Mud Flow Observations (Channel Capacity)

$$V = \frac{1.5}{n}(R^{2/3} S^{1/2})$$

Date	stream	Location	S	$S^{1/2}$	R	$R^{2/3}$	$(R^{2/3} S^{1/2})$	
1946	Braffitt's		3	1.73	4.5	2.73	4.72	
	Coalcrk	South Fork	5	2.24	3.3	2.22	4.97	3' (?)
	Richfield	Cottonwood	4	2.00	2.6	1.89	3.78	gravel
	Glenwood	Mill Crk.	3½	1.86	4.0	2.52	4.69	
	Monroe	Power house	4½	2.12	3.4	2.26	4.79	
	Mt Pleasant	Lined	2½	1.58	4.0	2.52	3.98	Sand ~~½ settled~~
July 25 1941	"	S. Fork	5½	2.35	3.4	2.26	5.31	1½' moved
	"							
	"	Power house	5½	2.35	2.5	1.84	4.32	1½' rocks "
	"	Lined	2½	1.58	2.5	1.84	2.91	sand ~~1½ settled~~
	Salina	Main Canyon	1	1.0	2.8	1.99	1.99	gravel
✓	Pleasant Ck	Lined Channel	2	1.41	5.3	3.04	4.29	2' rocks
✓			2½	1.58	5.7	3.19	5.04	"
1893	Pinto		1	1.00	5.0	2.92	2.92	Sand
July 1929	"		1½	1.22	3.7	2.39	2.92	"
July 1930	✓ "		.6	.8	2.9	2.03	1.62	"
	Pleasant	R+FK dry Pole	9	3.0	4.0	2.52	7.56	5' (?)
		Blue Slide	7½	2.74	3.7	2.39	6.55	"
		" "	9½	3.07	3.8	2.44	7.49	"

M-7

MUDFLOWS - CHANNEL CAPACITY
NOTES ON H.W. ESTIMATES

date	Stream	Location	Slope	Depth	Width	Area	h / V	Q	E	Notes
12/40	Coal Creek	Channel thru town	2½%	6 ±	100'	600 □'			5.4	#4 Sq. Cave above bridge
		above flood "fan"	3	10 ±	80-100	900			8.3	#9 below 2nd bridge
12/16/40	Axehandle	1000' upstream	3½	?	120		.050			
	Peach		5	10	14-34					#1 at Coal mine
			6	5	20-30					#2 same as ① before flood
	Tids	R.R. bridge below	5½	6	6-10 = 48				2.2	#1 Replaced bridge once.
		500' above bridge	5½	8	4-15 = 80				4.0	#2 On fan.
46	Axehandle	200' w. canyon ent.	4%	4½	50-65	236	h=.040			Good H.W. -1.5' = -62 □' sand, gravel, & some boulders
	Braffitt's		3	10	16	160		2000	4.5	channel silted fall.
	Spring City	Cedar Creek	4	6	20-25 = 135		h=.050		4.2	
	Sigurd.	N. Cedar Ridge	4	10	30 = 300			900	6.0	
	Coal Creek	South Fork	5	4	20-30 = 100				3.3	mudflow left fork of S.F. in Coal Canyon
	Fairview	Cottonwood	4	4	6-20 = 52		h=.060		2.6	Cobbles to boulders.
	Richfield	" "	2	4½	20 = 90		h=.040		3.1	#1 at Piute Canal
	Ephriam		12	?	28 + ½:1		h=.050			#1 opp. station, large boulders
			10	4 ±	25-50 + ¾:1 = 150		h=.050		3.0	#2 - ⅛ mi below summit.
			10		60		h=.050			#3 - 1 mi. " "
	"	New Canyon	9½	15	12 = 180		h=.045		4.2	#4 - 0.5 mi above mouth.
			6	7½	10-27 = 140		h=.040		4.7	#5 - 1.3 " " "
			3½	4	8-14 = 44				2.4	#9 - 0.5 mi below bridge ups.
		White Ledge (?)	10	6	25 - 1:1 = 186		h=.055		4.5	#13 toward Rel. tunnel.
	"	bridge below New Cany	5	8	15 = 120		h=.080		~~3.9~~	Cobbles to boulders
	Fillmore	Chalk Creek	2	5	15-25 = 100		h=.030		3.4	#1 below dam.
		"	2	5	23-60 = 205				~~3.1~~	#2 - ½ mi. below Hwy 91
		"	2	4	50 = 200				~~3.4~~	#3 at mill
	Glenwood	Mill Cr.	3½	7	12-24 = 126		h=.035		4.0	H.W. Sect above town
	Kanosh	Corn Creek	2	6	11-37		h=.045			#1 - ? mi. above dam, aug 1937 Flood
	Manti	1 mi above dam.	6	4½	14-23		h=.055			#1 - large boulders in channel
	Meadow	thru dam	3½	6 ±	190				?	Cobbles to gravel
	Maysvale	Bullion	3½	3½	8-18 = 46		h=.045		2.3	Ample cap. for floods at prop. diversion
	Monroe	Powerhouse	4½	5⅓	12-37 = 130		h=.040		3.4	1934 Flood, 24" up wall
	Oak City	canyon road	3½	5	6 = 30				2.0	?
			2	3	20-36 = 84		h=.040		2.2	Mar Canyon Rd Xing 10' flood Sept 6 1935

