97.	14,000.	1,700.	250,000.	9,300.	1,400,000.	11.	1,600.	29.	4,300.	350.	51,000	18.	2,300
Gomphonema subclavatum	--	--	--	--	--	--	33.	NC	-	--	--	--	--	--	--	--	--	--	--			
Reimeria sinuata	1,100.	250,000.	27.	6,300.	30,000.	7,000,000.	370.	85,000.	510.	120,000.	68.	16,000.	6,000.	1,400,000.	--	--	19.	4,400.	690.	160,000	3.4	810
Naviculaceae																						
Caloneis bacillum	14.	NC	--	-	--	--	--	--	--	--	--	--	350.	NC	0.2	NC	--	--	16.	NC	-	--
Caloneis ventricosa truncatula	--	--	--	--	64.	NC	--	--	-	--	--	--	-	--	0.2	NC	--	--	16.	NC	-	-
Navicula abiskoensis	14.	NC	--	--	--	--	--	--	--	--	--	-	--	--	--	--	--	--	--	--	--	--
Navicula bryophila	--	--	--	--	820.	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	-	--	-
Navicula cincta	--	--	--	--	--	--	--	--	--	--	--	--	260.	NC	--	--	--	--	--			-
Navicula contenta biceps	--	--	--	--	-	--	--	--	--	--	--	--	130.	NC	--	--	--	--	-	--		--
Navicula cryptocephala	--	--	--	--	--	--	-	--	--	--	--	--	250.	NC	--	--						
Navicula lanceolata	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2	NC	--	--	--	-		-
Navicula luzonensis	--	--	--	--	1,700.	NC	--	--	--	--	--	--	--	--	--	--	--	-	--	--	--	--
Navicula minima	--	--	27.	NC	--	--	--	--	--	--	68.	NC	510.	NC	0.6	NC	--	--	16	NC	--	--
Navicula pauciviolata	--	--	--	--	430.	NC	--	--	--	--	--	--	--	--	--	--	--	-	--		-	--
Navicula pupula mutata	--	--	--	--	-	-	-	--	--	--	--	--	41.	NC	--	--	--	--	-	--	-	--
Navicula pusilla	--	--	--	--	3,000.	NC	-	--		--	--	--	--	--	--	--	-	--	16.	NC	-	
Navicula radiosa	18.	NC	27.	NC	550.	NC	55.	NC	--	--	68.	NC	1,600.	NC	--	--	--	--	47.	NC	-	--
Navicula rhynchocephala	18.	NC	--	--	--	--	--	--	--	--	--	--	130.	NC	--	--	--	--	--	--	-	-
Navicula rhynchocephala germainii	17.	NC	--	--	--	--	--	--	--	--	--	--	130.	NC	0.8	NC	--	--	-			-
Navicula salinarum intermedia	-	--	--	--	430.	NC	--	-	--	--	--	--	--	--	0.2	NC	--	--	--	--	--	-
Navicula sp. 1 ens hdsn	--	--	--	--	3,200.	NC	--	--	--	--	--	-	--	--	--	--	--	-	-	-		
Navicula tantula	24.	NC	--	--		--	--	--	-	--	--	--	--	--	--	--	--	--	--	--	-	
Navicula tripunctata schizonemoides	--	--	--	--	--	--	6.	NC	--	--	--	--	--	--	--	--	--	--	-		-	
Pinnulariaceae																						
Pinnularia abaujensis linearis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.6	NC	--	--		--		-
Pinnularia appendiculata	--	--	--	--	820.	NC	--	--	-	--	--	--	--	--	--	--	--	--	-	-	--	--
Pinnularia biceps	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.2	NC	--	-	--		-	-
Pinnularia borealis	2.4	NC	--	--	940.	NC	--	--	--	--	68.	NC	300.	NC	--	--	--	--	--	-		-
Pinnularia intermedia	--	--	--	--	130.	NC	--	--	--	--	--	--	--	--	--	--	--	--	47.	NC		

Table 41. Taxa and densities of periphyton collected at biological sampling sites

[--, no data; NC, not calculated because samples constituted <5% of total biovolume at every site

A, abundance as cells per cm^2; B, biovolume as mm^3 per cm^2; densities and biovolumes rounded to 2 significant figures;

see table 7 and figure 7 for site locations]

Site	Sampling sites																					
	CC5		CC8		CC11		CC12		GC1		GC2		GC5		GC7		GC8		GC10		GC11	
Date	8/30/95		8/24/95		9/1/95		8/30/95		8/29/95		8/26/95		8/28/95		8/28/95		8/25/95		9/2/95		8/28/95	
Time	1510		1100		1010		1000		1100		1500		1510		1300		1200		1600		1500	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
DIVISION																						
Family																						
Genus species																						
Pinnularia major	--	--	--	--	--	--	--	--	--	--	--	--	130	NC	--	-	--	--	--	--	--	
Pinnularia mesolepta	--	--	--	--	-	--	--	--	-	--	--	--	340.	NC	-		--	--	--	--	-	--
Pinnularia microstauron	8.2	NC	--	--	--	--	--	-	--	--	--	--	--	--	--	--	--	--	--	-	--	-
Pinnularia nodosa	-	--	--	--	1,400.	NC	--	--	-	--	-	--	--	--	--	-	-	--	--	--	-	-
Pinnularia obscura		--	--	-	820	NC	--	--	-	--	--	--	--	--	0 2	NC		--	--	-	--	-
Rhoicospheniaceae																						
Rhoicosphenia abbreviata	36.	NC	--	--	--	--	--	-	3.8	NC	-	-	-	--	--		--	-	--		-	
Sellaphoraceae																						
Sellaphora laevissima	--	--	--	--	330.	NC	--	--	-	-	--	--	250.	NC	-		--	--	--	-	-	-
Sellaphora pupula	36	NC	--	--	330	NC	--	-	--	--	68	NC	250.	NC	--	--	--	--	--	--	-	-
Sellaphora pupula rectangularis		--	--	--	-	--	--	--	--	--	-	--	430.	NC	--	-	-	-	--		--	--
Sellaphora seminulum	--	--	--	--	820.	NC	--	--	-	--	--	--	--	--	--	--	0.6	NC	--	-	--	
Stauroneidaceae																						
Stauroneis phoenicenteron	--	--	--	--	--	-	--	--	--	--	--	--	--	--	--	--	--		18.	NC	-	--
Stauroneis smithii	--	--	--	--	--	--	--	--	-	--	--	--	250.	NC	--	-	--	--	--	--	-	
Stephanodiscaceae																						
Cyclotella atomus	--	--	-	--	330.	NC	--	--	--	--	--	--	--	--	--	-	--	--	--	--	--	--
Cyclotella meneghiniana	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	63.	-	--	--
Cyclotella pseudostelligera	8.8	NC	--	--	--	--	-	--	--	--	--	--	69.	NC	--	--	--	--	63.	--	--	
Tabellariaceae																						
Tabellaria flocculosa	--	--	--	--	850.	NC	--	--	-	--	68.	NC	860.	NC	1.8	NC	1.4	NC	--		5 2	NC
CYANOPHYTA - Blue-green algae																						
(undet coccoid 3-5um)	5,300.	91,000.	--	--	4,800.	82,000.	720.	12,000.	100	1,700.	--	--	1,500.	26,000.	--	--	2,500.	44,000.	1,100.	19,000.	130.	2,300
(undet coccoid)	--	--	--	--	--	--	--	--	--	--	-	--	--	--	-	--	31.	NC	-		-	-
(undet) sp.	200.	--	--	--	--	--	--	--	-	--	--	--	--	--	--	-	--	--	370.	NC	--	--
Chroococcaceae																						
Chroococcus sp.	17,000.	3,100,000.	--	--	3,600.	670,000.	--	--	670.	120,000	--	--	--	--	--	--	190. ,	36,000	--		--	-
Oscillatoriaceae																						
Hydrocoleum brebissonii	--	--	--	--	550,000.	50,000,000.	120.	11,000.	--	--	16,000	1,500,000.	25,000.	2,300,000.	--		-	--	--	-	500.	45,000.
Lyngbya sp. 1 (anstwa)	--	--	--	-	60,000.	860,000.	3,500.	39,000	--	-	--	--	84,000.	910,000.	--	--	--	--	--		1,800.	19,000.
Oscillatoria sp. 1 (anstwa)	--	--	90.	980.	--	--	--	-	--	--	28,000.	300,000.	--	--	-	--	--	--	--	-	-	-
Rivulariaceae																						
Amphithrix janthina	52,000.	300,000.	530.	3,100.	200,000.	1,200,000	--		10,000	60,000.	--	--	--	--	170.	990.	490	2,800.	1,500.	8,800	-	
Calothrix parietina	--	--	--	--	--	--	--		1,000.	NC	-	--	--	--	--		--	-	--	-		-
EUGLENOPHYTA - Euglenoids																						
Euglenophycophyta (undet) sp.	--	--	--	--	830.	NC	--	-	-	--	--	--	-	--	--		--		--	--		
Euglenaceae																						
Trachelomonas hispida	--	--	--	--	--	--	--		--	-	-	--	250.	NC	--	-	--	--	-	-		
Trachelomonas volvocina	--	--	--	--	--	--	--	-	--	--	--	--	250.	NC	--	--	--	--	-	--	-	

Hydrologic and Water-Quality Data, Guanella Pass Area, Colorado, Water Year 1995

by Michael R. Stevens, David A. Johncox, and Jennifer R. Cox

U.S. GEOLOGICAL SURVEY

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1997

U.S. DEPARTMENT OF THE INTERIOR
BRUCE BABBITT, Secretary

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Gordon P. Eaton, Director

For additional information write to:

District Chief
U.S. Geological Survey
Box 25046, Mail Stop 415
Denver Federal Center
Denver, CO 80225–0046

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CONVERSION FACTORS, VERTICAL DATUM, AND ABBREVIATIONS

Multiply	By	To obtain
centimeter (cm)	0.3937	inch (in.)
centimeter squared (cm^2)	0.1550	inch squared (in^2)
cubic foot per second (ft^3/s)	0.02832	cubic meter per second
foot (ft)	0.3048	meter
gallon (gal)	3.758	liter
inch (in.)	25.4	centimeter
liter (L)	0.2642	gallon (gal)
micrometer (μm)	0.00003937	inch
mile (mi)	1.609	kilometer
milliliter (mL)	0.0610	cubic inch
millimeter (mm)	0.03937	inch
square foot (ft^2)	0.0929	square meter

Temperature in degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) as follows:

$$°F = (1.8 \times °C) + 32$$

Temperature in degrees Fahrenheit (°F) may be converted to degrees Celsius (°C) as follows:

$$°C = (°F - 32) / 1.8$$

Additional Abbreviations

milligram (mg)
milligram per gram (mg/g)
microgram per liter (μg/L)
microsiemens per centimeter at 25 degrees Celsius (μS/cm)
milligram per kilogram (mg/kg)
milligram per liter (mg/L)
Nephelometric turbidity unit (NTU)
Residue on evaporation (ROE)

Sea level: In this report, "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

Hydrologic and Water-Quality Data, Guanella Pass Area, Colorado, Water Year 1995

By Michael R. Stevens, David A. Johncox, *and* Jennifer R. Cox

Abstract

Water quality of streams and lakes in the Guanella Pass area could be affected by the proposed reconstruction of the existing road through the area. During water year 1995 (October 1, 1994, to September 30, 1995), data were collected that provide reconnaissance information about the hydrology, water quality, sediment transport, biology, and bulk atmospheric-deposition in the Guanella Pass study area. Data were collected at 5 stream monitoring stations, 23 synoptic-stream sites, 11 road-runoff sites, 8 ground-water sites, 4 lake/reservoir sites, 2 snow-precipitation sites, 11 biological sampling sites, and 12 bulk atmospheric-deposition sites.

INTRODUCTION

In 1994, the U.S. Geological Survey (USGS) began a study of the Guanella Pass area in cooperation with the Federal Highway Administration (FHWA). The FHWA is proposing to reconstruct and resurface the existing road over Guanella Pass between Georgetown and Grant, Colo. Water quality of streams and lakes in the area could be affected by the proposed reconstruction. The USGS studies are part of the environmental investigation being conducted by the FHWA.

Purpose and Scope

This report presents data collected during water year 1995 (October 1, 1994, to September 30, 1995) and the methods of data collection. During water year 1995, data that provide reconnaissance information about the hydrology, water quality, sediment transport, biology, and bulk atmospheric deposition were collected in the Guanella Pass study area (fig. 1). Data were collected at 5 stream-monitoring stations, 23 synoptic-stream sites, 11 road-runoff sites, 8 ground-water sites, 4 lake/reservoir sites, 2 snow-precipitation sites, 11 biological sampling sites, and 12 bulk atmospheric-deposition sites.

Data presented in this report include field measurements of streamflow, specific conductance, pH, water temperature, turbidity, barometric pressure, and dissolved oxygen; concentrations of selected inorganic and organic constituents; suspended-sediment concentration and particle-size analyses; taxa and densities of macroinvertebrates and periphyton; and solids and chemical concentrations of bulk atmospheric deposition. Daily values for streamflow, maximum and minimum water temperature, and specific conductance were computed at five monitoring stations.

Acknowledgments

The assistance of others in the completion of this study was invaluable. Many of the data-collection tasks were performed by John Dick, Cristin Dyster, and other members of the USGS in Lakewood, Colo.

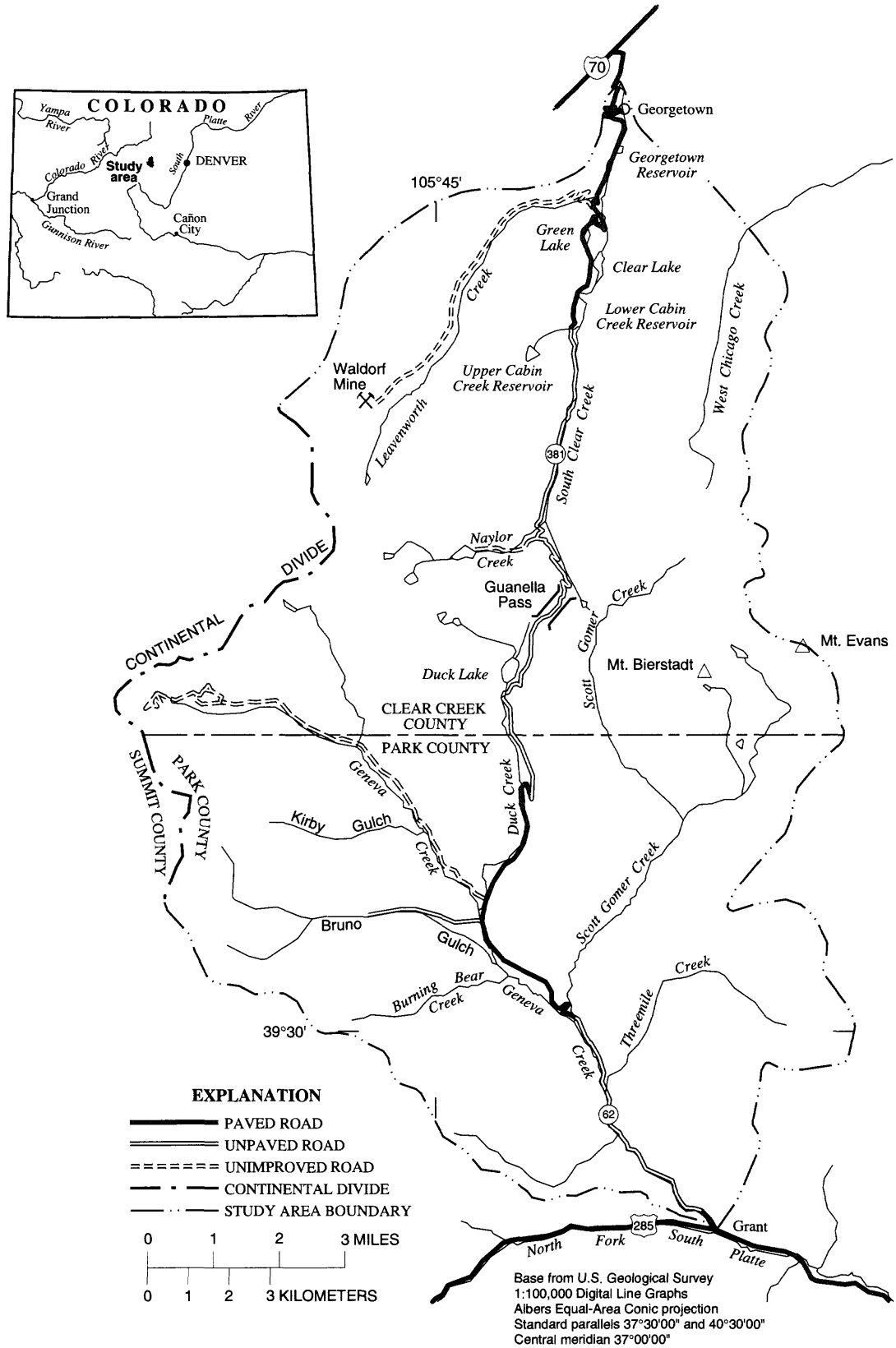

Figure 1. Location of Guanella Pass study area.

The authors are grateful to Historic Georgetown, Inc., Public Service Company of Colorado, William and Julia Holmes, Clear Creek and Park Counties, and the U.S. Department of Agriculture, Forest Service, for access to property.

DESCRIPTION OF STUDY AREA

The study area encompasses the basins of South Clear Creek, Geneva Creek, and part of West Chicago Creek (fig. 1), which are all tributary watersheds to the South Platte River. The West Chicago Creek site is adjacent to the South Clear Creek watershed and was added to provide an additional reference (natural) site. The Continental Divide forms the headwaters along the western boundary of the study area. The tributary headwaters on the eastern side of the study area are located in the Mt. Evans/Mt. Bierstadt area. The Guanella Pass road parallels South Clear Creek from the northern terminus at Georgetown to the top of Guanella Pass at 11,669 ft. South of the pass, the road follows Duck Creek to the confluence with Geneva Creek and then follows Geneva Creek to the southern end of the road at Grant. The road has been designated as a scenic byway and is called Forest Highway (FH) 80. The northern 13.1 mi, alternatively known as Clear Creek County Road 381, is located in Clear Creek County. The southern 10.4 mi, alternatively known as Park County Road 62, is located in Park County. The route is maintained year round by the respective counties. Salt is applied with traction materials to parts of the road in Clear Creek County during winter. Magnesium chloride has been applied to parts of the road in Clear Creek County to control dust (Jim Cannedy, Clear Creek County, oral commun., 1997). The Guanella Pass road is 23.5 mi long, of which 12.1 mi is dirt or gravel and 11.4 mi has an asphalt surface (Federal Highway Administration, 1993).

The area is sparsely populated. Some residences are at Duck Lake and along Duck, Geneva, and lower South Clear Creeks. The primary land use is recreational. Livestock grazing is a limited land use in the Geneva, Scott Gomer, and Duck Creek drainages. The former Geneva Basin Ski Area is located south of Guanella Pass and Duck Lake. The Mt. Evans Wilderness Area encompasses much of the eastern one-half of the study area and is closed to motor vehicles. The Vidler Tunnel diverts water from upper Peru Creek across the Continental Divide into the Leavenworth Creek Basin. An aqueduct diverts water from Leavenworth Creek on a seasonal basis for maintaining water levels in Green Lake. Some of the natural lakes have been modified for storage by the construction of small dams. The Public Service Company of Colorado operates two reservoirs in the South Clear Creek Basin for hydroelectric power generation. Duck Lake also provides a minor amount of water storage.

Vegetation includes conifer and aspen forest at lower elevations and alpine tundra above timberline near 11,500 ft. Annual precipitation in the study area ranges from 12 to 16 in. near Georgetown and Grant, to 40 to 50 in. on Mt. Evans and the Continental Divide (Colorado Climate Center, 1984). Annual streamflows are characterized by peak flows in June resulting from snowmelt and by low flows during winter. Short afternoon thunderstorms occur during summer.

Precambrian granite, gneiss, and schist compose the bedrock in the study area. Intrusive rocks of Tertiary age underlie the headwaters of Geneva and Leavenworth Creeks. Glaciers deposited drift in the valleys of Duck, Geneva, and South Clear Creeks (Tweto, 1979) and created many of the natural lakes in the area.

Ore deposits containing the minerals galena, sphalerite, pyrite, chalcopyrite, and tetrahedrite-tennantite were mined near the headwaters of Geneva and Leavenworth Creeks. These areas were known as the Geneva Creek and Argentine Districts, respectively (Davis and Streufert, 1990). Naturally occurring pyritic components of the intrusive rocks and mineral deposits become oxidized and produce acidic ground water and surface water in the upper basins of Geneva Creek (Bassett and others, 1992) and Leavenworth Creek.

TYPES OF HYDROLOGIC AND WATER-QUALITY DATA

Several types of data and samples were collected during water year 1995. Daily suspended-sediment concentration and load data collected at five sites were not available for this report. The types of data collected at each site are listed in table 1. The types of data presented in this report are:

1. *Continuous streamflow*: Daily mean values (ft^3/s).
2. *Continuous water-quality monitoring data*: Mean daily specific conductance (µS/cm), and maximum and minimum daily water temperature (°C).

Table 1. Types of hydrologic and water-quality data collected at each site

[See tables 2–8 and figures 2–8 for site locations]

Site number	Continuous streamflow	Water-quality monitor	Precipitation gage	Field parameters	Major ions	Nutrients	Trace elements	Gross organics	Trace organics	Event-related water-quality samples	Suspended sediment	Lake-bottom sediment	Lake field-parameter profile	Biological samples	Bulk atmospheric deposition
CC1				X	X	X	X	X			X				
CC2				X	X	X	X	X			X			X	
CC3				X	X	X	X	X			X				
CC4				X	X	X	X	X			X				
CC5	X	X	X	X	X	X	X	X		X	X			X	
CC6				X	X	X	X	X			X				
CC7	X	X	X	X	X	X	X	X			X				
CC8				X	X	X	X	X			X				
CC9	X	X	X	X	X	X	X	X		X	X			X	
CC10				X	X	X	X	X			X				
CC11				X	X	X	X	X			X			X	
CC12														X	
GC1				X	X	X	X	X			X			X	
GC2				X	X	X	X	X			X			X	
GC3				X	X	X	X	X			X				
GC4				X	X	X	X	X			X				
GC5	X	X	X	X	X	X	X	X			X			X	
GC6				X	X	X	X	X			X				
GC7				X	X	X	X	X			X			X	
GC8				X	X	X	X	X			X			X	
GC9				X	X	X	X	X			X				
GC10				X	X	X	X	X			X			X	
GC11	X	X	X	X	X	X	X	X			X			X	
GC12				X	X	X	X	X			X				
CRD1				X	X	X	X	X			X				
CRD2				X	X	X	X	X			X				
CRD3				X	X	X	X	X			X				
CRD4				X	X	X	X	X	X		X				
CRD5				X	X	X	X	X			X				
CRD6				X	X	X	X	X	X		X				
GRD1				X	X	X	X	X			X				

Table 1. Types of hydrologic and water-quality data collected at each site—Continued

[See tables 2–8 and figures 2–8 for site locations]

Site number	Continuous streamflow	Water-quality monitor	Precipitation gage	Field parameters	Major ions	Nutrients	Trace elements	Gross organics	Trace organics	Event-related water-quality samples	Suspended sediment	Lake-bottom sediment	Lake field-parameter profile	Biological samples	Bulk atmospheric deposition
GRD2				X	X	X	X	X			X				
GRD3				X	X	X	X	X			X				
GRD4				X	X	X	X	X			X				
GRD5				X	X	X	X	X			X				
GW1				X	X	X	X	X							
GW2				X	X	X	X	X							
GW3				X	X	X	X	X							
GW4				X	X	X	X	X							
GW5				X	X	X	X	X							
GW6				X	X	X	X	X							
GW7				X	X	X	X	X							
GW8				X	X	X	X	X							
L1				X	X	X	X	X				X	X		
L2				X	X	X	X	X				X	X		
L3				X	X	X	X	X				X	X		
L4				X	X	X	X	X				X	X		
SN1				X	X	X	X								
SN2				X	X	X	X								
PAV															X
GRAV															X
A							X								X
B							X								X
C							X								X
D							X								X
E							X								X
F							X								X
G							X								X
H							X								X
J							X								X
K							X								X

3. *Precipitation gage*: Total daily rainfall (in.).
4. *Field parameters*: Instantaneous streamflow (ft^3/s), water temperature (°C), specific conductance (µS/cm), pH, barometric pressure (mm Hg), dissolved oxygen (mg/L), and turbidity (NTU).
5. *Major-ion concentrations*: Calcium (mg/L), magnesium (mg/L), sodium (mg/L), potassium (mg/L), lab alkalinity (mg/L), hardness (mg/L), sulfate (mg/L), chloride (mg/L), fluoride (mg/L), silica (mg/L), and dissolved-solids residue (ROE) at 180°C (mg/L).
6. *Nutrient concentrations*: Total ammonia plus organic nitrogen (mg/L), total phosphorus (mg/L), dissolved nitrite (mg/L), dissolved nitrite plus nitrate (mg/L), dissolved ammonia (mg/L), dissolved phosphorus (mg/L), and dissolved orthophosphate (mg/L).
7. *Trace-element concentrations*: Aluminum (µg/L), antimony (µg/L), arsenic (µg/L), barium (µg/L), beryllium (µg/L), cadmium (µg/L), chromium (µg/L), cobalt (µg/L), copper (µg/L), iron (µg/L), lead (µg/L), manganese (µg/L), mercury (µg/L), molybdenum (µg/L), nickel (µg/L), selenium (µg/L), silver (µg/L), uranium (mg/L), and zinc (µg/L).
8. *Gross organic concentrations*: Total organic carbon (mg/L), dissolved organic carbon (mg/L), and oil and grease (mg/L).
9. *Trace-organic concentrations*: Volatile organic compounds, semi-volatile organic compounds.
10. *Suspended sediment*: Concentration (mg/L), percentage finer than 0.062-mm size analysis (%), and full particle-size analysis (% finer).
11. *Lake-bottom sediment*: Selected trace-element, nutrient, and carbon concentrations; and chemical oxygen demand.
12. *Lake field-parameter profile*: Water temperature (°C), specific conductance (µS/cm), pH, and dissolved oxygen (mg/L).
13. *Event-related water-quality samples*: Streamflow, field parameters, and chemical-quality samples collected during rain or turbidity events.
14. *Biological samples*: Macroinvertebrates and periphyton (algae).
15. *Bulk atmospheric-deposition samples*: Solids weight (mg), weight of residue (ROE) at 180°C (mg), and weight of chloride (mg), phosphorus (mg), and trace elements (µg).

METHODS OF DATA COLLECTION AND ANALYSIS

Methods of data collection and analysis are standardized within the USGS. Therefore, these techniques and appropriate reference sources are discussed only briefly. Details of data collection by task from the work plan are described in the following sections.

Stream Monitoring Stations

The stream monitoring stations operated during water year 1995 are listed in table 2 and shown in figure 2. Stream stage, water temperature, specific conductance, turbidity, and precipitation were recorded every 15 minutes at five sites and transmitted every 4 hours by satellite to a computer data base. These data were used to compute values for continuous streamflow, water temperature, specific conductance, and precipitation at the monitoring stations. Data from the turbidity sensor were inaccurate and are not reported.

Table 2. Stream monitoring stations

[CC, Clear Creek drainage; GC, Geneva Creek drainage; identification number is USGS downstream order number; see figure 2 for station location]

Site number	U.S. Geological Survey identification number	Site name
CC5	06714400	South Clear Creek above Lower Cabin Creek Reservoir near Georgetown, Colorado
CC7	06714600	South Clear Creek above Leavenworth Creek near Georgetown, Colorado
CC9	06714800	Leavenworth Creek at mouth near Georgetown, Colorado
GC5	06704500	Duck Creek near Grant, Colorado
GC11	06705500	Geneva Creek at Grant, Colorado

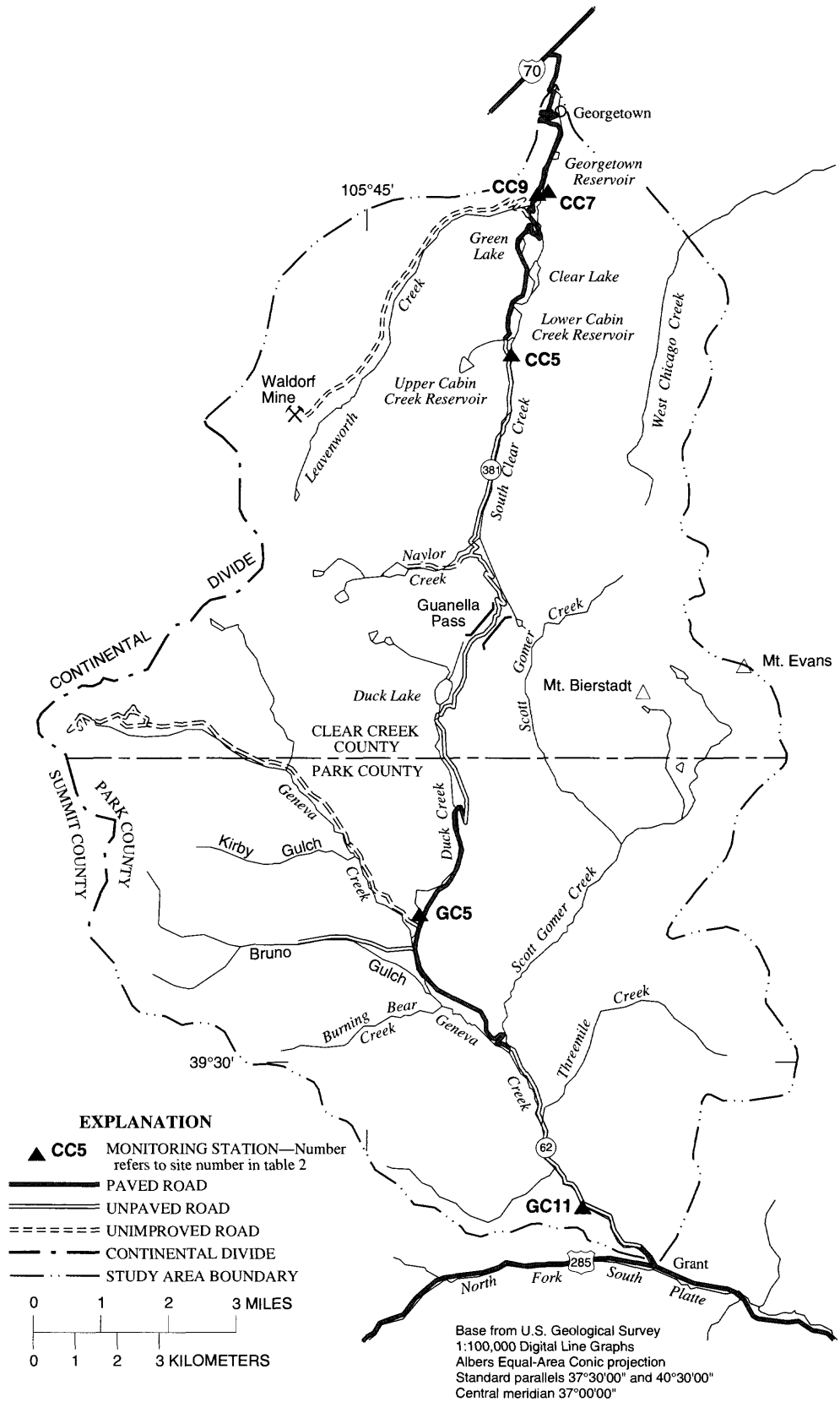

Figure 2. Location of stream monitoring stations.

Continuous data from the monitoring stations were supported by monthly site visits during the open-water season, and bi-monthly visits when ice cover was present. Field measurements of streamflow were made using the current-meter method (Buchanan and Somers, 1969). The calibration of the water-quality monitor was checked using field meters and standard solutions prepared according to standard procedures (R.W. Boulger, U.S. Geological Survey, unpub. data, 1989). Data from these visits were used to analyze and compute the continuous data from the monitoring stations according to standard procedures (Rantz and others, 1982; Kennedy, 1983; R.W. Boulger, U.S. Geological Survey, unpub. data, 1989).

Seven water-quality samples were collected during rain or turbidity events. An event is a rise in streamflow or an increase in turbidity due to a rainstorm. Field measurements of specific conductance, water temperature, dissolved oxygen, and barometric pressure were made at streamside (M.A. Sylvester and others, U.S. Geological Survey, unpub. data, 1990). Turbidity and pH were measured from samples taken from the churn splitter. Samples for inorganic analysis were collected by equal-width-increment (EWI) or equal-discharge-increment (EDI) methods using a DH–81 polyethylene isokinetic sampler and split for separate analyses with a USGS churn splitter (Ward and Harr, 1990). Samples requiring filtered water were filtered by using a peristaltic pump and disposable 0.45-mm capsule filters in an enclosed filter chamber. Trace-element samples were preserved as necessary with ultrapure nitric acid or nitric acid and potassium dichromate (for mercury samples). Nutrient samples were chilled to less than 4°C.

Samples of suspended sediment were collected by EWI or EDI methods with a DH–48 hand sampler or DH–59 cable sampler (Guy and Norman, 1970) and by the use of an automatic pumping sampler with a fixed intake point (Edwards and Glysson, 1988). Samples were collected for analyses of concentration and percent finer than 0.062-mm. Multiple daily samples were collected with the pumping sampler for daily sediment load computations; however, those data are not included in this report.

High- and Low-Streamflow Water-Quality Sampling

A synoptic stream sampling design was used to compare high- and low-streamflow regimes among sites. The term "synoptic" is used to refer to samples taken at approximately the same time of year. The sampling sites are listed in table 3 and shown in figure 3. A high-flow sample was collected at 21 of the sites in mid-June. A low-flow sample was collected at all 23 sites in early September. Instantaneous streamflow was measured by the current-meter method (Buchanan and Somers, 1969). Field measurements of specific conductance, water temperature, dissolved oxygen, and barometric pressure were made at streamside (M.A. Sylvester and others, U.S. Geological Survey, unpub. data, 1990). Turbidity and pH were measured from samples taken from the churn splitter. Samples for inorganic analysis were collected by EWI or EDI methods using a DH–81 polyethylene isokinetic sampler and split for separate analyses with a USGS churn splitter (Ward and Harr, 1990). Samples requiring filtered water were filtered by using a peristaltic pump and disposable 0.45-μm capsule filters in an enclosed filter chamber. Trace-element samples were preserved as necessary with ultrapure nitric acid or nitric acid and potassium dichromate (for mercury samples). Nutrient samples were chilled to less than 4°C.

Samples for organic analysis were collected in a baked glass bottle by EWI, EDI, or dip methods. The total organic carbon sample was not filtered, whereas the dissolved organic carbon samples were filtered through a 0.45-μm silver filter. Carbon samples were chilled to less than 4°C until analyzed.

Suspended-sediment samples also were collected by EWI or EDI methods using appropriate hand- or cable-operated isokinetic samplers (Edwards and Glysson, 1988). Samples were collected for suspended-sediment concentration and percentage of particles finer than 0.062 mm using standard techniques (Guy, 1969).

Road-Runoff Sampling

Road runoff in shoulder ditches and cross drains was sampled from paved and unpaved sections of the Guanella Pass road. The sites sampled are listed

Table 3. High- and low-streamflow synoptic sampling sites

[CC, Clear Creek drainage; GC, Geneva Creek drainage; identification number is either an eight-digit USGS downstream order number or the latitude and longitude of the site with a two-digit sequence number at the end; see figure 3 for site location]

Site number	U.S. Geological Survey identification number	Site name
CC1	393606105422118	South Clear Creek near Guanella Pass, Colorado
CC2	393647105425317	South Clear Creek above Naylor Creek near Georgetown, Colorado
CC3	393642105430416	Naylor Creek at mouth near Georgetown, Colorado
CC4	393804105423413	South Clear Creek below Naylor Creek near Georgetown, Colorado
CC5	06714400	South Clear Creek above Lower Cabin Creek Reservoir near Georgetown, Colorado
CC6	393946105422203	South Clear Creek above Clear Lake near Georgetown, Colorado
CC7	06714600	South Clear Creek above Leavenworth Creek near Georgetown, Colorado
CC8	393819105452801	Leavenworth Creek above Waldorf Mine near Georgetown, Colorado
CC9	06714800	Leavenworth Creek at mouth near Georgetown, Colorado
CC10	394211105414100	South Clear Creek at Georgetown, Colorado
CC11	394027105393900	West Chicago Creek near Idaho Springs, Colorado
GC1	393504105432312	Duck Creek above Duck Lake West Branch near Grant, Colorado
GC2	393458105431511	Duck Creek above Duck Lake East Branch near Grant, Colorado
GC3	393433105433210	Duck Creek below Duck Lake near Grant, Colorado
GC4	393243105430814	Duck Creek above Mill Gulch near Grant, Colorado
GC5	06704500	Duck Creek near Grant, Colorado
GC6	393348105460415	Geneva Creek above Smelter Gulch near Grant, Colorado
GC7	393153105440109	Geneva Creek above Duck Creek near Grant, Colorado
GC8	393141105445808	Bruno Gulch above Geneva Park near Grant, Colorado
GC9	393018105421707	Geneva Creek above Scott Gomer Creek near Grant, Colorado
GC10	393028105421706	Scott Gomer Creek at mouth near Grant, Colorado
GC11	06705500	Geneva Creek at Grant, Colorado
GC12	392735105394705	Geneva Creek near Grant, Colorado

in table 4 and shown in figure 4. Six sites were sampled during snowmelt conditions, and five sites were sampled during rainstorm-runoff conditions. Discharge or flow rate was measured at most sites with a bucket or container by the volumetric method (Rantz and others, 1982). Discharge was calculated by dividing the volume of water captured in the container by the time required to capture that water. Multiple measurements were averaged and converted to cubic feet per second.

