

APPENDIX C
SAMPLE RUNS (SEDIMENT DISCHARGE RATE GIVEN)

C1. WIDE CHANNEL

submerged coefficient of friction,	U = .840
lift-to-drag ratio,	B = .850
grain size: 90% finer; millimeters,	D90 = 75.0
grain size: 50% finer; millimeters,	D50 = 45.0
channel slope,	S = .00081
dimensionless critical shear stress,	TAUcr = .03000
bank water discharge; cumecs,	Qbank = 73.86919
bed water discharge; cumecs,	Qbed = 526.13086
channel water discharge; cumecs,	Q = 600.00005
sediment transport rate; cumecs,	Qs = .00156854
cross-sectional area; sq meters,	A = 254.60536
channel center depth; meters,	Dc = 3.088
bank width; meters,	Bs = 16.807
flat-bed width; meters,	Bf = 71.336
top channel width; meters,	Btop = 88.143

Y*	D*	D1*	D2*	D3*
0.00E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00
5.77E-01	1.00E+00	0.00E+00	0.00E+00	0.00E+00
1.15E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00
1.73E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00
2.31E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00
2.89E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00
3.46E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00
4.04E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00
4.62E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00
5.20E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00
5.77E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00
6.35E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00
6.93E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00
7.51E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00
8.08E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00
8.66E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00
9.24E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00
9.82E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00
1.04E+01	1.00E+00	0.00E+00	0.00E+00	0.00E+00

1.10E+01	1.00E+00	0.00E+00	0.00E+00	0.00E+00
1.15E+01	1.00E+00	0.00E+00	0.00E+00	0.00E+00
1.15E+01	1.00E+00	-8.42E-11	-8.38E-04	-6.27E+03
1.15E+01	1.00E+00	-1.34E-09	-6.65E-03	-2.47E+04
1.15E+01	1.00E+00	-6.69E-09	-2.21E-02	-5.42E+04
1.15E+01	1.00E+00	-2.08E-08	-5.12E-02	-9.28E+04
1.15E+01	1.00E+00	-4.99E-08	-9.72E-02	-1.38E+05
1.15E+01	1.00E+00	-1.01E-07	-1.62E-01	-1.87E+05
1.15E+01	1.00E+00	-1.82E-07	-2.47E-01	-2.37E+05
1.15E+01	1.00E+00	-3.02E-07	-3.52E-01	-2.85E+05
1.15E+01	1.00E+00	-4.66E-07	-4.75E-01	-3.27E+05
1.15E+01	1.00E+00	-6.83E-07	-6.13E-01	-3.62E+05
1.15E+01	1.00E+00	-9.58E-07	-7.63E-01	-3.86E+05
1.15E+01	1.00E+00	-1.29E-06	-9.20E-01	-3.98E+05
1.15E+01	1.00E+00	-1.69E-06	-1.08E+00	-3.98E+05
1.15E+01	1.00E+00	-2.16E-06	-1.24E+00	-3.86E+05
1.15E+01	1.00E+00	-2.68E-06	-1.39E+00	-3.62E+05
1.15E+01	1.00E+00	-3.27E-06	-1.52E+00	-3.27E+05
1.15E+01	1.00E+00	-3.90E-06	-1.65E+00	-2.85E+05
1.15E+01	1.00E+00	-4.58E-06	-1.75E+00	-2.37E+05
1.15E+01	1.00E+00	-5.30E-06	-1.84E+00	-1.87E+05
1.15E+01	1.00E+00	-6.05E-06	-1.90E+00	-1.38E+05
1.15E+01	1.00E+00	-6.82E-06	-1.95E+00	-9.26E+04
1.15E+01	1.00E+00	-7.60E-06	-1.98E+00	-5.40E+04
1.15E+01	1.00E+00	-8.40E-06	-1.99E+00	-2.45E+04
1.15E+01	1.00E+00	-9.20E-06	-2.00E+00	-6.03E+03
1.15E+01	1.00E+00	-1.00E-05	-2.00E+00	2.67E+02
1.15E+01	1.00E+00	-6.22E-04	-1.92E+00	2.33E+02
1.15E+01	1.00E+00	-1.21E-03	-1.85E+00	2.05E+02
1.16E+01	1.00E+00	-1.78E-03	-1.79E+00	1.83E+02
1.16E+01	1.00E+00	-2.87E-03	-1.69E+00	1.50E+02
1.16E+01	1.00E+00	-3.90E-03	-1.60E+00	1.26E+02
1.16E+01	1.00E+00	-4.87E-03	-1.53E+00	1.08E+02
1.16E+01	1.00E+00	-6.71E-03	-1.41E+00	8.34E+01
1.16E+01	1.00E+00	-8.41E-03	-1.32E+00	6.72E+01
1.16E+01	1.00E+00	-1.00E-02	-1.24E+00	5.59E+01
1.16E+01	1.00E+00	-1.15E-02	-1.18E+00	4.75E+01
1.16E+01	1.00E+00	-1.43E-02	-1.07E+00	3.61E+01
1.16E+01	1.00E+00	-1.69E-02	-9.94E-01	2.87E+01
1.16E+01	1.00E+00	-1.93E-02	-9.29E-01	2.36E+01
1.16E+01	1.00E+00	-2.16E-02	-8.75E-01	1.99E+01
1.16E+01	1.00E+00	-2.37E-02	-8.29E-01	1.70E+01
1.16E+01	1.00E+00	-2.76E-02	-7.54E-01	1.31E+01

