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PARTICLE-SIZE ANALYSES OF BED AND BANK MATERIAL
FROM CHANNELS OF THE MISSOURI RIVER BASIN

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U.S. GEOLOGICAL SURVEY

HYDROLOGIC DATA

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INTRODUCTION

Sediment samples have been collected from the bed and banks of alluvial channels in the Missouri River basin. Particle-size analyses of bed and bank samples from the active channel at or near 267 streamflow-gaging stations are tabulated on the following pages (table 1).

The samples were collected during 1976-78 as a part of the channel-geometry studies conducted by the U.S. Geological Survey. These studies have related the geometry (height and width) of alluvial channels to the mean discharge of streams (Hedman and Kastner, 1977; Osterkamp and Hedman, 1977). Similarly, the particle size of bed and bank material have been related to the characteristic shapes of alluvial channels (Osterkamp, 1977). The narrowest and deepest channels occur when bed and bank materials consist entirely of silt and clay; wide, shallow channels occur when bed and bank materials are very sandy. The particle-size data in this report, representing different physiographic conditions within an extensive geographic area, substantiate the conclusions of how sediment effects channel morphology.

All samples were collected using established procedures for site selection, measurement, and sampling (Osterkamp, 1979). Standard particle-size analyses, as described by Guy (1969), were made on all samples. For channels of coarse material, in-situ pebble-count techniques were used (Wolman, 1954; Leopold, Wolman, and Miller, 1964, p. 188-195). All results herein are reported as the percentage of the sample, by weight, finer than the indicated particle diameter (in millimeters). Each site is identified by a station number and name, which refer to the U.S. Geological Survey gaging station at which the samples were collected, and by a tabular number (in parenthesis), which locates the sampling site in figure 1. The analyses for the left bank and right bank of each sample site are identified by LB and RB, respectively.

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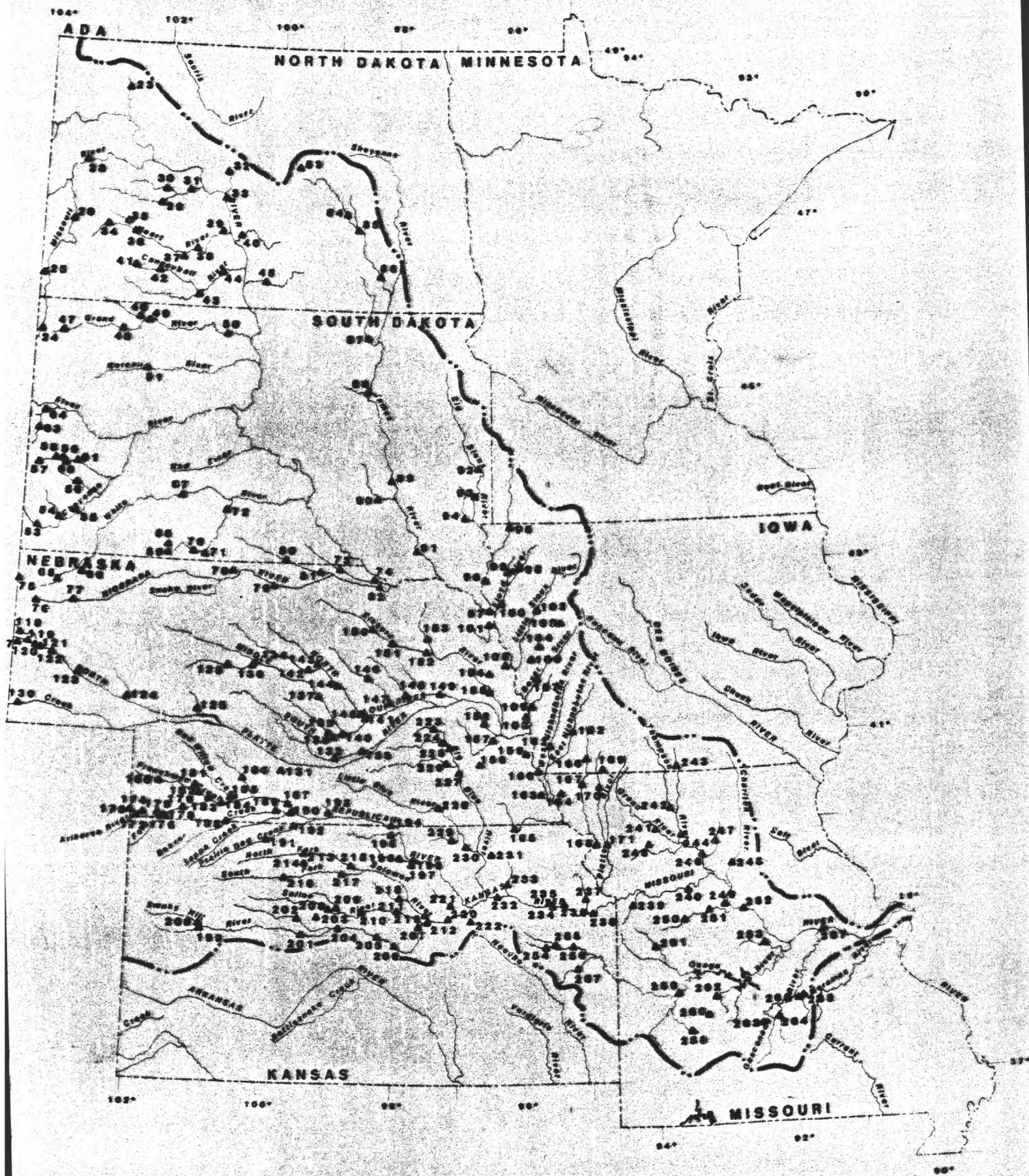


Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06018500 BEAVERHEAD RIVER NEAR TWIN BRIDGES, MT (1)								
BED	2	4	9	17	20	22	35	75
LB								
RB	51	75	81	82	82	95	100	
06052500 GALLATIN RIVER AT LOGAN, MT (2)								
BED								
LB	5	9	12	13	13	13	14	18
RB								
06115200 MISSOURI RIVER NEAR LANDUSKY, MT (3)								
BED	15	29	63	83	87			
LB								
RB								
06120500 MUSSELSHELL RIVER AT HARLOWTON, MT (4)								
BED								
LB	40	61	73	74	74	85	95	99
RB	19	33	51	55	55	61	68	74
06123500 MUSSELSHELL RIVER NEAR RYEGATE, MT (5)								
BED	0	1	1	2	2	4	9	17
LB	25	33	36	37	37	43	54	70
RB	33	44	48	48	48	54	70	93
06126500 MUSSELSHELL RIVER NEAR ROUNDUP, MT (6)								
BED	27	40	69	80	80	83	85	85
LB	34	45	50	52	53	58	67	83
RB								
06127500 MUSSELSHELL RIVER AT MUSSELSHELL, MT (7)								
BED	12	21	28	29	29	31	35	48
LB	29	46	51	51	51	66	80	100
RB	13	21	23	23	23	28	39	62
06185500 MISSOURI RIVER NEAR CULBERTSON, MT (8)								
BED	10	25	82	100				
LB								
RB								