Field measurements of specific conductance, water temperature, dissolved oxygen, and barometric pressure were made onsite (M.A. Sylvester and others, U.S. Geological Survey, unpub. data, 1990). Turbidity and pH were measured from samples taken from the churn splitter. Samples for inorganic analysis were collected by the dip method at the end of culverts or in the centroid of flow and processed and preserved as described for stream samples (Ward and Harr, 1990). Samples for total and dissolved organic carbon analyses were collected by the dip method and processed and preserved as described for stream samples (Ward and Harr, 1990). Samples for trace organic (two sites) and gross oil and grease (three sites) analyses were collected in baked glass bottles by the dip method. The organic samples were collected in baked glass bottles and preserved by chilling to less than 4°C (Ward and Harr, 1990). Suspended-sediment samples were collected by the dip method (flows were too shallow for EWI methods) and submitted for concentration and particle-size analysis (Guy, 1969).

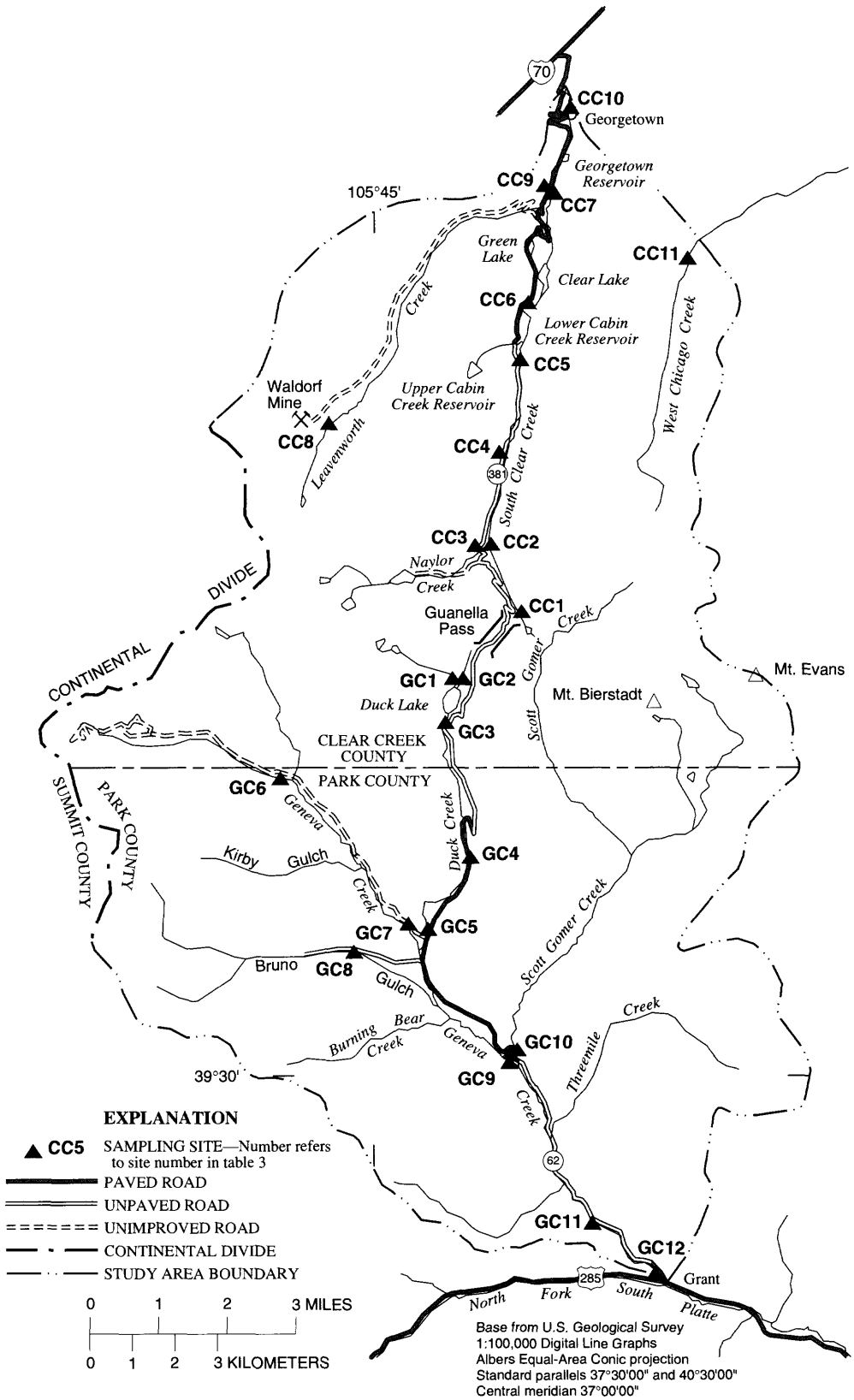

Figure 3. Location of high- and low-streamflow synoptic sampling sites.

Table 4. Road-runoff sampling sites

[CRD, Clear Creek road ditch; GRD, Geneva Creek road ditch; identification number is the latitude and longitude of the site with a two-digit sequence number at the end; see figure 4 for site location]

Site number	U.S. Geological Survey identification number	Site name
CRD1	393612105423800	Road ditch below Guanella Pass, Colorado
CRD2	393602105423000	Road ditch near Guanella Pass, Colorado
CRD3	393643105430200	Road ditch at Naylor Creek near Georgetown, Colorado
CRD4	393643105425200	Road ditch above Lower Cabin Creek Reservoir near Georgetown, Colorado
CRD5	393859105422700	Road ditch above Clear Lake Campground near Georgetown, Colorado
CRD6	394036105415900	Road ditch below Green Lake near Georgetown, Colorado
GRD1	393516105430700	Road ditch near Duck Lake near Grant, Colorado
GRD2	393506105430600	Road ditch above Duck Lake near Grant, Colorado
GRD3	393309105430200	Road ditch near Geneva Mountain near Grant, Colorado
GRD4	393244105430800	Road ditch below Duck Lake, Colorado
GRD5	393152105434700	Road ditch below Mill Gulch near Grant, Colorado

Ground-Water Sampling

Eight ground-water samples were collected in the study area. Five of the samples were collected from drinking-water hand pumps located in Forest Service campgrounds and picnic areas. The remaining three samples were collected from surface springs in the study area. Sampling sites are listed in table 5 and shown in figure 5.

Water from hand pumps was monitored for water temperature and specific conductance during pumping. When water temperature and specific conductance stabilized, usually after 10 or 15 minutes of pumping, samples were collected at the outlet of the pump mechanism. Samples for inorganic analyses were pumped directly into the churn at the hand-pumped sites or dipped with a polyethylene bottle and transferred to the churn at the spring sites. Samples for total organic carbon and dissolved organic carbon analyses were collected directly in baked amber glass bottles.

Field measurements of specific conductance, water temperature, dissolved oxygen, and barometric pressure were made onsite (M.A. Sylvester and others, U.S. Geological Survey, unpub. data, 1990). Turbidity and pH were measured from samples taken from the churn splitter. Samples for analyses of inorganic water-quality constituents were processed and preserved as described for stream samples (Ward and Harr, 1990). Samples for total and dissolved organic carbon analyses were processed and preserved as described for stream samples (Ward and Harr, 1990).

Lake/Reservoir Sampling

Four lakes/reservoirs were sampled in the study area. The deepest location in the water body was determined for sampling using a depth finder from a boat. Sampling sites are listed in table 6 and shown in figure 6. A multiparameter water-quality probe that measured water temperature, specific conductance, pH, and dissolved oxygen was used to determine a profile of those parameters with depth. The transparency of the water was determined with a Secchi disk.

Samples for inorganic and organic carbon analyses were collected just below the surface and just above the bottom using a Van Dorn point sampler (horizontal PVC cylinder with end seals triggered by surface messenger) lowered on a cable and triggered from the surface to trap water from a specific depth. Field measurements of water temperature, specific conductance, barometric pressure, and dissolved oxygen for the surface and bottom samples were determined from the profile measurements. Sample water for inorganic analyses was transferred to clean, acid-rinsed, deionized-water-rinsed, polyethylene containers. Samples were transferred to a churn splitter and then processed and preserved as described for stream samples (Ward and Harr, 1990). Sample water for carbon analysis was transferred to baked glass containers at the surface and then processed and preserved as described for stream samples (Ward and Harr, 1990).

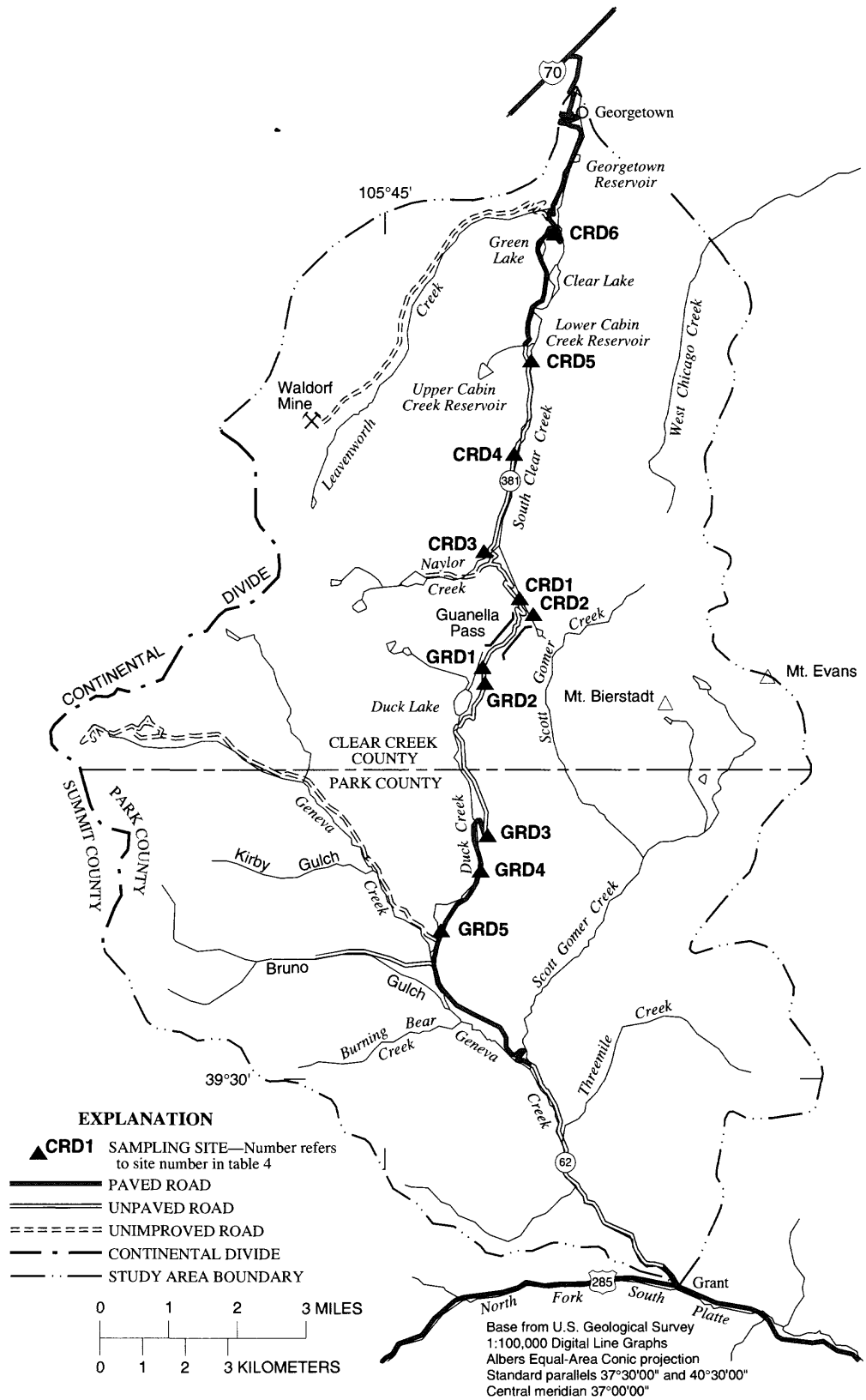

Figure 4. Location of road-runoff sampling sites.

Table 5. Ground-water sampling sites

[GW, ground-water site; identification number is the latitude and longitude of the site with a two-digit sequence number at the end; see figure 5 for site location]

Site number	U.S. Geological Survey identification number	Local well number	Site name
GW1	393944105422500	04S74W32BCB	Lower Cabin Creek Reservoir dam spring
GW2	393904105422800	05S74W06AAA	Clear Lake Campground well
GW3	393644105430400	05S74W18CAD	Guanella Pass Campground west well
GW4	393638105425900	05S74W18CDB	Guanella Pass Campground east well
GW5	393620105423900	05S74W19ADB	Guanella Pass spring #1
GW6	393439105434200	05S75W36AAC	Duck Lake spring
GW7	393052105423300	06S74W19ABC	Burning Bear Campground well
GW8	392853105405800	06S74W32CAA	Whiteside Campground well

Grab samples of bottom sediment were obtained at the profile point in each lake or reservoir. A stainless steel, center-pivot-jaw dredge sampler was lowered to the bottom from a boat. The sample was removed from the center of the dredged material and placed in clean plastic or glass containers. The samples were sieved using native water to less than a particle size of 0.062 mm and placed in plastic containers (for trace-element samples) or glass containers (for organic samples). Samples were chilled for transport to the laboratory for analysis.

Snow Sampling

Snowpack was sampled once at two locations near the end of the season for snowfall accumulation in late March. Sampling sites are listed in table 6 and shown in figure 6. Sites were chosen at least 300 ft away from any roadway. Pit locations were chosen in small, sheltered clearings that were not prone to drifting. Metallic shovels were used to dig a pit in the snow down to the ground surface with the sample face away from direct sunlight. The final sampling face was exposed by a polyethylene scoop cleaned to trace-element standards with acid and deionized water rinses. Snow was removed in a uniform vertical channel, excluding the 5 cm of snow above the soil/snowpack interface.

The snow was collected in clean churn splitters and teflon bags and then allowed to melt at room temperature. Immediately after the last frozen particles were melted, the sample water was carefully combined for final splitting. Specific conductance and pH were measured using samples of the melt from the churn. Samples for inorganic chemical analyses were processed and preserved in the same manner as the surface-water samples previously described (Ward and Harr, 1990).

Biological Sampling

Eleven sites were chosen for benthic macroinvertebrate sampling from among the 23 streamwater-quality sampling sites. Sampling sites are listed in table 7 and shown in figure 7. Standard methods and strategies are described in Britton and Greeson (1987) and Cuffney and others (1993). Samples were collected in riffles, which are the richest targeted habitat (RTH) in the stream reaches (Cuffney and others, 1993), at possible road-affected sites and reference sites during late-summer low-flow conditions.

Benthic macroinvertebrates were collected using a Hess sampler that covered 1 ft^2 of the streambed and was equipped with 500-μm screen mesh. Five cross sections in each reach were sampled in riffle areas where the water was not too deep for proper operation of the sampler (about 1.5 ft deep). Rocks and streambed material were gently worked with a soft brush to dislodge clinging organisms. The remaining bed material was stirred up with a length of metal reinforcing bar to dislodge any remaining macroinvertebrates. Organisms clinging to the mesh were removed with forceps or native streamwater.

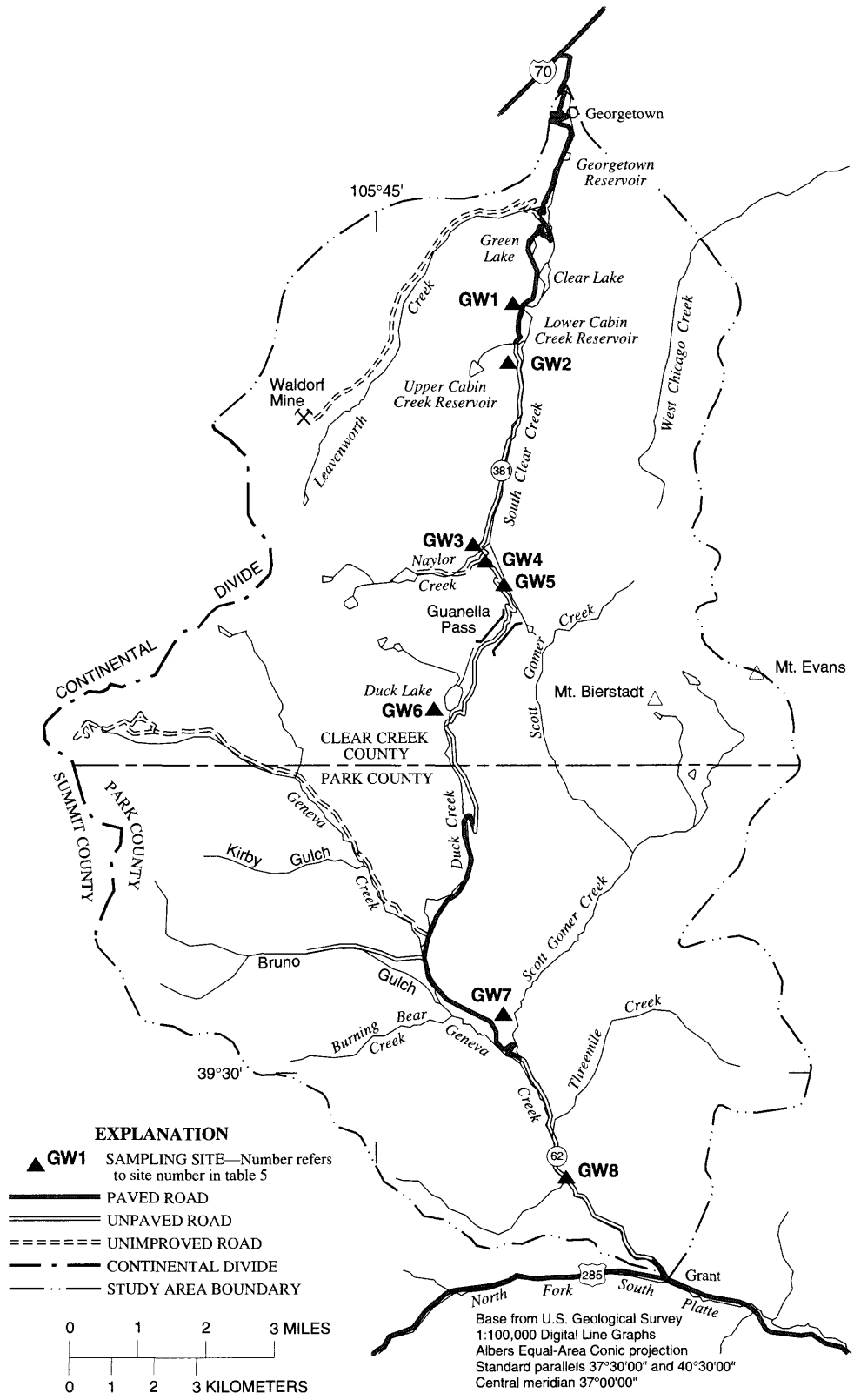

Figure 5. Location of ground-water sampling sites.

Table 6. Lake/reservoir and snow sampling sites

[L, lake sampling site; SN, snow sampling site; identification number is the latitude and longitude of the site with a two-digit sequence number at the end; see figure 6 for site location]

Site number	U.S. Geological Survey identification number	Site name
L1	393454105432900	Duck Lake near Grant, Colorado
L2	393937105423900	Lower Cabin Creek Reservoir near Georgetown, Colorado
L3	394011105425700	Clear Lake near Georgetown, Colorado
L4	394032105421700	Green Lake near Georgetown, Colorado
SN1	393434105432600	Duck Lake snow site
SN2	393643105425200	Clear Creek snow site

Collected organisms and material were transferred from the collection jar of the sampler to wide-mouth, plastic sample jars. Samples collected from some stream reaches were composited, whereas the five cross-section samples from other reaches were processed separately. Samples were preserved with a 70-percent ethanol solution.

Periphyton samples were collected concurrently with the macroinvertebrate samples at the 11 sites according to methods in Porter and others (1993). A device called an SG–92, which is constructed from part of a syringe body, a toothbrush, and a rubber O-ring, was used to scrub the attached periphyton from a rock surface and allow that solution of water and algae to be collected in a hand pipette for transfer to a wide-mouth plastic jar. The device has an area of 3.66 cm^2, which is used in density calculations. Five rocks were collected at each of the five cross sections, and the SG–92 was used on a single spot on each rock at streamside. The cumulative sample area was then 91.5 cm^2 for the composited periphyton sample. Formalin was added to each composite sample to equal 3–5 percent of the total sample volume for preservation.

Bulk Atmospheric-Deposition Sampling

Bulk atmospheric-deposition samples were collected at a total of 12 sites during 3 periods: July 3 to August 1, 1995, at 3 of the sites; August 9 to August 23, 1995, at 10 of the sites; and October 4 to October 25, 1995, at 10 of the sites. Sampling sites are listed in table 8 and in figure 8.

White polyethylene buckets (5-gal capacity) were placed 50 ft apart at different distances from the edge of the travel lane on the curbside. Four sites had collectors placed 15 ft from the edge of the travel lane on both sides of the road. Collectors were placed at 15, 100, and 500 ft from the road for three sites. Two additional reference sites had three collectors clustered at least 500 ft away from the road. A site next to Geneva Creek had collectors on only one side of the road because Geneva Creek was too close for proper placement of the collectors.

The collectors were anchored at ground level with plastic ties to painted reinforcing bars pounded into the ground. A clear plexiglas, vertical baffle was placed in each collector to prevent wind from swirling the contents. The collectors were washed and kept covered by lids until the beginning of each collection period. At the end of each collection period, the collectors were tightly covered in the field and transported to the lab for processing.

The bulk atmospheric-deposition collectors accumulated material deposited from the air above the collectors. This material could include precipitation, atmospheric particles, side-cast or windblown particles, loose particles bouncing downslope, raindrop-impact splash, throughfall from vegetation, vegetation debris, and insects. These data include only deposited material and might not relate to visible or fugitive dust.

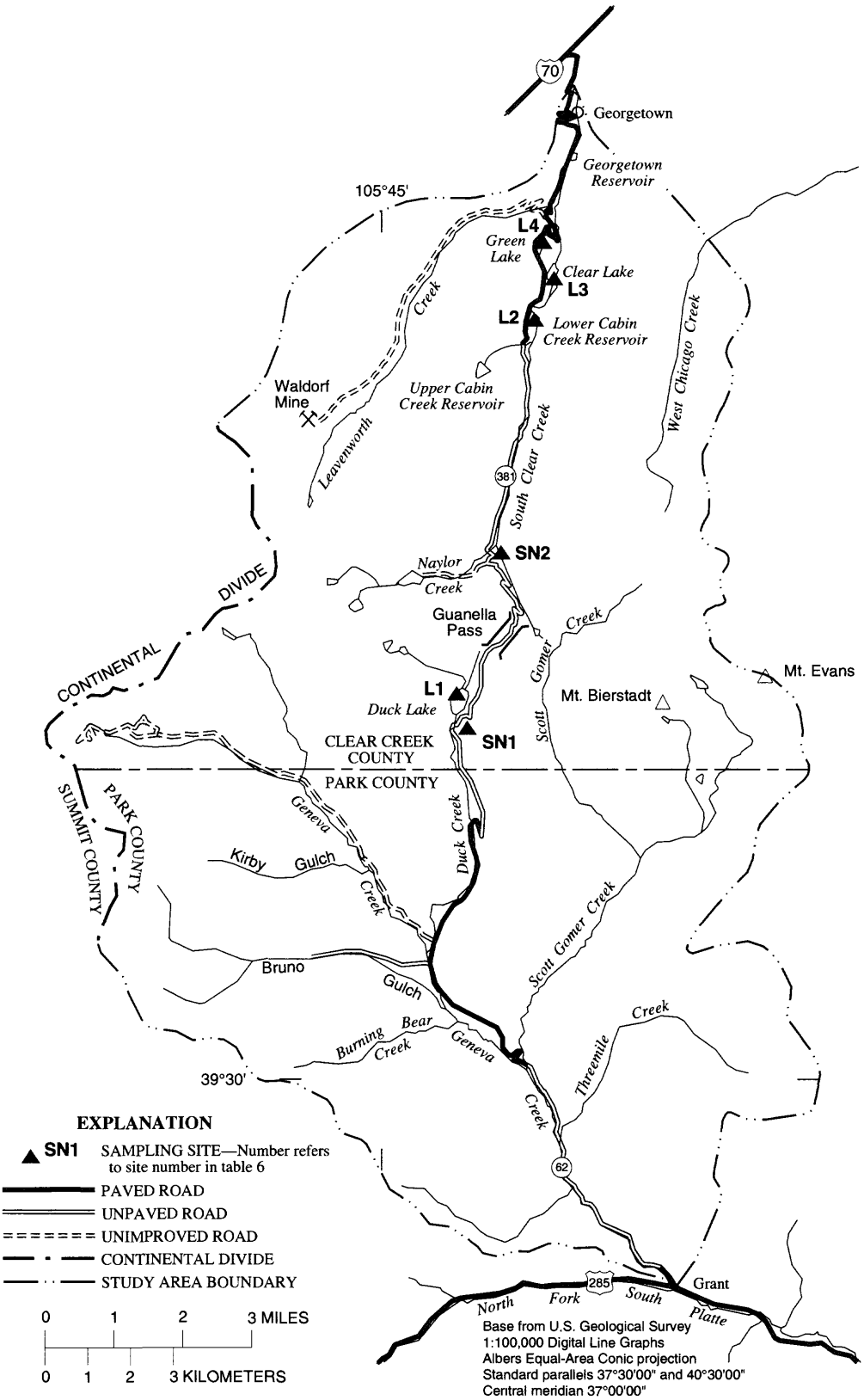

Figure 6. Location of lake/reservoir and snow sampling sites.

Table 7. Biological sampling sites

[CC, Clear Creek drainage; GC, Geneva Creek drainage; 15-digit identification number is latitude and longitude of the site with a two-digit sequence number at the end; identification number is either an eight-digit USGS downstream order number or the latitude and longitude of the site with a two-digit sequence number at the end; see figure 7 for site location]

Site number	U.S. Geological Survey identification number	Site name
CC5	06714400	South Clear Creek above Lower Cabin Creek Reservoir near Georgetown, Colorado
CC9	06714800	Leavenworth Creek at mouth near Georgetown, Colorado
CC11	394027105393900	West Chicago Creek near Idaho Springs, Colorado
CC12	393619105423700	South Clear Creek above Naylor Creek at upper station near Georgetown, Colorado
GC1	393504105432312	Duck Creek above Duck Lake West Branch near Grant, Colorado
GC2	393458105431511	Duck Creek above Duck Lake East Branch near Grant, Colorado
GC5	06704500	Duck Creek near Grant, Colorado
GC7	393153105440109	Geneva Creek above Duck Creek near Grant, Colorado
GC8	393141105445808	Bruno Gulch above Geneva Park near Grant, Colorado
GC10	393028105421706	Scott Gomer Creek at mouth near Grant, Colorado
GC11	06705500	Geneva Creek at Grant, Colorado

To measure the quantity of accumulated material, the collectors were washed with any accumulated precipitation, supplemented by deionized water as necessary. The wash water was carefully drained from the collector through a 0.6-mm (sites deployed on July 3, 1995) or 2-mm (sites deployed August 9, 1995, and October 4, 1995) sieve to remove large debris. The total volume of the wash water then was measured. The full volume of wash water was put into 1-L sediment containers or split by a teflon cone splitter into manageable volumes. These samples were analyzed for sediment and residue-on-evaporation at 180°C (ROE) concentrations.

The insoluble deposition was calculated by multiplying the sediment concentration by the total volume of wash water. The soluble component of deposition was calculated by multiplying the residue-on-evaporation at 180°C (ROE) concentration by the total volume of wash water. Total bulk atmospheric deposition was calculated as the sum of insoluble and soluble deposition.

Concentrations of chloride, phosphorus, and trace elements in the wash water (inorganic blank water used to supplement precipitation) were analyzed. Because the concentration in any sample depends on how much wash water was used, concentrations were multiplied by the wash-water volume to obtain weights of deposition. Prior to deployment, all trace-element collectors were washed following trace-element procedures. The chemical analyses were done on selected collector samples from the October 1995 period. A single sample from a collector at 15 ft from the road at each site was analyzed. A sample also was analyzed at the three sites with a collector at 500 ft from the road.

LABORATORY ANALYSIS

All samples for concentration of inorganic constituents, except major ions for the snow samples, were analyzed at the USGS National Water Quality Laboratory in Arvada, Colo., using standard analytical techniques described in Fishman and Friedman (1989), Fishman (1993), and Fishman and others (1994). Samples for concentrations of organic constituents were analyzed at the same lab using standard analytical techniques described in Wershaw and others (1987) and Fishman (1993). Snow samples for concentrations of major ions were analyzed at the USGS Colorado District laboratory. Macroinvertebrate samples were sent to Colorado State University in Fort Collins for sorting and identification to the lowest taxonomic level. Periphyton samples were sent to the National Academy of Sciences in Philadelphia, where they were identified to the lowest possible taxonomic level. Quality assurance of the data was provided by the USGS National Water Quality Laboratory.

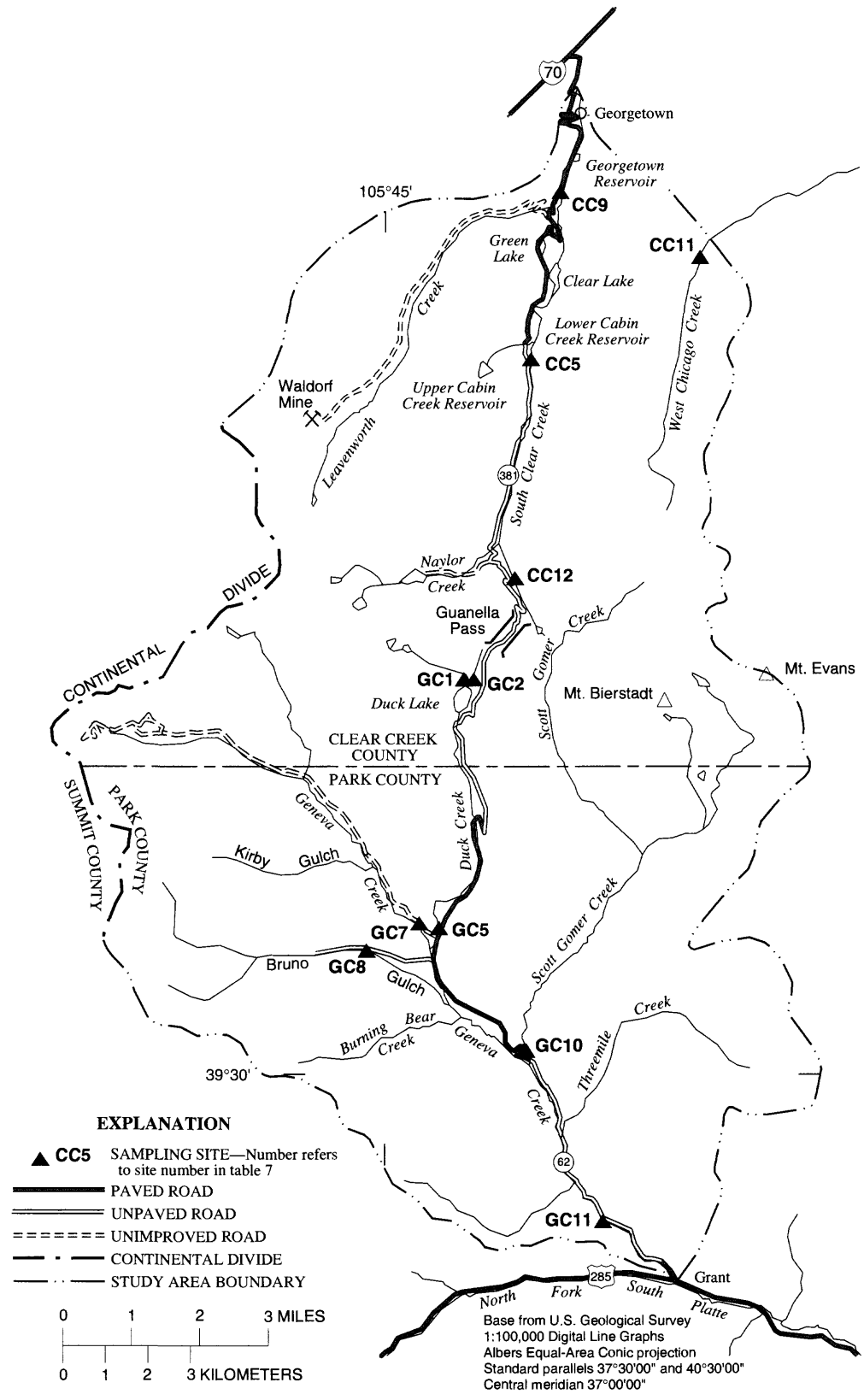

Figure 7. Location of biological sampling sites.

Table 8. Bulk atmospheric-deposition sampling sites

[Identification number is latitude and longitude of the site with a two-digit sequence number at the end; see figure 8 for site location]

Site code	U.S. Geological Survey identification number	Site name
PAV	394044105420200	Green Lake paved site near Georgetown, Colorado
GRAV	393609105423400	South Clear Creek gravel site near Georgetown, Colorado
A	392813105403200	Grant road site near Grant, Colorado
B	392822105410600	Grant reference site near Grant, Colorado
C	393152105434701	Road site below Mill Gulch near Grant, Colorado
D	393300105431100	Road site above Mill Gulch near Grant, Colorado
E	393413105432700	Geneva Basin Ski Area road site near Grant, Colorado
F	393506105430601	Road site above Duck Lake near Grant, Colorado
G	393516105430701	Road site near Duck Lake near Grant, Colorado
H	393612105423801	Road site below Guanella Pass near Georgetown, Colorado
J	394113105420000	Road site above Georgetown Reservoir near Georgetown, Colorado
K	394116105414900	Clear Creek reference site near Georgetown, Colorado

QUALITY ASSURANCE

USGS quality-assurance procedures are standardized. Equipment and water-quality meters are regularly checked and calibrated in the field. Deionized water used in cleaning and processing is monitored for purity (Horowitz and others, 1994).

Cleaning procedures are rigorous and are designed to prevent contamination of samples. Prior to sample collection, all sampling equipment and materials were cleaned according to standard procedures described in Horowitz and others (1994). The procedures involve a soak and wash in non-phosphorus detergent, soak and rinse in tapwater, followed by a soak and rinse in a 5-percent hydrochloric acid solution, and a final soak and rinse in deionized water. The procedure was performed for all sampler parts that contact the samples, churn splitter, and the pump tubing for sample filtration. Other procedures for ensuring against sample contamination included clean sample-processing areas, two-person sampling crews, disposable capsule filters, and ultrapure concentrated nitric acid stored in teflon containers for use in sample preservation.

Two field blanks were collected during the year, although the results for only one field blank were available. A field blank is produced from water that does not contain the substances in the analysis. Specific types of blank water are used for inorganic and organic blank samples. The field blank showed all analytes to be within the precision of the method, except the dissolved organic carbon sample. Methanol was being used in the field cleaning process for the filter apparatus and could not be adequately rinsed from the filter cylinder when consecutive samples were being processed. Samples contaminated by methanol showed up in the analytical data as dissolved organic carbon with a higher value than total organic carbon. The erroneous results were not used, and methanol was eliminated from the cleaning process.

A field spike sample was prepared, in addition to a field blank, for each of the trace organic water samples collected. A field spike is prepared by adding a precise amount of a prepared solution containing several of the analytes of interest to organic blank water and analyzing the sample for the percentage recovered. The lab analysis recovered an acceptable amount of the spiked substances in all samples. The results of the field-trace organic blanks indicated that all analytes were less than the reporting limit.

When questionable results for a particular analyte were received from the lab, a repeat analysis of the same sample was requested. If the second analysis was more consistent with known characteristics of the site or the particular sample, the new result was used instead of the previous result. There are several samples in which the dissolved concentration of a trace element was reported to be higher than the total recoverable concentration. These inconsistencies are within the precision of the methods used and are due, in part, to the differences in the analytical technique used for dissolved (ICP–MS) and total recoverable trace elements (GFAA or AA), and the differences between particular aliquots of sample. The analytical quality-assurance practices and procedures of the National Water Quality Laboratory are described in Friedman and Erdmann (1982).