1.16E+01	9.99E-01	-3.13E-02	-6.96E-01	1.04E+01
1.16E+01	9.99E-01	-3.46E-02	-6.49E-01	8.59E+00
1.16E+01	9.99E-01	-3.78E-02	-6.09E-01	7.22E+00
1.16E+01	9.99E-01	-4.07E-02	-5.76E-01	6.18E+00
1.16E+01	9.98E-01	-4.62E-02	-5.22E-01	4.71E+00
1.16E+01	9.98E-01	-5.12E-02	-4.80E-01	3.73E+00
1.16E+01	9.97E-01	-5.58E-02	-4.46E-01	3.04E+00
1.16E+01	9.97E-01	-6.01E-02	-4.19E-01	2.53E+00
1.16E+01	9.96E-01	-6.42E-02	-3.95E-01	2.14E+00
1.17E+01	9.95E-01	-7.17E-02	-3.58E-01	1.59E+00
1.17E+01	9.93E-01	-7.86E-02	-3.30E-01	1.23E+00
1.17E+01	9.92E-01	-8.50E-02	-3.08E-01	9.78E-01
1.17E+01	9.90E-01	-9.10E-02	-2.91E-01	7.93E-01
1.17E+01	9.88E-01	-9.66E-02	-2.76E-01	6.54E-01
1.18E+01	9.84E-01	-1.07E-01	-2.54E-01	4.60E-01
1.18E+01	9.80E-01	-1.17E-01	-2.39E-01	3.35E-01
1.19E+01	9.75E-01	-1.26E-01	-2.27E-01	2.50E-01
1.19E+01	9.69E-01	-1.35E-01	-2.18E-01	1.89E-01
1.19E+01	9.64E-01	-1.44E-01	-2.12E-01	1.44E-01
1.20E+01	9.52E-01	-1.60E-01	-2.03E-01	8.41E-02
1.21E+01	9.38E-01	-1.76E-01	-1.98E-01	4.66E-02
1.22E+01	9.23E-01	-1.92E-01	-1.95E-01	2.16E-02
1.23E+01	8.90E-01	-2.23E-01	-1.94E-01	-9.70E-03
1.25E+01	8.52E-01	-2.55E-01	-1.98E-01	-2.96E-02
1.27E+01	8.09E-01	-2.87E-01	-2.04E-01	-4.54E-02
1.28E+01	7.60E-01	-3.20E-01	-2.12E-01	-6.08E-02
1.30E+01	7.06E-01	-3.55E-01	-2.23E-01	-7.79E-02
1.31E+01	6.47E-01	-3.91E-01	-2.37E-01	-9.91E-02
1.33E+01	5.81E-01	-4.31E-01	-2.55E-01	-1.27E-01
1.35E+01	5.09E-01	-4.73E-01	-2.79E-01	-1.67E-01
1.36E+01	4.29E-01	-5.20E-01	-3.10E-01	-2.29E-01
1.38E+01	3.42E-01	-5.73E-01	-3.54E-01	-3.33E-01
1.39E+01	2.45E-01	-6.35E-01	-4.22E-01	-5.44E-01
1.40E+01	1.93E-01	-6.70E-01	-4.73E-01	-7.50E-01
1.41E+01	1.38E-01	-7.11E-01	-5.46E-01	-1.14E+00
1.41E+01	1.09E-01	-7.34E-01	-5.98E-01	-1.49E+00
1.42E+01	7.93E-02	-7.59E-01	-6.70E-01	-2.15E+00
1.42E+01	6.40E-02	-7.73E-01	-7.18E-01	-2.77E+00
1.42E+01	4.84E-02	-7.88E-01	-7.85E-01	-4.14E+00
1.42E+01	4.04E-02	-7.96E-01	-8.34E-01	-5.82E+00
1.42E+01	3.24E-02	-8.05E-01	-9.09E-01	-1.00E+01
1.42E+01	2.84E-02	-8.09E-01	-9.70E-01	-1.48E+01
1.43E+01	2.43E-02	-8.14E-01	-1.06E+00	-2.41E+01

1.43E+01	2.03E-02	-8.20E-01	-1.23E+00	-4.25E+01
1.43E+01	1.82E-02	-8.23E-01	-1.35E+00	-5.55E+01
1.43E+01	1.61E-02	-8.27E-01	-1.50E+00	-6.29E+01
1.43E+01	1.51E-02	-8.29E-01	-1.58E+00	-5.43E+01
1.43E+01	1.41E-02	-8.31E-01	-1.63E+00	-1.97E+01
1.43E+01	1.36E-02	-8.32E-01	-1.63E+00	1.76E+01
1.43E+01	1.30E-02	-8.33E-01	-1.60E+00	7.86E+01
1.43E+01	1.25E-02	-8.34E-01	-1.52E+00	1.77E+02
1.43E+01	1.20E-02	-8.35E-01	-1.36E+00	3.36E+02
1.43E+01	1.15E-02	-8.36E-01	-1.08E+00	5.95E+02

