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BEFORE THE
ARIZONA NAVIGABLE STREAM ADJUDICATION COMMISSION

In the Matter of the Navigability of the Salt River from the Confluence of the White and Black Rivers to the Gila River Confluence, Maricopa County, Arizona	Nos. 03-005-NAV and 04-008-NAV (Consolidated) (Salt) **ARIZONA STATE LAND DEPARTMENT'S FIFTH SUPPLEMENTAL SUBMISSION OF EVIDENCE**

The Arizona State Land Department ("State", "ASLD" or the "Department") hereby submits the following fifth supplemental submission of evidence in the above-referenced matters. ASLD reserves the right to supplement its evidence through the close of evidence.

NO.	DESCRIPTION
365	Upper Salt Rating Curve

DATED: November 19, 2015.

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Edwin W. Slade, III
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ORIGINAL AND SEVEN COPIES of the
foregoing hand-delivered for filing this 19th day
of November, 2015, to:

Arizona Navigable Stream Adjudication Commission
1700 W. Washington
Room B-54
Phoenix, AZ 85007

A COPY in pdf format of the foregoing was e-mailed with delivery receipt on this 19th day of November, 2015, to each party listed on the ANSAC website, http://www.ansac.az.gov/parties.asp, with "SERVICE OF ANSAC DOCUMENT, Nos. 03-005-NAV and 04-008-NAV (Consolidated) (Salt)" written in the subject line.

pbrewer

Paula Brewer

365

SECTION #1

MAR

STAGE-DISCHARGE DATA FOR CROSS-SECTION FILE SR_XN1.DAT
CROSS-SECTION NUMBER 1
DATE OF CROSS-SECTION MEASUREMENT: 800101

CHANNEL SLOPE RANGE: 0.0030 to 0.0030

VELOCITY FORMULA: User Supplied Mannings n
D84 = 1.000 (ft)

cross-section treated as one section

STAGE ft	#SEC	AREA ft^2	PERIM ft	WIDTH ft	R ft	DAVG ft	SLOPE	n	VAVG ft/s	Q cfs
0.50	1	0.8	3.3	3.0	0.2	0.2	0.0030	0.041	0.8	0.57
1.00	1	3.0	6.6	6.1	0.5	0.5	0.0030	0.041	1.2	3.63
1.50	1	6.9	9.9	9.1	0.7	0.8	0.0030	0.041	1.6	10.70
2.00	1	12.2	13.2	12.2	0.9	1.0	0.0030	0.041	1.9	23.04
2.50	1	19.0	16.5	15.2	1.2	1.2	0.0030	0.041	2.2	41.78
3.00	1	27.4	19.7	18.3	1.4	1.5	0.0030	0.041	2.5	67.94
3.50	1	37.3	23.0	21.3	1.6	1.8	0.0030	0.041	2.7	102.49
4.00	1	48.7	26.3	24.4	1.9	2.0	0.0030	0.041	3.0	146.32
4.50	1	61.7	29.6	27.4	2.1	2.2	0.0030	0.041	3.2	200.32
5.00	1	76.2	32.9	30.5	2.3	2.5	0.0030	0.041	3.5	265.30
5.50	1	92.2	36.2	33.5	2.5	2.8	0.0030	0.041	3.7	342.08
6.00	1	109.7	39.5	36.6	2.8	3.0	0.0030	0.041	3.9	431.41
6.50	1	128.7	42.8	39.6	3.0	3.2	0.0030	0.041	4.1	534.06
7.00	1	149.3	46.6	43.2	3.2	3.5	0.0030	0.041	4.3	645.99
7.50	1	172.3	52.5	48.9	3.3	3.5	0.0030	0.041	4.4	757.28
8.00	1	198.3	58.7	54.9	3.4	3.6	0.0030	0.041	4.5	888.74
8.50	1	227.2	64.8	60.9	3.5	3.7	0.0030	0.041	4.6	1043.66
9.00	1	259.2	71.0	66.8	3.7	3.9	0.0030	0.041	4.7	1223.23
9.50	1	294.1	77.1	72.8	3.8	4.0	0.0030	0.041	4.9	1428.76
10.00	1	332.0	83.3	78.8	4.0	4.2	0.0030	0.041	5.0	1661.58
10.50	1	372.9	89.4	84.8	4.2	4.4	0.0030	0.041	5.2	1923.05
11.00	1	416.8	95.6	90.8	4.4	4.6	0.0030	0.041	5.3	2214.52