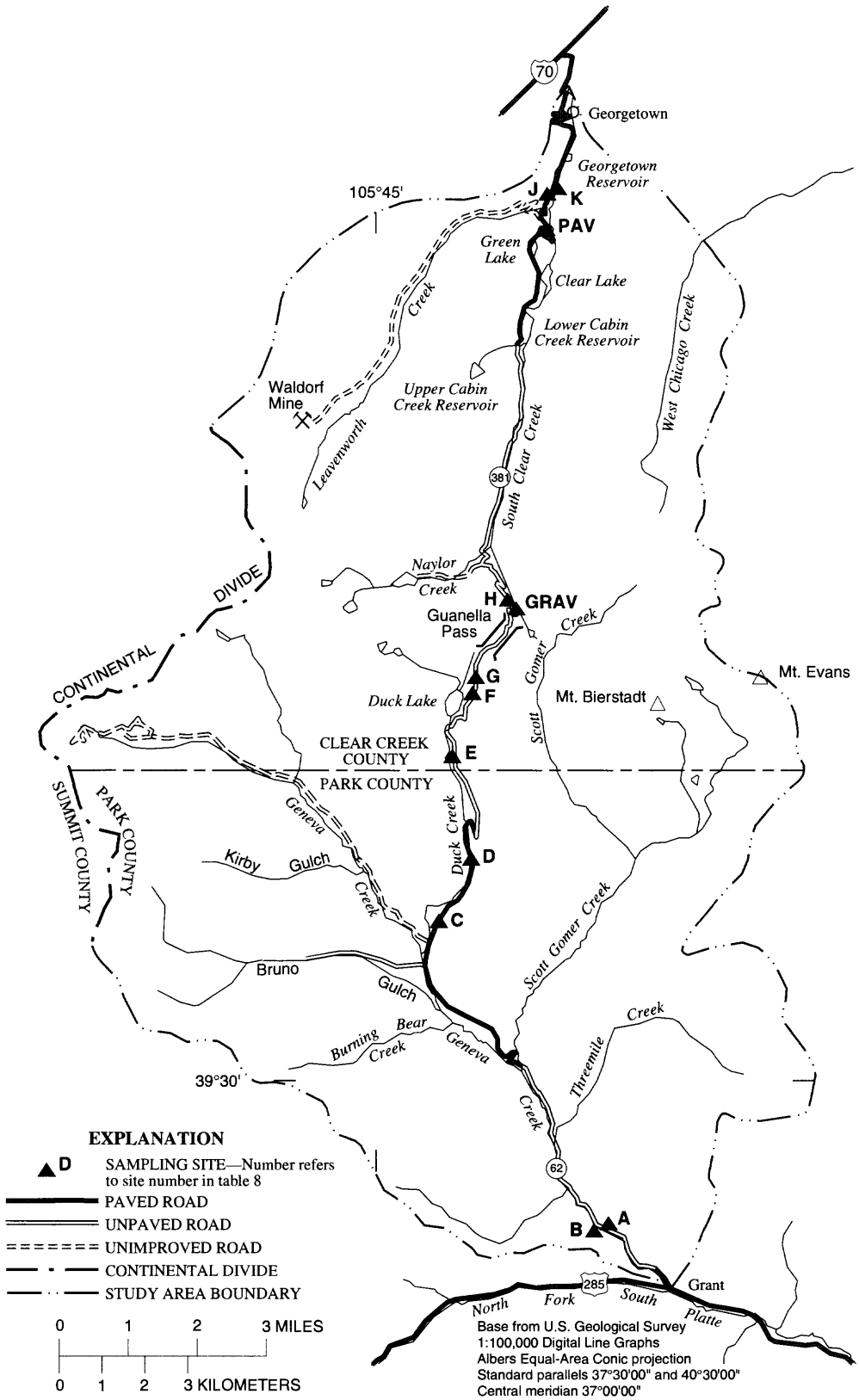

Figure 8. Location of bulk atmospheric-deposition sampling sites.

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APPENDIX

APPENDIX. HYDROLOGIC AND WATER-QUALITY DATA

Hydrologic, water-quality, sediment, and biological data are presented in the appendix of this report. Daily mean streamflow is presented in tables 9 through 13; daily mean specific conductance in tables 14 through 18; daily maximum and minimum water temperature in tables 19 through 23; and daily precipitation in tables 24 through 28. Water-quality data collected during rain or turbidity events are presented in table 29. Suspended-sediment concentrations and particle-size data collected at monitoring stations are listed in table 30. Water-quality data from the high- and low-streamflow synoptic sampling are listed in table 31. Suspended-sediment concentrations and particle-size data collected at high- and low-streamflow sampling sites are presented in table 32. Road-runoff water-quality data are listed in table 33. Suspended-sediment and particle-size data for road-runoff samples are listed in table 34. Water-quality data collected at ground-water sites are listed in table 35. Lake water-quality data are listed in table 36. Profile data collected at lake/reservoir sampling sites are presented in table 37. Lake/reservoir bottom-sediment chemical-quality data are listed in table 38. Snow sample water-quality data are listed in table 39. Macroinvertebrate data collected at biological sampling sites are presented in table 40. Periphyton data collected at biological sampling sites are listed in table 41. Bulk atmospheric-deposition solids data are listed in table 42. Chemical quality data for selected bulk atmospheric-deposition sampling sites are listed in table 43.

TERMS AND ABBREVIATIONS

The following terms and abbreviations are used in tables 9–52:

lat	latitude
long	longitude
sec.	section
T.	township
R.	range
mi	mile
mi^2	square mile
ft	feet
MAX	the maximum daily mean discharge for a given month
MIN	the minimum daily mean discharge for a given month
AC-FT	acre-foot
---	a symbol used in place of daily mean discharge for periods of missing record or periods prior to gaging-station activation
C	Celsius
Deg.	degree
CM	centimeter
°	degree
mm	millimeter
in.	inch
mm/dd/yr	numerical date format for two-digit month/ two-digit day/ and the last two digits of the year
24 hr	the time of day in 24-hour format
cfs	cubic foot per second
µS/cm	microsiemens per centimeter at 25°C
pH units	are the negative base-10 log of the hydrogen-ion activity in moles per liter
NTU	Nephelometric turbidity unit
mm Hg	millimeter of mercury
mg/L	milligram per liter
mg/L	microgram per liter
dissolved	refers to the material in a representative water sample that passes through a 0.45-mm membrane filter. Determinations of dissolved constituents are made on subsamples of the filtrate
total	refers to total recoverable and is the amount of a given constituent that is in solution after a representative water and suspended-sediment sample has been digested by a method that results in dissolution of readily soluble substances only
--	no data
<	less than
NS	no sample
gm/kg	gram per kilogram
mg/kg	milligram per kilogram
mg/kg	microgram per kilogram
mg/g	microgram per gram
mg	milligram
mg	microgram
%	percent
µm	micron
cm^2	square centimeter
$µm^3/cm^2$	cubic micron per square centimeter
sq ft	square foot
sp	species
undet	undetermined

Table 9. Daily mean streamflow for Site CC5, South Clear Creek above Lower Cabin Creek Reservoir near Georgetown, Colorado

SITE NAME.--South Clear Creek above Lower Cabin Creek Reservoir near Georgetown, Colo.

SITE NUMBER.--CC5

SITE IDENTIFICATION.--06714400 (downstream order number)

LOCATION.--Lat 39°39'09", long 105°42'25", in $SE^1/4SE^1/4$ sec.31, T.4 S., R.74 W., Clear Creek County, Hydrologic Unit 10190004, on left bank at security fence, 6.5 mi south of Georgetown.

DRAINAGE AREA.--11.8 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1994 to September 1995.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 10,100 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 15-30, Dec. 9 to Mar. 14, Mar. 26 to Apr. 19, June 1, 2, Aug. 2-11, Sept. 1, 2, 11, and Sept. 12. Records poor. No known diversions upstream of station.

DISCHARGE (CUBIC FEET PER SECOND), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	4.5	4.1	2.0	1.7	2.0	1.8	2.9	15	74	33	18
2	5.7	4.4	4.0	2.0	1.7	1.9	1.8	3.3	20	70	30	17
3	5.6	4.4	3.9	2.0	1.7	1.9	1.8	3.3	23	68	28	16
4	5.6	4.6	3.9	2.0	1.6	1.9	1.8	3.2	25	63	27	16
5	5.5	4.8	3.9	2.0	1.6	1.9	1.8	3.4	32	58	26	16
6	5.5	5.1	3.9	2.0	1.6	1.9	1.8	3.4	40	58	25	16
7	5.5	5.0	3.9	2.0	1.6	1.9	1.7	3.5	40	61	23	16
8	5.5	4.8	3.8	1.9	1.6	1.9	1.7	3.3	40	61	22	16
9	5.6	4.8	3.7	1.9	1.6	1.9	1.7	3.2	38	62	22	15
10	5.6	5.0	3.5	1.9	1.6	1.9	1.7	3.4	33	66	22	14
11	5.6	5.0	3.4	1.9	1.6	2.0	1.7	3.7	36	70	23	14
12	5.3	5.4	3.3	1.9	1.6	2.0	1.7	4.2	47	72	25	13
13	5.1	4.8	3.2	1.9	1.6	2.1	1.7	4.1	61	72	26	13
14	5.1	4.5	3.1	1.9	1.7	2.2	1.7	5.2	72	72	26	13
15	5.1	4.4	3.0	1.9	1.7	2.8	1.7	7.9	80	67	25	13
16	5.2	4.2	2.9	1.9	1.8	2.3	1.8	8.6	91	63	24	12
17	5.2	4.1	2.8	1.8	1.9	2.3	1.8	6.2	103	60	23	12
18	5.2	4.0	2.8	1.8	1.9	2.3	1.9	7.1	107	61	22	12
19	5.5	3.9	2.7	1.8	2.0	2.2	1.9	7.0	100	59	22	11
20	5.2	3.8	2.6	1.8	2.0	2.1	2.0	8.3	87	60	22	12
21	5.3	3.8	2.5	1.8	2.1	2.2	2.1	9.2	93	54	24	12
22	5.2	3.7	2.5	1.8	2.1	2.3	2.1	11	96	46	25	11
23	5.2	3.7	2.4	1.8	2.1	1.9	2.1	10	89	45	22	11
24	5.3	3.6	2.3	1.8	2.1	1.9	2.2	9.0	82	45	21	10
25	5.3	3.6	2.3	1.7	2.1	1.9	2.4	8.9	80	41	21	10
26	5.4	3.6	2.2	1.7	2.1	1.9	2.4	8.9	78	37	21	9.9
27	5.4	3.6	2.2	1.7	2.0	1.9	2.4	9.8	80	35	20	9.6
28	5.4	3.7	2.1	1.7	2.0	1.8	2.6	10	82	34	20	9.7
29	5.1	3.8	2.1	1.7	---	1.8	2.8	10	78	33	20	9.9
30	4.9	4.0	2.1	1.7	---	1.8	2.9	11	77	35	18	9.8
31	4.5	---	2.1	1.7	---	1.8	---	11	---	37	18	---
TOTAL	165.1	128.6	93.2	57.4	50.7	62.6	59.5	204.0	1925	1739	726	387.9
MEAN	5.33	4.29	3.01	1.85	1.81	2.02	1.98	6.58	64.2	56.1	23.4	12.9
MAX	5.7	5.4	4.1	2.0	2.1	2.8	2.9	11	107	74	33	18
MIN	4.5	3.6	2.1	1.7	1.6	1.8	1.7	2.9	15	33	18	9.6
AC-FT	327	255	185	114	101	124	118	405	3820	3450	1440	769

SUMMARY STATISTICS	FOR 1995 WATER YEAR	
ANNUAL TOTAL	5599.0	
ANNUAL MEAN	15.3	
HIGHEST DAILY MEAN	107	Jun 18
LOWEST DAILY MEAN	[a]1.6	Feb 4
ANNUAL SEVEN-DAY MINIMUM	1.6	Feb 4
INSTANTANEOUS PEAK FLOW	Not determined	
INSTANTANEOUS PEAK STAGE	3.43	Jun 19
ANNUAL RUNOFF (AC-FT)	11110	
10 PERCENT EXCEEDS	58	
50 PERCENT EXCEEDS	4.5	
90 PERCENT EXCEEDS	1.8	

a-Also occurred Feb 5-13.

Table 10. Daily mean streamflow for Site CC7, South Clear Creek above Leavenworth Creek near Georgetown, Colorado

SITE NAME.--SOUTH CLEAR CREEK ABOVE LEAVENWORTH CREEK NEAR GEORGETOWN, COLO.

SITE NUMBER.--CC7

SITE IDENTIFICATION.--06714600 (downstream order number)

LOCATION.--Lat 39°41'43", long 105°41'56", in NE¼SW¼ sec.20, T.4 S., R.74 W., Clear Creek County, Hydrologic Unit 10190004, on right bank 240 ft upstream from the confluence of Leavenworth Creek, and 3.1 mi south of Georgetown.

DRAINAGE AREA.--16.0 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1994 to September 1995.

GAGE.--Water-stage recorder. Elevation of gage is 9,280 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 30 to Nov. 30, and Sept. 1, 2. Records fair except for estimated daily discharges, which are poor. Flow is entirely regulated by Lower Cabin Creek reservoir.

DISCHARGE (CUBIC FEET PER SECOND), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	7.8	4.2	4.0	4.0	3.8	10	5.3	12	95	48	22
2	4.6	8.2	4.1	4.0	4.0	5.5	9.9	5.3	13	75	54	18
3	4.7	7.6	4.0	4.0	4.0	13	9.5	5.1	13	93	44	16
4	6.3	6.8	4.0	4.0	4.0	13	9.2	5.0	14	97	43	15
5	9.3	7.0	4.0	4.1	4.0	13	8.8	5.1	15	76	44	15
6	13	7.4	4.0	4.1	4.0	14	8.0	5.0	16	74	48	15
7	12	8.0	4.1	4.1	3.9	13	7.7	4.9	17	39	46	15
8	12	7.2	4.0	4.0	3.9	13	7.6	4.9	17	57	41	20
9	12	6.0	4.0	4.0	3.9	13	7.4	5.5	18	77	40	22
10	9.2	6.2	4.0	4.0	3.9	13	7.3	6.0	26	103	38	23
11	7.9	6.4	4.1	4.0	3.9	13	7.1	6.3	48	116	44	26
12	7.8	6.8	4.2	4.0	3.9	13	7.0	6.6	44	84	32	23
13	7.3	6.2	4.1	4.0	3.8	12	6.9	6.7	37	141	20	26
14	6.7	7.8	4.1	4.1	3.8	12	6.7	6.9	57	86	23	31
15	5.8	5.0	4.0	3.9	3.8	12	6.5	7.3	75	108	26	26
16	5.6	5.2	4.0	3.8	3.8	12	6.5	8.1	93	112	31	19
17	5.9	5.4	4.0	3.7	3.8	12	6.4	8.7	120	82	40	16
18	6.0	5.0	4.0	3.7	3.8	11	6.3	8.8	83	104	41	16
19	5.7	4.8	4.0	3.8	3.8	11	6.3	9.1	78	96	42	16
20	5.7	4.8	4.0	3.7	3.8	11	6.2	9.4	92	69	40	16
21	5.6	5.2	4.0	3.7	3.8	11	6.1	10	101	72	28	16
22	5.7	5.0	4.0	3.6	3.8	11	5.9	11	111	77	27	16
23	5.6	5.4	4.2	3.7	3.8	12	5.8	11	135	75	24	16
24	5.7	6.0	5.2	3.7	3.9	12	5.7	11	147	66	22	16
25	5.6	6.4	5.4	3.7	3.9	12	5.7	11	126	59	21	16
26	5.8	5.8	5.5	3.7	3.8	12	5.6	11	113	58	22	16
27	6.8	5.2	5.8	3.8	3.8	12	5.5	11	125	49	26	17
28	9.5	4.6	4.5	3.8	3.8	12	5.5	11	135	44	29	16
29	9.4	4.2	4.2	3.8	---	12	5.7	11	120	42	31	16
30	8.6	4.8	4.1	3.8	---	11	5.5	12	116	40	28	16
31	7.4	---	4.1	3.8	---	11	---	12	---	38	24	---
TOTAL	227.9	182.2	131.9	120.1	108.4	361.3	208.3	252.0	2117	2404	1067	557
MEAN	7.35	6.07	4.25	3.87	3.87	11.7	6.94	8.13	70.6	77.5	34.4	18.6
MAX	13	8.2	5.8	4.1	4.0	14	10	12	147	141	54	31
MIN	4.6	4.2	4.0	3.6	3.8	3.8	5.5	4.9	12	38	20	15
AC-FT	452	361	262	238	215	717	413	500	4200	4770	2120	1100

SUMMARY STATISTICS	FOR 1995 WATER YEAR	
ANNUAL TOTAL	7737.1	
ANNUAL MEAN	21.2	
HIGHEST DAILY MEAN	147	Jun 24
LOWEST DAILY MEAN	3.6	Jan 22
ANNUAL SEVEN-DAY MINIMUM	3.7	Jan 20
INSTANTANEOUS PEAK FLOW	215	Jun 23
INSTANTANEOUS PEAK STAGE	[a]5.96	Jun 23
ANNUAL RUNOFF (AC-FT)	15350	
10 PERCENT EXCEEDS	70	
50 PERCENT EXCEEDS	8.0	
90 PERCENT EXCEEDS	3.9	

a-Maximum gage height, 6.78 ft, Jun 17, backwater from debris.

Table 11. Daily mean streamflow for Site CC9, Leavenworth Creek at mouth near Georgetown, Colorado

SITE NAME.--LEAVENWORTH CREEK AT MOUTH NEAR GEORGETOWN, COLO.

SITE NUMBER.--CC9

SITE IDENTIFICATION.--06714800 (downstream order number)

LOCATION.--Lat 39°41'14", long 105°41'59", in $NE^1/4SW^1/4$ sec.20, T.4 S., R.74 W., Clear Creek County, Hydrologic Unit 10190004, on left bank 400 ft upstream from confluence of South Clear Creek, 0.3 mi south of Georgetown Reservoir, and 1.3 mi south of Georgetown.

DRAINAGE AREA.--12.0 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1994 to September 1995.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 9,320 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 11-13, 15, 16, Oct. 18 to Apr. 11, and Apr. 15, 16, 19-22, 23-27. Records fair except those for estimated daily discharges, which are poor. Vidler tunnel (transmountain diversion) imports water from Peru Creek. There is seasonal diversion into Green Lake.

DISCHARGE (CUBIC FEET PER SECOND), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	4.7	2.6	1.8	1.6	1.3	1.5	1.7	12	92	41	16
2	6.7	4.2	2.3	1.8	1.5	1.3	1.5	1.9	16	86	37	15
3	6.5	4.2	2.3	1.7	1.4	1.4	1.4	1.9	19	82	35	15
4	8.1	4.0	2.3	1.7	1.4	1.4	1.4	1.8	20	77	35	14
5	7.4	3.5	2.3	1.7	1.4	1.5	1.5	1.9	26	74	33	12
6	7.0	3.6	2.3	1.7	1.4	1.5	1.6	1.7	31	79	31	12
7	6.8	3.6	2.3	1.7	1.4	1.3	1.6	1.7	32	86	30	12
8	6.8	3.6	2.4	1.7	1.4	1.4	1.7	1.6	30	90	31	13
9	6.6	3.5	2.2	1.7	1.5	1.4	2.0	1.6	26	98	30	13
10	6.3	3.5	2.2	1.7	1.4	1.3	1.7	1.7	24	105	29	12
11	6.2	3.6	2.2	1.7	1.3	1.4	1.5	2.0	28	96	29	12
12	6.0	3.6	2.2	1.7	1.2	1.5	1.6	2.2	36	111	28	11
13	5.8	3.5	2.2	1.7	1.3	1.2	1.8	2.3	46	104	28	11
14	5.6	3.0	2.2	1.6	1.3	1.3	1.8	3.1	63	102	28	10
15	5.6	3.3	2.2	1.6	1.3	1.4	1.6	5.4	88	97	25	9.6
16	5.4	3.1	2.2	1.6	1.3	1.5	1.8	6.9	104	100	23	9.3
17	5.3	3.1	2.2	1.5	1.3	1.6	2.0	7.4	112	101	22	9.1
18	5.3	3.1	2.2	1.5	1.3	1.5	1.6	5.3	115	109	22	9.9
19	5.2	3.2	2.2	1.5	1.3	1.4	1.8	5.2	116	87	21	9.5
20	5.2	3.0	1.9	1.5	1.3	1.3	1.6	5.6	118	90	20	9.6
21	5.3	3.0	1.9	1.5	1.3	1.3	1.5	6.3	125	90	21	10
22	5.2	2.9	1.9	1.5	1.3	1.6	1.4	8.8	122	85	23	9.4
23	5.0	2.8	1.9	1.5	1.3	1.4	1.3	10	108	75	22	9.1
24	4.8	3.0	1.7	1.5	1.3	1.6	1.5	9.3	104	61	21	9.0
25	4.7	2.8	1.8	1.5	1.3	1.3	1.5	8.5	101	56	20	9.1
26	4.6	2.7	1.8	1.7	1.3	1.5	1.6	8.0	102	54	20	9.2
27	4.7	2.6	1.8	1.6	1.3	1.4	1.6	8.3	108	52	19	9.0
28	4.9	2.6	1.7	1.6	1.3	1.5	1.5	8.7	107	49	20	8.7
29	4.5	2.6	1.7	1.6	---	1.4	1.8	8.8	100	48	19	8.9
30	4.8	2.6	1.7	1.5	---	1.6	1.7	9.0	93	50	17	8.5
31	4.3	---	1.8	1.5	---	1.4	---	9.5	---	48	16	---
TOTAL	177.5	98.5	64.6	50.1	37.7	43.9	48.4	158.1	2132	2534	796	325.9
MEAN	5.73	3.28	2.08	1.62	1.35	1.42	1.61	5.10	71.1	81.7	25.7	10.9
MAX	8.1	4.7	2.6	1.8	1.6	1.6	2.0	10	125	111	41	16
MIN	4.3	2.6	1.7	1.5	1.2	1.2	1.3	1.6	12	48	16	8.5
AC-FT	352	195	128	99	75	87	96	314	4230	5030	1580	646

SUMMARY STATISTICS	FOR 1995 WATER YEAR	
ANNUAL TOTAL	6466.7	
ANNUAL MEAN	17.7	
HIGHEST ANNUAL MEAN		
LOWEST ANNUAL MEAN		
HIGHEST DAILY MEAN	125	Jun 21
LOWEST DAILY MEAN	[a]1.2	Feb 12
ANNUAL SEVEN-DAY MINIMUM	1.3	Feb 11
INSTANTANEOUS PEAK FLOW	168	Jul 12
INSTANTANEOUS PEAK STAGE	[b]4.79	Jul 12
ANNUAL RUNOFF (AC-FT)	12830	
10 PERCENT EXCEEDS	78	
50 PERCENT EXCEEDS	3.5	
90 PERCENT EXCEEDS	1.4	

a-Also occurred Mar 13.
b-Maximum gage height, 5.69 ft, Jun 17.

Table 12. Daily mean streamflow for Site GC5, Duck Creek near Grant, Colorado

SITE NAME.--DUCK CREEK NEAR GRANT, COLORADO

SITE NUMBER.--GC5

SITE IDENTIFICATION.--06704500 (downstream order number)

LOCATION.--Lat 39°31'49", long 105°43'50", in $SE^1/4SW^1/4$ sec.12, T.6 S., R.75 W., Park County, Hydrologic Unit 10190002, on left bank 570 ft upstream from Geneva Creek Road, and 650 ft upstream from the confluence with Geneva Creek.

DRAINAGE AREA.--7.78 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1994 to September 1995.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 10,000 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Nov. 13 to Jan. 31, Feb. 11-20, Mar. 6-10, and Apr. 1-4. Records fair except for estimated daily discharges, which are poor. Flow partially regulated by Duck Lake.

DISCHARGE (CUBIC FEET PER SECOND), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.95	1.4	.62	.60	.51	.65	.88	1.8	6.2	40	16	7.3
2	.91	1.3	.62	.60	.50	.64	.88	2.2	6.9	37	16	7.0
3	.90	1.4	.64	.58	.52	.63	.94	2.0	8.3	37	16	6.7
4	.96	1.4	.66	.56	.52	.64	1.0	1.8	8.9	35	15	6.4
5	1.0	1.3	.66	.54	.51	.60	1.1	2.0	10	33	15	6.2
6	.99	1.3	.68	.56	.52	.60	1.2	2.1	12	32	14	6.2
7	.97	1.3	.68	.58	.49	.62	1.2	1.7	13	32	13	6.1
8	1.0	1.4	.70	.62	.51	.60	1.4	1.5	13	32	13	6.1
9	1.0	1.3	.68	.62	.53	.62	1.3	1.4	14	32	13	6.2
10	1.0	1.3	.66	.61	.52	.62	1.1	1.7	14	32	12	5.9
11	1.1	1.1	.64	.57	.50	.63	.97	2.0	14	32	12	5.7
12	1.1	1.2	.62	.57	.46	.63	.88	2.3	16	32	11	5.3
13	1.2	1.2	.64	.58	.46	.59	1.1	2.4	18	32	11	5.0
14	1.2	1.3	.64	.61	.47	.67	1.1	3.4	22	33	11	5.0
15	1.2	1.2	.62	.62	.48	.88	.94	4.6	29	31	10	4.8
16	1.2	1.1	.60	.64	.49	1.0	1.0	4.2	33	30	10	4.7
17	1.1	1.1	.62	.62	.50	.89	.91	3.6	39	29	9.9	4.6
18	1.2	1.1	.64	.58	.50	.91	.89	3.5	51	28	9.9	4.7
19	1.2	1.0	.68	.58	.52	.88	.94	4.3	74	26	9.9	4.5
20	1.2	.92	.70	.58	.55	.75	.78	4.3	78	25	9.6	4.7
21	1.3	.88	.70	.56	.62	.92	.77	4.4	70	24	10	4.9
22	1.3	.82	.67	.54	.64	1.0	.73	4.8	70	23	10	4.7
23	1.2	.84	.66	.54	.66	1.0	.75	5.1	66	22	9.7	4.4
24	1.3	.88	.65	.54	.70	.91	.80	4.6	58	21	9.0	4.3
25	1.3	.94	.64	.54	.65	.87	.91	4.6	52	20	8.9	4.2
26	1.3	.92	.66	.56	.67	.87	1.1	4.4	49	19	8.6	4.1
27	1.3	.84	.65	.56	.63	.88	1.4	5.0	48	19	8.3	4.0
28	1.4	.78	.64	.54	.67	.94	1.7	4.8	49	18	8.3	4.0
29	1.3	.70	.65	.52	---	.93	1.8	4.8	47	18	8.0	4.0
30	1.3	.62	.67	.50	---	.92	1.6	5.0	44	18	7.7	3.8
31	1.4	---	.66	.50	---	.92	---	5.4	---	17	7.5	---
TOTAL	35.78	32.84	20.25	17.72	15.30	24.21	32.07	105.7	1033.3	859	343.3	155.5
MEAN	1.15	1.09	.65	.57	.55	.78	1.07	3.41	34.4	27.7	11.1	5.18
MAX	1.4	1.4	.70	.64	.70	1.0	1.8	5.4	78	40	16	7.3
MIN	.90	.62	.60	.50	.46	.59	.73	1.4	6.2	17	7.5	3.8
AC-FT	71	65	40	35	30	48	64	210	2050	1700	681	308

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1995, BY WATER YEAR (WY)

MEAN	1.15	1.09	.65	.57	.55	.78	1.07	3.41	34.4	27.7	11.1	5.18
MAX	1.15	1.09	.65	.57	.55	.78	1.07	3.41	34.4	27.7	11.1	5.18
(WY)	1995	1995	1995	1995	1995	1995	1995	1995	1995	1995	1995	1995
MIN	1.15	1.09	.65	.57	.55	.78	1.07	3.41	34.4	27.7	11.1	5.18
(WY)	1995	1995	1995	1995	1995	1995	1995	1995	1995	1995	1995	1995

SUMMARY STATISTICS	FOR 1995 WATER YEAR	
ANNUAL TOTAL	2674.97	
ANNUAL MEAN	7.33	
HIGHEST DAILY MEAN	78	Jun 20
LOWEST DAILY MEAN	[a].46	Feb 12
ANNUAL SEVEN-DAY MINIMUM	.48	Feb 11
INSTANTANEOUS PEAK FLOW	97	Jun 19
INSTANTANEOUS PEAK STAGE	1.97	Jun 19
ANNUAL RUNOFF (AC-FT)	5310	
10 PERCENT EXCEEDS	24	
50 PERCENT EXCEEDS	1.2	
90 PERCENT EXCEEDS	.58	

a-Also occurred Feb 13.

Table 13. Daily mean streamflow for Site GC11, Geneva Creek at Grant, Colorado

SITE NAME.--GENEVA CREEK AT GRANT, COLO.

SITE NUMBER.--GC11

SITE IDENTIFICATION.--06705500 (downstream order number)

LOCATION.--Lat 39°28'21", long 105°40'58", in NE¼4NE¼4 sec.5, T.7 S., R.74 W., Park County, Hydrologic Unit 10190002, on right bank 0.2 mi downstream from Geneva Creek Campground, and 1.5 mi upstream from Grant.

DRAINAGE AREA.--74.6 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1908 to March 1918, published in WSP 1310. Prior to 1911, published as "at Sullivan's Ranch, near Grant". October 1994 to September 1995.

GAGE.--Water-stage recorder with satellite telemetry. Elevation of gage is 8,760 ft above sea level, from topographic map.

REMARKS.--Estimated daily discharges: Oct. 1-7, Nov. 9 to Apr. 26, and Sept. 1-2, 11-12. Records fair except for estimated daily discharges, which are poor. Natural flow may be affected at times by Duck Lake.

DISCHARGE (CUBIC FEET PER SECOND), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	20	14	12	7.6	11	11	17	67	389	165	70
2	20	18	14	12	7.8	11	12	19	82	347	151	66
3	19	18	14	11	8.0	10	13	19	96	335	147	60
4	20	20	14	11	8.0	10	14	18	101	301	146	57
5	22	25	15	11	8.0	10	15	20	130	272	135	56
6	21	23	15	11	7.8	10	16	20	153	298	128	58
7	20	19	15	12	7.4	10	16	20	155	342	123	58
8	22	17	16	13	7.8	10	17	18	154	388	121	59
9	21	14	14	12	8.0	10	15	18	149	413	118	60
10	21	13	13	11	8.0	11	13	19	127	435	113	56
11	20	14	12	10	7.6	11	11	22	134	447	109	54
12	19	15	11	10	7.4	10	10	22	188	443	110	50
13	19	15	12	10	7.4	9.6	11	22	311	416	114	47
14	18	16	14	11	7.6	10	12	27	411	431	110	46
15	20	15	13	11	7.8	12	10	39	558	375	100	45
16	20	14	11	10	8.0	13	10	41	646	343	91	42
17	20	14	12	9.6	8.2	12	9.8	35	746	327	87	41
18	20	14	13	8.6	8.2	12	9.6	34	746	330	86	44
19	21	13	13	8.4	8.4	12	10	41	717	306	88	43
20	19	12	13	8.4	8.6	10	9.4	43	716	294	83	44
21	20	12	14	8.2	9.4	12	9.0	46	711	270	101	50
22	20	11	14	8.2	9.8	13	8.6	53	677	245	118	46
23	19	12	14	8.0	10	13	9.0	58	593	230	109	44
24	19	13	14	7.8	11	12	9.8	51	521	217	102	44
25	18	14	13	7.6	10	12	11	48	474	208	96	42
26	18	17	13	8.0	10	11	12	48	477	201	95	42
27	19	16	13	7.8	10	12	15	52	514	189	86	41
28	18	15	12	7.8	11	13	18	49	522	179	87	40
29	18	14	12	7.6	---	13	19	53	492	172	85	42
30	19	13	13	7.4	---	12	18	56	439	176	77	40
31	18	---	13	7.6	---	12	---	59	---	199	72	---
TOTAL	609	466	413	299.0	238.8	349.6	374.2	1087	11807	9518	3353	1487
MEAN	19.6	15.5	13.3	9.65	8.53	11.3	12.5	35.1	394	307	108	49.6
MAX	22	25	16	13	11	13	19	59	746	447	165	70
MIN	18	11	11	7.4	7.4	9.6	8.6	17	67	172	72	40
AC-FT	1210	924	819	593	474	693	742	2160	23420	18880	6650	2950

SUMMARY STATISTICS FOR 1995 WATER YEAR		
ANNUAL TOTAL	30001.6	
ANNUAL MEAN	82.2	
HIGHEST DAILY MEAN	[a]746	Jun 17
LOWEST DAILY MEAN	[b]7.4	Jan 30
ANNUAL SEVEN-DAY MINIMUM	7.7	Jan 27
INSTANTANEOUS PEAK FLOW	1070	Jun 17
INSTANTANEOUS PEAK STAGE	7.24	Jun 17
ANNUAL RUNOFF (AC-FT)	59510	
10 PERCENT EXCEEDS	296	
50 PERCENT EXCEEDS	18	
90 PERCENT EXCEEDS	9.0	

a-Also occurred Jun 18.
b-Also occurred Feb 7, 12, and 13.

Table 14. Daily mean specific conductance for Site CC5, South Clear Creek above Lower Cabin Creek Reservoir near Georgetown, Colorado

SITE NAME.--SOUTH CLEAR CREEK ABOVE LOWER CABIN CREEK RESERVOIR NEAR GEORGETOWN, COLO.

SITE NUMBER.--CC5

SITE IDENTIFICATION.--06714400 (downstream order number)

PERIOD OF RECORD.--May 1995 to current year.

INSTRUMENTATION.--Water-quality monitor since May 1995. Values recorded every 15 minutes.

REMARKS.--Specific conductance records are fair.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 118 microsiemens, May 26; minimum, 43 microsiemens June 17.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	103	58	---	61
2	---	---	---	---	---	---	---	---	91	58	---	61
3	---	---	---	---	---	---	---	---	85	58	---	---
4	---	---	---	---	---	---	---	---	85	57	---	---
5	---	---	---	---	---	---	---	---	76	56	56	---
6	---	---	---	---	---	---	---	---	71	---	56	62
7	---	---	---	---	---	---	---	---	77	---	56	62
8	---	---	---	---	---	---	---	---	77	---	56	---
9	---	---	---	---	---	---	---	---	76	---	56	---
10	---	---	---	---	---	---	---	---	81	---	56	---
11	---	---	---	---	---	---	---	---	79	---	57	---
12	---	---	---	---	---	---	---	---	68	51	57	---
13	---	---	---	---	---	---	---	---	60	52	58	63
14	---	---	---	---	---	---	---	---	56	53	58	64
15	---	---	---	---	---	---	---	---	53	51	58	64
16	---	---	---	---	---	---	---	90	51	52	58	64
17	---	---	---	---	---	---	---	96	48	53	58	64
18	---	---	---	---	---	---	---	99	---	53	59	65
19	---	---	---	---	---	---	---	107	---	52	59	66
20	---	---	---	---	---	---	---	105	---	52	60	66
21	---	---	---	---	---	---	---	104	49	51	60	66
22	---	---	---	---	---	---	---	100	49	51	60	67
23	---	---	---	---	---	---	---	99	53	53	60	68
24	---	---	---	---	---	---	---	105	56	54	60	69
25	---	---	---	---	---	---	---	110	56	53	60	70
26	---	---	---	---	---	---	---	113	56	---	61	71
27	---	---	---	---	---	---	---	113	55	---	61	73
28	---	---	---	---	---	---	---	111	55	---	60	72
29	---	---	---	---	---	---	---	112	58	---	62	73
30	---	---	---	---	---	---	---	113	58	---	61	73
31	---	---	---	---	---	---	---	112	---	---	61	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	---

Table 15. Daily mean specific conductance for Site CC7, South Clear Creek above Leavenworth Creek near Georgetown, Colorado

SITE NAME.--SOUTH CLEAR CREEK ABOVE LEAVENWORTH CREEK NEAR GEORGETOWN, COLO.

SITE NUMBER.--CC7

SITE IDENTIFICATION.--06714600 (downstream order number)

PERIOD OF RECORD.--May 1995 to current year.

INSTRUMENTATION.--Water-quality monitor since May 1995. Values recorded every 15 minutes.

REMARKS.--Specific conductance records are fair.

EXTREMES FOR CURRENT YEAR.--Maximum, 116 microsiemens, May 31, and June 1; minimum, 64 microsiemens July 21-23.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	115	---	72	---
2	---	---	---	---	---	---	---	---	114	---	72	---
3	---	---	---	---	---	---	---	---	112	---	76	89
4	---	---	---	---	---	---	---	---	111	---	77	89
5	---	---	---	---	---	---	---	---	111	---	79	90
6	---	---	---	---	---	---	---	---	107	---	78	89
7	---	---	---	---	---	---	---	---	106	---	79	89
8	---	---	---	---	---	---	---	---	106	---	80	86
9	---	---	---	---	---	---	---	---	106	---	79	85
10	---	---	---	---	---	---	---	---	102	---	80	84
11	---	---	---	---	---	---	---	113	93	---	78	83
12	---	---	---	---	---	---	---	113	95	---	82	84
13	---	---	---	---	---	---	---	112	98	---	---	83
14	---	---	---	---	---	---	---	112	94	---	85	82
15	---	---	---	---	---	---	---	113	---	---	83	83
16	---	---	---	---	---	---	---	110	90	---	81	86
17	---	---	---	---	---	---	---	107	---	---	79	88
18	---	---	---	---	---	---	---	109	---	---	79	89
19	---	---	---	---	---	---	---	112	---	68	78	89
20	---	---	---	---	---	---	---	114	---	68	79	88
21	---	---	---	---	---	---	---	114	---	65	83	88
22	---	---	---	---	---	---	---	113	---	64	83	88
23	---	---	---	---	---	---	---	111	---	65	84	88
24	---	---	---	---	---	---	---	109	---	66	84	88
25	---	---	---	---	---	---	---	110	---	67	85	88
26	---	---	---	---	---	---	---	112	---	67	85	88
27	---	---	---	---	---	---	---	113	---	70	83	88
28	---	---	---	---	---	---	---	112	---	70	82	88
29	---	---	---	---	---	---	---	112	---	71	82	89
30	---	---	---	---	---	---	---	114	---	72	82	89
31	---	---	---	---	---	---	---	115	---	73	84	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	87

Table 16. Daily mean specific conductance for Site CC9, Leavenworth Creek at mouth near Georgetown, Colorado

SITE NAME.--LEAVENWORTH CREEK AT MOUTH NEAR GEORGETOWN, COLO.

SITE NUMBER.--CC9

SITE IDENTIFICATION.--06714800 (downstream order number)

PERIOD OF RECORD.--May 1995 to current year.

INSTRUMENTATION.--Water-quality monitor since May 1995. Values recorded every 15 minutes.

REMARKS.--Specific conductance records are fair.