(Over)

Beach	Coal mine	4%	6'	22-33	n=.025			R ↓	
Pinto	South	1-4	10-20	30-100					
Mt. Pleas.		4%	11	12-29 = 390	n=.060 / V=14		5000	10(3)	#2 below debris dam
	Lined	2½	6	20-23 = 129	n=.025 / V=23.5		2520	4.0	Min = 850
July 25, 1941	S. Fork.	5½	6	16 = 96	n=.040		1700	3.4	Bridge moved 5' down
202. acft (600 cfs @ 4 hrs)	Power Line	5½	5	8-24 +=80	n=.060		1500	2.5	Boulders 1½x1½x2
									Gaged out 2.5 x 7' chan.
"	R.R. Bridge	2½(2)	3-3½'	20 = 65		1000-1250		2.5	(1000 cfs thru farms)
"	Lined channel		3-3½						not 1937 flood.
Wales.		4¼	18	11-26 = 247	n=.035 / 21		5200		
Salina	Sald. South Fk	1%	22	11-30 = 850				(1) 15.	#1 (
		1¾	16	11-27 = 305				6.3	# 7
	" E. Fk	2½	7½	6-14 = 75				3.0	# 9
	Main Canyon.	1	3.5	24-31 } = 96 Combine				2.8	#1 +150' bottom on 0.8%-1.5%
			2.5	13-21 } = 42				~~1.1~~	
Pleasant	Lined Chan'l.	6	10	12-30 = 230	n=.045			5.8 ?	first below mill
	"	2	10	18-22 = 200	n=.030			5.3	street near mill, rock lined
		2½	12	10-26 = 215	n=.045			5.7	next Xing up.
Pinto	1893 or 96	1	15	25 = 275	n=.035/12.5		3440	5.0	*Harreson
	July 1929	1½	4	90 = 360	=.040/11		3960	3.7	*Beacham
	July 1930	0.6	3-4	20-250 = 600	=.045/5.5		3300	2.9	"
Chalk	at Hwy #91	1¾	5	25-34 = 150	n=.035		2100	3.9	*Sawyer
	"	2	5	15-25 = 100	n=.030		1300	3.5	"
Pleasant	Bt. Fk Dry Pole	9	8	8-20 = 112	n=.045			4.0	H.W. H=14'
	Blue Slide	7½	4	35-54 = 175	n=.040			3.7	H.W H=16'
	" "	9½	7.5	9-22 = 117	n=.050			3.6	

(1) Channel thru farms loaded to capacity, flooded just above RR. bridge; 30-40 acres flooded below here
channel below lined section capacity = 1000 cfs.