11.50	1	463.6	101.7	96.7	4.6	4.8	0.0030	0.041	5.5	2537.34
12.00	1	514.3	116.4	111.2	4.4	4.6	0.0030	0.041	5.4	2757.23
12.50	1	576.8	144.0	138.6	4.0	4.2	0.0030	0.041	5.0	2895.16
13.00	1	653.0	171.7	166.1	3.8	3.9	0.0030	0.041	4.8	3166.65
13.50	1	742.9	199.4	193.6	3.7	3.8	0.0030	0.041	4.8	3554.06
14.00	1	846.3	221.8	215.7	3.8	3.9	0.0030	0.041	4.9	4113.62
14.50	1	954.3	223.0	216.3	4.3	4.4	0.0030	0.041	5.2	5006.65
15.00	1	1062.6	224.2	217.0	4.7	4.9	0.0030	0.041	5.6	5967.34
15.50	1	1171.3	225.5	217.7	5.2	5.4	0.0030	0.041	6.0	6993.09
16.00	1	1280.3	226.7	218.4	5.6	5.9	0.0030	0.041	6.3	8081.66
16.50	1	1389.7	228.0	219.1	6.1	6.3	0.0030	0.041	6.6	9231.04
17.00	1	1499.4	229.2	219.8	6.5	6.8	0.0030	0.041	7.0	10439.43
17.50	1	1609.5	230.5	220.4	7.0	7.3	0.0030	0.041	7.3	11705.22
18.00	1	1719.9	231.7	221.1	7.4	7.8	0.0030	0.041	7.6	13026.94
18.50	1	1830.6	232.9	221.8	7.9	8.3	0.0030	0.041	7.9	14403.24
19.00	1	1941.7	234.2	222.5	8.3	8.7	0.0030	0.041	8.2	15832.88
19.50	1	2053.1	235.4	223.2	8.7	9.2	0.0030	0.041	8.4	17314.72
20.00	1	2164.8	236.7	223.9	9.1	9.7	0.0030	0.041	8.7	18847.71
20.50	1	2276.9	237.9	224.5	9.6	10.1	0.0030	0.041	9.0	20430.86
21.00	1	2389.4	239.1	225.2	10.0	10.6	0.0030	0.041	9.2	22063.24
21.50	1	2502.2	240.4	225.9	10.4	11.1	0.0030	0.041	9.5	23743.99
22.00	1	2615.3	241.6	226.6	10.8	11.5	0.0030	0.041	9.7	25472.32
22.50	1	2728.8	242.9	227.3	11.2	12.0	0.0030	0.041	10.0	27247.45
23.00	1	2842.6	244.1	228.0	11.6	12.5	0.0030	0.041	10.2	29068.66
23.50	1	2956.7	245.4	228.6	12.1	12.9	0.0030	0.041	10.5	30935.30
24.00	1	3071.2	246.6	229.3	12.5	13.4	0.0030	0.041	10.7	32846.70
24.50	1	3186.0	247.8	230.0	12.9	13.9	0.0030	0.041	10.9	34802.26
25.00	1	3301.2	249.1	230.7	13.3	14.3	0.0030	0.041	11.1	36801.41
25.50	1	3416.7	250.3	231.4	13.6	14.8	0.0030	0.041	11.4	38843.59
26.00	1	3532.6	251.6	232.1	14.0	15.2	0.0030	0.041	11.6	40928.29

26.50	1	3648.8	252.8	232.7	14.4	15.7	0.0030	0.041	11.8	43055.01
27.00	1	3765.3	254.0	233.4	14.8	16.1	0.0030	0.041	12.0	45223.27
27.50	1	3882.2	255.3	234.1	15.2	16.6	0.0030	0.041	12.2	47432.61
28.00	1	3999.4	256.6	234.9	15.6	17.0	0.0030	0.041	12.4	49672.79
28.50	1	4117.1	258.0	235.8	16.0	17.5	0.0030	0.041	12.6	51938.90
29.00	1	4235.3	259.5	236.8	16.3	17.9	0.0030	0.041	12.8	54245.54
29.50	1	4353.9	260.9	237.7	16.7	18.3	0.0030	0.041	13.0	56592.41
30.00	1	4473.0	262.3	238.6	17.0	18.7	0.0030	0.041	13.2	58979.24
30.50	1	4592.5	263.8	239.5	17.4	19.2	0.0030	0.041	13.4	61405.76
31.00	1	4712.5	265.2	240.5	17.8	19.6	0.0030	0.041	13.6	63871.72
31.50	1	4833.0	266.7	241.4	18.1	20.0	0.0030	0.041	13.7	66376.88
32.00	1	4953.9	268.1	242.3	18.5	20.4	0.0030	0.041	13.9	68921.02
32.50	1	5075.3	269.5	243.3	18.8	20.9	0.0030	0.041	14.1	71503.91
33.00	1	5197.2	271.0	244.2	19.2	21.3	0.0030	0.041	14.3	74125.34
33.50	1	5319.5	272.4	245.1	19.5	21.7	0.0030	0.041	14.4	76785.09
34.00	1	5442.3	273.8	246.1	19.9	22.1	0.0030	0.041	14.6	79483.02
34.50	1	5565.6	275.3	247.0	20.2	22.5	0.0030	0.041	14.8	82218.91
35.00	1	5689.3	276.7	247.9	20.6	22.9	0.0030	0.041	14.9	84992.59
35.50	1	5813.5	278.1	248.9	20.9	23.4	0.0030	0.041	15.1	87803.89
36.00	1	5938.2	279.6	249.8	21.2	23.8	0.0030	0.041	15.3	90652.66
36.50	1	6063.3	281.0	250.7	21.6	24.2	0.0030	0.041	15.4	93538.73
37.00	1	6188.9	282.5	251.7	21.9	24.6	0.0030	0.041	15.6	96461.98
37.50	1	6315.0	283.9	252.6	22.2	25.0	0.0030	0.041	15.7	99422.23
38.00	1	6441.6	285.9	254.1	22.5	25.3	0.0030	0.041	15.9	102290.13
38.50	1	6569.1	288.0	255.8	22.8	25.7	0.0030	0.041	16.0	105165.04
39.00	1	6697.5	290.1	257.5	23.1	26.0	0.0030	0.041	16.1	108079.60
39.50	1	6826.7	292.3	259.2	23.4	26.3	0.0030	0.041	16.3	111033.94
40.00	1	6956.7	294.4	260.9	23.6	26.7	0.0030	0.041	16.4	114028.16
40.50	1	7088.1	301.6	267.8	23.5	26.5	0.0030	0.041	16.3	115749.34
41.00	1	7224.4	308.9	274.6	23.4	26.3	0.0030	0.041	16.3	117615.80