Y*	DEL*	DEL1cr*	DEL1*	DEL2cr*
0.00E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00
5.77E-01	1.00E+00	0.00E+00	-6.70E-08	0.00E+00
1.15E+00	1.00E+00	0.00E+00	-1.74E-07	0.00E+00
1.73E+00	1.00E+00	0.00E+00	-3.85E-07	0.00E+00
2.31E+00	1.00E+00	0.00E+00	-8.27E-07	0.00E+00
2.89E+00	1.00E+00	0.00E+00	-1.76E-06	0.00E+00
3.46E+00	1.00E+00	0.00E+00	-3.75E-06	0.00E+00
4.04E+00	1.00E+00	0.00E+00	-7.98E-06	0.00E+00
4.62E+00	1.00E+00	0.00E+00	-1.70E-05	0.00E+00
5.20E+00	1.00E+00	0.00E+00	-3.61E-05	0.00E+00
5.77E+00	1.00E+00	0.00E+00	-7.69E-05	0.00E+00
6.35E+00	1.00E+00	0.00E+00	-1.64E-04	0.00E+00
6.93E+00	1.00E+00	0.00E+00	-3.48E-04	0.00E+00
7.51E+00	9.99E-01	0.00E+00	-7.41E-04	0.00E+00
8.08E+00	9.99E-01	0.00E+00	-1.58E-03	0.00E+00
8.66E+00	9.97E-01	0.00E+00	-3.35E-03	0.00E+00
9.24E+00	9.95E-01	0.00E+00	-7.13E-03	0.00E+00
9.82E+00	9.88E-01	0.00E+00	-1.52E-02	0.00E+00
1.04E+01	9.75E-01	0.00E+00	-3.23E-02	0.00E+00
1.10E+01	9.47E-01	0.00E+00	-6.87E-02	0.00E+00
1.15E+01	8.88E-01	0.00E+00	-1.46E-01	0.00E+00
1.15E+01	8.88E-01	-2.15E-13	-1.46E-01	-3.76E-06
1.15E+01	8.88E-01	-2.71E-11	-1.45E-01	-2.36E-04
1.15E+01	8.88E-01	-4.51E-10	-1.44E-01	-2.59E-03
1.15E+01	8.88E-01	-3.26E-09	-1.40E-01	-1.39E-02
1.15E+01	8.88E-01	-1.48E-08	-1.35E-01	-4.99E-02
1.15E+01	8.88E-01	-5.01E-08	-1.28E-01	-1.38E-01
1.15E+01	8.88E-01	-1.38E-07	-1.20E-01	-3.19E-01
1.15E+01	8.88E-01	-3.24E-07	-1.10E-01	-6.40E-01

1.15E+01	8.88E-01	-6.75E-07	-9.82E-02	-1.15E+00
1.15E+01	8.88E-01	-1.28E-06	-8.64E-02	-1.90E+00
1.15E+01	8.88E-01	-2.23E-06	-7.43E-02	-2.90E+00
1.15E+01	8.88E-01	-3.63E-06	-6.26E-02	-4.16E+00
1.15E+01	8.88E-01	-5.58E-06	-5.14E-02	-5.62E+00
1.15E+01	8.88E-01	-8.14E-06	-4.12E-02	-7.21E+00
1.15E+01	8.88E-01	-1.14E-05	-3.21E-02	-8.83E+00
1.15E+01	8.88E-01	-1.52E-05	-2.41E-02	-1.04E+01
1.15E+01	8.88E-01	-1.96E-05	-1.74E-02	-1.17E+01
1.15E+01	8.88E-01	-2.45E-05	-1.20E-02	-1.27E+01
1.15E+01	8.88E-01	-2.97E-05	-7.72E-03	-1.33E+01
1.15E+01	8.88E-01	-3.51E-05	-4.56E-03	-1.36E+01
1.15E+01	8.88E-01	-4.05E-05	-2.38E-03	-1.35E+01
1.15E+01	8.88E-01	-4.59E-05	-1.03E-03	-1.32E+01
1.15E+01	8.88E-01	-5.11E-05	-3.36E-04	-1.27E+01
1.15E+01	8.88E-01	-5.61E-05	-8.52E-05	-1.24E+01
1.15E+01	8.88E-01	-6.10E-05	-5.44E-05	-1.22E+01
1.15E+01	8.88E-01	-3.65E-03	-3.49E-03	-1.08E+01
1.15E+01	8.88E-01	-6.85E-03	-6.60E-03	-9.72E+00
1.16E+01	8.88E-01	-9.74E-03	-9.39E-03	-8.81E+00
1.16E+01	8.88E-01	-1.48E-02	-1.43E-02	-7.39E+00
1.16E+01	8.88E-01	-1.91E-02	-1.85E-02	-6.35E+00
1.16E+01	8.88E-01	-2.28E-02	-2.21E-02	-5.54E+00
1.16E+01	8.88E-01	-2.89E-02	-2.82E-02	-4.37E+00
1.16E+01	8.88E-01	-3.38E-02	-3.31E-02	-3.58E+00
1.16E+01	8.88E-01	-3.79E-02	-3.71E-02	-3.00E+00
1.16E+01	8.88E-01	-4.14E-02	-4.05E-02	-2.56E+00
1.16E+01	8.88E-01	-4.70E-02	-4.60E-02	-1.94E+00
1.16E+01	8.88E-01	-5.13E-02	-5.02E-02	-1.53E+00
1.16E+01	8.88E-01	-5.47E-02	-5.36E-02	-1.24E+00
1.16E+01	8.88E-01	-5.75E-02	-5.64E-02	-1.03E+00
1.16E+01	8.87E-01	-5.99E-02	-5.87E-02	-8.62E-01
1.16E+01	8.87E-01	-6.36E-02	-6.24E-02	-6.31E-01
1.16E+01	8.87E-01	-6.63E-02	-6.51E-02	-4.79E-01
1.16E+01	8.86E-01	-6.84E-02	-6.72E-02	-3.73E-01
1.16E+01	8.86E-01	-7.01E-02	-6.88E-02	-2.97E-01
1.16E+01	8.86E-01	-7.14E-02	-7.01E-02	-2.40E-01
1.16E+01	8.85E-01	-7.34E-02	-7.21E-02	-1.64E-01
1.16E+01	8.84E-01	-7.48E-02	-7.34E-02	-1.17E-01
1.16E+01	8.84E-01	-7.58E-02	-7.44E-02	-8.67E-02
1.16E+01	8.83E-01	-7.66E-02	-7.52E-02	-6.70E-02
1.16E+01	8.82E-01	-7.72E-02	-7.58E-02	-5.40E-02
1.17E+01	8.81E-01	-7.81E-02	-7.67E-02	-3.96E-02