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE		CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS						
		.062	.125	.250	.50	1.0	2.0	4.0 8.0
06197500	BOULDER RIVER NEAR CONTACT, MT							
	BED							(9)
	LB	36	65	95	99	99	100	
	RB	30	50	87	100			
06235500	LITTLE WIND RIVER NEAR RIVERTON, WY							
	BED							(10)
	LB	44	70	82	88	88	92	100
	RB	66	83	86	86	86	90	100
06244500	FIVEMILE CREEK AB. WYOMING CANAL, NR. PAVILLION, WY							
	BED	1	1	3	13	19	23	31 44
	LB	17	33	56	62	72	80	90 97
	RB	35	60	78	82	82	85	91 99
06253000	FIVEMILE CREEK NEAR SHOSHONI, WY							
	BED							(12)
	LB	47	62	67	67	67	73	82 96
	RB							
06258000	MUDDY CREEK NEAR SHOSHONI, WY							
	BED	1	4	17	36	38	40	43 54
	LB	33	68	88	90	90	92	95 99
	RB	33	56	69	74	75	80	88 96
06270000	NOWOOD RIVER NEAR TEN SLEEP, WY							
	BED	43	63	70	71	71	72	74 77
	LB	51	60	63	63	63	72	86 100
	RB							
06294700	BIGHORN RIVER AT BIGHORN, MT							
	BED							(15)
	LB	77	81	81	81	81	84	87 91
	RB	22	71	96	98	98	98	99 100
06305500	GOOSE CREEK BELOW SHERIDAN, WY							
	BED	5	10	14	20	48	91	100
	LB							
	RB							

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06308500 TONGUE RIVER AT MILES CITY, MT (17)								
BED	2	3	7	18	25	34	49	66
LB	47	60	68	71	73	89	96	100
RB								
06309000 YELLOWSTONE RIVER AT MILES CITY, MT (18)								
BED	34	43	60	71	75	84	92	98
LB								
RB	33	68	78	78	78	79	80	83
06317000 POWDER RIVER AT ARVADA, WY (19)								
BED	12	35	77	93	98	99	100	
LB	25	66	99	99	99	100		
RB	54	92	99	99	99	100		
06323500 PINEY CREEK AT UCROSS, WY (20)								
BED								
LB								
RB	34	55	71	79	81	86	93	96
06326500 POWDER RIVER NEAR LOCATE, MT (21)								
BED	3	9	35	60	71	73	76	82
LB								
RB								
06329200 BURNS CREEK NEAR SAVAGE, MT (22)								
BED	13	15	16	20	23	27	36	49
LB	38	49	68	68	68	77	93	100
RB	14	19	30	41	48	52	59	74
06332000 WHITE EARTH RIVER AT WHITE EARTH, ND (23)								
BED	4	4	8	18	33	41	57	78
LB	34	48	77	99	100			
RB	41	61	92	100				
06334500 LITTLE MISSOURI RIVER AT CAMP CROOK, SD (24)								
BED	3	4	5	11	38	60	81	93
LB	25	45	71	77	84	91	96	97
RB	57	73	86	89	98	100		
06335000 LITTLE BEAVER CREEK NEAR MARMARTH, ND (25)								
BED	3	3	4	6	18	28	33	34
LB	9	12	12	13	13	54	62	74
RB	28	38	47	48	48	53	61	75
06336000 LITTLE MISSOURI RIVER AT MEDORA, ND (26)								
BED	1	1	16	44	61	72	81	90
LB	25	34	49	58	64	70	78	88
RB	29	55	92	98	98	100		

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06336500 BEAVER CREEK AT WIBAUX, MT (27)								
BED	7	9	10	10	11	17	43	72
LB	11	14	18	21	28	42	61	81
RB	12	15	20	22	23	29	41	89
06337000 LITTLE MISSOURI RIVER NEAR WATFORD CITY, ND (28)								
BED	3	19	95	100				
LB								
RB	65	86	99	99	99	99	100	
06339500 KNIFE RIVER NEAR GOLDEN VALLEY, ND (29)								
BED								
LB	41	61	77	82	84	89	94	100
RB	17	18	18	18	18	27	42	80
06340000 SPRING CREEK AT ZAP, ND (30)								
BED	11	17	47	99	100			
LB	29	44	77	100				
RB	33	52	84	100				
06340500 KNIFE RIVER AT HAZEN, ND (31)								
BED	2	2	10	57	87	94	98	100
LB	26	41	85	100				
RB	32	49	86	100				
06341400 TURTLE CREEK NEAR TURTLE LAKE, ND (32)								
BED	76	85	96	100				
LB	95	97	100					
RB	58	74	97	100				
06341800 PAINTED WOODS CREEK NEAR WILTON, ND (33)								
BED								
LB	16	19	36	82				
RB	27	31	49	90	91	95	98	100
06343000 HEART RIVER NEAR SOUTH HEART, ND (34)								
BED	12	14	30	52	85	100		
LB	55	71	94	98	100			
RB	39	58	90	100				
06345000 GREEN RIVER NEAR GLADSTONE, ND (35)								
BED								
LB	24	33	41	44	45	54	67	84
RB	23	29	36	44	49	57	69	80
06345500 HEART RIVER NEAR RICHARDTON, ND (36)								
BED								
LB	40	60	87	92	92	94	98	100
RB	25	39	81	93	94	96	98	100

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06347000 ANTELOPE CREEK NEAR CARSON, ND (37)								
BED	3	4	12	26	29	33	42	64
LB	40	73	95	100				
RB	46	74	92	100				
06348000 HEART RIVER NEAR LARK, ND (38)								
BED	1	1	11	57	66	75	83	95
LB	34	67	93	100				
RB	41	67	97	100				
06349000 HEART RIVER NEAR MANDAN, ND (39)								
BED	5	20	61	95	100			
LB	33	76	98	100				
RB	40	79	100					
06349500 APPLE CREEK NEAR MENOKEN, ND (40)								
BED	23	36	79	97	97	99	100	
LB	26	57	95	100				
RB	42	71	99	100				
06350000 CANNONBALL RIVER AT REGENT, ND (41)								
BED								
LB	24	29	64	100				
RB	48	66	90	99	100			
06351000 CANNONBALL RIVER BELOW BENTLEY, ND (42)								
BED	5	9	41	71	90	95	97	98
LB								
RB	22	56	96	98	98	99	100	
06352000 CEDAR CREEK NEAR HAYNES, ND (43)								
BED	5	8	12	15	26	37	58	76
LB	46	67	78	80	81	97	100	
RB	49	78	88	91	91	99	100	
06354000 CANNONBALL RIVER AT BREIEN, ND (44)								
BED	11	42	88	98	99	100		
LB	36	56	85	90	90	95	97	99
RB	42	67	97	100				
06354500 BEAVER CREEK AT LINTON, ND (45)								
BED	5	5	7	9	32	61	82	92
LB	78	90	96	100				
RB	59	78	97	100				
06355500 NORTH FORK GRAND RIVER NEAR WHITE BUTTE, SD (46)								
BED	1	1	3	5	13	23	36	49
LB								
RB	8	12	14	16	21	36	52	66