41.50	1	7362.1	310.9	276.2	23.7	26.7	0.0030	0.041	16.4	120832.52
42.00	1	7500.7	313.1	278.0	24.0	27.0	0.0030	0.041	16.5	124064.60
42.50	1	7640.3	315.7	280.4	24.2	27.2	0.0030	0.041	16.7	127235.20
43.00	1	7781.0	318.3	282.8	24.4	27.5	0.0030	0.041	16.8	130453.38
43.50	1	7923.0	320.9	285.2	24.7	27.8	0.0030	0.041	16.9	133719.42
44.00	1	8066.2	323.5	287.5	24.9	28.1	0.0030	0.041	17.0	137033.58
44.50	1	8210.6	326.1	289.9	25.2	28.3	0.0030	0.041	17.1	140396.11
45.00	1	8356.1	328.7	292.3	25.4	28.6	0.0030	0.041	17.2	143807.27
45.50	1	8502.9	331.3	294.7	25.7	28.9	0.0030	0.041	17.3	147267.33
46.00	1	8650.8	333.9	297.1	25.9	29.1	0.0030	0.041	17.4	150776.58
46.50	1	8800.0	336.5	299.5	26.2	29.4	0.0030	0.041	17.5	154335.22
47.00	1	8950.3	339.1	301.8	26.4	29.7	0.0030	0.041	17.6	157943.56
47.50	1	9101.8	341.7	304.2	26.6	29.9	0.0030	0.041	17.8	161601.83
48.00	1	9254.5	344.3	306.6	26.9	30.2	0.0030	0.041	17.9	165310.30
48.50	1	9408.4	346.8	309.0	27.1	30.4	0.0030	0.041	18.0	169069.20
49.00	1	9563.5	349.4	311.4	27.4	30.7	0.0030	0.041	18.1	172878.81
49.50	1	9719.8	352.0	313.8	27.6	31.0	0.0030	0.041	18.2	176739.39
50.00	1	9877.0	353.8	315.0	27.9	31.4	0.0030	0.041	18.3	180931.05*

SECTION #6

CANYON

STAGE-DISCHARGE DATA FOR CROSS-SECTION FILE SR_XN6.DAT
CROSS-SECTION NUMBER 1
DATE OF CROSS-SECTION MEASUREMENT: 800101

CHANNEL SLOPE RANGE: 0.0030 to 0.0030

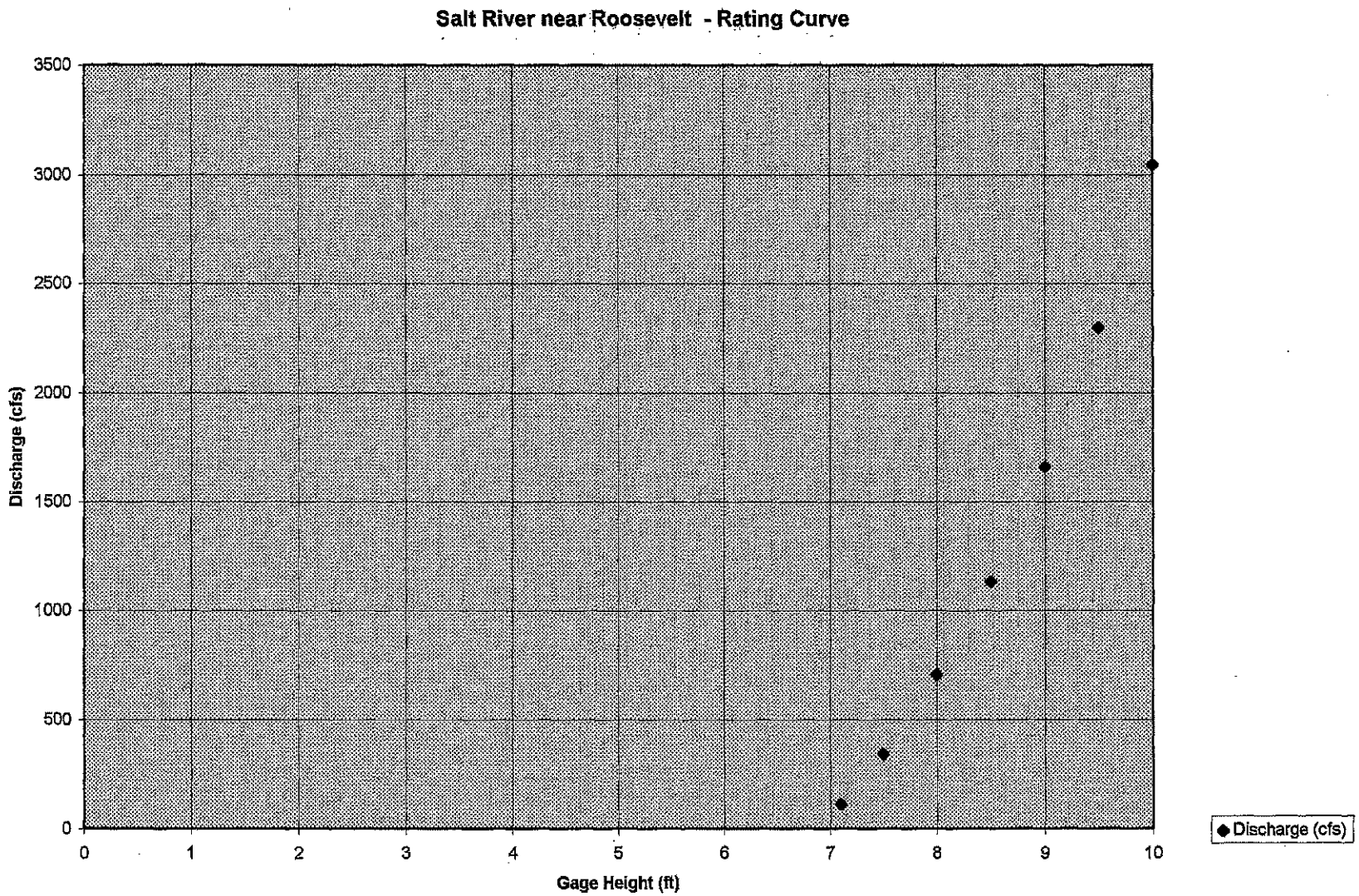
VELOCITY FORMULA: User Supplied Mannings n
D84 = 1.000 (ft)