1.17E+01	8.79E-01	-7.88E-02	-7.74E-02	-3.40E-02
1.17E+01	8.77E-01	-7.95E-02	-7.81E-02	-3.28E-02
1.17E+01	8.76E-01	-8.02E-02	-7.88E-02	-3.39E-02
1.17E+01	8.74E-01	-8.09E-02	-7.95E-02	-3.63E-02
1.18E+01	8.71E-01	-8.24E-02	-8.11E-02	-4.25E-02
1.18E+01	8.68E-01	-8.43E-02	-8.30E-02	-4.93E-02
1.19E+01	8.64E-01	-8.64E-02	-8.52E-02	-5.58E-02
1.19E+01	8.61E-01	-8.87E-02	-8.76E-02	-6.18E-02
1.19E+01	8.57E-01	-9.13E-02	-9.02E-02	-6.73E-02
1.20E+01	8.50E-01	-9.71E-02	-9.61E-02	-7.71E-02
1.21E+01	8.42E-01	-1.04E-01	-1.03E-01	-8.55E-02
1.22E+01	8.34E-01	-1.11E-01	-1.10E-01	-9.32E-02
1.23E+01	8.15E-01	-1.27E-01	-1.26E-01	-1.08E-01
1.25E+01	7.93E-01	-1.45E-01	-1.45E-01	-1.23E-01
1.27E+01	7.68E-01	-1.66E-01	-1.66E-01	-1.40E-01
1.28E+01	7.40E-01	-1.90E-01	-1.90E-01	-1.62E-01
1.30E+01	7.07E-01	-2.18E-01	-2.18E-01	-1.90E-01
1.31E+01	6.70E-01	-2.52E-01	-2.51E-01	-2.27E-01
1.33E+01	6.26E-01	-2.92E-01	-2.92E-01	-2.79E-01
1.35E+01	5.76E-01	-3.42E-01	-3.42E-01	-3.57E-01
1.36E+01	5.16E-01	-4.09E-01	-4.09E-01	-4.80E-01
1.38E+01	4.44E-01	-5.01E-01	-5.01E-01	-6.97E-01
1.39E+01	3.53E-01	-6.43E-01	-6.42E-01	-1.15E+00
1.40E+01	2.98E-01	-7.51E-01	-7.50E-01	-1.60E+00
1.41E+01	2.32E-01	-9.10E-01	-9.08E-01	-2.46E+00
1.41E+01	1.93E-01	-1.02E+00	-1.02E+00	-3.26E+00
1.42E+01	1.49E-01	-1.18E+00	-1.18E+00	-4.71E+00
1.42E+01	1.25E-01	-1.29E+00	-1.29E+00	-6.06E+00
1.42E+01	9.76E-02	-1.43E+00	-1.44E+00	-8.92E+00
1.42E+01	8.27E-02	-1.53E+00	-1.56E+00	-1.23E+01
1.42E+01	6.62E-02	-1.69E+00	-1.75E+00	-2.06E+01
1.42E+01	5.70E-02	-1.82E+00	-1.92E+00	-2.99E+01
1.43E+01	4.68E-02	-2.01E+00	-2.18E+00	-4.82E+01
1.43E+01	3.49E-02	-2.33E+00	-2.65E+00	-8.43E+01
1.43E+01	2.78E-02	-2.57E+00	-3.02E+00	-1.10E+02
1.43E+01	1.97E-02	-2.87E+00	-3.51E+00	-1.26E+02
1.43E+01	1.51E-02	-3.02E+00	-3.77E+00	-1.11E+02
1.43E+01	1.03E-02	-3.13E+00	-3.98E+00	-4.46E+01
1.43E+01	7.77E-03	-3.13E+00	-4.04E+00	2.71E+01
1.43E+01	5.25E-03	-3.08E+00	-4.02E+00	1.45E+02
1.43E+01	2.78E-03	-2.94E+00	-3.87E+00	3.36E+02
1.43E+01	4.56E-04	-2.64E+00	-3.52E+00	6.46E+02
1.43E+01	-1.55E-03	-2.09E+00	-2.82E+00	1.15E+03