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06356000 SOUTH FORK GRAND RIVER AT BUFFALO, SD (47)								
BED	9	14	37	49	59	67	78	89
LB	16	20	70	97	97	100		
RB								
06356500 SOUTH FORK GRAND RIVER NEAR CASH, SD (48)								
BED	20	28	32	33	35	59	87	97
LB	41	45	49	53	54	76	96	100
RB								
06357500 GRAND RIVER AT SHADEHILL, SD (49)								
BED	1	3	9	12	17	27	40	60
LB	6	11	16	27	51	64	78	93
RB	29	55	74	77	85	90	95	99
06357800 GRAND RIVER AT LITTLE EAGLE, SD (50)								
BED	4	5	54	90	96	98	100	
LB	18	46	96	98	98	99	100	
RB	2	6	40	99	99	100		
06359500 MOREAU RIVER NEAR FAITH, SD (51)								
BED	5	13	43	53	58	64	76	90
LB	18	57	90	90	91	95	100	
RB	27	37	77	90	90	99	100	
06394000 BEAVER CREEK NEAR NEWCASTLE, WY (52)								
BED								
LB	64	78	92	94	94	98	99	100
RB	68	83	87	87	87	97	100	
06395000 CHEYENNE RIVER AT EDMONT, SD (53)								
BED	0	0	7	34	77	91	98	100
LB	24	39	90	95	98	98	100	
RB	28	40	76	84	86	94	99	100
06402000 FALL RIVER AT HOT SPRINGS, SD (54)								
BED	3	7	13	16	21	27	38	53
LB	37	48	60	63	68	77	84	94
RB	14	21	28	32	37	52	72	84
06402500 BEAVER CREEK NEAR BUFFALO GAP, SD (55)								
BED	6	8	10	14	15	20	26	31
LB	55	63	70	74	74	98	100	
RB	47	50	60	66	66	82	97	100
06406000 BATTLE CREEK AT HERMOSA, SD (56)								
BED	2	2	5	17	31	42	52	63
LB	10	13	15	18	24	34	49	60
RB	1	7	19	68	90	94	96	99

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06409000 CASTLE CREEK ABOVE DEERFIELD RES., NR. HILL CITY, SD (57)								
BED	5	8	12	24	44	51	62	80
LB	61	77	83	85	85	93	100	
RB	57	79	87	91	91	98	100	
06410500 RAPID CREEK ABOVE PACTOLA RES., AT SILVER CITY, SD (58)								
BED								
LB	66	81	88	90	90	96	100	
RB	73	91	93	93	93	96	100	
06411500 RAPID CREEK BELOW PACTOLA DAM, SD (59)								
BED	6	8	15	31	36	41	49	63
LB	53	69	70	70	70	81	93	100
RB	69	87	89	89	89	98	100	
06412500 RAPID CREEK ABOVE CANYON LAKE, NEAR RAPID CITY, SD (60)								
BED								
LB	25	33	48	65	68	76	85	90
RB	48	54	64	75	77	88	95	99
06414000 RAPID CREEK AT RAPID CITY, SD (61)								
BED	2	3	8	13	18	22	29	41
LB	28	63	94	98	98	99	100	
RB	53	75	86	88	88	97	100	
06430500 REDWATER CREEK AT WYOMING-SOUTH DAKOTA STATE LINE (62)								
BED	8	14	27	40	44	47	51	63
LB	44	66	95	98	98	100		
RB	39	67	84	89	89	100		
06431500 SPEARFISH CREEK AT SPEARFISH, SD (63)								
BED								
LB	5	8	10	16	26	36	51	69
RB								
06433000 REDWATER RIVER ABOVE BELLE FOURCHE, SD (64)								
BED	1	2	3	5	10	17	30	51
LB	64	91	94	94	94	99	100	
RB	53	83	94	96	96	98	100	
06444000 WHITE RIVER AT CRAWFORD, NE (65)								
BED	3	20	44	88	97	99	100	
LB	70	96	100					
RB	44	73	78	78	78	81	87	100
06445590 BIG BORDEAUX CREEK NEAR CHADRON, NE (66)								
BED	12	17	18	19	19	22	31	52
LB	49	70	78	83	85	97	100	
RB	52	83	92	96	96	96	99	100

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06447000 WHITE RIVER NEAR KADOKA, SD (67)								
BED	9	15	37	74	88	93	98	100
LB								
RB	81	99	99	99	99	100		
06447500 LITTLE WHITE RIVER NEAR MARTIN, SD (68)								
BED	11	24	61	78	78	79	83	88
LB	63	87	98	98	98	100		
RB	69	86	96	96	96	100		
06448000 LAKE CREEK ABOVE REFUGE, NEAR TUTHILL, SD (69)								
BED								
LB	24	52	92	93	93	97	100	
RB	10	30	95	99	99	100		
06449100 LITTLE WHITE RIVER NEAR VETAL, SD (70)								
BED	0	0	17	80	98	99	100	
LB	50	76	100					
RB	22	43	91	99	99	100		
06449500 LITTLE WHITE RIVER NEAR ROSEBUD, SD (71)								
BED	0	2	34	93	99	100		
LB	36	71	98	100				
RB	23	33	51	79	79	90	99	100
06450500 LITTLE WHITE RIVER BELOW WHITE RIVER, SD (72)								
BED	1	4	12	61	78	82	89	96
LB	52	74	87	89	89	96	100	
RB	66	66	67	67	67	86	98	100
06453500 PONCA CREEK AT ANOKA, NE (73)								
BED	0	0	0	43	75	82	88	94
LB	43	44	49	51	51	74	96	98
RB	17	17	47	84	88	97	99	100
06453600 PONCA CREEK AT VERDEL, NE (74)								
BED	0	0	9	48	84	94	99	100
LB	42	56	72	75	75	94	100	
RB	40	52	85	90	90	99	100	
06454000 NIOBRARA RIVER AT WYOMING-NEBRASKA STATE LINE (75)								
BED	17	47	56	58	58	61	65	72
LB	31	78	90	91	91	93	97	100
RB	28	71	87	92	92	95	100	
06454100 NIOBRARA RIVER AT AGATE, NE (76)								
BED	9	37	50	51	51	52	52	53
LB	27	85	99	99	99	100		
RB	27	82	98	98	98	99	100	

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06454500 NIOBRARA RIVER ABOVE BOX BUTTE RESERVOIR, NE (77)								
BED	0	2	21	90	95	99	100	
LB	41	89	98	98	98	100		
RB	40	85	97	98	98	99	100	
06461000 MINNECHADUZA CREEK AT VALENTINE, NE (78)								
BED	18	19	54	75	77	76	79	82
LB	13	33	85	99	99	100		
RB	22	39	77	91	94	96	98	98
06462500 PLUM CREEK AT MEADVILLE, NE (79)								
BED	4	4	40	64	68	68	70	74
LB	36	75	94	99	99	100		
RB	39	39	80	93	98	99	100	
06464500 KEYA PAHA RIVER AT WEWELA, SD (80)								
BED	0	0	19	86	97	99	100	
LB	35	56	83	97	98	99	100	
RB	32	61	98	98	98	100		
06464900 KEYA PAHA RIVER NEAR NAPER, NE (81)								
BED	0	2	39	95	96	100		
LB	24	42	83	98	98	99	100	
RB	36	55	82	85	85	86	100	
06466500 BRAZILE CREEK NEAR NIOBRARA, NE (82)								
BED	0	1	18	76	97	99	100	
LB	25	38	74	88	88	97	100	
RB	49	61	88	95	95	100		
06467600 JAMES RIVER NEAR MANFRED, ND (83)								
BED								
LB	30	46	78	97	100			
RB	24	38	72	86	88	92	96	100
06469500 PIPESTEM CREEK NEAR PINGREE, ND (84)								
BED	1	1	5	14	33	43	56	70
LB	39	58	83	92	100			
RB	32	48	80	98	100			
06470000 JAMES RIVER AT JAMESTOWN, ND (85)								
BED	5	7	18	31	38	52	62	70
LB								
RB	28	48	91	99	100			
06470500 JAMES RIVER AT LA MOURE, ND (86)								
BED	3	6	18	23	25	29	37	50
LB	48	57	74	98	100			
RB								