EXTREMES FOR CURRENT YEAR.--Maximum, 146 microsiemens, May 10; minimum, 37 microsiemens June 22.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	101	46	56	---
2	---	---	---	---	---	---	---	---	92	48	57	---
3	---	---	---	---	---	---	---	---	86	51	59	---
4	---	---	---	---	---	---	---	---	84	51	60	---
5	---	---	---	---	---	---	---	---	75	51	60	---
6	---	---	---	---	---	---	---	---	70	48	61	---
7	---	---	---	---	---	---	---	---	68	44	62	---
8	---	---	---	---	---	---	---	---	70	43	62	81
9	---	---	---	---	---	---	---	---	---	40	63	82
10	---	---	---	---	---	---	---	---	78	40	64	83
11	---	---	---	---	---	---	---	141	75	---	64	80
12	---	---	---	---	---	---	---	139	67	43	64	81
13	---	---	---	---	---	---	---	136	61	43	65	79
14	---	---	---	---	---	---	---	127	57	44	66	78
15	---	---	---	---	---	---	---	109	53	46	67	77
16	---	---	---	---	---	---	---	98	48	46	68	79
17	---	---	---	---	---	---	---	109	---	47	68	80
18	---	---	---	---	---	---	---	---	---	47	69	81
19	---	---	---	---	---	---	---	120	41	48	70	85
20	---	---	---	---	---	---	---	118	43	49	70	83
21	---	---	---	---	---	---	---	114	44	50	71	82
22	---	---	---	---	---	---	---	103	40	51	72	85
23	---	---	---	---	---	---	---	96	41	52	70	85
24	---	---	---	---	---	---	---	101	43	54	71	86
25	---	---	---	---	---	---	---	104	43	55	71	88
26	---	---	---	---	---	---	---	108	42	54	72	89
27	---	---	---	---	---	---	---	107	40	53	72	89
28	---	---	---	---	---	---	---	105	41	53	73	89
29	---	---	---	---	---	---	---	106	43	53	75	89
30	---	---	---	---	---	---	---	108	46	54	73	90
31	---	---	---	---	---	---	---	109	---	54	73	---
MEAN	---	---	---	---	---	---	---	---	---	---	67	---

Table 17. Daily mean specific conductance for Site GC5, Duck Creek near Grant, Colorado

SITE NAME.--DUCK CREEK NEAR GRANT, COLORADO

SITE NUMBER.--GC5

SITE IDENTIFICATION.--06704500 (downstream order number)

PERIOD OF RECORD.--May 1995 to current year.

INSTRUMENTATION.--Water-quality monitor since May 1995. Values recorded every 15 minutes.

REMARKS.--Specific conductance records are fair.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 65 microsiemens, June 4; minimum, 36 microsiemens June 22, 23, 27, 28, and July 8.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	59	39	41	48
2	---	---	---	---	---	---	---	---	60	39	41	48
3	---	---	---	---	---	---	---	---	60	39	41	47
4	---	---	---	---	---	---	---	---	63	39	41	47
5	---	---	---	---	---	---	---	---	63	40	41	46
6	---	---	---	---	---	---	---	---	63	40	41	47
7	---	---	---	---	---	---	---	---	61	39	41	47
8	---	---	---	---	---	---	---	---	60	38	41	46
9	---	---	---	---	---	---	---	---	61	39	41	46
10	---	---	---	---	---	---	---	---	61	38	43	47
11	---	---	---	---	---	---	---	---	62	38	44	46
12	---	---	---	---	---	---	---	58	60	38	43	47
13	---	---	---	---	---	---	---	57	57	39	43	49
14	---	---	---	---	---	---	---	56	56	39	42	49
15	---	---	---	---	---	---	---	52	51	39	42	48
16	---	---	---	---	---	---	---	53	51	39	42	47
17	---	---	---	---	---	---	---	55	47	40	43	48
18	---	---	---	---	---	---	---	56	45	41	44	49
19	---	---	---	---	---	---	---	57	42	40	44	50
20	---	---	---	---	---	---	---	55	40	39	45	50
21	---	---	---	---	---	---	---	56	39	40	46	50
22	---	---	---	---	---	---	---	56	37	40	46	47
23	---	---	---	---	---	---	---	56	37	40	46	46
24	---	---	---	---	---	---	---	56	38	40	45	47
25	---	---	---	---	---	---	---	57	39	40	44	47
26	---	---	---	---	---	---	---	58	39	41	45	47
27	---	---	---	---	---	---	---	59	38	41	45	47
28	---	---	---	---	---	---	---	58	37	42	45	47
29	---	---	---	---	---	---	---	58	37	42	45	46
30	---	---	---	---	---	---	---	59	38	42	45	47
31	---	---	---	---	---	---	---	60	---	42	47	---
MEAN	---	---	---	---	---	---	---	---	50	40	43	47

Table 18. Daily mean specific conductance for Site GC11, Geneva Creek at Grant, Colorado

SITE NAME.--GENEVA CREEK AT GRANT, COLO.

SITE NUMBER.--GC11

SITE IDENTIFICATION.--06705500

PERIOD OF RECORD.--October 1994 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: May 1995 to current year.

INSTRUMENTATION.--Water-quality monitor since May 1995. Values recorded at 15 minute intervals.

REMARKS.--Specific conductance records are good.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 110 microsiemens, May 11; minimum, 33 microsiemens June 21-23.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	76	46	51	---
2	---	---	---	---	---	---	---	---	70	46	52	---
3	---	---	---	---	---	---	---	---	68	47	53	69
4	---	---	---	---	---	---	---	---	66	47	53	69
5	---	---	---	---	---	---	---	---	61	49	54	69
6	---	---	---	---	---	---	---	---	55	48	55	70
7	---	---	---	---	---	---	---	---	51	46	55	69
8	---	---	---	---	---	---	---	---	53	44	56	69
9	---	---	---	---	---	---	---	---	54	43	57	68
10	---	---	---	---	---	---	---	---	57	42	58	68
11	---	---	---	---	---	---	---	---	56	---	59	---
12	---	---	---	---	---	---	---	96	52	41	60	---
13	---	---	---	---	---	---	---	87	45	41	61	71
14	---	---	---	---	---	---	---	85	42	41	62	72
15	---	---	---	---	---	---	---	74	40	42	62	72
16	---	---	---	---	---	---	---	71	40	43	62	74
17	---	---	---	---	---	---	---	78	39	44	62	74
18	---	---	---	---	---	---	---	89	40	43	62	74
19	---	---	---	---	---	---	---	86	40	44	62	74
20	---	---	---	---	---	---	---	77	38	44	63	74
21	---	---	---	---	---	---	---	75	38	45	61	70
22	---	---	---	---	---	---	---	72	38	46	59	72
23	---	---	---	---	---	---	---	70	37	46	59	72
24	---	---	---	---	---	---	---	78	41	47	61	72
25	---	---	---	---	---	---	---	79	41	48	62	72
26	---	---	---	---	---	---	---	83	41	49	62	73
27	---	---	---	---	---	---	---	82	40	49	64	73
28	---	---	---	---	---	---	---	77	39	50	63	74
29	---	---	---	---	---	---	---	82	40	50	63	74
30	---	---	---	---	---	---	---	83	44	51	65	74
31	---	---	---	---	---	---	---	80	---	49	65	---
MEAN	---	---	---	---	---	---	---	---	48	---	59	---

Table 19. Daily maximum and minimum water temperature for Site CC5, South Clear Creek above Lower Cabin Creek Reservoir near Georgetown, Colorado

SITE NAME.--SOUTH CLEAR CREEK ABOVE LOWER CABIN CREEK RESERVOIR NEAR GEORGETOWN, COLO.

SITE NUMBER.--CC5

SITE IDENTIFICATION.--06714400 (downstream order number)

PERIOD OF RECORD.--May 1995 to current year.

INSTRUMENTATION.--Water-quality monitor since May 1995. Values recorded every 15 minutes.

REMARKS.--Water temperature records are fair.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 13.7°C, August 29; minimum, 0.0°C, on many days in May and June.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	7.9	.8	6.9	3.1	---	---	---	---
2	---	---	---	---	6.4	.7	5.9	3.1	---	---	---	---
3	---	---	---	---	6.1	.4	5.8	3.3	9.7	4.5	12.5	6.3
4	---	---	---	---	6.0	.7	6.9	2.8	10.3	4.9	13.0	6.0
5	---	---	---	---	7.5	.7	10.0	2.9	10.1	4.6	13.1	5.9
6	---	---	---	---	7.6	.4	10.8	3.1	11.3	4.5	11.4	6.6
7	---	---	---	---	6.4	.2	9.8	3.3	12.1	4.9	10.0	6.3
8	---	---	---	---	7.0	1.0	8.4	3.4	12.3	5.7	10.0	5.8
9	---	---	---	---	6.4	.0	9.6	4.0	9.9	5.3	10.0	5.2
10	---	---	---	---	7.5	.2	8.6	3.9	10.9	5.2	11.4	5.2
11	---	---	---	---	9.0	.0	---	---	13.2	6.6	---	---
12	---	---	---	---	8.7	.5	10.4	4.1	11.7	6.0	---	---
13	---	---	---	---	7.3	.6	8.5	4.1	12.7	6.1	10.8	3.9
14	---	---	---	---	7.7	.7	6.5	4.3	10.5	6.1	9.8	4.7
15	---	---	---	---	6.5	1.0	9.7	3.5	12.7	4.7	11.6	3.9
16	---	---	3.5	.5	6.6	1.1	8.2	3.7	12.2	5.1	9.7	3.9
17	---	---	.5	.0	4.1	1.4	8.2	4.3	11.1	6.3	9.3	4.2
18	---	---	1.1	.0	6.5	.5	7.4	4.8	12.8	5.6	9.1	4.9
19	---	---	6.1	.2	7.7	.8	8.8	4.3	10.4	6.9	9.3	5.1
20	---	---	5.3	.7	7.5	.9	8.8	3.8	9.9	5.7	9.0	1.5
21	---	---	4.8	.4	7.9	1.1	8.8	4.1	11.1	6.2	6.7	1.2
22	---	---	6.1	.7	7.9	1.3	10.0	3.7	9.5	6.2	7.2	.2
23	---	---	2.2	.0	5.9	1.4	7.7	3.7	9.4	6.3	6.5	1.2
24	---	---	5.3	.0	7.4	1.4	9.3	3.6	11.4	6.2	5.0	2.4
25	---	---	3.8	.0	8.3	1.4	10.4	3.7	10.0	6.2	8.4	.6
26	---	---	5.8	.0	8.7	1.9	11.2	3.8	11.9	5.6	8.0	1.5
27	---	---	5.7	.4	9.3	2.3	11.5	4.3	9.7	6.3	9.5	3.1
28	---	---	5.2	.0	6.2	3.1	11.7	4.0	9.9	5.8	6.9	3.1
29	---	---	5.8	.5	4.3	2.6	10.0	4.8	13.7	5.8	7.9	3.7
30	---	---	3.6	.7	5.8	2.4	10.0	5.0	12.3	5.5	7.3	2.9
31	---	---	7.0	.8	---	---	11.5	4.4	13.3	5.5	---	---
MONTH	---	---	---	---	9.3	.0	---	---	---	---	---	---

Table 20. Daily maximum and minimum water temperature for Site CC7, South Clear Creek above Leavenworth Creek near Georgetown, Colorado

SITE NAME.--SOUTH CLEAR CREEK ABOVE LEAVENWORTH CREEK NEAR GEORGETOWN, COLO.

SITE NUMBER.--CC7

SITE IDENTIFICATION.--06714600 (downstream order number)

PERIOD OF RECORD.--May 1995 to current year.

INSTRUMENTATION.--Water-quality monitor since May 1995. Values recorded every 15 minutes.

REMARKS.--Water temperature records are fair.

EXTREMES FOR CURRENT YEAR.--Maximum, 12.6×C, Aug 31; minimum, 0.3×C, on May 17.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	6.8	3.3	7.0	6.3	11.1	9.2	---	---
2	---	---	---	---	7.0	3.4	7.0	6.3	11.3	9.9	---	---
3	---	---	---	---	7.1	3.4	6.8	6.4	11.2	10.0	12.3	10.3
4	---	---	---	---	7.0	3.7	6.9	6.2	11.1	9.8	12.3	10.1
5	---	---	---	---	8.0	3.7	7.5	6.2	11.1	9.7	12.1	10.1
6	---	---	---	---	7.9	3.7	8.2	6.7	11.5	10.1	11.9	10.2
7	---	---	---	---	6.1	3.8	---	---	11.6	10.3	11.1	10.0
8	---	---	---	---	5.0	3.9	---	---	11.7	10.3	11.6	10.0
9	---	---	5.1	2.6	6.0	2.3	---	---	11.4	10.3	11.8	10.2
10	---	---	6.7	2.3	6.7	3.5	---	---	11.5	10.0	12.0	10.4
11	---	---	6.0	2.8	6.0	3.7	---	---	12.2	10.7	11.6	10.1
12	---	---	7.1	2.1	6.9	4.5	---	---	11.7	10.4	11.7	9.8
13	---	---	6.9	1.8	7.5	4.7	---	---	12.0	9.9	11.8	10.0
14	---	---	7.8	2.7	7.5	5.4	---	---	11.7	9.9	11.5	10.3
15	---	---	8.2	2.9	7.6	6.1	---	---	12.0	9.9	11.7	10.0
16	---	---	6.3	2.2	7.3	5.8	---	---	12.3	10.4	11.5	9.7
17	---	---	2.8	.3	6.7	5.1	---	---	12.0	11.1	11.5	9.5
18	---	---	6.0	2.4	6.5	4.4	---	---	12.5	11.1	11.1	9.4
19	---	---	6.4	2.7	---	---	9.7	8.3	12.2	11.3	10.9	9.3
20	---	---	6.6	2.6	---	---	9.4	8.1	12.0	11.1	10.7	7.2
21	---	---	6.7	2.7	8.2	6.5	9.6	8.0	12.2	10.8	8.8	7.5
22	---	---	7.4	2.9	7.9	6.4	9.8	8.3	11.8	10.8	9.6	7.4
23	---	---	3.9	1.4	7.0	6.3	9.6	8.5	11.4	10.7	9.3	7.8
24	---	---	5.4	1.6	6.9	6.1	9.8	8.6	11.8	10.6	8.6	7.6
25	---	---	5.5	2.4	6.8	6.0	10.1	8.4	11.9	10.5	9.6	7.3
26	---	---	6.9	2.4	7.3	6.2	10.5	8.8	12.4	10.3	9.4	7.3
27	---	---	6.1	3.0	7.4	6.6	10.4	8.7	12.5	10.8	9.5	7.8
28	---	---	5.3	1.9	7.0	6.6	10.8	8.8	12.0	10.9	8.9	7.7
29	---	---	5.7	2.7	6.8	6.4	10.5	9.0	12.5	10.9	9.1	7.6
30	---	---	5.2	3.1	6.8	6.3	10.8	9.1	12.3	10.9	8.9	7.2
31	---	---	7.4	3.4	---	---	10.9	8.8	12.6	10.7	---	---
MONTH	---	---	---	---	---	---	---	---	12.6	9.2	12.6	7.2

Table 21. Daily maximum and minimum water temperature for Site CC9, Leavenworth Creek at mouth near Georgetown, Colorado

SITE NAME.--LEAVENWORTH CREEK AT MOUTH NEAR GEORGETOWN, COLO.

SITE NUMBER.--CC9

SITE IDENTIFICATION.--06714800 (downstream order number)

PERIOD OF RECORD.--May 1995 to current year.

INSTRUMENTATION.--Water-quality monitor since May 1995. Values recorded every 15 minutes.

REMARKS.--Water temperature records are fair. Water temperature for this station published to nearest °C due to recorder malfunction.

EXTREMES FOR CURRENT YEAR.--Maximum, 15°C, August 8; minimum, 0.0°C, on many days during May, June, and September.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	6	1	5	2	11	3	---	---
2	---	---	---	---	5	1	5	2	10	4	---	---
3	---	---	---	---	5	1	5	2	9	4	---	---
4	---	---	---	---	5	1	5	2	9	5	---	---
5	---	---	---	---	5	1	8	2	10	4	---	---
6	---	---	---	---	5	.0	8	2	10	4	---	---
7	---	---	---	---	4	1	8	2	10	5	---	---
8	---	---	---	---	2	1	7	3	15	6	8	6
9	---	---	---	---	---	---	8	3	10	5	8	5
10	---	---	---	---	5	.0	7	3	11	5	8	5
11	---	---	4	.0	7	.0	---	---	12	7	7	5
12	---	---	5	.0	6	1	9	3	11	6	7	3
13	---	---	5	.0	5	1	7	3	11	7	8	4
14	---	---	6	.0	5	1	7	3	9	6	7	4
15	---	---	6	.0	4	1	7	3	11	5	8	4
16	---	---	4	.0	4	1	8	3	10	5	7	4
17	---	---	---	---	3	1	8	4	10	6	7	4
18	---	---	---	---	4	1	6	4	12	6	7	5
19	---	---	5	.0	5	1	8	4	10	7	7	5
20	---	---	5	.0	5	1	7	3	10	6	6	1
21	---	---	6	.0	5	1	8	4	10	6	2	.0
22	---	---	6	.0	5	1	9	3	9	7	2	.0
23	---	---	2	.0	4	1	7	3	9	7	3	1
24	---	---	3	.0	5	1	8	3	10	7	3	1
25	---	---	3	.0	5	1	9	3	10	7	4	.0
26	---	---	5	.0	6	1	10	3	11	6	4	1
27	---	---	4	1	6	2	10	4	9	7	6	2
28	---	---	3	.0	4	2	10	4	9	6	5	3
29	---	---	4	.0	3	2	9	5	11	6	5	3
30	---	---	3	1	4	2	9	5	10	6	4	2
31	---	---	6	1	---	---	10	4	11	6	---	---
MONTH	---	---	---	---	---	---	---	---	15.0	3.0	---	---

Table 22. Daily maximum and minimum water temperature for Site GC5, Duck Creek near Grant, Colorado

SITE NAME.--DUCK CREEK NEAR GRANT, COLORADO

SITE NUMBER.--GC5

SITE IDENTIFICATION.--06704500 (downstream order number)

PERIOD OF RECORD.--May 1995 to current year.

INSTRUMENTATION.--Water-quality monitor since May 1995. Values recorded every 15 minutes.

REMARKS.--Water temperature records are fair.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 13.6°C, August 8; minimum, 0.2°C, on May 10, 17.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	8.5	1.8	7.5	3.2	13.3	4.7	12.9	6.7
2	---	---	---	---	7.1	3.0	6.7	3.0	13.1	5.0	12.9	7.5
3	---	---	---	---	6.7	2.4	7.0	3.4	10.2	5.1	13.5	7.7
4	---	---	---	---	7.9	2.6	7.8	2.8	11.0	5.5	11.9	7.6
5	---	---	---	---	10.5	3.0	10.9	2.9	12.8	5.0	12.8	7.5
6	---	---	---	---	10.3	2.0	11.5	2.8	12.6	5.1	12.8	8.3
7	---	---	---	---	7.5	2.0	10.7	3.0	13.2	5.6	10.7	8.6
8	---	---	---	---	10.2	2.5	8.4	3.3	13.6	6.0	10.4	6.9
9	---	---	---	---	9.4	1.5	10.7	3.6	10.8	6.2	9.8	6.8
10	---	---	6.6	.2	9.6	1.7	9.1	3.7	12.2	5.8	11.8	6.2
11	---	---	3.9	.6	11.6	1.8	11.3	3.7	13.3	7.3	10.0	6.4
12	---	---	5.7	1.0	12.3	2.2	11.9	3.8	12.4	6.6	10.6	4.8
13	---	---	7.0	.4	10.4	2.3	11.0	3.9	13.2	7.1	10.1	5.6
14	---	---	8.3	1.2	12.3	2.2	6.7	4.3	10.6	6.9	9.6	6.2
15	---	---	8.0	.8	8.1	2.5	10.9	3.5	13.5	5.5	11.0	5.3
16	---	---	3.1	.9	10.1	2.3	11.8	3.8	12.0	6.0	9.6	5.8
17	---	---	1.8	.2	7.2	3.1	8.6	4.3	11.6	7.1	9.0	5.6
18	---	---	4.9	.6	10.2	2.0	7.9	5.0	13.5	6.5	8.8	6.4
19	---	---	7.8	1.1	9.8	2.7	10.4	4.5	10.5	8.1	9.1	6.1
20	---	---	5.0	1.3	9.4	2.8	9.2	4.1	10.5	6.6	9.7	5.1
21	---	---	6.3	1.3	9.8	2.8	9.9	4.2	11.4	7.1	5.3	2.7
22	---	---	5.8	1.6	9.6	3.0	11.0	4.0	9.9	7.2	6.4	1.8
23	---	---	3.4	1.0	7.1	2.8	11.4	4.2	10.4	7.2	5.9	2.4
24	---	---	4.5	.5	7.9	2.6	10.3	4.0	13.1	7.2	5.5	3.9
25	---	---	2.4	.6	9.2	2.4	12.5	4.1	10.4	7.6	7.4	2.4
26	---	---	4.5	.4	10.0	2.6	12.9	4.3	12.8	6.5	7.5	3.2
27	---	---	6.3	1.5	9.9	2.8	13.1	4.5	10.5	7.5	7.8	3.8
28	---	---	5.2	1.3	7.3	3.4	12.9	4.6	9.7	6.6	6.2	4.2
29	---	---	4.0	.9	4.2	3.2	10.5	5.4	13.1	6.6	7.0	4.1
30	---	---	4.6	1.3	6.0	3.0	10.6	5.3	11.0	6.7	6.8	4.2
31	---	---	7.1	2.0	---	---	13.0	5.3	12.8	6.2	---	---
MONTH	---	---	---	---	12.3	1.5	13.1	2.8	13.6	4.7	13.5	1.8

Table 23. Daily maximum and minimum water temperature for Site GC11, Geneva Creek at Grant, Colorado

SITE NAME.--GENEVA CREEK AT GRANT, COLO.

SITE NUMBER.--GC11

SITE IDENTIFICATION.--06705500

PERIOD OF RECORD.--October 1994 to current year.

INSTRUMENTATION.--Water-quality monitor since May 1995. Values recorded at 15 minute intervals.

REMARKS.--Water temperature records are fair.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum, 14.4°C, August 8; minimum, 0.0°C, on May 17, 18, and September 22.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	9.6	2.3	8.2	3.8	13.3	5.4	---	---
2	---	---	---	---	8.1	3.0	7.4	3.8	13.4	5.8	---	---
3	---	---	---	---	7.4	2.7	7.5	4.0	11.2	6.0	13.9	8.8
4	---	---	---	---	7.9	2.8	8.0	3.3	11.9	6.4	13.2	8.6
5	---	---	---	---	10.2	2.7	11.7	3.2	12.6	5.8	13.0	8.4
6	---	---	---	---	9.4	1.7	12.5	3.6	13.0	6.0	12.7	9.2
7	---	---	---	---	7.6	1.8	11.4	3.8	13.1	6.7	11.8	9.5
8	---	---	---	---	8.5	2.4	10.3	3.9	14.4	7.0	10.7	7.5
9	---	---	7.3	1.4	8.4	1.4	11.5	4.2	11.7	7.5	10.6	7.1
10	---	---	6.6	1.2	8.5	1.5	10.4	4.3	13.2	6.9	10.9	6.6
11	---	---	5.9	1.3	10.6	1.7	---	---	14.0	8.9	---	---
12	---	---	8.2	2.0	10.9	2.2	13.0	4.5	13.4	8.2	---	---
13	---	---	8.0	.2	9.1	2.3	11.8	4.6	13.7	8.6	10.3	5.5
14	---	---	10.6	2.3	9.8	2.1	8.0	5.1	11.5	8.5	9.8	6.4
15	---	---	10.3	1.5	7.2	2.5	11.9	3.9	13.8	6.4	10.5	5.0
16	---	---	4.5	1.4	8.7	2.3	12.0	4.7	13.7	7.3	9.5	5.6
17	---	---	2.2	.0	6.9	3.1	9.9	5.3	12.8	8.5	9.3	5.5
18	---	---	6.3	.0	9.0	1.8	9.2	6.2	14.2	7.5	8.7	6.7
19	---	---	8.7	1.5	9.6	1.9	11.5	5.2	12.2	9.7	8.5	6.0
20	---	---	6.9	1.9	9.8	2.1	10.3	4.8	11.9	7.8	8.1	3.9
21	---	---	7.9	1.7	10.3	2.3	10.8	4.9	12.4	8.4	3.9	1.3
22	---	---	7.0	2.1	10.6	2.6	11.3	4.6	12.3	8.4	4.6	.0
23	---	---	4.5	1.2	7.8	2.8	11.5	4.8	12.7	8.5	4.8	1.0
24	---	---	5.6	.7	8.5	2.6	10.8	4.5	13.4	8.2	4.3	2.7
25	---	---	3.1	.7	10.0	2.3	12.8	4.7	11.8	8.7	6.1	.9
26	---	---	5.8	.4	11.2	2.7	13.0	5.0	13.0	7.4	6.4	2.1
27	---	---	8.4	2.0	11.0	3.1	13.4	5.3	11.9	8.8	7.2	3.0
28	---	---	5.8	1.7	8.2	3.9	13.3	5.4	11.2	7.5	6.2	3.6
29	---	---	4.7	1.5	5.0	3.6	11.9	6.4	13.3	7.3	6.4	3.5
30	---	---	5.4	2.1	6.7	3.5	11.6	6.2	12.2	7.8	5.5	3.4
31	---	---	9.6	2.6	---	---	12.8	6.0	13.2	7.1	---	---
MONTH	---	---	---	---	11.2	1.4	---	---	14.4	5.4	---	---

Table 24. Daily precipitation for Site CC5, South Clear Creek above Lower Cabin Creek Reservoir near Georgetown, Colorado

SITE NAME.--SOUTH CLEAR CREEK ABOVE LOWER CABIN CREEK RESERVOIR NEAR GEORGETOWN, COLO.

SITE NUMBER.--CC5

SITE IDENTIFICATION.--06714400 (downstream order number)

PERIOD OF RECORD.--July to September 1995.

GAGE.--Tipping bucket rain gage (no wind vanes used) with satellite telemetry. Elevation of gage is 10,100 ft above sea level, from topographic map.

REMARKS.--Records poor. Data not published for periods of missing record.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 0.46 in., July 30, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 0.46 in., July 30, 1995.

PRECIPITATION (INCHES), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	.07	.00
4	---	---	---	---	---	---	---	---	---	---	.00	.04
5	---	---	---	---	---	---	---	---	---	---	.01	.07
6	---	---	---	---	---	---	---	---	---	---	.00	.01
7	---	---	---	---	---	---	---	---	---	---	.02	.22
8	---	---	---	---	---	---	---	---	---	---	.00	.09
9	---	---	---	---	---	---	---	---	---	---	.00	.05
10	---	---	---	---	---	---	---	---	---	---	.01	.00
11	---	---	---	---	---	---	---	---	---	.00	.00	---
12	---	---	---	---	---	---	---	---	---	.00	.16	---
13	---	---	---	---	---	---	---	---	---	.11	.00	.00
14	---	---	---	---	---	---	---	---	---	.10	.14	.00
15	---	---	---	---	---	---	---	---	---	.00	.00	.00
16	---	---	---	---	---	---	---	---	---	.13	.00	.03
17	---	---	---	---	---	---	---	---	---	.18	.03	.00
18	---	---	---	---	---	---	---	---	---	.19	.07	.24
19	---	---	---	---	---	---	---	---	---	.00	.02	.00
20	---	---	---	---	---	---	---	---	---	.09	.11	.15
21	---	---	---	---	---	---	---	---	---	.01	.36	.00
22	---	---	---	---	---	---	---	---	---	.00	.09	.21
23	---	---	---	---	---	---	---	---	---	.00	.05	.06
24	---	---	---	---	---	---	---	---	---	.00	.00	.03
25	---	---	---	---	---	---	---	---	---	.01	.11	.01
26	---	---	---	---	---	---	---	---	---	.00	.00	.00
27	---	---	---	---	---	---	---	---	---	.00	.00	.00
28	---	---	---	---	---	---	---	---	---	.00	.39	.04
29	---	---	---	---	---	---	---	---	---	.00	.00	.10
30	---	---	---	---	---	---	---	---	---	.46	.31	.00
31	---	---	---	---	---	---	---	---	---	.01	.00	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---

Table 25. Daily precipitation for Site CC7, South Clear Creek above Leavenworth Creek near Georgetown, Colorado

SITE NAME.--SOUTH CLEAR CREEK ABOVE LEAVENWORTH CREEK NEAR GEORGETOWN, COLO.

SITE NUMBER.--CC7

SITE IDENTIFICATION.--06714600 (downstream order number)

PERIOD OF RECORD.--May to September 1995.

GAGE.--Tipping bucket rain gage (no wind vanes used) with satellite telemetry. Elevation of gage is 9,280 ft above sea level, from topographic map.

REMARKS.--*Records poor. Data not published for periods of missing record.*

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 0.74 in., May 26, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 0.74 in., May 26, 1995.

PRECIPITATION (INCHES), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	.00	.41	.18	---
2	---	---	---	---	---	---	---	---	.20	.11	.00	---
3	---	---	---	---	---	---	---	---	.00	.12	.14	.00
4	---	---	---	---	---	---	---	---	.02	.06	.01	.01
5	---	---	---	---	---	---	---	---	.00	.00	.00	.03
6	---	---	---	---	---	---	---	---	.00	.00	.00	.00
7	---	---	---	---	---	---	---	---	.11	.00	.00	.37
8	---	---	---	---	---	---	---	---	.04	---	.00	.04
9	---	---	---	---	---	---	---	.08	.38	.00	.00	.05
10	---	---	---	---	---	---	---	.08	.00	.01	.01	.00
11	---	---	---	---	---	---	---	.11	.00	---	.00	.12
12	---	---	---	---	---	---	---	.01	.00	.00	.15	.01
13	---	---	---	---	---	---	---	.00	.00	.15	.00	.00
14	---	---	---	---	---	---	---	.00	.00	.16	.09	.00
15	---	---	---	---	---	---	---	.00	.02	.00	.00	.00
16	---	---	---	---	---	---	---	.28	.00	.06	.00	.00
17	---	---	---	---	---	---	---	.01	---	.25	.04	.00
18	---	---	---	---	---	---	---	.67	.00	---	.02	.13
19	---	---	---	---	---	---	---	.24	.00	---	.01	.01
20	---	---	---	---	---	---	---	.01	.00	---	.13	.05
21	---	---	---	---	---	---	---	.03	.00	---	.07	.00
22	---	---	---	---	---	---	---	.03	.00	---	.01	.02
23	---	---	---	---	---	---	---	.02	.03	---	.12	.24
24	---	---	---	---	---	---	---	.00	.00	---	.00	.09
25	---	---	---	---	---	---	---	.42	.01	---	.08	.19
26	---	---	---	---	---	---	---	.74	.00	---	.00	.00
27	---	---	---	---	---	---	---	.27	.00	---	.00	.00
28	---	---	---	---	---	---	---	.01	.09	---	.23	.00
29	---	---	---	---	---	---	---	.73	.29	---	.01	.08
30	---	---	---	---	---	---	---	.48	.20	---	.09	.00
31	---	---	---	---	---	---	---	.03	---	---	.00	---
TOTAL	---	---	---	---	---	---	---	---	---	---	1.39	---

Table 26. Daily precipitation for Site CC9, Leavenworth Creek at mouth near Georgetown, Colorado

SITE NAME.--LEAVENWORTH CREEK AT MOUTH NEAR GEORGETOWN, COLO.

SITE NUMBER.--CC9

SITE IDENTIFICATION.--06714800 (downstream order number)

PERIOD OF RECORD.--May to September 1995.

GAGE.--Tipping bucket rain gage with satellite telemetry. Elevation of gage is 9,320 ft above sea level, from topographic map.

REMARKS.--Records poor. Data not published for periods of missing record.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 0.77 in., May 29, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 0.77 in., May 29, 1995.

PRECIPITATION (INCHES), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	.00	.42	.00	---
2	---	---	---	---	---	---	---	---	.21	.13	.00	---
3	---	---	---	---	---	---	---	---	.00	.12	.13	.01
4	---	---	---	---	---	---	---	---	.02	.07	.01	.01
5	---	---	---	---	---	---	---	---	.00	.01	.00	.03
6	---	---	---	---	---	---	---	---	.00	.00	.00	.00
7	---	---	---	---	---	---	---	---	.11	.00	.00	.35
8	---	---	---	---	---	---	---	---	.04	.00	.00	.06
9	---	---	---	---	---	---	---	.05	---	.00	.00	.06
10	---	---	---	---	---	---	---	.12	.01	.01	.01	.00
11	---	---	---	---	---	---	---	.11	.00	---	.00	.20
12	---	---	---	---	---	---	---	.01	.00	.00	.15	.00
13	---	---	---	---	---	---	---	.00	.00	.20	.01	.00
14	---	---	---	---	---	---	---	.02	.00	.12	.10	.00
15	---	---	---	---	---	---	---	.00	.02	.01	.00	.00
16	---	---	---	---	---	---	---	.29	.00	.05	.00	.00
17	---	---	---	---	---	---	---	.00	.34	.23	.04	.00
18	---	---	---	---	---	---	---	---	.01	.13	.02	.17
19	---	---	---	---	---	---	---	.42	.00	.00	.01	.01
20	---	---	---	---	---	---	---	.03	.00	.04	.11	.08
21	---	---	---	---	---	---	---	.03	.00	.01	.08	.01
22	---	---	---	---	---	---	---	.03	.00	.04	.01	.39
23	---	---	---	---	---	---	---	.02	.03	.00	.13	.19
24	---	---	---	---	---	---	---	.44	.01	.00	.00	.05
25	---	---	---	---	---	---	---	.60	.01	.01	.08	.00
26	---	---	---	---	---	---	---	.38	.00	.00	.00	.00
27	---	---	---	---	---	---	---	.27	.00	.00	.00	.00
28	---	---	---	---	---	---	---	.01	.09	.00	.21	.00
29	---	---	---	---	---	---	---	.77	.31	.00	.01	.09
30	---	---	---	---	---	---	---	.52	.19	.11	.08	.01
31	---	---	---	---	---	---	---	.03	---	.00	.00	---
TOTAL	---	---	---	---	---	---	---	---	---	---	1.19	---

Table 27. Daily precipitation for Site GC5, Duck Creek near Grant, Colorado

SITE NAME.--DUCK CREEK NEAR GRANT, COLORADO

SITE NUMBER.--GC5

SITE IDENTIFICATION.--06704500 (downstream order number)

PERIOD OF RECORD.--July to September 1995.

GAGE.--Tipping bucket rain gage (no wind vanes used) with satellite telemetry. Elevation of gage is 10,100 ft above sea level, from topographic map.

REMARKS.--Records poor. Data not published for periods of missing record.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 0.52 in., Aug. 23, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 0.52 in., Aug. 23, 1995.

PRECIPITATION (INCHES), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	.00	---
2	---	---	---	---	---	---	---	---	---	---	.00	---
3	---	---	---	---	---	---	---	---	---	---	.29	.03
4	---	---	---	---	---	---	---	---	---	---	.01	.02
5	---	---	---	---	---	---	---	---	---	---	.00	.07
6	---	---	---	---	---	---	---	---	---	---	.00	.06
7	---	---	---	---	---	---	---	---	---	---	.00	.15
8	---	---	---	---	---	---	---	---	---	---	.00	.11
9	---	---	---	---	---	---	---	---	---	---	.02	.26
10	---	---	---	---	---	---	---	---	---	---	.00	.00
11	---	---	---	---	---	---	---	---	---	---	.00	.04
12	---	---	---	---	---	---	---	---	---	---	.11	.00
13	---	---	---	---	---	---	---	---	---	---	.00	.00
14	---	---	---	---	---	---	---	---	---	---	.10	.02
15	---	---	---	---	---	---	---	---	---	---	.00	.00
16	---	---	---	---	---	---	---	---	---	---	.00	.00
17	---	---	---	---	---	---	---	---	---	---	.01	.00
18	---	---	---	---	---	---	---	---	---	.02	.36	.09
19	---	---	---	---	---	---	---	---	---	.00	.03	.01
20	---	---	---	---	---	---	---	---	---	.02	.19	.16
21	---	---	---	---	---	---	---	---	---	.00	.39	.01
22	---	---	---	---	---	---	---	---	---	.00	.16	.00
23	---	---	---	---	---	---	---	---	---	.00	.52	.02
24	---	---	---	---	---	---	---	---	---	.00	.00	.09
25	---	---	---	---	---	---	---	---	---	.00	.15	.22
26	---	---	---	---	---	---	---	---	---	.00	.00	.03
27	---	---	---	---	---	---	---	---	---	.00	.05	.00
28	---	---	---	---	---	---	---	---	---	.00	.07	.04
29	---	---	---	---	---	---	---	---	---	.00	.01	.06
30	---	---	---	---	---	---	---	---	---	.39	.01	.00
31	---	---	---	---	---	---	---	---	---	.00	.00	---
TOTAL	---	---	---	---	---	---	---	---	---	---	2.48	---

Table 28. Daily precipitation for Site GC11, Geneva Creek at Grant, Colorado

SITE NAME.--GENEVA CREEK AT GRANT, COLO.

SITE NUMBER.--GC11

SITE IDENTIFICATION.--06705500 (downstream order number)

PERIOD OF RECORD.--May to September 1995.

GAGE.--Tipping bucket rain gage (no wind vanes used) with satellite telemetry. Elevation of gage is 8,760 ft above sea level, from topographic map.

REMARKS.--Records poor. Data not published for periods of missing record.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily rainfall, 0.92 in., May 18, 1995.

EXTREMES FOR CURRENT YEAR.--Maximum daily rainfall, 0.92 in., May 18, 1995.