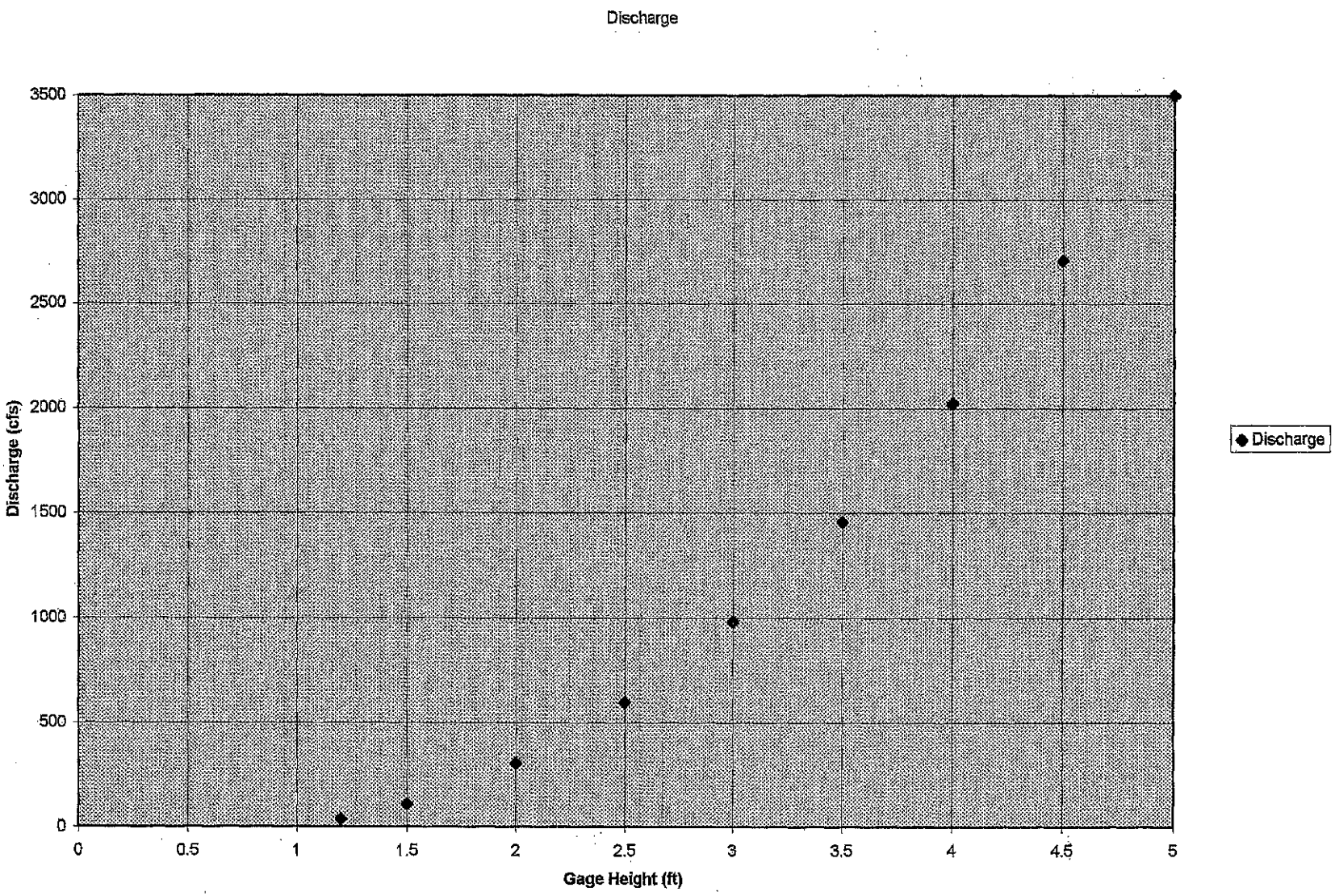
cross-section treated as one section

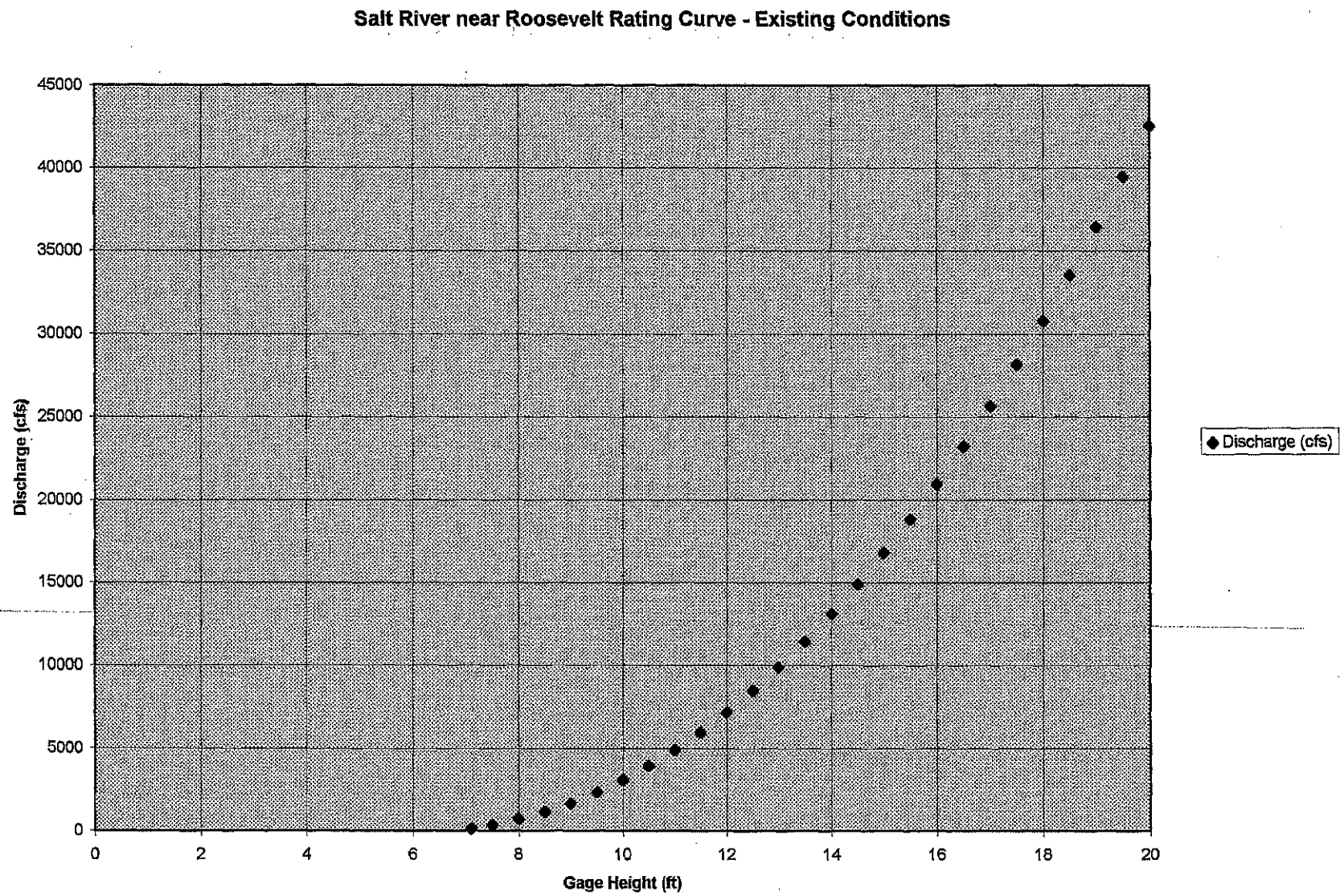
STAGE ft	#SEC	AREA ft^2	PERIM ft	WIDTH ft	R ft	DAVG ft	SLOPE	n	VAVG ft/s	Q cfs
0.50	1	1.1	4.8	4.4	0.2	0.2	0.0030	0.043	0.7	0.78
1.00	1	8.0	45.4	44.6	0.2	0.2	0.0030	0.043	0.6	4.75
1.50	1	53.8	139.7	138.5	0.4	0.4	0.0030	0.043	1.0	53.98
2.00	1	137.1	206.2	204.6	0.7	0.7	0.0030	0.043	1.4	198.13
2.50	1	255.3	252.6	250.6	1.0	1.0	0.0030	0.043	1.9	488.08
3.00	1	384.6	269.2	266.6	1.4	1.4	0.0030	0.043	2.4	926.13
3.50	1	522.0	285.7	282.6	1.8	1.8	0.0030	0.043	2.8	1480.33
4.00	1	663.6	287.4	283.8	2.3	2.3	0.0030	0.043	3.3	2200.20
4.50	1	805.8	289.0	285.0	2.8	2.8	0.0030	0.043	3.8	3029.38
5.00	1	948.5	290.6	286.1	3.3	3.3	0.0030	0.043	4.2	3960.91