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06471500 ELM RIVER AT WESTPORT, SD								(87)
BED	1	1	2	15	39	49	62	81
LB	4	7	9	11	26	38	52	68
RB	5	5	8	18	44	64	81	95
06473000 JAMES RIVER AT ASHTON, SD								(88)
BED	55	86	96	96	96	99	100	
LB	61	71	72	72	72	90	100	
RB	40	77	81	83	85	92	100	
06477000 JAMES RIVER NEAR FORESTBURG, SD								(89)
BED	5	6	42	95	98	99	100	
LB	57	68	75	75	75	94	100	
RB	16	33	95	100				
06477500 FIRESTEEL CREEK NEAR MOUNT VERNON, SD								(90)
BED	2	2	6	22	53	67	80	88
LB	21	40	69	81	83	90	95	97
RB	32	49	74	84	84	90	95	98
06478500 JAMES RIVER NEAR SCOTLAND, SD								(91)
BED	47	78	93	94	94	98	99	100
LB								
RB	39	47	52	54	54	69	92	96
06480000 BIG SIOUX RIVER NEAR BROOKINGS, SD								(92)
BED	5	5	7	25	44	52	61	74
LB	54	58	65	71	71	90	100	
RB	10	13	32	74	88	97	100	
06481000 BIG SIOUX RIVER NEAR DELL RAPIDS, SD								(93)
BED								
LB	82	93	97	97	97	100		
RB	62	74	87	92	92	99	100	
06481500 SKUNK CREEK AT SIOUX FALLS, SD								(94)
BED	5	5	13	26	52	74	84	87
LB	22	30	43	62	76	86	93	98
RB								
06483500 ROCK RIVER NEAR ROCK VALLEY, IA								(95)
BED	0	0	2	24	55	77	91	100
LB	14	16	17	20	23	27	40	62
RB	38	48	94	100				
06485500 BIG SIOUX RIVER AT AKRON, IA								(96)
BED	31	37	75	96	100			
LB	63	65	65	65	65	82	96	100
RB	48	65	93	100				

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06486000 MISSOURI RIVER AT SIOUX CITY, IA (97)								
BED	0	2	25	92	100			
LB								
RB								
06600100 FLOYD RIVER AT ALTON, IA (98)								
BED	19	23	46	80	93	96	98	100
LB	57	64	82	90	90	97	100	
RB	47	52	58	70	79	88	96	98
06600300 WEST BRANCH FLOYD RIVER NEAR STRUBLE, IA (99)								
BED	6	10	23	63	88	96	99	100
LB	58	66	91	92	92	97	100	
RB	37	44	64	96	100			
06600500 FLOYD RIVER AT JAMES, IA (100)								
BED	3	3	7	42	79	90	98	100
LB	67	71	76	85	87	93	100	
RB	86	93	95	96	96	99	100	
06601000 OMAHA CREEK AT HOMER, NE (101)								
BED	49	54	55	60	63	72	89	97
LB	70	88	90	91	91	96	100	
RB	82	88	91	92	92	98	100	
06606600 LITTLE SIOUX RIVER AT CORRECTIONVILLE, IA (102)								
BED	20	36	66	82	89	96	100	
LB	75	84	85	85	85	87	92	97
RB	44	52	68	75	75	91	100	
06607000 ODEBOLT CREEK NEAR ARTHUR, IA (103)								
BED	32	36	46	70	86	92	98	100
LB	60	66	75	88	90	98	100	
RB	77	81	86	89	89	98	100	
06607200 MAPLE RIVER AT MAPLETON, IA (104)								
BED	5	6	24	73	91	96	98	100
LB	55	79	87	87	87	96	100	
RB	79	84	87	88	88	94	99	100
06608000 TEKAMAH CREEK AT TEKAMAH, NE (105)								
BED	24	26	29	40	62	78	91	97
LB	79	80	82	83	83	96	100	
RB	75	81	87	91	91	98	100	
06608500 SOLDIER RIVER AT PISGAH, IA (106)								
BED	2	2	12	80	93	98	100	
LB	82	92	94	94	94	98	100	
RB	76	89	92	92	92	97	100	

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06609500 BOYER RIVER AT LOGAN, IA (107)								
BED	1	1	8	72	96	100		
LB	86	91	91	91	91	96	100	
RB	90	96	98	98	98	100		
06610000 MISSOURI RIVER AT OMAHA, NE (108)								
BED	0	11	75	98	99	100		
LB								
RB								
06610500 INDIAN CREEK AT COUNCIL BLUFFS, IA (109)								
BED	82	91	94	94	94	98	100	
LB	76	77	81	83	83	92	99	100
RB	89	97	98	98	98	100		
06628900 PASS CREEK NEAR ELK MOUNTAIN, WY (110)								
BED								
LB	20	31	53	90	90	92	96	100
RB	23	36	53	77	80	88	95	99
06630000 NORTH PLATTE RV. AB. SEMINOE RES., NR. SINCLAIR, WY (111)								
BED								
LB								
RB	66	75	76	76	76	82	91	100
06635000 MEDICINE BOW RIVER AB. SEMINOE RES., NEAR HANNA, WY (112)								
BED	1	2	6	18	23	26	33	46
LB	38	44	47	50	50	58	69	89
RB	30	54	81	86	86	88	94	100
06639000 SWEETWATER RIVER NEAR ALCOVA, WY (113)								
BED	0	1	11	29	43	51	57	64
LB	25	49	60	70	83	95	100	
RB	33	73	91	93	93	96	98	100
06649000 LA PRELE CREEK NEAR DOUGLAS, WY (114)								
BED	1	1	1	1	27	79	98	98
LB								
RB								
06670500 LARAMIE RIVER NEAR FORT LARAMIE, WY (115)								
BED	10	17	25	56	62	66	73	83
LB	28	40	45	45	45	51	66	90
RB	14	24	32	38	43	46	50	54
06671000 RAWHIDE CREEK NEAR LINGLE, WY (116)								
BED	3	29	66	77	78	80	82	86
LB	50	83	98	98	98	99	100	
RB	49	90	98	98	98	100		

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06677500 HORSE CREEK NEAR LYMAN, NE (117)								
BED	7	56	79	83	88	90	94	98
LB	45	85	93	96	96	98	100	
RB	39	58	76	85	88	91	98	100
06678000 SHEEP CREEK NEAR MORRILL, NE (118)								
BED	1	15	50	64	73	77	87	95
LB	24	45	59	60	60	67	81	98
RB	43	78	95	97	97	99	100	
06679000 DRY SPOTTEDTAIL CREEK AT MITCHELL, NE (119)								
BED	0	0	18	78	95	99	100	
LB	42	67	81	86	88	94	99	100
RB	37	63	74	78	78	86	100	
06680000 TUB SPRINGS NEAR SCOTTSBLUFF, NE (120)								
BED	3	6	11	23	30	34	42	53
LB	29	58	82	90	90	96	100	
RB	50	76	84	87	87	91	97	100
06681000 WINTERS CREEK NEAR SCOTTSBLUFF, NE (121)								
BED	0	0	2	11	17	22	36	46
LB	42	71	79	82	82	87	94	100
RB	23	48	63	70	77	84	91	98
06684000 RED WILLOW CREEK NEAR BAYARD, NE (122)								
BED	0	2	4	8	10	14	26	56
LB	60	95	98	98	98	99	100	
RB	51	91	93	96	98	99	99	100
06685000 PUMPKIN CREEK NEAR BRIDGEPORT, NE (123)								
BED	10	36	66	72	80	85	91	96
LB	44	78	85	87	87	93	98	99
RB	17	52	70	73	80	84	91	99
06687000 BLUE CREEK NEAR LEWELLEN, NE (124)								
BED	0	5	29	64	83	92	98	100
LB	46	78	90	97	98	99	100	
RB	40	68	82	93	98	99	100	
06692000 BIRDWOOD CREEK NEAR HERSHEY, NE (125)								
BED	0	5	38	93	99	100		
LB	28	83	100					
RB	42	75	91	93	93	98	100	
06711500 BEAR CREEK AT MOUTH, AT SHERIDAN, CO (126)								
BED	18	26	53	81	90	94	97	100
LB	50	62	68	72	73	78	86	96
RB	28	40	50	52	53	61	73	92