PRECIPITATION (INCHES), WATER YEAR OCTOBER 1994 TO SEPTEMBER 1995
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	.00	.02	.00	---
2	---	---	---	---	---	---	---	---	.16	.00	.00	---
3	---	---	---	---	---	---	---	---	.02	.02	.03	.00
4	---	---	---	---	---	---	---	---	.03	.01	.02	.00
5	---	---	---	---	---	---	---	---	.00	.00	.00	.22
6	---	---	---	---	---	---	---	---	.00	.00	.00	.06
7	---	---	---	---	---	---	---	---	.00	.00	.00	.03
8	---	---	---	---	---	---	---	---	.04	.00	.00	.07
9	---	---	---	---	---	---	---	.05	.28	.00	.20	.04
10	---	---	---	---	---	---	---	.12	.00	.00	.00	.00
11	---	---	---	---	---	---	---	.18	.00	---	.11	---
12	---	---	---	---	---	---	---	.00	.00	.00	.05	---
13	---	---	---	---	---	---	---	.00	.00	.05	.00	.00
14	---	---	---	---	---	---	---	.00	.00	.38	.05	.00
15	---	---	---	---	---	---	---	.00	.04	.00	.00	.00
16	---	---	---	---	---	---	---	.22	.00	.67	.00	.00
17	---	---	---	---	---	---	---	.15	.31	.04	.00	.00
18	---	---	---	---	---	---	---	.92	.00	.02	.00	.02
19	---	---	---	---	---	---	---	.22	.00	.00	.04	.00
20	---	---	---	---	---	---	---	.01	.00	.00	.15	.06
21	---	---	---	---	---	---	---	.00	.00	.00	.31	---
22	---	---	---	---	---	---	---	.01	.00	.00	.02	---
23	---	---	---	---	---	---	---	.02	.16	.08	.20	.31
24	---	---	---	---	---	---	---	.29	.02	.00	.10	.08
25	---	---	---	---	---	---	---	.35	.00	.00	.14	.02
26	---	---	---	---	---	---	---	.15	.00	.00	.00	.00
27	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
28	---	---	---	---	---	---	---	.04	.15	.00	.00	.00
29	---	---	---	---	---	---	---	.88	.34	.00	.00	.03
30	---	---	---	---	---	---	---	.20	.31	.27	.03	.00
31	---	---	---	---	---	---	---	.06	---	.00	.01	---
TOTAL	---	---	---	---	---	---	---	---	1.86	---	1.46	---

Table 29. Water-quality data collected during rain or turbidity events
[--, no data]

Property or constituent	Units	Sampling site (see table 2) CC5	CC5	CC5	CC5	CC5	CC5	CC9
DATE	**mm/dd/yr**	**7/3/95**	**7/3/95**	**7/3/95**	**8/22/95**	**8/22/95**	**8/22/95**	**8/1/95**
TIME OF DAY	**24 hr**	**1720**	**1805**	**1935**	**1433**	**1605**	**1625**	**1240**
Streamflow	**cfs**	67.	68.	68.	23.	26.	27.	41.
Specific conductance	**µS/cm**	59.	59.	59.	61.	60.	60.	59.
pH	**units**	7.6	7.5	7.7	7.7	7.6	7.7	7.6
Water temperature	**°C**	4.5	4.5	4.5	9.0	9.0	9.0	7.0
Turbidity	**NTU**	20.	40.	24.	5.	45.	112.	186.
Dissolved oxygen	**mg/L**	--	8.8	8.8	7.8	7.3	7.3	--
Hardness as $CaCO_3$	**mg/L**	25.	25.	25.	25.	25.	25.	23.
Calcium, dissolved	**mg/L**	6.3	6.4	6.4	6.3	6.4	6.3	6.5
Magnesium, dissolved	**mg/L**	2.2	2.3	2.3	2.2	2.3	2.3	1.7
Sodium, dissolved	**mg/L**	1.3	1.3	1.3	1.2	1.2	1.2	1.1
Potassium, dissolved	**mg/L**	0.9	0.7	0.9	0.7	0.7	0.7	0.4
Alkalinity, total as $CaCO_3$	**mg/L**	24.	24.	24.	26.	26.	25.	13.
Sulfate, dissolved	**mg/L**	3.6	3.7	3.7	3.2	3.1	3.	12.
Chloride, dissolved	**mg/L**	1.1	1.3	1.1	0.4	0.9	1.	0.1
Fluoride, dissolved	**mg/L**	0.1	<0.10	<0.10	0.1	0.1	0.1	0.2
Silica, dissolved	**mg/L**	5.9	5.9	6.	5.4	5.6	6.1	5.9
Dissolved solids, residue at 180°C	**mg/L**	40.	42.	41.	33.	39.	35.	40.
Nitrite, dissolved as N	**mg/L**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite plus nitrate, dissolved as N	**mg/L**	0.12	0.11	0.12	0.11	0.12	0.12	0.11
Nitrogen, ammonia, dissolved as N	**mg/L**	<0.015	<0.015	<0.015	<0.015	0.02	<0.015	0.02
Nitrogen, ammonia plus organic, dissolved as N	**mg/L**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Nitrogen, ammonia plus organic, total as N	**mg/L**	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	<0.2
Phosphorus, total as P	**mg/L**	0.04	0.04	0.02	0.02	0.07	0.11	0.03
Phosphorus, dissolved as P	**mg/L**	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phosphorus, dissolved orthophosphate as P	**mg/L**	0.02	0.02	0.01	<0.01	<0.01	<0.01	<0.01

Table 29. Water quality data collected during rain or turbidity events--Continued
[--, no data]

Property or constituent	Units	Sampling site (see table 2)						
		CC5	CC5	CC5	CC5	CC5	CC5	CC9
Aluminum, total as Al	µg/L	1,100.	1,300.	800.	230.	850.	1,900.	1,300.
Aluminum, dissolved as Al	µg/L	30.	30.	40.	20.	60.	120.	120.
Antimony, dissolved as Sb	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Arsenic, total as As	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Barium, total as Ba	µg/L	<100.	<100.	<100.	<100.	<100.	<100.	<100.
Barium, dissolved as Ba	µg/L	28.	27.	27.	27.	30.	28.	24.
Beryllium, total as Be	µg/L	<10.	<10.	<10.	<10.	<10.	<10.	<10.
Beryllium, dissolved as Be	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Cadmium, total as Cd	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Cadmium, dissolved as Cd	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Chromium, total as Cr	µg/L	2.	2.	2.	<1.	3.	6.	4.
Chromium, dissolved as Cr	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Cobalt, total as Co	µg/L	2.	2.	1.	<1.	<1.	3.	1.
Cobalt, dissolved as Co	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Copper, total as Cu	µg/L	2.	3.	2.	1.	2.	3.	6.
Copper, dissolved as Cu	µg/L	<1.	1.	1.	<1.	<1.	<1.	2.
Iron, total as Fe	µg/L	2,000.	2,400.	1,400.	500.	2,000.	4,000.	--
Iron, dissolved as Fe	µg/L	100.	100.	120.	140.	180.	320.	110.
Lead, total as Pb	µg/L	<1.	<1.	<1.	<1.	1.	2.	36.
Lead, dissolved as Pb	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	2.
Manganese, total as Mn	µg/L	50.	100.	60.	30.	320.	100.	80.
Manganese, dissolved as Mn	µg/L	8.	9.	7.	8.	9.	14.	13.
Mercury, total as Hg	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum, total as Mo	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Molybdenum, dissolved as Mo	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Nickel, total as Ni	µg/L	<1.	1.	1.	<1.	2.	4.	3.
Nickel, dissolved as Ni	µg/L	1.	1.	1.	<1.	<1.	<1.	1.
Selenium, total as Se	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Silver, total as Ag	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Silver, dissolved as Ag	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Zinc, total as Zn	µg/L	<10.	10.	<10.	<10.	40.	10.	130.
Zinc, dissolved as Zn	µg/L	1.	1.	1.	<1.	<1.	3.	82.
Uranium, natural dissolved	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Carbon, organic total as C	mg/L	--	4.	3.6	2.8	3.5	3.5	2.1
Carbon, organic dissolved as C	mg/L	--	--	--	1.5	1.9	1.8	1.4

Table 30. Suspended-sediment concentrations and particle-size data collected at monitoring stations

Property or constituent	Units	Sampling site (see table 2)											
		CC5	CC5	CC5	CC5	CC5	CC5	CC5	CC5	CC5	CC5	CC5	
DATE	mm/dd/yr	10/18/94	11/30/94	12/29/94	2/23/95	4/8/95	4/14/95	4/28/95	5/12/95	5/15/95	5/15/95	6/7/95	
TIME OF DAY	24 hr	1305	1545	1304	1314	1700	1045	1045	1550	1625	1640	1130	
Streamflow	cfs	5.8	4.1	3.	11.	3.4	2.	2.5	4.3	11.5	11.5	38.	
Sediment, suspended, concentration	mg/L	14.	5.	12.	3.	66.	5.	7.	61.	181.	204.	74.	
Sediment, suspended, percent finer than 0.062 mm	%	100.	--	--	--	--	100.	--	92.	88.	80.	34.	

Property or constituent	Units	CC5	CC5	CC5	CC5	CC5	CC5	CC5	CC5	CC7	CC7	CC7	CC7
DATE	mm/dd/yr	6/13/95	6/20/95	7/5/95	8/22/95	8/22/95	8/22/95	9/6/95	9/6/95	10/18/94	11/30/94	12/28/94	2/1/95
TIME OF DAY	24 hr	1940	1525	1750	1422	1605	1625	0930	1035	1443	1340	1453	1453
Streamflow	cfs	70.	95.	57.	25.	26.	27.	17.	16.	5.9	4.9	4.6	4.
Sediment, suspended, concentration	mg/L	196.	441.	15.	16.	64.	88.	4.	4.	12.	7.	4.	10.
Sediment, suspended, percent finer than 0.062 mm	%	63.	58.	38.	100.	100.	96.	100.	--	--	--	--	--

Property or constituent	Units	CC7	CC7	CC7	CC7	CC7	CC7	CC7	CC7	CC7	CC7	CC7	
DATE	mm/dd/yr	3/17/95	4/13/95	4/28/95	5/10/95	5/10/95	6/7/95	6/13/95	7/7/95	7/19/95	8/3/95	9/6/95	
TIME OF DAY	24 hr	1501	1323	1350	1730	1740	1515	1840	1345	1304	1031	1515	
Streamflow	cfs	12.	6.9	5.4	6.4	6.2	17.	37.	34.	103.	41.	15.	
Sediment, suspended, concentration	mg/L	4.	3.	14.	7.	9.	6.	12.	26.	5.	4.	1.	
Sediment, suspended, percent finer than 0.062 mm	%	--	--	--	--	--	85.	67.	26.	67.	100.	100.	

Property or constituent	Units	Sampling site (see table 2)											
		CC9	CC9	CC9	CC9	CC9	CC9	CC9	CC9	CC9	CC9	CC9	CC9
DATE	mm/dd/yr	10/18/94	11/30/94	12/28/94	2/1/95	3/17/95	4/12/95	4/28/95	5/10/95	6/8/95	6/13/95	6/15/95	6/20/95
TIME OF DAY	24 hr	1410	1137	1250	1210	1238	1414	1250	1440	1000	1656	1715	1300
Streamflow	cfs	6.9	4.4	1.7	1.6	1.4	1.7	1.4	1.8	28.	51.	97.	108.
Sediment, suspended, concentration	mg/L	9.	3.	9.	2.	2.	3.	5.	3.	41.	115.	347.	102.
Sediment, suspended, percent finer than 0.062 mm	%	90.	--	--	--	--	100.	--	--	46.	36.	31.	25.

Table 30. Suspended-sediment concentrations and particle-size data collected at monitoring stations--Continued

Property or constituent	Units	CC9	CC9	CC9	CC9	GC5	GC5	GC5	GC5	GC5	GC5	GC5	GC5
DATE	mm/dd/yr	7/5/95	7/18/95	8/1/95	9/6/95	10/18/94	12/2/94	12/30/94	3/7/95	4/13/95	4/27/95	5/11/95	5/11/95
TIME OF DAY	24 hr	1430	1515	1240	1400	1105	1358	1431	1310	0954	1525	1655	1700
Streamflow	cfs	72.	94.	41.	12.	1.3	.92	.67	.62	.86	1.4	2.2	2.2
Sediment, suspended, concentration	mg/L	1175.	33.	65.	1.	5.	6.	5.	3.	4.	2.	18.	16.
Sediment, suspended, percent finer than 0.062 mm	%	0.	22.	97.	100.	--	--	--	--	100.	--	--	--

Property or constituent	Units	GC5	GC5	GC5	GC5	GC5	GC5	GC5	GC5	GC11	GC11	GC11	GC11
DATE	mm/dd/yr	6/14/95	6/7/95	6/19/95	6/21/95	7/20/95	8/3/95	9/6/95	9/7/95	10/18/94	12/2/94	1/6/95	3/10/95
TIME OF DAY	24 hr	1506	1600	1400	1615	1107	1453	1230	1245	0943	1613	1323	1220
Streamflow	cfs	20.	13.	67.	67.	25.	16.	6.3	6.3	16.	14.	11.	11.
Sediment, suspended, concentration	mg/L	20.	8.	92.	40.	11.	5.	2.	1.	12.	21.	6.	11.
Sediment, suspended, percent finer than 0.062 mm	%	65.	54.	52.	43.	29.	100.	100.	100.	100.	--	--	--

Property or constituent	Units	GC11	GC11	GC11	GC11	GC11	GC11	GC11	GC11	GC11
DATE	mm/dd/yr	4/12/95	4/27/95	5/11/95	6/14/95	6/19/95	6/21/95	7/6/95	8/4/95	9/7/95
TIME OF DAY	24 hr	0950	1250	1410	2000	1735	1715	1120	1025	1345
Streamflow	cfs	16.	13.	20.	531.	790.	726.	281.	147.	58.
Sediment, suspended, concentration	mg/L	7.	8.	10.	939.	169.	273.	11.	11.	6.
Sediment, suspended, percent finer than 0.062 mm	%	100.	--	--	37.	31.	73.	41.	100.	100.

Table 31. Water-quality data collected at high- and low-streamflow sampling sites
[--, no data]

Property or constituent	Units	Sampling site (see table 3) CC1		CC2		CC3		CC4		CC5		CC6	
		High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow
DATE	mm/dd/yr	6/23/95	9/6/95	6/13/95	9/6/95	6/13/95	9/6/95	6/13/95	9/6/95	6/13/95	9/5/95	6/13/95	9/6/95
TIME OF DAY	24 hr	1210	1315	1830	1615	1842	1100	1840	1615	2015	0930	1645	1430
Streamflow	ft^3/s	11.	0.85	23.	0.95	12.	10.	61.	17.	69.	17.	53.	20.
Specific conductance	µS/cm	27.	40.	37.	98.	60.	45.	53.	58.	55.	63.	93.	67.
pH	units	7.2	7.6	--	7.9	7.6	7.4	7.9	7.8	7.3	7.7	8.	7.8
Water temperature	°C	2.5	12.	0.0	12.	1.	8.	2.5	9.5	2.5	7.0	5.	12.5
Turbidity	NTU	2.	2.8	43.	2.2	12.	0.5	51.	2.5	63.	2.5	12.	1.9
Barometric pressure	mm Hg	--	--	--	521.	--	--	--	525.	--	--	--	538.
Dissolved oxygen	mg/L	10.	7.4	10.4	7.6	--	8.	8.5	7.8	8.8	8.3	6.7	7.7
Hardness as $CaCO_3$	mg/L	11.	16.	16.	44.	21.	19.	24.	25.	25.	27.	39.	28.
Calcium, dissolved	mg/L	3.1	4.6	4.1	10.	4.8	5.	5.8	6.3	6.3	6.9	10.	7.4
Magnesium, dissolved	mg/L	0.81	1.1	1.5	4.6	2.1	1.6	2.3	2.2	2.3	2.4	3.3	2.4
Sodium, dissolved	mg/L	0.8	1.5	0.8	1.8	0.9	0.9	1.	1.1	1.1	1.2	1.5	1.3
Potassium, dissolved	mg/L	0.6	0.2	1.	0.6	1.	0.9	1.1	0.9	1.1	0.9	1.4	1.
Alkalinity, total as $CaCO_3$	mg/L	11.	19.	16.	43.	21.	19.	22.	26.	23.	28.	36.	29.
Sulfate, dissolved	mg/L	1.3	1.5	1.3	5.	2.2	3.	2.5	3.6	2.9	4.1	4.3	4.2
Chloride, dissolved	mg/L	0.5	0.5	1.2	1.6	0.6	0.7	1.3	0.4	1.9	0.3	2.5	0.9
Fluoride, dissolved	mg/L	0.1	0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	0.1
Silica, dissolved	mg/L	4.9	7.7	4.1	7.6	4.2	4.1	5.	4.8	5.4	5.3	5.7	5.6
Dissolved solids, residue at 180°C	mg/L	33.	35.	34.	60.	36.	29.	46.	36.	46.	53.	55.	43.
Nitrite, dissolved as N	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01
Nitrite plus nitrate, dissolved as N	mg/L	<0.05	<0.05	<0.05	<0.05	0.11	0.09	0.05	0.07	0.06	0.1	0.07	0.09
Nitrogen, ammonia, dissolved as N	mg/L	<0.015	<0.015	0.03	<0.015	0.02	<0.015	0.02	0.02	0.02	0.02	0.02	0.02
Nitrogen, ammonia plus organic, dissolved as N	mg/L	0.2	0.2	0.2	<0.2	<0.2	<0.2	0.2	<0.2	0.3	<0.2	<0.2	<0.2
Nitrogen, ammonia plus organic, total as N	mg/L	0.3	<0.2	0.4	<0.2	<0.2	<0.2	0.6	<0.2	0.8	<0.2	<0.2	<0.2
Phosphorus, total as P	mg/L	0.02	0.01	0.05	0.01	<0.01	<0.01	0.08	<0.01	0.15	<0.01	0.01	<0.01
Phosphorus, dissolved as P	mg/L	0.02	0.02	0.02	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01
Phosphorus, dissolved orthophosphate as P	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Table 31. Water-quality data collected at high- and low-streamflow sampling sites--Continued
[--, no data]

Property or constituent	Units	Sampling site (see table 3)											
		CC1		CC2		CC3		CC4		CC5		CC6	
		High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow
Aluminum, total as Al	µg/L	90.	20.	1,300.	60.	760.	30.	2,000.	60.	2,800.	100.	290.	40.
Aluminum, dissolved as Al	µg/L	30.	20.	50.	10.	30.	3.	40.	10.	50.	7.	20.	9.
Antimony, dissolved as Sb	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Arsenic, total as As	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Barium, total as Ba	µg/L	<100.	<100.	<100.	<100.	<100.	<100.	<100.	<100.	<100.	<100.	<100.	<100.
Barium, dissolved as Ba	µg/L	16.	18.	18.	31.	29.	31.	25.	31.	28.	28.	30.	24.
Beryllium, total as Be	µg/L	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.
Beryllium, dissolved as Be	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Cadmium, total as Cd	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Cadmium, dissolved as Cd	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Chromium, total as Cr	µg/L	<1.	<1.	20.	<1.	2.	<1.	5.	<1.	8.	<1.	1.	3.
Chromium, dissolved as Cr	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	1.	<1.	<1.	<1.
Cobalt, total as Co	µg/L	<1.	<1.	2.	<1.	<1.	<1.	2.	<1.	3.	<1.	<1.	<1.
Cobalt, dissolved as Co	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Copper, total as Cu	µg/L	1.	<1.	2.	<1.	1.	<1.	3.	1.	5.	<1.	2.	1.
Copper, dissolved as Cu	µg/L	<1.	1.	1.	<1.	1.	<1.	1.	2.	2.	<1.	1.	1.
Iron, total as Fe	µg/L	480.	980.	3,500.	510.	2,600.	100.	6,200.	290.	7,700.	330.	2,700.	190.
Iron, dissolved as Fe	µg/L	310.	720.	180.	360.	110.	41.	210.	160.	200.	110.	140.	58.
Lead, total as Pb	µg/L	<1.	<1.	1.	<1.	1.	<1.	3.	<1.	4.	<1.	<1.	<1.
Lead, dissolved as Pb	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Manganese, total as Mn	µg/L	40.	40.	120.	20.	80.	<10.	180.	20.	220.	10.	140.	20.
Manganese, dissolved as Mn	µg/L	10.	12.	9.	3.	6.	<1.	25.	14.	19.	12.	30.	11.
Mercury, total as Hg	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum, total as Mo	µg/L	<1.	<1.	<1.	1.	<1.	1.	<1.	1.	<1.	2.	<1.	2.
Molybdenum, dissolved as Mo	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Nickel, total as Ni	µg/L	<1.	<1.	6.	<1.	2.	<1.	4.	<1.	5.	<1.	<1.	2.
Nickel, dissolved as Ni	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	1.	<1.	1.	<1.
Selenium, total as Se	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Silver, total as Ag	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Silver, dissolved as Ag	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Zinc, total as Zn	µg/L	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	20.	<10.	<10.	<10.
Zinc, dissolved as Zn	µg/L	5.	<1.	5.	2.	2.	<1.	5.	4.	8.	2.	8.	2.
Uranium, natural dissolved	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Carbon, organic total as C	mg/L	6.4	6.7	9.2	4.1	7.8	1.3	12.	2.3	13.	--	3.9	2.
Carbon, organic dissolved as C	mg/L	--	3.3	--	2.6	--	0.7	--	1.2	--	1.1	--	1.4

Table 31. Water-quality data collected at high- and low-streamflow sampling sites--Continued
[--, no data]

Property or constituent	Units	Sampling site (see table 3)									
		CC7		CC8		CC9		CC10		CC11	
		High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow
DATE	**mm/dd/yr**	**6/13/95**	**9/5/95**	**--**	**9/6/95**	**6/13/95**	**9/6/95**	**6/13/95**	**9/6/95**	**--**	**9/6/95**
TIME OF DAY	**24 hr**	**1815**	**1315**	**--**	**1130**	**1640**	**1400**	**1620**	**0900**	**--**	**1030**
Streamflow	**ft^3/s**	35.	15.	--	5.1	56.	13.	57.	2.1	--	7.8
Specific conductance	**µS/cm**	98.	88.	--	75.	62.	82.	85.	116.	--	56.
pH	**units**	7.7	7.8	--	7.2	7.8	7.5	8.	7.9	--	--
Water temperature	**°C**	6.5	11.5	--	7.5	4.5	9.5	8.	10.	--	9.
Turbidity	**NTU**	5.	1.	--	1.	19.	.5	10.	0.3	--	--
Barometric pressure	**mmHg**	545.	--	--	508.	530.	550.	--	562.	--	--
Dissolved oxygen	**mg/L**	8.8	9.2	--	8.7	8.4	8.6	9.1	8.2	--	8.2
Hardness as $CaCO_3$	**mg/L**	42.	38.	--	30.	24.	33.	36.	47.	--	23.
Calcium, dissolved	**mg/L**	11.	10.	--	8.3	6.5	9.1	9.3	12.	--	6.8
Magnesium, dissolved	**mg/L**	3.6	3.1	--	2.2	2.	2.5	3.	4.1	--	1.4
Sodium, dissolved	**mg/L**	1.7	1.5	--	1.1	1.1	1.4	1.4	1.7	--	1.9
Potassium, dissolved	**mg/L**	1.3	1.2	--	0.3	1.	0.5	1.1	1.1	--	0.6
Alkalinity, total as $CaCO_3$	**mg/L**	40.	37.	--	13.	17.	19.	28.	43.	--	25.
Sulfate, dissolved	**mg/L**	5.2	5.7	--	18.	9.1	18.	9.	12.	--	3.3
Chloride, dissolved	**mg/L**	2.2	1.3	--	0.3	0.7	0.1	1.5	0.9	--	0.2
Fluoride, dissolved	**mg/L**	0.2	0.1	--	0.2	<0.1	0.2	0.2	0.2	--	0.2
Silica, dissolved	**mg/L**	6.2	6.9	--	5.4	5.5	6.8	6.1	8.	--	9.1
Dissolved solids, residue at 180°C	**mg/L**	60.	52.	--	48.	47.	53.	57.	69.	--	43.
Nitrite, dissolved as N	**mg/L**	<0.01	<0.01	--	<0.01	<0.01	<0.01	<0.01	<0.01	--	<0.01
Nitrite plus nitrate, dissolved as N	**mg/L**	0.09	0.13	--	<0.05	<0.05	<0.05	0.06	0.09	--	0.06
Nitrogen, ammonia, dissolved as N	**mg/L**	0.02	<0.015	--	<0.015	0.03	<0.015	0.02	<0.015	--	0.02
Nitrogen, ammonia plus organic, dissolved as N	**mg/L**	<0.2	<0.2	--	<0.2	0.2	<0.2	<0.2	<0.2	--	<0.2
Nitrogen, ammonia plus organic, total as N	**mg/L**	<0.2	<0.2	--	<0.2	<0.2	<0.2	0.3	<0.2	--	<0.2
Phosphorus, total as P	**mg/L**	0.01	<0.01	--	0.01	<0.01	<0.01	0.02	0.04	--	<0.01
Phosphorus, dissolved as P	**mg/L**	<0.01	<0.01	--	<0.01	<0.01	<0.01	<0.01	<0.01	--	<0.01
Phosphorus, dissolved orthophosphate as P	**mg/L**	<0.01	<0.01	--	<0.01	<0.01	<0.01	<0.01	<0.01	--	<0.01

Table 31. Water-quality data collected at high- and low-streamflow sampling sites--Continued
[--, no data]

Property or constituent	Units	Sampling site (see table 3)									
		CC7		CC8		CC9		CC10		CC11	
		High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow
Aluminum, total as Al	µg/L	90.	30.	--	90.	1,100.	40.	310.	30.	--	20.
Aluminum, dissolved as Al	µg/L	10.	4.	--	60.	100.	20.	60.	6.	--	10.
Antimony, dissolved as Sb	µg/L	<1.	<1.	--	<1.	<1.	<1.	<1.	<1.	--	<1.
Arsenic, total as As	µg/L	<1.	<1.	--	<1.	<1.	<1.	<1.	<1.	--	<1.
Barium, total as Ba	µg/L	<100.	<100.	--	<100.	<100.	<100.	<100.	<100.	--	<100.
Barium, dissolved as Ba	µg/L	29.	26.	--	26.	27.	28.	29.	30.	--	17.
Beryllium, total as Be	µg/L	<10.	<10.	--	<10.	<10.	<10.	<10.	<10.	--	<10.
Beryllium, dissolved as Be	µg/L	<1.	<1.	--	<1.	<1.	<1.	<1.	<1.	--	<1.
Cadmium, total as Cd	µg/L	<1.	<1.	--	1.	2.	<1.	<1.	<1.	--	<1.
Cadmium, dissolved as Cd	µg/L	<1.	<1.	--	1.	<1.	<1.	<1.	<1.	--	<1.
Chromium, total as Cr	µg/L	4.	<1.	--	<1.	2.	<1.	1.	<1.	--	<1.
Chromium, dissolved as Cr	µg/L	<1.	<1.	--	<1.	<1.	<1.	<1.	<1.	--	<1.
Cobalt, total as Co	µg/L	<1.	<1.	--	<1.	<1.	<1.	<1.	<1.	--	<1.
Cobalt, dissolved as Co	µg/L	<1.	<1.	--	<1.	<1.	<1.	<1.	<1.	--	<1.
Copper, total as Cu	µg/L	<1.	<1.	--	6.	14.	2.	7.	2.	--	<1.
Copper, dissolved as Cu	µg/L	<1.	<1.	--	5.	7.	3.	4.	1.	--	1.
Iron, total as Fe	µg/L	300.	60.	--	140.	2,600.	50.	740.	40.	--	240.
Iron, dissolved as Fe	µg/L	60.	24.	--	85.	79.	21.	66.	9.	--	170.
Lead, total as Pb	µg/L	1.	<1.	--	2.	55.	2.	16.	1.	--	<1.
Lead, dissolved as Pb	µg/L	<1.	<1.	--	1.	2.	1.	1.	<1.	--	<1.
Manganese, total as Mn	µg/L	20.	<10.	--	40.	370.	<10.	90.	10.	--	<10.
Manganese, dissolved as Mn	µg/L	2.	1.	--	42.	38.	12.	23.	2.	--	6.
Mercury, total as Hg	µg/L	<0.1	<0.1	--	<0.1	<0.1	<0.1	<0.1	<0.1	--	<0.1
Molybdenum, total as Mo	µg/L	1.	2.	--	1.	<1.	2.	1.	2.	--	2.
Molybdenum, dissolved as Mo	µg/L	<1.	<1.	--	<1.	<1.	<1.	<1.	<1.	--	<1.
Nickel, total as Ni	µg/L	<1.	<1.	--	2.	3.	1.	1.	<1.	--	<1.
Nickel, dissolved as Ni	µg/L	1.	<1.	--	2.	2.	1.	2.	<1.	--	<1.
Selenium, total as Se	µg/L	<1.	<1.	--	<1.	<1.	<1.	<1.	<1.	--	<1.
Silver, total as Ag	µg/L	<1.	<1.	--	<1.	<1.	<1.	<1.	<1.	--	<1.
Silver, dissolved as Ag	µg/L	<1.	<1.	--	<1.	<1.	<1.	<1.	<1.	--	<1.
Zinc, total as Zn	µg/L	<10.	<10.	--	310.	430.	140.	170.	40.	--	<10.
Zinc, dissolved as Zn	µg/L	11.	2.	--	300.	200.	130.	130.	42.	--	1.
Uranium, natural dissolved	µg/L	<1.	<1.	--	<1.	<1.	<1.	<1.	<1.	--	<1.
Carbon, organic total as C	mg/L	2.2	2.	--	2.1	7.2	1.7	5.2	2.	--	2.6
Carbon, organic dissolved as C	mg/L	--	1.2	--	1.2	--	1.2	--	1.3	--	2.1

Table 31. Water-quality data collected at high- and low-streamflow sampling sites--Continued
[--, no data]

Property or constituent	Units	Sampling site (see table 3)											
		GC1		GC2		GC3		GC4		GC5		GC6	
		High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow
DATE	mm/dd/yr	6/26/95	9/7/95	6/26/95	9/7/95	6/13/95	9/7/95	6/13/95	9/7/95	6/14/95	9/7/95	6/14/95	9/6/95
TIME OF DAY	24 hr	1220	1045	1525	1330	1614	1235	1725	0920	1510	1230	1630	1145
Streamflow	ft^3/s	6.3	1.2	11.	0.44	0.9	0.57	15.	6.7	19.0	5.4	51.	11.
Specific conductance	µS/cm	31.	37.	26.	55.	32.	35.	56.	45.	54.	49.	84.	210.
pH	units	7.4	7.6	7.	7.7	7.9	7.3	--	7.6	7.7	7.7	5.0	3.8
Water temperature	°C	4.0	11.0	6.0	8.0	3.0	9.0	7.0	7.5	11.5	10.0	2.0	8.5
Turbidity	NTU	2.	1.5	2.	2.7	11.	0.5	--	1.3	5.0	1.3	81.	1.2
Barometric Pressure	mmHg	505.	511.	--	511.	580.	505.	--	602.	--	--	537.	--
Dissolved oxygen	mg/L	8.5	7.3	8.2	7.4	8.6	7.	9.4	9.6	8.2	8.3	11.3	10.5
Hardness as $CaCO_3$	mg/L	12.	14.	9.	22.	22.	12.	11.	16.	20.	18.	26.	38.
Calcium, dissolved	mg/L	3.4	3.9	2.6	6.1	6.5	3.4	3.1	4.8	5.8	5.2	6.6	8.7
Magnesium, dissolved	mg/L	0.94	1.1	0.7	1.6	1.3	0.9	.81	1.	1.3	1.2	2.4	4.
Sodium, dissolved	mg/L	0.7	1.	0.9	2.	1.7	1.3	1.	1.4	1.9	1.6	1.	1.4
Potassium, dissolved	mg/L	0.7	0.6	0.6	0.5	1.	0.8	0.9	0.7	1.	0.8	0.8	0.9
Alkalinity, total as $CaCO_3$	mg/L	12.	15.	9.2	22.	19.	14.	13.	17.	18.	20.	<0.1	<0.1
Sulfate, dissolved	mg/L	2.2	3.	4.2	2.9	4.9	2.4	1.6	2.9	4.6	2.9	34.	90.
Chloride, dissolved	mg/L	0.2	0.4	1.1	0.7	1.3	0.6	0.6	0.9	1.5	0.5	0.6	0.1
Fluoride, dissolved	mg/L	<0.10	0.1	0.2	0.4	0.1	0.2	<0.10	0.3	0.2	0.2	0.1	0.2
Silica, dissolved	mg/L	4.4	5.6	5.3	9.8	7.3	6.3	4.8	7.3	7.9	8.	6.4	13.
Dissolved solids, residue at 180°C	mg/L	26.	27.	30.	41.	41.	25.	25.	34.	45.	39.	56.	127.
Nitrite, dissolved as N	mg/L	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite plus nitrate, dissolved as N	mg/L	0.08	<0.05	<0.05	0.09	0.12	<0.05	0.09	<0.05	0.08	<0.05	0.08	0.07
Nitrogen, ammonia, dissolved as N	mg/L	0.03	<0.015	0.02	0.02	0.03	<0.015	0.02	<0.015	0.02	<0.015	0.02	<0.015
Nitrogen, ammonia plus organic, dissolved as N	mg/L	<0.2	<0.2	0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Nitrogen, ammonia plus organic, total as N	mg/L	<0.2	<0.2	0.3	<0.2	0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Phosphorus, total as P	mg/L	<0.01	0.01	0.04	0.01	0.09	<0.01	<0.01	0.01	<0.01	0.02	0.03	0.01
Phosphorus, dissolved as P	mg/L	<0.01	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phosphorus, dissolved orthophosphate as P	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Table 31. Water-quality data collected at high- and low-streamflow sampling sites--Continued
[--, no data]

Property or constituent	Units	Sampling site (see table 3)											
		GC1		GC2		GC3		GC4		GC5		GC6	
		High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow
Aluminum, total as Al	µg/L	90.	20.	150.	30.	420.	10.	90.	60.	270.	30.	2,200.	5,100.
Aluminum, dissolved as Al	µg/L	30.	5.	30.	20.	20.	10.	30.	4.	30.	6.	580.	4,700.
Antimony, dissolved as Sb	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Arsenic, total as As	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Barium, total as Ba	µg/L	<100.	<100.	<100.	<100.	<100.	<100.	<100.	<100.	<100.	<100.	<100.	<100.
Barium, dissolved as Ba	µg/L	16.	16.	16.	28.	29.	20.	21.	21.	28.	24.	33.	32.
Beryllium, total as Be	µg/L	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.
Beryllium, dissolved as Be	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Cadmium, total as Cd	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	2.
Cadmium, dissolved as Cd	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	2.
Chromium, total as Cr	µg/L	<1.	<1.	2.	2.	1.	<1.	<1.	<1.	3.	<1.	5.	<1.
Chromium, dissolved as Cr	µg/L	<1.	<1.	1.	<1.	<1.	<1.	<1.	<1.	2.	<1.	<1.	<1.
Cobalt, total as Co	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	2.	9.
Cobalt, dissolved as Co	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	8.
Copper, total as Cu	µg/L	1.	<1.	1.	<1.	1.	<1.	<1.	<1.	1.	<1.	14.	39.
Copper, dissolved as Cu	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	5.	37.
Iron, total as Fe	µg/L	210.	160.	730.	510.	1,300.	60.	320.	230.	750.	270.	47,000.	2,100.
Iron, dissolved as Fe	µg/L	49.	110.	270.	370.	83.	16.	40.	71.	110.	140.	480.	1,800.
Lead, total as Pb	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	5.	1.
Lead, dissolved as Pb	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	1.
Manganese, total as Mn	µg/L	<10.	<10.	10.	<10.	40.	<10.	30.	10.	20.	20.	220.	730.
Manganese, dissolved as Mn	µg/L	3.	4.	6.	8.	9.	3.	3.	11.	7.	15.	190.	760.
Mercury, total as Hg	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1
Molybdenum, total as Mo	µg/L	<1.	<1.	<1.	<1.	<1.	1.	<1.	1.	1.	1.	<1.	<1.
Molybdenum, dissolved as Mo	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Nickel, total as Ni	µg/L	<1.	<1.	<1.	<1.	1.	<1.	<1.	<1.	<1.	<1.	5.	16.
Nickel, dissolved as Ni	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	4.	17.
Selenium, total as Se	µg/L	<1.	<1.	<1.	<1.	<1.	<2.	<1.	<1.	<1.	<1.	<1.	<1.
Silver, total as Ag	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Silver, dissolved as Ag	µg/L	<1.	1.	<1.	<1.	<1.	1.	<1.	1.	<1.	1.	<1.	<1.
Zinc, total as Zn	µg/L	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	60.	330.
Zinc, dissolved as Zn	µg/L	2.	3.	12.	6.	5.	3.	3.	3.	4.	2.	71.	320.
Uranium, natural dissolved	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	2.
Carbon, organic total as C	mg/L	3.1	1.9	5.7	2.9	4.9	2.	3.8	1.6	4.7	2.3	6.4	0.6
Carbon, organic dissolved as C	mg/L	--	1.1	--	2.2	--	1.3	--	1.2	--	1.4	--	0.5

Table 31. Water-quality data collected at high- and low-streamflow sampling sites--Continued
[--, no data]