5.50	1	1091.9	292.3	287.3	3.7	3.8	0.0030	0.043	4.6	4989.34
6.00	1	1235.8	293.9	288.4	4.2	4.3	0.0030	0.043	4.9	6110.17
6.50	1	1380.3	295.5	289.6	4.7	4.8	0.0030	0.043	5.3	7319.67
7.00	1	1525.3	297.2	290.7	5.1	5.2	0.0030	0.043	5.6	8614.61
7.50	1	1671.0	298.8	291.9	5.6	5.7	0.0030	0.043	6.0	9992.20
8.00	1	1817.2	300.4	293.0	6.0	6.2	0.0030	0.043	6.3	11449.98
8.50	1	1964.0	302.1	294.2	6.5	6.7	0.0030	0.043	6.6	12985.78
9.00	1	2111.4	303.7	295.3	7.0	7.1	0.0030	0.043	6.9	14597.62
9.50	1	2259.4	305.3	296.5	7.4	7.6	0.0030	0.043	7.2	16283.74
10.00	1	2407.9	306.9	297.6	7.8	8.1	0.0030	0.043	7.5	18042.51
10.50	1	2557.0	308.6	298.8	8.3	8.6	0.0030	0.043	7.8	19872.47
11.00	1	2706.7	310.2	300.0	8.7	9.0	0.0030	0.043	8.0	21772.26