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06720500 SOUTH PLATTE RIVER AT HENDERSON, CO (127)								
BED								
LB								
RB	48	50	52	54	54	64	81	100
06727000 BOULDER CREEK NEAR ORODELL, CO (128)								
BED	0	1	1	1	11	22	44	67
LB								
RB								
06731000 ST. VRAIN CREEK AT MOUTH, NEAR PLATTEVILLE, CO (129)								
BED	1	6	44	59	63	65	76	
LB	37	70	96	98	98	99	100	
RB								
06762500 LODGEPOLE CREEK AT BUSHNELL, NE (130)								
BED	30	60	81	92	94	96	98	100
LB	50	72	82	85	85	89	95	99
RB	33	53	65	74	77	82	93	100
06767500 PLUM CREEK NEAR SMITHFIELD, NE (131)								
BED	59	67	72	72	72	88	99	100
LB	67	75	79	80	80	95	100	
RB	62	70	74	74	74	91	100	
06771500 WOOD RIVER NEAR GIBBON, NE (132)								
BED	36	38	42	51	57	71	92	100
LB	32	34	37	38	38	50	78	99
RB	29	30	30	30	30	54	85	96
06772000 WOOD RIVER NEAR ALDA, NE (133)								
BED	4	4	8	40	73	84	94	99
LB	32	37	51	75	78	88	97	100
RB								
06775500 MIDDLE LOUP RIVER AT DUNNING, NE (134)								
BED	0	2	30	76	95	98	99	100
LB	17	58	1	0				
RB	35	82	100					
06775900 DISMAL RIVER NEAR THEDFORD, NE (135)								
BED	0	0	10	88	100			
LB	14	33	68	93	98	99	99	100
RB	45	79	91	97	97	99	100	
06776500 DISMAL RIVER AT DUNNING, NE (136)								
BED	0	0	42	98	100			
LB	61	91	98	98	98	99	100	
RB	50	87	100					

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06779000 MIDDLE LOUP RIVER AT ARCADIA, NE (137)								
BED	0	10	65	97	100			
LB	53	86	97	99	99	99	100	
RB	39	91	100					
06782500 SOUTH LOUP RIVER AT RAVENNA, NE (138)								
BED	0	3	69	99	100			
LB	54	82	98	99	99	100		
RB	42	83	88	98	98	100		
06783500 MUD CREEK NEAR SWEETWATER, NE (139)								
BED	38	44	73	93	78	100		
LB	86	92	96	96	96	98	99	100
RB	61	73	96	100				
06784000 SOUTH LOUP RIVER AT ST. MICHAEL, NE (140)								
BED	0	12	83	100				
LB	67	92	96	96	97	98	100	
RB	76	92	96	96	96	98	100	
06785000 MIDDLE LOUP RIVER AT ST. PAUL, NE (141)								
BED	0	0	26	96	100			
LB	58	81	93	96	96	100		
RB	51	82	96	97	97	98	100	
06786000 NORTH LOUP RIVER AT TAYLOR, NE (142)								
BED	0	0	30	89	98	99	99	100
LB	46	90	100					
RB	45	58	76	93	96	99	100	
06787500 CALAMUS RIVER NEAR BURWELL, NE (143)								
BED	0	0	21	92	98	99	100	
LB	38	62	87	95	97	98	100	
RB	24	39	70	92	98	99	100	
06788500 NORTH LOUP RIVER AT ORD, NE (144)								
BED	0	0	8	73	93			
LB	36	77	97	99	99	10		
RB	63	76	86	90	90	93	100	
06790500 NORTH LOUP RIVER NEAR ST. PAUL, NE (145)								
BED	0	0	35	96	98	99	100	
LB	43	65	88	99	99	100		
RB	70	86	94	96	96	99	100	
06791500 CEDAR RIVER NEAR SPALDING, NE (146)								
BED	0	0	38	96	100			
LB	15	26	84	99	99	100		
RB	21	43	96	99	99	100		

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06792000 CEDAR RIVER NEAR FULLERTON, NE								(147)
BED	2	5	44	87	92	95	98	100
LB	63	80	87	88	88	92	100	
RB	46	70	96	99	99	99	100	
06794000 BEAVER CREEK AT GENOA, NE								(148)
BED	0	0	33	90	94	96	99	100
LB	84	94	98	98	98	100		
RB								
06795500 SHELL CREEK NEAR COLUMBUS, NE								(149)
BED	25	27	35	83	85	94	100	
LB	65	69	80	83	83	97	100	
RB	66	70	75	76	76	94	100	
06797500 ELKHORN RIVER AT EWING, NE								(150)
BED	0	24	88	99	100			
LB	13	33	81	100				
RB	22	62	88	100				
06798500 ELKHORN RIVER AT NELIGH, NE								(151)
BED	0	2	38	88	96	98	100	
LB	15	43	86	100				
RB	7	34	98	100				
06799000 ELKHORN RIVER NEAR NORFOLK, NE								(152)
BED	2	13	60	86	95	98	100	
LB	15	44	90	100				
RB	24	47	81	93	97	99	99	100
06799100 NORTH FORK ELKHORN RIVER NEAR PIERCE, NE								(153)
BED	11	17	50	89	94	97	99	100
LB	63	79	92	93	93	100		
RB	17	52	99	99	99	100		
06799500 LOGAN CREEK NEAR UEHLING, NE								(154)
BED	0	1	52	99	100			
LB	79	87	91	93	93	98	100	
RB	48	59	90	98	98	99	100	
06800000 MAPLE CREEK NEAR NICKERSON, NE								(155)
BED	2	5	32	84	90	94	98	100
LB	64	72	83	86	86	95	100	
RB	50	59	91	98	98	100		
06803000 SALT CREEK AT ROCA, NE								(156)
BED	77	79	80	81	81	94	100	
LB	77	78	78	79	79	96	100	
RB	68	70	71	71	71	90	99	100