Property or constituent	Units	Sampling site (see table 3)											
		GC7		GC8		GC9		GC10		GC11		GC12	
		High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow
DATE	mm/dd/yr	6/14/95	9/7/95	6/14/95	9/6/95	6/14/95	9/7/95	6/14/95	9/7/95	6/14/95	9/7/95	6/14/95	9/7/95
TIME OF DAY	24 hr	1920	1130	1800	1430	1820	1225	1615	1030	2000	1345	1610	1130
Streamflow	ft^3/s	153.	20.	45.	6.3	207.	36.	160.	18.	542.	65.	369.	66.
Specific conductance	µS/cm	64.	110.	36.	45.	59.	82.	27.	43.	41.	71.	46.	72.
pH	units	6.8	4.9	7.2	7.5	6.9	6.7	7.3	7.7	7.	7.6	7.3	7.4
Water temperature	°C	5.0	10.0	3.0	11.5	11.0	11.5	5.5	8.5	8.5	11.5	10.0	11.0
Turbidity	NTU	90.	3.1	80.	1.1	92.	4.8	25.	2.1	94.	3.4	33.	3.4
Barometric pressure	mmHg	545.	--	--	--	--	--	535.	--	632.	560.	--	560.
Dissolved oxygen	mg/L	10.4	9.6	--	9.3	7.1	7.5	9.7	8.3	9.4	8.		8.4
Hardness as $CaCO_3$	mg/L	22.	35.	14.	17.	21.	29.	10.	16.	15.	24.	16.	25.
Calcium, dissolved	mg/L	5.4	8.1	3.5	4.5	5.5	7.2	2.9	4.8	3.9	6.3	4.4	6.5
Magnesium, dissolved	mg/L	2.	3.5	1.2	1.5	1.8	2.7	0.65	0.9	1.2	2.	1.3	2.1
Sodium, dissolved	mg/L	1.	1.4	1.	1.4	1.5	1.7	0.8	1.7	1.3	1.8	1.5	1.9
Potassium, dissolved	mg/L	0.9	0.8	0.8	0.5	0.9	0.8	1.1	0.6	1.2	0.9	1.1	0.7
Alkalinity, total as $CaCO_3$	mg/L	4.6	<0.1	10.	14.	7.6	1.8	11.	18.	9.6	10.	9.9	10.
Sulfate, dissolved	mg/L	18.	50.	5.6	8.3	14.	29.	1.3	2.4	7.7	19.	8.2	18.
Chloride, dissolved	mg/L	0.6	0.7	0.6	0.3	0.4	0.5	0.6	0.1	0.7	0.3	0.7	0.3
Fluoride, dissolved	mg/L	<0.1	0.1	<0.1	<0.1	0.1	0.1	0.1	0.1	<0.1	0.2	<0.1	0.2
Silica, dissolved	mg/L	5.8	9.5	5.8	8.0	7.4	9.0	4.4	8.8	6.3	9.7	7.1	9.8
Dissolved solids, residue at 180 °C	mg/L	41.	79.	34.	37.	48.	58.	29.	34.	40.	51.	42.	49.
Nitrite, dissolved as N	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite plus nitrate, dissolved as N	mg/L	0.07	0.07	0.06	<0.05	0.06	0.05	0.06	0.07	0.05	0.06	0.05	0.06
Nitrogen, ammonia, dissolved as N	mg/L	0.03	<0.015	0.03	<0.015	0.03	<0.015	0.02	<0.015	0.03	<0.015	0.02	<0.015
Nitrogen, ammonia plus organic, dissolved as N	mg/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	0.2	<0.2	0.2	<0.2
Nitrogen, ammonia plus organic, total as N	mg/L	0.7	<0.2	1.2	<0.2	<0.2	<0.2	0.7	<0.2	<0.2	<0.2	0.6	<0.2
Phosphorus, total as P	mg/L	0.17	<0.01	0.17	<0.01	<0.01	0.01	0.17	0.02	<0.01	0.02	0.09	<0.01
Phosphorus, dissolved as P	mg/L	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01
Phosphorus, dissolved orthophosphate as P	mg/L	0.02	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Table 31. Water-quality data collected at high- and low-streamflow sampling sites--Continued
[--, no data]

Property or constituent	Units	Sampling site (see table 3)											
		GC7		GC8		GC9		GC10		GC11		GC12	
		High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow
Aluminum, total as Al	µg/L	3,600.	2,500.	4,600.	100.	5,000.	1,300.	1,900.	40.	11,000.	750.	3,000.	690.
Aluminum, dissolved as Al	µg/L	120.	1,800.	140.	40.	80.	20.	40.	10.	120.	60.	100.	60.
Antimony, dissolved as Sb	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Arsenic, total as As	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Barium, total as Ba	µg/L	<100.	<100.	100.	<100.	<100.	<100.	<100.	<100.	100.	<100.	<100.	<100.
Barium, dissolved as Ba	µg/L	30.	38.	26.	26.	30.	37.	16.	18.	18.	30.	20.	32.
Beryllium, total as Be	µg/L	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.
Beryllium, dissolved as Be	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Cadmium, total as Cd	mg/L	<1.	1.	<1.	<1.	<1.	<1.	<1.	<1.	1.	<1.	<1.	<1.
Cadmium, dissolved as Cd	µg/L	<1.	1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Chromium, total as Cr	µg/L	6.	<1.	9.	<1.	8.	<1.	3.	<1.	16.	<1.	5.	<1.
Chromium, dissolved as Cr	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Cobalt, total as Co	µg/L	2.	5.	10.	<1.	4.	3.	2.	<1.	10.	1.	4.	1.
Cobalt, dissolved as Co	µg/L	<1.	5.	<1.	<1.	<1.	3.	<1.	<1.	<1.	1.	<1.	1.
Copper, total as Cu	µg/L	18.	18.	14.	10.	22.	9.	2.	<1.	53.	5.	15.	5.
Copper, dissolved as Cu	µg/L	2.	18.	2.	<1.	1.	3.	<1.	<1.	2.	2.	2.	2.
Iron, total as Fe	µg/L	21,000.	1,100.	7,100.	130.	13,000.	740.	7,700.	510.	23,000.	550.	5,600.	470.
Iron, dissolved as Fe	µg/L	260.	480.	120.	55.	210.	180.	210.	320.	260.	140.	230.	130.
Lead, total as Pb	µg/L	7.	<1.	5.	<1.	11.	<1.	2.	<1.	25.	<1.	28.	<1.
Lead, dissolved as Pb	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	1.	<1.	2.	<1.
Manganese, total as Mn	µg/L	190.	530.	550.	20.	250.	290.	210.	10.	900.	170.	260.	160.
Manganese, dissolved as Mn	µg/L	120.	520.	18.	11.	75.	310.	10.	6.	30.	170.	35.	170.
Mercury, total as Hg	µg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Molybdenum, total as Mo	µg/L	1.	<1.	1.	2.	1.	<1.	<1.	1.	2.	1.	1.	<1.
Molybdenum, dissolved as Mo	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Nickel, total as Ni	µg/L	5.	11.	17.	<1.	8.	7.	2.	<1.	17.	4.	6.	4.
Nickel, dissolved as Ni	µg/L	2.	11.	2.	<1.	2.	6.	<1.	<1.	1.	3.	1.	3.
Selenium, total as Se	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Silver, total as Ag	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Silver, dissolved as Ag	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	2.	<1.	<1.	<1.	1.
Zinc, total as Zn	µg/L	40.	180.	90.	<10.	80.	100.	<10.	<10.	180.	50.	60.	60.
Zinc, dissolved as Zn	µg/L	24.	190.	6.	5.	10.	100.	2.	2.	7.	40.	6.	49.
Uranium, natural dissolved	µg/L	<1.	1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Carbon, organic total as C	mg/L	6.2	1.	19.	1.9	<0.10	2.2	11.	2.9	33.	2.3	7.3	2.
Carbon, organic dissolved as C	mg/L	--	--	--	1.2	--	0.6	--	1.9	--	1.4	--	1.1

Table 32. Suspended-sediment concentrations and particle-size data collected at high- and low-streamflow synoptic sampling sites

Property or constituent	Units	Sampling site (see table 3) CC1		CC2		CC3		CC4		CC5		CC6	
		High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow
DATE	mm/dd/yr	6/23/95	9/6/95	6/13/95	9/6/95	6/13/95	9/6/95	6/13/95	9/6/95	6/13/95	9/6/95	6/13/95	9/6/95
TIME OF DAY	24 hr	1210	1410	1830	1715	1842	1200	1855	1715	1840	1035	1615	1506
Streamflow	cfs	11.	.85	23.	.95	12.	10.	61.	17.	69.	17.	53.	20.
Sediment, suspended, concentration	mg/L	27.	2.	203.	1.	64.	4.	131.	3.	196.	4.	16.	4.
Sediment, suspended, percent finer than 0.062 mm	%	55.	100.	34.	100.	57.	100.	63.	100.	63.	100.	93.	100.

Property or constituent	Units	CC7		CC8		CC9		CC10		CC11	
		High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow
DATE	mm/dd/yr	6/13/95	9/6/95	--	9/6/95	6/13/95	9/6/95	6/13/95	9/6/95	--	9/6/95
TIME OF DAY	24 hr	1840	1615	--	1130	1649	1400	1623	1000	--	1030
Streamflow	cfs	34.	15.	--	5.1	56.	13.	57.	2.1	--	7.8
Sediment, suspended, concentration	mg/L	12.	1.	--	2.	115.	1.	22.	4.	--	2.
Sediment, suspended, percent finer than 0.062 mm	%	67.	100.	--	--	36.	100.	57.	100.	--	--

Property or constituent	Units	GC1		GC2		GC3		GC4		GC5		GC6	
		High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow
DATE	mm/dd/yr	6/26/95	9/7/95	6/26/95	9/7/95	6/13/95	9/7/95	6/13/95	9/7/95	6/14/95	9/7/95	6/14/95	9/6/95
TIME OF DAY	24 hr	1220	1145	1525	1430	1650	1335	1805	1020	1506	1345	1600	1235
Streamflow	cfs	6.33	1.22	11.	.44	0.9	.57	15.	6.7	19.	5.4	51.	11.
Sediment, suspended, concentration	mg/L	6.	0	7.	6.	15.	1.	22.	2.	20.	1.	146.	4.
Sediment, suspended, percent finer than 0.062 mm	%	48.	--	75.	100.	85.	100.	84.	100.	65.	100.	62.	100.

Property or constituent	Units	Sampling site (see table 3) GC7		GC8		GC9		GC10		GC11		GC12	
		High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow	High flow	Low flow
DATE	mm/dd/yr	6/14/95	9/7/95	6/14/95	9/6/95	6/14/95	9/7/95	6/14/95	9/7/95	6/14/95	9/7/95	6/14/95	9/7/95
TIME OF DAY	24 hr	1840	1226	1830	1525	1838	1318	1630	1130	2000	1345	1530	1130
Streamflow	cfs	153.	20.	45.	6.3	207.	36.	160.	18.	542.	65.	369.	66.
Sediment, suspended, concentration	mg/L	119.	7.	166.	2.	148.	9.	139.	2.	939.	6.	144.	6.
Sediment, suspended, percent finer than 0.062 mm	%	66.	100.	63.	100.	62.	100.	40.	100.	37.	100.	46.	100.

Table 33. Water-quality data collected at road-runoff sampling sites
[--, no data; NS, no sample]

Property or constituent	Units	Sampling site (see table 4) CRD1	CRD2	CRD3	CRD4	CRD5	CRD6
DATE	**mm/dd/yr**	**8/22/95**	**6/10/95**	**6/10/95**	**5/21/95**	**8/30/95**	**4/6/95**
TIME OF DAY	**24 hr**	**1200**	**1705**	**1510**	**1305**	**1630**	**1345**
Streamflow	ft^3/s	0.007	0.144	0.015	0.024	--	0.008
Specific conductance	µS/cm	468.	44.	56.	107.	264.	301.
pH	units	7.6	7.3	7.5	7.3	8.5	7.2
Water temperature	°C	--	1.	20.	4.5	--	2.
Turbidity	NTU	>1,000.	430.	>1,000.	>1,000.	>1,000.	--
Barometric pressure	mm Hg	--	500.	510.	510.	--	530.
Dissolved oxygen	mg/L	--	10.2	6.7	9.9	--	9.2
Hardness as $CaCO_3$	mg/L	160.	18.	17.	49.	99.	6.
Calcium, dissolved	mg/L	20.	3.5	3.3	11.	15.	1.9
Magnesium, dissolved	mg/L	26.	2.3	2.1	5.1	15.	0.4
Sodium, dissolved	mg/L	12.	0.9	2.2	1.9	4.2	54.
Potassium, dissolved	mg/L	4.6	0.8	2.1	2.	5.2	1.6
Alkalinity, total as $CaCO_3$	mg/L	19.	14.	23.	43.	42.	10.
Sulfate, dissolved	mg/L	6.1	1.3	1.1	4.4	5.8	3.2
Chloride, dissolved	mg/L	120.	4.3	8.9	5.8	60.	79.
Fluoride, dissolved	mg/L	0.3	0.1	0.1	<0.1	0.2	<0.1
Silica, dissolved	mg/L	1.9	2.5	4.	7.1	1.4	1.2
Dissolved solids, residue at 180°C	mg/L	286.	39.	34.	70.	166.	149.
Nitrite, dissolved as N	mg/L	0.01	<0.01	<0.01	<0.01	0.01	<0.01
Nitrite plus nitrate, dissolved as N	mg/L	0.65	0.13	0.09	<0.05	0.43	0.31
Nitrogen, ammonia, dissolved as N	mg/L	0.07	0.04	0.05	0.02	0.05	0.08
Nitrogen, ammonia plus organic, dissolved as N	mg/L	<0.2	0.2	<0.2	<0.2	<0.2	<0.2
Nitrogen, ammonia plus organic, total as N	mg/L	0.9	0.2	0.6	<0.2	6.1	0.3
Phosphorus, total as P	mg/L	1.5	0.05	0.4	0.03	6.	0.08
Phosphorus, dissolved as P	mg/L	<0.01	0.02	0.01	<0.01	0.02	<0.01
Phosphorus, dissolved orthophosphate as P	mg/L	<0.01	0.01	0.02	<0.01	<0.01	<0.01

Table 33. Water-quality data collected at road-runoff sampling sites--Continued

Property or constituent	Units	Sampling site (see table 4) CRD1	CRD2	CRD3	CRD4	CRD5	CRD6
Aluminum, total as Al	µg/L	42,000.	6,600.	120,000.	32,000.	110,000.	12,000.
Aluminum, dissolved as Al	µg/L	30.	130.	170.	290.	50.	50.
Antimony, dissolved as Sb	µg/L	<1.	<1.	<1.	<1.	<1.	<1.
Arsenic, total as As	µg/L	<1.	<1.	<1.	1	<2.	<1.
Barium, total as Ba	µg/L	700.	100.	2,500.	700.	2,600.	200.
Barium, dissolved as Ba	µg/L	48.	16.	18.	41.	48.	13.
Beryllium, total as Be	µg/L	<10.	<10.	<10.	<10.	<10.	<10.
Beryllium, dissolved as Be	µg/L	<1.	<1.	<1.	<1.	<1.	<1.
Cadmium, total as Cd	µg/L	<1.	<1.	2.	<1.	4.	<1.
Cadmium, dissolved as Cd	µg/L	<1.	<1.	<1.	<1.	<1.	<1.
Chromium, total as Cr	µg/L	120.	19.	140.	32.	150.	22.
Chromium, dissolved as Cr	µg/L	<1.	<1.	<1.	1.	<1.	<1.
Cobalt, total as Co	µg/L	80.	9.	120.	20.	110.	10.
Cobalt, dissolved as Co	µg/L	<1.	<1.	<1.	<1.	<1.	<1.
Copper, total as Cu	µg/L	75.	10.	250.	72.	290.	44.
Copper, dissolved as Cu	µg/L	<1.	1.	1.	3.	2.	1.
Iron, total as Fe	µg/L	59,000.	220,000.	220,000.	58,000.	280,000.	32,000.
Iron, dissolved as Fe	µg/L	50.	230.	1100.	350.	34.	46.
Lead, total as Pb	µg/L	37.	6.	120.	20.	320.	49.
Lead, dissolved as Pb	µg/L	<1.	<1.	<1.	<1.	<1.	<1.
Manganese, total as Mn	µg/L	3,900.	380.	9,500.	1400.	13,000.	980.
Manganese, dissolved as Mn	µg/L	120.	25.	45.	72.	26.	48.
Mercury, total as Hg	µg/L	<0.1	<0.1	0.1	<0.1	0.4	<0.1
Molybdenum, total as Mo	µg/L	1.	<1.	<1.	<1.	1.	1.
Molybdenum, dissolved as Mo	µg/L	1.	<1.	<1.	<1.	3.	2.
Nickel, total as Ni	µg/L	130.	15.	140.	23.	120.	16.
Nickel, dissolved as Ni	µg/L	1.	1.	<1.	2.	<1.	<1.
Selenium, total as Se	µg/L	<2.	<1.	2.	<1.	<1.	<1.
Silver, total as Ag	µg/L	<1.	<1.	<1.	<1.	<1.	<1.
Silver, dissolved as Ag	µg/L	<1.	<1.	<1.	<1.	<1.	<1.
Zinc, total as Zn	µg/L	180.	50.	740.	280.	900.	190.
Zinc, dissolved as Zn	µg/L	<1.	4.	2.	4.	<1.	3.
Uranium, natural dissolved	µg/L	<1.	<1.	<1.	<1.	3.	<1.
Carbon, organic total as C	mg/L	31.	7.1	16.	11	130.	10.
Carbon, organic dissolved as C	mg/L	3.2	--	--	--	3.7	2.3
Oil and grease, total	mg/L	NS	<1.	<1.	<1.	NS	<1.

Table 33. Water-quality data collected at road-runoff sampling sites--Continued

Property or constituent	Units	Sampling site (see table 4) CRD1	CRD2	CRD3	CRD4	CRD5	CRD6
Acenaphthylene, total	µg/L	NS	NS	NS	<5.	NS	<5.
Acenaphthene, total	µg/L	NS	NS	NS	<5.	NS	<5.
Anthracene, total	µg/L	NS	NS	NS	<5.	NS	<5.
Benzo B Fluoranthene, total	µg/L	NS	NS	NS	<10.	NS	<10.
Benzo K Fluoranthene, total	µg/L	NS	NS	NS	<10.	NS	<10.
Benzo A Pyrene, total	µg/L	NS	NS	NS	<10.	NS	<10.
bis 2-Chloroethyl Ether, total	µg/L	NS	NS	NS	<5.	NS	<5.
bis (2-Chloroethoxy) Methane, total	µg/L	NS	NS	NS	<5.	NS	<5.
bis (2-Choroisopropyl) Ether, total	µg/L	NS	NS	NS	<5.	NS	<5.
N-Butylbenzyl Phthalate, total	µg/L	NS	NS	NS	<5.	NS	<5.
Chrysene, total	µg/L	NS	NS	NS	<10.	NS	<10.
Diethyl Phthalate, total	µg/L	NS	NS	NS	<5.	NS	<5.
Dimethyl Phthalate, total	µg/L	NS	NS	NS	<5.	NS	<5.
Fluoranthene, total	µg/L	NS	NS	NS	<5.	NS	<5.
Fluorene, total	µg/L	NS	NS	NS	<5.	NS	<5.
Hexachlorocyclopentadiene, total	µg/L	NS	NS	NS	<5.	NS	<5.
Hexachloroethane, total	µg/L	NS	NS	NS	<5.	NS	<5.
Indeno (1,2,3-CD) Pyrene, total	µg/L	NS	NS	NS	<10.	NS	<10.
Isophorone, total	µg/L	NS	NS	NS	<5.	NS	<5.
N-Nitrosodi-N-Propylamine, total	µg/L	NS	NS	NS	<5.	NS	<5.
N-Nitrosodiphenylamine, total	µg/L	NS	NS	NS	<5.	NS	<5.
N-Nitrosodimethylamine, total	µg/L	NS	NS	NS	<5.	NS	<5.
Nitrobenzene, total	µg/L	NS	NS	NS	<5.	NS	<5.
Phenanthrene, total	µg/L	NS	NS	NS	<5.	NS	<5.
Pyrene, total	µg/L	NS	NS	NS	<5.	NS	<5.
Benzoghi Perylene1,12 -Benzoperylene, total	µg/L	NS	NS	NS	<10.	NS	<10.
Benzo(A)Anthracene 1,2-Benanthracene, total	µg/L	NS	NS	NS	<10.	NS	<10.
1,2,5,6-Dibenzanthracene, total	µg/L	NS	NS	NS	<10.	NS	<10.
2-Chloronaphthalene, total	µg/L	NS	NS	NS	<5.	NS	<5.
Dinoctyl Phthalate, total	µg/L	NS	NS	NS	<10.	NS	<10.
2,4-Dinitrotoluene, total	µg/L	NS	NS	NS	<5.	NS	<5.
2,6-Dinitrotoluene, total	µg/L	NS	NS	NS	<5.	NS	<5.
4-Bromophenylphenylether, total	µg/L	NS	NS	NS	<5.	NS	<5.
4-Chlorophenylphenylether, total	µg/L	NS	NS	NS	<5.	NS	<5.
bis (2-Etylhexyl) Phthalate, total	µg/L	NS	NS	NS	<5.	NS	<5.

Table 33. Water-quality data collected at road-runoff sampling sites--Continued

Property or constituent	Units	Sampling site (see table 4) CRD1	CRD2	CRD3	CRD4	CRD5	CRD6
Dinbutylphthalate, total	µg/L	NS	NS	NS	<5.	NS	<5.
Hexachlorobenzene, total	µg/L	NS	NS	NS	<5.	NS	<5.
Dibromomethane, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Dichlorobromomethane, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Carbontetrachloride, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
1,2-Dichloroethane, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Bromoform, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Chlorodibromomethane, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Chloroform, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Toluene, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Benzene, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Chlorobenzene, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Chloroethane, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Ethylbenzene, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Methylbromide, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Methylchloride, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Methylenechloride, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Tetrachloroethylene, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Trichlorofluoromethane, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
1,1-Dichloroethane, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Dichloroethylene, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
1,1,1-Trichloroethane, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
1,1,2-Trichloroethane, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Ethane, 1,1,2,2,-Tetrachloro-, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Benzene, O-Dichloro-, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
1,2-Dichloropropane, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
1,2-Transdichloroethene, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Benzene, 1,2,4-Trichloro-, total	µg/L	NS	NS	NS	<0.5	NS	<0.5
Benzene, 1,3-Dichloro-, total	µg/L	NS	NS	NS	<0.5	NS	<0.5
Benzene, 1,4-Dichloro-, total	µg/L	NS	NS	NS	<0.5	NS	<0.5
2-Chloroethylvinylether, total	µg/L	NS	NS	NS	<1.	NS	<4.
Dichlorodifluoromethane, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Naphthalene, total	µg/L	NS	NS	NS	<0.5	NS	<0.5
Trans-1,3-Dichloropropene, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Cis-1,3-Dichloropropene	µg/L	NS	NS	NS	<0.2	NS	<0.8
Vinylchloride, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Trichloroethylene, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Hexachlorobutadiene, total	µg/L	NS	NS	NS	<0.5	NS	<0.5
Cis-1,2-Dichloroethene, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Styrene, total	µg/L	NS	NS	NS	<0.2	NS	<0.8

Table 33. Water-quality data collected at road-runoff sampling sites--Continued

Property or constituent	Units	Sampling site (see table 4) CRD1	CRD2	CRD3	CRD4	CRD5	CRD6
1,1-Dichloropropene, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
2,2-Dichloropropane, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Propane, 1,3-Dichloro-, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Pseudocumene, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Benzene, Isopropyl-, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Benzene, N-Propyl-, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Mesitylene, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
O-Chlorotoluene, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Toluene, P-Chloro-, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Methane, Bromochloro-, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Benzene, N-Butyl-, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Benzene, Sec-Butyl-, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Benzene, Tert-Butyl-m, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
P-Isopropyltoluene, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
1,2,3-Trichloropropane, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Ethane, 1,1,1,2-Tetrachloro-, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Benzene, 1,2,3-Trichloro-, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
1,2-Dibromoethane, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Freon 113, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Methyl Ether, Tert-Butyl-, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Xylene, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Bromobenzene, total	µg/L	NS	NS	NS	<0.2	NS	<0.8
Dibromochloropropane, total	µg/L	NS	NS	NS	<1.	NS	<4.

Table 33. Water-quality data collected at road-runoff sampling sites--Continued

Property or constituent	Units	Sampling Site (see table 4) GRD1	GRD2	GRD3	GRD4	GRD5
DATE	**mm/dd/yr**	**8/22/95**	**6/10/95**	**8/22/95**	**4/6/95**	**8/23/95**
TIME OF DAY	**24 hr**	**1230**	**1305**	**1240**	**1655**	**1130**
Streamflow	ft^3/s	0.153	0.016	--	0.066	0.004
Specific conductance	µS/cm	19.	30.	51.	14.	20.
pH	units	7.2	6.9	7.3	7.2	7.
Water temperature	°C	--	4.5	--	0.5	--
Turbidity	NTU	>1000.	680.	>1000.	--	>1000.
Barometric pressure	mm Hg	--	500.	--	520.	--
Dissolved oxygen	mg/L	--	9.5	--	9.2	--
Hardness as $CaCO_3$	mg/L	6.	13.	18.	5.	8.
Calcium, dissolved	mg/L	1.9	3.4	5.3	1.5	2.4
Magnesium, dissolved	mg/L	0.35	1.1	1.1	0.25	0.38
Sodium, dissolved	mg/L	0.5	0.9	2.5	0.5	0.2
Potassium, dissolved	mg/L	1.	0.9	0.8	0.59	0.6
Alkalinity, total as $CaCO_3$	mg/L	16.	13.	22.	4.8	23.
Sulfate, dissolved	mg/L	0.4	1.4	2.6	0.35	0.6
Chloride, dissolved	mg/L	0.5	1.5	0.5	0.58	0.4
Fluoride, dissolved	mg/L	0.2	0.2	0.2	0.04	<0.1
Silica, dissolved	mg/L	1.4	3.9	8.7	0.62	1.2
Dissolved solids, residue at 180°C	mg/L	11.	34.	38.	--	18.
Nitrite, dissolved as N	mg/L	<0.01	<0.01	<0.01	0.002	<0.01
Nitrite plus nitrate, dissolved as N	mg/L	0.23	0.1	0.1	0.015	0.17
Nitrogen, ammonia, dissolved as N	mg/L	0.04	0.05	0.03	0.01	0.04
Nitrogen, ammonia plus organic, dissolved as N	mg/L	<0.2	0.2	<0.2	<0.2	<0.2
Nitrogen, ammonia plus organic, total as N	mg/L	0.7	0.3	0.6	<0.2	4.7
Phosphorus, total as P	mg/L	0.33	0.07	0.53	0.044	4.
Phosphorus, dissolved as P	mg/L	0.01	0.03	<0.01	0.03	<0.01
Phosphorus, dissolved orthophosphate as P	mg/L	0.01	0.03	<0.01	<0.01	0.02
Aluminum, total as Al	µg/L	130,000.	17,000.	41,000.	550.	50,000.
Aluminum, dissolved as Al	µg/L	280.	330.	170.	50.	140.
Antimony, dissolved as Sb	µg/L	<1.	<1.	<1.	<1.	<1.
Arsenic, total as As	µg/L	1.	<1.	<1.	<1.	2.
Barium, total as Ba	µg/L	2,100.	200.	1,000.	<100.	1,800.
Barium, dissolved as Ba	µg/L	9.	15.	20.	7.	10.

Table 33. Water-quality data collected at road-runoff sampling sites--Continued

Property or constituent	Units	Sampling Site (see table 4) GRD1	GRD2	GRD3	GRD4	GRD5
Beryllium, total as Be	µg/L	<10.	<10.	<10.	<10.	<10.
Beryllium, dissolved as Be	µg/L	<1.	<1.	<1.	<1.	<1.
Cadmium, total as Cd	µg/L	2.	<1.	3.	<1.	2.
Cadmium, dissolved as Cd	µg/L	<1.	<1.	<1.	<1.	<1.
Chromium, total as Cr	µg/L	100.	22.	97.	<1.	140.
Chromium, dissolved as Cr	µg/L	<1.	<1.	<1.	<1.	<1.
Cobalt, total as Co	µg/L	90.	10.	20.	<1.	50.
Cobalt, dissolved as Co	µg/L	<1.	<1.	<1.	<1.	<1.
Copper, total as Cu	µg/L	100.	25.	61.	<1.	72.
Copper, dissolved as Cu	µg/L	<1.	1.	2.	<1.	<1.
Iron, total as Fe	µg/L	140,000.	32,000.	56,000.	780.	75,000.
Iron, dissolved as Fe	µg/L	290.	370.	150.	46.	110.
Lead, total as Pb	µg/L	200.	13.	36.	2.	460.
Lead, dissolved as Pb	µg/L	<1.	<1.	<1.	<1.	<1.
Manganese, total as Mn	µg/L	7,300.	630.	1,400.	60.	3,400.
Manganese, dissolved as Mn	µg/L	17.	52.	6.	24.	7.
Mercury, total as Hg	µg/L	0.1	<0.1	<0.1	<0.1	0.2
Molybdenum, total as Mo	µg/L	<1.	<1.	2.	<1.	<1.
Molybdenum, dissolved as Mo	µg/L	<1.	<1.	1.	<1.	<1.
Nickel, total as Ni	µg/L	95.	13.	70.	<1.	78.
Nickel, dissolved as Ni	µg/L	<1.	<1.	<1.	<1.	<1.
Selenium, total as Se	µg/L	<10.	<1.	<1.	<1.	5.
Silver, total as Ag	µg/L	<1.	<1.	<1.	<1.	<1.
Silver, dissolved as Ag	µg/L	<1.	<1.	<1.	<1.	<1.
Zinc, total as Zn	µg/L	550.	110.	200.	<10.	490.
Zinc, dissolved as Zn	µg/L	1.	3.	<1.	2.	2.
Uranium, natural dissolved	µg/L	<1.	<1.	<1.	<1.	<1.
Carbon, organic total as C	mg/L	140.	8.9	12.	4.7	140.
Carbon, organic dissolved as C	mg/L	2.4	--	2.4	3.8	3.5
Oil and Grease, total	mg/L	NS	<1.	NS	<1.	NS

Table 34. Suspended-sediment concentrations and particle-size data collected at road-runoff sampling sites
[--, no data]

Site (see table 4)	Date	Time	Suspended-sediment concentration (mg/L)	Percent of particles finer than size, mm											
				4	2	1	0.5	0.25	0.125	0.0625	0.031	0.016	0.008	0.004	0.002
CRD1	08/22/95	1200	10600.	99.	98.	87.	65.	52.	42.	35.	33.	30.	27.	23.	16.
CRD2	06/10/95	1305	7360.	100.	100.	100.	99.	98.	97.	90.	86.	72.	55.	39.	25.
CRD3	06/10/95	1510	7280.	100.	100.	99.	99.	98.	96.	90.	88.	80.	63.	46.	32.
CRD4	05/21/95	1305	4720.	96.	88.	76.	69.	66.	55.	45.	40.	36.	31.	22.	15.
CRD5	08/30/95	1630	8190.	100.	100.	98.	93.	89.	89.	88.	88.	88.	83.	68.	40.
CRD6	04/06/95	1316	680.	100.	100.	99.	98.	97.	94.	91.	--	--	--	--	--
GRD1	08/22/95	1230	30800.	93.	87.	76.	67.	61.	51.	37.	31.	23.	16.	9.	5.
GRD2	06/10/95	1305	550.	100.	100.	99.	99.	97.	91.	84.	--	--	--	--	--
GRD3	08/22/95	1240	1120.	100.	100.	100.	100.	100.	100.	100.	--	--	--	--	--
GRD4	04/06/95	1655	66.	100.	100.	93.	88.	87.	41.	37.	--	--	--	--	--
GRD5	08/23/95	1130	6190.	100.	98.	91.	82.	69.	56.	42.	--	--	--	--	--

Table 35. Water-quality data collected at ground-water sampling sites
[<, less than]

Property or constituent	Units	Sampling site (see table 5) GW1	GW2	GW3	GW4	GW5	GW6	GW7	GW8
DATE	**mm/dd/yr**	8/16/95	9/6/95	9/6/95	9/6/95	8/29/95	9/7/95	9/7/95	9/7/95
TIME OF DAY	**24 hr**	1630	1030	1018	1040	1700	1050	1400	1430
Specific conductance	**µS/cm**	353.	90.	584.	190.	365.	24.	144.	104.
pH	**units**	7.7	7.1	7.6	6.9	7.6	7.5	7.1	7.
Water temperature	**°C**	--	5.5	5.	3.	--	7.5	5.5	--
Turbidity	**NTU**	--	1.	7.	1.1	--	0.5	15.5	2.7
Hardness as $CaCO_3$	**mg/L**	190.	38.	250.	73.	200.	7.	59.	35.
Calcium, dissolved	**mg/L**	51.	9.6	57.	16.	39.	2.1	16.	9.7
Magnesium, dissolved	**mg/L**	14.	3.4	27.	8.1	24.	0.52	4.7	2.7
Sodium, dissolved	**mg/L**	2.	1.9	26.	5.5	3.2	1.5	5.8	3.7
Potassium, dissolved	**mg/L**	2.9	1.2	4.6	1.4	1.3	0.4	1.4	1.1
Alkalinity, total as $CaCO_3$	**mg/L**	184.	39.	294.	57.	167.	6.3	54.	25.
Sulfate, dissolved	**mg/L**	7.6	4.6	28.	8.1	22.	1.8	14.	19.
Chloride, dissolved	**mg/L**	0.4	1.5	0.8	18.	5.8	0.2	3.5	0.7
Fluoride, dissolved	**mg/L**	0.3	0.1	1.1	0.2	0.8	<0.10	0.2	0.2
Silica, dissolved	**mg/L**	7.	7.6	14.	8.7	6.5	8.7	13.	11.
Dissolved solids, residue at 180°C	**mg/L**	187.	56.	330.	115.	200.	28.	94.	67.
Nitrite, dissolved as N	**mg/L**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite plus nitrate, dissolved as N	**mg/L**	<0.05	0.07	<0.05	0.11	0.15	<0.05	0.13	0.08
Nitrogen, ammonia, dissolved as N	**mg/L**	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	0.02
Nitrogen, ammonia plus organic, total as N	**mg/L**	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Nitrogen, ammonia plus organic, dissolved as N	**mg/L**	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Phosphorus, total as P	**mg/L**	<0.01	<0.01	<0.01	0.03	0.03	0.01	0.01	0.01
Phosphorus, dissolved as P	**mg/L**	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phosphorus, dissolved orthophophate as P	**mg/L**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Table 35. Water-quality data collected at ground-water sampling sites--Continued

Property or constituent	Units	Sampling site (see table 5) GW1	GW2	GW3	GW4	GW5	GW6	GW7	GW8
Aluminum, total as Al	µg/L	<10.	<10.	50.	50.	10.	20.	60.	110.
Aluminum, dissolved as Al	µg/L	<1.	3.	<1.	10.	1.	20.	10.	8.
Antimony, dissolved as Sb	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Arsenic, total as As	µg/L	<1.	<1.	<1.	<1.	<2.	<1.	<1.	<1.
Barium, total as Ba	µg/L	<100.	<100.	<100.	<100.	<100.	<100.	<100.	<100.
Barium, dissolved as Ba	µg/L	90.	30.	61.	86.	59.	14.	35.	32.
Beryllium, total as Be	µg/L	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.
Beryllium, dissolved as Be	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Cadmium, total as Cd	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Cadmium, dissolved as Cd	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Chromium, total as Cr	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Chromium, dissolved as Cr	µg/L	1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Cobalt, total as Co	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Cobalt, dissolved as Co	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Copper, total as Cu	µg/L	<1.	5.	4.	20.	<1.	<1.	26.	20.
Copper, dissolved as Cu	µg/L	<1.	3.	1.	9.	<1.	<1.	4.	5.
Iron, total as Fe	µg/L	<10.	210.	570.	70.	180.	60.	1,800.	340.
Iron, dissolved as Fe	µg/L	<3.	140.	<3.	13.	<3.	28.	280.	41.
Lead, total as Pb	µg/L	<1.	<1.	3.	3.	<1.	<1.	6.	2.
Lead, dissolved as Pb	µg/L	<1.	<1.	<1.	2.	<1.	<1.	<1.	<1.
Manganese, total as Mn	µg/L	<10.	20.	210.	<10.	10.	<10.	40.	10.
Manganese, dissolved as Mn	µg/L	<1.	23.	230.	4.	<1.	1.	39.	4.
Mercury, total as Hg	µg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Molybdenum, total as Mo	µg/L	<1.	2.	4.	2.	1.	1.	1.	2.
Molybdenum, dissolved as Mo	µg/L	<1.	<1.	3.	<1.	<1.	<1.	1.	1.
Nickel, total as Ni	µg/L	<1.	<1.	<1.	<1.	2.	<1.	1.	1.
Nickel, dissolved as Ni	µg/L	2.	<1.	2.	<1.	<1.	<1.	1.	1.
Selenium, total as Se	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Silver, total as Ag	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Silver, dissolved as Ag	µg/L	<1.	<1.	<1.	<1.	<1.	2.	<1.	<1.
Uranium, natural dissolved	µg/L	5.	<1.	67.	<1.	2.	<1.	1.	3.
Zinc, total as Zn	µg/L	<10.	310.	1,700.	4,100.	<10.	<10.	810.	1,100.
Zinc, dissolved as Zn	µg/L	1.	300.	1,700.	4,600.	<1.	3.	770.	1,110.
Carbon, organic total as C	mg/L	1.9	1.7	0.5	4.3	1.9	1.8	3.1	0.8
Carbon, organic dissolved as C	mg/L	1.3	1.2	0.7	2.5	0.5	1.7	2.6	0.8

Table 36. Water-quality data collected at lake/reservoir sampling sites
[--, no data]