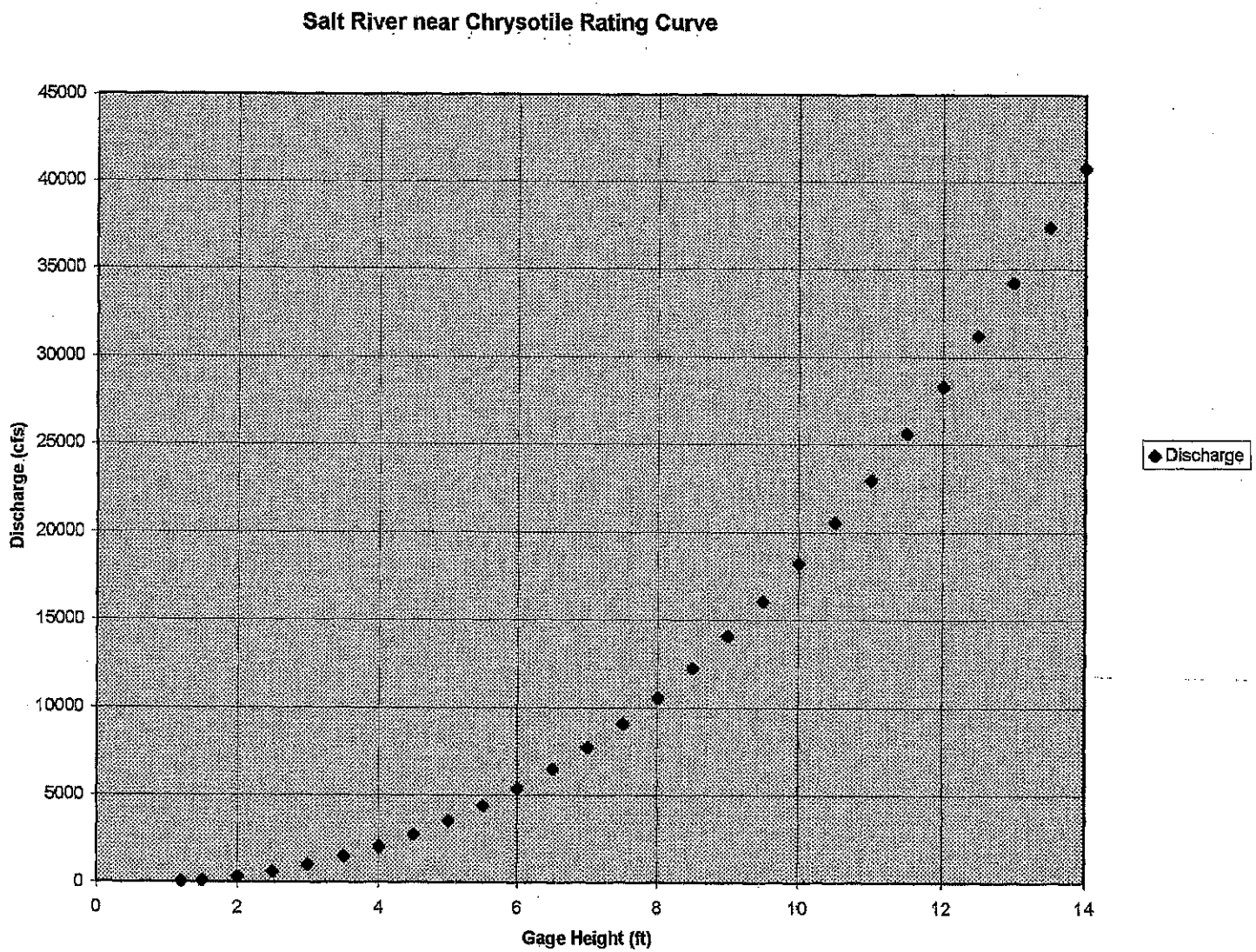
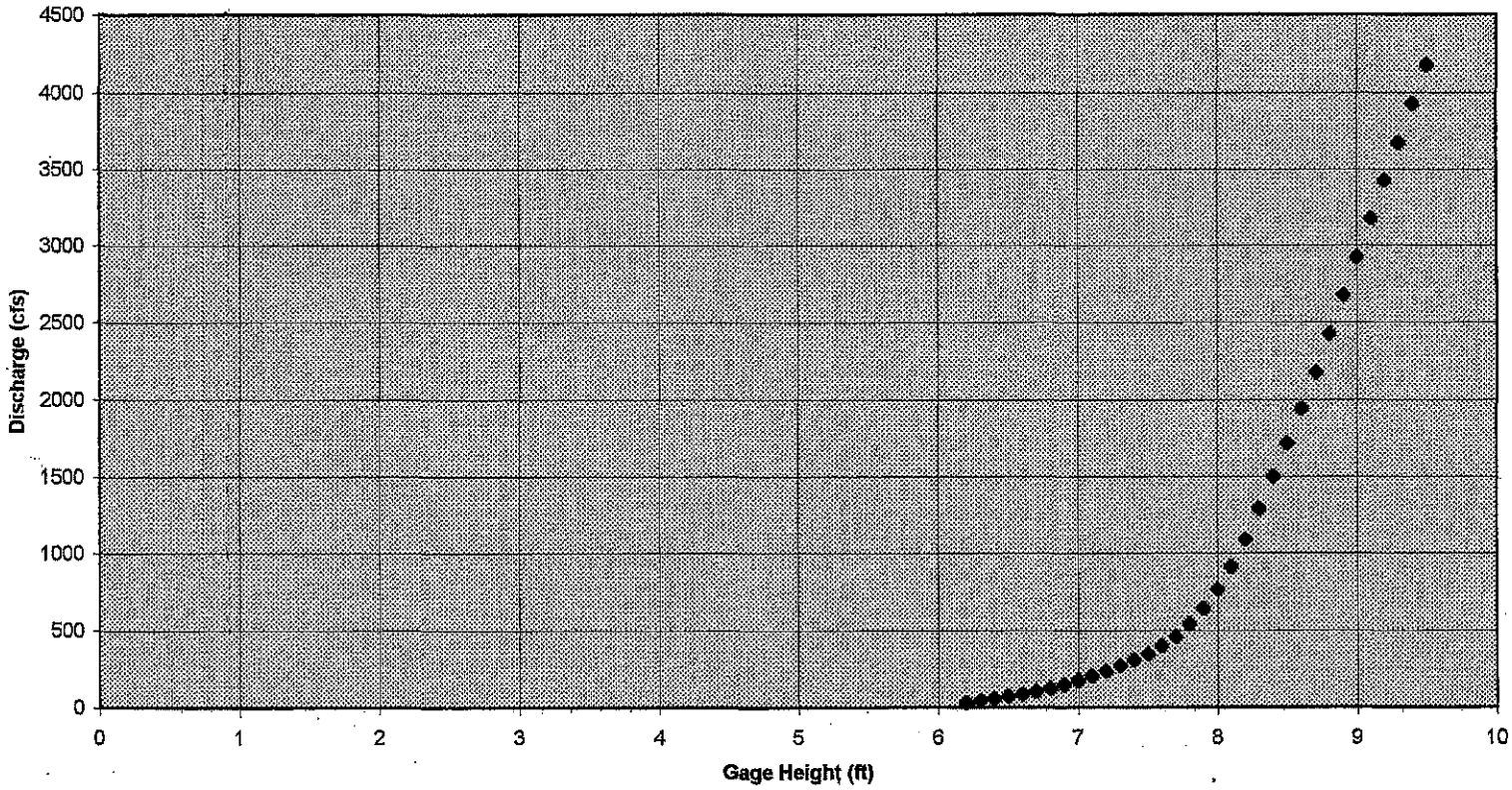
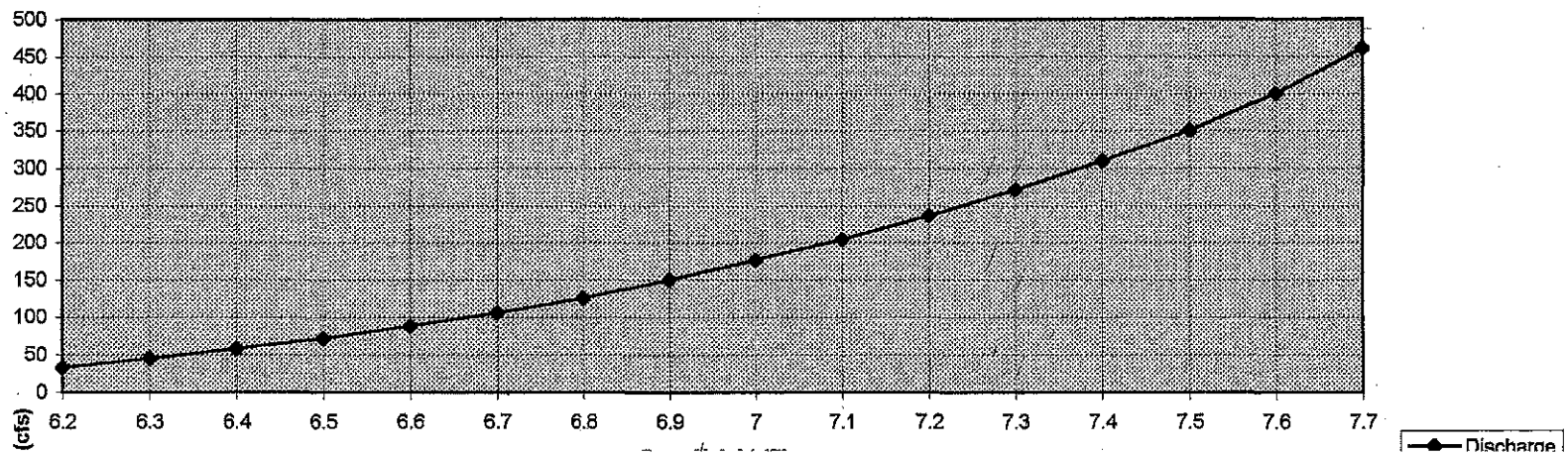
11.50	1	2857.0	311.8	301.1	9.2	9.5	0.0030	0.043	8.3	23740.63
12.00	1	3007.8	313.5	302.3	9.6	10.0	0.0030	0.043	8.6	25776.43
12.50	1	3159.2	315.1	303.4	10.0	10.4	0.0030	0.043	8.8	27878.56
13.00	1	3311.2	316.7	304.6	10.5	10.9	0.0030	0.043	9.1	30046.04
13.50	1	3463.8	318.4	305.7	10.9	11.3	0.0030	0.043	9.3	32277.93
14.00	1	3616.9	320.0	306.9	11.3	11.8	0.0030	0.043	9.6	34573.34
14.50	1	3770.7	321.6	308.0	11.7	12.2	0.0030	0.043	9.8	36931.46
15.00	1	3925.0	323.3	309.2	12.1	12.7	0.0030	0.043	10.0	39351.50
15.50	1	4079.9	324.9	310.3	12.6	13.1	0.0030	0.043	10.3	41832.75
16.00	1	4235.3	326.5	311.5	13.0	13.6	0.0030	0.043	10.5	44374.51
16.50	1	4391.3	328.2	312.6	13.4	14.0	0.0030	0.043	10.7	46976.12
17.00	1	4548.0	329.8	313.8	13.8	14.5	0.0030	0.043	10.9	49636.96
17.50	1	4705.1	331.4	315.0	14.2	14.9	0.0030	0.043	11.1	52356.48
18.00	1	4862.9	333.1	316.1	14.6	15.4	0.0030	0.043	11.3	55134.09