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06803555 SALT CREEK AT GREENWOOD, NE (157)								
BED	0	0	4	37	89	98	100	
LB	66	80	83	83	85	96	100	
RB	64	71	77	77	77	89	100	
06804000 WAHOO CREEK AT ITHACA, NE (158)								
BED	0	0	19	70	94	99	1	0
LB	73	77	83	84	84	96	100	
RB	70	74	80	83	83	94	100	
06806500 WEEPING WATER CREEK AT UNION, NE (159)								
BED	29	31	40	50	58	68	86	98
LB	75	88	89	89	89	97	100	
RB	79	86	88	88	88	98	100	
06807000 MISSOURI RIVER AT NEBRASKA CITY, NE (160)								
BED	1	30	52	76	91	97	100	
LB	65	71	75	76	76	90	98	100
RB	59	68	70	70	70	83	96	100
06808500 WEST NISHNABOTNA RIVER AT RANDOLPH, IA (161)								
BED	13	14	32	69	84	91	96	100
LB	75	80	82	82	82	90	98	100
RB	72	75	77	77	77	88	98	100
06809500 EAST NISHNABOTNA RIVER AT RED OAK, IA (162)								
BED	0	8	76	98	100			
LB	80	85	87	87	87	94	100	
RB	61	64	68	71	71	84	96	100
06811500 LITTLE NEMAHA RIVER AT AUBURN, NE (163)								
BED	4	4	13	74	90	97	100	
LB	88	88	88	88	88	99	100	
RB	63	65	66	66	66	84	98	100
06813000 TARKIO RIVER AT FAIRFAX, MO (164)								
BED	2	2	10	72	91	96	99	100
LB	77	80	84	86	86	94	100	
RB	71	77	87	91	91	97	100	
06814000 TURKEY CREEK NEAR SENECA, KS (165)								
BED	14	15	20	65	94	99	100	
LB	82	90	93	96	96	100		
RB	81	91	94	94	94	100		
06817000 NODAWAY RIVER AT CLARINDA, IA (166)								
BED	0	4	54	72	81	89	97	
LB	68	75	81	84	84	94	100	
RB	54	60	79	89	89	93	99	

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06817500 NODAWAY RIVER NEAR BURLINGTON JUNCTION, MO (167)								
BED	3	3	16	64	71	80	91	98
LB	70	76	79	81	81	90	100	
RB	66	80	95	98	98	99	100	
06818000 MISSOURI RIVER AT ST. JOSEPH, MO (168)								
BED								
LB	76	86	94	94	94	99	100	
RB	83	91	98	98	98	100		
06819190 EAST FORK ONE HUNDRED AND TWO RIVER NR. BEDFORD, IA (169)								
BED	22	26	30	68	92	100		
LB	35	39	43	46	46	51	55	60
RB	69	77	81	83	83	93	100	
06819500 ONE HUNDRED AND TWO RIVER AT MARYVILLE, MO (170)								
BED	2	2	8	49	78	86	92	97
LB	59	63	69	73	74	87	99	100
RB	66	75	80	82	82	90	99	100
06820500 PLATTE RIVER NEAR AGENCY, MO (171)								
BED	6	8	21	88	98	100		
LB	51	52	53	53	53	67	90	99
RB	30	32	32	33	33	43	68	92
06821500 ARIKAREE RIVER AT HAIGLER, NE (172)								
BED	0	3	70	98	100			
LB	33	41	48	54	56	64	83	98
RB	25	31	64	85	85	91	98	100
06823000 NORTH FORK REPUBLICAN RIVER AT COLO.-NEB STATE LINE (173)								
BED	0	0	15	54	92	98	100	
LB	37	76	94	97	97	99	100	
RB	47	70	85	87	87	92	98	100
06823500 BUFFALO CREEK NEAR HAIGLER, NE (174)								
BED	4	13	32	89	99	100		
LB	13	40	88	98	98	100		
RB	29	57	85	92	92	96	100	
06824000 ROCK CREEK AT PARKS, NE (175)								
BED	2	15	43	65	72	78	85	94
LB	25	57	72	72	72	78	87	97
RB	41	91	97	97	97	98	100	
06824500 REPUBLICAN RIVER AT BENKELMAN, NE (176)								
BED	0	2	31	94	99	100		
LB								
RB								

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06825500 LANDSMAN CREEK NEAR HALE, CO (177)								
BED	24	26	37	63	78	87	97	100
LB	37	45	52	62	62	71	88	100
RB	14	17	50	91	96	98	98	100
06827500 SOUTH FORK REPUBLICAN RIVER NEAR BENKELMAN, NE (178)								
BED	0	2	29	60	70	76	81	89
LB								
RB								
06828500 REPUBLICAN RIVER AT STRATTON, NE (179)								
BED	0	0	26	95	99	100		
LB								
RB								
06831500 FRENCHMAN CREEK NEAR IMPERIAL, NE (180)								
BED	11	26	32	34	42	47	64	83
LB	45	81	91	91	91	95	100	
RB	39	59	66	73	75	83	100	
06835000 STINKING WATER CREEK NEAR PALISADE, NE (181)								
BED	19	31	35	52	70	79	89	97
LB	88	99	99	99	99	99	100	
RB	71	91	93	93	93	95	100	
06835500 FRENCHMAN CREEK AT CULBERTSON, NE (182)								
BED	0	4	48	77	87	96	100	
LB								
RB								
06836000 BLACKWOOD CREEK NEAR CULBERTSON, NE (183)								
BED	40	54	57	83	92	96	100	
LB	50	65	69	72	72	79	93	100
RB	79	85	86	87	87	93	100	
06837000 REPUBLICAN RIVER AT MCCOOK, NE (184)								
BED	0	1	12	50	78	90	98	
LB								
RB								
06838000 RED WILLOW CREEK NEAR RED WILLOW, NE (185)								
BED	51	57	58	67	82	89	100	
LB	55	64	65	65	65	74	88	100
RB	37	40	40	40	40	60	100	
06841000 MEDICINE CREEK ABOVE HARRY STRUNK LAKE, NE (186)								
BED	17	24	27	34	56	70	88	97
LB	68	96	99	99	99	100		
RB	64	79	80	81	81	86	100	

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06844500 REPUBLICAN RIVER NEAR ORLEANS, NE (187)								
BED	0	1	13	40	74	84	94	98
LB	58	76	83	89	89	92	97	100
RB	56	78	88	88	88	90	94	100
06846500 BEAVER CREEK AT CEDAR BLUFFS, KS (188)								
BED	98	100						
LB	92	97	99	99	99	100		
RB								
06847000 BEAVER CREEK NEAR BEAVER CITY, NE (189)								
BED	34	39	43	49	54	64	75	88
LB	26	29	31	32	32	47	73	100
RB	58	69	79	84	84	90	96	100
06847500 SAPP A CREEK NEAR STAMFORD, NE (190)								
BED	8	10	12	45	73	90	100	
LB	32	33	36	37	37	49	68	100
RB	46	50	54	57	59	69	86	100
06848000 PRAIRIE DOG CREEK AT NORTON, KS (191)								
BED	10	17	38	61	75	83	95	100
LB	40	74	84	89	95	98	100	
RB	71	83	85	86	86	97	100	
06848500 PRAIRIE DOG CREEK NEAR WOODRUFF, KS (192)								
BED	62	63	64	64	64	87	100	
LB	80	86	88	88	88	98	100	
RB	67	79	85	94	94	100		
06851000 CENTER CREEK AT FRANKLIN, NE (193)								
BED	0	10	67	96	98	100		
LB	30	39	49	53	54	64	93	100
RB	29	39	70	86	88	91	96	100
06853500 REPUBLICAN RIVER NEAR HARDY, NE (194)								
BED	0	0	6	40	61	93	98	100
LB	2	2	7	32	59	80	90	90
RB	43	66	79	89	90	99	100	
06854000 WHITE ROCK CREEK AT LOVEWELL, KS (195)								
BED	85	91	93	93	99	100		
LB	95	95	95	95	95	100		
RB	81	92	93	93	100			
06855800 BUFFALO CREEK NEAR JAMESTOWN, KS (196)								
BED								
LB	82	83	84	85	85	93	99	100
RB								