Property or constituent	Units	Sampling sites (see table 6)							
		L1		L2		L3		L4	
		Surface	Bottom[1]	Surface	Bottom[1]	Surface	Bottom[1]	Surface	Bottom[1]
DATE	**mm/dd/yr**	**8/16/95**	**8/16/95**	**8/15/95**	**8/15/95**	**8/16/95**	**8/16/95**	**8/15/95**	**8/15/95**
TIME OF DAY	**24 hr**	**1505**	**1515**	**1035**	**1045**	**1105**	**1110**	**1435**	**1440**
Depth	**ft**	0.1	100.	0.1	18.	0.1	100.	0.1	50.
Transparency	**in.**	114.	--	120.	--	177.	--	353.	--
Specific conductance	**µS/cm**	29.	45.	62.	62.	66.	105.	143.	212.
pH	**units**	7.5	6.7	7.7	7.7	7.9	7.2	8.2	7.8
Water temperature	**°C**	14.5	3.5	11.5	11.	13.	4.	14.5	5.5
Turbidity	**NTU**	0.87	--	0.94	0.77	0.8	1.	0.41	0.76
Dissolved oxygen	**mg/L**	7.0	0.6	7.3	7.3	6.9	4.4	7.0	2.4
Hardness as $CaCO_3$	**mg/L**	12.	18.	27.	27.	30.	49.	66.	88.
Calcium, dissolved	**mg/L**	3.4	5.	7.1	7.2	7.7	13.	18.	24.
Magnesium, dissolved	**mg/L**	0.91	1.3	2.3	2.3	2.5	4.	5.1	6.8
Sodium, dissolved	**mg/L**	1.1	1.5	1.3	1.3	1.3	1.7	1.4	1.5
Potassium, dissolved	**mg/L**	0.5	0.7	0.8	0.9	0.9	1.4	1.2	1.8
Alkalinity, total as $CaCO_3$	**mg/L**	14.	19.	27.	23.	29.	48.	53.	70.
Sulfate, dissolved	**mg/L**	2.1	2.6	3.4	3.4	3.5	4.8	15.	18.
Chloride, dissolved	**mg/L**	0.3	0.4	0.6	0.6	0.7	1.2	0.8	0.9
Fluoride, dissolved	**mg/L**	0.1	0.2	<0.10	<0.10	<0.10	<0.10	0.2	0.2
Silica, dissolved	**mg/L**	5.5	7.2	6.	6.	6.3	7.7	6.3	7.1
Dissolved solids, residue at 180°C	**mg/L**	37.	24.	39.	42.	42.	62.	81.	107.
Nitrite, dissolved as N	**mg/L**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite plus nitrate, dissolved as N	**mg/L**	<0.05	<0.05	0.11	0.11	0.11	0.15	<0.05	<0.05
Nitrogen, ammonia, dissolved as N	**mg/L**	<0.015	0.15	<0.015	<0.015	<0.015	<0.015	<0.015	0.03
Nitrogen, ammonia plus organic, dissolved as N	**mg/L**	<0.20	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Nitrogen, ammonia plus organic, total as N	**mg/L**	<0.20	0.3	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Phosphorus, total as P	**mg/L**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phosphorus, dissolved as P	**mg/L**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phosphorus, dissolved orthophosphate as P	**mg/L**	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Table 36. Water-quality data collected at lake/reservoir sampling sites--Continued
[--, no data]

Property or constituent	Units	Sampling sites (see table 6)							
		L1		L2		L3		L4	
		Surface	Bottom[1]	Surface	Bottom[1]	Surface	Bottom[1]	Surface	Bottom[1]
Aluminum, total as Al	µg/L	30.	<10.	30.	40.	30.	10.	70.	10.
Aluminum, dissolved as Al	µg/L	10.	2.	8.	8.	7.	2.	10.	5.
Antimony, dissolved as Sb	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Arsenic, total as As	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Barium, total as Ba	µg/L	<100.	<100.	<100.	<100.	<100.	<100.	<100.	<100.
Barium, dissolved as Ba	µg/L	17.	36.	26.	26.	24.	29.	38.	40.
Beryllium, total as Be	µg/L	<10.	<10.	<10.	<10.	<10.	<10.	<10.	<10.
Beryllium, dissolved as Be	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Cadmium, total as Cd	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Cadmium, dissolved as Cd	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Chromium, total as Cr	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Chromium, dissolved as Cr	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Cobalt, total as Co	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Cobalt, dissolved as Co	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Copper, total as Cu	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	1.	<1.
Copper, dissolved as Cu	µg/L	<1.	<1.	<1.	1.	1.	1.	2.	1.
Iron, total as Fe	µg/L	120.	2,500.	140.	150.	150.	70.	<10.	<10.
Iron, dissolved as Fe	µg/L	47.	440.	57.	63.	87.	12.	8.	21.
Lead, total a Pb	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Lead, dissolved as Pb	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Manganese, total as Mn	µg/L	<10.	540.	<10.	<10.	10.	<10.	<10.	100.
Manganese, dissolved as Mn	µg/L	<1.	510.	2.	3.	8.	3.	6.	90.
Mercury, total as Hg	µg/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Molybdenum, total as Mo	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	1.
Molybdenum, dissolved as Mo	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	1.	1.
Nickel, total as Ni	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Nickel, dissolved as Ni	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	1.	1.
Selenium, total as Se	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Silver, total as Ag	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Silver, dissolved as Ag	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	<1.	<1.
Zinc, total as Zn	µg/L	<10.	<10.	<10.	<10.	<10.	<10.	30.	20.
Zinc, dissolved as Zn	µg/L	1.	1.	<1.	1.	1.	1.	29.	17.
Uranium, natural dissolved	µg/L	<1.	<1.	<1.	<1.	<1.	<1.	4.	7.
Carbon, organic total as C	mg/L	3.2	3.7	2.1	2.1	3.4	1.3	1.9	2.9
Carbon, organic dissolved as C	mg/L	2.4	1.9	1.8	1.8	1.9	1.3	1.4	1.4

[1]Bottom samples were collected approximately 2 ft above the lake bottom.

Table 37. Profile data collected at lake/reservoir sampling sites

Site Number (see table 6)	Date	Time (24 hr)	Depth (ft)	Temperature (°C)	Specific conductance (µS/cm)	pH (units)	Dissolved oxygen (mg/L)
L1	8/16/95	1424	0.1	14.5	29.	7.5	7.0
		1425	5.	14.0	29.	7.5	7.0
		1426	10.	13.0	29.	7.6	7.5
		1427	15.	8.0	30.	7.4	8.6
		1428	20.	6.0	30.	7.3	8.3
		1429	25.	4.5	31.	7.0	7.2
		1430	30.	4.0	33.	7.0	6.6
		1431	40.	3.5	39.	6.9	5.2
		1432	50.	3.5	39.	6.9	3.4
		1433	60.	3.5	41.	6.7	2.1
		1434	70.	3.5	43.	6.7	1.2
		1435	80.	3.5	45.	6.7	0.8
		1436	90.	3.5	45.	6.7	0.6
L2	8/15/95	1017	0.1	11.5	62.	7.7	7.3
		1018	5.	11.5	62.	7.7	7.2
		1019	10.	11.5	62.	7.7	7.1
		1020	15.	11.0	62.	7.7	7.2
		1021	18.	11.0	62.	7.7	7.3
L3	8/16/95	1023	0.1	13.0	66.	7.9	6.9
		1024	5.	12.5	66.	7.9	7.0
		1025	10.	12.0	67.	7.9	7.3
		1026	15.	12.0	67.	7.8	7.5
		1027	20.	11.5	67.	7.8	7.4
		1028	25.	11.0	66.	7.8	7.4
		1029	30.	9.5	67.	7.7	7.3
		1030	40.	6.5	75.	7.6	7.0
		1031	50.	5.0	87.	7.4	6.3
		1032	60.	4.5	98.	7.4	5.5
		1033	70.	4.5	101.	7.3	5.1
		1034	80.	4.5	104.	7.3	4.7
		1035	90.	4.5	104.	7.3	4.5
		1036	100.	4.0	105.	7.2	4.4
L4	8/15/95	1343	0.1	14.5	143.	8.2	7.0
		1344	5.	14.0	144.	8.2	7.0
		1345	10.	14.0	143.	8.3	7.0
		1346	15.	14.0	143.	8.3	6.9
		1347	20.	13.5	143.	8.3	6.9
		1348	25.	10.0	183.	8.4	7.9
		1349	30.	6.5	204.	8.5	8.1
		1350	40.	6.0	210.	8.2	6.3
		1351	50.	5.5	212.	7.8	2.4

Table 38. Chemical analyses of sediment collected at lake/reservoir sampling sites
[--, no data; NS, no sample]

Property or constituent	Units	Sampling sites (see table 6) L1	L2	L3	L4
DATE	**mm/dd/yr**	**8/16/95**	**8/15/95**	**8/16/95**	**8/15/95**
TIME OF DAY	**24 hr**	**1530**	**1050**	**1115**	**1450**
Depth	ft	101.	18.	105.	52.
Moisture content, dry weight	%	92.	75.	59.	82.
Chemical oxygen demand	mg/kg	320.	<100.	<100.	140.
Residue, loss on ignition	mg/kg	23,000.	84,000.	82,000.	15,000.
Magnesium	mg/kg	<10.	10.	10.	<10.
Sodium	mg/kg	<10.	<10.	<10.	<10.
Nitrite plus nitrate, total	mg/kg	4.	--	<2.	8.
Nitrogen, ammonia as N	mg/kg	280.	--	48.	94.
Nitrogen, kjeldahl as N	mg/kg	9,200.	--	1,900.	3,900.
Phosphorus, total as P	mg/kg	3,200.	--	730.	800.
Aluminum, total	µg/g	19,000.	25,000.	21,000.	19,000.
Arsenic, total	µg/g	3.	2.	3.	7.
Chromium, total	µg/g	30.	70.	60.	60.
Copper, total	µg/g	40.	60.	50.	160.
Iron, total	µg/g	130,000.	6,100.	63,000.	55,000.
Lead, total	µg/g	50.	30.	30.	330.
Manganese, total	µg/g	4,700.	1,200.	2,100.	650.
Mercury, total	µg/g	0.05	0.05	0.53	0.28
Nickel, total	µg/g	30.	30.	30.	60.
Zinc, total	µg/g	150.	180.	150.	2,000.
Carbon, total (inorganic plus organic)	gm/kg	88.	22.	27.	51.
Carbon, inorganic	gm/kg	0.8	<0.10	<0.10	1.3
Acenaphthylene	µg/kg	NS	<200.	NS	NS
Acenaphthene	µg/kg	NS	<200.	NS	NS
Anthracene	µg/kg	NS	<200.	NS	NS
Benzo B Fluoranthene	µg/kg	NS	<400.	NS	NS
Benzo K Fluoranthene	µg/kg	NS	<400.	NS	NS

Table 38. Chemical analyses of sediment collected at lake/reservoir sampling sites--Continued
[--, no data; NS, no sample]

Property or constituent	Units	Sampling sites (see table 6) L1	L2	L3	L4
Benzo A Pyrene	µg/kg	NS	<400.	NS	NS
Bis (2-Chloroethyl) Ether	µg/kg	NS	<200.	NS	NS
Bis (2-Chloroethoxy) Methane	µg/kg	NS	<200.	NS	NS
Bis (2-Chloroisopropyl) Ether	µg/kg	NS	<200.	NS	NS
N-Buthylbenzyl Phthalate	µg/kg	NS	<200.	NS	NS
Chrysene	µg/kg	NS	<400.	NS	NS
Diethyl Phthalate	µg/kg	NS	<200.	NS	NS
Dimethyl Phthalate	µg/kg	NS	<200.	NS	NS
Fluoranthene	µg/kg	NS	<200.	NS	NS
Fluorene	µg/kg	NS	<200.	NS	NS
Hexachlorocyclopentadiene	µg/kg	NS	<200.	NS	NS
Hexachloroethane	µg/kg	NS	<200.	NS	NS
Indeno (1,2,3-CD) Pyrene	µg/kg	NS	<400.	NS	NS
Isophorone	µg/kg	NS	<200.	NS	NS
N-Nitrosodi-N-Propylamine	µg/kg	NS	<200.	NS	NS
N-Nitrosodiphenylamine	µg/kg	NS	<200.	NS	NS
N-Nitrodimethylamine	µg/kg	NS	<200.	NS	NS
Naphthalene	µg/kg	NS	<200.	NS	NS
Nitrobenzene	µg/kg	NS	<200.	NS	NS
Parachlorometa Cresol	µg/kg	NS	<600.	NS	NS
Phenanthrene	µg/kg	NS	<200.	NS	NS
Pyrene	µg/kg	NS	<200.	NS	NS
Benzoghi Perylene 1,12 -Benzoperylene	µg/kg	NS	<400.	NS	NS
Benzo (A) Anthracene 1,2 -Benzanthracene	µg/kg	NS	<400.	NS	NS
1,2-Dichlorobenzene	µg/kg	NS	<200.	NS	NS
1,2,4-Trichlorobenzene	µg/kg	NS	<200.	NS	NS
1,2,5,6-Dibenzanthracene	µg/kg	NS	<400.	NS	NS
1,3-Dichlorobenzene	µg/kg	NS	<200.	NS	NS
1,4-Dichlorobenzene	µg/kg	NS	<200.	NS	NS
2-Chloronaphthalene	µg/kg	NS	<200.	NS	NS
2-Chlorophenol	µg/kg	NS	<200.	NS	NS
2-Nitrophenol	µg/kg	NS	<200.	NS	NS
Dinoctyl Phthalate	µg/kg	NS	<400.	NS	NS

Table 38. Chemical analyses of sediment collected at lake/reservoir sampling sites--Continued
[--, no data; NS, no sample]

Property or constituent	Units	Sampling sites (see table 6) L1	L2	L3	L4
2,4-Dichlorophenol	µg/kg	NS	<200.	NS	NS
2,4-DP	µg/kg	NS	<200.	NS	NS
2,4-Dinitrotoluene	µg/kg	NS	<200.	NS	NS
2,4-Dintrophenol	µg/kg	NS	<600.	NS	NS
2,4,6-Tricholorophenol	µg/kg	NS	<600.	NS	NS
2,6-Dinitrotoluene	µg/kg	NS	<200.	NS	NS
4-Bromophenylphenylether	µg/kg	NS	<200.	NS	NS
4-Chlorophenylphenylether	µg/kg	NS	<200.	NS	NS
4-Nitrophenol	µg/kg	NS	<600.	NS	NS
4,6-Dinitroorthocresol	µg/kg	NS	<600.	NS	NS
Phenol (C6H-50H)	µg/kg	NS	<200.	NS	NS
Pentachlorophenol	µg/kg	NS	<600.	NS	NS
Bis (2-Ethylhexyl) Phthalate	µg/kg	NS	<200.	NS	NS
Dinbutylphthalate	µg/kg	NS	<200.	NS	NS
PCN, total	µg/kg	NS	<4.	NS	NS
Aldrin	µg/kg	NS		NS	NS
Lindane	µg/kg	NS	<0.4	NS	NS
Chlordane	µg/kg	NS	<4.	NS	NS
DDD	µg/kg	NS	<0.4	NS	NS
DDE	µg/kg	NS	0.7	NS	NS
DDT	µg/kg	NS	<0.5	NS	NS
Dieldrin	µg/kg	NS	<0.4	NS	NS
Endosulfane	µg/kg	NS	<0.4	NS	NS
Endrin	µg/kg	NS	<0.4	NS	NS
Toxaphene	µg/kg	NS	<40.	NS	NS
Heptachlor	µg/kg	NS	<0.4	NS	NS
Heptachlor Epoxide	µg/kg	NS	<0.4	NS	NS
Methoxychlor	µg/kg	NS	<5.9	NS	NS
PCB	µg/kg	NS	22.	NS	NS
Hexachlorobenzene	µg/kg	NS	<200.	NS	NS
Hexachlorobutadience	µg/kg	NS	<200.	NS	NS
Mirex	µg/kg	NS	<0.4	NS	NS
Perthane	µg/kg	NS	<4.	NS	NS

Table 39. Water-quality data collected at snow sampling sites
[<, less than]

Property or constituent	Units	Sampling site (see table 6) SN1	SN2
DATE	**mm/dd/yr**	3/31/95	3/31/95
TIME OF DAY	**24 hr**	1250	1525
Specific conductance	**µS/cm**	6.	5.
pH	**units**	5.5	6.8
Calcium, dissolved	**mg/L**	.20	.17
Magnesium, dissolved	**mg/L**	.04	.02
Sodium, dissolved	**mg/L**	.04	.04
Potassium, dissolved	**mg/L**	.15	.10
Alkalinity, total as $CaCO_3$	**mg/L**	.22	<.01
Sulfate, dissolved	**mg/L**	.27	.26
Chloride, dissolved	**mg/L**	.22	.11
Silica, dissolved	**mg/L**	<.056	<.056
Nitrite, dissolved as N	**mg/L**	<.001	<.001
Nitrite plus nitrate, dissolved as N	**mg/L**	.13	.14
Nitrogen, ammonia, dissolved as N	**mg/L**	.05	.054
Phosphorus, dissolved orthophosphate as P	**mg/L**	.022	.012
Aluminum, dissolved as Al	**µg/L**	5.	4.
Antimony, dissolved as Sb	**µg/L**	<1.	<1.
Barium, dissolved as Ba	**µg/L**	2.	1.
Beryllium, dissolved as Be	**µg/L**	<1.	<1.
Cadmium, dissolved as Cd	**µg/L**	<1.	<1.
Chromium, dissolved as Cr	**µg/L**	<1.	<1.
Cobalt, dissolved as Co	**µg/L**	<1.	<1.
Copper, dissolved as Cu	**µg/L**	<1.	<1.
Iron, dissolved as Fe	**µg/L**	3.	<3.
Lead, dissolved as Pb	**µg/L**	<1.	<1.
Manganese, dissolved as Mn	**µg/L**	12.	6.
Molybdenum, dissolved as Mo	**µg/L**	<1.	<1.
Nickel, dissolved as Ni	**µg/L**	<1.	<1.
Silver, dissolved as Ag	**µg/L**	<1.	<1.
Zinc, dissolved as Zn	**µg/L**	2.	2.
Uranium, natural dissolved	**µg/L**	<1.	<1.
Carbon, organic dissolved as C	**mg/L**	2.5	1.4

Table 40. Taxa and densities of macroinvertebrates collected at biological sampling sites

[--, not found; data are reported in number of organisms per square meter rounded to 2 significant figures; see table 7 and figure 7 for site locations]

Site	CC5	CC9	CC11	CC12	GC1	GC2	GC5	GC7	GC8	GC10	GC11
DATE	8/30/95	8/24/95	9/1/95	8/30/95	8/29/95	8/26/95	8/28/95	8/28/95	8/25/95	9/2/95	8/25/95
TIME OF DAY	1535	1105	1025	1005	1105	1505	1535	1305	1205	1500	1505
ORDER											
Family											
Genus species											
EPHEMEROPTERA - (Mayflies)											
Baetidae											
Acentrella sp	--	--	--	--	--	--	2.2	--	--	2.2	--
Baetis bicaudatus	19.	210.	2.2	--	30.	--	--	--	17.	--	--
Baetis tricaudatus	--	--	37.	22.	--	4.3	280.	--	--	170.	62.
Ephemerellidae											
Drunella coloradensis	4.3	6.5	13.	4.3	8.6	8.6	--	--	2.2	--	11.
Drunella doddsi	--	--	--	2.2	--	--	11.	--	6.5	13.	11.
Heptageniidae											
Cinygmula sp	13.	11.	77.	11.	41.	60.	200.	--	75.	2.2	22.
Epeorus sp	--	--	67.	4.3	--	--	--	--	6.5	--	--
Epeorus deceptivus	4.3	15.		--	8.6	--	17.	--	--	--	--
Epeorus longimanus	--	--	--	--	--	--	11.	--	--	56.	8.6
Rithrogena robusta	--	28.	--	2.2	--	--	26.	--	--	24.	11.
Rithrogena sp	--	--	--	--	--	--	--	--	--	--	77.
Siphlonuridae											
Ameletus sp	--	--	--	--	--	4.3	--	--	--	--	--
PLECOPTERA - (Stoneflies)											
Capniidae	--	--	--	2.2	--	--	--	--	--	--	--
Chloroperlidae	--	--	15.	8.6	19.	--	2.2	--	--	11.	--
Plumiperla diversa	--	2.2		--	45.	--	--	--	--	--	--
Sweltsa sp	--	--	--	6.5	6.5	6.5	2.2	--	8.6	6.5	--
Leuctridae											
Paraleuctra sp	--	--	--	2.2	--	4.3	--	--	2.2	--	--
Nemouridae											
Zapada cinctipes	--	--	--	--	--	--	2.2	--	--	--	--
Zapada sp	--	41.	15.	15.	6.5	100.	--	2.2	11.	--	2.2
Perlidae											
Hesperoperla pacifica	--	--	2.2	--	12.	--	4.3	--	--	65.	--
Perlodidae	--	--	--	--	2.2	--	6.5	--	--	--	--
Kogotus modestus	2.2	--	--	--	2.2	2.2	--	--	4.3	--	--
Megarcys signata	--	4.3	--	--	--	--	--	--	--	--	--
TRICHOPTERA - (Caddisflies)	--	--	--	--	--	--	--	--	--	--	--
Brachycentridae											
Brachycentrus americanus	--	2.2	2.2	--	--	--	--	--	--	--	--
Hydropsychidae											
Arctopsyche grandis	--	--	--	--	--	2.2	--	--	2.2	17.	15.
Limnephilidae	--	--	--	--	--	2.2	--	--	--	--	--
Rhyacophilidae											
Rhyacophila sp	--	--	2.2	--	2.2	--	--	--	4.3	--	--
Rhyacophila angelita	--	2.2	--	--	--	--	--	--	--	--	--
Rhyacophila brunnea	4.3	--	26.	--	11.	4.3	--	--	30.	13.	2.2
Rhyacophila hyalinata	--	13.	--	--	--	--	--	--	--	--	--
Rhyacophila pellisa	8.6	4.3	22.	--	--	--	100.	--	17.	45.	4.3
Rhyacophila verrula	--	--	--	--	2.2	--	2.2	--	--	--	--
Uenoidae											
Neothremma sp	--	--	43.	--	41.	15.	2.2	2.2	--	--	6.5
COLEOPTERA - (Beetles)											
Elmidae											
Heterlimnius corpulentus	13.	--	84.	--	--	--	280	--	39	77	2.2

Table 40. Taxa and densities of macroinvertebrates collected at biological sampling sites--Continued
[--, not found; data are reported in number of organisms per square meter rounded to 2 significant figures; see table 7 and figure 7 for site locations]

Site	CC5	CC9	CC11	CC12	GC1	GC2	GC5	GC7	GC8	GC10	GC11
DATE	8/30/95	8/24/95	9/1/95	8/30/95	8/29/95	8/26/95	8/28/95	8/28/95	8/25/95	9/2/95	8/25/95
TIME OF DAY	1535	1105	1025	1005	1105	1505	1535	1305	1205	1500	1505
ORDER											
Family											
Genus species											
DIPTERA - (True flies)	--	--	--	--	--	--	--	--	--	--	--
Blephariceridae											
Bibiocephala grandis	--	2.2	--	--	--	2.2	--	--	--	--	--
Ceratopogonidae	--	--	2.2	--	--	--	17.	--	2.2	4.3	--
Chironomidae											
Boreochlus sp	--	--	--	--	--	--	--	--	--	--	--
Boreoheptagyia sp	--	--	--	--	--	--	--	--	--	2.2	--
Brilla sp	--	--	--	--	--	--	--	--	--	13.	2.2
Chironominae	--	2.2	--	--	--	--	--	--	2.2		--
Corynoneura sp	2.2		--	--	--	--	--	--	--	--	--
Cricotopus/Orthocladius sp	2.2	8.6	2.2	--	--	39.	8.6	--	--	32.	2.2
Diamesa sp	2.2	6.5	24	2.2	130	--	17.	--	24.	2.2	--
Eukiefferiella sp	--	6.5	4.3	2.2	--	--	110.	--	6.5	6.5	2.2
Heleniella sp	--	--	--	--	--	--	--	--	4.3	--	--
Hydrobaenus sp	--	--	--	--	--	--	2.2	--	2.2	--	--
Limnophyes sp	--	--	--	--	--	--	--	--	--	--	2.2
Macropelopia sp	--	--	--	--	--	2.2	--	--	--	--	--
Metriocnemus sp	--	--	--	--	--	2.2	--	--	--	--	--
Orthocladiinae	11.	--	6.5	--	--	8.6	11.	--	--	--	4.3
Oreogeton sp	--	4.3	--	--	--	--	2.2	--	--	--	--
Pagastia sp	--	2.2	--	--	--	2.2	15	--	4.3	--	--
Parametriocnemus sp	--	--	--	--	--	6.5	--	--	--	--	--
Parorthocladius sp	--	4.3	--	--	--	--	--	--	--	--	--
Rheocricotopus sp	2.2	--	--	--	--	--	--	2.2	--	--	--
Tanytarsini	--	--	--	--	--	6.5	--	--	--	--	--
Tvetenia sp	2.2	17	--	--	13	2.2	15.	--	4.3	8.6	6.5
Deuterophlebiidae											
Deuterophlebia coloradensis	--	2.2	--	--	--	--	--	--	--	6.5	--
Empididae											
Chelifera sp	--	2.2	8.6	--	30.	--	37.	--	--	--	--
Clinocera sp	--	4.3	--	--	--	6.5	--	--	--	2.2	--
Wiedemannia sp	--	2.2	--	--	--	--	--	--	--	2.2	--
Simuliidae											
Prosimulium onychodactylum	8.6	73	71.	4.3	60.	30	30	--	49.	2.2	--
Simulium sp	--	88.	--	2.2	13.	--	19	--	28.	170.	8.6
Simulium tuberosum	13.	--	71.	--	--	--	--	--	--	--	--
Tipulidae	--	2.2	--	--	--	--	--	--	--	--	--
Dicranota sp	--	--	--	--	--	--	2.2	--	--	--	--
Hexatoma sp	--	2.2	--	--	--	--	--	--	--	--	--
Limonia sp	--	2.2	--	--	--	--	--	--	--	--	--
Pedicia sp	--	--	--	--	--	--	--	--	2.2	--	--
NEMATODA	4.3	--	2.2	--	--	8.6	4.3	--	--	--	--
OLIGOCHAETA	2.2	--	--	--	--	--	--	--	--	--	--
Enchytraeidae	--	2.2	--	--	--	--	--	--	--	--	--
HYDRACARINA	--	2.2	8.6	--	--	19.	--	--	4.3	4.3	--

Table 41. Taxa and densities of periphyton collected at biological sampling sites

[--, no data; NC, not calculated because samples constituted <5% of total biovolume at every site
A, abundance as cells per cm^2; B, biovolume as μm^3 per cm^2; densities rounded to 2 significant figures; see table 7 and figure 7 for site locations]

Site	Sampling site																					
	CC5		CC9		CC11		CC12		GC1		GC2		GC5		GC7		GC8		GC10		GC11	
Date	8/30/95		8/24/95		9/1/95		8/30/95		8/29/95		8/26/95		8/28/95		8/28/95		8/25/95		9/2/95		8/28/95	
Time of day	1510		1100		1010		1000		1100		1500		1510		1300		1200		1600		1500	
PHYLUM	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Family																						
Genus species																						
CHLOROPHYTA - (Green algae)																						
(undet coccoid >10 μm)	--	--	--	--	--	--	--	--	--	--	--	--	410	NC	--	--	--	--	--	--	--	--
(undet coccoid 3-5 μm)	--	--	--	--	--	--	--	--	--	--	--	--	830	NC	--	--	--	--	--	--	--	--
(undet filamentous) sp	--	--	70	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
(undet) sp	--	--	--	--	--	--	--	--	--	--	--	--	24,000	NC	--	--	--	--	--	--	--	--
Chaetophoraceae																						
Stigeoclonium lubricum	--	--	--	--	--	--	--	--	--	--	--	--	--	--	160	NC	--	--	--	--	--	--
Desmidiaceae																						
Closterium acerosum	--	--	--	--	--	--	--	--	--	--	--	--	760	NC	--	--	--	--	--	--	--	--
Closterium littorale	--	--	--	--	3,700	NC	--	--	--	--	230	NC	830	NC	--	--	--	--	--	--	--	--
Closterium moniliferum	--	--	17	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cosmarium botrytis	--	--	--	--	--	--	--	--	--	--	--	--	110,000	NC	--	--	--	--	--	--	--	--
Staurastrum sp	--	--	--	--	--	--	--	--	--	--	--	--	1,600	NC	--	--	--	--	--	--	--	--
Microsporaceae																						
Microspora sp	--	--	--	--	--	--	--	--	--	--	--	--	55,000	NC	--	--	--	--	--	--	--	--
Ulvaceae																						
Schizomeris leibleinii	--	--	--	--	480,000	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zygnemataceae																						
Spirogyra sp	--	--	--	--	--	--	--	--	--	--	--	--	830	NC	--	--	--	--	--	--	--	--
CHRYSOPHYTA - (Golden and yellow-green algae, including diatoms)																						
Achnanthaceae																						
Achnanthes bioreti	--	--	--	--	2,100	NC	30	NC	--	--	--	--	--	--	1	NC	--	--	--	--	--	--
Achnanthes deflexa	12	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Achnanthes detha	--	--	--	--	--	--	--	--	--	--	--	--	1,900	NC	--	--	--	--	--	--	--	--
Achnanthes grana	--	--	--	--	3,400	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Achnanthes lapidosa	12	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Achnanthes lapponica	--	--	--	--	3,100	NC	--	--	--	--	--	--	2,600	NC	--	--	--	--	--	--	--	--
Achnanthes microcephala	--	--	--	--	10,000	NC	--	--	--	--	--	--	610	NC	--	--	--	--	--	--	--	--
Achnanthidium affine	--	--	--	--	20,000	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Achnanthidium biporomum	41	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Achnanthidium clevei rostratum	--	--	--	--	--	--	--	--	--	--	340	NC	--	--	--	--	--	--	--	--	--	--
Achnanthidium exiguum	--	--	--	--	--	--	--	--	18	NC	--	--	--	--	--	--	--	--	--	--	--	--
Achnanthidium lanceolatum	170	NC	67	NC	3,200	NC	--	--	--	--	340	NC	350	NC	--	--	63	NC	--	--	70	NC
Achnanthidium lanceolatum dubium	69	NC	--	--	--	--	--	--	--	--	--	--	1,300	NC	1	NC	--	--	--	--	--	--
Achnanthidium minutissimum	1,600	120,000	1,000	77,000	680,000	51,000,000	430	32,000	93	7,000	33,000	2,500,000	120,000	8,600,000	88	6,700	1,200	92,000	1,000	77,000	3,600	270,000
Achnanthidium pusillum	--	--	--	--	3,800	NC	--	--	--	--	--	--	610	NC	21	NC	--	--	--	--	--	--
Cocconeis placentula euglypta	12	NC	--	--	7,100	NC	--	--	--	--	--	--	690	NC	5	NC	--	--	78	NC	--	--
Cocconeis placentula lineata	--	--	--	--	40,000	NC	30	NC	37	NC	--	--	2,100	NC	--	--	--	--	--	--	--	--
Cocconeis thumensis	34	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Amphiphleuraceae																						
Frustulia rhomboides	--	--	--	--	--	--	--	--	--	--	--	--	350	NC	--	--	--	--	--	--	--	--
Aulacoseiraceae																						
Aulacoseira alpigena	--	--	200	34,000	61,000	10,000,000	75	13,000	--	--	--	--	38,000	6,200,000	--	--	--	--	78	13,000	26	4,300
Aulacoseira ambigua	--	--	--	--	48,000	NC	45	NC	--	--	1,000	NC	1,900	NC	4	NC	3	NC	--	--	--	--
Aulacoseira italica	--	--	--	--	5,100	NC	--	--	18	NC	--	--	18,000	NC	--	--	--	--	78	NC	--	--
Aulacoseira italica tenuissima	--	--	--	--	---	--	--	--	--	--	--	--	1,900	760,000	--	--	--	--	--	--	--	--
Aulacoseira lacustris	--	--	--	--	--	--	--	--	--	--	--	--	45,000	18,000,000	--	--	--	--	--	--	--	--

Table 41. Taxa and densities of periphyton collected at biological sampling sites--Continued

[--, no data; NC, not calculated because samples constituted <5% of total biovolume at every site
A, abundance as cells per cm^2; B, biovolume as μm^3 per cm^2; densities rounded to 2 significant figures; see table 7 and figure 7 for site locations]

Site	Sampling site																					
	CC5		CC9		CC11		CC12		GC1		GC2		GC5		GC7		GC8		GC10		GC11	
Date	8/30/95		8/24/95		9/1/95		8/30/95		8/29/95		8/26/95		8/28/95		8/28/95		8/25/95		9/2/95		8/28/95	
Time of day	1510		1100		1010		1000		1100		1500		1510		1300		1200		1600		1500	
PHYLUM	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Family																						
Genus species																						
Bacillariaceae																						
Denticula elegans	--	--	--	--	1,300	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Denticula tenuis	--	--	--	--	--	--	--	--	18	NC	--	--	--	--	--	--	--	--	--	--	--	--
Nitzschia acicularis	60	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitzschia amphibia	60	NC	67	NC	2,100	NC	--	--	--	--	--	--	--	--	1	NC	--	--	--	--	--	--
Nitzschia dissipata	--	--	67	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitzschia dissipata media	120	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitzschia frustulum	43	NC	67	NC	6,400	NC	--	--	--	--	170	NC	9,700	NC	3	NC	--	--	--	--	--	--
Nitzschia frustulum perminuta	140	NC	--	--	7,400	NC	--	--	--	--	--	--	2,300	NC	--	--	--	--	78	NC	8	NC
Nitzschia frustulum subsalina	210	NC	67	NC	--	--	--	--	--	--	--	--	1,300	NC	--	--	--	--	160	NC	--	--
Nitzschia kuetzingiana	260	NC	270	NC	9,000	NC	--	--	--	--	--	--	1,500	NC	7	NC	15	NC	160	NC	--	--
Nitzschia palea	69	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitzschia romana	83	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitzschia sociabilis	--	--	--	--	--	--	--	--	--	--	--	--	690	NC	--	--	--	--	--	--	--	--
Nitzschia subtilis	--	--	--	--	--	--	--	--	--	--	--	--	810	NC	--	--	--	--	--	--	--	--
Hantzschia amphioxys	34	NC	--	--	--	--	--	--	--	--	--	--	320	NC	--	--	--	--	78	NC	--	--
Brachysiraceae																						
Brachysira brebissonii	--	--	340	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	78	NC	--	--
Brachysira vitrea	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17	NC
Catenulaceae																						
Amphora ovalis	--	--	--	--	3,800	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Amphora ovalis pediculus	--	--	--	--	8,200	NC	--	--	--	--	--	--	5,100	NC	--	--	--	--	--	--	--	--
Amphora perpusilla	46	NC	--	--	66,000	NC	--	--	--	--	340	NC	6,900	NC	5	NC	--	--	78	NC	--	--
Cocconeidaceae																						
Cocconeis pediculus	12	NC	140	NC	1,700	NC	--	--	--	--	--	--	--	--	3	NC	--	--	--	--	--	--
Cymbellaceae																						
Encyonema muelleri	69	NC	140	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cymbella affinis	34	NC	--	--	20,000	NC	--	--	--	--	--	--	--	--	--	--	--	--	78	NC	--	--
Cymbella aspera	--	--	--	--	3,100	NC	--	--	--	--	--	--	--	--	--	--	--	--	78	NC	--	--
Cymbella brehmii	220	NC	--	--	3,300	NC	30	NC	190	NC	--	--	2,300	NC	--	--	--	--	--	--	--	--
Cymbella cesatii	12	NC	--	--	--	--	30	NC	--	--	--	--	2,300	NC	--	--	--	--	--	--	--	--
Cymbella cistula	34	NC	--	--	--	--	--	--	37	NC	--	--	--	--	--	--	--	--	--	--	--	--
Cymbella cuspidata	12	NC	--	--	--	--	--	--	--	--	--	--	1,800	NC	--	--	--	--	--	--	--	--
Cymbella lunata	--	--	--	--	6,200	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cymbella microcephala	--	--	--	--	3,100	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cymbella minuta latens	--	--	--	--	--	--	--	--	--	--	--	--	11,000	NC	--	--	--	--	--	--	--	--
Cymbella minuta silesiaca	390	NC	67	NC	29,000	NC	--	--	--	--	680	NC	6,100	NC	2	NC	11	NC	310	NC	--	--
Cymbella naviculiformis	69	NC	67	NC	6,600	NC	45	NC	--	--	--	--	6,600	NC	--	--	--	--	--	--	--	--
Cymbella tumida	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	78	NC	--	--
Cymbella turgidula	31	NC	--	--	54,000	NC	--	--	--	--	--	--	1,200	NC	--	--	--	--	78	NC	--	--
Encyonema minutum	940	320,000	540	190,000	160,000	54,000,000	380	130,000	18	6,400	1,400	470,000	110,000	39,000,000	7	2,500	63	22,000	1,100	380,000	140	48,000
Placoneis placentula	--	--	--	--	--	--	--	--	--	--	--	--	210	NC	--	--	--	--	--	--	--	--
Diadesmidaceae																						
Luticola cohnii	--	--	67	NC	--	--	--	--	--	--	--	--	350	NC	--	--	7	NC	--	--	--	--
Diploneidaceae																						
Diploneis bombus	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	NC	--	--	--	--	--	--
Diploneis elliptica	--	--	--	--	2,100	NC	--	--	--	--	--	--	1,800	NC	--	--	--	--	78	NC	--	--
Diploneis oblongella	--	--	--	--	320	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 41. Taxa and densities of periphyton collected at biological sampling sites--Continued

[--, no data; NC, not calculated because samples constituted <5% of total biovolume at every site
A, abundance as cells per cm^2; B, biovolume as μm^3 per cm^2; densities rounded to 2 significant figures; see table 7 and figure 7 for site locations]