18.50	1	5021.3	334.7	317.3	15.0	15.8	0.0030	0.043	11.5	57969.27
19.00	1	5180.2	336.3	318.4	15.4	16.3	0.0030	0.043	11.7	60861.53
19.50	1	5339.8	338.7	320.5	15.8	16.7	0.0030	0.043	11.9	63721.20
20.00	1	5500.7	341.5	323.1	16.1	17.0	0.0030	0.043	12.1	66580.24
20.50	1	5662.9	344.4	325.8	16.4	17.4	0.0030	0.043	12.3	69498.80
21.00	1	5826.5	347.2	328.4	16.8	17.7	0.0030	0.043	12.4	72476.96
21.50	1	5991.4	350.1	331.1	17.1	18.1	0.0030	0.043	12.6	75514.80
22.00	1	6157.6	352.9	333.8	17.4	18.4	0.0030	0.043	12.8	78612.44
22.50	1	6325.1	355.8	336.4	17.8	18.8	0.0030	0.043	12.9	81769.95
23.00	1	6494.0	358.6	339.1	18.1	19.2	0.0030	0.043	13.1	84987.48
23.50	1	6664.2	361.5	341.7	18.4	19.5	0.0030	0.043	13.2	88265.13
24.00	1	6835.8	364.3	344.4	18.8	19.8	0.0030	0.043	13.4	91603.03
24.50	1	7008.6	367.2	347.1	19.1	20.2	0.0030	0.043	13.6	95001.30
25.00	1	7182.8	370.1	349.7	19.4	20.5	0.0030	0.043	13.7	98460.10
25.50	1	7358.3	372.9	352.4	19.7	20.9	0.0030	0.043	13.9	101979.55
26.00	1	7535.2	375.8	355.0	20.1	21.2	0.0030	0.043	14.0	105559.80