C2. NARROW CHANNEL

submerged coefficient of friction,	U = .840
lift-to-drag ratio,	B = .850
grain size: 90% finer; millimeters,	D90 = 75.0
grain size: 50% finer; millimeters,	D50 = 45.0
channel slope,	S = .00082
dimensionless critical shear stress,	TAUcr = .03000
bank water discharge; cumecs,	Qbank = 73.42382
bed water discharge; cumecs,	Qbed = 58.50882
channel water discharge; cumecs,	Q = 131.93263
sediment transport rate; cumecs,	Qs = .00004628
cross-sectional area; sq meters,	A = 59.29532
channel center depth; meters,	Dc = 3.072
bank width; meters,	Bs = 16.770
flat-bed width; meters,	Bf = 8.198
top channel width; meters,	Btop = 24.968

Y*	D*	D1*	D2*	D3*
0.00E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00
6.67E-02	1.00E+00	0.00E+00	0.00E+00	0.00E+00
1.33E-01	1.00E+00	0.00E+00	0.00E+00	0.00E+00
2.00E-01	1.00E+00	0.00E+00	0.00E+00	0.00E+00
2.67E-01	1.00E+00	0.00E+00	0.00E+00	0.00E+00
3.34E-01	1.00E+00	0.00E+00	0.00E+00	0.00E+00
4.00E-01	1.00E+00	0.00E+00	0.00E+00	0.00E+00
4.67E-01	1.00E+00	0.00E+00	0.00E+00	0.00E+00
5.34E-01	1.00E+00	0.00E+00	0.00E+00	0.00E+00
6.00E-01	1.00E+00	0.00E+00	0.00E+00	0.00E+00
6.67E-01	1.00E+00	0.00E+00	0.00E+00	0.00E+00
7.34E-01	1.00E+00	0.00E+00	0.00E+00	0.00E+00
8.01E-01	1.00E+00	0.00E+00	0.00E+00	0.00E+00
8.67E-01	1.00E+00	0.00E+00	0.00E+00	0.00E+00
9.34E-01	1.00E+00	0.00E+00	0.00E+00	0.00E+00
1.00E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00
1.07E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00
1.13E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00
1.20E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00
1.27E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00
1.33E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00
1.33E+00	1.00E+00	-8.42E-11	-8.38E-04	-6.27E+03

1.33E+00	1.00E+00	-1.34E-09	-6.65E-03	-2.47E+04
1.33E+00	1.00E+00	-6.69E-09	-2.21E-02	-5.42E+04
1.33E+00	1.00E+00	-2.08E-08	-5.12E-02	-9.28E+04
1.33E+00	1.00E+00	-4.99E-08	-9.72E-02	-1.38E+05
1.33E+00	1.00E+00	-1.01E-07	-1.62E-01	-1.87E+05
1.33E+00	1.00E+00	-1.82E-07	-2.47E-01	-2.37E+05
1.33E+00	1.00E+00	-3.02E-07	-3.52E-01	-2.85E+05
1.33E+00	1.00E+00	-4.66E-07	-4.75E-01	-3.27E+05
1.33E+00	1.00E+00	-6.83E-07	-6.13E-01	-3.62E+05
1.33E+00	1.00E+00	-9.58E-07	-7.63E-01	-3.86E+05
1.33E+00	1.00E+00	-1.29E-06	-9.20E-01	-3.98E+05
1.33E+00	1.00E+00	-1.69E-06	-1.08E+00	-3.98E+05
1.33E+00	1.00E+00	-2.16E-06	-1.24E+00	-3.86E+05
1.33E+00	1.00E+00	-2.68E-06	-1.39E+00	-3.62E+05
1.33E+00	1.00E+00	-3.27E-06	-1.52E+00	-3.27E+05
1.33E+00	1.00E+00	-3.90E-06	-1.65E+00	-2.85E+05
1.33E+00	1.00E+00	-4.58E-06	-1.75E+00	-2.37E+05
1.33E+00	1.00E+00	-5.30E-06	-1.84E+00	-1.87E+05
1.33E+00	1.00E+00	-6.05E-06	-1.90E+00	-1.38E+05
1.33E+00	1.00E+00	-6.82E-06	-1.95E+00	-9.26E+04
1.33E+00	1.00E+00	-7.60E-06	-1.98E+00	-5.40E+04
1.33E+00	1.00E+00	-8.40E-06	-1.99E+00	-2.45E+04
1.33E+00	1.00E+00	-9.20E-06	-2.00E+00	-6.02E+03
1.33E+00	1.00E+00	-1.00E-05	-2.00E+00	2.76E+02
1.33E+00	1.00E+00	-6.22E-04	-1.92E+00	2.40E+02
1.33E+00	1.00E+00	-1.21E-03	-1.85E+00	2.11E+02
1.34E+00	1.00E+00	-1.78E-03	-1.79E+00	1.87E+02
1.34E+00	1.00E+00	-2.86E-03	-1.68E+00	1.52E+02
1.34E+00	1.00E+00	-3.88E-03	-1.59E+00	1.28E+02
1.34E+00	1.00E+00	-4.85E-03	-1.52E+00	1.09E+02
1.34E+00	1.00E+00	-6.68E-03	-1.40E+00	8.41E+01
1.34E+00	1.00E+00	-8.36E-03	-1.31E+00	6.76E+01
1.34E+00	1.00E+00	-9.95E-03	-1.23E+00	5.61E+01
1.34E+00	1.00E+00	-1.14E-02	-1.16E+00	4.76E+01
1.34E+00	1.00E+00	-1.42E-02	-1.06E+00	3.60E+01
1.35E+00	1.00E+00	-1.68E-02	-9.81E-01	2.86E+01
1.35E+00	1.00E+00	-1.91E-02	-9.16E-01	2.35E+01
1.35E+00	1.00E+00	-2.14E-02	-8.62E-01	1.97E+01
1.35E+00	1.00E+00	-2.34E-02	-8.16E-01	1.69E+01
1.36E+00	1.00E+00	-2.73E-02	-7.43E-01	1.30E+01
1.36E+00	9.99E-01	-3.09E-02	-6.85E-01	1.03E+01
1.37E+00	9.99E-01	-3.42E-02	-6.38E-01	8.49E+00
1.37E+00	9.99E-01	-3.73E-02	-5.99E-01	7.14E+00