Site	CC5		CC9		CC11		CC12		GC1		GC2		GC5		GC7		GC8		GC10		GC11	
Date	8/30/95		8/24/95		9/1/95		8/30/95		8/29/95		8/28/95		8/28/95		8/28/95		8/25/95		9/2/95		8/28/95	
Time of day	1510		1100		1010		1000		1100		1500		1510		1300		1200		1600		1500	
PHYLUM	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Family																						
Genus species																						
Epithemiaceae																						
Rhopalodia gibba	--	--	--	--	--	--	30	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rhopalodia gibba ventricosa	--	--	67	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Eunotiaceae																						
Eunotia exigua	--	--	67	7,000	1,600	170,000	--	--	--	--	--	--	--	--	110	11,000	--	--	--	--	17	1,800
Eunotia flexuosa	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	NC	--	--	--	--	--	--
Eunotia pectinalis minor	12	NC	140	NC	2,400	NC	30	NC	--	--	--	--	--	--	1	NC	--	--	160	NC	--	--
Eunotia praerupta	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	160	NC	--	--
Eunotia tenella	--	--	--	--	7,100	NC	--	--	--	--	340	NC	310	NC	1	NC	--	--	--	--	--	--
Fragilariaceae																						
Asterionella formosa	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	NC	--	--	--	--	17	NC
Diatoma anceps	--	--	140	NC	640	NC	--	--	--	--	1,000	NC	1,400	NC	--	--	--	--	--	--	--	--
Diatomella balfouriana	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	78	NC	--	--
Diatoma mesodon	--	--	410	320,000	9,700	7,700,000	--	--	--	--	2,200	1,800,000	11,000	8,900,000	5	4,400	23	19,000	--	--	--	--
Fragilaria brevistriata inflata	--	--	--	--	31,000	NC	--	--	--	--	--	--	5,600	NC	--	--	--	--	--	--	17	NC
Fragilaria construens binodis	--	--	--	--	--	--	--	--	--	--	--	--	32,000	NC	--	--	--	--	--	--	--	--
Fragilaria construens pumila	380	48,000	--	--	230,000	29,000,000	--	--	--	--	1,000	130,000	110,000	14,000,000	--	--	--	--	78	9,900	--	--
Fragilaria construens venter	--	--	--	--	9,400	NC	--	--	--	--	--	--	8,900	NC	--	--	--	--	--	--	35	NC
Fragilaria pinnata lancettula	100	NC	--	--	960	NC	--	--	--	--	--	--	320	NC	--	--	--	--	--	--	--	--
Fragilaria vaucheriae	230	44,000	540	100,000	180,000	35,000,000	700	130,000	--	--	44,000	8,500,000	68,000	13,000,000	96	19,000	420	80,000	160	30,000	550	100,000
Fragilaria virescens clavata	--	--	--	--	--	--	--	--	--	--	--	--	890	NC	--	--	--	--	--	--	--	--
Fragilaria virescens exigua	--	--	--	--	--	--	--	--	--	--	--	--	2,500	NC	--	--	--	--	--	--	--	--
Fragilariforma virescens	--	--	--	--	--	--	--	--	--	--	--	--	9,500	2,900,000	--	--	--	--	--	--	--	--
Hannaea arcus	95	75,000	410	320,000	33,000	26,000,000	60	47,000	18	15,000	2,000	1,600,000	3,100	2,500,000	9	7,100	23	18,000	78	61,000	26	21,000
Hannaea arcus amphioxys	--	--	67	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Martyana martyi	--	--	--	--	1,600	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Meridion circulare	59	NC	270	NC	6,200	NC	30	NC	--	--	2,200	NC	1,600	NC	--	--	--	--	--	--	--	--
Meridion circulare constrictum	--	--	67	NC	3,100	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pseudostaurosira brevistriata	110	10,000	67	6,700	170,000	16,000,000	--	--	--	--	340	34,000	120,000	12,000,000	2	270	7	760	240	23,000	35	3,500
Pseudostaurosira robusta	--	--	--	--	--	--	--	--	--	--	--	--	5,000	NC	--	--	--	--	--	--	--	--
Staurosira construens	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	78	NC	--	--
Staurosirella leptostauron	530	280,000	--	--	160,000	78,000,000	--	--	--	--	340	170,000	36,000	18,000,000	--	--	--	--	240	110,000	--	--
Staurosirella pinnata	1,200	140,000	67	7,700	360,000	40,000,000	60	6,900	56	6,300	--	--	110,000	13,000,000	18	2,100	7	890	3,500	390,000	150	17,000
Synedra acus	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	NC	--	--	--	--	--	--
Synedra minuscula	60	NC	--	--	2,100	NC	--	--	--	--	--	--	630	NC	--	--	--	--	--	--	17	NC
Synedra rumpens	--	--	200	25,000	--	--	--	--	--	--	850	100,000	3,800	460,000	36	4,500	--	--	--	--	360	44,000
Synedra rumpens familiaris	--	--	--	--	--	--	--	--	--	--	--	--	630	NC	1	NC	--	--	--	--	--	--
Synedra rumpens fragilarioides	--	--	--	--	--	--	--	--	--	--	--	--	6,200	NC	--	--	--	--	--	--	--	--
Synedra rumpens meneghiniana	--	--	--	--	2,300	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Synedra tenera	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Synedra ulna	75	NC	--	--	59,000	NC	--	--	--	--	--	--	320	NC	--	--	--	--	--	--	--	--
Synedra ulna oxyrhynchus	120	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8	NC
Gomphonemataceae																						
Gomphonema eriense	120	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gomphoneis herculeana	12	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gomphonema acuminatum	--	--	--	--	6,700	NC	30	NC	37	NC	--	--	420	NC	--	--	--	--	--	--	--	--
Gomphonema angustatum	880	310,000	--	--	280,000	95,000,000	30	11,000	74	26,000	170	59,000	9,500	3,300,000	--	--	23	8,200	78	27,000	--	--
Gomphonema angustatum productum	--	--	--	--	14,000	NC	--	--	--	--	--	--	5,000	NC	--	--	--	--	160	NC	--	--

Table 41. Taxa and densities of periphyton collected at biological sampling sites--Continued

[--, no data; NC, not calculated because samples constituted <5% of total biovolume at every site
A, abundance as cells per cm^2; B, biovolume as μm^3 per cm^2; densities rounded to 2 significant figures; see table 7 and figure 7 for site locations]

Site	Sampling site																					
	CC5		CC9		CC11		CC12		GC1		GC2		GC5		GC7		GC8		GC10		GC11	
Date	8/30/95		8/24/95		9/1/95		8/30/95		8/29/95		8/28/95		8/28/95		8/28/95		8/25/95		9/2/95		8/28/95	
Time of day	1510		1100		1010		1000		1100		1500		1510		1300		1200		1600		1500	
PHYLUM	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Family																						
Genus species																						
Gomphonema cf. clevei	770	NC	--	--	10,000	NC	30	NC	37	NC	--	--	6,800	NC	6	NC	210	NC	390	NC	--	--
Gomphonema grunowii	83	NC	--	--	1,300	NC	15	NC	--	--	--	--	--	--	3	NC	--	--	--	--	--	--
Gomphonema intricatum	24	NC	--	--	--	--	--	--	18	NC	--	--	420	NC	--	--	--	--	--	--	17	NC
Gomphonema olivaceoides hutchinsoniana	12	NC	--	--	--	--	--	--	--	--	--	--	1,700	NC	--	--	--	--	--	--	17	NC
Gomphonema olivaceum	630	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	19	NC	--	--	--	--
Gomphonema parvulum	4,200	630,000	680	100,000	200,000	30,000,000	4,700	690,000	490	72,000	8,500	1,300,000	47,000	6,900,000	53	7,800	150	22,000	1,700	250,000	79	12,000
Gomphonema subclavatum	--	--	--	--	--	--	170	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Reimeria sinuata	5,500	1,300,000	140	31,000	150,000	35,000,000	1,800	420,000	2,600	590,000	340	79,000	30,000	6,900,000	--	--	94	22,000	3,500	800,000	17	4,100
Naviculaceae																						
Caloneis bacillum	69	NC	--	--	--	--	--	--	--	--	--	--	1,700	NC	1	NC	--	--	78	NC	--	--
Caloneis ventricosa truncatula	--	--	--	--	320	NC	--	--	--	--	--	--	--	--	1	NC	--	--	78	NC	--	--
Frustulia vulgaris	--	--	--	--	--	--	--	--	--	--	--	--	690	NC	--	--	--	--	--	--	--	--
Navicula abiskoensis	69	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Navicula bryophila	--	--	--	--	3,100	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Navicula cincta	--	--	--	--	--	--	--	--	--	--	--	--	1,300	NC	--	--	--	--	--	--	--	--
Navicula contenta biceps	--	--	--	--	--	--	--	--	--	--	--	--	630	NC	--	--	--	--	--	--	--	--
Navicula cryptocephala	--	--	--	--	--	--	--	--	--	--	--	--	1,300	NC	--	--	--	--	--	--	--	--
Navicula lanceolata	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	NC	--	--	--	--	--	--
Navicula luzonensis	--	--	--	--	8,500	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Navicula minima	--	--	140	NC	--	--	--	--	--	--	340	NC	2,500	NC	3	NC	--	--	78	NC	--	--
Navicula paucivisitata	--	--	--	--	2,100	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Navicula pupula mutata	--	--	--	--	--	--	--	--	--	--	--	--	210	NC	--	--	--	--	--	--	--	--
Navicula pusilla	--	--	--	--	15,000	NC	--	--	--	--	--	--	--	--	--	--	--	--	78	NC	--	--
Navicula radiosa	81	NC	140	NC	2,800	NC	270	NC	--	--	340	NC	8,000	NC	--	--	--	--	240	NC	--	--
Navicula rhynchocephala	89	NC	--	--	--	--	--	--	--	--	--	--	630	NC	--	--	--	--	--	--	--	--
Navicula rhynchocephala germainii	83	NC	--	--	--	--	--	--	--	--	--	--	630	NC	4	NC	--	--	--	--	--	--
Navicula salinarum intermedia	--	--	--	--	2,100	NC	--	--	--	--	--	--	--	--	1	NC	--	--	--	--	--	--
Navicula sp 1 *ans hdsn*	--	--	--	--	16,000	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Navicula tantula	120	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Navicula tripunctata schizonemoides	--	--	--	--	--	--	30	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pinnulariaceae																						
Pinnularia abaujensis linearis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3	NC	--	--	--	--	--	--
Pinnularia appendiculata	--	--	--	--	3,100	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pinnularia biceps	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	NC	--	--	--	--	--	--
Pinnularia borealis	12	NC	--	--	4,700	NC	--	--	--	--	340	NC	1,500	NC	--	--	--	--	--	--	--	--
Pinnularia intermedia	--	--	--	--	640	NC	--	--	--	--	--	--	--	--	--	--	--	--	240	NC	--	--
Pinnularia major	--	--	--	--	--	--	--	--	--	--	--	--	630	NC	--	--	--	--	--	--	--	--
Pinnularia mesolepta	--	--	--	--	--	--	--	--	--	--	--	--	1,700	NC	--	--	--	--	--	--	--	--
Pinnularia microstauron	41	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pinnularia nodosa	--	--	--	--	7,000	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pinnularia obscura	--	--	--	--	3,100	NC	--	--	--	--	--	--	--	--	1	NC	--	--	--	--	--	--
Rhoicosphaeniaceae																						
Rhoicosphenia abbreviata	180	NC	--	--	--	--	--	--	18	NC	--	--	--	--	--	--	--	--	--	--	--	--
Sellaphoraceae																						
Sellaphora laevissima	--	--	--	--	1,600	NC	--	--	--	--	--	--	1,300	NC	--	--	--	--	--	--	--	--
Sellaphora pupula	180	NC	--	--	1,600	NC	--	--	--	--	340	NC	1,300	NC	--	--	--	--	--	--	--	--

Table 41. Taxa and densities of periphyton collected at biological sampling sites--Continued

[--, no data; NC, not calculated because samples constituted <5% of total biovolume at every site
A, abundance as cells per cm^2; B, biovolume as μm^3 per cm^2; densities rounded to 2 significant figures; see table 7 and figure 7 for site locations]

Site	Sampling site CC5		CC9		CC11		CC12		GC1		GC2		Sampling site GC5		GC7		GC8		GC10		GC11	
Date	8/30/95		8/24/95		9/1/95		8/30/95		8/29/95		8/26/95		8/28/95		8/28/95		8/25/95		9/2/95		8/28/95	
Time of day	1510		1100		1010		1000		1100		1500		1510		1300		1200		1600		1500	
PHYLUM	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Family																						
Genus species																						
Sellaphora pupula rectangularis	--	--	--	--	--	--	--	--	--	--	--	--	2,200	NC	--	--	--	--	--	--	--	--
Sellaphora seminulum	--	--	--	--	3,100	NC	--	--	--	--	--	--	--	--	--	--	3	NC	--	--	--	--
Stauroneidaceae																						
Stauroneis phoenicenteron	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	78	NC	--	--
Stauroneis smithii	--	--	--	--	--	--	--	--	--	--	--	--	1,300	NC	--	--	--	--	--	--	--	--
Stephanodiscaceae																						
Cyclotella atomus	--	--	--	--	1,600	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tabellariaceae																						
Tabellaria flocculosa	380	NC	320	NC	4,300	NC	--	--	--	--	340	NC	4,300	NC	9	NC	7	NC	--	--	26	NC
Thalassiosiraceae																						
Cyclotella meneghiniana	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	310	NC	--	--
Cyclotella pseudostelligera	34	NC	--	--	--	--	--	--	--	--	--	--	350	NC	--	--	--	--	310	NC	--	--
CYANOPHYTA - (Blue-green algae)																						
(undet coccoid 3-5 µm)	27,000	460,000	--	--	24,000	410,000	3,600	62,000	510	8,700	--	--	7,700	130,000	--	--	13,000	220,000	5,400	93,000	670	11,512
(undet coccoid)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	150	NC	--	--	--	--
(undet) sp	1,000	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,800	NC	--	--
Chroococcaceae																						
Chroococcus sp	84,000	16,000,000	--	--	18,000	3,400,000	--	--	3,300	620,000	--	--	--	--	--	--	950	180,000	--	--	--	--
Oscillatoriaceae																						
Hydrocoleum brebissonii	--	--	--	--	2,800,000	250,000,000	600	55,000	--	--	82,000	7,500,000	130,000	12,000,000	--	--	--	--	--	--	2,500	230,000
Lyngbya sp 1 *(ansfwa)*	--	--	--	--	300,000	3,300,000	18,000	190,000	--	--	--	--	420,000	4,600,000	--	--	--	--	--	--	8,800	95,000
Oscillatoria sp 1 *(ansfwa)*	--	--	450	4,900	--	--	--	--	--	--	140,000	1,500,000	--	--	--	--	--	--	--	--	--	--
Rivulariaceae																						
Amphithrix janthina	260,000	1,500,000	2,700	15,000	1,000,000	5,800,000	--	--	52,000	300,000	--	--	--	--	850	4,900	2,400	14,000	7,600	44,000	--	--
Calothrix parietina	--	--	--	--	--	--	--	--	5,100	NC	--	--	--	--	--	--	--	--	--	--	--	--
EUGLENOPHYTA - (Phytoflagellates)																						
Euglenophyta (undet) sp	--	--	--	--	4,200	NC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Euglenaceae																						
Trachelomonas hispida	--	--	--	--	4,300	NC	--	--	--	--	--	--	1,200	NC	--	--	--	--	--	--	--	--
Trachelomonas volvocina	--	--	830	NC	410	NC	--	--	--	--	--	--	1,200	NC	--	--	--	--	--	--	--	--

Table 42. Concentrations of solids for bulk atmospheric-deposition samples

[--, no data]

Collector Id	Road surface	Side of road (cut or fill)	Distance from road (ft)	Deployment date	Number of days	Area of collector (sq ft)	Detritus selve size (mm)	Solids weight (mg)	Dissolved weight (mg)	Total weight[1] (mg)	Greater than 2-mm weight[2] (mg)
Site PAV (see table 8)											
PAV	asphalt	cut	15	7/3/95	29	0.688	0.6	933.	24.	957.	--
PAV	asphalt	cut	15	7/3/95	29	0.688	0.6	581.	40.	621.	--
PAV	asphalt	cut	15	7/3/95	29	0.688	0.6	841.	33.	874.	--
PAV	asphalt	cut	15	7/3/95	29	0.688	0.6	1940.	68.	2008.	--
PAV	asphalt	cut	15	7/3/95	29	0.688	0.6	1043.	42.	1085.	--
PAV	asphalt	fill	15	7/3/95	29	0.688	0.6	2296.	32.	2328.	--
PAV	asphalt	fill	15	7/3/95	29	0.688	0.6	976.	29.	1005.	--
PAV	asphalt	fill	15	7/3/95	29	0.688	0.6	1201.	25.	1226.	--
PAV	asphalt	fill	15	7/3/95	29	0.688	0.6	1423.	47.	1470.	--
PAV	asphalt	fill	15	7/3/95	29	0.688	0.6	1700.	52.	1752.	--
Site GRAV											
GRAV	gravel	cut	15	7/3/95	29	0.688	0.6	5964.	142.	6106.	--
GRAV	gravel	cut	15	7/3/95	29	0.688	0.6	6975.	127.	7102.	--
GRAV	gravel	cut	15	7/3/95	29	0.688	0.6	12924.	157.	13081.	--
GRAV	gravel	cut	15	7/3/95	29	0.688	0.6	8652.	119.	8771.	--
GRAV	gravel	cut	15	7/3/95	29	0.688	0.6	6331.	204.	6535.	--
GRAV	gravel	fill	15	7/3/95	29	0.688	0.6	3569.	105.	3674.	--
GRAV	gravel	fill	15	7/3/95	29	0.688	0.6	6175.	87.	6262.	--
GRAV	gravel	fill	15	7/3/95	29	0.688	0.6	3724.	156.	3880.	--
GRAV	gravel	fill	15	7/3/95	29	0.688	0.6	5508.	86.	5594.	--
GRAV	gravel	fill	15	7/3/95	29	0.688	0.6	5513.	169.	5682.	--
Site A											
A[3]	gravel	cut	15	8/9/95	14	0.688	2	6,647.	64.	6,711.	--
A	gravel	cut	15	8/9/95	14	0.688	2	10,850.	134.	10,984.	--
A	gravel	cut	15	8/9/95	14	0.688	2	1,607.	79.	1,686.	--
A	gravel	cut	15	8/9/95	14	0.688	2	6,391.	52.	6,443.	--
A	gravel	cut	15	8/9/95	14	0.688	2	7,210.	56.	7,266.	--
A	gravel	cut	15	8/9/95	14	0.688	2	3,167.	--	--	--
A	gravel	cut	15	10/4/95	21	0.688	2	3,161.	18.	3,179.	0.
A	gravel	cut	15	10/4/95	21	0.688	2	8,817.	54.	8,871.	0.
A	gravel	cut	15	10/4/95	21	0.688	2	7,590.	49.	7,639.	0.
A	gravel	cut	15	10/4/95	21	0.688	2	6,272.	34.	6,306.	0.
A	gravel	cut	15	10/4/95	21	0.688	2	7,586.	68.	7,654.	0.
A	gravel	cut	15	10/4/95	21	0.688	2	8,002.	71.	8,073.	0.
Site B											
B	gravel	fill	500	8/9/95	14	0.688	2	--	--	--	--
B	gravel	fill	500	8/9/95	14	0.688	2	95.	1.	96.	--
B	gravel	fill	500	8/9/95	14	0.688	2	275.	32.	307.	--
B[3]	gravel	fill	500	10/4/95	21	0.688	2	92.	11.	103.	0.
B	gravel	fill	500	10/4/95	21	0.688	2	108.	22.	--	0.
B	gravel	fill	500	10/4/95	21	0.688	2	228.	48.	276.	0.
Site C											
C	asphalt	cut	15	8/9/95	14	0.688	2	455.	30.	485.	--
C	asphalt	cut	15	8/9/95	14	0.688	2	386.	33.	419.	--
C	asphalt	cut	100	8/9/95	14	0.688	2	360.	--	--	--
C	asphalt	cut	100	8/9/95	14	0.688	2	196.	--	--	--
C	asphalt	cut	500	8/9/95	14	0.688	2	243.	--	--	--
C	asphalt	cut	500	8/9/95	14	0.688	2	220.	--	--	--
C	asphalt	fill	15	8/9/95	14	0.688	2	741.	--	--	--
C	asphalt	fill	15	8/9/95	14	0.688	2	365.	11.	376.	--
C[4]	asphalt	fill	15	8/9/95	14	0.688	2	1,809.	129.	1,938.	--
C[4]	asphalt	fill	15	8/9/95	14	0.688	2	1,411.	145.	1,556.	--

Table 42. Concentrations of solids for bulk atmospheric-deposition samples--Continued

[--, no data]

Collector Id	Road surface	Side of road (cut or fill)	Distance from road (ft)	Deployment date	Number of days	Area of collector (sq ft)	Detritus seive size (mm)	Solids weight (mg)	Dissolved weight (mg)	Total weight[1] (mg)	Greater than 2-mm weight[2] (mg)
					Site C (see table 8)						
C	asphalt	fill	100	8/9/95	14	0.688	2	386.	60.	446.	--
C	asphalt	fill	100	8/9/95	14	0.688	2	714.	5.	719.	--
C	asphalt	fill	500	8/9/95	14	0.688	2	338.	15.	353.	--
C	asphalt	fill	500	8/9/95	14	0.688	2	140.	--	--	--
C	asphalt	cut	15	10/4/95	21	0.688	2	112.	12.	124.	0.
C	asphalt	cut	15	10/4/95	21	0.688	2	216.	7.	223.	0.
C	asphalt	cut	100	10/4/95	21	0.688	2	145.	40.	185.	0.
C	asphalt	cut	100	10/4/95	21	0.688	2	95.	5.	100.	0.
C	asphalt	cut	500	10/4/95	21	0.688	2	147.	13.	160.	0.
C	asphalt	cut	500	10/4/95	21	0.688	2	--	--	--	0.
C[3]	asphalt	fill	15	10/4/95	21	0.688	2	230.	12.	242.	0.
C	asphalt	fill	15	10/4/95	21	0.688	2	488.	19.	507.	10.
C[4]	asphalt	fill	15	10/4/95	21	0.688	2	417.	16.	433.	0.
C[4]	asphalt	fill	15	10/4/95	21	0.688	2	729.	52.	781.	336.
C	asphalt	fill	100	10/4/95	21	0.688	2	--	--	--	0.
C	asphalt	fill	100	10/4/95	21	0.688	2	209.	61.	270.	0.
C[3]	asphalt	fill	500	10/4/95	21	0.688	2	26.	<3.	--	0.
C	asphalt	fill	500	10/4/95	21	0.688	2	98.	--	--	0.
					Site D						
D	asphalt	fill	15	8/9/95	14	0.688	2	616.	--	--	--
D	asphalt	fill	15	8/9/95	14	0.688	2	528.	86.	614.	--
D	asphalt	fill	15	8/9/95	14	0.688	2	328.	61.	389.	--
D	asphalt	cut	15	8/9/95	14	0.688	2	2,451.	--	--	--
D	asphalt	cut	15	8/9/95	14	0.688	2	1,200.	9.	1,209.	--
D	asphalt	cut	15	8/9/95	14	0.688	2	633.	85.	718.	--
D	asphalt	fill	15	10/4/95	21	0.688	2	416.	72.	488.	388.
D	asphalt	fill	15	10/4/95	21	0.688	2	908.	181.	1,089.	0.
D	asphalt	fill	15	10/4/95	21	0.688	2	--	--	--	0.
D[3]	asphalt	cut	15	10/4/95	21	0.688	2	125.	<3.	--	0.
D	asphalt	cut	15	10/4/95	21	0.688	2	264.	8.	272.	0.
D	asphalt	cut	15	10/4/95	21	0.688	2	82.	--	--	0.
					Site E						
E	gravel	cut	15	8/9/95	14	0.688	2	10,571.	57.	10,628.	--
E	gravel	cut	15	8/9/95	14	0.688	2	6,138.	--	--	--
E	gravel	cut	15	8/9/95	14	0.688	2	9,235.	63.	9,298.	--
E	gravel	fill	15	8/9/95	14	0.688	2	37,819.	220.	38,039.	--
E	gravel	fill	15	8/9/95	14	0.688	2	10,720.	604.	11,324.	--
E	gravel	fill	15	8/9/95	14	0.688	2	42,935.	388.	43,323.	--
E	gravel	cut	15	10/4/95	21	0.688	2	8,094.	--	--	0.
E	gravel	cut	15	10/4/95	21	0.688	2	7,161.	--	--	6.
E	gravel	cut	15	10/4/95	21	0.688	2	4,492.	--	--	0.
E[3]	gravel	fill	15	10/4/95	21	0.688	2	70,589.	652.	71,241.	0.
E	gravel	fill	15	10/4/95	21	0.688	2	448,326.	--	--	0.
E	gravel	fill	15	10/4/95	21	0.688	2	119,258.	--	--	8,128.
					Site F						
F	gravel	cut	15	8/9/95	14	0.688	2	8,418.	170.	8,588.	--
F	gravel	cut	15	8/9/95	14	0.688	2	2,942.	66.	3,008.	--
F	gravel	cut	100	8/9/95	14	0.688	2	--	--	--	--
F	gravel	cut	100	8/9/95	14	0.688	2	9,395.	222.	9,617.	--
F	gravel	cut	500	8/9/95	14	0.688	2	492.	47.	539.	--
F	gravel	cut	500	8/9/95	14	0.688	2	1,228.	91.	1,319.	--
F	gravel	fill	15	8/9/95	14	0.688	2	1,588.	41.	1,629.	--
F	gravel	fill	15	8/9/95	14	0.688	2	--	--	--	--

Table 42. Concentrations of solids for bulk atmospheric-deposition samples--Continued

[--, no data]

Collector Id	Road surface	Side of road (cut or fill)	Distance from road (ft)	Deployment date	Number of days	Area of collector (sq ft)	Detritus selve size (mm)	Solids weight (mg)	Dissolved weight (mg)	Total weight[1] (mg)	Greater than 2-mm weight[2] (mg)
					Site F (see table 8)						
F[4]	gravel	fill	15	8/9/95	14	0.688	2	--	--	--	--
F[4]	gravel	fill	15	8/9/95	14	0.688	2	2,125.	95.	--	--
F	gravel	fill	100	8/9/95	14	0.688	2	246.	53.	299.	--
F	gravel	fill	100	8/9/95	14	0.688	2	221.	242.	463.	--
F	gravel	fill	500	8/9/95	14	0.688	2	413.	44.	457.	--
F	gravel	fill	500	8/9/95	14	0.688	2	517.	28.	545.	--
F	gravel	cut	15	10/4/95	21	0.688	2	63,050.	--	--	7,266.
F	gravel	cut	15	10/4/95	21	0.688	2	13,903.	--	--	690.
F	gravel	cut	100	10/4/95	21	0.688	2	248.	--	--	0.
F	gravel	cut	100	10/4/95	21	0.688	2	451.	--	--	0.
F	gravel	cut	500	10/4/95	21	0.688	2	82.	--	--	0.
F	gravel	cut	500	10/4/95	21	0.688	2	77.	--	--	0.
F[3]	gravel	fill	15	10/4/95	21	0.688	2	6,885.	46.	6,931.	0.
F	gravel	fill	15	10/4/95	21	0.688	2	5,384.	--	--	0.
F[4]	gravel	fill	15	10/4/95	21	0.688	2	4,928.	--	--	0.
F[4]	gravel	fill	15	10/4/95	21	0.688	2	7,399.	--	--	0.
F	gravel	fill	100	10/4/95	21	0.688	2	163.	--	--	0.
F	gravel	fill	100	10/4/95	21	0.688	2	147.	44.	191.	0.
F[3]	gravel	fill	500	10/4/95	21	0.688	2	41.	<3.	--	0.
F	gravel	fill	500	10/4/95	21	0.688	2	45.	--	--	0.
					Site G						
G	gravel	cut	15	8/9/95	14	0.688	2	10,290.	196.	10,486.	--
G	gravel	cut	15	8/9/95	14	0.688	2	14,311.	219.	14,530.	--
G	gravel	cut	15	8/9/95	14	0.688	2	14,884.	162.	15,046.	--
G	gravel	fill	15	8/9/95	14	0.688	2	7,022.	181.	7,203.	--
G	gravel	fill	15	8/9/95	14	0.688	2	6,579.	150.	6,729.	--
G	gravel	fill	15	8/9/95	14	0.688	2	3,735.	147.	3,882.	--
G	gravel	cut	15	10/4/95	21	0.688	2	2,778.	70.	2,848.	68.
G	gravel	cut	15	10/4/95	21	0.688	2	1,574.	<6.	--	40.
G	gravel	cut	15	10/4/95	21	0.688	2	4,448.	--	--	56.
G[3]	gravel	fill	15	10/4/95	21	0.688	2	36,119.	29.	36,148.	0.
G	gravel	fill	15	10/4/95	21	0.688	2	54,073.	15.	54,088.	4429.
G	gravel	fill	15	10/4/95	21	0.688	2	137,058.	293.	137,351.	6438.
					Site H						
H	gravel	fill	15	8/9/95	14	0.688	2	18,574.	191.	18,765.	--
H	gravel	fill	15	8/9/95	14	0.688	2	34,902.	178.	35,080.	--
H[4]	gravel	fill	15	8/9/95	14	0.688	2	40,833.	151.	40,984.	--
H[4]	gravel	fill	15	8/9/95	14	0.688	2	30,952.	162.	31,114.	--
H	gravel	fill	100	8/9/95	14	0.688	2	2,336.	57.	2,393.	--
H	gravel	fill	100	8/9/95	14	0.688	2	567.	20.	587.	--
H	gravel	fill	500	8/9/95	14	0.688	2	626.	31.	657.	--
H	gravel	fill	500	8/9/95	14	0.688	2	119.	116.	235.	--
H	gravel	cut	15	8/9/95	14	0.688	2	8,802.	77.	8,879.	--
H	gravel	cut	15	8/9/95	14	0.688	2	8,774.	93.	8,867.	--
H	gravel	cut	100	8/9/95	14	0.688	2	709.	31.	740.	--
H	gravel	cut	100	8/9/95	14	0.688	2	272.	15.	287.	--
H	gravel	cut	500	8/9/95	14	0.688	2	2,684.	43.	2,727.	--
H	gravel	cut	500	8/9/95	14	0.688	2	2,062.	--	--	--
H[3]	gravel	fill	15	10/4/95	21	0.688	2	1,244.	12.	1,256.	0.
H	gravel	fill	15	10/4/95	21	0.688	2	2,756.	61.	2,817.	62.
H	gravel	fill	100	10/4/95	21	0.688	2	123.	<6.	--	0.
H	gravel	fill	100	10/4/95	21	0.688	2	161.	11.	172.	0.
H[3]	gravel	fill	500	10/4/95	21	0.688	2	131.	12.	143.	0.
H	gravel	fill	500	10/4/95	21	0.688	2	102.	21.	123.	0.

Table 42. Concentrations of solids for bulk atmospheric-deposition samples--Continued

[--, no data]

Collector Id	Road surface	Side of road (cut or fill)	Distance from road (ft)	Deployment date	Number of days	Area of collector (sq ft)	Detritus seive size (mm)	Solids weight (mg)	Dissolved weight (mg)	Total weight[1] (mg)	Greater than 2-mm weight[2] (mg)
					Site H (see table 8)						
H	gravel	cut	15	10/4/95	21	0.688	2	302.	9.	311.	0.
H	gravel	cut	15	10/4/95	21	0.688	2	329.	32.	361.	0.
H	gravel	cut	100	10/4/95	21	0.688	2	139.	--	--	0.
H	gravel	cut	100	10/4/95	21	0.688	2	122.	<8.	--	0.
H	gravel	cut	500	10/4/95	21	0.688	2	--	--	--	0.
H	gravel	cut	500	10/4/95	21	0.688	2	85.	25.	110.	0.
					Site J						
J	asphalt	fill	15	8/9/95	14	0.688	2	84.	21.	105.	--
J	asphalt	fill	15	8/9/95	14	0.688	2	323.	33.	356.	--
J	asphalt	fill	15	8/9/95	14	0.688	2	447.	35.	482.	--
J	asphalt	cut	15	8/9/95	14	0.688	2	201.	14.	215.	--
J	asphalt	cut	15	8/9/95	14	0.688	2	234.	47.	281.	--
J	asphalt	cut	15	8/9/95	14	0.688	2	642.	33.	675.	--
J[3]	asphalt	fill	15	10/4/95	21	0.688	2	890.	1500.	2390.	0
J	asphalt	fill	15	10/4/95	21	0.688	2	396.	655.	1051.	0
J	asphalt	fill	15	10/4/95	21	0.688	2	366.	348.	714.	0
J	asphalt	cut	15	10/4/95	21	0.688	2	111.	<7.	--	0
J	asphalt	cut	15	10/4/95	21	0.688	2	303.	53.	356.	0
J	asphalt	cut	15	10/4/95	21	0.688	2	583.	11.	594.	0
					Site K						
K	asphalt	fill	1000	7/3/95	29	0.688	0.6	237.	52.	289.	--
K	asphalt	fill	1000	7/3/95	29	0.688	0.6	245.	47.	292.	--
K	asphalt	fill	1000	7/3/95	29	0.688	0.6	61.	47.	108.	--
K	asphalt	fill	1000	7/3/95	29	0.688	0.6	216.	45.	261.	--
K	asphalt	fill	1000	7/3/95	29	0.688	0.6	--	--	--	--
K	asphalt	fill	1000	7/3/95	29	0.688	0.6	--	--	--	--
K	asphalt	fill	1000	7/3/95	29	0.688	0.6	192.	38.	230.	--
K	asphalt	fill	1000	7/3/95	29	0.688	0.6	194.	35.	229.	--
K	asphalt	fill	1000	7/3/95	29	0.688	0.6	182.	19.	201.	--
K	asphalt	fill	1000	7/3/95	29	0.688	0.6	--	--	--	--
K	asphalt	fill	1000	8/9/95	14	0.688	2	--	--	--	--
K	asphalt	fill	1000	8/9/95	14	0.688	2	126.	--	--	--
K	asphalt	fill	1000	8/9/95	14	0.688	2	70.	16.	86.	--
K[3]	asphalt	fill	1000	10/4/95	21	0.688	2	232.	212.	444.	0.
K	asphalt	fill	1000	10/4/95	21	0.688	2	223.	216.	439.	0.
K	asphalt	fill	1000	10/4/95	21	0.688	2	137.	134.	271.	0.

[1]Total weight equals the sum of undissolved solids less than detritus filter size and dissolved solids.

[2]Includes only inorganic sediments, not organic detritus.

[3]Sample used for chemical-quality analysis presented in table 43.

[4]Duplicate sample.

Table 43. Chemical quality data collected at bulk atmospheric-deposition sampling sites
[--, no data]

		Sampling site (see figure 8 and table 42)												
Characteristic	**Units**	**A**	**B**	**C**	**C**	**D**	**E**	**F**	**F**	**G**	**H**	**H**	**J[2]**	**K[2]**
Deployment date	**mm/dd/yr**	10/4/95	10/4/95	10/4/95	10/4/95	10/4/95	10/4/95	10/4/95	10/4/95	10/4/95	10/4/95	10/4/95	10/4/95	10/4/95
Distance from road	**ft**	15	500	15	500	15	15	15	500	15	15	500	15	1000
Road surface	**gravel or asphalt**	gravel	gravel	asphalt	asphalt	asphalt	gravel	gravel	gravel	gravel	gravel	gravel	asphalt	asphalt
Collection period	**days**	21	21	21	21	21	21	21	21	21	21	21	21	21
Side of road	**cut or fill side**	cut	--	fill	fill	fill	fill	fill	fill	fill	fill	fill	fill	--
Area of collector	**sq ft**	0.688	0.688	0.688	0.688	0.688	0.688	0.688	0.688	0.688	0.688	0.688	0.688	0.688
Chloride[1]	**mg**	5.	3.4	2.7	0.88	1.2	322.	29.	3.2	7.7	6.3	1.5	130.	7.1
Copper,total	**µg**	35.	<3.	6.	<3.	3.	270.	29.	3.	85.	15.	3.	38.	6.
Iron, total	**µg**	47,000.	950.	2,100.	320.	2,400.	660,000.	58,000.	820.	160,000.	51,000.	1,100.	2,300.	620.
Lead, total	**µg**	44.	<3.	9.	3.	6.	244.	26.	<3.	110.	12.	3.	17.	6.
Manganese,total	**µg**	1300.	<29.	150.	90.	90.	29,000.	2,000.	60.	5,500.	540.	120.	510.	150.
Zinc, total	**µg**	290.	60.	120.	30.	60.	2,250.	290.	120.	700.	90.	90.	1,300.	210.
Phosphorus,total	**mg**	2.9	0.77	0.69	0.09	0.26	4.7	1.6	0.09	0.74	1.1	0.57	100.	6.5
Total dissolved solids[1]	**mg**	18.	11.	12.	<3.	<3.	652.	46.	<3.	29.	12.	12.	1,500.	212.
Undissolved solids <2 mm	**mg**	3,161.	92.	230.	26.	125.	70,589.	6,885.	41.	36,119.	1,244.	131.	890.	232.
Percent finer than 0.062 mm	**%**	91.	87.	40.	78.	59.	21.	16.	40.	8.	34.	--	--	77.
Undissolved solids >2 mm	**mg**	0.	0.	0.	0.	388.	0.	0.	0.	0.	0.	0.	0.	0.

[1]Dissolved in collector wash solution of inorganic blank water.
[2]Sample contained large amount of leaves and insects.

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