26.50	1	7713.4	378.6	357.7	20.4	21.6	0.0030	0.043	14.2	109200.98
27.00	1	7892.9	381.5	360.3	20.7	21.9	0.0030	0.043	14.3	112903.27
27.50	1	8073.7	384.3	363.0	21.0	22.2	0.0030	0.043	14.5	116666.82
28.00	1	8255.9	387.2	365.7	21.3	22.6	0.0030	0.043	14.6	120491.79
28.50	1	8439.4	390.0	368.3	21.6	22.9	0.0030	0.043	14.7	124378.33
29.00	1	8624.2	392.9	371.0	22.0	23.2	0.0030	0.043	14.9	128326.63
29.50	1	8810.3	395.7	373.6	22.3	23.6	0.0030	0.043	15.0	132336.86
30.00	1	8997.8	398.6	376.3	22.6	23.9	0.0030	0.043	15.2	136409.17
30.50	1	9186.6	401.4	378.9	22.9	24.2	0.0030	0.043	15.3	140543.75
31.00	1	9376.8	404.3	381.6	23.2	24.6	0.0030	0.043	15.4	144740.78
31.50	1	9568.2	407.1	384.3	23.5	24.9	0.0030	0.043	15.6	149000.44
32.00	1	9761.0	410.0	386.9	23.8	25.2	0.0030	0.043	15.7	153322.91
32.50	1	9955.2	412.8	389.6	24.1	25.6	0.0030	0.043	15.8	157708.34
33.00	1	10150.6	415.7	392.2	24.4	25.9	0.0030	0.043	16.0	162156.95
33.50	1	10347.4	418.5	394.9	24.7	26.2	0.0030	0.043	16.1	166668.94
34.00	1	10545.5	421.1	397.2	25.0	26.5	0.0030	0.043	16.2	171311.62*
34.50	1	10744.3	422.7	398.2	25.4	27.0	0.0030	0.043	16.4	176282.05*
34.70	1	10824.0	423.4	398.6	25.6	27.2	0.0030	0.043	16.5	178285.88*


Salt River near Roosevelt - Rating Curve
Discharge (cfs)
3500
3000
2500
2000
1500
1000
500
0
0
1
2
3
4
5
6
7
8
9
10
Gage Height (ft)
Discharge (cfs)


Discharge
3500
3000
2500
2000
1500
1000
500
0
Discharge (cfs)
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5
Gage Height (ft)
Discharge


Salt River near Roosevelt Rating Curve - Existing Conditions
Discharge (cfs)
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
0
2
4
6
8
10
12
14
16
18
20
Gage Height (ft)
Discharge (cfs)


Salt River near Chrysotile Rating Curve
Discharge (cfs)
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
0
2
4
6
8
10
12
14
Gage Height (ft)
Discharge

Salt River @ Reservoir Site near Livingstone, 1902 Rating Table