1.38E+00	9.99E-01	-4.02E-02	-5.66E-01	6.10E+00
1.39E+00	9.98E-01	-4.56E-02	-5.13E-01	4.64E+00
1.40E+00	9.98E-01	-5.05E-02	-4.72E-01	3.67E+00
1.41E+00	9.97E-01	-5.50E-02	-4.38E-01	2.99E+00
1.42E+00	9.97E-01	-5.93E-02	-4.11E-01	2.48E+00
1.43E+00	9.96E-01	-6.33E-02	-3.88E-01	2.10E+00
1.45E+00	9.95E-01	-7.07E-02	-3.52E-01	1.56E+00
1.47E+00	9.93E-01	-7.74E-02	-3.25E-01	1.20E+00
1.49E+00	9.92E-01	-8.37E-02	-3.03E-01	9.54E-01
1.51E+00	9.90E-01	-8.96E-02	-2.86E-01	7.72E-01
1.53E+00	9.88E-01	-9.52E-02	-2.72E-01	6.35E-01
1.57E+00	9.84E-01	-1.06E-01	-2.51E-01	4.46E-01
1.61E+00	9.80E-01	-1.15E-01	-2.36E-01	3.24E-01
1.65E+00	9.75E-01	-1.25E-01	-2.24E-01	2.40E-01
1.69E+00	9.70E-01	-1.33E-01	-2.16E-01	1.81E-01
1.73E+00	9.64E-01	-1.42E-01	-2.10E-01	1.38E-01
1.81E+00	9.52E-01	-1.58E-01	-2.01E-01	7.94E-02
1.89E+00	9.39E-01	-1.74E-01	-1.96E-01	4.32E-02
1.97E+00	9.25E-01	-1.90E-01	-1.94E-01	1.91E-02
2.13E+00	8.92E-01	-2.21E-01	-1.94E-01	-1.09E-02
2.29E+00	8.54E-01	-2.52E-01	-1.97E-01	-3.00E-02
2.45E+00	8.11E-01	-2.84E-01	-2.03E-01	-4.54E-02
2.61E+00	7.63E-01	-3.17E-01	-2.11E-01	-6.03E-02
2.77E+00	7.10E-01	-3.52E-01	-2.22E-01	-7.71E-02
2.93E+00	6.50E-01	-3.88E-01	-2.36E-01	-9.79E-02
3.09E+00	5.85E-01	-4.28E-01	-2.54E-01	-1.25E-01
3.25E+00	5.13E-01	-4.70E-01	-2.77E-01	-1.64E-01
3.41E+00	4.35E-01	-5.17E-01	-3.08E-01	-2.24E-01
3.57E+00	3.48E-01	-5.69E-01	-3.51E-01	-3.25E-01
3.73E+00	2.52E-01	-6.30E-01	-4.17E-01	-5.25E-01
3.81E+00	2.00E-01	-6.65E-01	-4.66E-01	-7.18E-01
3.89E+00	1.45E-01	-7.05E-01	-5.36E-01	-1.07E+00
3.93E+00	1.17E-01	-7.27E-01	-5.85E-01	-1.39E+00
3.97E+00	8.72E-02	-7.52E-01	-6.50E-01	-1.96E+00
3.99E+00	7.20E-02	-7.66E-01	-6.94E-01	-2.49E+00
4.01E+00	5.66E-02	-7.80E-01	-7.53E-01	-3.52E+00
4.02E+00	4.87E-02	-7.88E-01	-7.93E-01	-4.61E+00
4.03E+00	4.08E-02	-7.96E-01	-8.49E-01	-6.86E+00
4.03E+00	3.68E-02	-8.00E-01	-8.88E-01	-9.05E+00
4.04E+00	3.28E-02	-8.05E-01	-9.42E-01	-1.28E+01
4.04E+00	2.88E-02	-8.10E-01	-1.02E+00	-1.98E+01
4.05E+00	2.47E-02	-8.15E-01	-1.15E+00	-3.36E+01
4.05E+00	2.06E-02	-8.21E-01	-1.38E+00	-6.20E+01

4.06E+00	1.86E-02	-8.25E-01	-1.56E+00	-8.42E+01
4.06E+00	1.65E-02	-8.29E-01	-1.80E+00	-1.05E+02
4.06E+00	1.55E-02	-8.32E-01	-1.93E+00	-1.05E+02
4.06E+00	1.44E-02	-8.34E-01	-2.05E+00	-7.81E+01
4.06E+00	1.34E-02	-8.37E-01	-2.10E+00	1.48E+01