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06855900 WOLF CREEK NEAR CONCORDIA, KS (197)								
BED								
LB	88	89	90	92	94	98	100	
RB								
06856000 REPUBLICAN RIVER AT CONCORDIA, KS (198)								
BED	3	3	10	57	80	87	93	98
LB	62	66	67	71	71	88	100	
RB	13	14	18	67	84	94	100	
06859500 LADDER CREEK BELOW CHALK CREEK NEAR SCOTT CITY, KS (199)								
BED	4	4	5	10	34	54	81	92
LB	63	70	84	97	100			
RB	33	36	45	80	86	92	98	100
06860000 SMOKY HILL RIVER AT ELKADER, KS (200)								
BED	19	20	22	40	58	76	92	97
LB	34	34	34	37	55	77	97	100
RB	32	32	49	76	79	86	94	100
06862700 SMOKY HILL RIVER NEAR SCHOENCHEN, KS (201)								
BED	1	1	1	7	45	66	85	94
LB	30	30	32	48	60	90	99	100
RB	8	8	10	26	68	82	96	100
06863500 BIG CREEK NEAR HAYS, KS (202)								
BED	29	31	40	55	69	81	92	95
LB	66	74	79	86	86	96	100	
RB	54	59	65	75	82	94	99	100
06863900 NORTH FORK BIG CREEK NEAR VICTORIA, KS (203)								
BED	26	27	27	28	30	42	64	90
LB	94	98	98	100				
RB	97	98	100					
06864050 SMOKY HILL RIVER NEAR BUNKER HILL, KS (204)								
BED	3	3	6	23	62	76	86	100
LB	69	77	80	81	81	94	100	
RB	66	81	91	97	98	98	99	100
06864500 SMOKY HILL RIVER AT ELLSWORTH, KS (205)								
BED	1	1	5	18	62	79	92	98
LB	52	64	80	89	89	98	100	
RB	55	76	88	93	97	100		
06865500 SMOKY HILL RIVER NEAR LANGLEY, KS (206)								
BED	5	7	12	23	42	82	88	93
LB	37	60	93	97	97	100		
RB	15	19	23	37	60	81	94	99

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06866500 SMOKY HILL RIVER NEAR MENTOR, KS								(207)
BED	10	12	38	67	85	92	97	99
LB	90	93	94	94	94	99	100	
RB	52	54	54	55	55	70	85	95
06867000 SALINE RIVER NEAR RUSSELL, KS								(208)
BED	4	4	9	37	68	84	95	98
LB	62	70	78	83	86	97	100	
RB	58	64	74	89	89	98	100	
06867500 PARADISE CREEK NEAR PARADISE, KS								(209)
BED	27	34	37	49	86	94	99	100
LB	59	66	71	72	72	81	91	97
RB	78	85	89	96	100			
06868200 SALINE RIVER AT WILSON DAM, KS								(210)
BED	15	25	49	71	80	85	91	98
LB	61	81	89	91	91	98	100	
RB	41	54	77	95	97	100		
06869500 SALINE RIVER AT TESCOTT, KS								(211)
BED	37	39	43	44	44	54	72	94
LB	52	59	60	60	60	68	81	98
RB								
06870200 SMOKY HILL RIVER AT NEW CAMBRIA, KS								(212)
BED	5	8	78	100				
LB	70	91	100					
RB	77	86	99	100				
06871000 NORTH FORK SOLOMON RIVER AT GLADE, KS								(213)
BED	7	7	7	56	94	98	100	
LB	73	76	82	90	94	99	100	
RB	86	86	86	86	86	95	99	100
06871500 BOW CREEK NEAR STOCKTON, KS								(214)
BED	7	7	7	21	73	86	94	96
LB								
RB	33	33	35	51	64	82	94	100
06872500 NORTH FORK SOLOMON RIVER AT PORTIS, KS								(215)
BED	7	7	8	30	70	84	94	99
LB	85	91	92	94	94	99	100	
RB	45	58	67	78	85	95	99	100
06873000 SOUTH FORK SOLOMON RIVER ABOVE WEBSTER RES., KS								(216)
BED	2	2	4	33	76	91	98	100
LB	9	10	28	79	94	96	99	100
RB	28	28	34	75	82	93	100	

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06874000 SOUTH FORK SOLOMON RIVER AT OSBORNE, KS (217)								
BED	9	11	21	40	52	65	78	92
LB	18	20	28	48	82	95	99	100
RB	11	11	16	50	73	83	90	94
06876700 SALT CREEK NEAR ADA, KS (218)								
BED	51	52	74	96	100			
LB	59	62	64	65	65	77	95	100
RB	87	92	98	100				
06876900 SOLOMON RIVER AT NILES, KS (219)								
BED	13	13	16	39	84	94	98	99
LB	57	60	61	61	61	72	89	99
RB	36	45	52	52	52	72	93	100
06877600 SMOKY HILL RIVER AT ENTERPRISE, KS (220)								
BED	2	3	16	57	75	88	95	99
LB	94	99	100					
RB	57	74	96	100				
06878000 CHAPMAN CREEK NEAR CHAPMAN, KS (221)								
BED	52	56	56	57	57	66	81	97
LB	83	89	98	100				
RB	97	98	99	100				
06878500 LYON CREEK NEAR WOODBINE, KS (222)								
BED	90	92	94	100				
LB	92	94	98	99	100			
RB	46	50	75	100				
06879900 BIG BLUE RIVER AT SURPRISE, NE (223)								
BED	44	44	52	69	80	92	99	100
LB	42	44	45	47	47	68	96	100
RB	76	78	80	80	80	96	100	
06880000 LINCOLN CREEK NEAR SEWARD, NE (224)								
BED	74	78	79	81	82	88	97	100
LB	63	68	74	76	76	90	100	
RB	74	81	82	82	82	93	100	
06880500 BIG BLUE RIVER AT SEWARD, NE (225)								
BED	42	45	52	76	83	86	90	94
LB	82	86	88	88	88	96	100	
RB	75	81	85	85	85	96	100	
06880800 WEST FORK BIG BLUE RIVER NEAR DORCHESTER, NE (226)								
BED	2	5	46	66	75	87	97	100
LB	73	81	85	88	88	96	100	
RB	74	82	95	98	98	100		

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06881000 BIG BLUE RIVER NEAR CRETE, NE (227)								
BED	0	0	0	87	88	96	100	
LB	84	91	95	95	95	99	100	
RB	23	29	76	90	90	94	98	100
06883575 LITTLE BLUE RIVER NEAR ALEXANDRIA, NE (228)								
BED	0	1	13	38	70	76	83	92
LB	65	85	89	89	89	92	97	100
RB	70	76	79	79	79	83	90	95
06884200 MILL CREEK AT WASHINGTON, KS (229)								
BED	9	10	15	66	99	100		
LB	73	79	84	88	88	97	100	
RB	58	72	92	96	96	100		
06884400 LITTLE BLUE RIVER NEAR BARNES, KS (230)								
BED	10	11	16	40	65	78	91	97
LB	81	92	94	94	96	100		
RB	91	95	96	96	96	100		
06885500 BLACK VERMILLION RIVER NEAR FRANKFORT, NE (231)								
BED	78	83	85	91	93	99	100	
LB	60	64	71	94	94	100		
RB	84	84	84	84	84	100		
06887500 KANSAS RIVER AT WAMEGO, KS (232)								
BED	0	0	8	32	74	87	95	100
LB								
RB	12	12	13	13	13	28	52	77
06888000 VERMILLION CREEK NEAR WAMEGO, KS (233)								
BED	64	76	87	92	100			
LB	63	87	100					
RB	79	96	99	100				
06889000 KANSAS RIVER AT TOPEKA, KS (234)								
BED								
LB	64	81	85	85	85	98	100	
RB	90	96	97	97	98	100		
06889500 SOLDIER CREEK NEAR TOPEKA, KS (235)								
BED	3	3	4	26	74	86	93	96
LB	79	85	88	100				
RB	77	82	84	85	85	99	100	
06891000 KANSAS RIVER AT LECOMPTON, KS (236)								
BED	1	3	15	37	53	63	79	90
LB	75	90	95	95	97	100		
RB	93	94	95	95	95	99	100	