Y*	DEL*	DEL1cr*	DEL1*	DEL2cr*
0.00E+00	9.61E-01	0.00E+00	0.00E+00	0.00E+00
6.67E-02	9.61E-01	0.00E+00	-4.40E-03	0.00E+00
1.33E-01	9.61E-01	0.00E+00	-8.84E-03	0.00E+00
2.00E-01	9.60E-01	0.00E+00	-1.33E-02	0.00E+00
2.67E-01	9.59E-01	0.00E+00	-1.80E-02	0.00E+00
3.34E-01	9.58E-01	0.00E+00	-2.27E-02	0.00E+00
4.00E-01	9.56E-01	0.00E+00	-2.76E-02	0.00E+00
4.67E-01	9.54E-01	0.00E+00	-3.27E-02	0.00E+00
5.34E-01	9.52E-01	0.00E+00	-3.81E-02	0.00E+00
6.00E-01	9.49E-01	0.00E+00	-4.38E-02	0.00E+00
6.67E-01	9.46E-01	0.00E+00	-4.98E-02	0.00E+00
7.34E-01	9.42E-01	0.00E+00	-5.62E-02	0.00E+00
8.01E-01	9.38E-01	0.00E+00	-6.30E-02	0.00E+00
8.67E-01	9.34E-01	0.00E+00	-7.03E-02	0.00E+00
9.34E-01	9.29E-01	0.00E+00	-7.81E-02	0.00E+00
1.00E+00	9.23E-01	0.00E+00	-8.65E-02	0.00E+00
1.07E+00	9.17E-01	0.00E+00	-9.56E-02	0.00E+00
1.13E+00	9.11E-01	0.00E+00	-1.05E-01	0.00E+00
1.20E+00	9.03E-01	0.00E+00	-1.16E-01	0.00E+00
1.27E+00	8.95E-01	0.00E+00	-1.27E-01	0.00E+00
1.33E+00	8.86E-01	0.00E+00	-1.40E-01	0.00E+00
1.33E+00	8.86E-01	-2.15E-13	-1.40E-01	-3.75E-06
1.33E+00	8.86E-01	-2.70E-11	-1.39E-01	-2.35E-04
1.33E+00	8.86E-01	-4.50E-10	-1.38E-01	-2.59E-03
1.33E+00	8.86E-01	-3.25E-09	-1.34E-01	-1.39E-02
1.33E+00	8.86E-01	-1.48E-08	-1.30E-01	-4.98E-02
1.33E+00	8.86E-01	-5.00E-08	-1.23E-01	-1.38E-01
1.33E+00	8.86E-01	-1.37E-07	-1.15E-01	-3.18E-01
1.33E+00	8.86E-01	-3.23E-07	-1.05E-01	-6.39E-01
1.33E+00	8.86E-01	-6.74E-07	-9.41E-02	-1.15E+00
1.33E+00	8.86E-01	-1.27E-06	-8.27E-02	-1.90E+00
1.33E+00	8.86E-01	-2.22E-06	-7.12E-02	-2.90E+00
1.33E+00	8.86E-01	-3.63E-06	-5.99E-02	-4.15E+00
1.33E+00	8.86E-01	-5.57E-06	-4.92E-02	-5.60E+00

1.33E+00	8.86E-01	-8.13E-06	-3.95E-02	-7.19E+00
1.33E+00	8.86E-01	-1.13E-05	-3.07E-02	-8.81E+00
1.33E+00	8.86E-01	-1.52E-05	-2.31E-02	-1.03E+01
1.33E+00	8.86E-01	-1.96E-05	-1.67E-02	-1.16E+01
1.33E+00	8.86E-01	-2.44E-05	-1.15E-02	-1.27E+01
1.33E+00	8.86E-01	-2.96E-05	-7.39E-03	-1.33E+01
1.33E+00	8.86E-01	-3.50E-05	-4.37E-03	-1.36E+01
1.33E+00	8.86E-01	-4.04E-05	-2.28E-03	-1.35E+01
1.33E+00	8.86E-01	-4.58E-05	-9.90E-04	-1.32E+01
1.33E+00	8.86E-01	-5.09E-05	-3.23E-04	-1.27E+01
1.33E+00	8.86E-01	-5.59E-05	-8.34E-05	-1.23E+01
1.33E+00	8.86E-01	-6.08E-05	-5.41E-05	-1.22E+01
1.33E+00	8.86E-01	-3.63E-03	-3.47E-03	-1.08E+01
1.33E+00	8.86E-01	-6.81E-03	-6.55E-03	-9.62E+00
1.34E+00	8.86E-01	-9.67E-03	-9.31E-03	-8.70E+00
1.34E+00	8.86E-01	-1.46E-02	-1.42E-02	-7.27E+00
1.34E+00	8.86E-01	-1.88E-02	-1.83E-02	-6.22E+00
1.34E+00	8.86E-01	-2.25E-02	-2.18E-02	-5.41E+00
1.34E+00	8.86E-01	-2.85E-02	-2.77E-02	-4.26E+00
1.34E+00	8.86E-01	-3.32E-02	-3.25E-02	-3.47E+00
1.34E+00	8.86E-01	-3.72E-02	-3.63E-02	-2.90E+00
1.34E+00	8.86E-01	-4.06E-02	-3.96E-02	-2.47E+00
1.34E+00	8.86E-01	-4.59E-02	-4.49E-02	-1.87E+00
1.35E+00	8.86E-01	-5.00E-02	-4.90E-02	-1.47E+00
1.35E+00	8.86E-01	-5.33E-02	-5.22E-02	-1.18E+00
1.35E+00	8.86E-01	-5.60E-02	-5.49E-02	-9.78E-01
1.35E+00	8.85E-01	-5.83E-02	-5.71E-02	-8.20E-01
1.36E+00	8.85E-01	-6.18E-02	-6.05E-02	-5.98E-01
1.36E+00	8.85E-01	-6.44E-02	-6.31E-02	-4.52E-01
1.37E+00	8.85E-01	-6.64E-02	-6.51E-02	-3.52E-01
1.37E+00	8.84E-01	-6.79E-02	-6.66E-02	-2.79E-01
1.38E+00	8.84E-01	-6.92E-02	-6.78E-02	-2.25E-01
1.39E+00	8.83E-01	-7.11E-02	-6.97E-02	-1.53E-01
1.40E+00	8.82E-01	-7.23E-02	-7.09E-02	-1.09E-01
1.41E+00	8.82E-01	-7.33E-02	-7.19E-02	-8.13E-02
1.42E+00	8.81E-01	-7.40E-02	-7.26E-02	-6.32E-02
1.43E+00	8.80E-01	-7.46E-02	-7.31E-02	-5.13E-02
1.45E+00	8.79E-01	-7.55E-02	-7.40E-02	-3.87E-02
1.47E+00	8.77E-01	-7.62E-02	-7.48E-02	-3.41E-02
1.49E+00	8.76E-01	-7.68E-02	-7.54E-02	-3.35E-02
1.51E+00	8.74E-01	-7.75E-02	-7.61E-02	-3.50E-02
1.53E+00	8.73E-01	-7.83E-02	-7.69E-02	-3.77E-02
1.57E+00	8.70E-01	-7.99E-02	-7.86E-02	-4.41E-02

1.61E+00	8.67E-01	-8.18E-02	-8.05E-02	-5.09E-02
1.65E+00	8.63E-01	-8.40E-02	-8.28E-02	-5.73E-02
1.69E+00	8.60E-01	-8.64E-02	-8.52E-02	-6.33E-02
1.73E+00	8.56E-01	-8.90E-02	-8.79E-02	-6.86E-02
1.81E+00	8.49E-01	-9.49E-02	-9.39E-02	-7.81E-02
1.89E+00	8.41E-01	-1.01E-01	-1.01E-01	-8.63E-02
1.97E+00	8.33E-01	-1.09E-01	-1.08E-01	-9.37E-02
2.13E+00	8.15E-01	-1.25E-01	-1.24E-01	-1.08E-01
2.29E+00	7.93E-01	-1.43E-01	-1.43E-01	-1.23E-01
2.45E+00	7.69E-01	-1.64E-01	-1.64E-01	-1.40E-01
2.61E+00	7.41E-01	-1.88E-01	-1.88E-01	-1.61E-01
2.77E+00	7.08E-01	-2.16E-01	-2.16E-01	-1.88E-01
2.93E+00	6.71E-01	-2.49E-01	-2.49E-01	-2.24E-01
3.09E+00	6.29E-01	-2.88E-01	-2.88E-01	-2.75E-01
3.25E+00	5.79E-01	-3.38E-01	-3.38E-01	-3.51E-01
3.41E+00	5.20E-01	-4.03E-01	-4.03E-01	-4.70E-01
3.57E+00	4.48E-01	-4.93E-01	-4.93E-01	-6.77E-01
3.73E+00	3.59E-01	-6.31E-01	-6.30E-01	-1.10E+00
3.81E+00	3.05E-01	-7.34E-01	-7.33E-01	-1.52E+00
3.89E+00	2.41E-01	-8.84E-01	-8.82E-01	-2.31E+00
3.93E+00	2.04E-01	-9.90E-01	-9.88E-01	-3.02E+00
3.97E+00	1.61E-01	-1.13E+00	-1.13E+00	-4.28E+00
3.99E+00	1.38E-01	-1.23E+00	-1.23E+00	-5.41E+00
4.01E+00	1.12E-01	-1.36E+00	-1.36E+00	-7.57E+00
4.02E+00	9.80E-02	-1.44E+00	-1.45E+00	-9.77E+00
4.03E+00	8.29E-02	-1.56E+00	-1.58E+00	-1.42E+01
4.03E+00	7.48E-02	-1.64E+00	-1.66E+00	-1.85E+01
4.04E+00	6.62E-02	-1.75E+00	-1.79E+00	-2.59E+01
4.04E+00	5.68E-02	-1.91E+00	-1.97E+00	-3.94E+01
4.05E+00	4.63E-02	-2.16E+00	-2.28E+00	-6.64E+01
4.05E+00	3.37E-02	-2.62E+00	-2.82E+00	-1.22E+02
4.06E+00	2.61E-02	-2.98E+00	-3.26E+00	-1.66E+02
4.06E+00	1.72E-02	-3.45E+00	-3.85E+00	-2.09E+02
4.06E+00	1.22E-02	-3.72E+00	-4.19E+00	-2.11E+02
4.06E+00	6.76E-03	-3.96E+00	-4.50E+00	-1.61E+02
4.06E+00	1.00E-03	-4.07E+00	-4.68E+00	1.71E+01