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06892000 STRANGER CREEK NEAR TONGANOXIE, KS (237)								
BED	87	92	96	96	99	100		
LB	76	82	84	85	85	98	100	
RB								
06892350 KANSAS RIVER AT DESOTO, KS (238)								
BED	1	2	12	44	78	91	99	100
LB	83	94	95	97	97	100		
RB	82	92	94	96	96	98	100	
06894000 LITTLE BLUE RIVER NEAR LAKE CITY, MO (239)								
BED	65	67	70	75	76	86	98	100
LB	73	79	81	81	93	100		
RB	52	54	64	70	70	83	98	100
06895500 MISSOURI RIVER AT WAVERLY, MO (240)								
BED	0	5	24	70	92	95		
LB								
RB	60	74	86	88	88	97	99	100
06897500 GRAND RIVER NEAR GALLATIN, MO (241)								
BED	1	2	36	94	98	100		
LB	40	54	58	59	59	67	82	93
RB	62	66	68	68	68	84	100	
06898100 THOMPSON RIVER AT MOUNT MORIAH, MO (242)								
BED	1	2	16	65	93	98	100	
LB	61	72	79	82	82	91	99	100
RB	38	41	43	44	45	61	82	96
06898400 WELDON RIVER NEAR LEON, IA (243)								
BED	9	13	29	68	84	91	94	95
LB	65	72	76	78	78	88	98	100
RB	70	81	81	81	81	93	100	
06899500 THOMPSON RIVER AT TRENTON, MO (244)								
BED	1	2	13	89	98	99	100	
LB	42	62	85	88	88	95	99	100
RB	21	31	46	74	77	80	89	98
06899700 SHOAL CREEK NEAR BRAYMER, MO (245)								
BED	28	31	38	52	56	64	78	95
LB	45	46	46	47	47	64	92	100
RB	39	43	48	48	48	61	83	97
06902000 GRAND RIVER NEAR SUMNER, MO (246)								
BED	26	34	38	74	90	92	95	99
LB	12	14	14	14	14	24	53	100
RB	62	67	68	68	68	82	98	100

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06902200 WEST YELLOW CREEK NEAR BROOKFIELD, MO (247)								
BED	10	10	16	54	86	94	98	100
LB	47	55	66	71	71	87	99	100
RB	41	46	56	58	58	72	92	99
06905500 CHARITON RIVER NEAR PRAIRIE HILL, MO (248)								
BED	1	1	3	86	97	99	100	
LB	50	66	75	75	75	86	97	100
RB	57	72	82	82	82	91	99	100
06906600 BURGE BRANCH NEAR ARROW ROCK, MO (249)								
BED	32	35	37	40	42	57	82	99
LB	61	65	67	68	68	84	98	100
RB	51	56	59	59	59	71	92	100
06907700 BLACKWATER RIVER AT VALLEY CITY, MO (250)								
BED	38	39	40	50	58	72	92	100
LB	61	63	64	64	64	82	98	100
RB	57	59	59	59	59	76	95	100
06908000 BLACKWATER RIVER NEAR BLUE LICK, MO (251)								
BED	80	81	81	85	85	98	100	
LB	65	66	66	66	66	84	99	100
RB	64	66	68	68	68	83	98	100
06909000 MISSOURI RIVER AT BOONEVILLE, MO (252)								
BED	5	17	70	90	95			
LB								
RB	58	81	96	97	97	99	100	
06910500 MOREAU RIVER NEAR JEFFERSON CITY, MO (253)								
BED	44	45	47	49	49	64	91	99
LB	53	57	62	64	64	84	100	
RB	52	52	54	54	54	70	93	100
06911500 SALT CREEK NEAR LYNDON, KS (254)								
BED								
LB	78	87	89	91	91	100		
RB								
06912500 HUNDRED AND TEN MILE CREEK NEAR QUENEMO, KS (255)								
BED	23	26	27	30	36	44	54	62
LB								
RB	79	84	84	84	84	98	100	
06913500 MARAIS DES CYGNES RIVER NEAR OTTAWA, KS (256)								
BED	19	26	68	82	87	92	97	100
LB	70	82	84	84	85	96	100	
RB								

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06914000 POTTAWATOMIE CREEK NEAR GARNETT, KS (257)								
BED	83	88	89	89	89	98	100	
LB	93	99	100					
RB	93	99	100					
06918700 OAK GROVE BRANCH NEAR BRIGHTON, MO (258)								
BED	0	0	1	1	1	2	3	6
LB	14	15	18	25	27	34	50	78
RB	8	9	11	16	18	24	33	49
06920500 OSAGE RIVER AT OSCEOLA, MO (259)								
BED								
LB	62	68	71	71	71	86	99	100
RB	55	56	56	57	57	81	98	100
06921200 LINDLEY CREEK NEAR POLK, MO (260)								
BED	78	86	97	100				
LB	86	90	98	100				
RB	74	78	96	100				
06921740 BRUSHY CREEK NEAR BLAIRSTOWN, MO (261)								
BED	22	26	28	31	32	61	79	92
LB	53	67	67	67	67	83	100	
RB	47	56	61	65	65	81	96	99
06925200 STARKS CREEK AT PRESTON, MO (262)								
BED	2	2	4	6	8	15	21	44
LB	32	37	56	66	68	78	89	93
RB	30	34	49	57	65	80	90	96

Table 1.--Particle-size analyses of bed and bank samples collected at or near streamflow-gaging stations of the Missouri River basin--Continued

STATION AND FEATURE	CHANNEL SEDIMENT PERCENT FINER THAN SIZE INDICATED, IN MILLIMETERS							
	.062	.125	.250	.50	1.0	2.0	4.0	8.0
06927800 OSAGE FORK AT DRYNOB, MO								(263)
BED	1	3	6	15	33			
LB	89	93	98	100				
RB								
06930000 BIG PINEY RIVER NEAR BIG PINEY, MO								(264)
BED	0	0	2	7	10	12	18	26
LB	17	23	63	90	90	93	96	99
RB	37	40	71	86	86	98	100	
06931500 LITTLE BEAVER CREEK NEAR ROLLA, MO								(265)
BED	0	0	0	2	6	9	16	25
LB	2	2	15	43	49	52	57	64
RB	9	13	36	76	82	87	93	98
06932000 LITTLE PINEY CREEK AT NEWBURG, MO								(266)
BED	0	0	1	5	7	8	11	22
LB	6	7	34	92	96	97	99	100
RB	9	11	20	43	44	46	48	52
06934500 MISSOURI RIVER AT HERMANN, MO								(267)
BED	5	16	53	80	92	95		
LB								
RB	44	62	77	77	77	83	91	97